

# VEX IQ

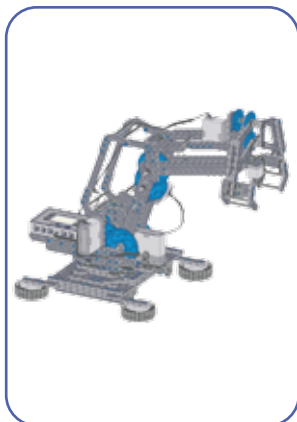
## Инструкция по сборке Armbot IQ



# Оглавление

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**1 Сборка Armbot IQ** ..... 4



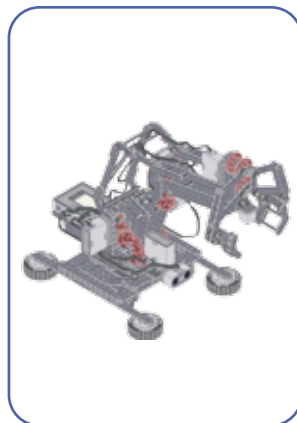
**Пошаговая инструкция 1-123**

**2 Armbot IQ с датчиками** ..... 38



**Пошаговая инструкция 124-132**

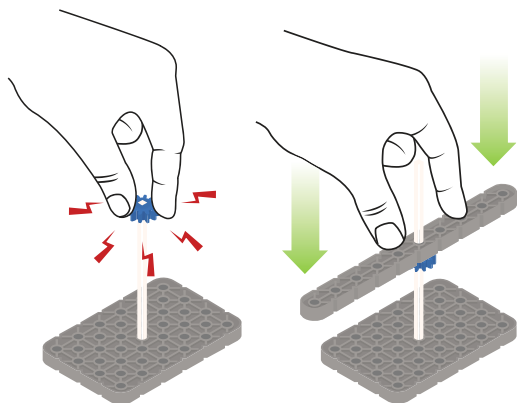
**3 Приложение А: изменения для наборов 2014 года** ..... 40



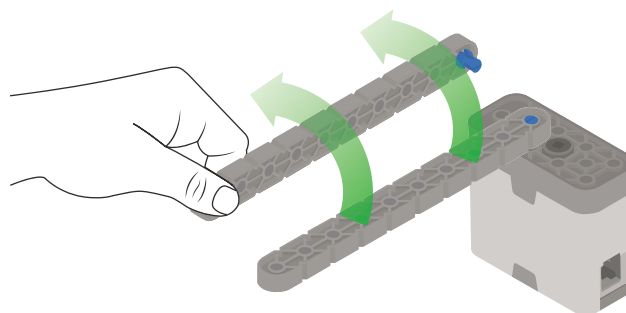
Состав наборов VEX IQ 2014 года немного отличается от используемого в пошаговой инструкции. Если вы используете набор 2014 года (с бордовыми шестернями, а не синими) просто выполните данные шаги при сборке Armbot IQ.

**4 Руководство по управлению** ..... 45

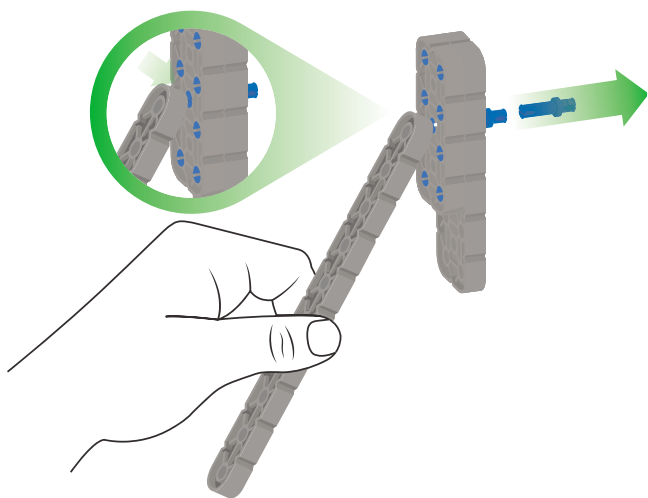
## Полезные советы



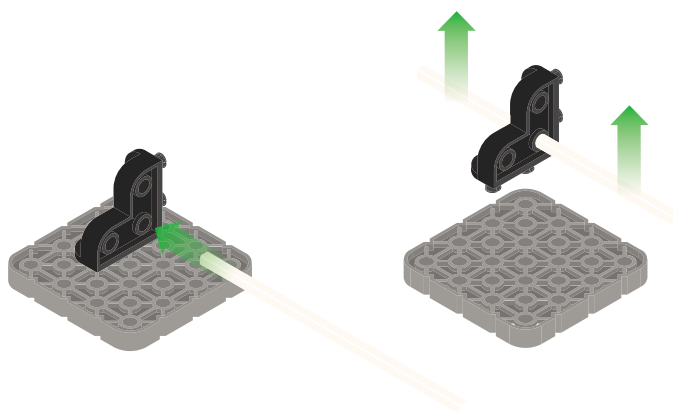
Используйте 1x планку при установке маленьких деталей VEX IQ на вал.



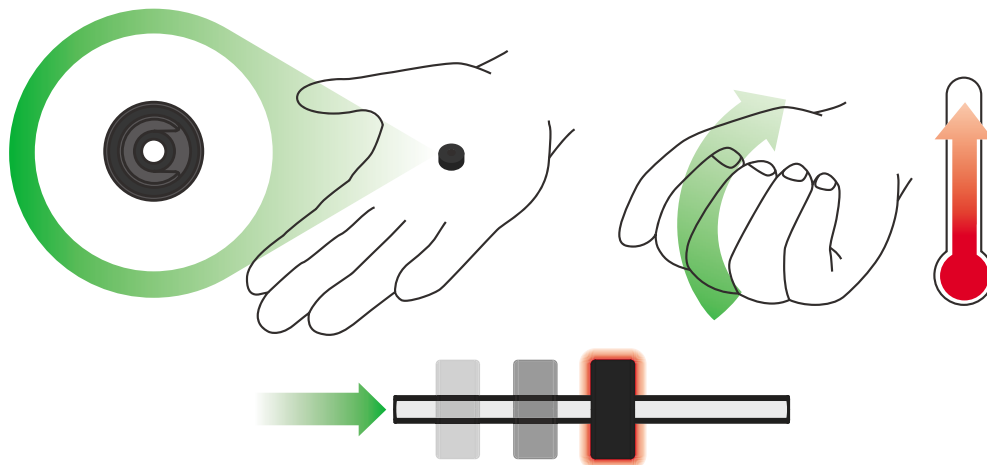
Соединительные штифты могут быть аккуратно сняты с моторов, сенсоров или микроконтроллера с помощью 1x планки. Установите планку на штифт и в процессе снятия – поверните ее.



Для простого отсоединения соединительного штифта нажмите на его заднюю часть 1x планкой.



Для простого отсоединения угловых соединительных элементов поместите вал в одно из отверстий элемента и потяните.



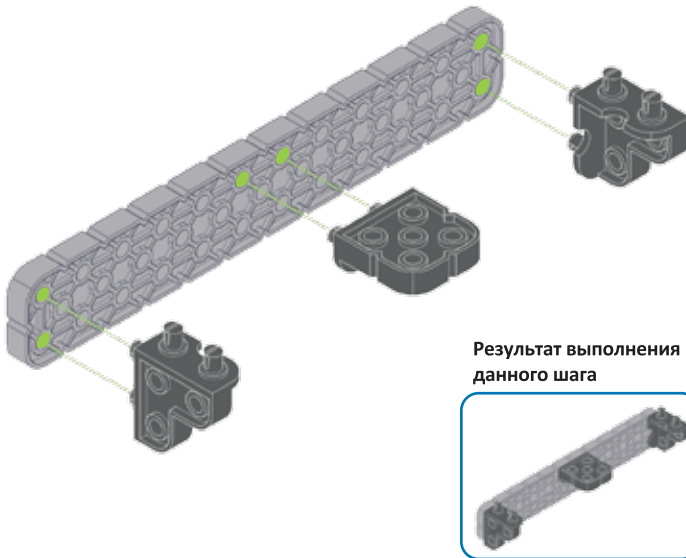
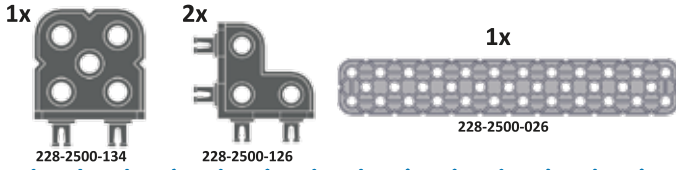
Резиновые кольца для вала становятся более мягкими и гибкими (для более простой установки на вал) если их нагреть, подержав в руке 15-30 секунд.



# 1. Сборка Armbot IQ

1

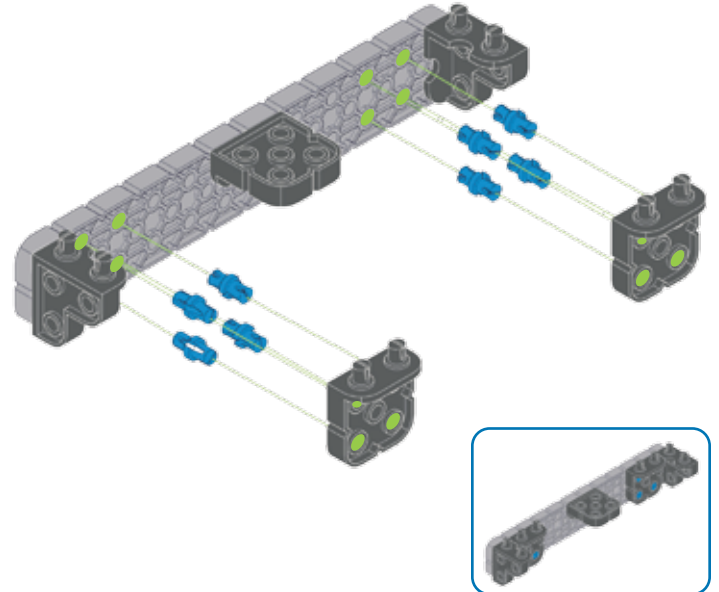
Используемые детали



2

8x  
228-2500-060

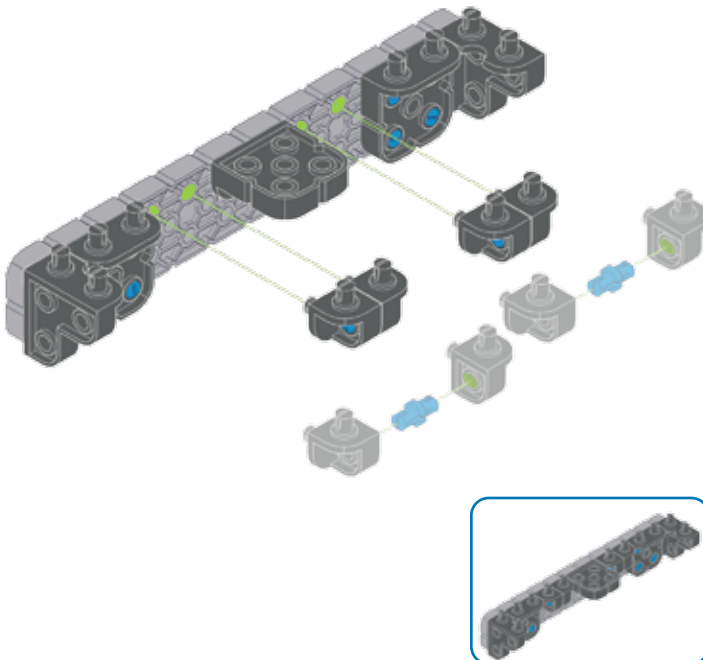
2x  
228-2500-134



3

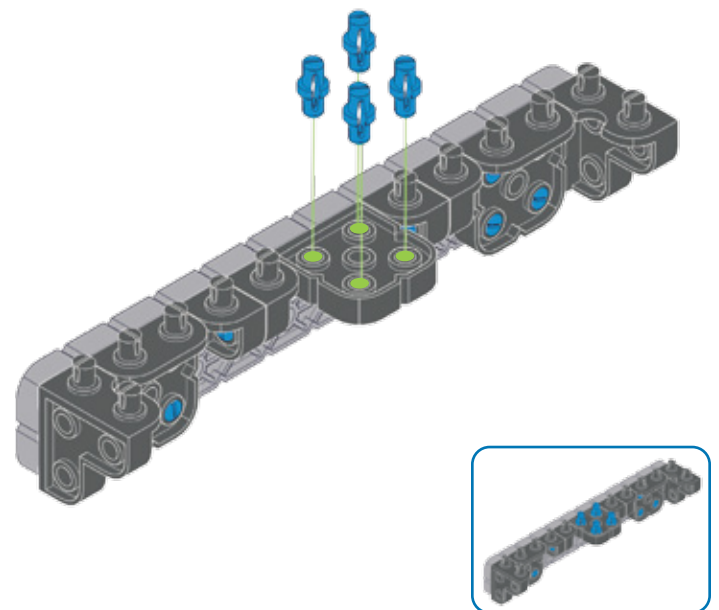
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4x  
228-2500-127



4

4x  
228-2500-060

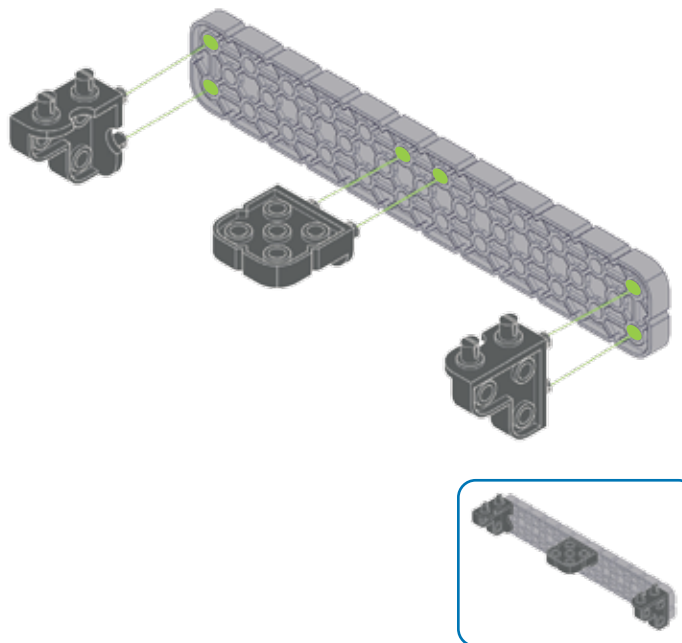
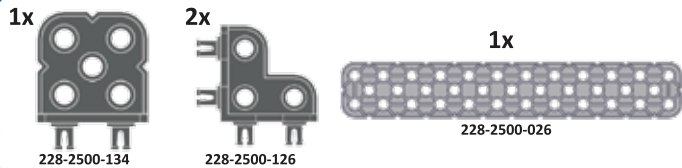




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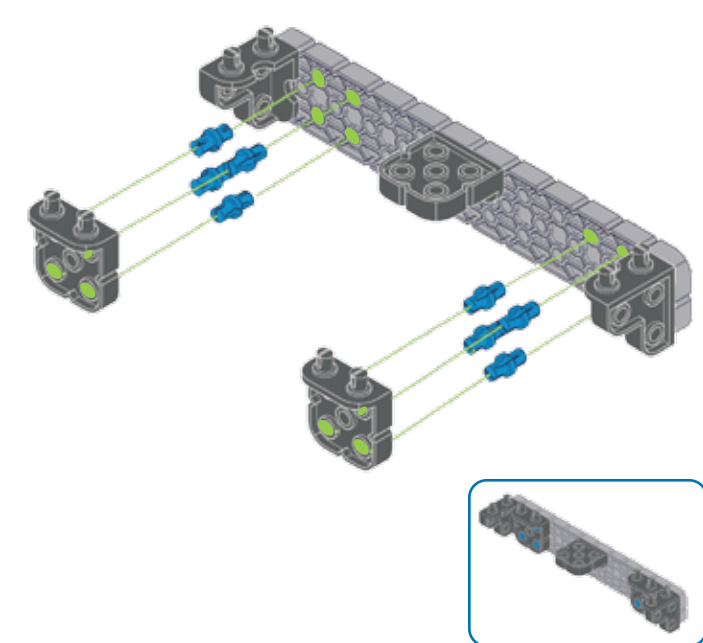
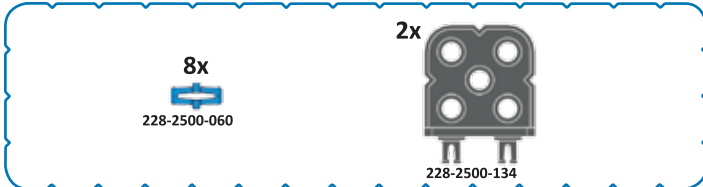
5

Бардовые шестерни составляют набор 2014 года  
Воспользуйтесь данным шагом из раздела 3



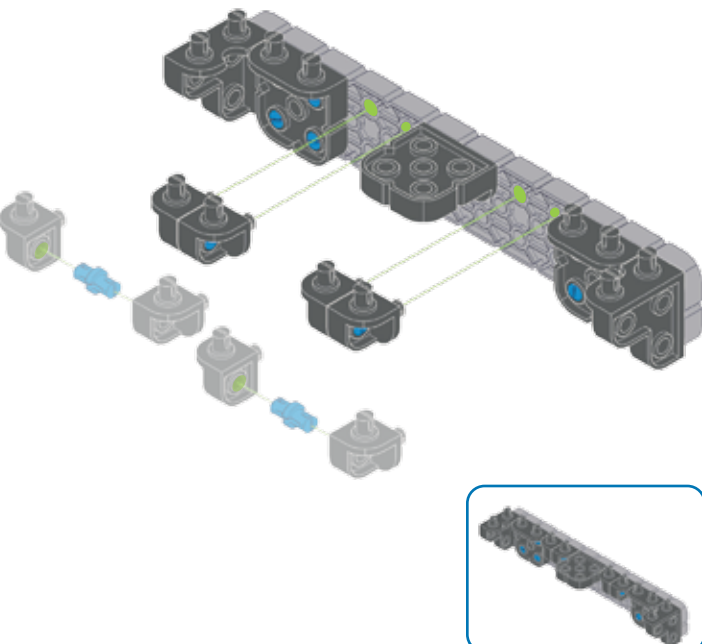
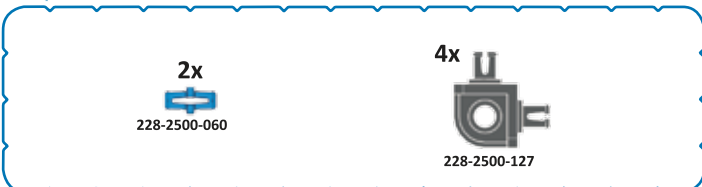
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6



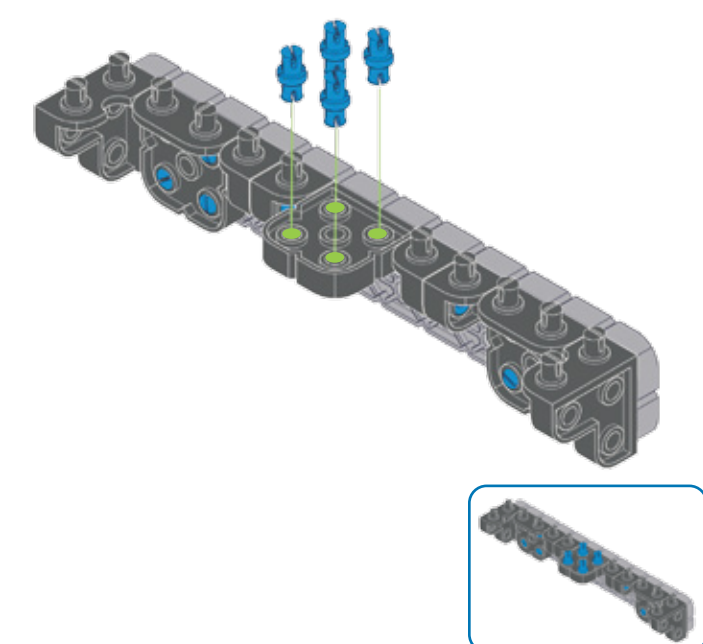
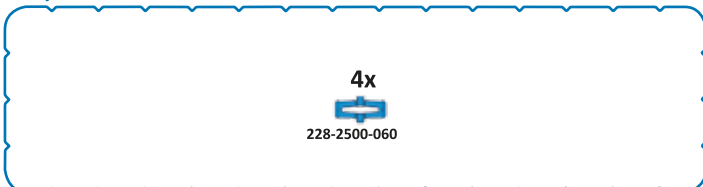
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7



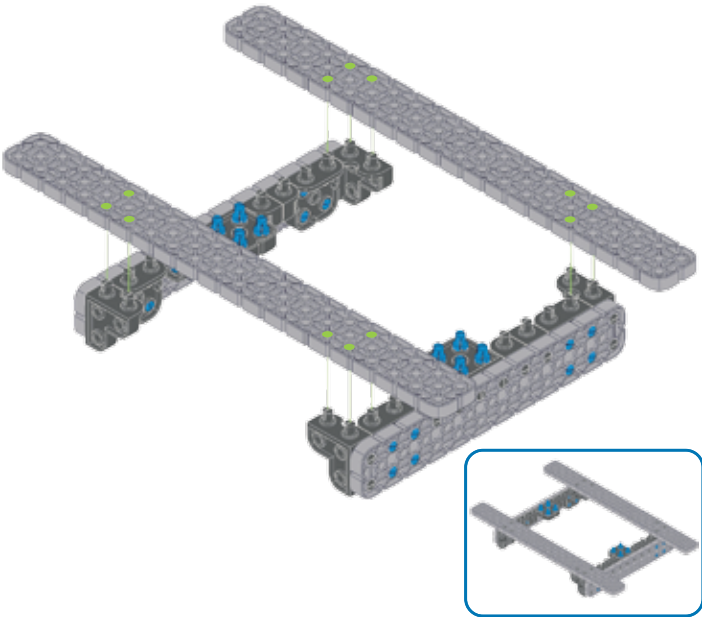
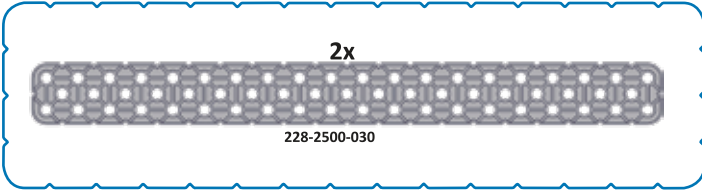
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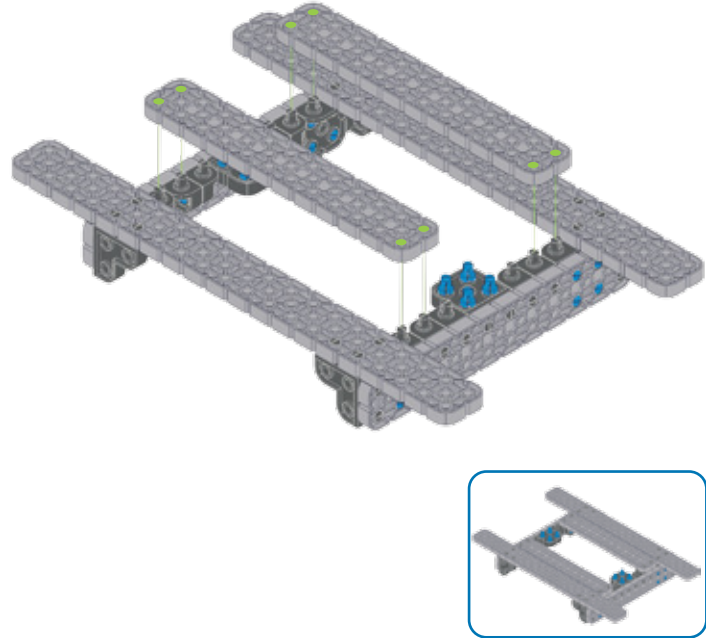
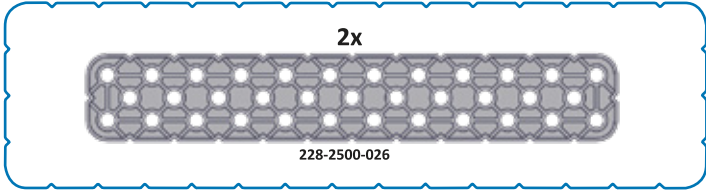
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9



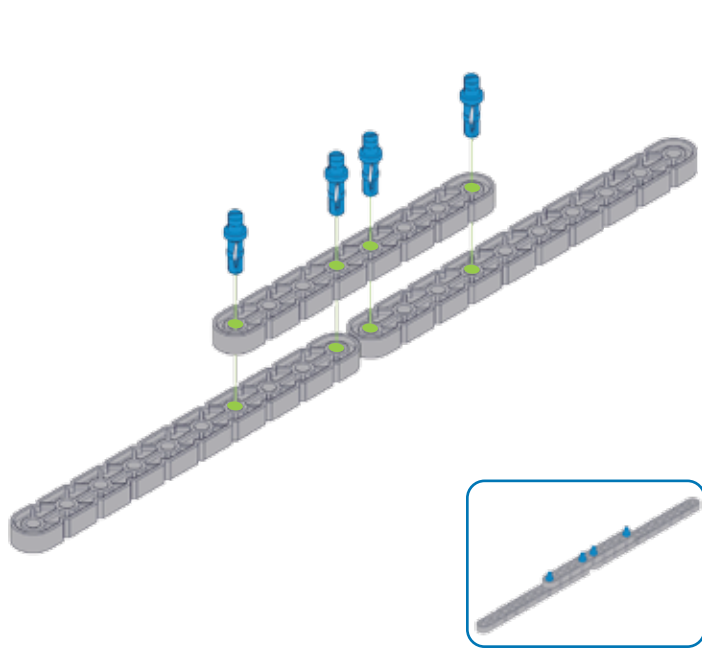
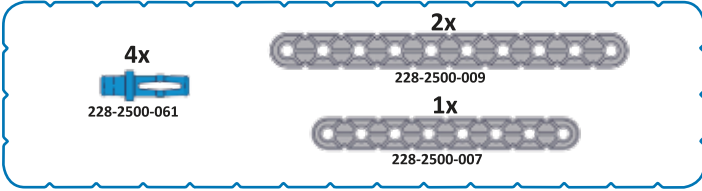
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10



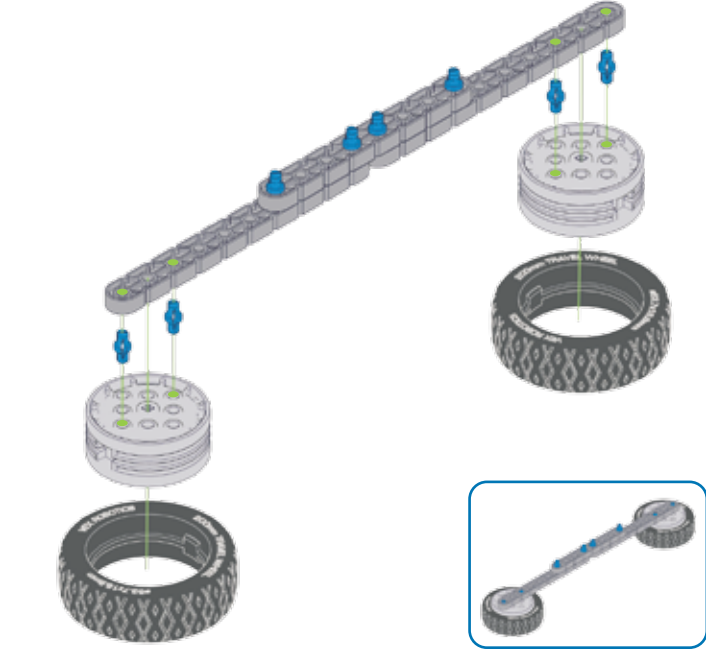
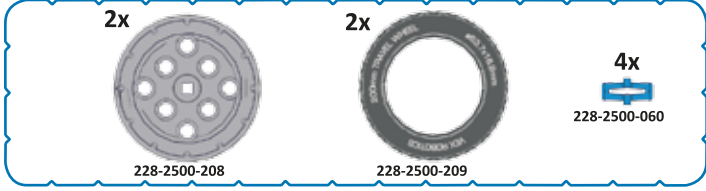
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11

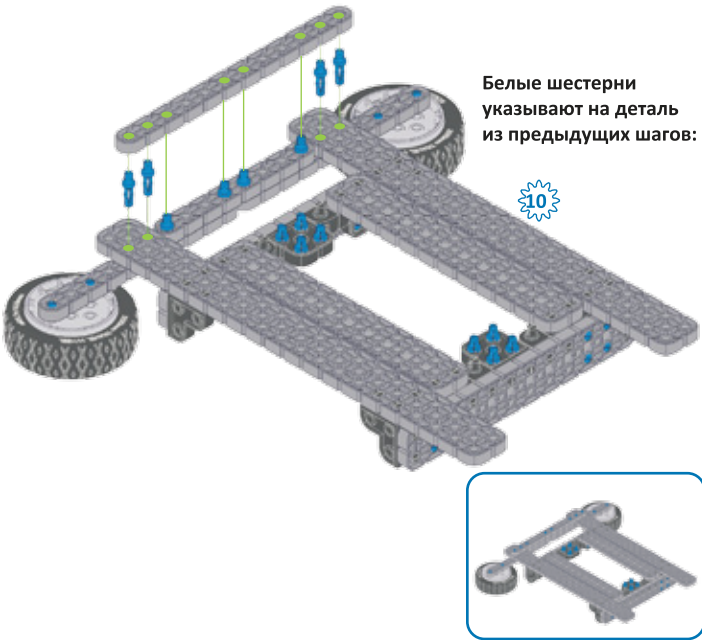
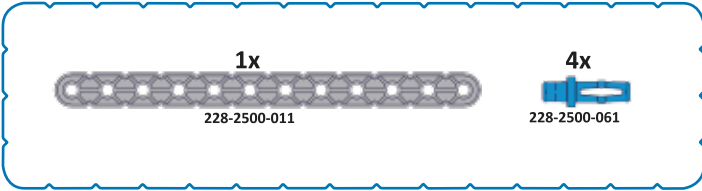


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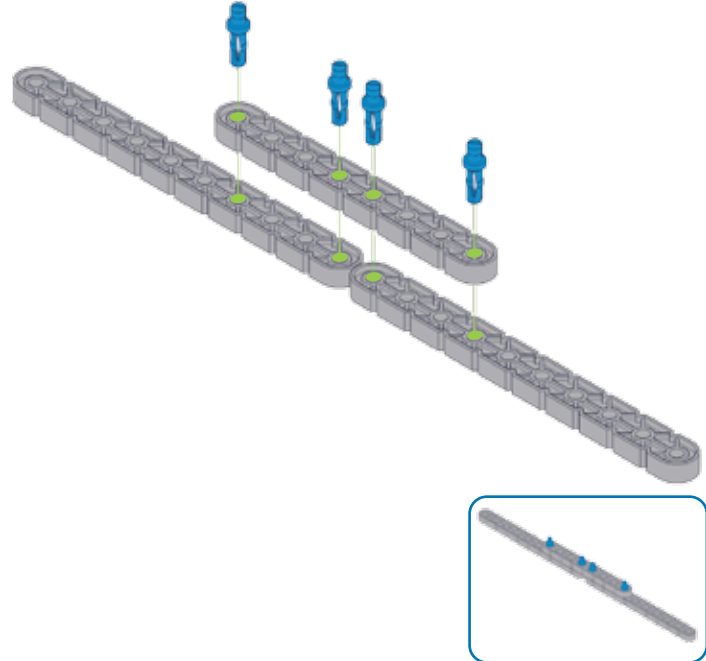
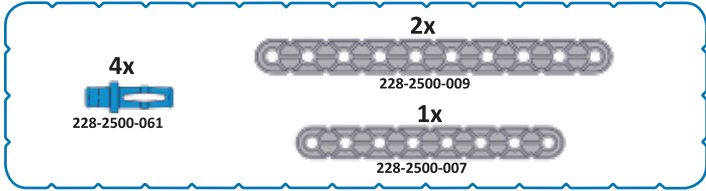
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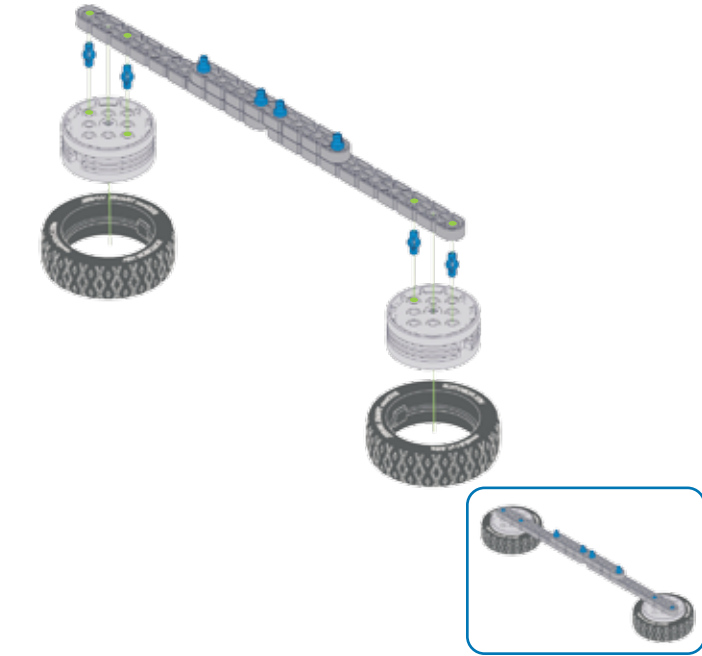
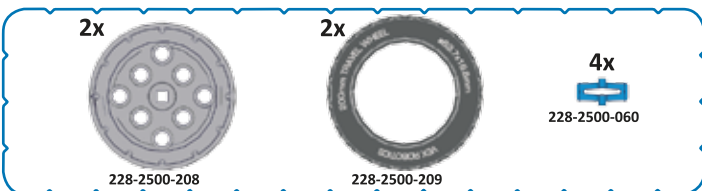
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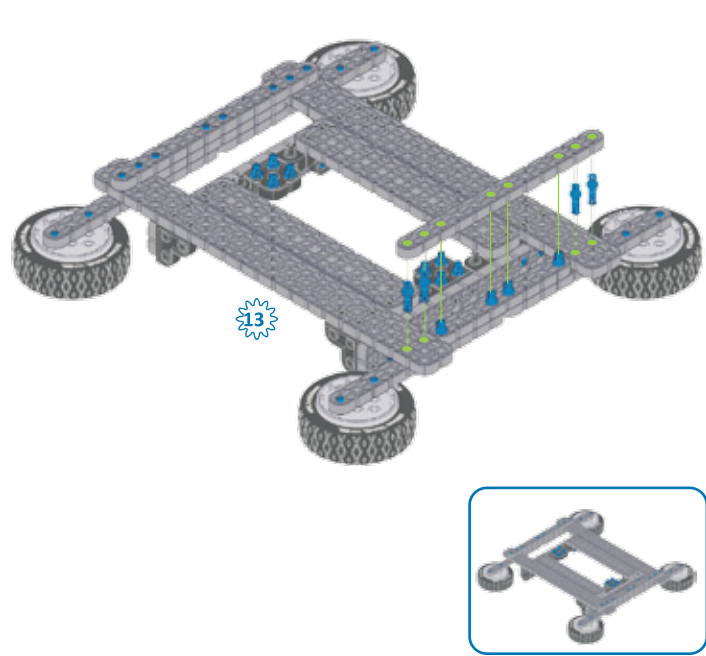
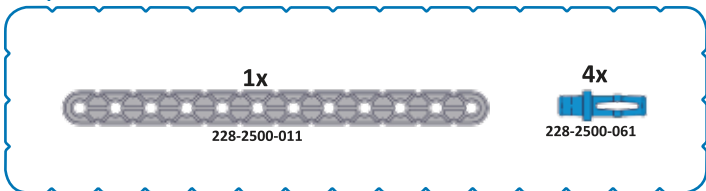
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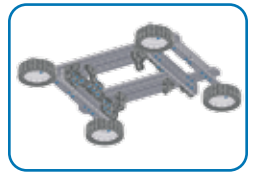
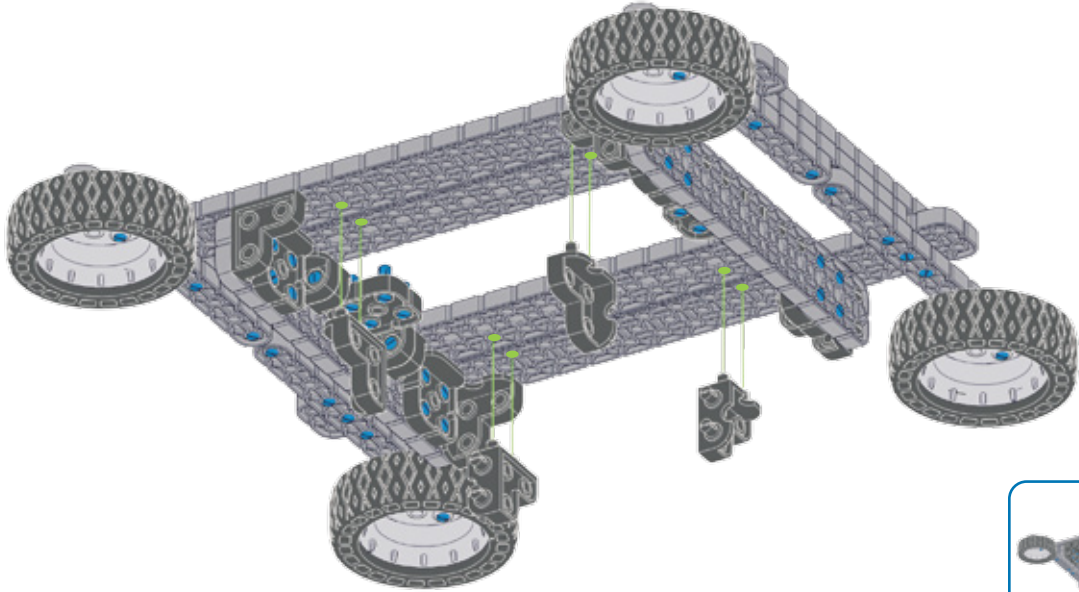
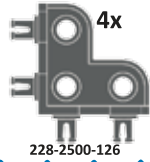


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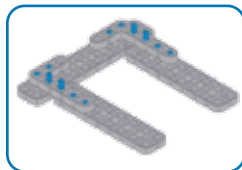
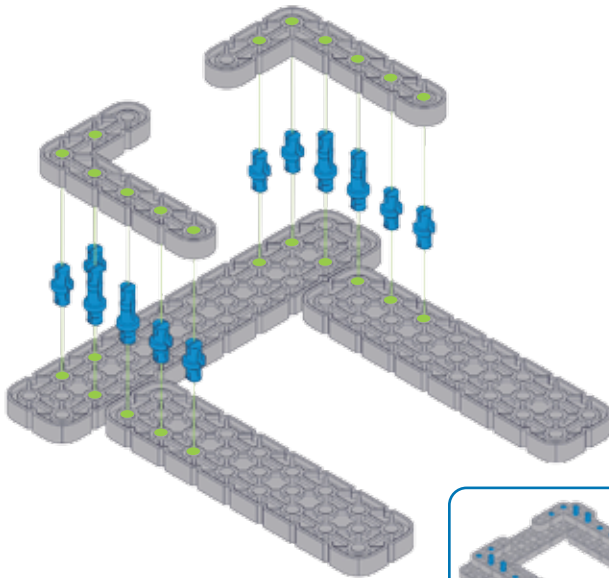
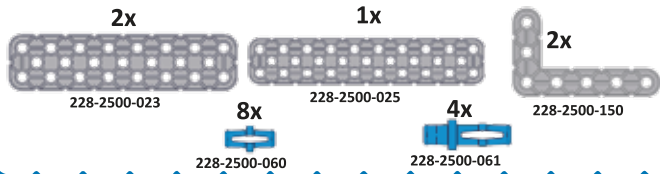




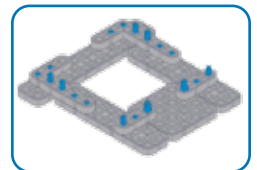
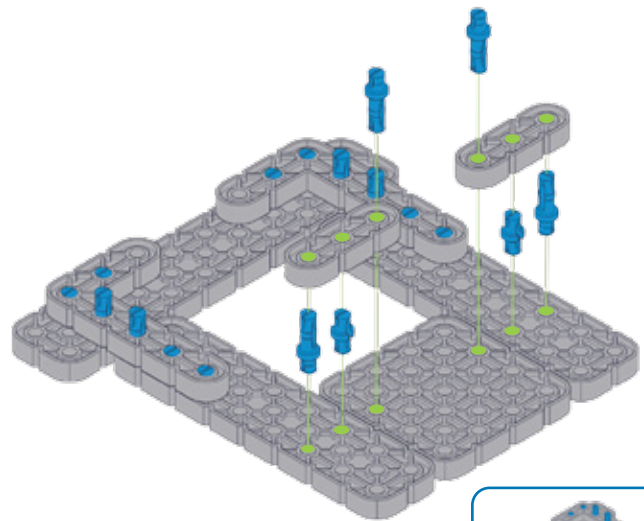
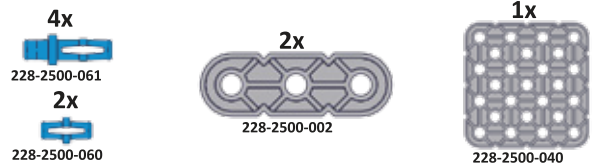
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18 18



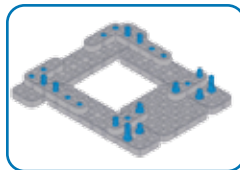
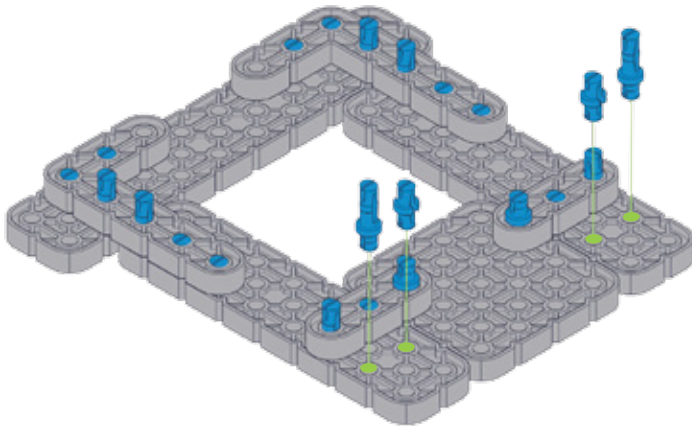
19 19



20

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228-2500-061

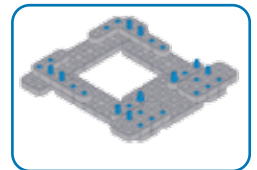
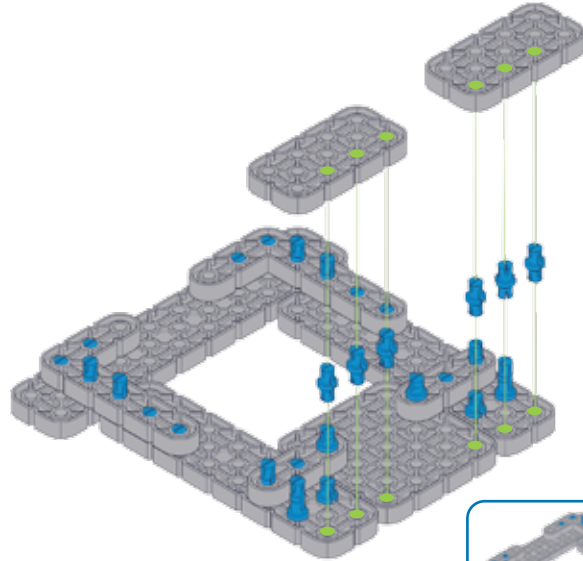
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21

2x  
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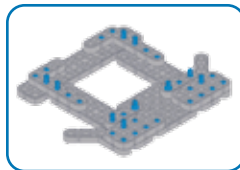
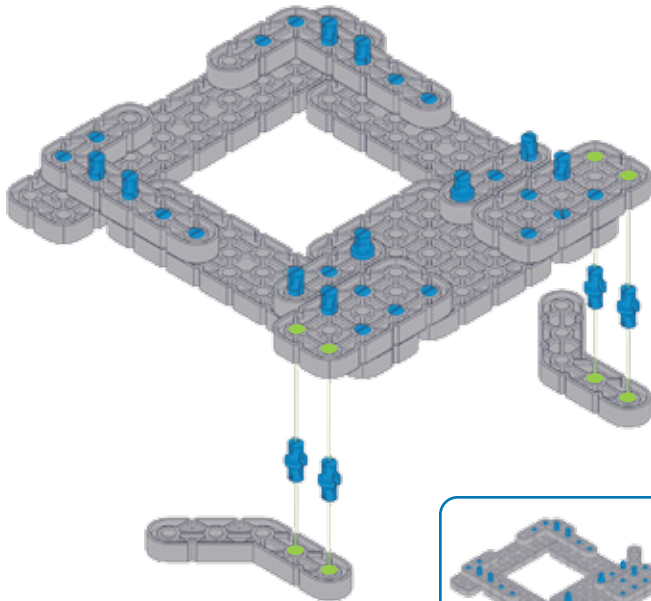
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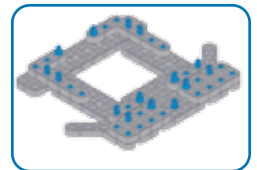
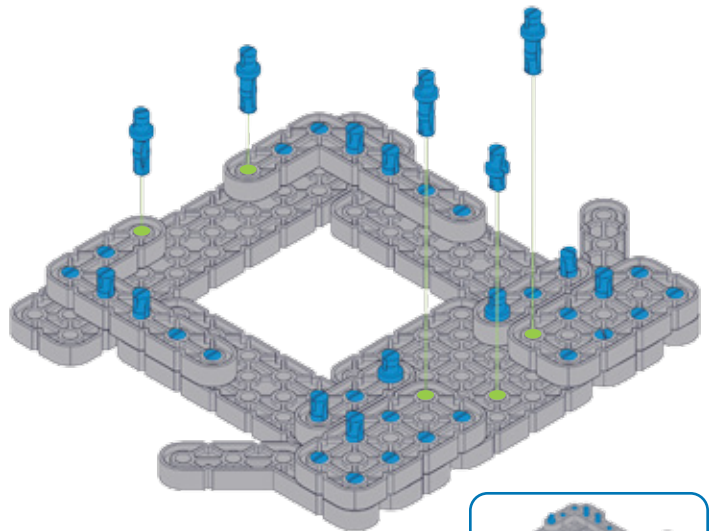
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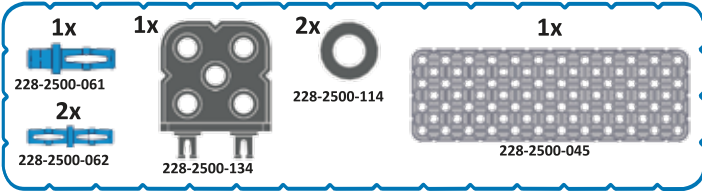
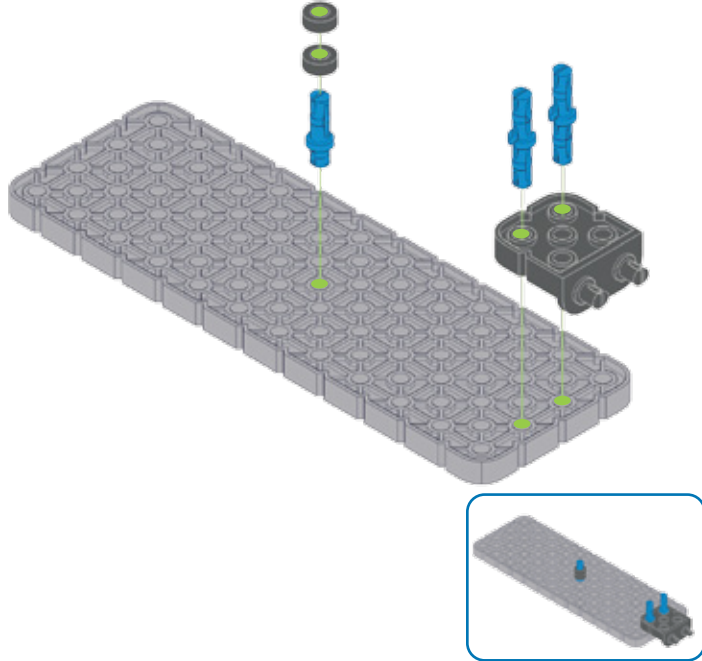
4x  
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1x  
228-2500-060



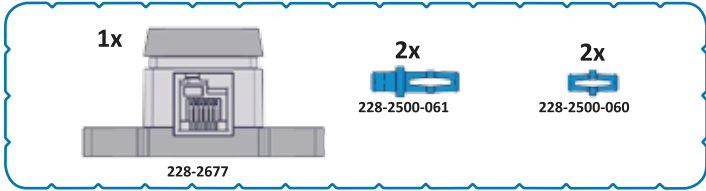
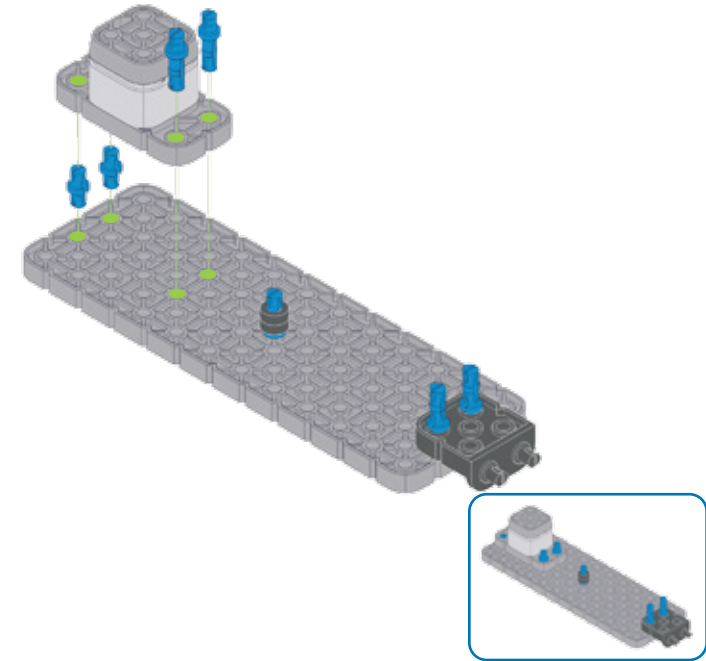
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1x 228-2500-061  
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 2x 228-2500-062

25

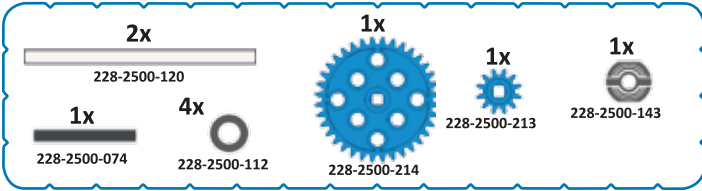
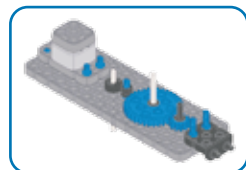
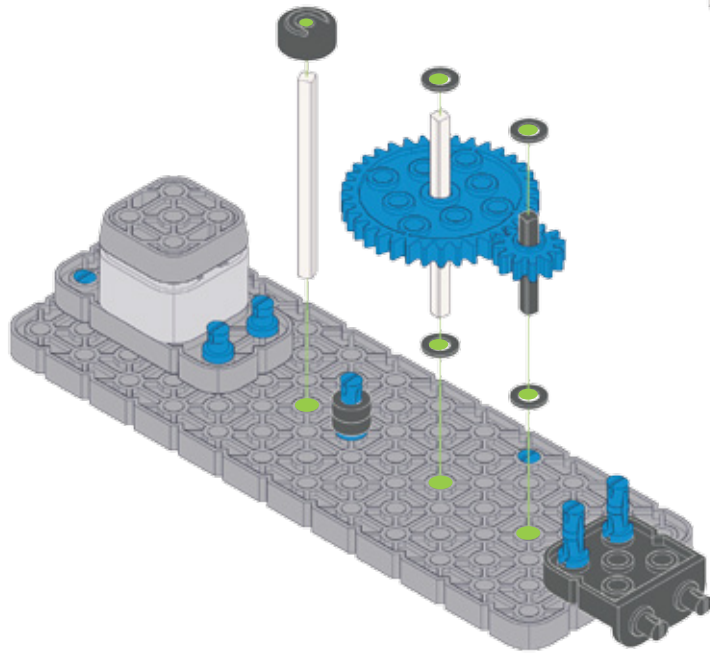
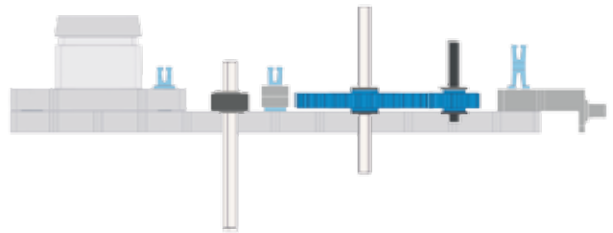
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26

26

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 4x 228-2500-112  
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 1x 228-2500-143

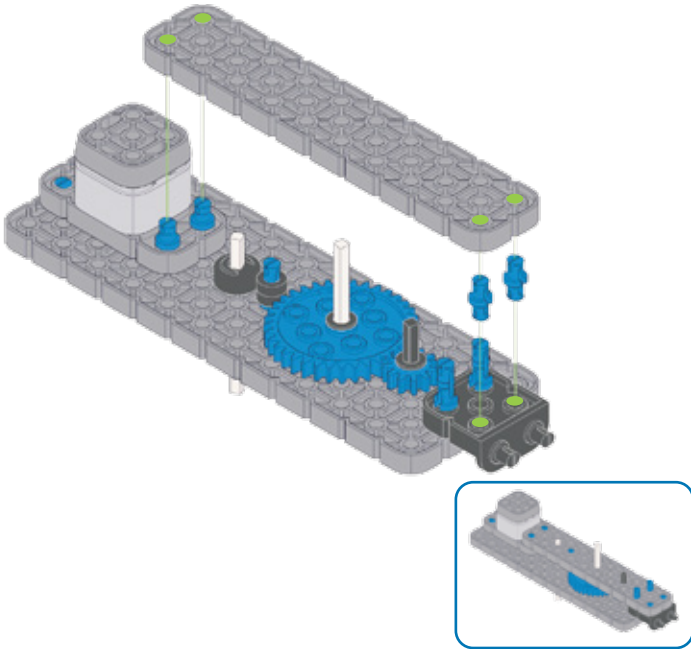





27

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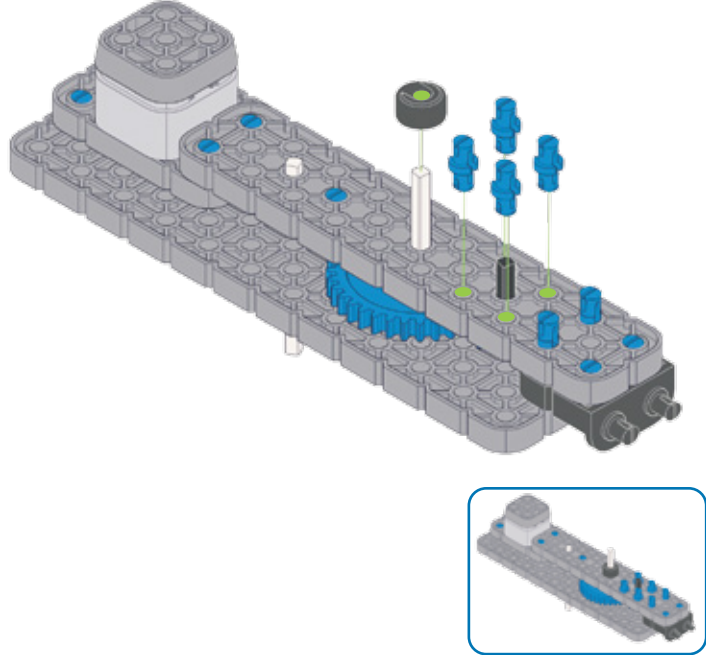
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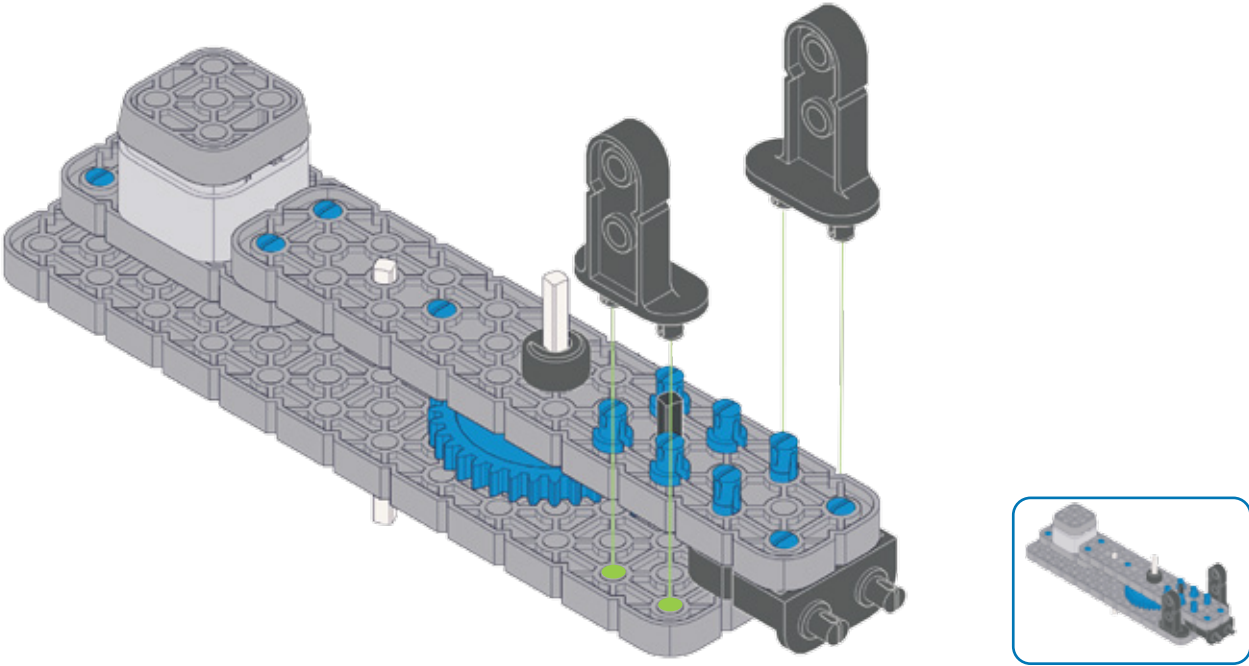
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1x  
228-2500-143



29

2x  
228-2500-131

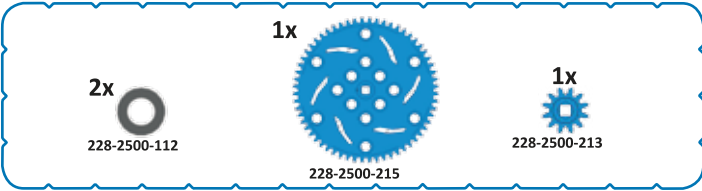
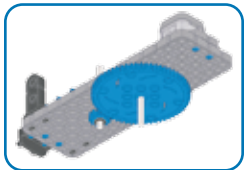
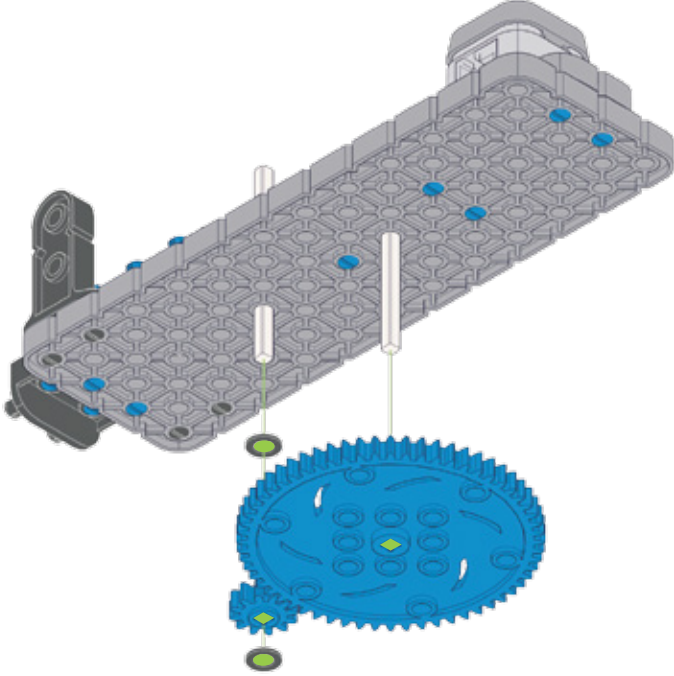
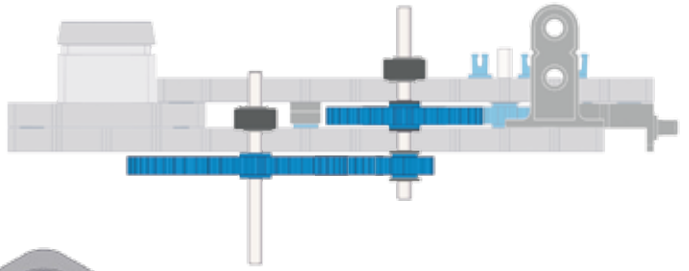


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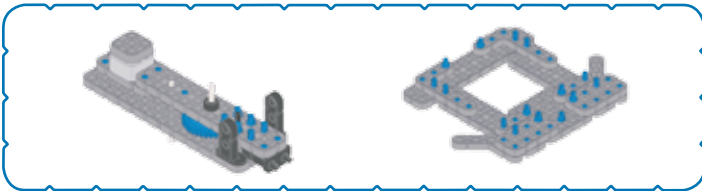
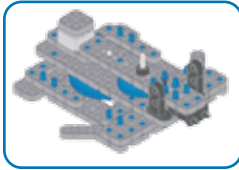
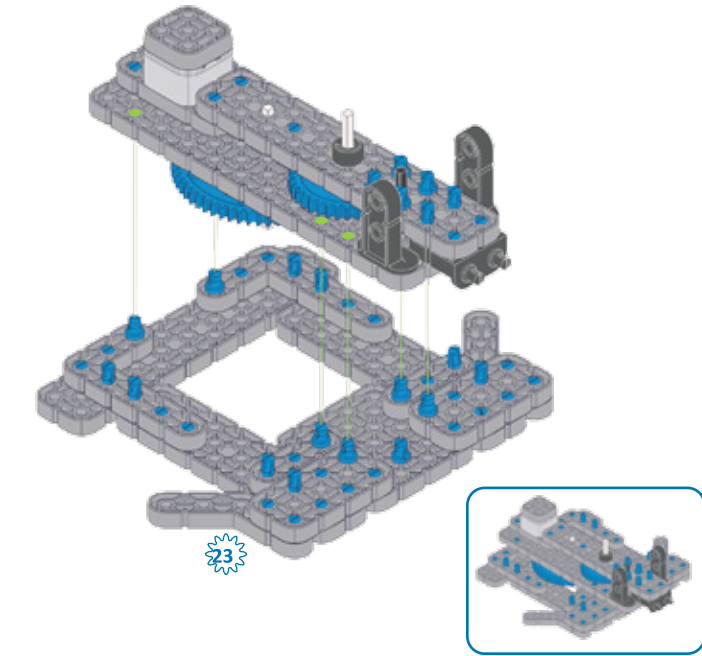
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1x 228-2500-215

1x 228-2500-213

31

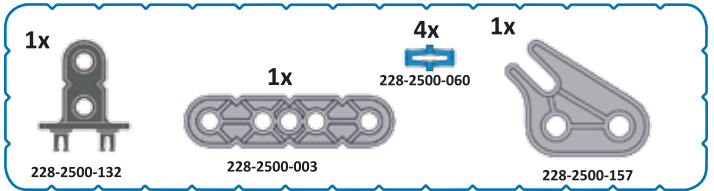
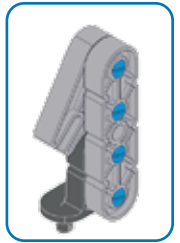
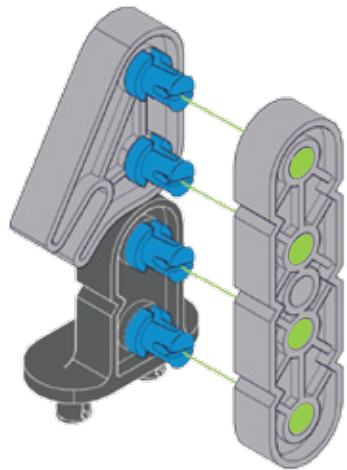
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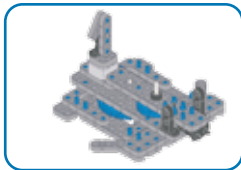
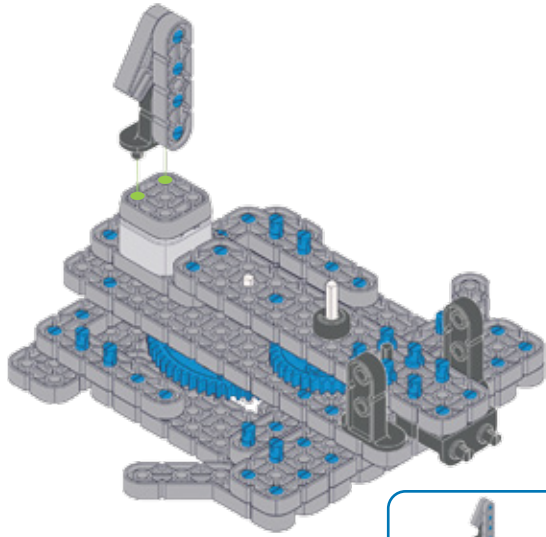
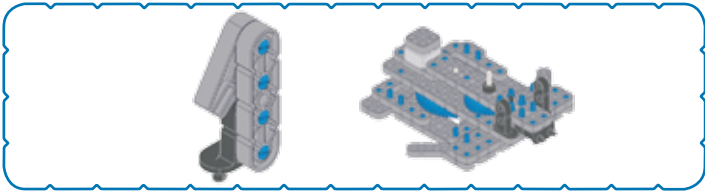
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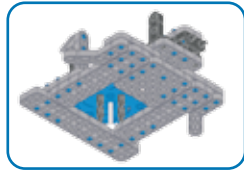
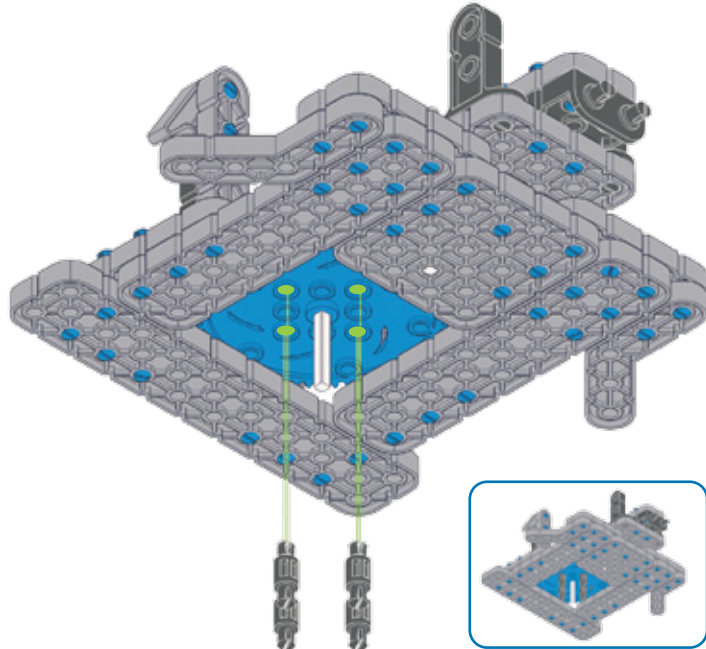
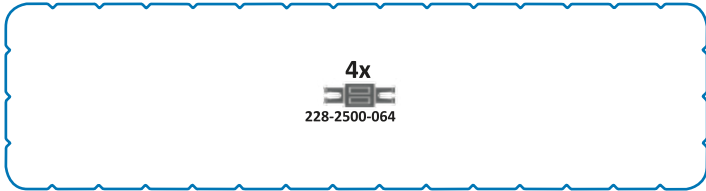
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33

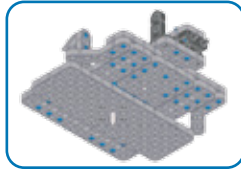
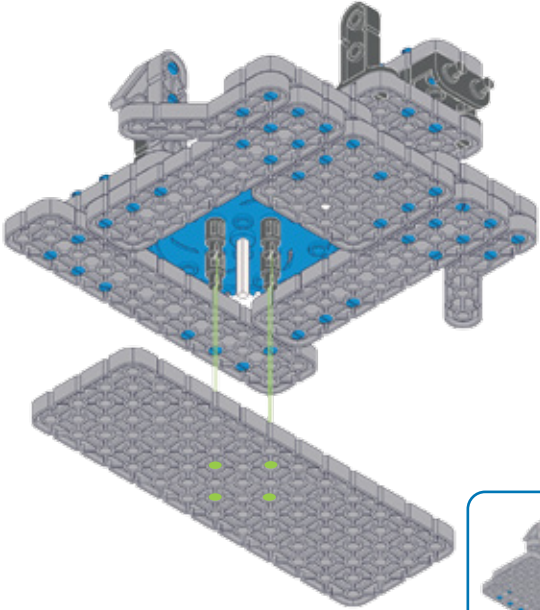
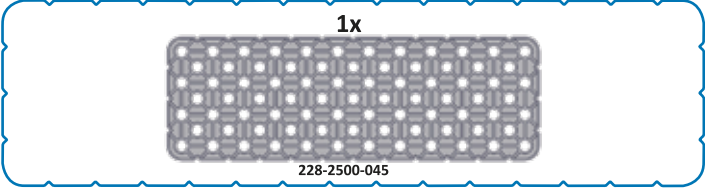


34



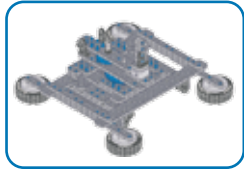
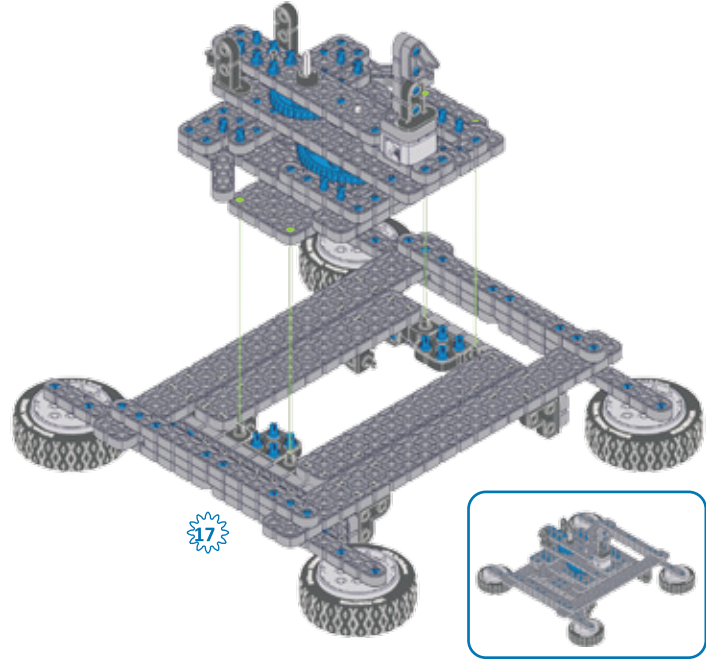
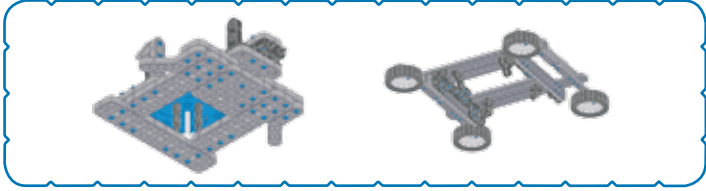
35

35



36

36

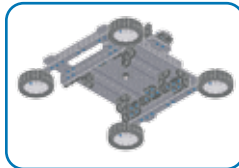
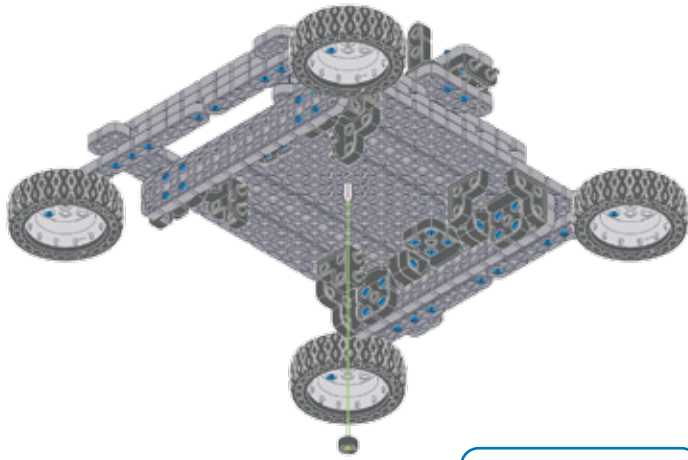


17



37

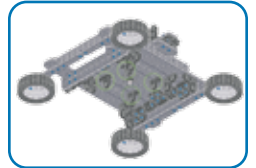
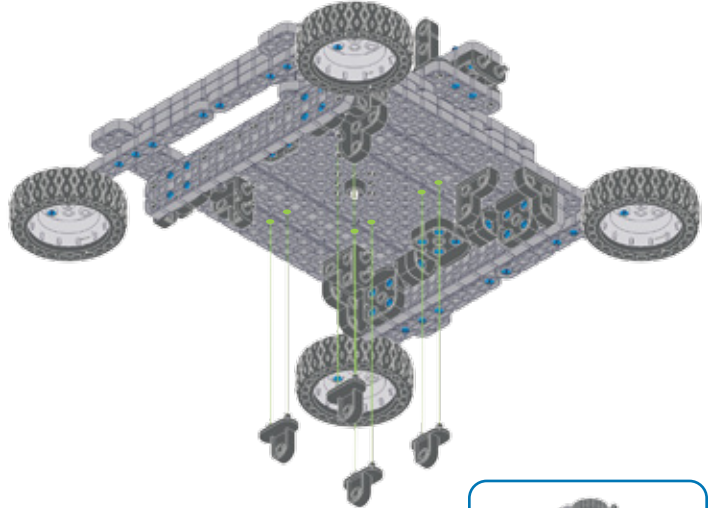
1x  
228-2500-143



38

38

4x  
228-2500-133



39

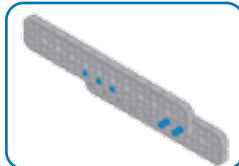
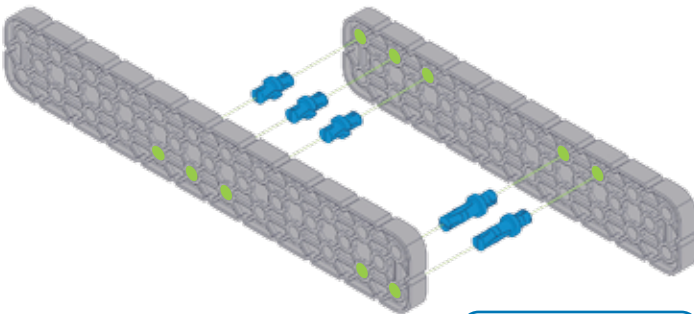
39

3x  
228-2500-060

2x  
228-2500-061

1x  
228-2500-026

1x  
228-2500-025



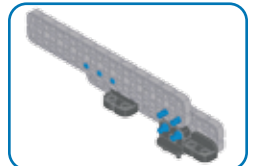
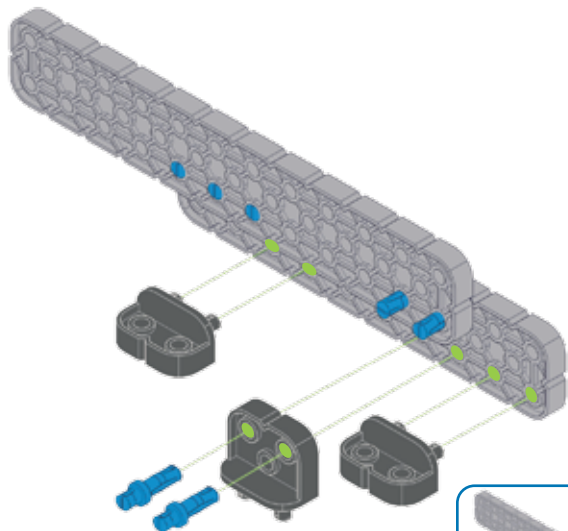
40

40

2x  
228-2500-061

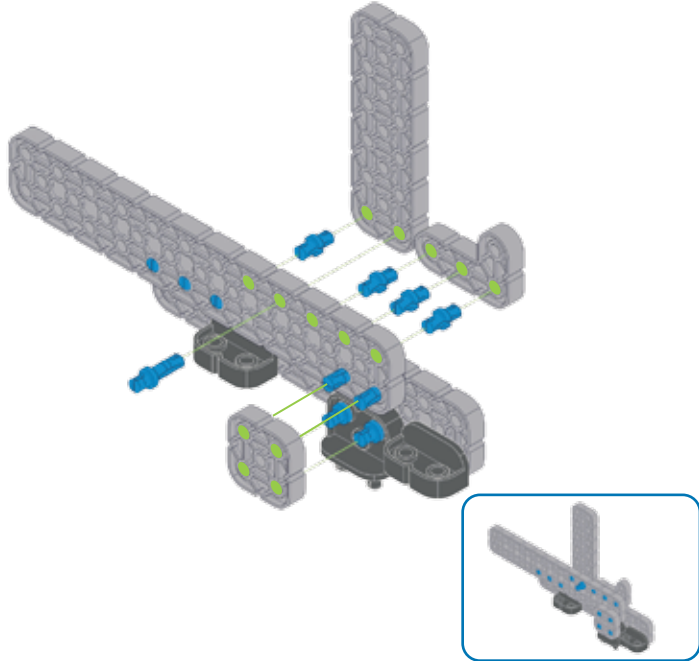
2x  
228-2500-128

1x  
228-2500-135



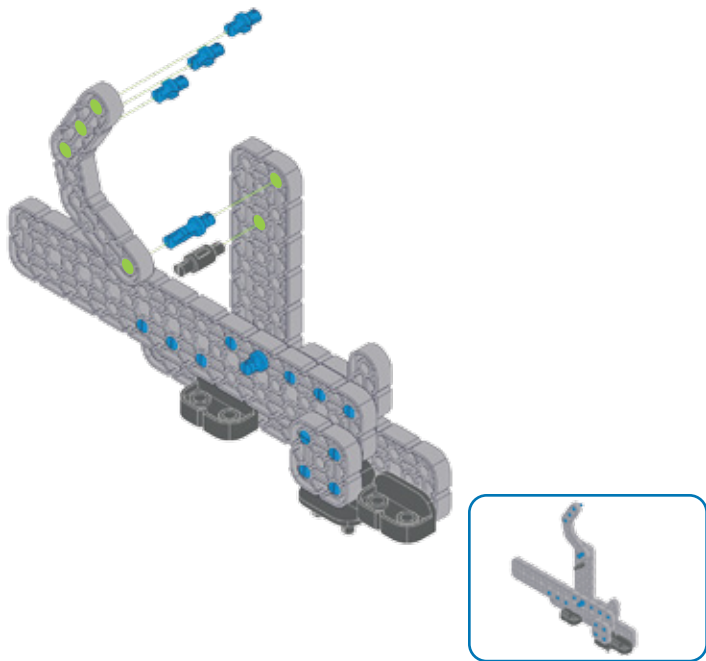
41

- 4x 228-2500-060
- 1x 228-2500-061
- 1x 228-2500-017
- 1x 228-2500-145
- 1x 228-2500-021



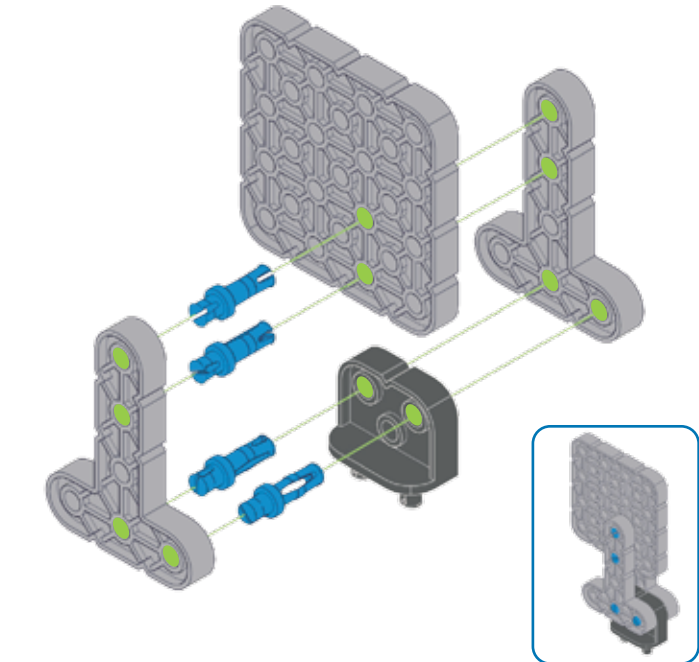
42

- 3x 228-2500-060
- 1x 228-2500-061
- 1x 228-2500-064
- 1x 228-2500-151



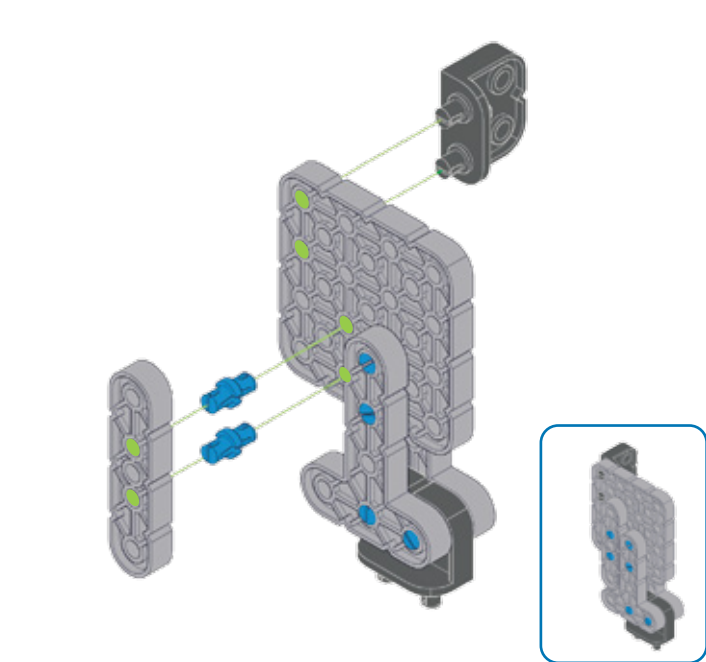
43

- 4x 228-2500-061
- 2x 228-2500-144
- 1x 228-2500-135
- 1x 228-2500-040

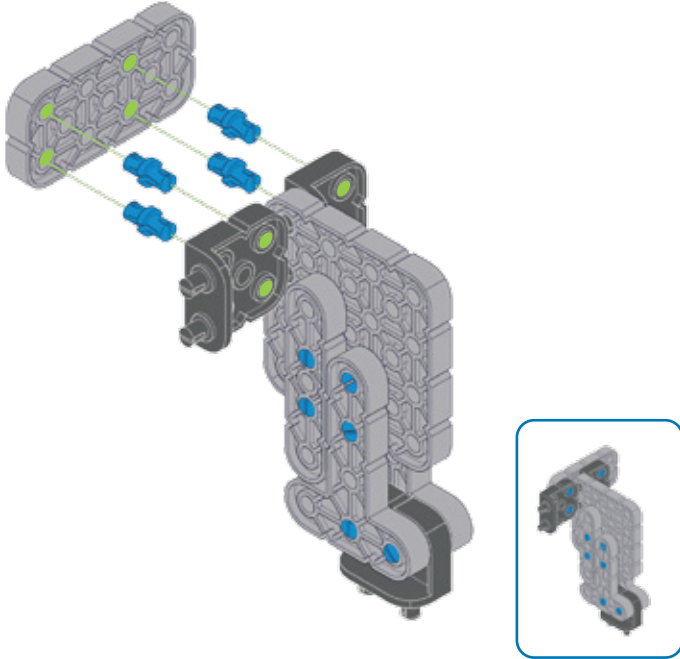
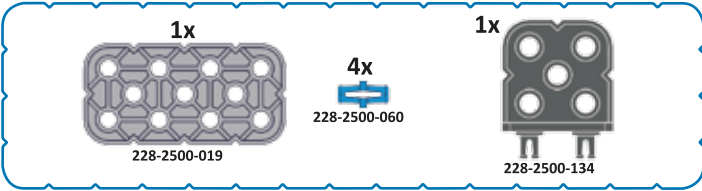


44

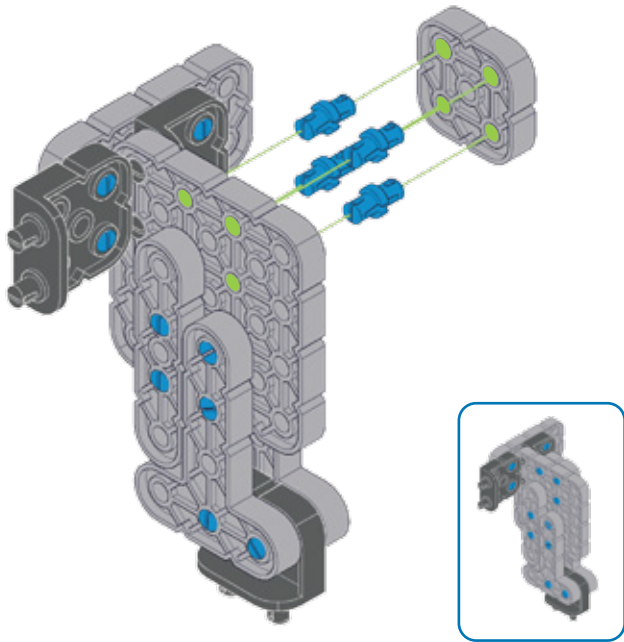
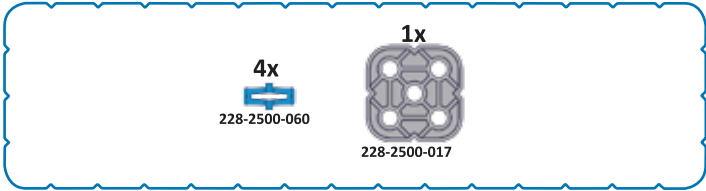
- 1x 228-2500-135
- 2x 228-2500-060
- 1x 228-2500-003



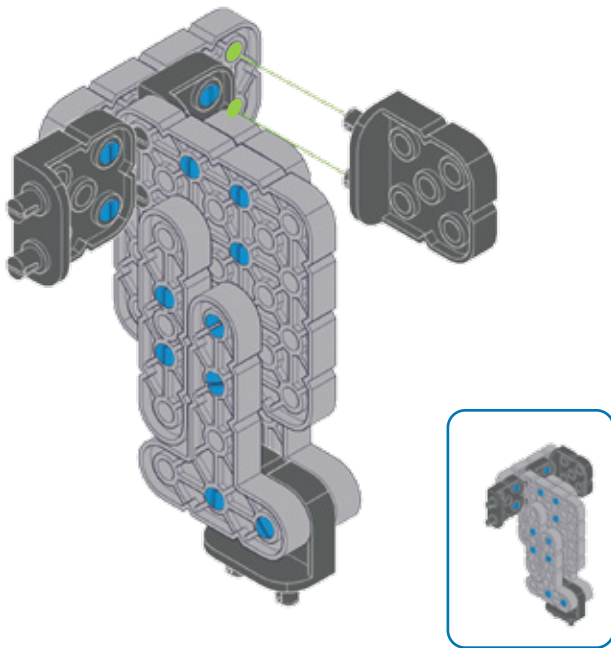
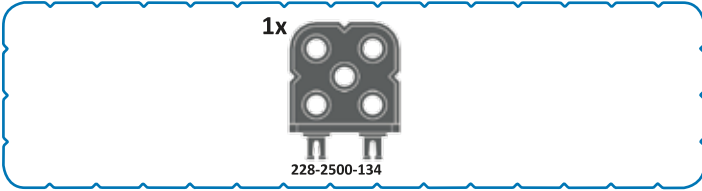
45



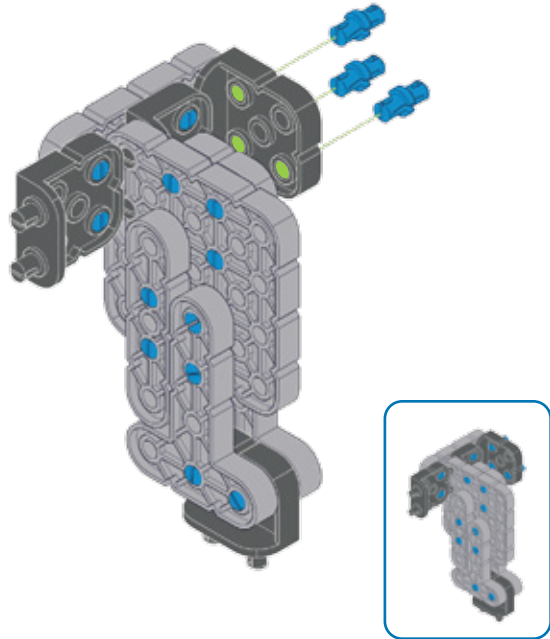
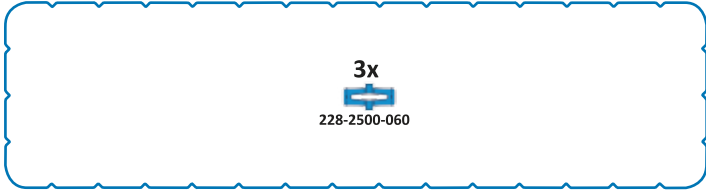
46



47









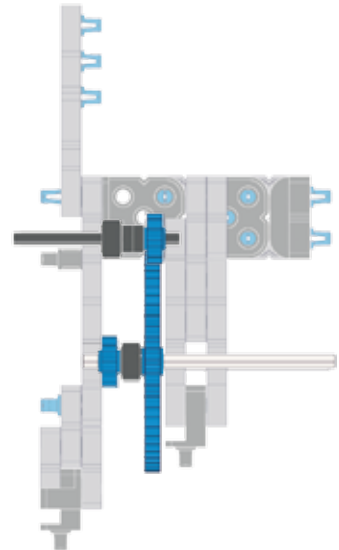
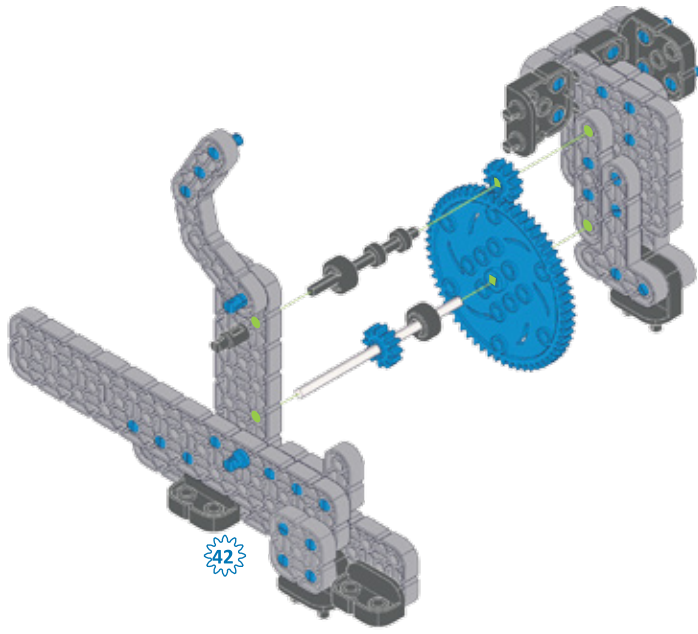
48





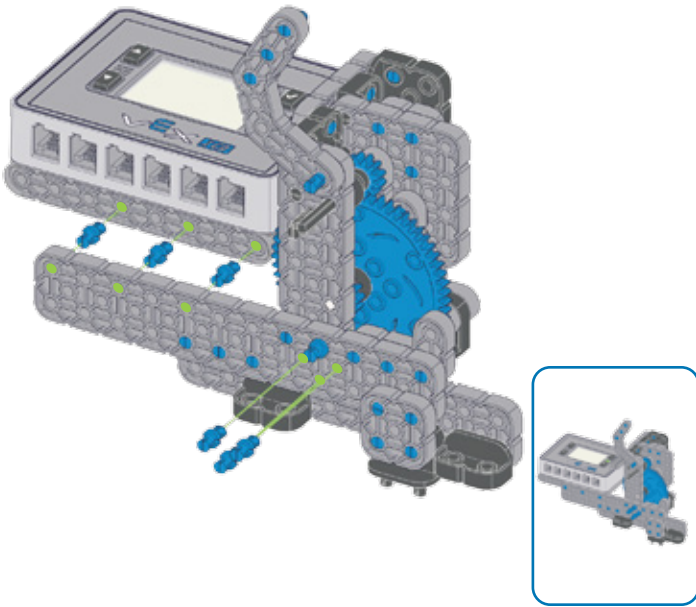
49

1x  228-2500-215	1x  228-2500-122	1x  228-2500-076
	2x  228-2500-143	2x  228-2500-114
		2x  228-2500-213

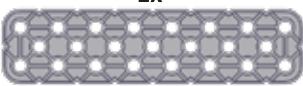



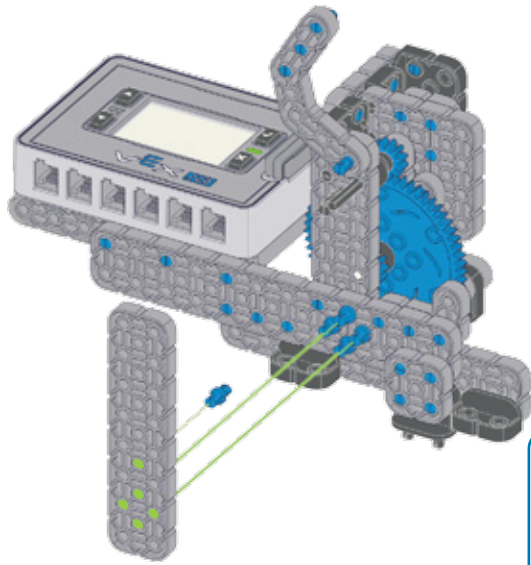
50

1x  228-2540	6x  228-2500-060
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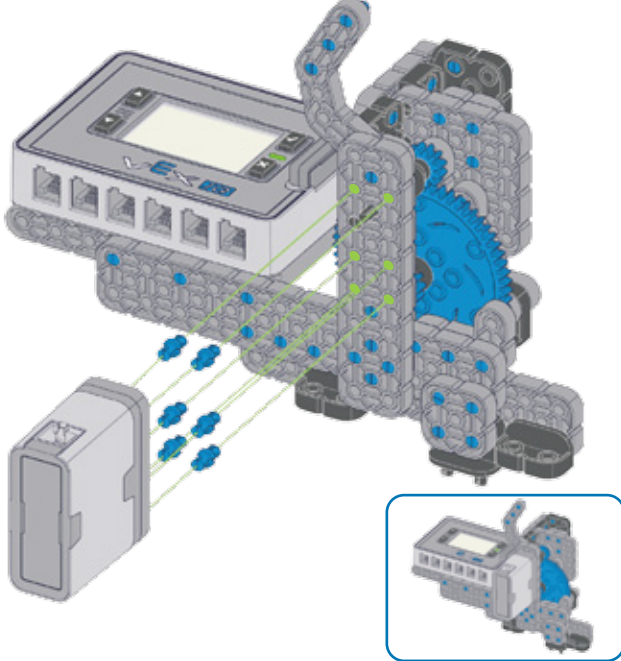
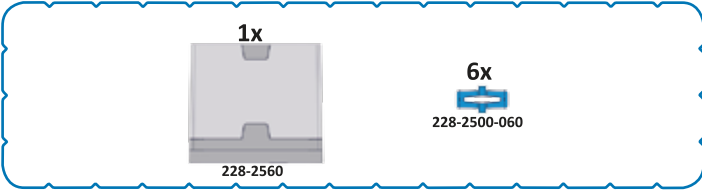


51

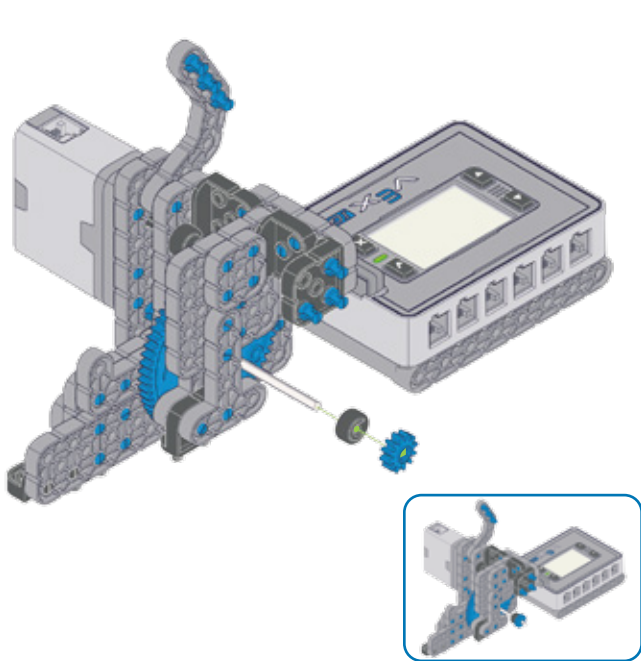
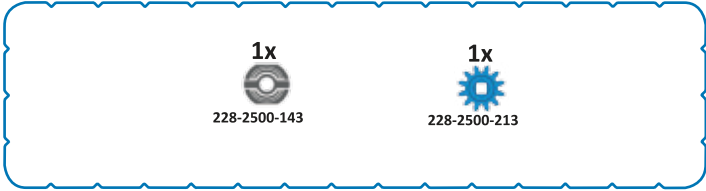
1x  228-2500-023	1x  228-2500-060
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52

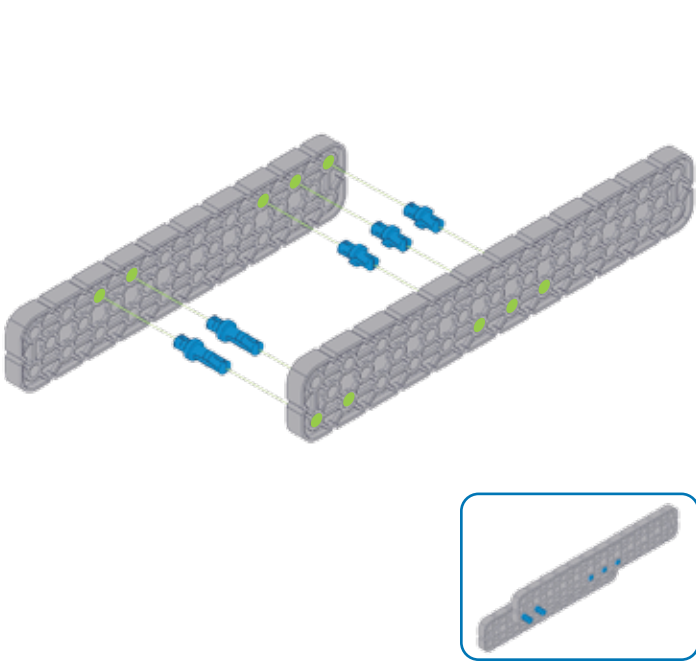
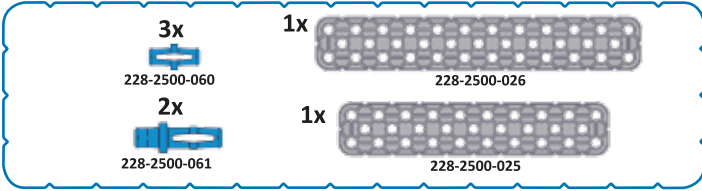


53



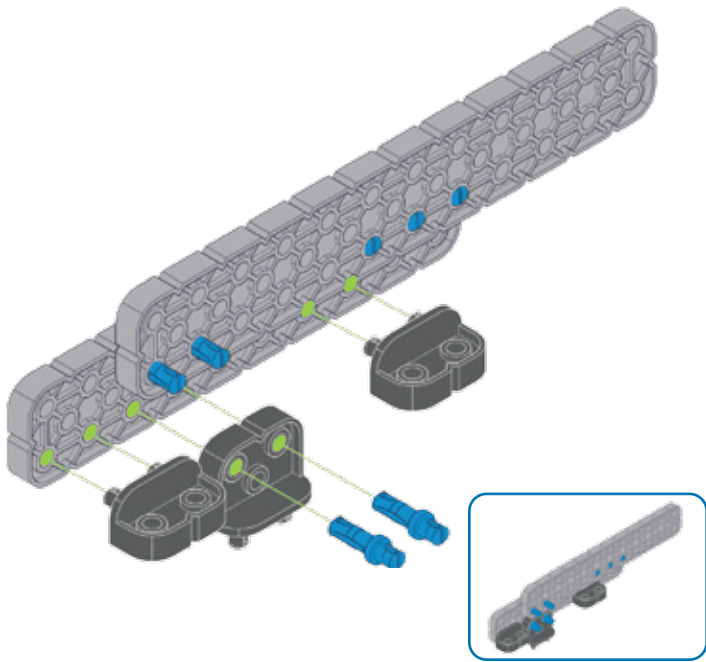
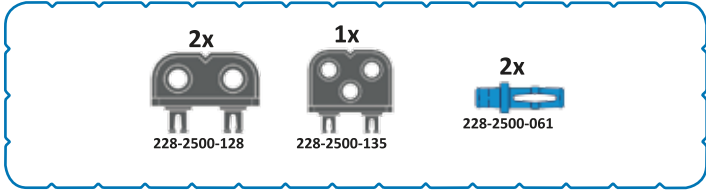
54

54



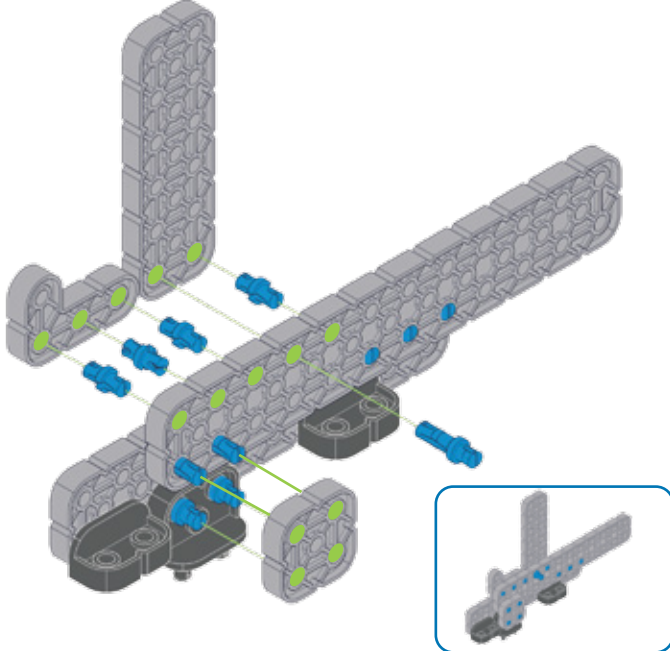
55

55



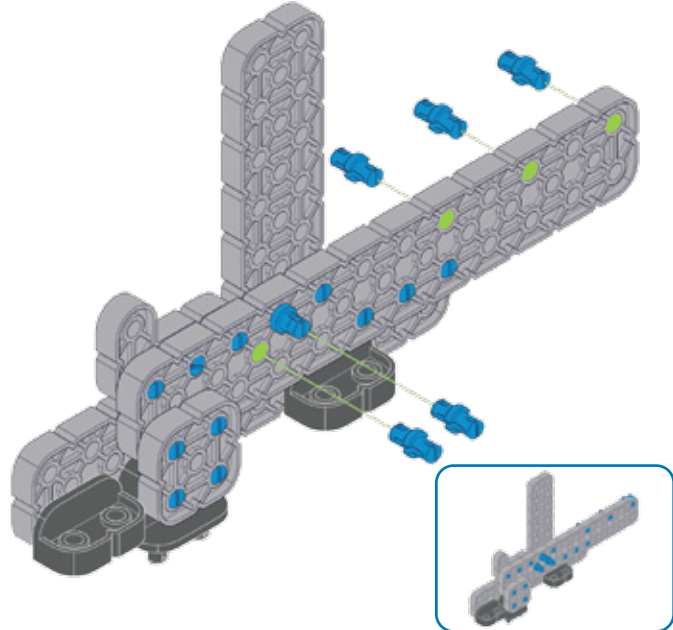
56

4x 228-2500-060  
 1x 228-2500-061  
 1x 228-2500-145  
 1x 228-2500-021  
 1x 228-2500-017



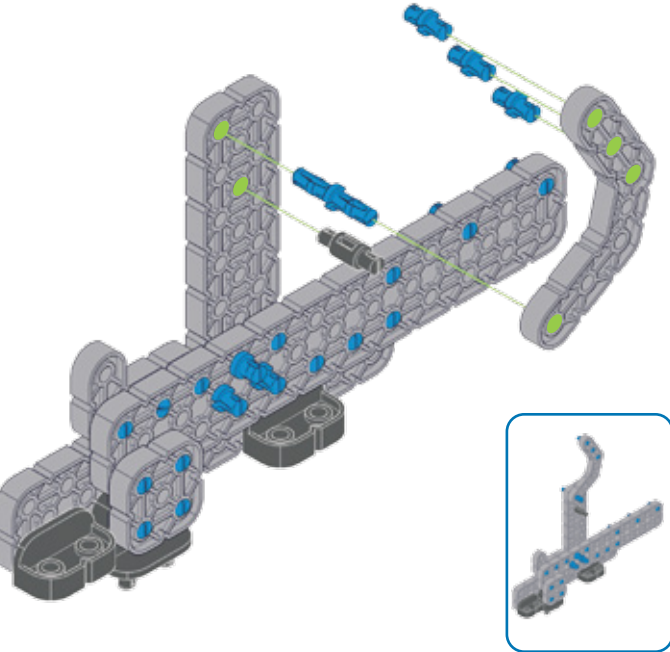
57

5x 228-2500-060



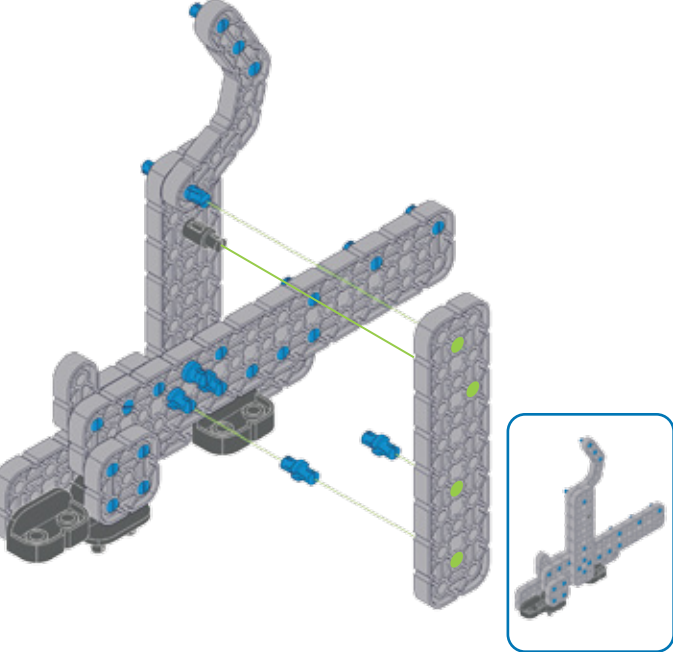
58

3x 228-2500-060  
 1x 228-2500-151  
 1x 228-2500-062  
 1x 228-2500-064



59

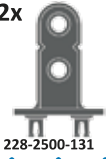
1x 228-2500-023  
 2x 228-2500-060





60

2x

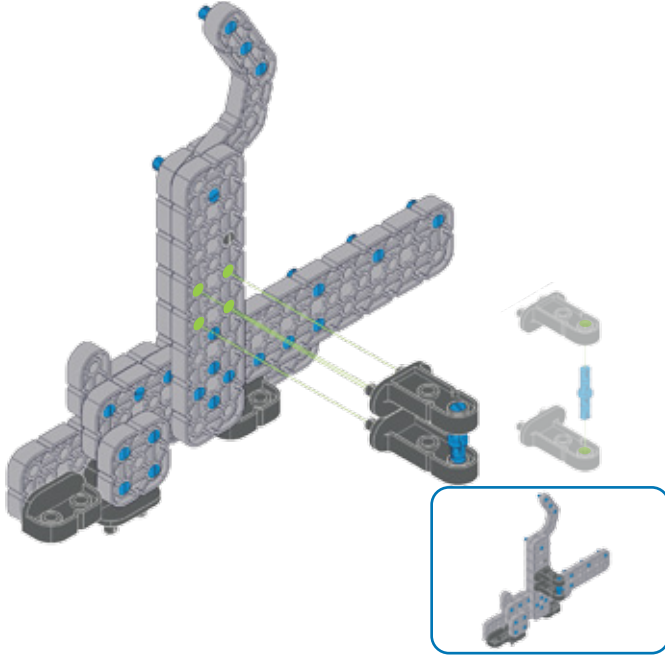


228-2500-131

1x



228-2500-062

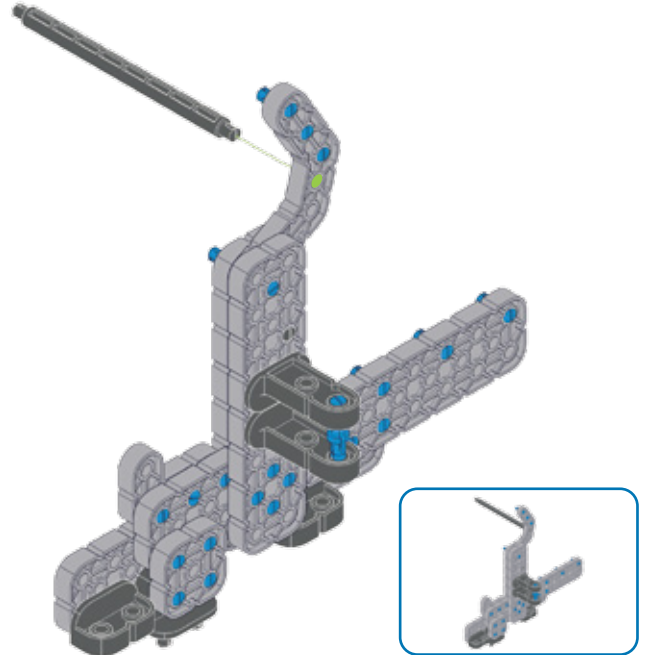


61

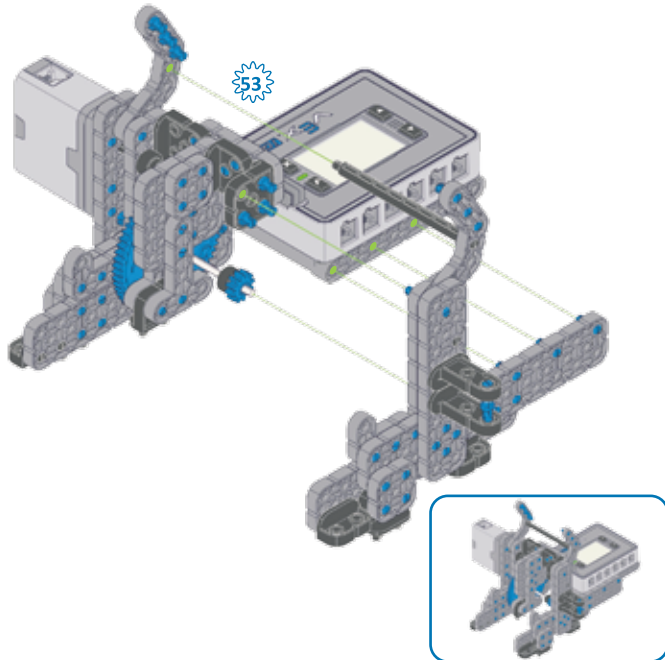
1x



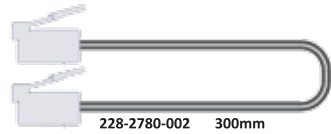
228-2500-072



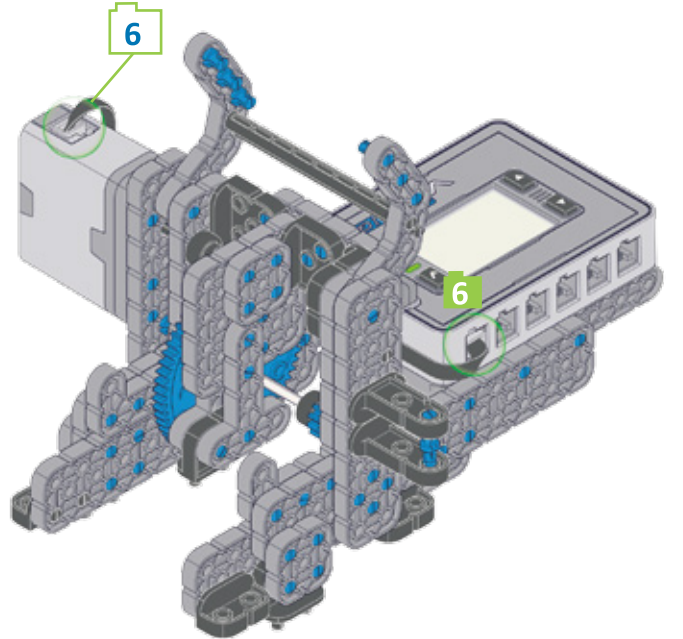
62



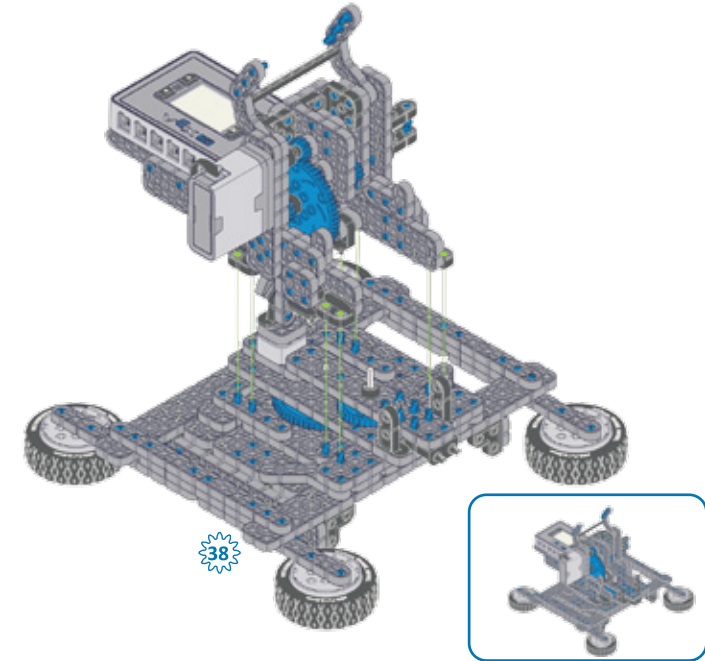
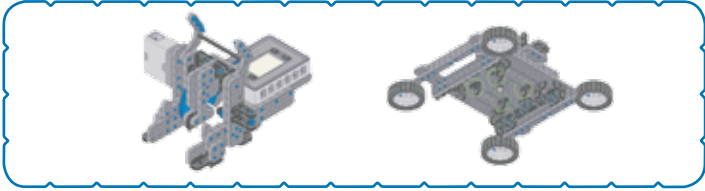
63



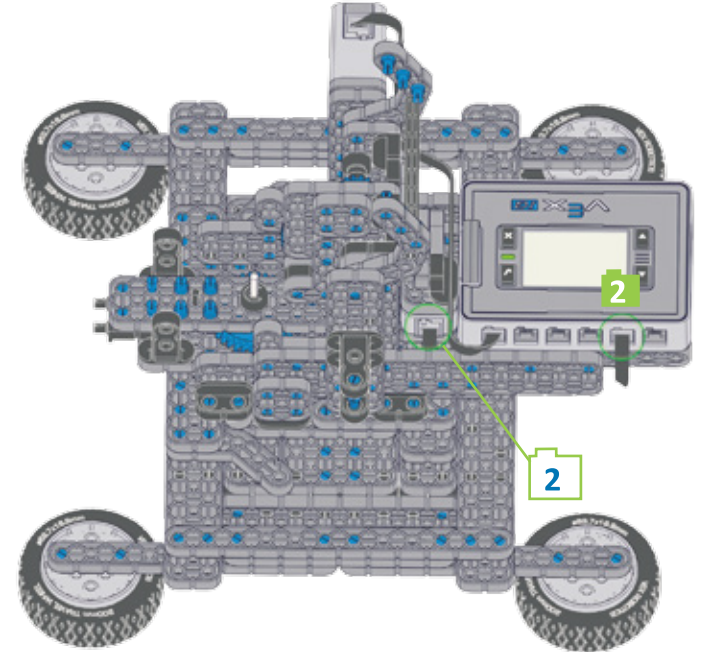
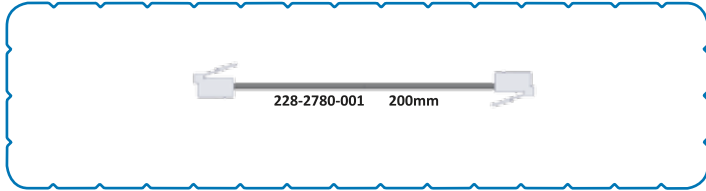
228-2780-002 300mm



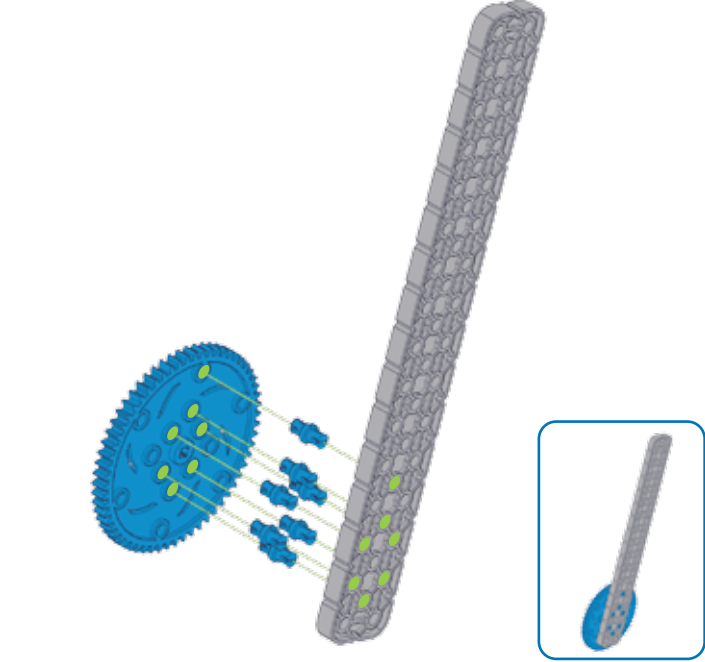
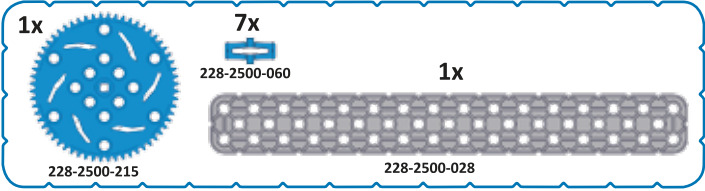
64



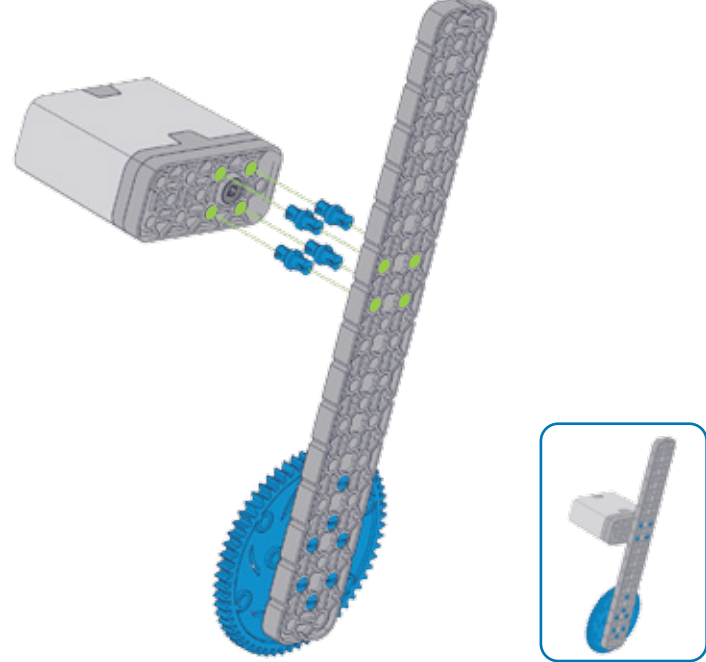
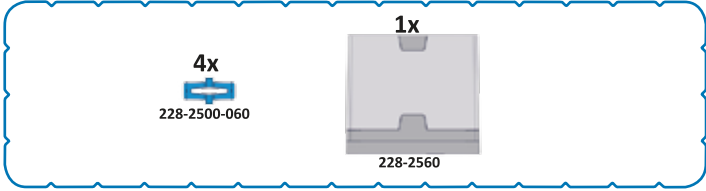
65



66

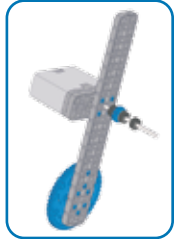
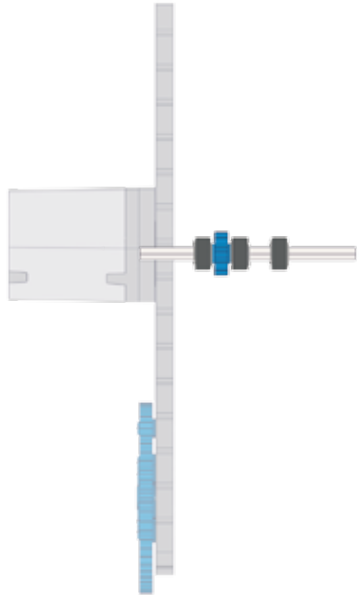
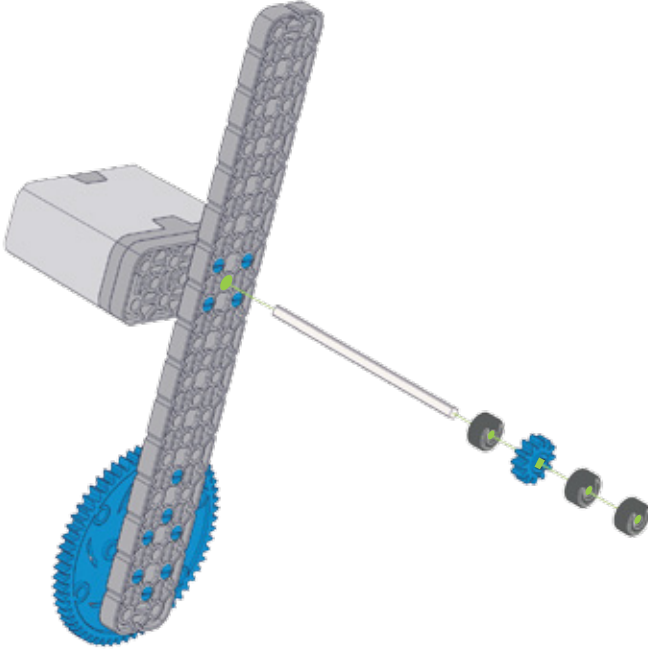


67



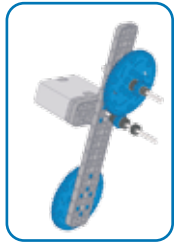
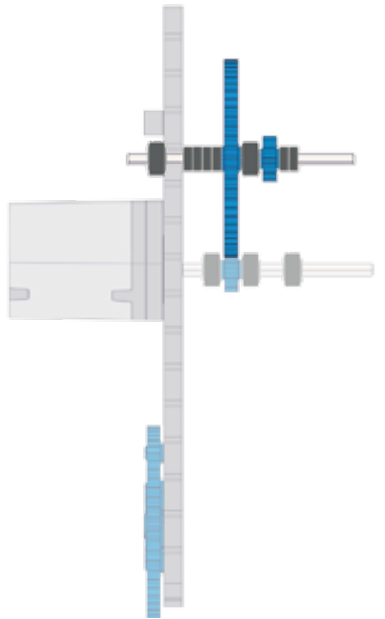
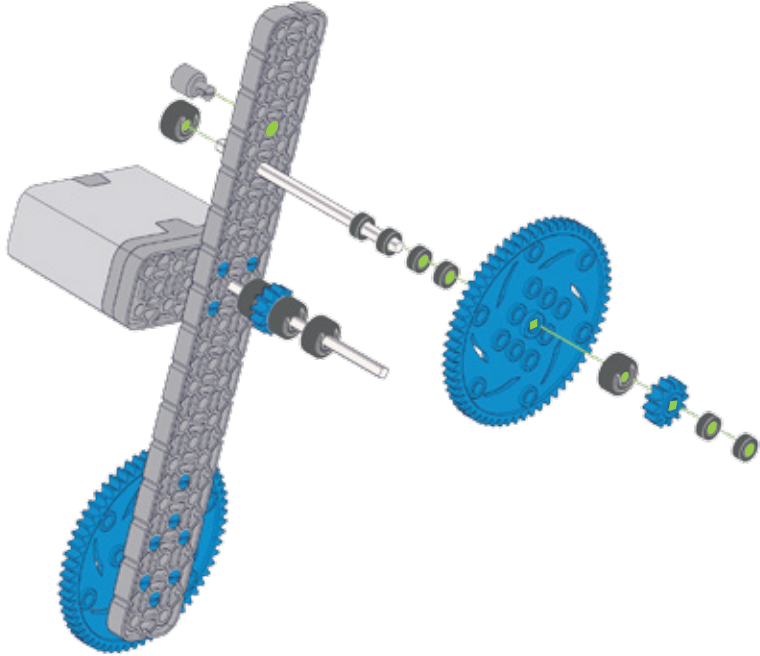
68

<b>1x</b> 228-2500-122	<b>1x</b> 228-2500-213	<b>3x</b> 228-2500-143
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69

<b>1x</b> 228-2500-215	<b>2x</b> 228-2500-143	<b>6x</b> 228-2500-114	<b>1x</b> 228-2500-122
<b>1x</b> 228-2500-213	<b>1x</b> 228-2500-125		



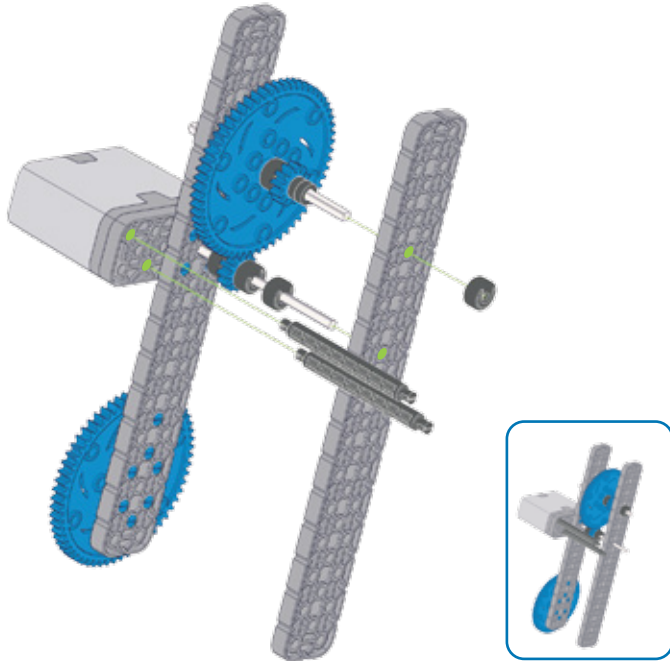


70

2x  
228-2500-070

1x  
228-2500-143

1x  
228-2500-028

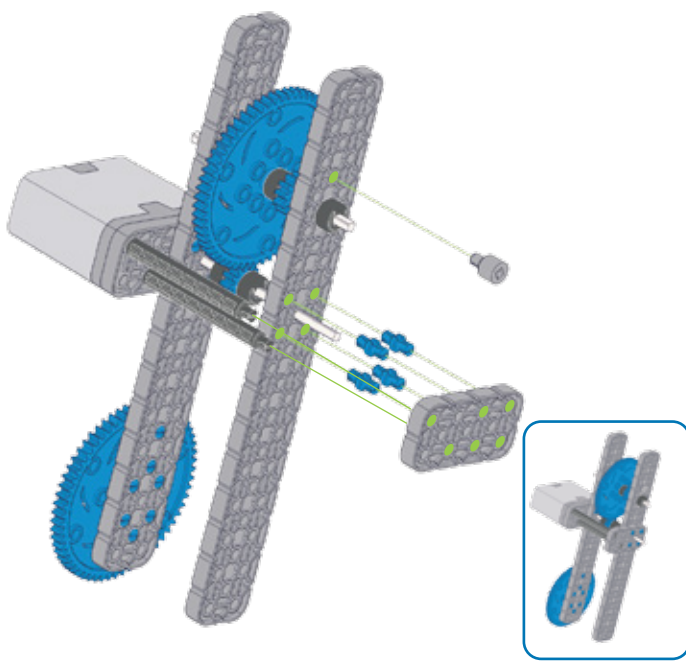


71

1x  
228-2500-125

1x  
228-2500-019

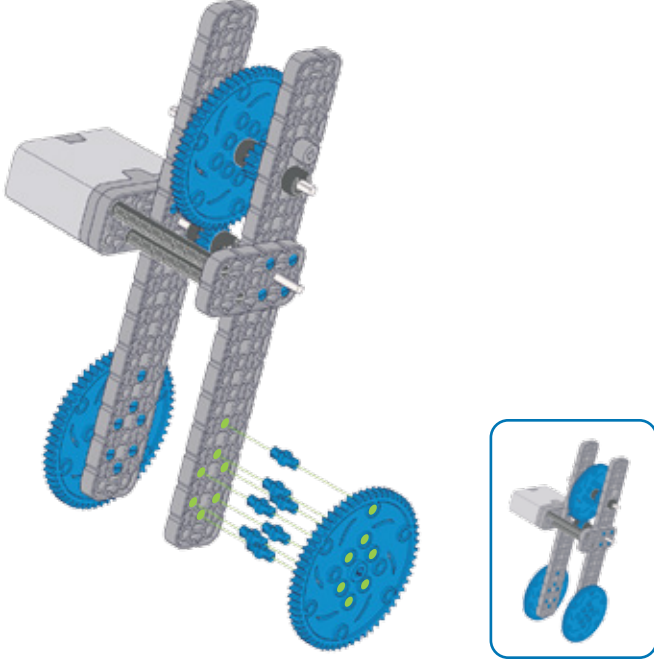
4x  
228-2500-060



72

1x  
228-2500-215

7x  
228-2500-060

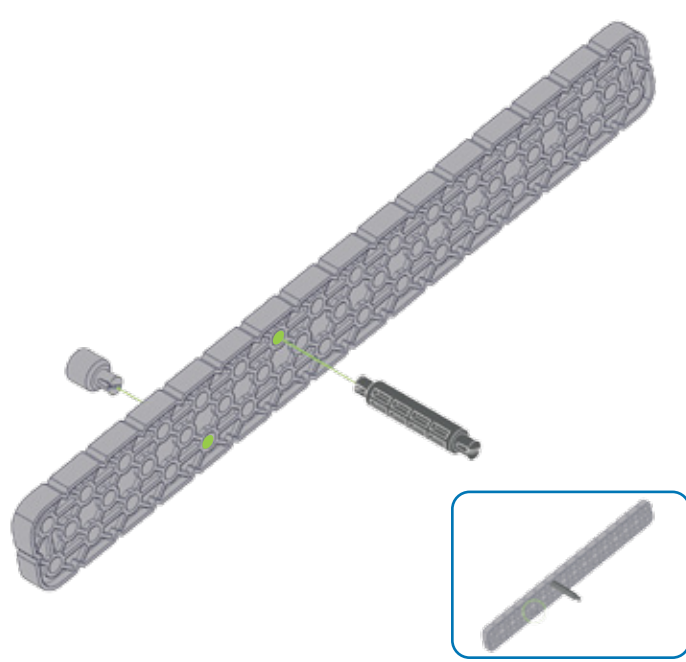


73

1x  
228-2500-125

1x  
228-2500-067

1x  
228-2500-028



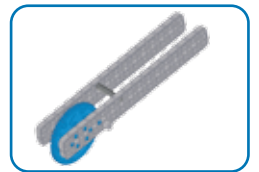
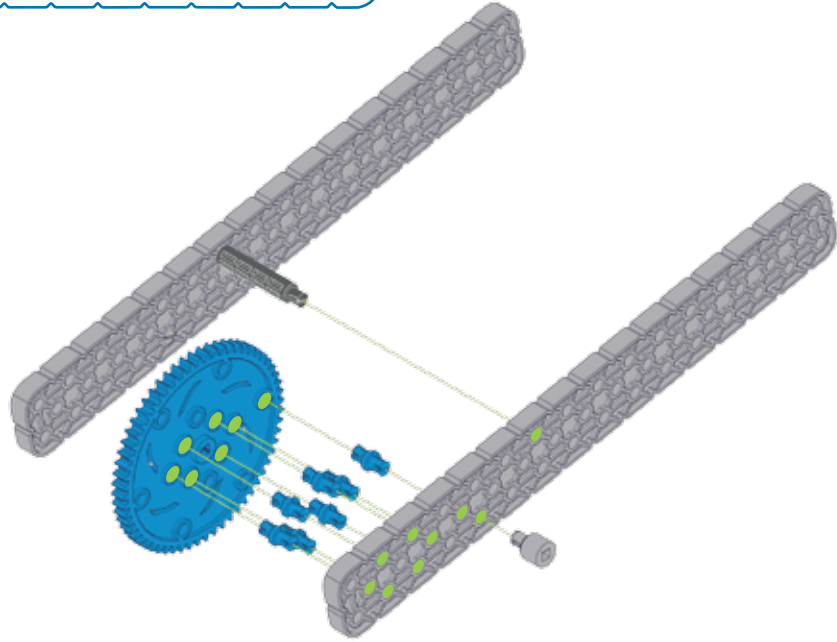
74

1x 228-2500-028

1x 228-2500-215

7x 228-2500-060

1x 228-2500-125



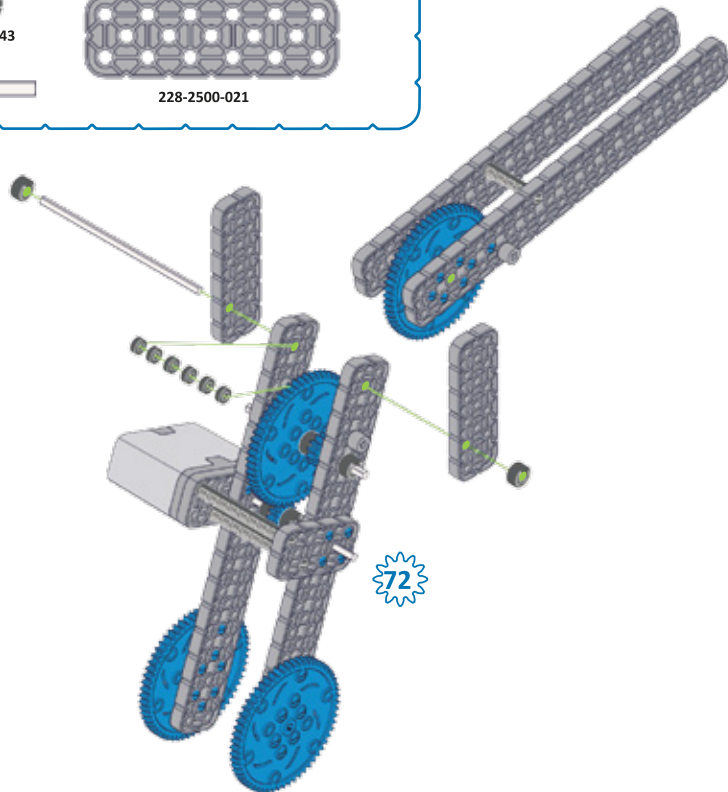
75

6x 228-2500-114

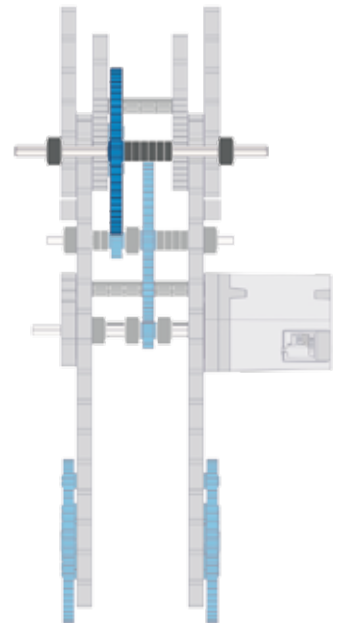
2x 228-2500-143

2x 228-2500-021

1x 228-2500-124



72



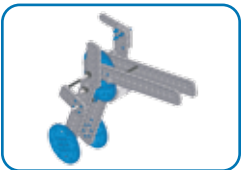
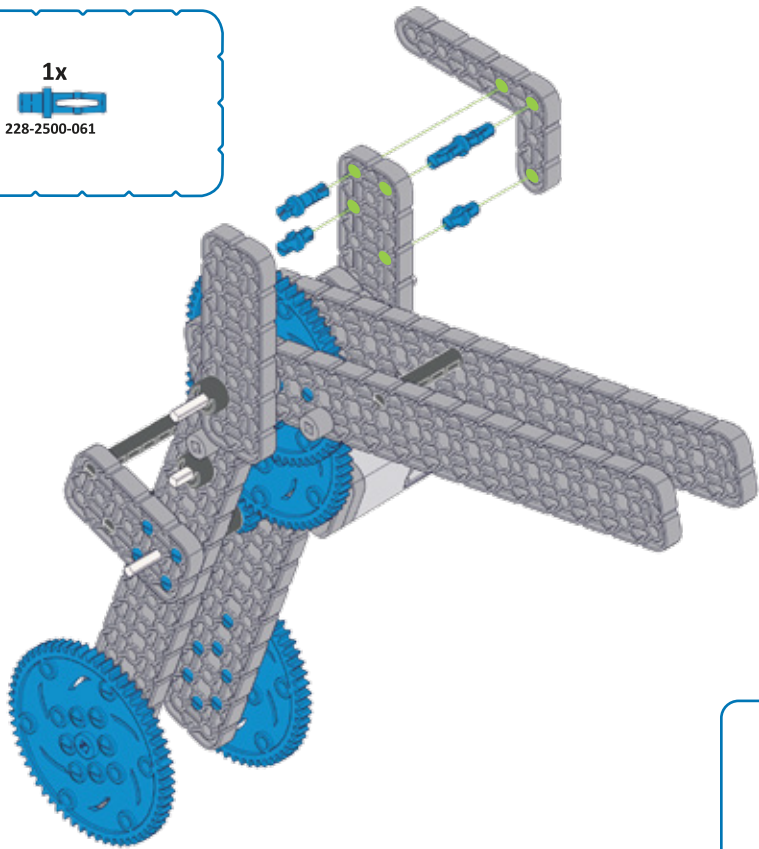
76

1x 228-2500-150

1x 228-2500-062

2x 228-2500-060

1x 228-2500-061



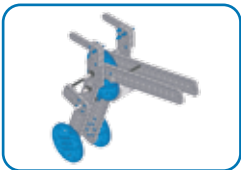
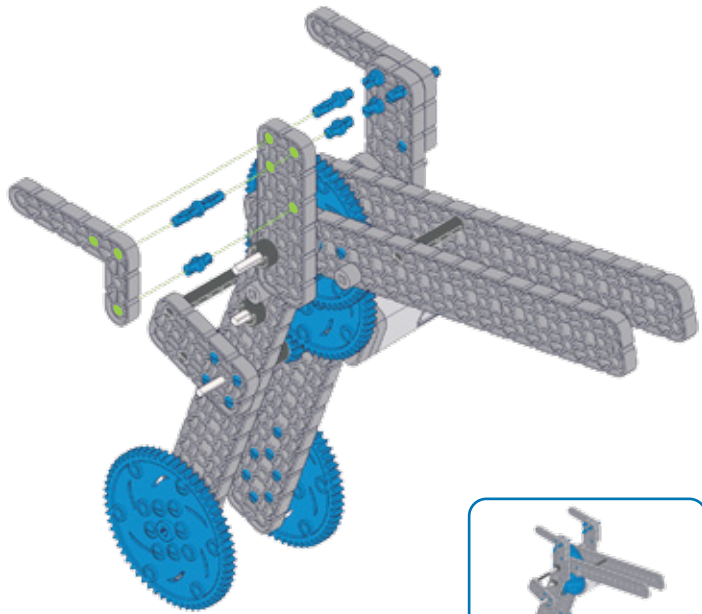
77

1x 228-2500-150

1x 228-2500-062

2x 228-2500-060

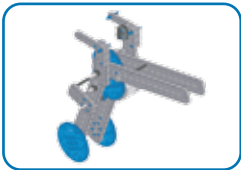
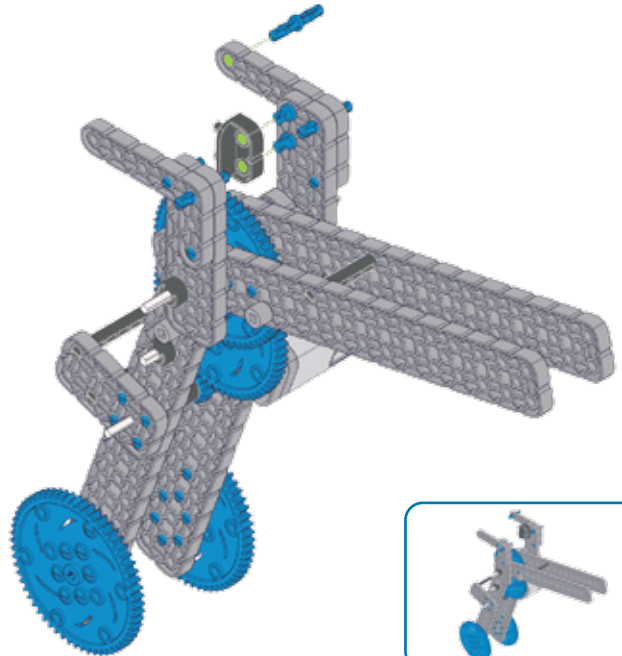
1x 228-2500-061



78

1x 228-2500-062

1x 228-2500-128

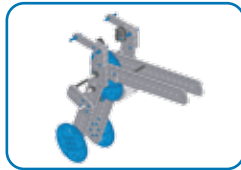
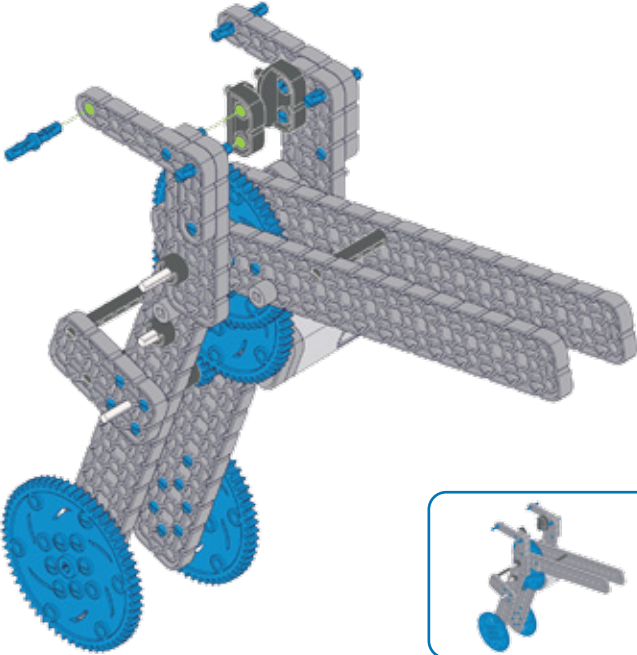




79

1x  
228-2500-062

1x  
228-2500-128



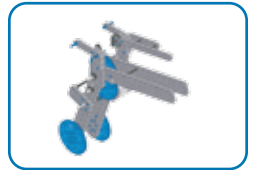
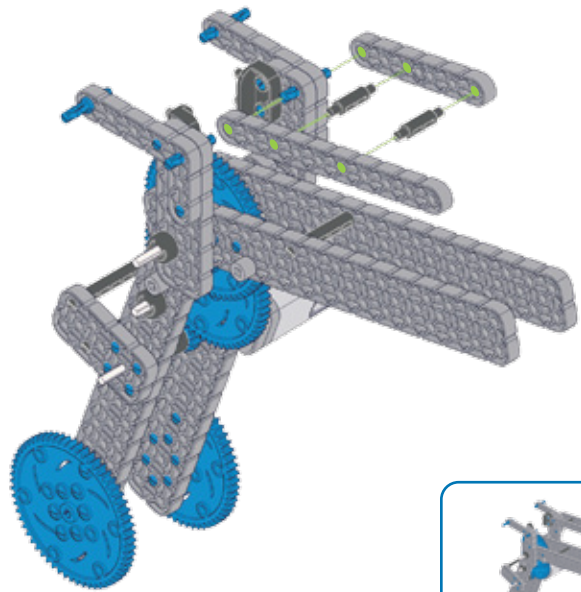
80

80

1x  
228-2500-005

2x  
228-2500-065

1x  
228-2500-009



81

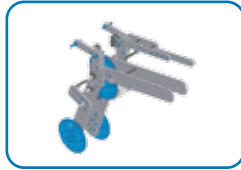
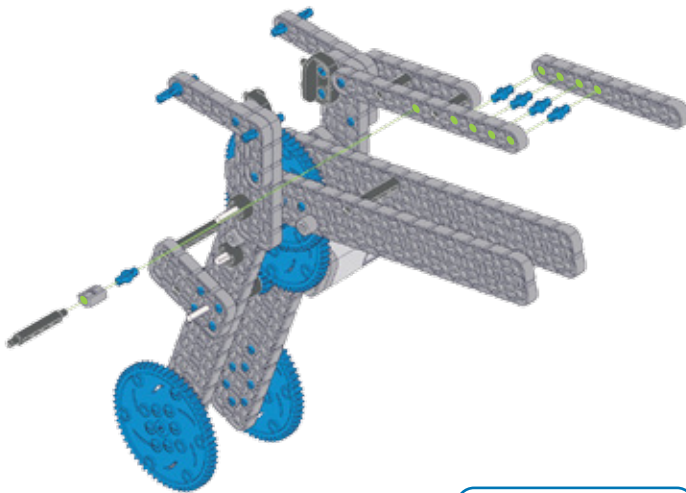
81

1x  
228-2500-067

1x  
228-2500-007

5x  
228-2500-060

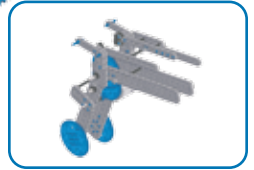
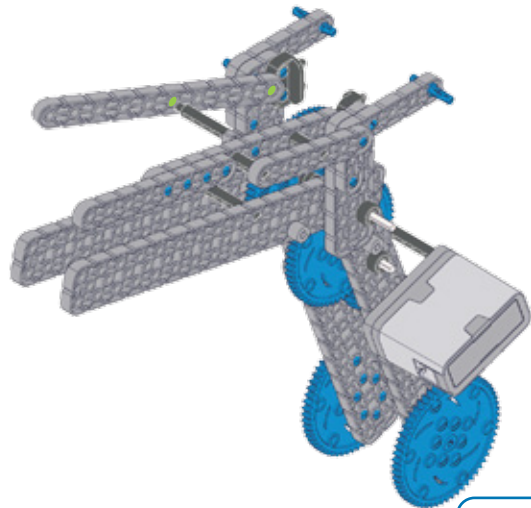
1x  
228-2500-170



82

82

1x  
228-2500-009



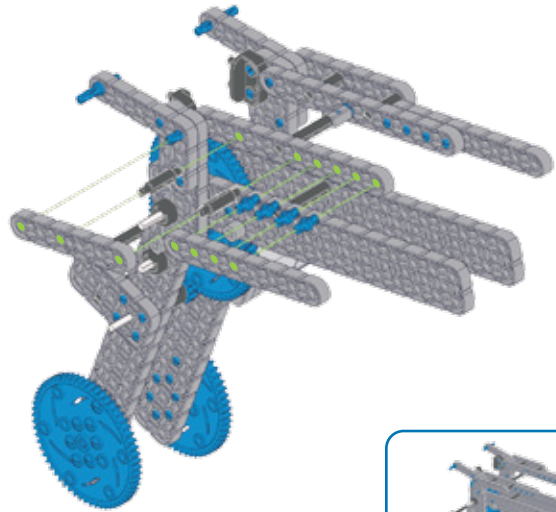
83

1x 228-2500-005

2x 228-2500-065

4x 228-2500-060

1x 228-2500-007

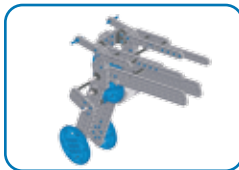
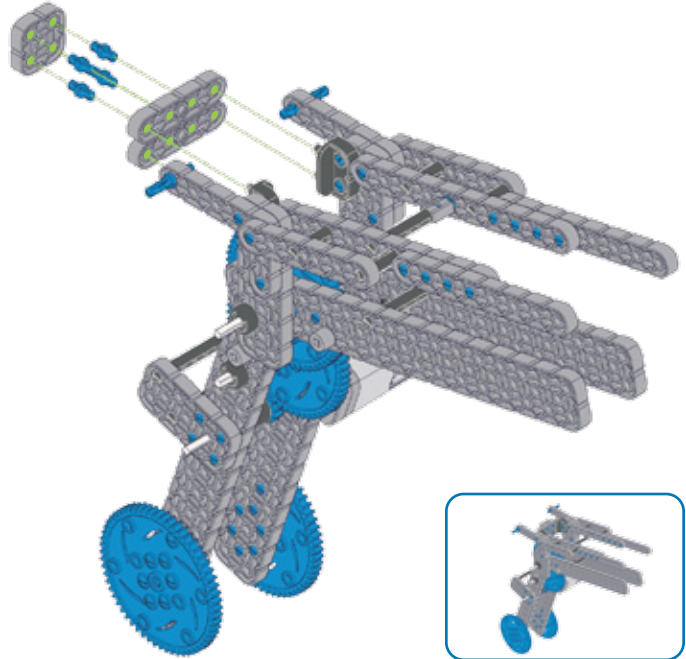


84

4x 228-2500-060

1x 228-2500-017

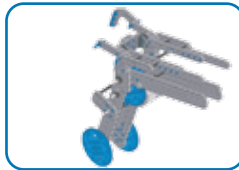
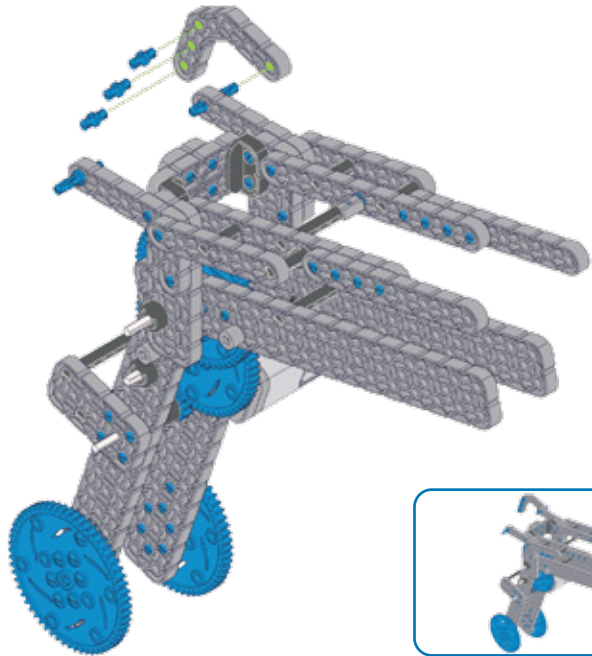
2x 228-2500-003



85

3x 228-2500-060

1x 228-2500-151

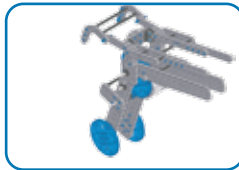
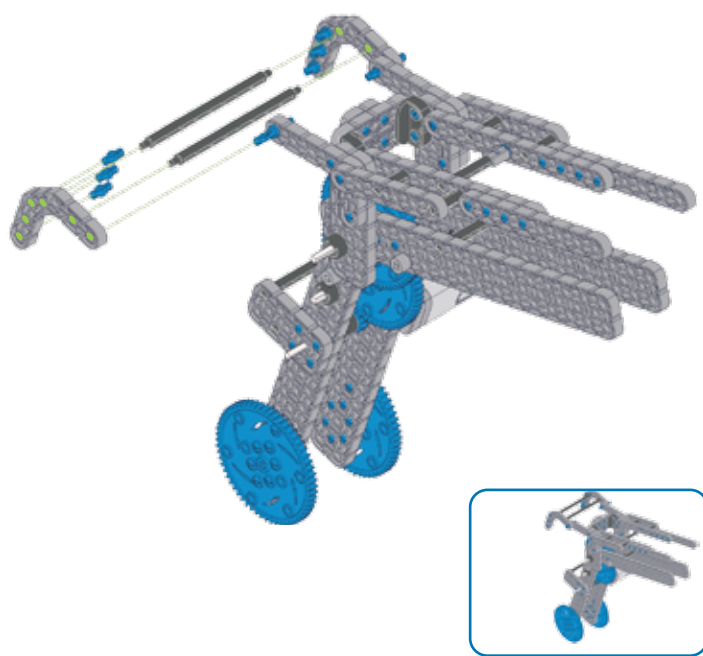


86

2x 228-2500-072

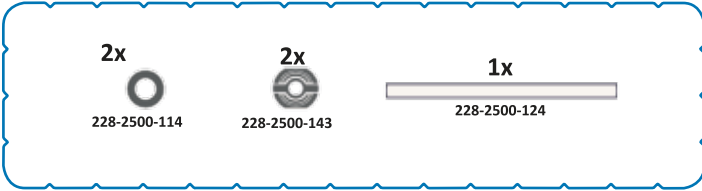
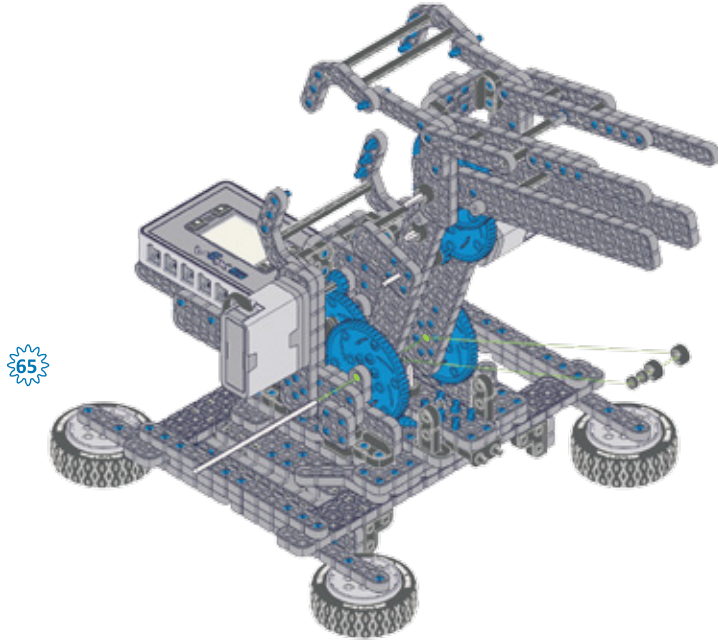
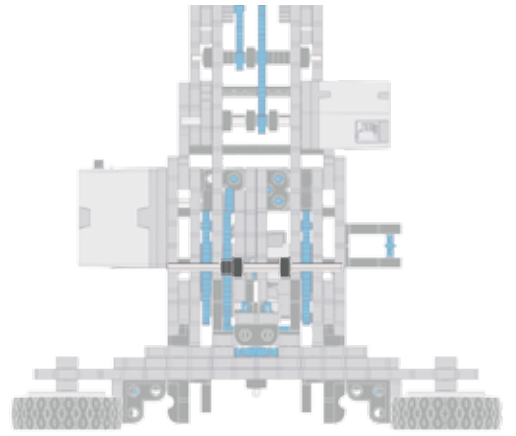
3x 228-2500-060

1x 228-2500-151



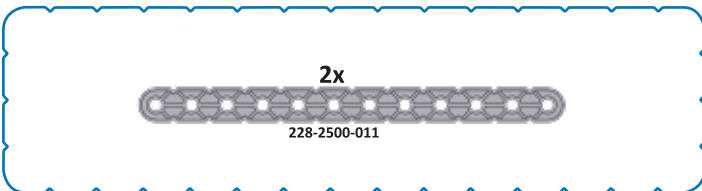
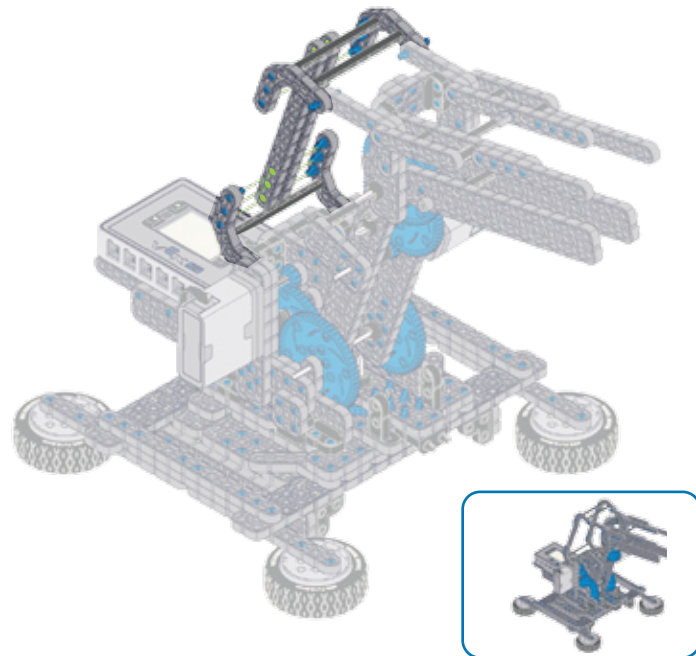
87

2x 228-2500-114      2x 228-2500-143      1x 228-2500-124

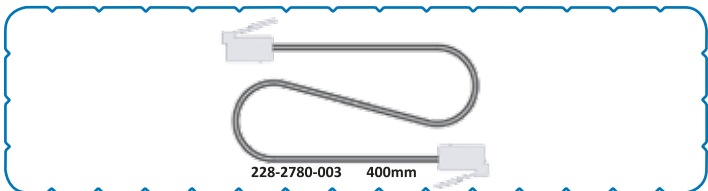
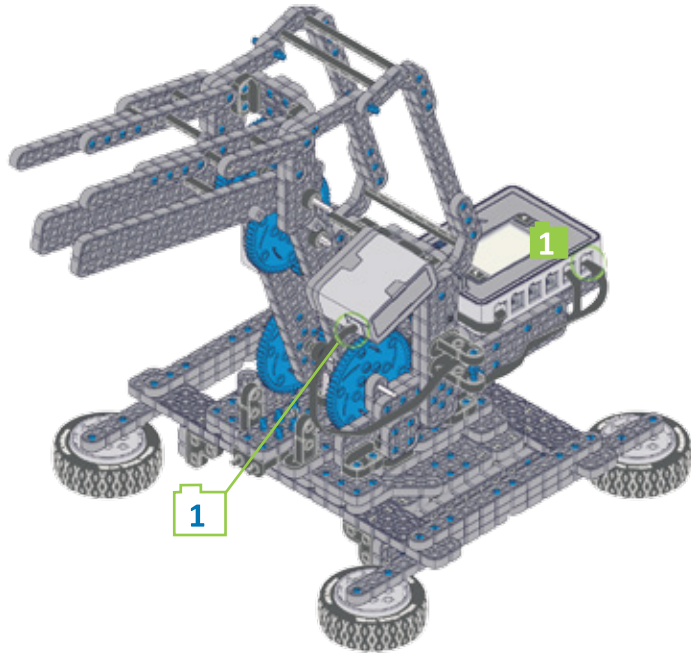
88

2x 228-2500-011

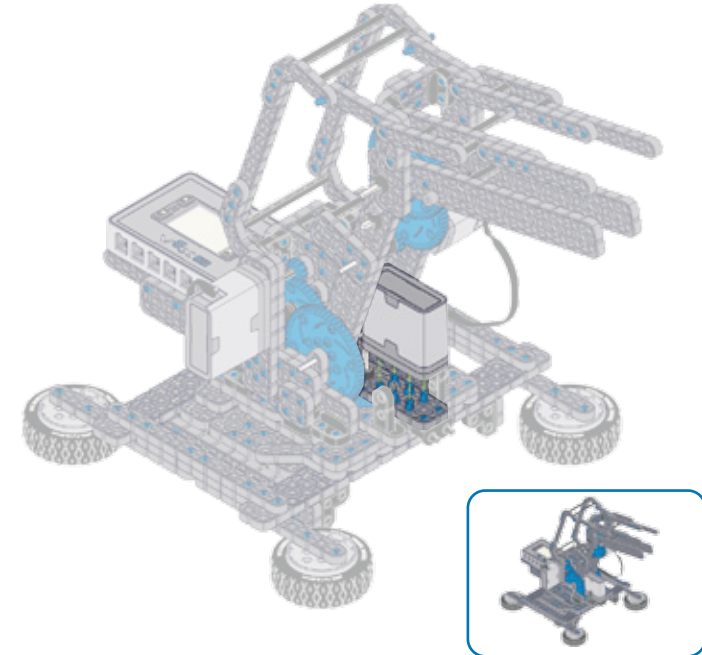
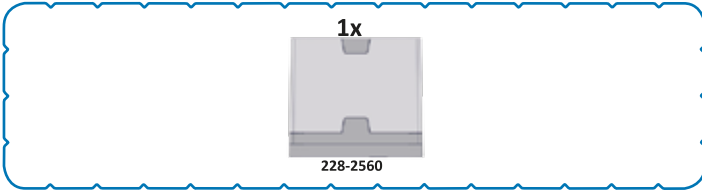
89

228-2780-003 400mm

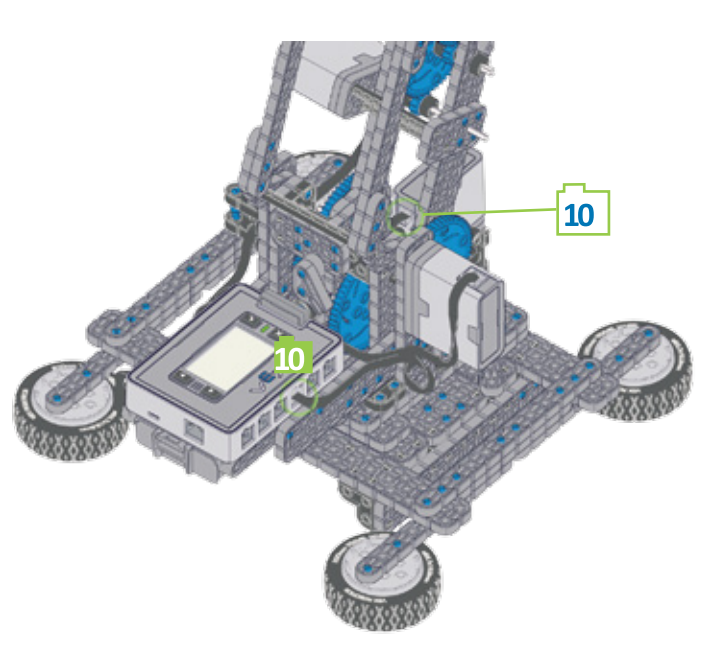
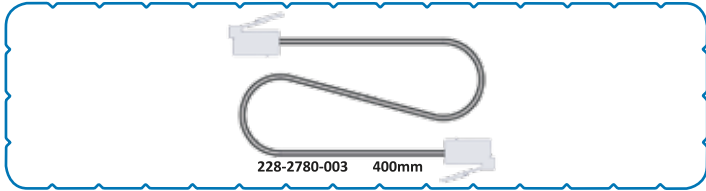





90

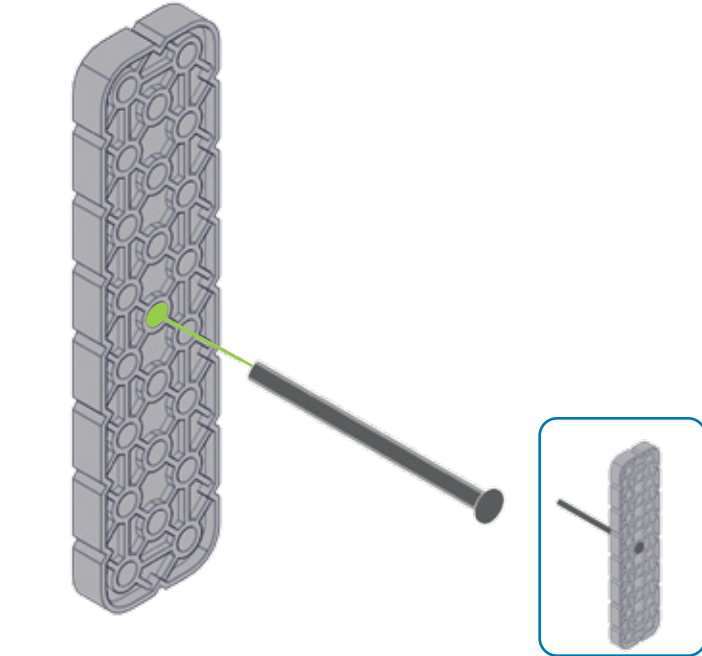
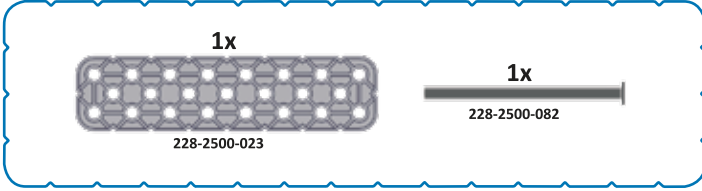


91

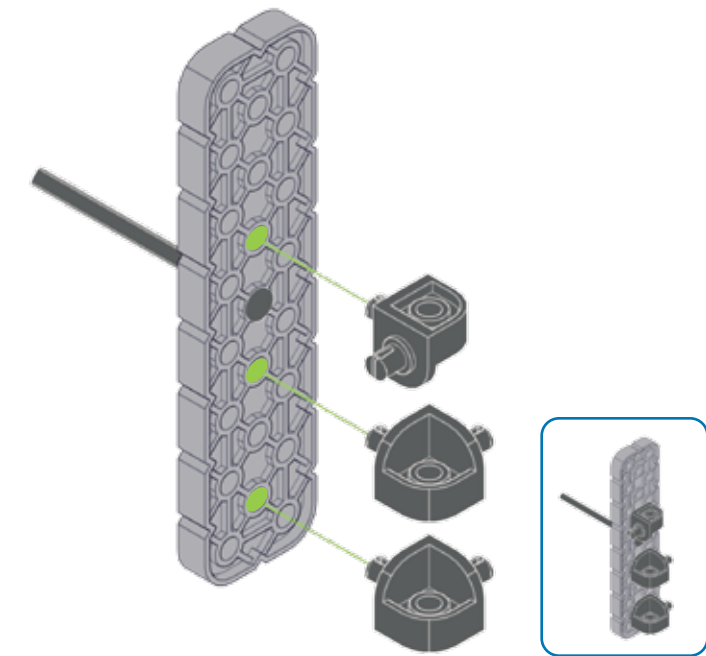
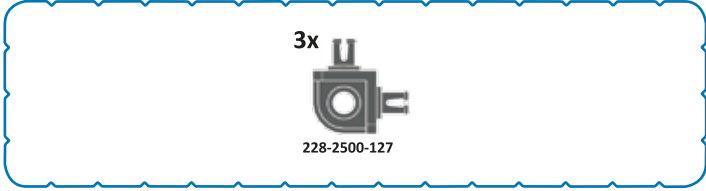


92

92



93



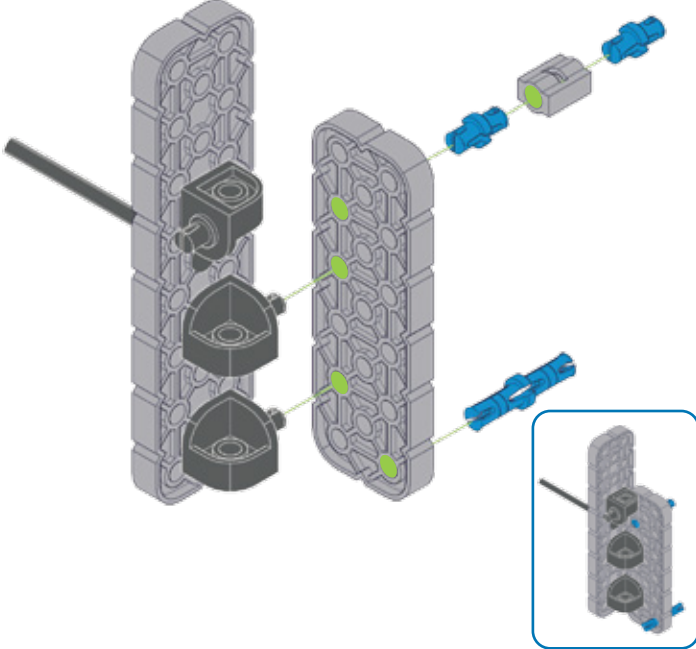
94

1x 228-2500-021

2x 228-2500-060

1x 228-2500-170

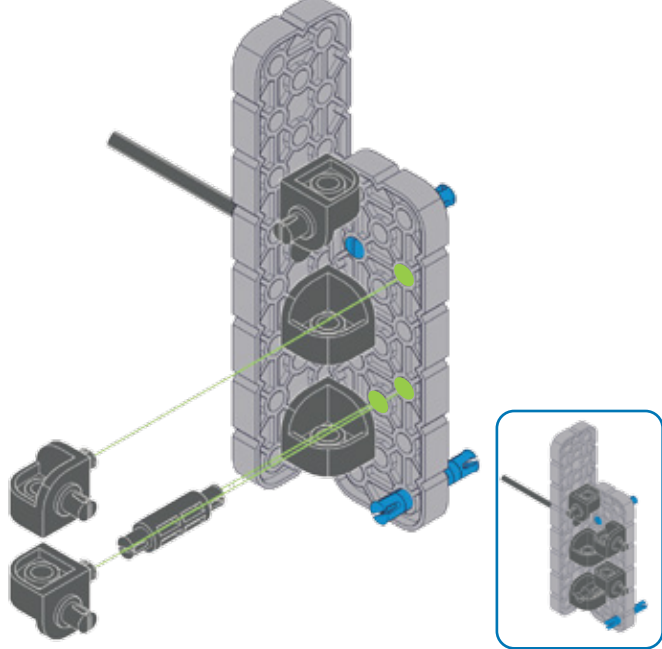
1x 228-2500-062



95

2x 228-2500-127

1x 228-2500-065



96

96

1x 228-2500-214

4x 228-2500-114

2x 228-2500-112

1x 228-2500-213

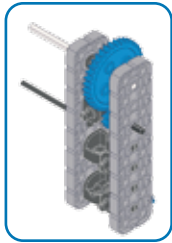
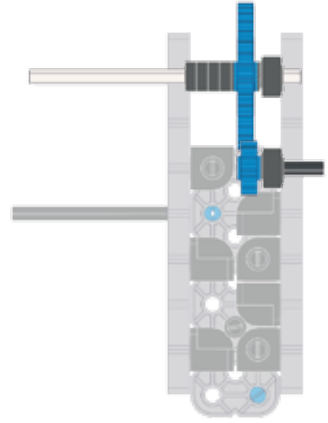
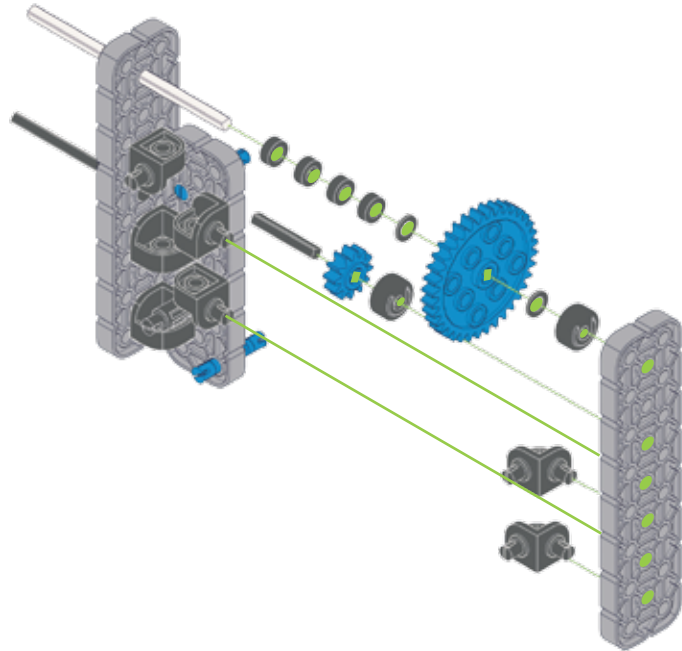
2x 228-2500-143

2x 228-2500-127

1x 228-2500-074

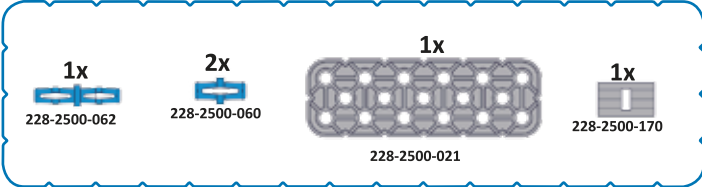
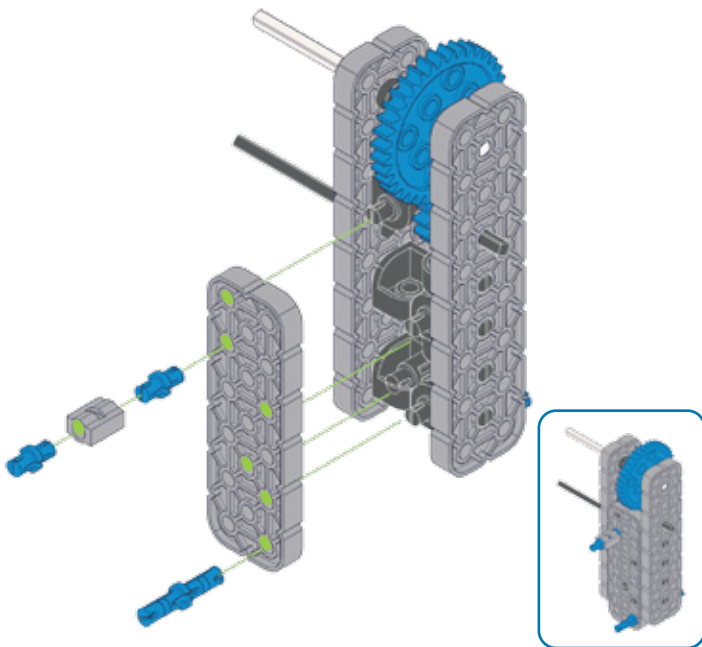
1x 228-2500-122

1x 228-2500-023



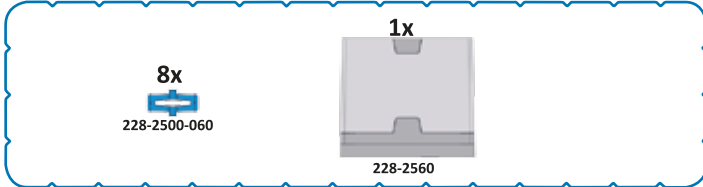
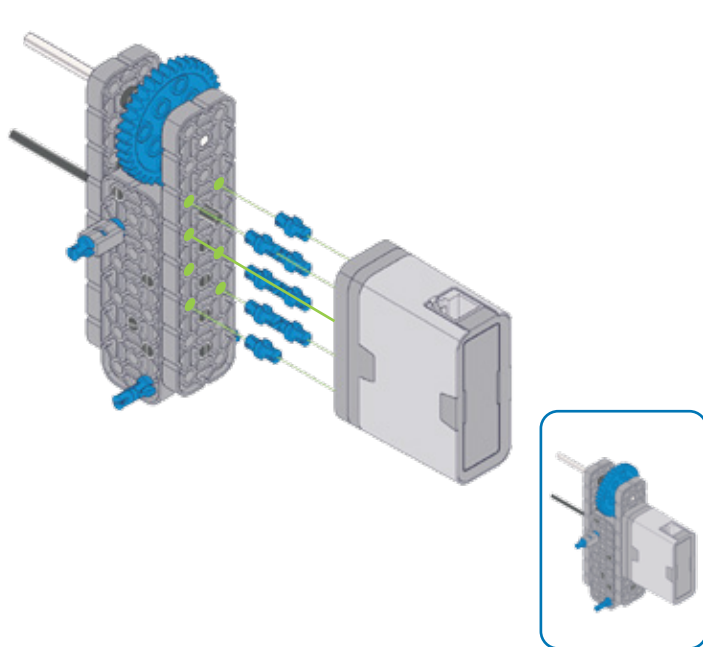
97

1x 228-2500-062    2x 228-2500-060    1x 228-2500-021    1x 228-2500-170

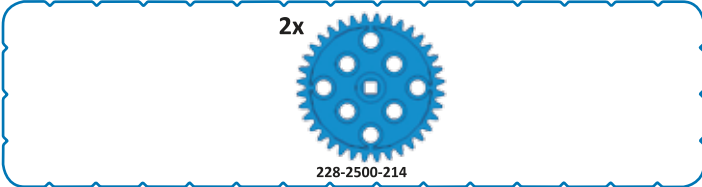
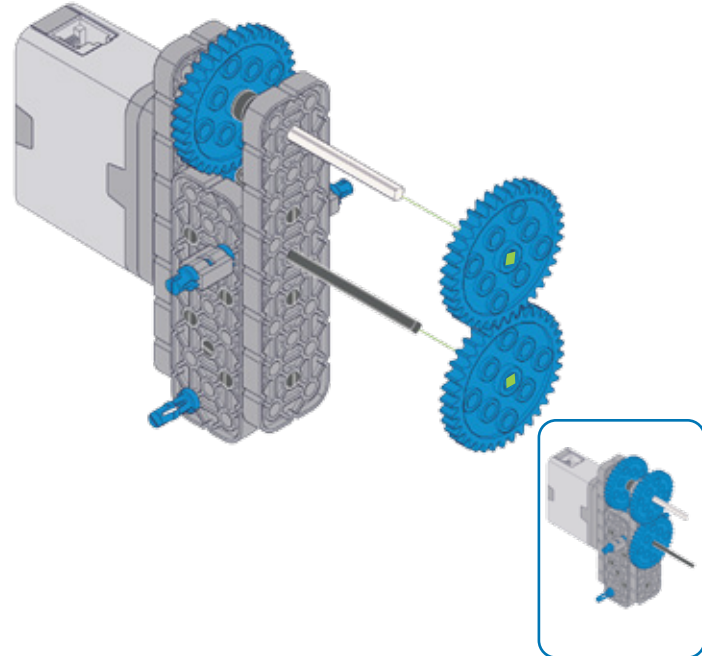
98

8x 228-2500-060    1x 228-2560

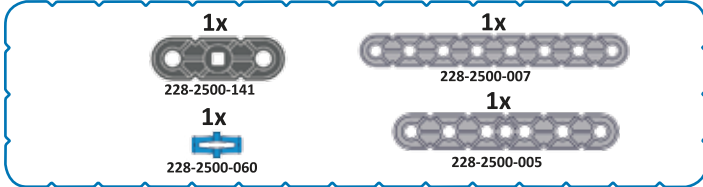
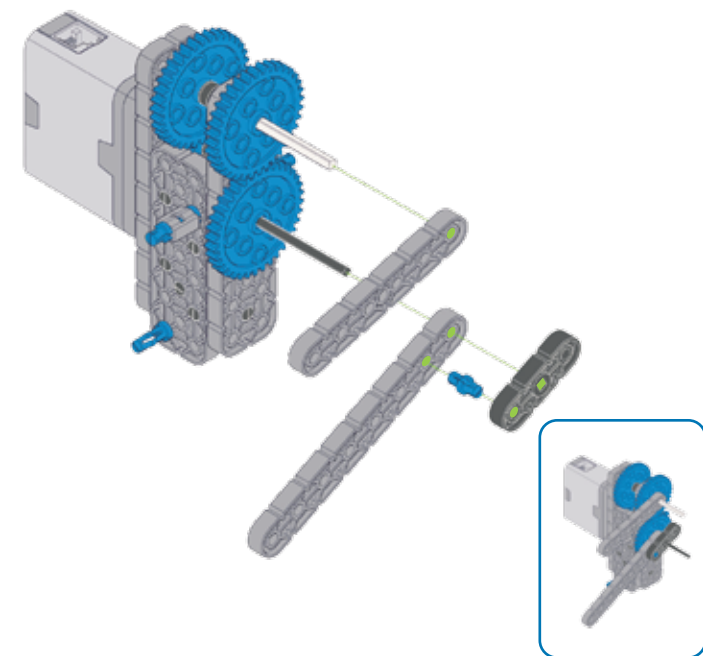
99

2x 228-2500-214

100

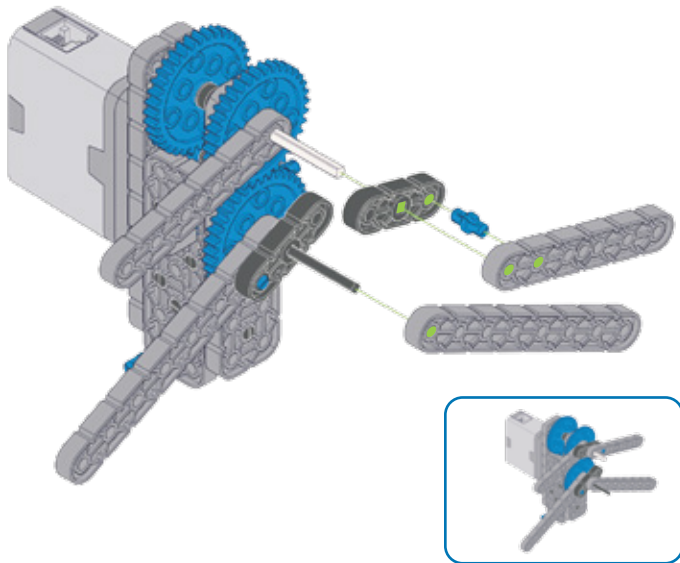
1x 228-2500-141    1x 228-2500-007    1x 228-2500-060    1x 228-2500-005



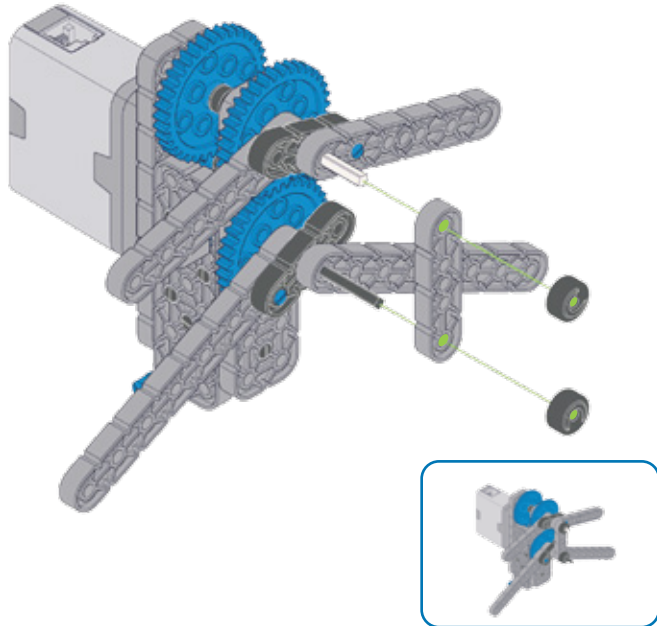
101

1x 228-2500-060      1x 228-2500-141      1x 228-2500-007  
 1x 228-2500-005



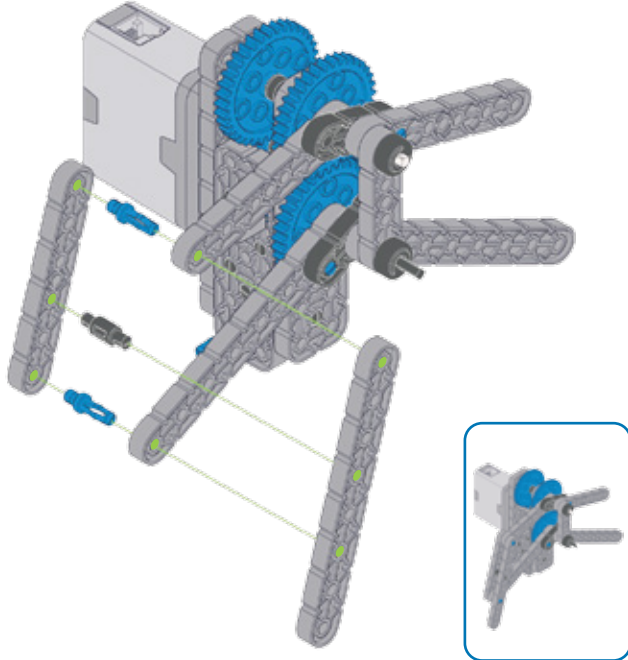
102

2x 228-2500-143      1x 228-2500-003



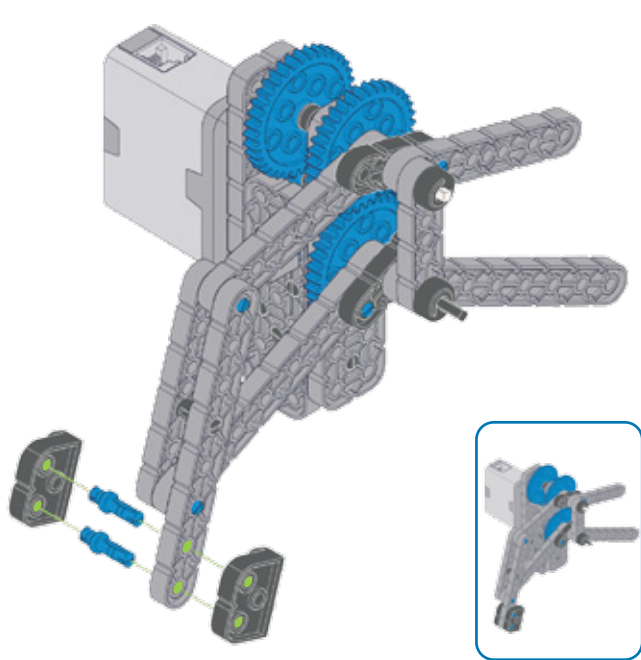
103

2x 228-2500-061      1x 228-2500-007  
 1x 228-2500-064      1x 228-2500-005



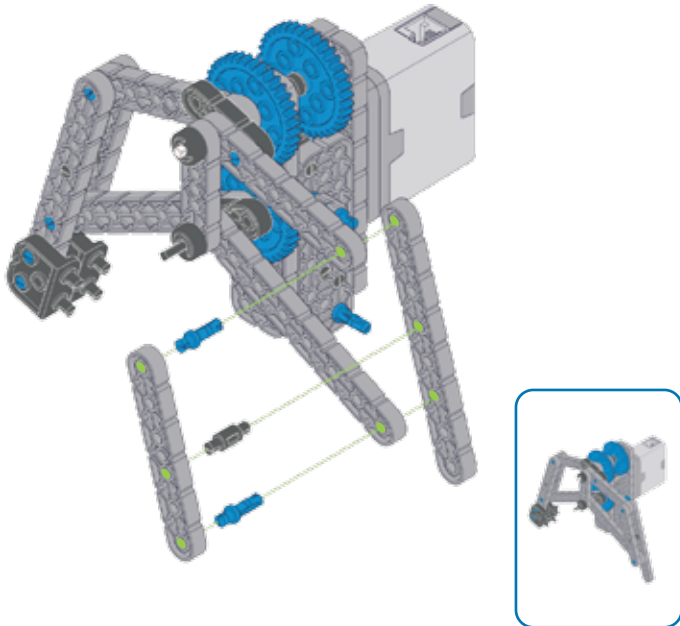
104

2x 228-2500-135      2x 228-2500-061



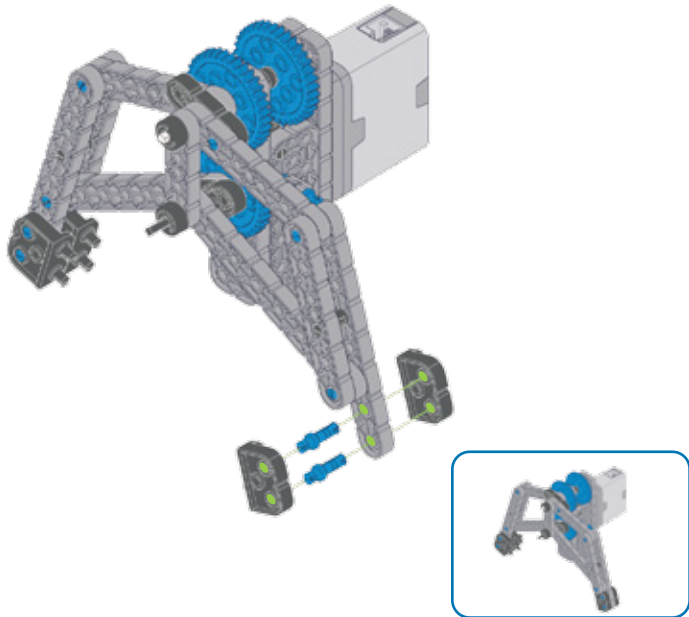
105

2x 228-2500-061  
 1x 228-2500-005  
 1x 228-2500-064  
 1x 228-2500-007



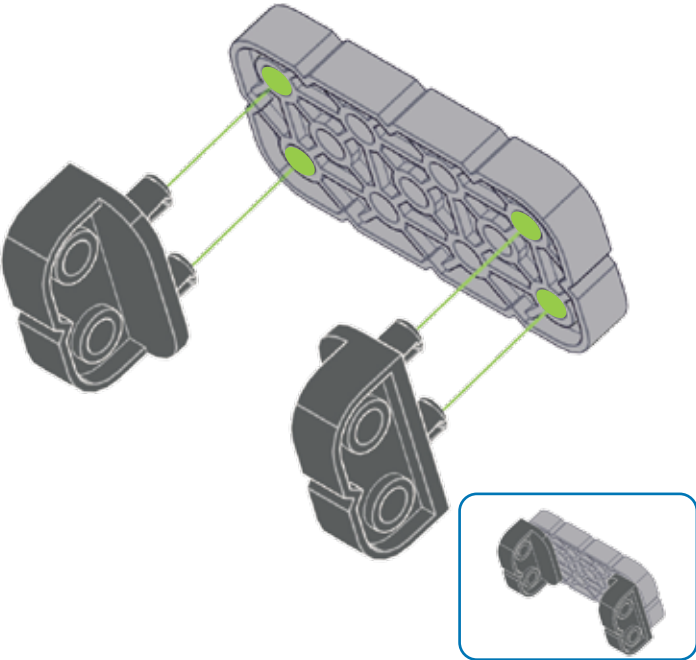
106

2x 228-2500-135  
 2x 228-2500-061



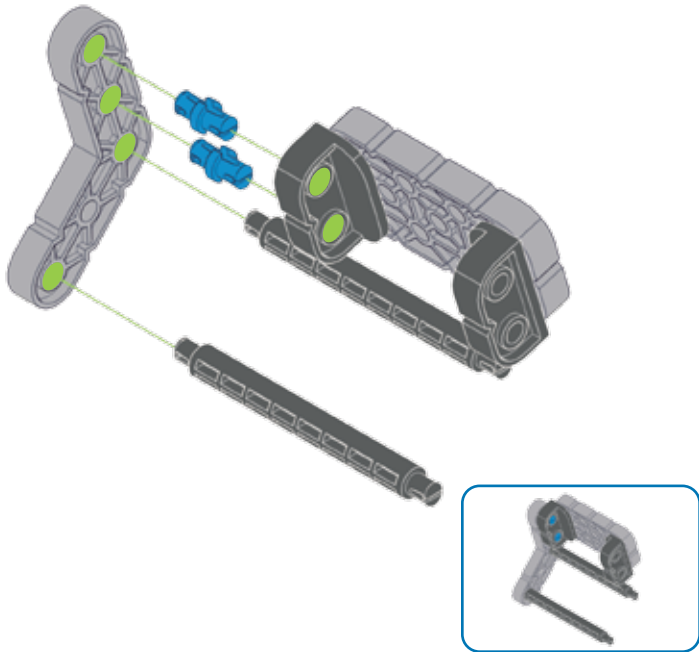
107

2x 228-2500-128  
 1x 228-2500-019



108

2x 228-2500-060  
 2x 228-2500-070  
 1x 228-2500-149



109

1x



228-2500-207



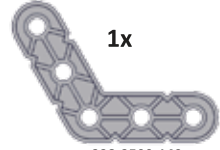
110

2x

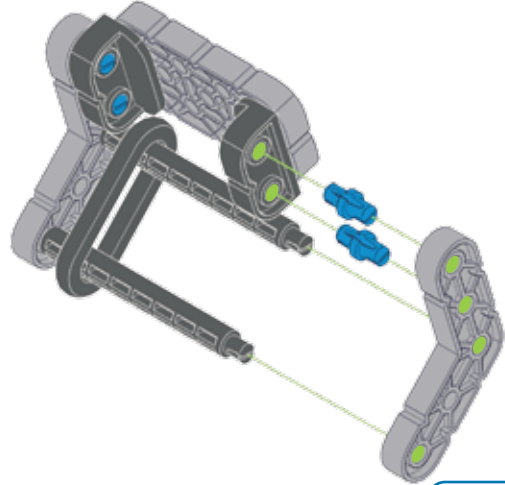


228-2500-060

1x



228-2500-149



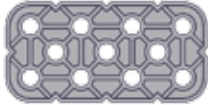
111

2x

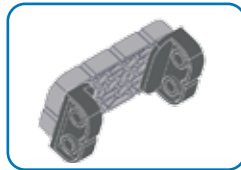
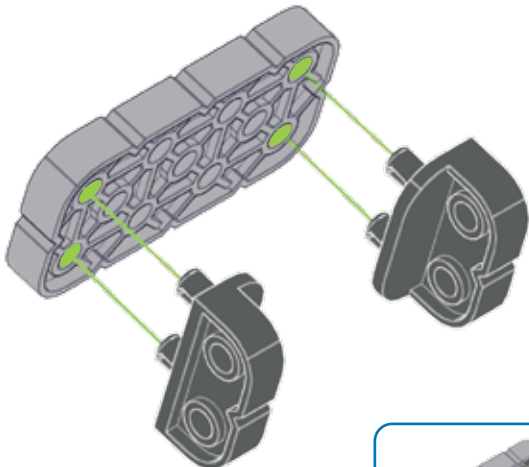


228-2500-128

1x



228-2500-019



112

2x



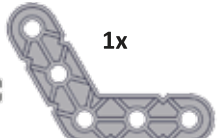
228-2500-060

2x

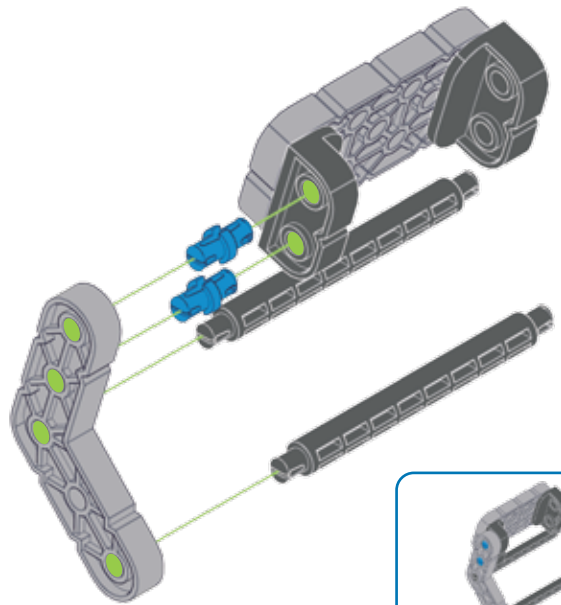


228-2500-070

1x

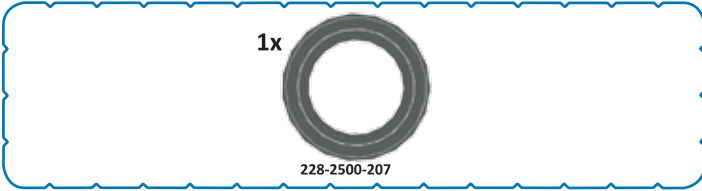


228-2500-149

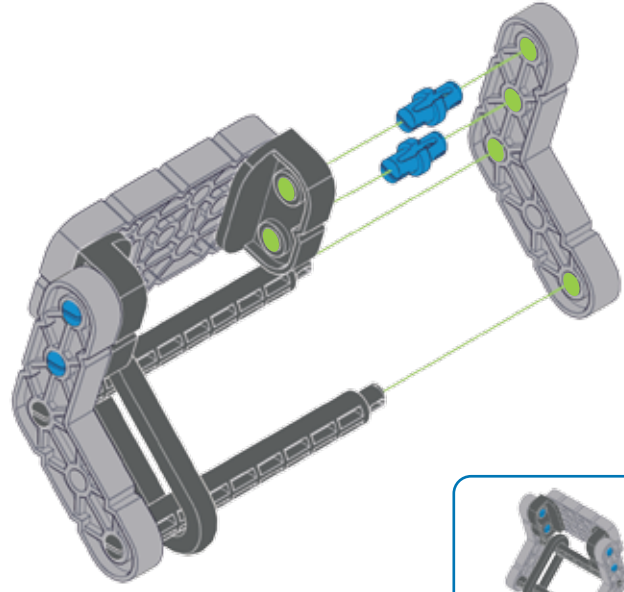
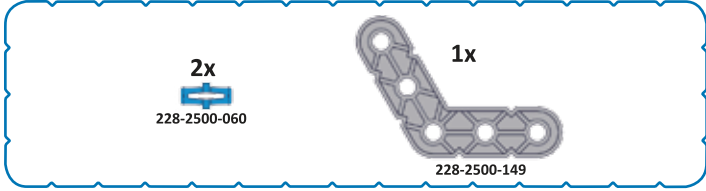




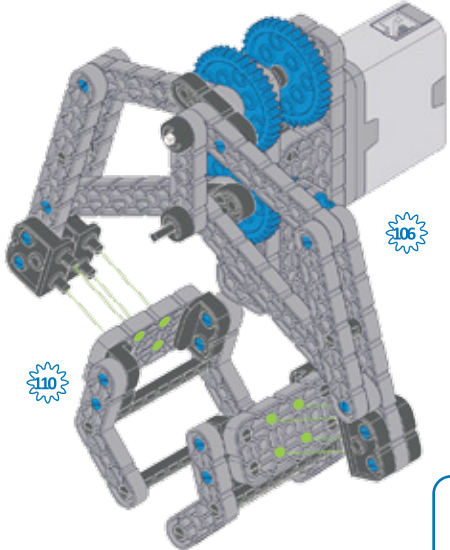
113



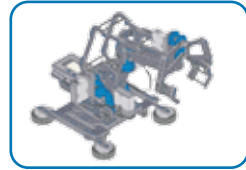
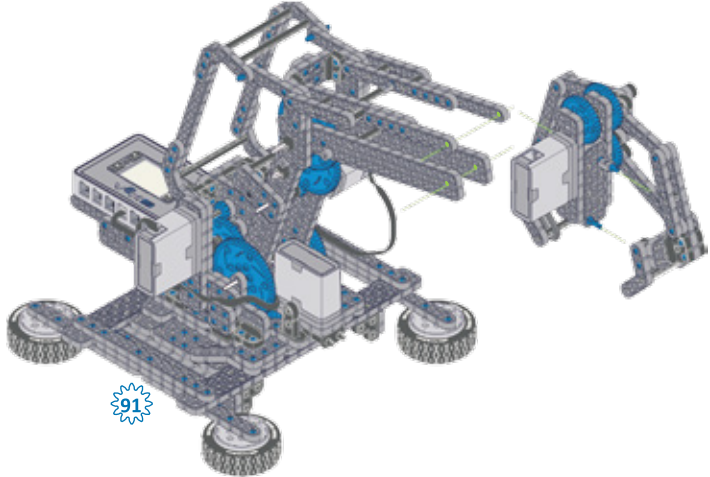
114



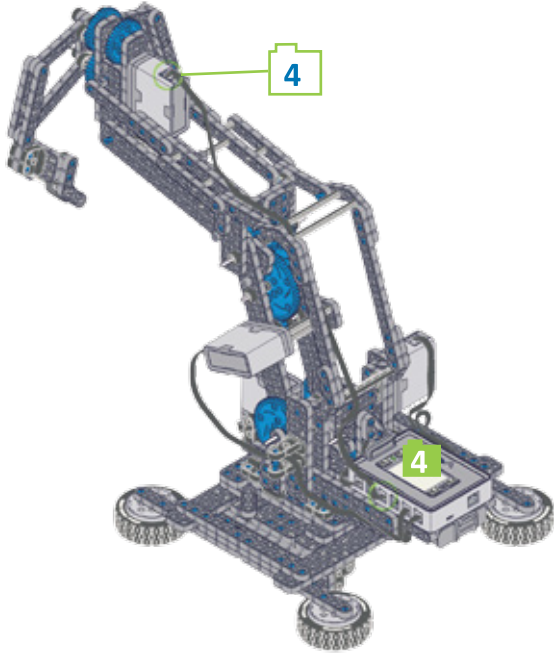
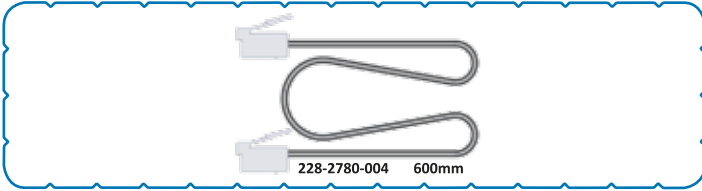
115



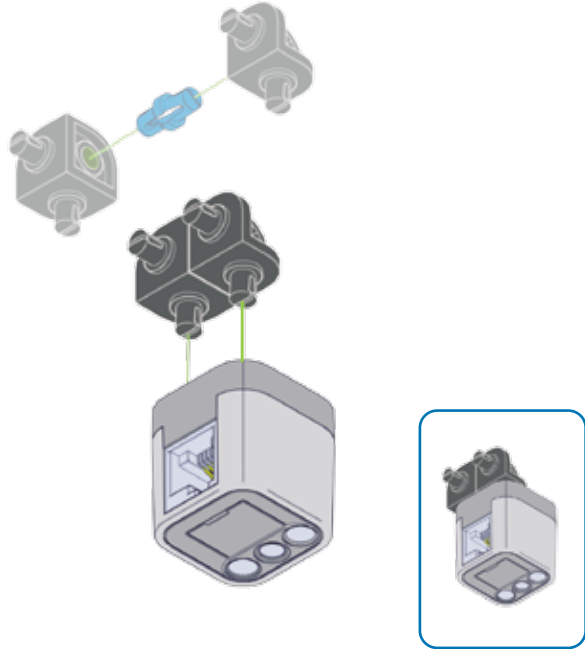
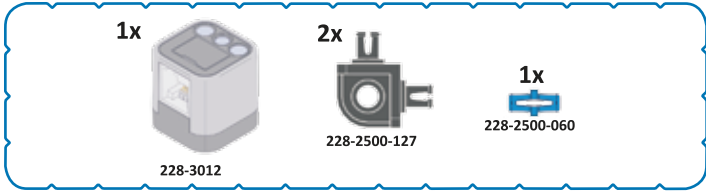
116



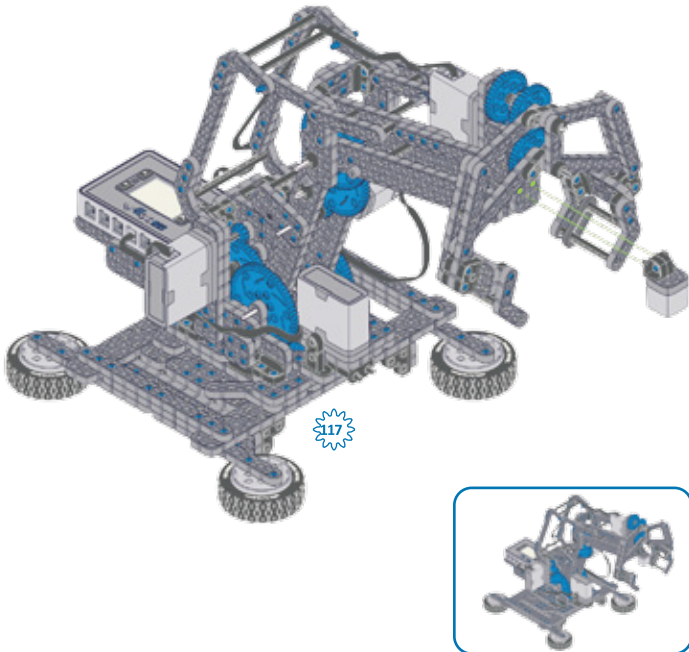
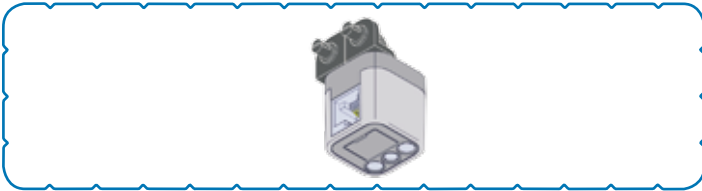
117



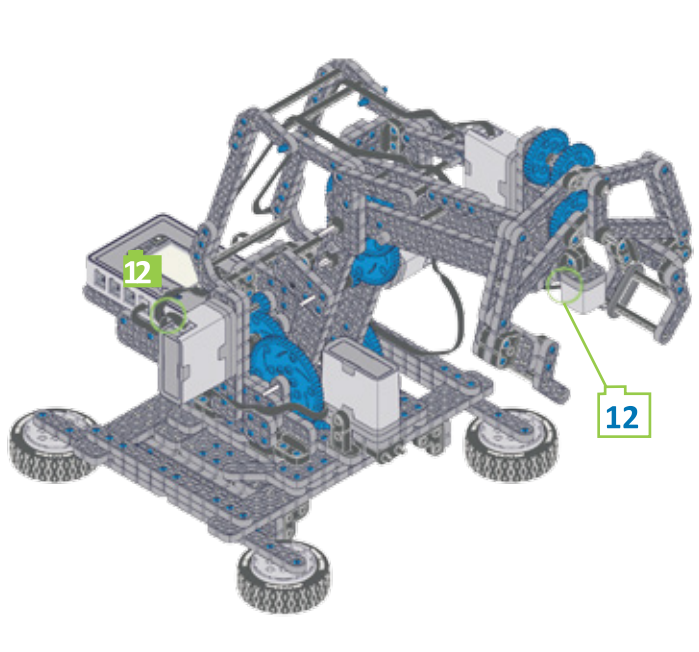
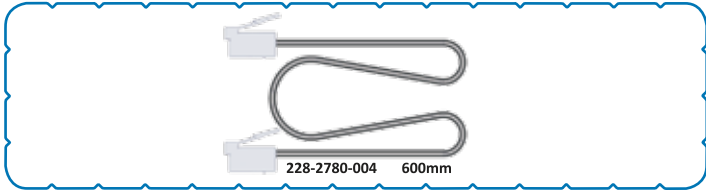
118



119



120



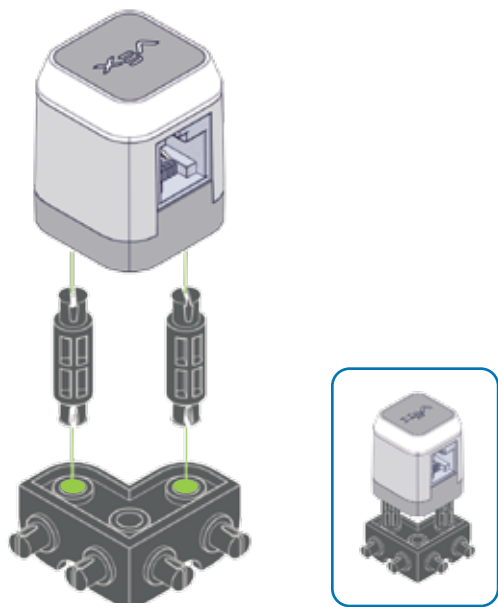
121



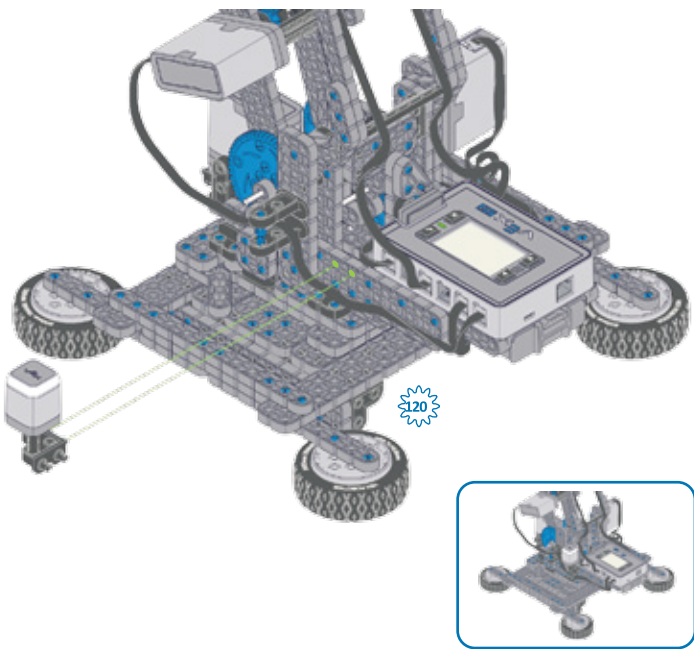
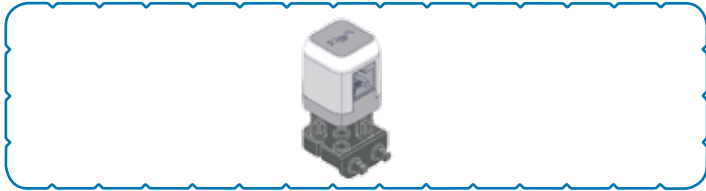
2x  
228-2500-065

1x  
228-2500-126

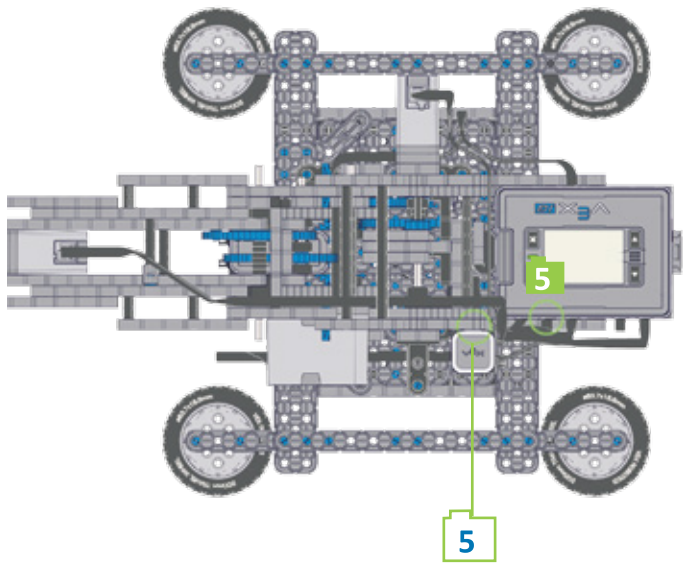
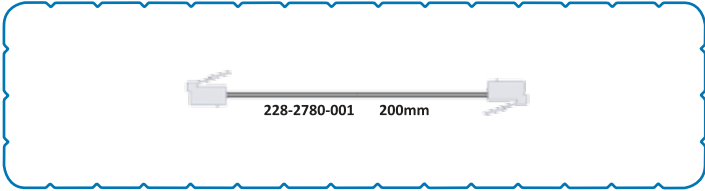
1x  
228-3010



122

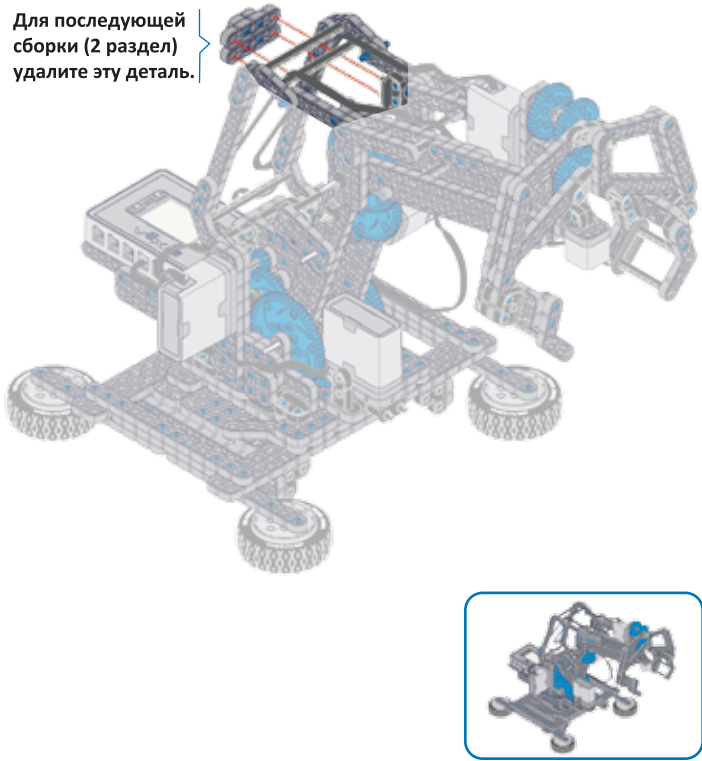


123



124

Для последующей сборки (2 раздел) удалите эту деталь.

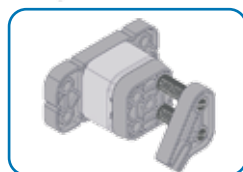
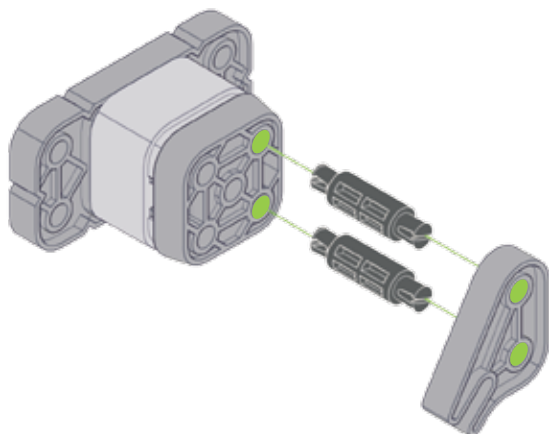
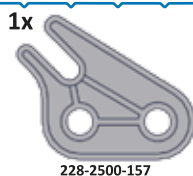
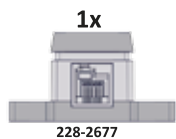




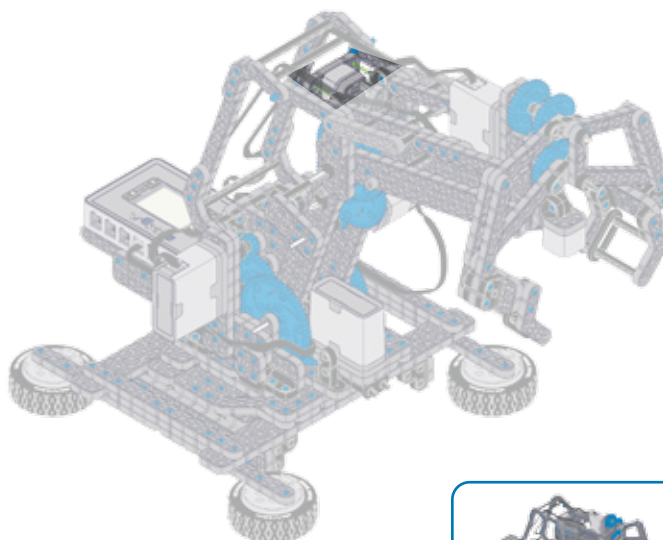
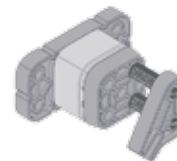
## 2. Armbot IQ с датчиками

125

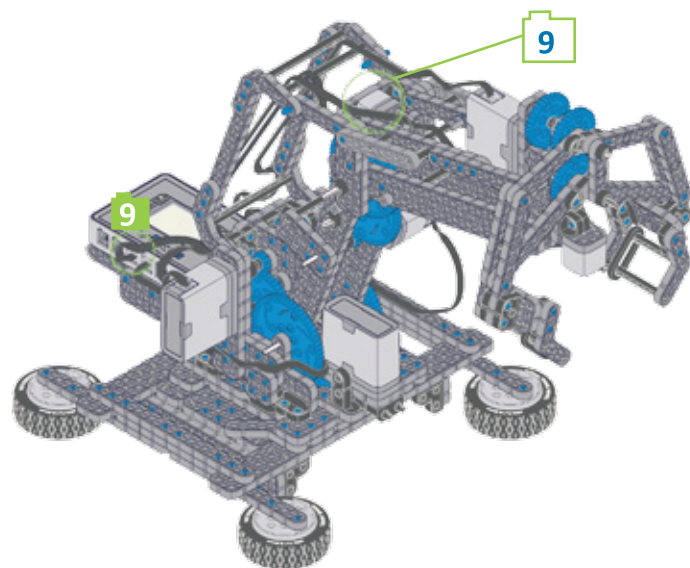
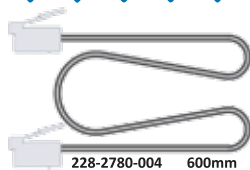
125



126

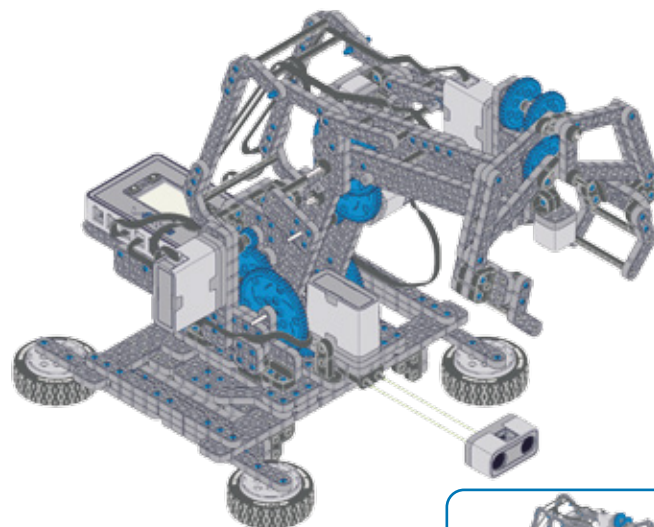
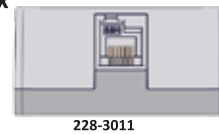


127

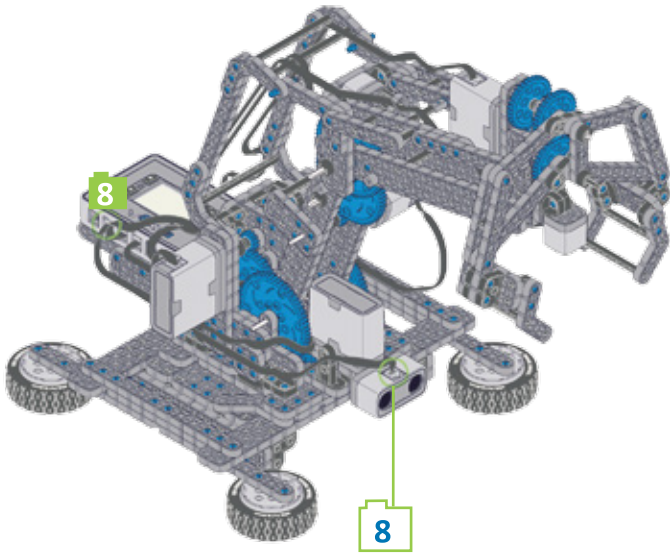
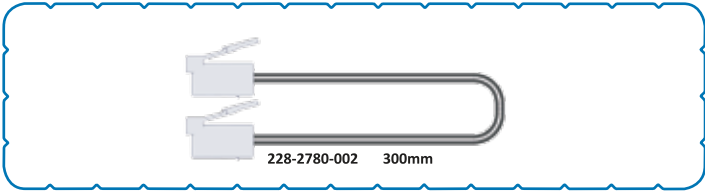


128

1x

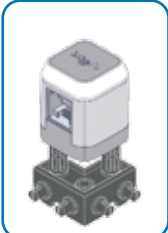
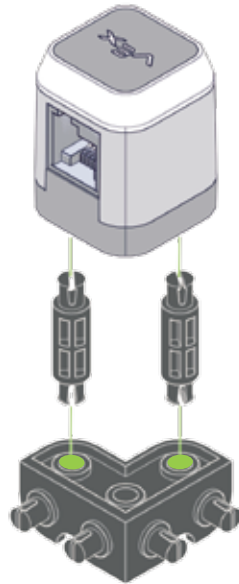
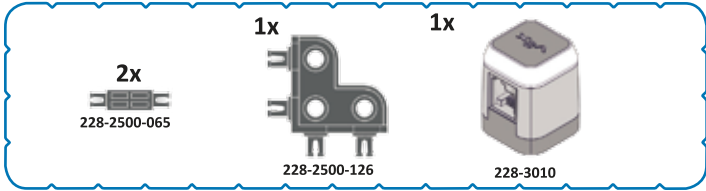


129

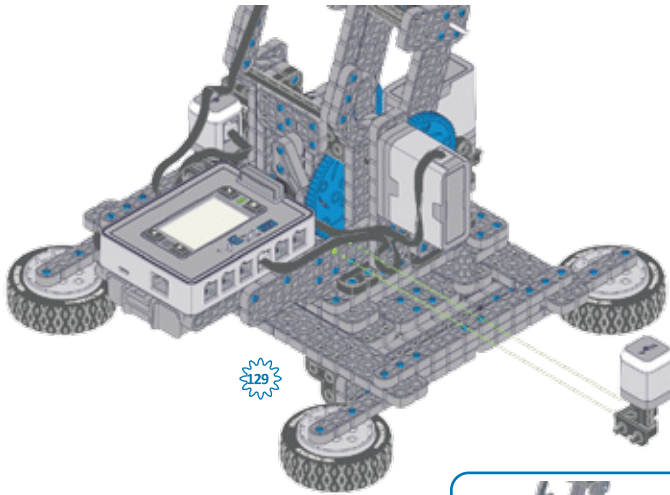
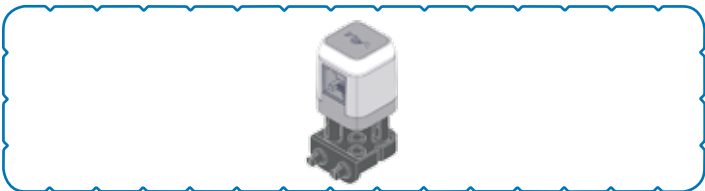


130

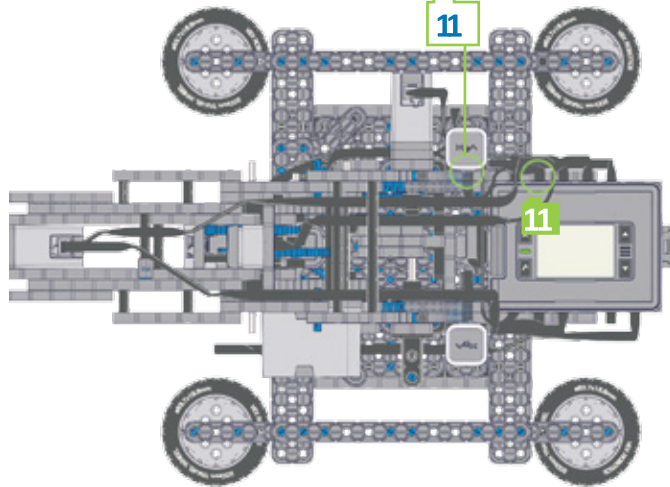
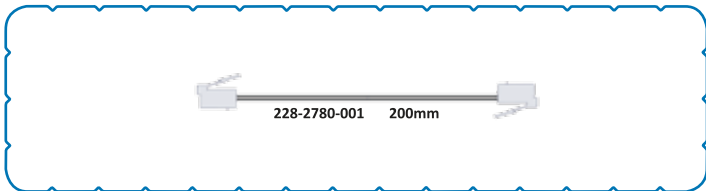
130



131

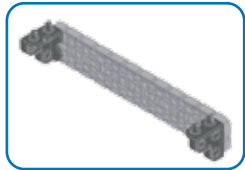
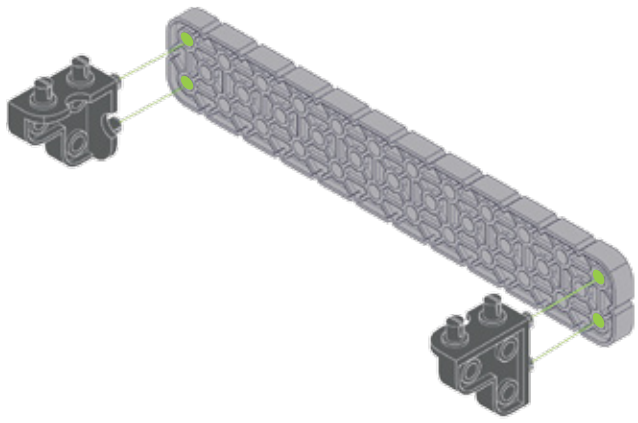
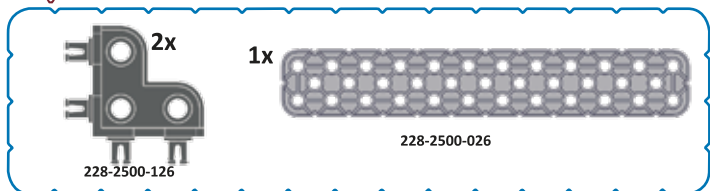


132

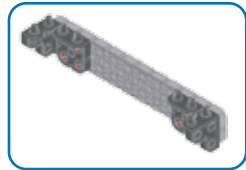
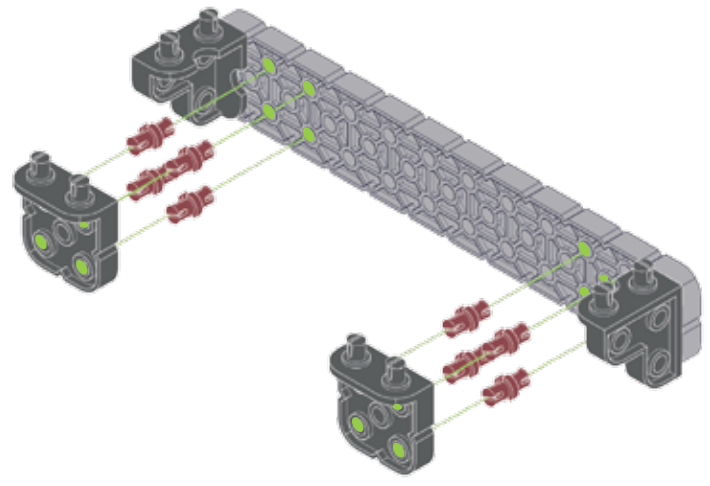
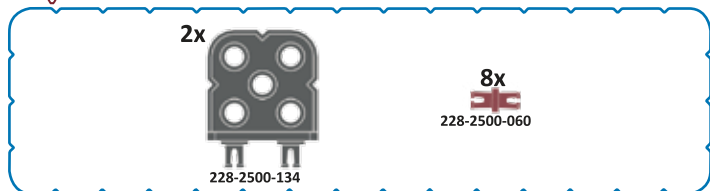


Приложение А:  
3. Изменения для наборов 2014 года

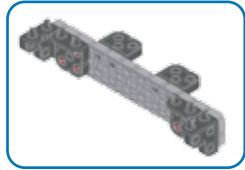
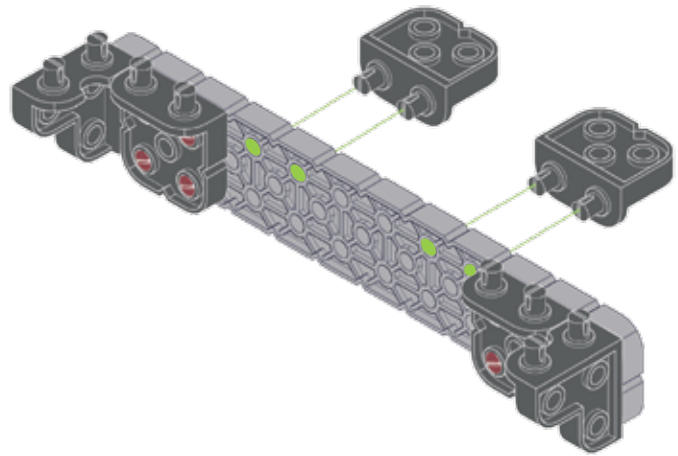
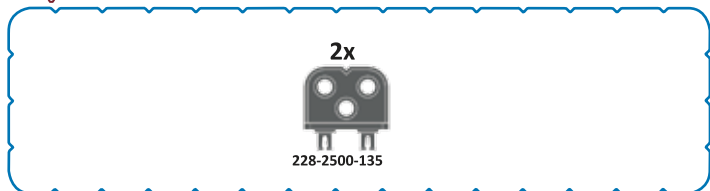
5



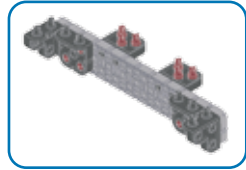
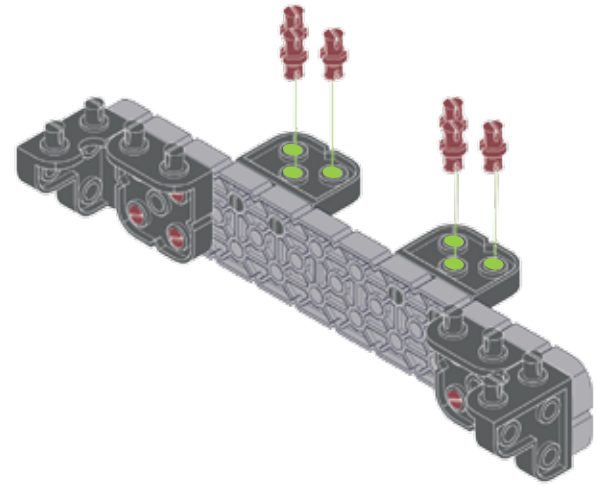
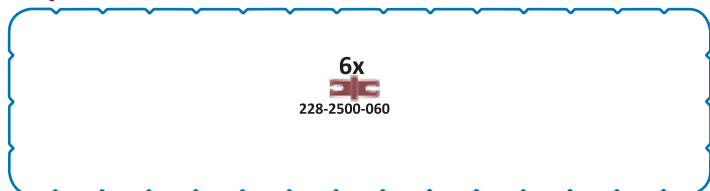
6



7



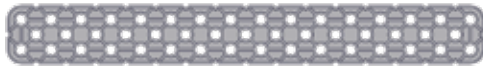
8



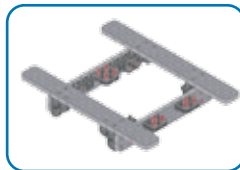
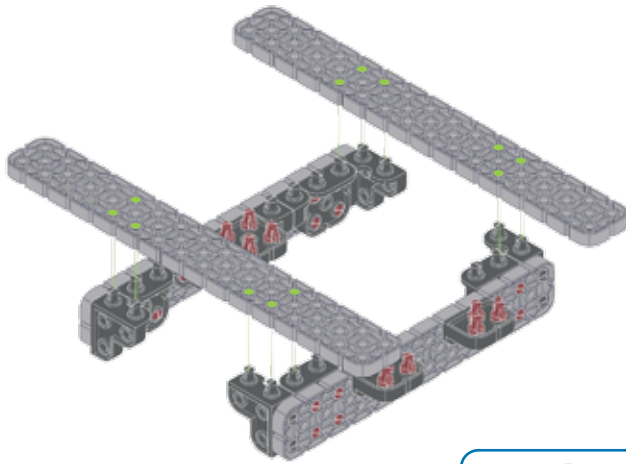


9

2x



228-2500-028



10

2x

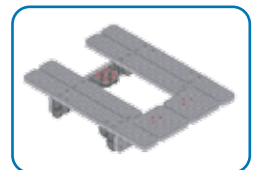
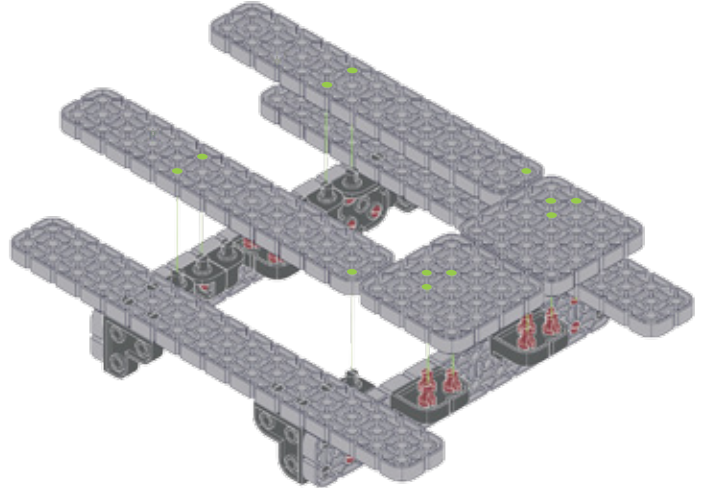


228-2500-026

2x



228-2500-040



11

1x



228-2500-011

4x

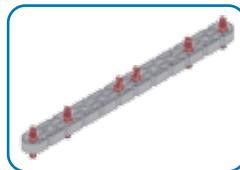
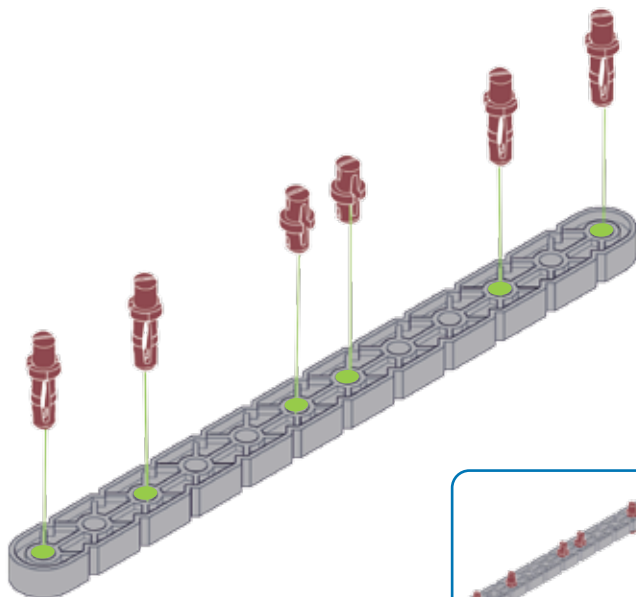


228-2500-061

2x

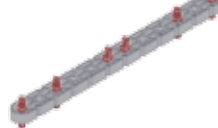


228-2500-060



12

2x

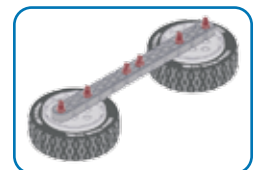
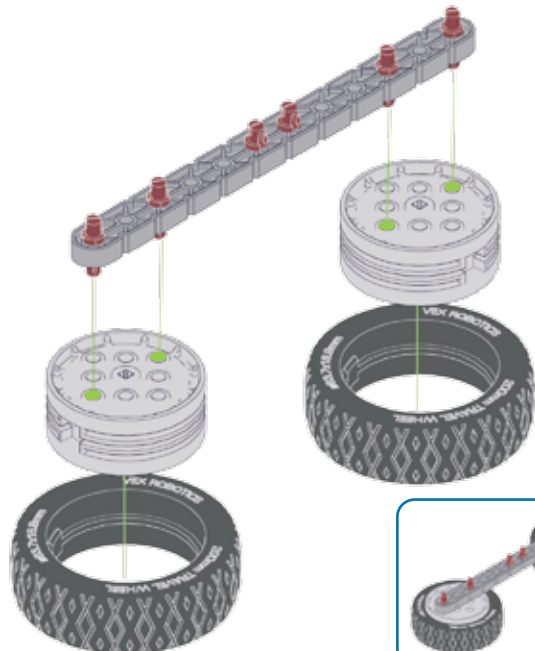


228-2500-208

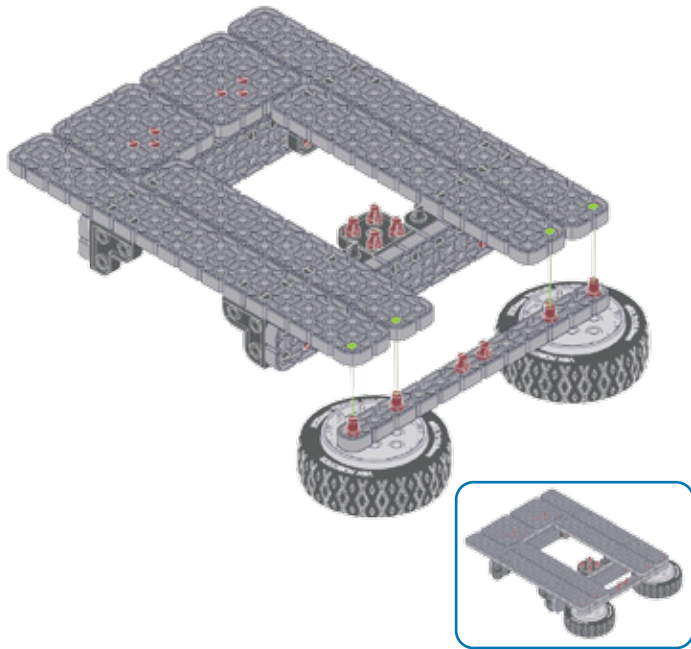
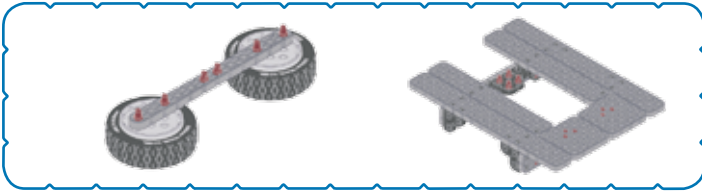
2x



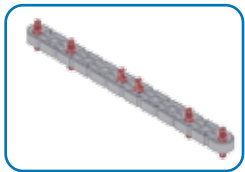
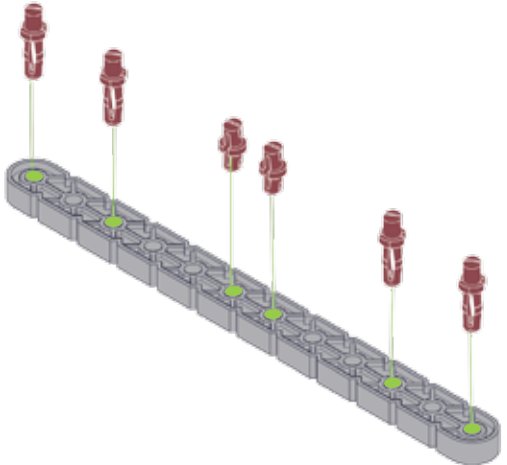
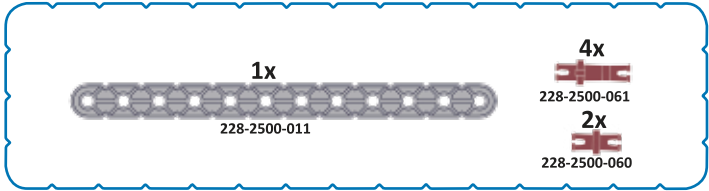
228-2500-209



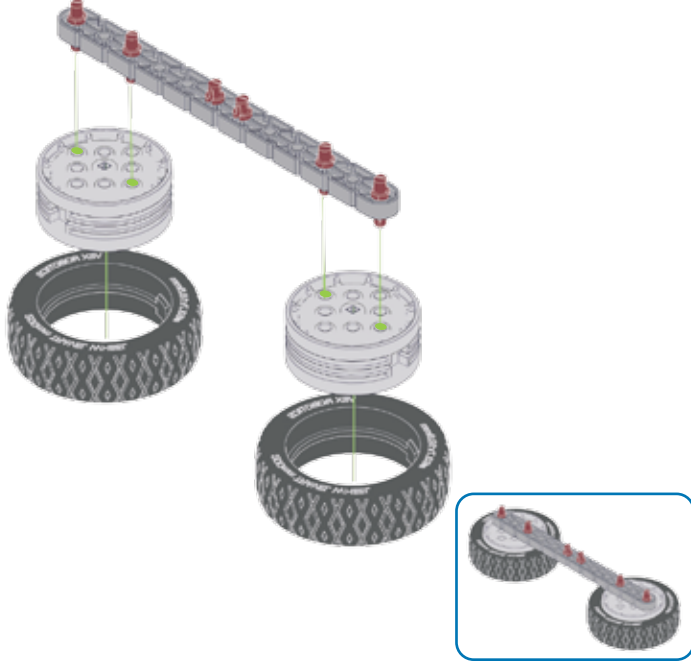
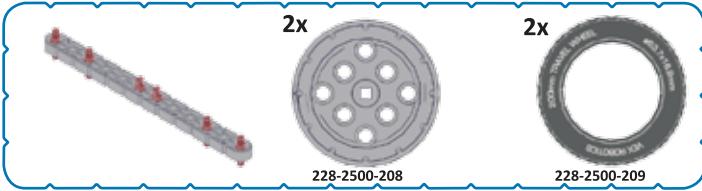
13



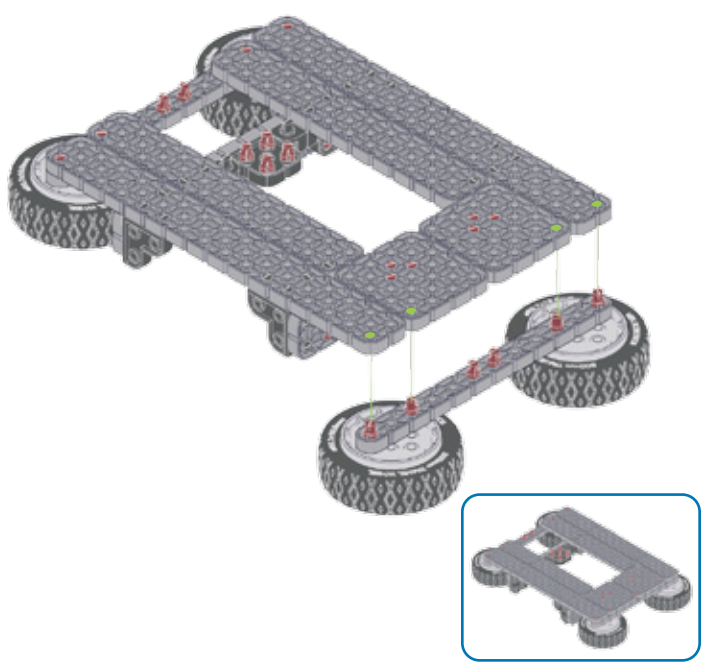
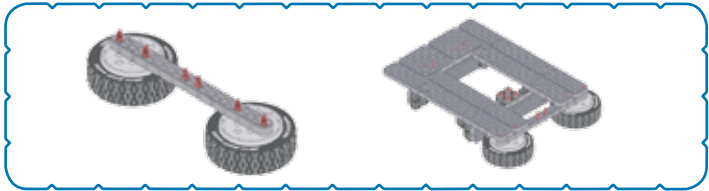
14



15



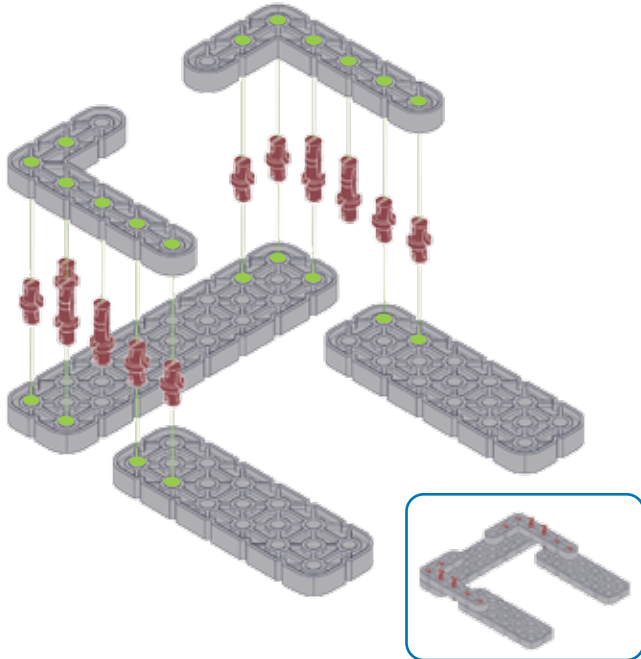
16



18

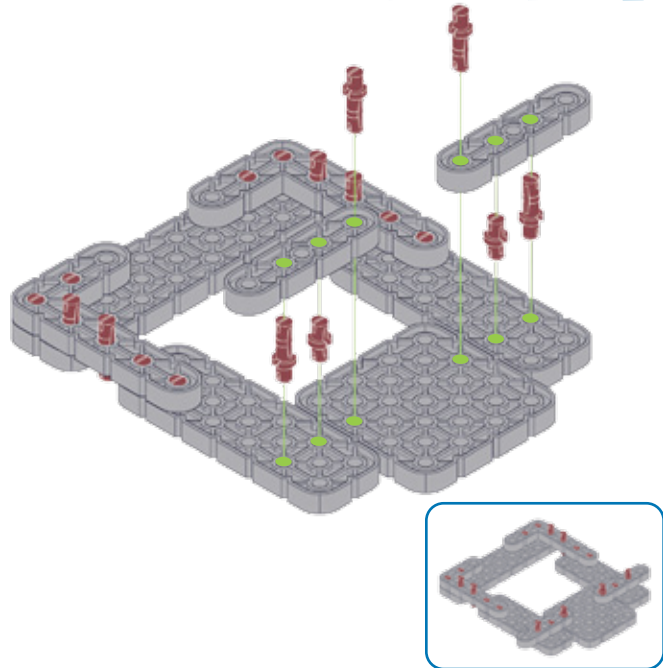
1x 228-2500-023      2x 228-2500-021      2x 228-2500-150

8x 228-2500-060      4x 228-2500-061



19

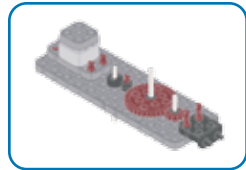
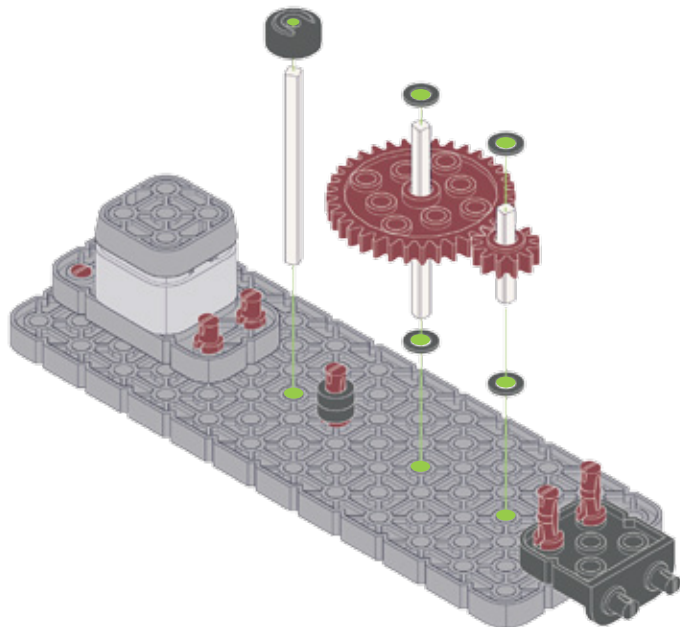
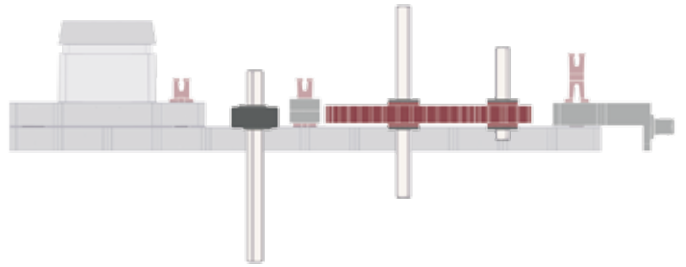
2x 228-2500-003      2x 228-2500-060      4x 228-2500-061      1x 228-2500-040



26

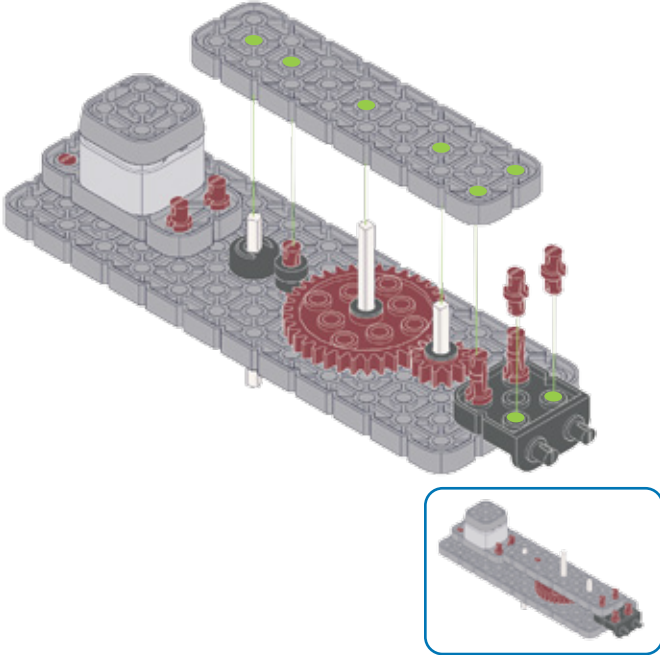
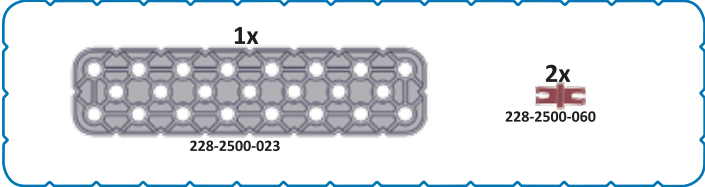
2x 228-2500-120      1x 228-2500-214      1x 228-2500-213      1x 228-2500-143

1x 228-2500-117      4x 228-2500-112

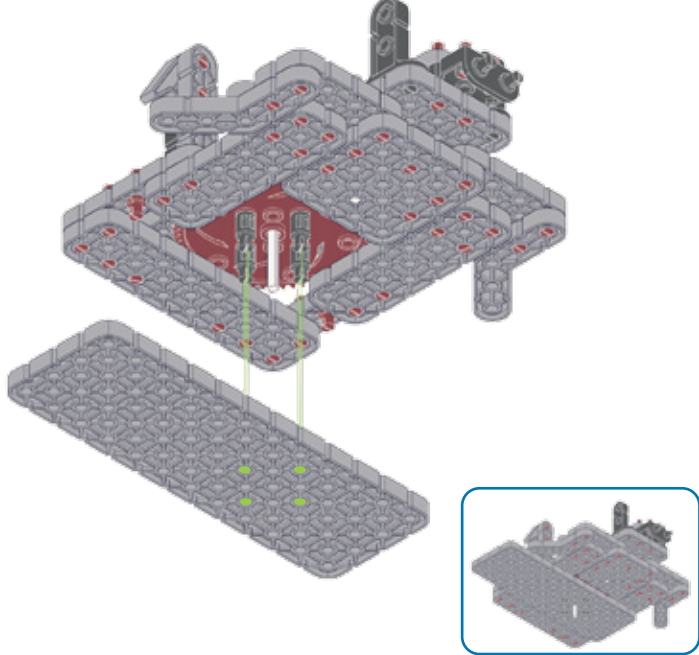
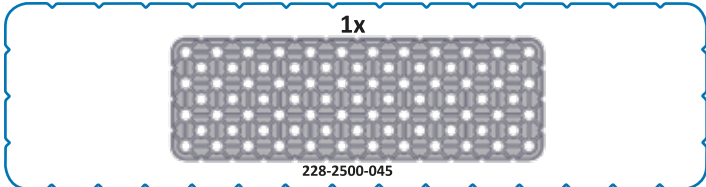




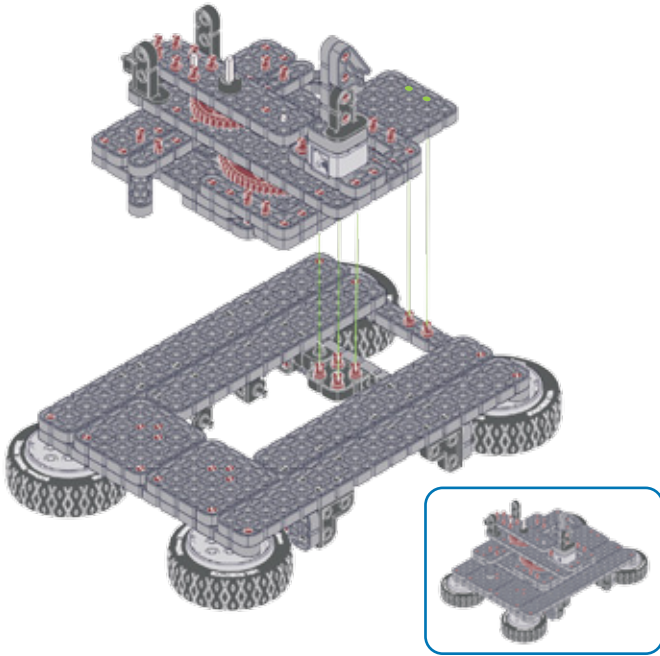
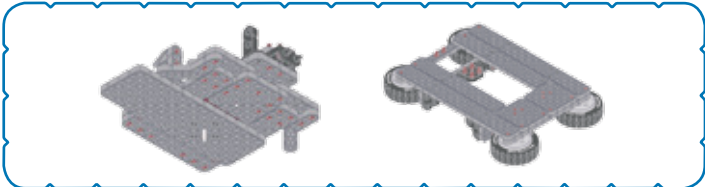
27



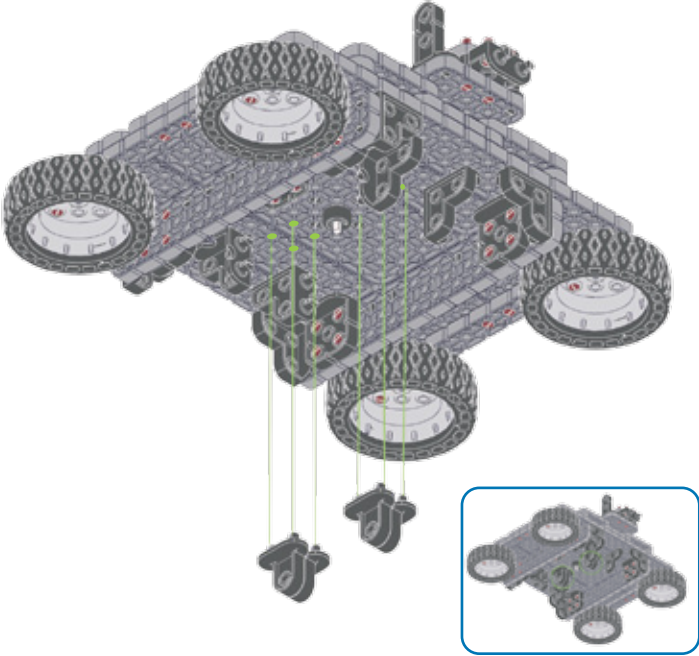
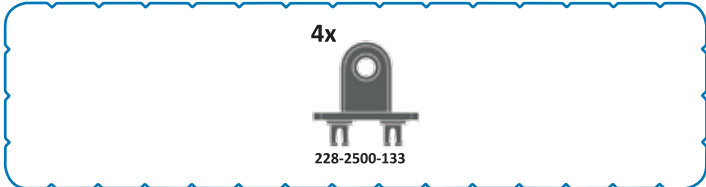
35







36

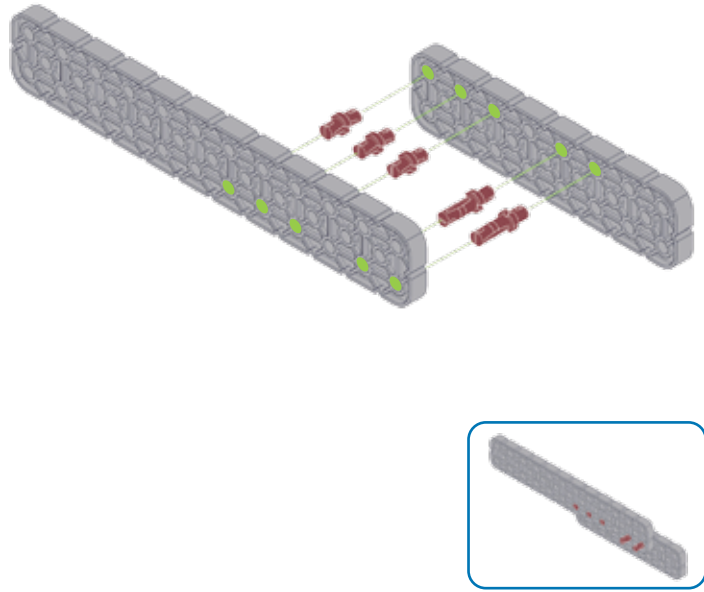


38





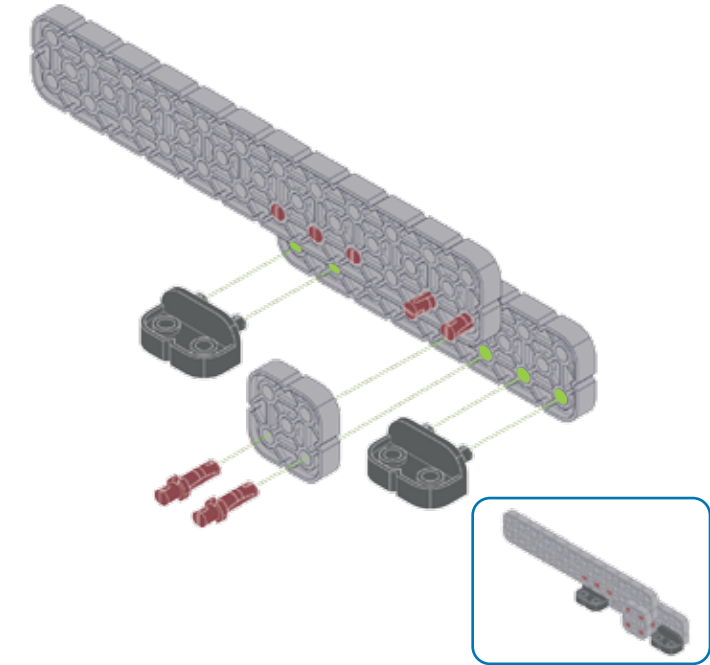
39

1x  228-2500-023	1x  228-2500-026
3x  228-2500-060	2x  228-2500-061









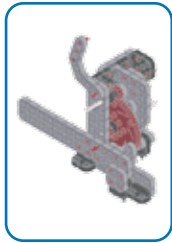
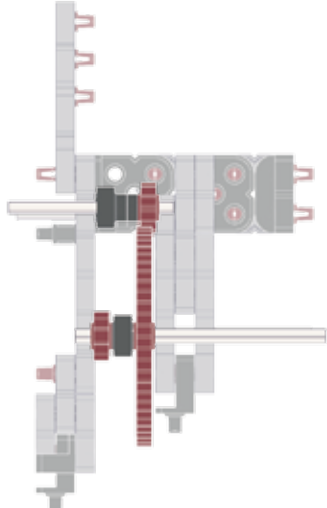
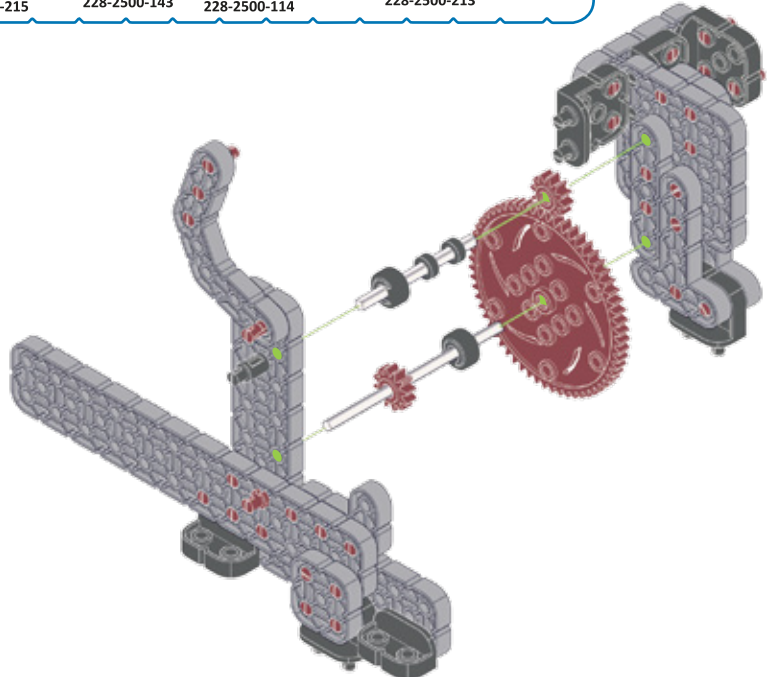
40

2x  228-2500-128	2x  228-2500-061
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49

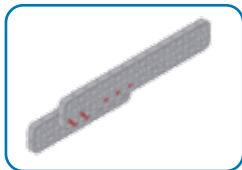
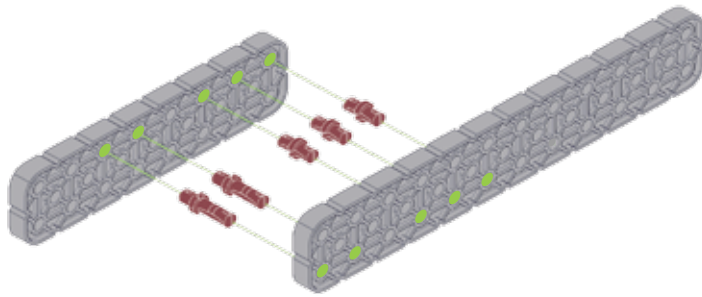
1x  228-2500-215	1x  228-2500-122	1x  228-2500-120
2x  228-2500-143	2x  228-2500-114	2x  228-2500-213



54

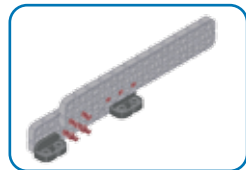
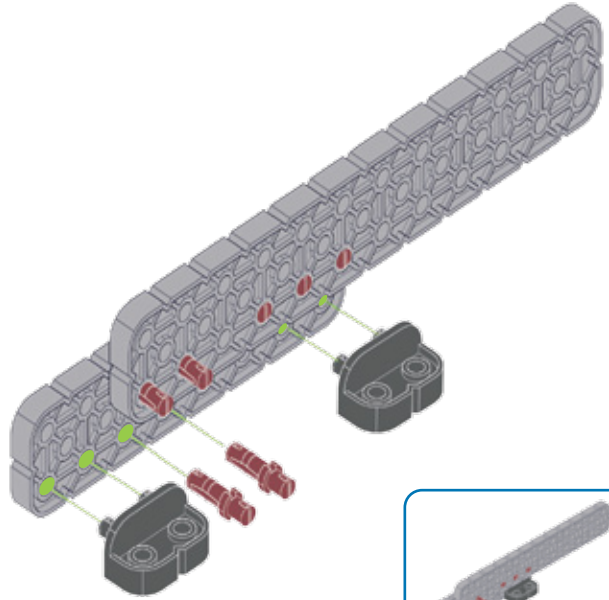
1x 228-2500-023      1x 228-2500-026

3x 228-2500-060      2x 228-2500-061



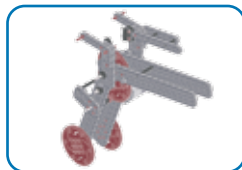
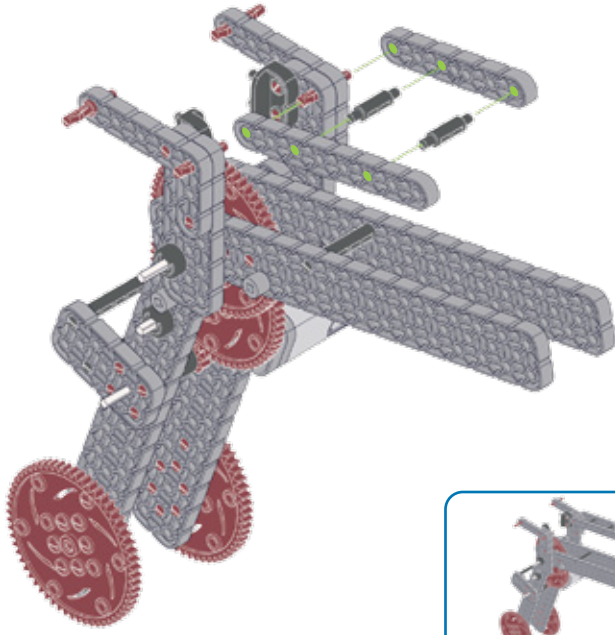
55

2x 228-2500-128      2x 228-2500-061



80

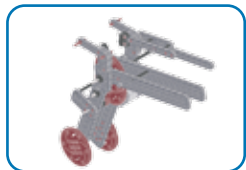
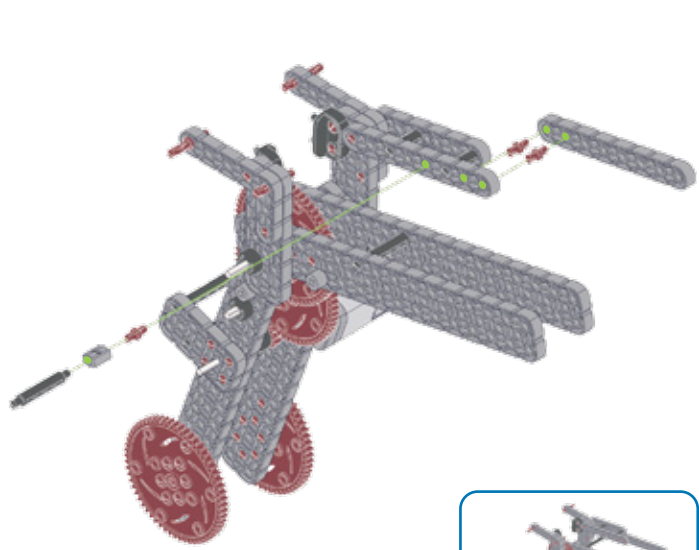
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81

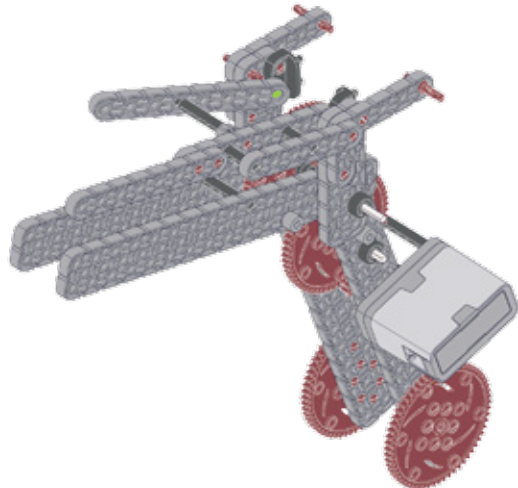
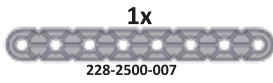
1x 228-2500-007      3x 228-2500-060      1x 228-2500-170

1x 228-2500-067

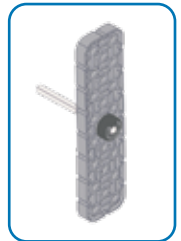
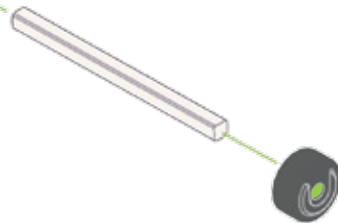
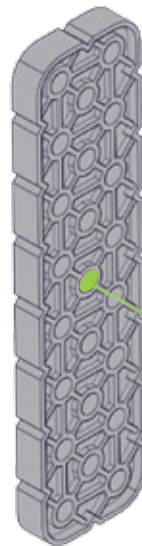
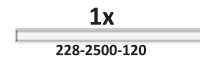
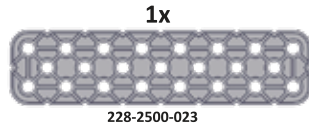




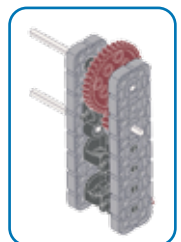
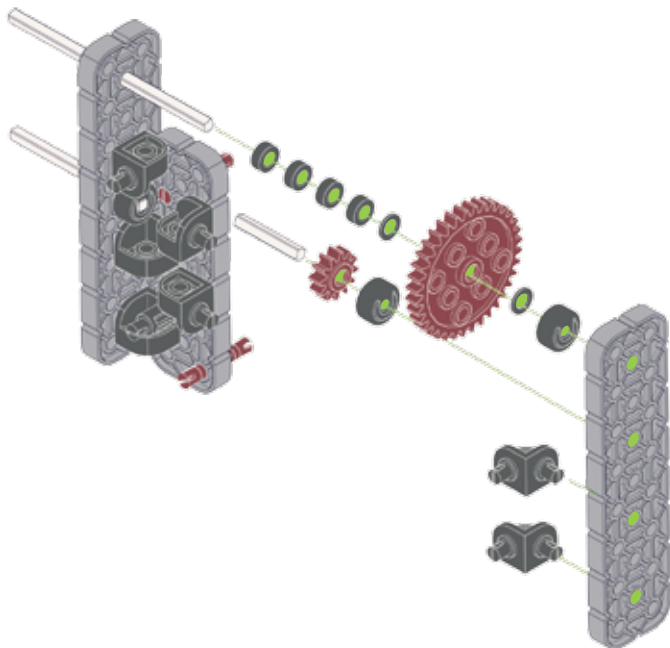
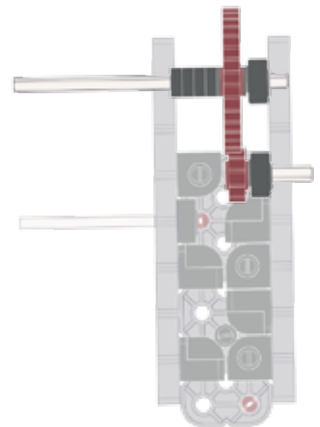
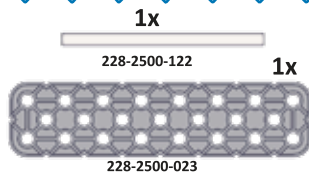
82



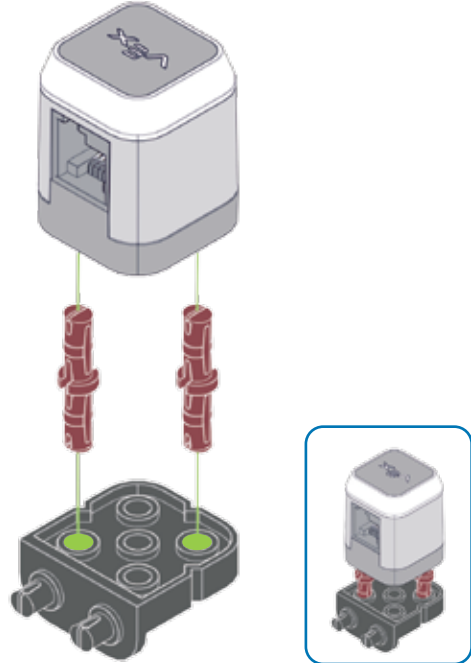
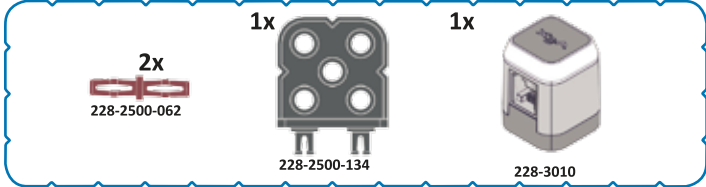
92



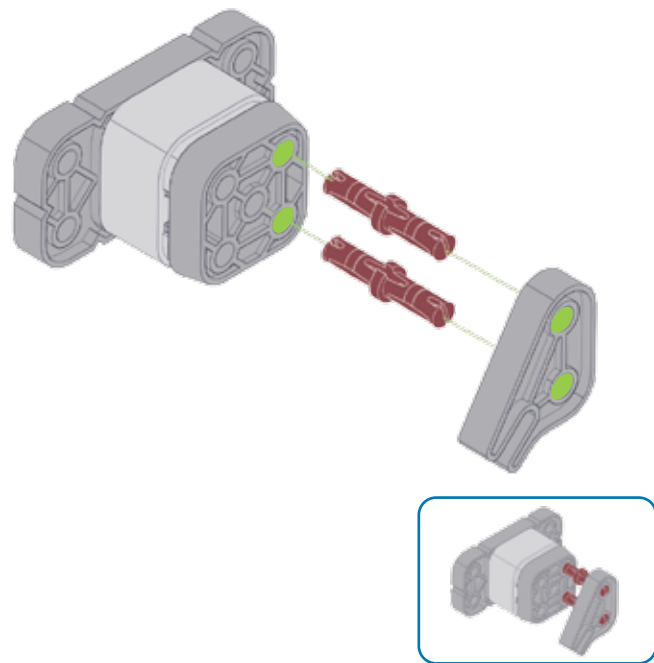
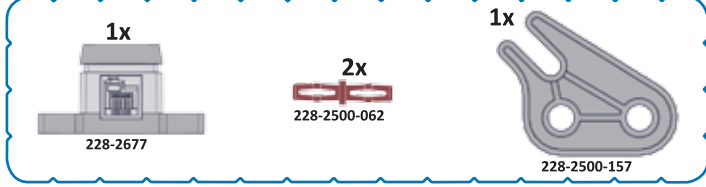
96



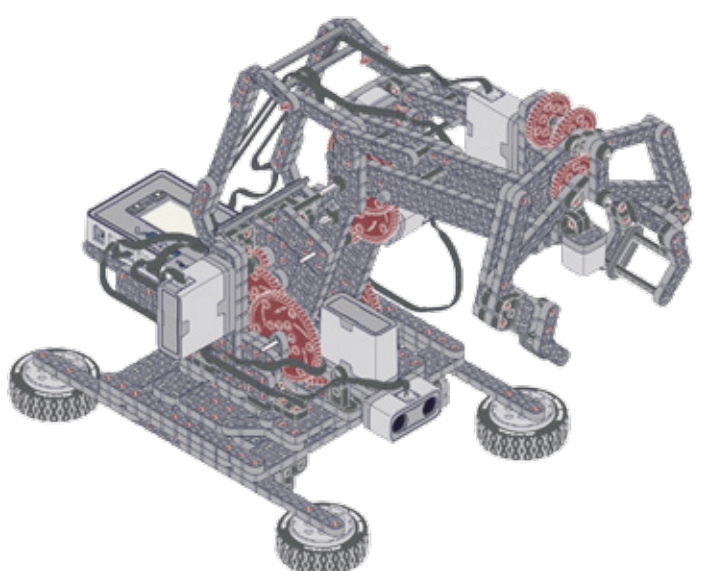
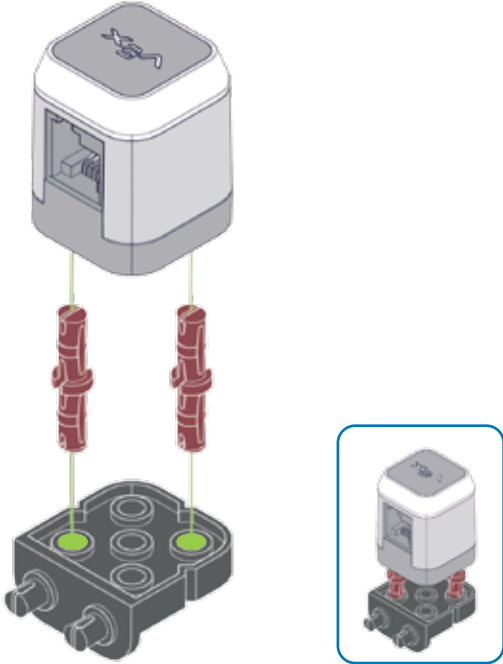
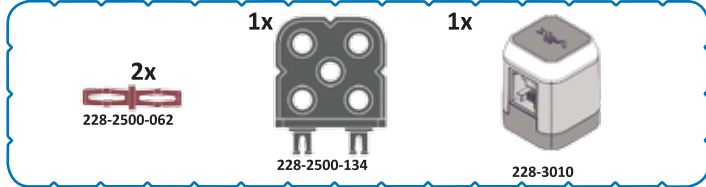
121



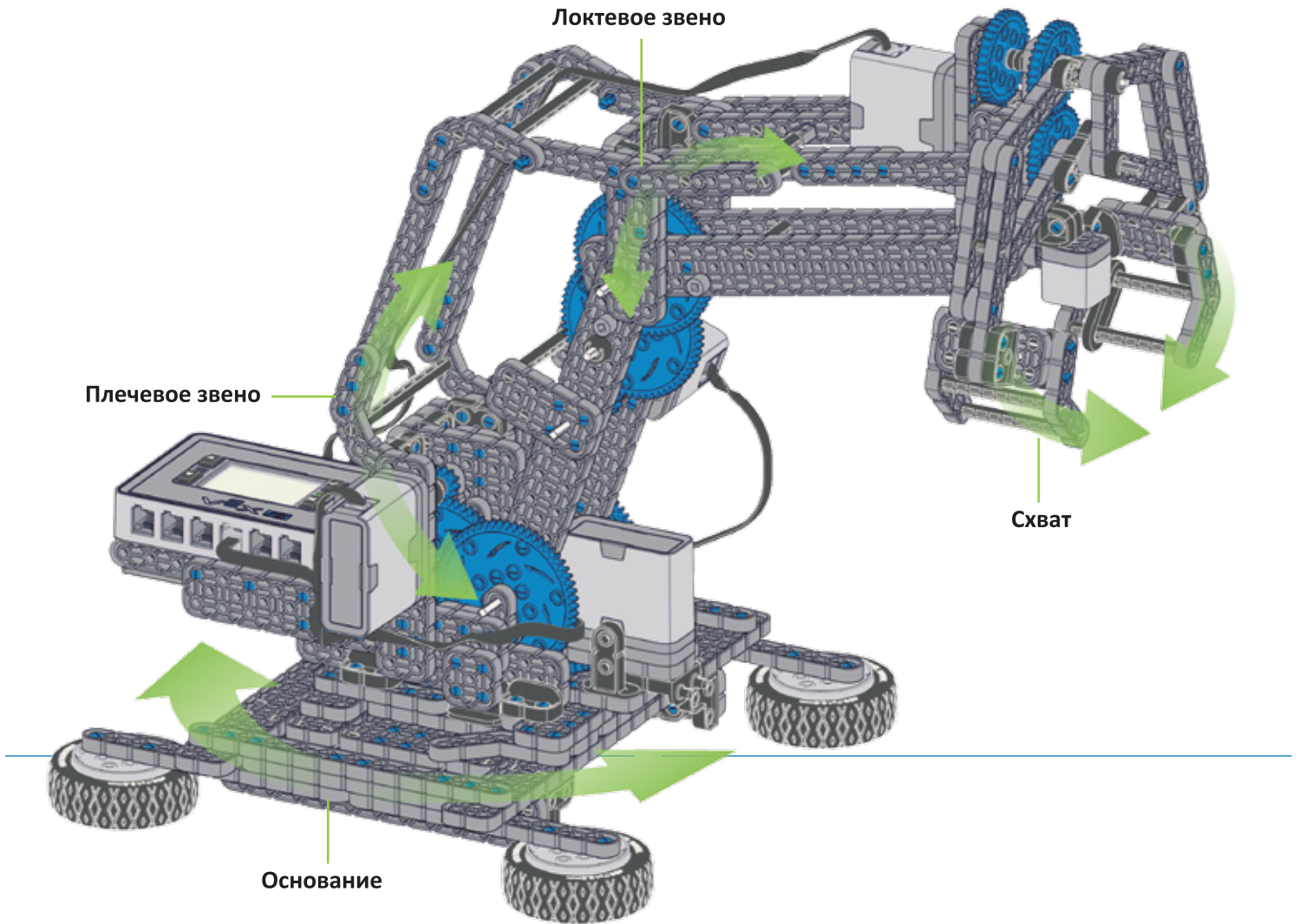
125



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## 4. Инструкция по управлению



Вращени основания влево ▲

Вращение основания вправо ▼

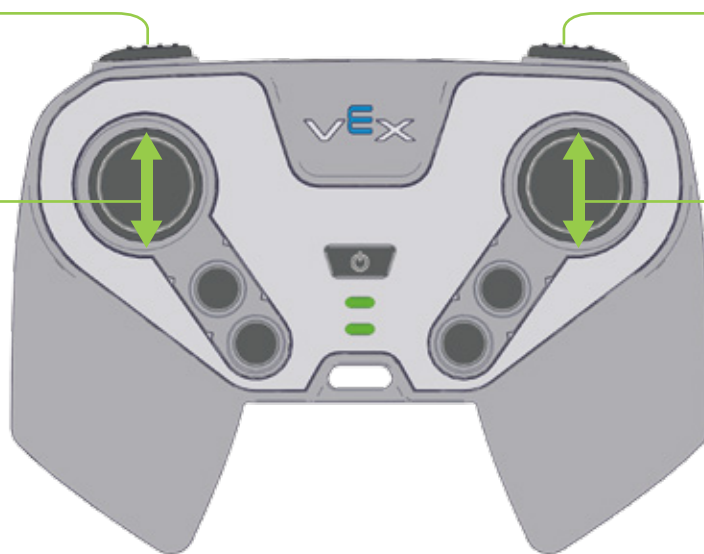
Локтевое звено  
Вверх и вниз

▲ Закреть схват

▼ Открыть схват

Плечевое звено  
Вверх и вниз

```
Configure
Control 2 Joystick
DriveTurn Normal
Drive FWD Normal
Motor 4 Normal
Motor 5 Normal
Select Exit
```



Программа ручного управления должна работать в режиме двух джойстиков для управления роботом Armbot.





# Инструкция по сборке Armbot IQ

