



## Designer Introduction

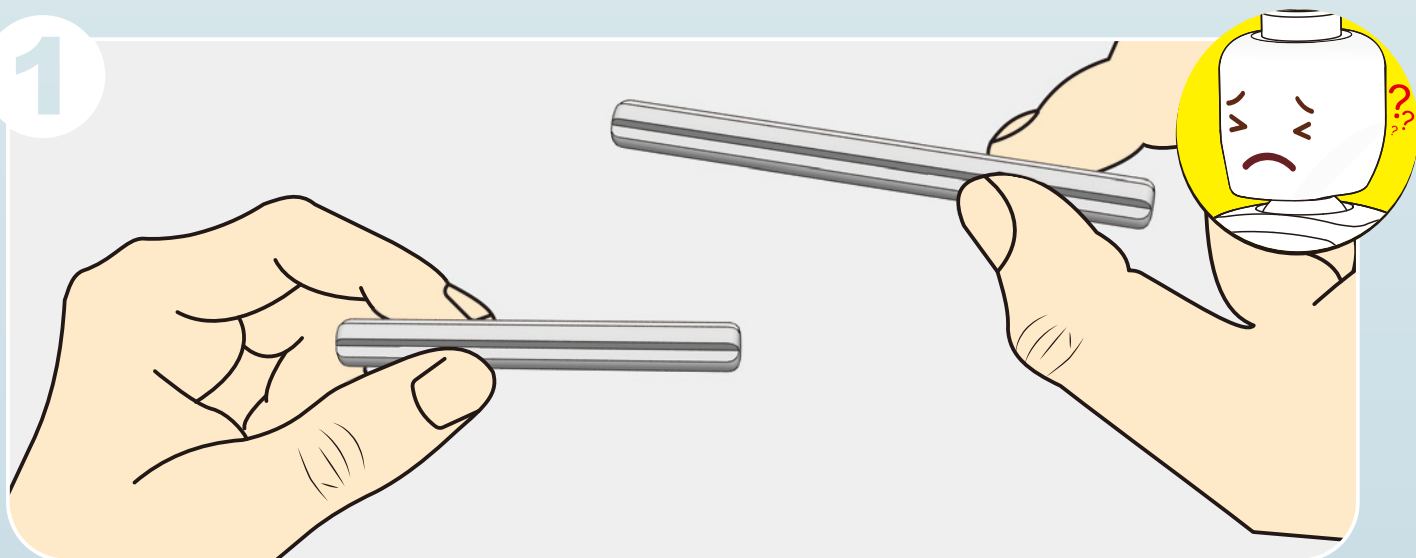
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I've been building with construction bricks for most of my life, and I've always been fascinated with making them move. Getting models to move in interesting, complex or unique ways is a challenge that keeps me motivated and pushes my creativity. Not to mention, it usually results in a model that is really cool to look at. I'm also inspired by many old mechanical devices, as it truly amazes me what people have achieved with simple collections of gears and linkages. I hope you enjoy building my creations as much as I enjoyed designing them!

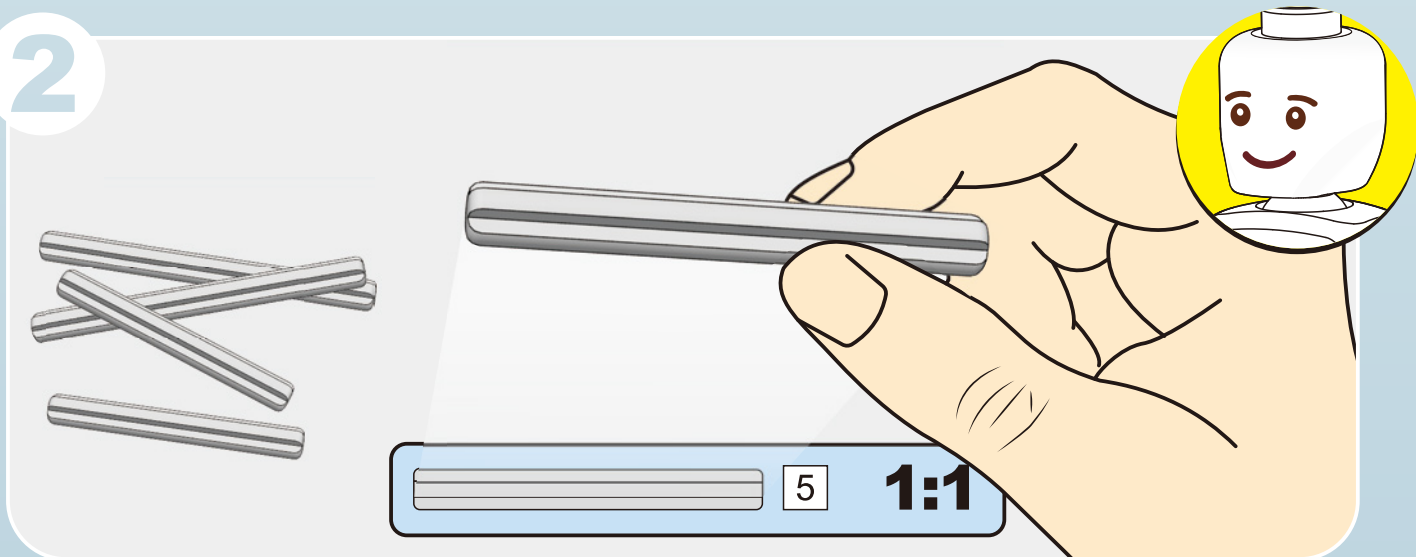
Designer: JK Brickworks

*JK  
Brickworks*

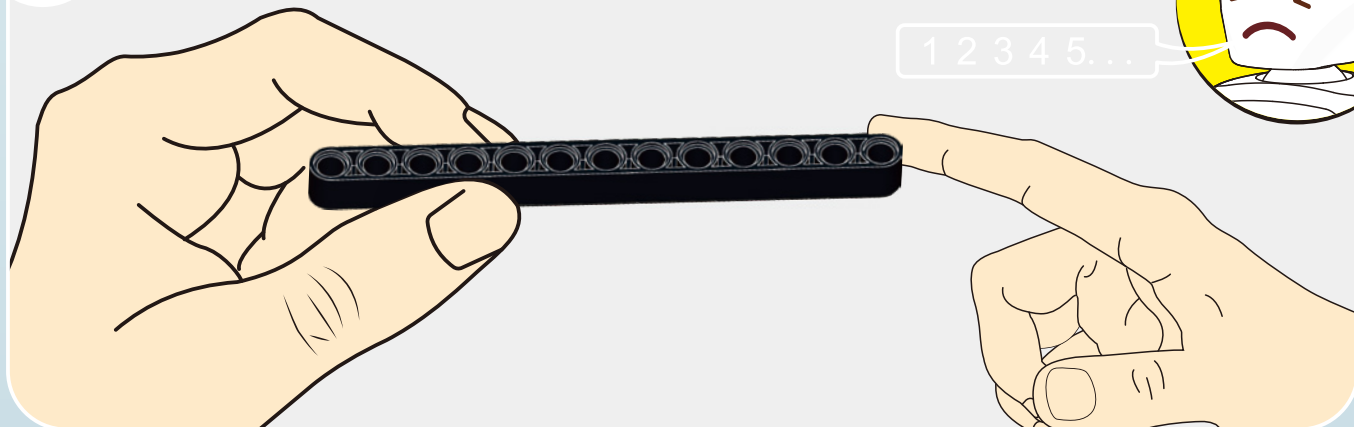
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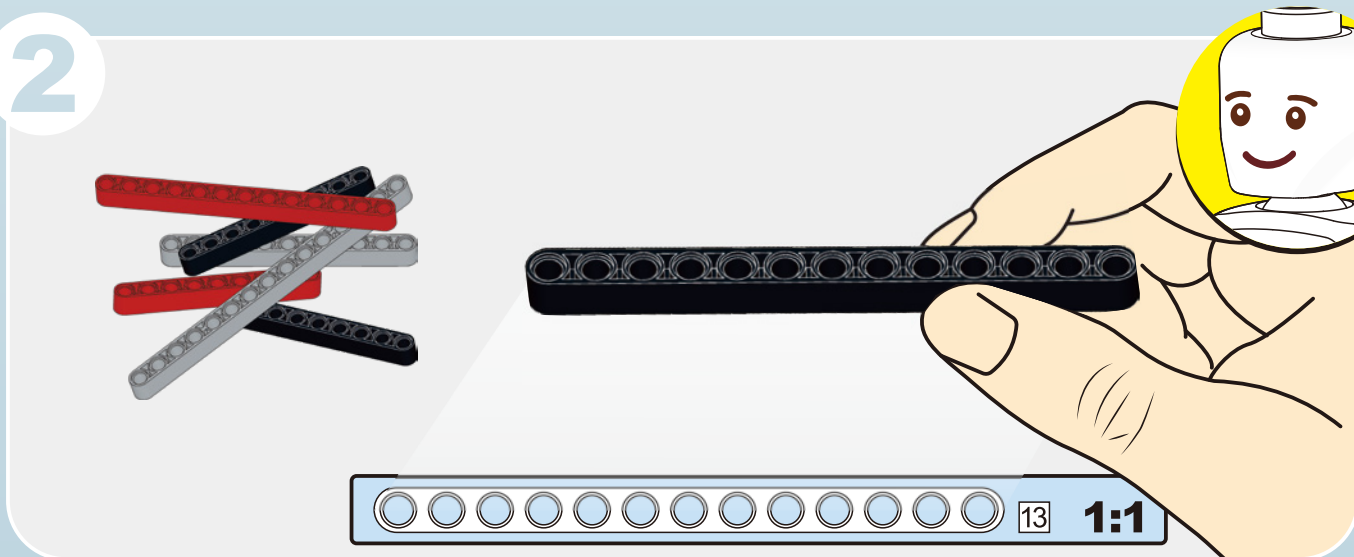
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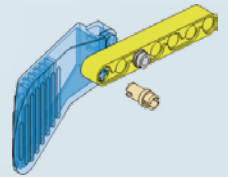
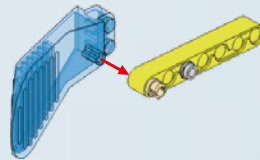
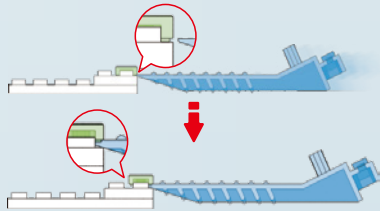
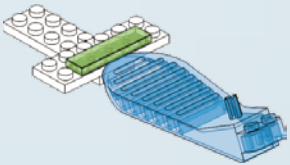
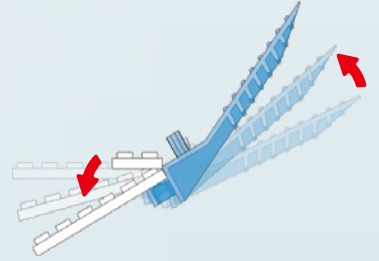
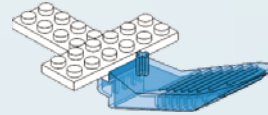
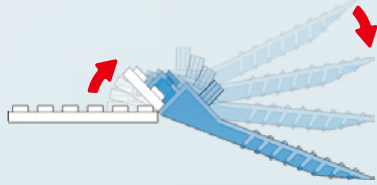
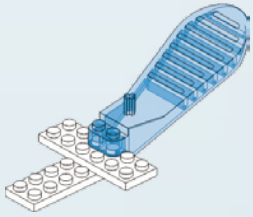


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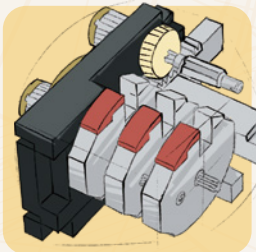
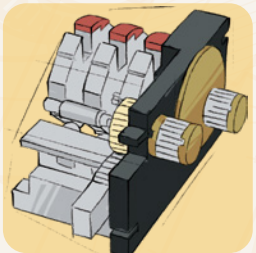
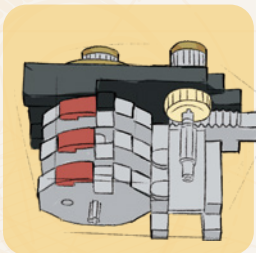
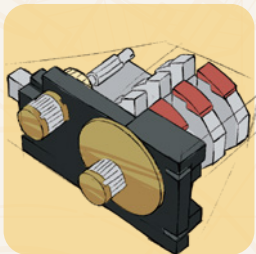
2





锁芯  
透视

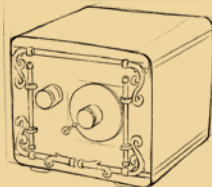
Lock Cylinder  
Perspective



①



②

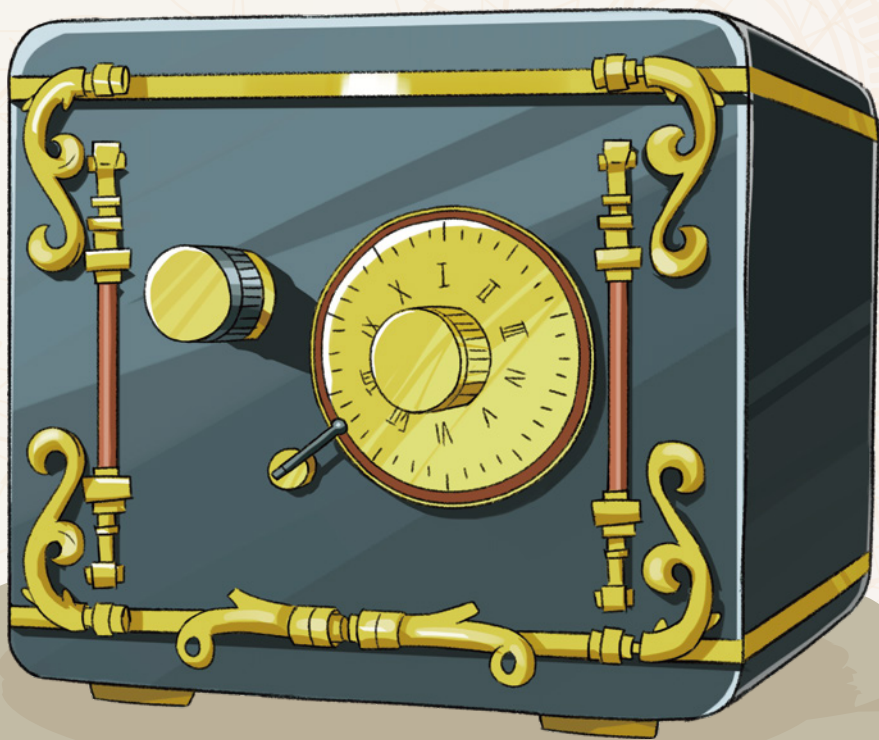
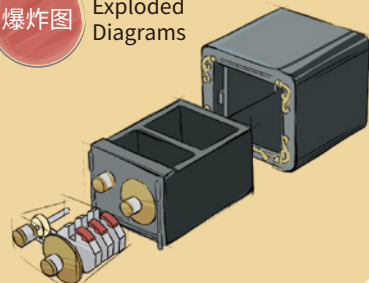


设计  
进化

Design  
evolution

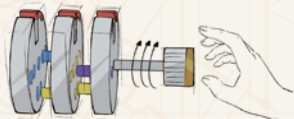
爆炸图

Exploded  
Diagrams



## 解锁步骤

### Unlock Step

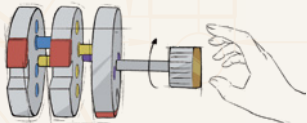


第一步：记下当前密码盘上的数字，顺时针旋转这个数字三圈后，将密码盘对准第一位密码

Step 1: Write down the number on the current password dial, turn the number clockwise three times, and then align the password dial to the first password

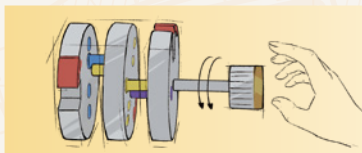
第三步：再次顺时针旋转，对准第三位密码

Step 3: Rotate it clockwise again to align the third password



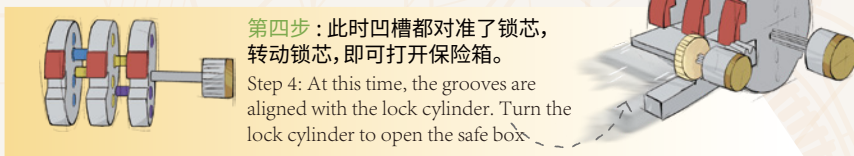
第二步：逆时针旋转一圈后，继续旋转，将密码盘对准第二位密码盘

Step 2: After one circle of counterclockwise rotation, align the password dial to the second password



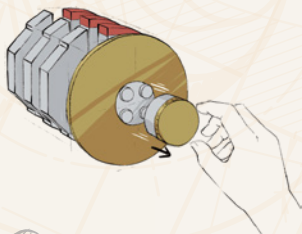
第四步：此时凹槽都对准了锁芯，转动锁芯，即可打开保险箱。

Step 4: At this time, the grooves are aligned with the lock cylinder. Turn the lock cylinder to open the safe box.

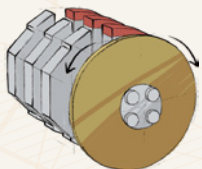


## 修改密码

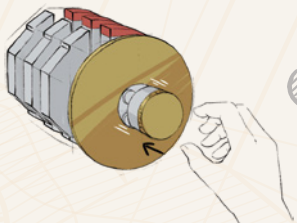
### Modify Password



1. 拔出密码盘上的旋钮。  
Pull out the knob on the password dial.



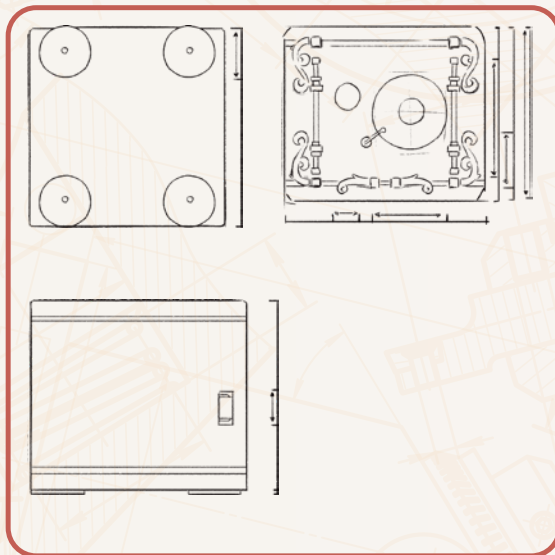
2. 保持三个凹槽位置不变的情况下旋转密码盘，从而改变密码。  
Rotate the password disc while keeping the three grooves in the same position to change the password.



3. 将旋钮装回，打开箱门，按解锁步骤再次操作，从里向外读取三次密码盘数字，即为新设定密码。  
Replace the knob, open the door of the box, operate again according to the unlocking steps, and record the number of the password plate three times from the inside to the outside, which is the newly set password

## 三视图

### Three views



**机械保险箱:**机械保险箱是一种传统的保险箱类型,使用机械锁或组合锁来保护箱内物品的安全。机械保险箱使用简单,无需电源,安全可靠。



**表盘:**密码锁的表面是一个圆形的、可旋转的刻度盘。数字围绕圆周书写,将一系列数字按顺序正确输入表盘是打开保险箱的唯一方法。

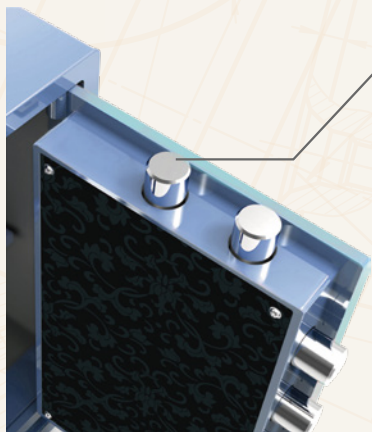


### 机械保险箱中的三层转盘结构

指的是组合锁内部的一种机械结构,它通常由三个圆盘转盘组成,分别代表百位数、十位数和个位数,每个圆盘上都有0~9的数字。当使用正确的数字组合来旋转转盘时,三个转盘的凹槽(或凸起)对应对齐,就可以打开保险箱了。

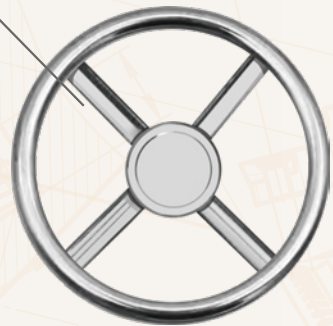
**锁舌:**是指连接机械组合锁芯与保险箱门的一种构件,主要用于开启或关闭保险箱门。

在开启保险箱门时,机械组合锁芯通过正反锁或单向锁的机械结构控制锁舌的收放,从而实现开关门的操作。



**锁舌转盘**用于控制机械保险箱的锁舌,起到连接锁芯和门体的作用。

在开启保险箱门的时候,正确的组合密码会使得锁芯转动,进而带动锁舌转盘中的内部结构脱离,从而将锁舌快速抬起或者下降,完成开关门的操作。



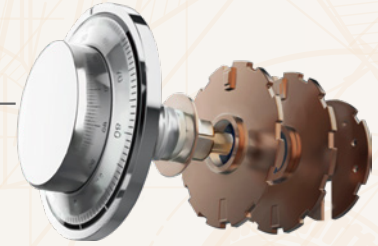
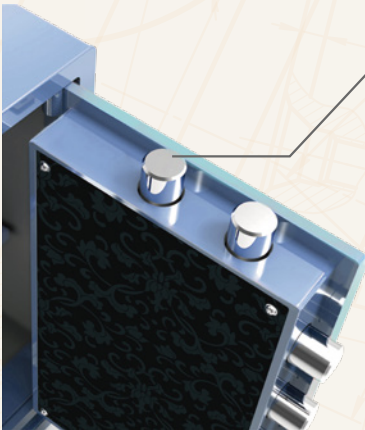
**Mechanical safes:** Mechanical safes are a traditional type of safe that use mechanical locks or combination locks to secure the contents inside. They are simple to use, do not require a power source, and offer reliable security.



**Dial:** The surface of a combination lock features a circular, rotating dial with numbers written around the circumference.

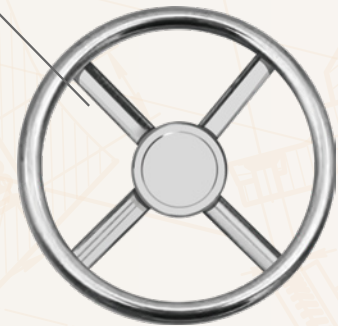
The correct sequence of numbers must be entered on the dial in order to unlock the safe.

The **lock bolt** is a component that connects the mechanical combination lock core to the safe's door, and its primary function is to open or close the door. When unlocking the safe's door, the mechanical combination lock core controls the retraction or extension of the lock bolt through a bi-directional or uni-directional locking mechanism, allowing the door to be opened or closed.



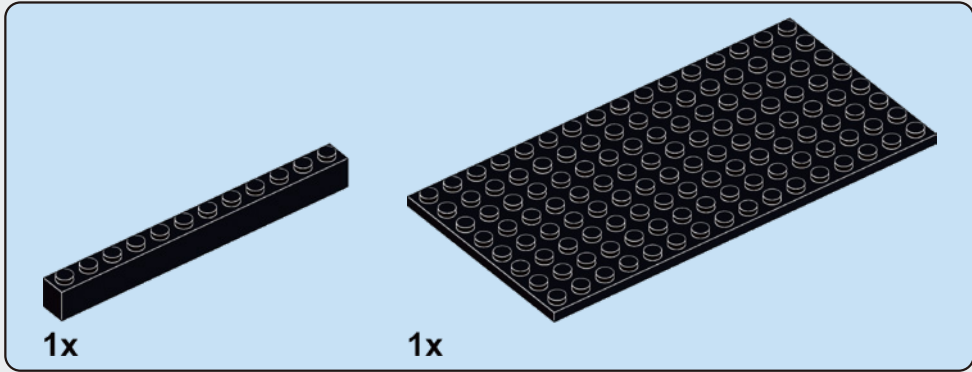
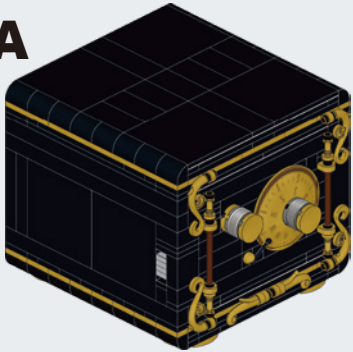
In a mechanical safe, the **three-layer dial structure** refers to an internal mechanism within the combination lock. It typically consists of three rotating discs, each representing hundreds, tens, and unit digits, with numbers ranging from 0 to 9 on each disc. When the correct numerical combination is used to rotate the dials, the grooves (or protrusions) on the discs align, allowing the safe to be opened.

The **lock bolt dial serves** to regulate the lock bolt in a mechanical safe, linking the lock core to the door. As the correct combination is entered, the lock core rotates, consequently releasing the internal components of the lock bolt dial. This movement either elevates or lowers the lock bolt, thus finalizing the opening or closing of the door.

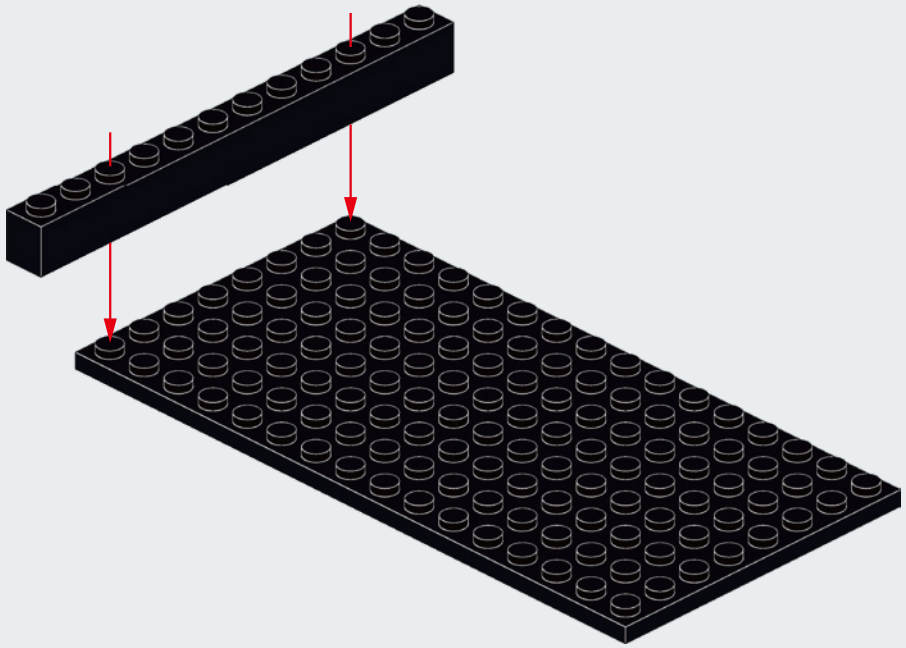


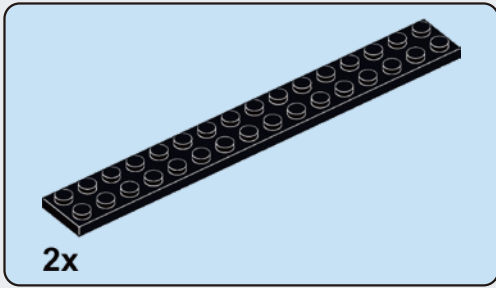


**A**

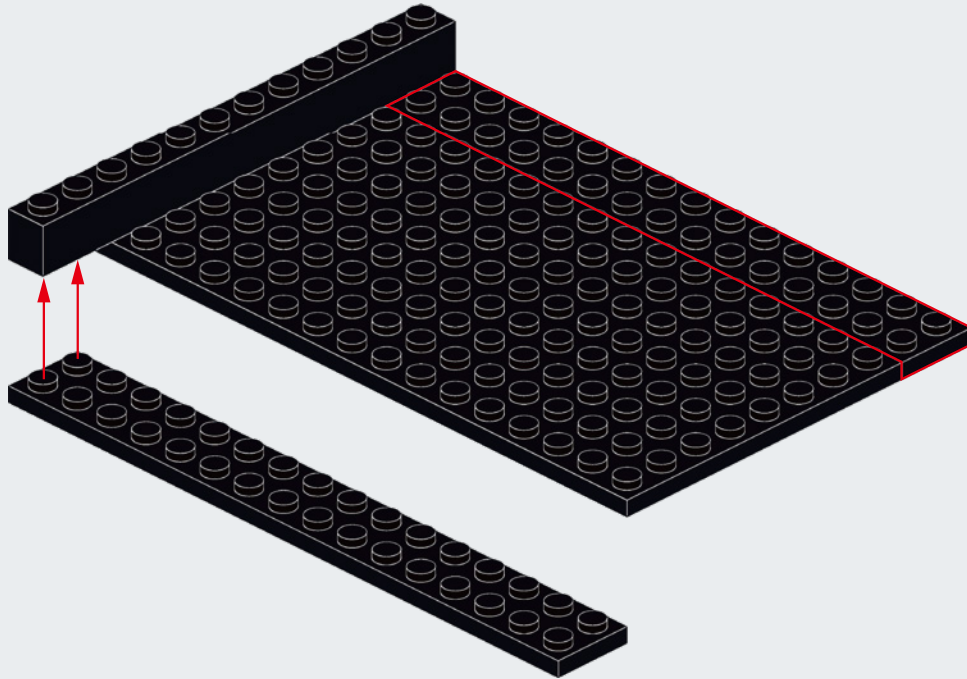


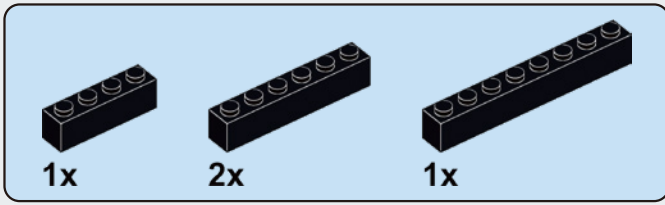
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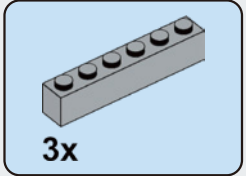
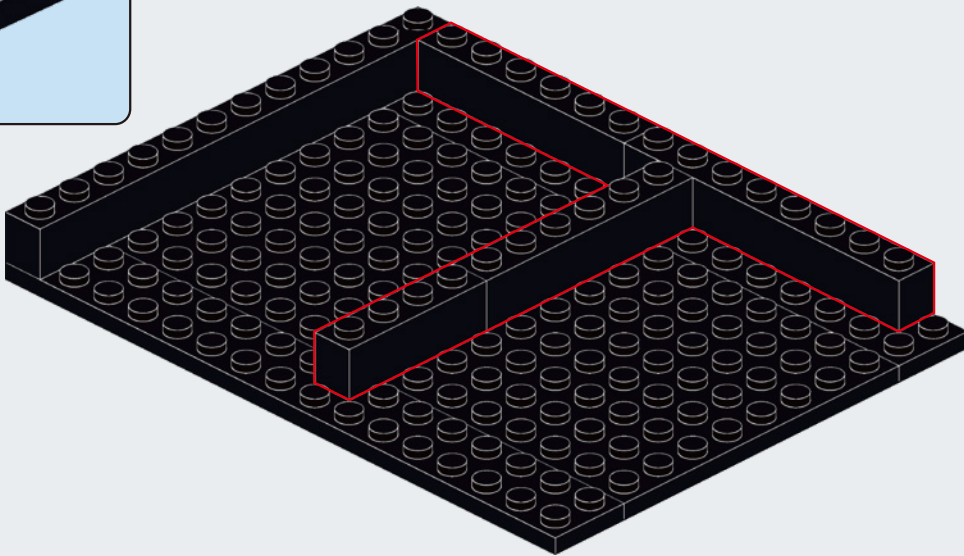


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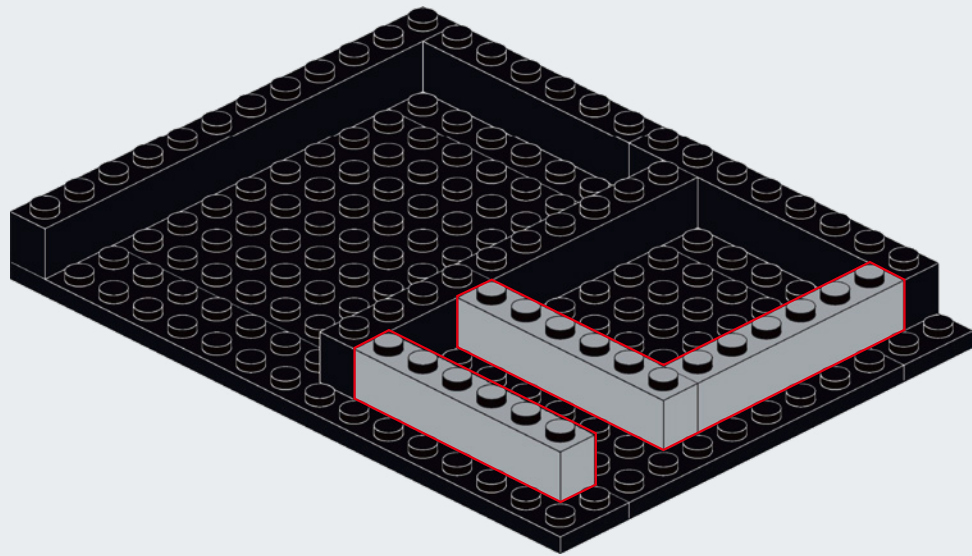


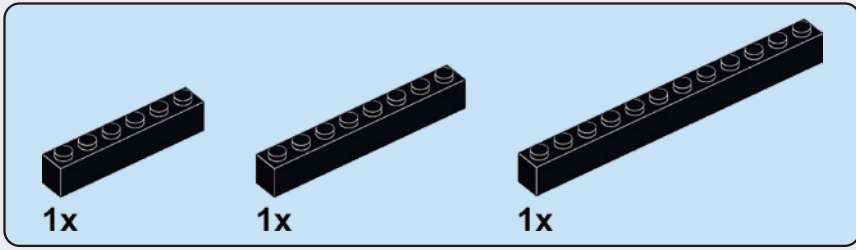


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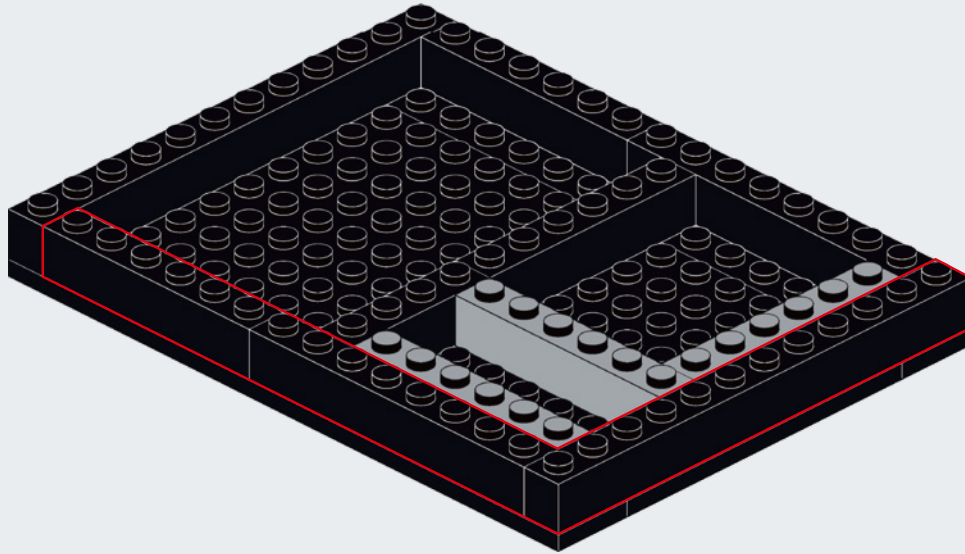


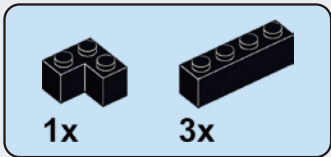
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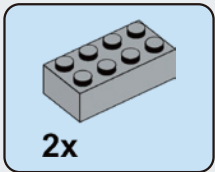
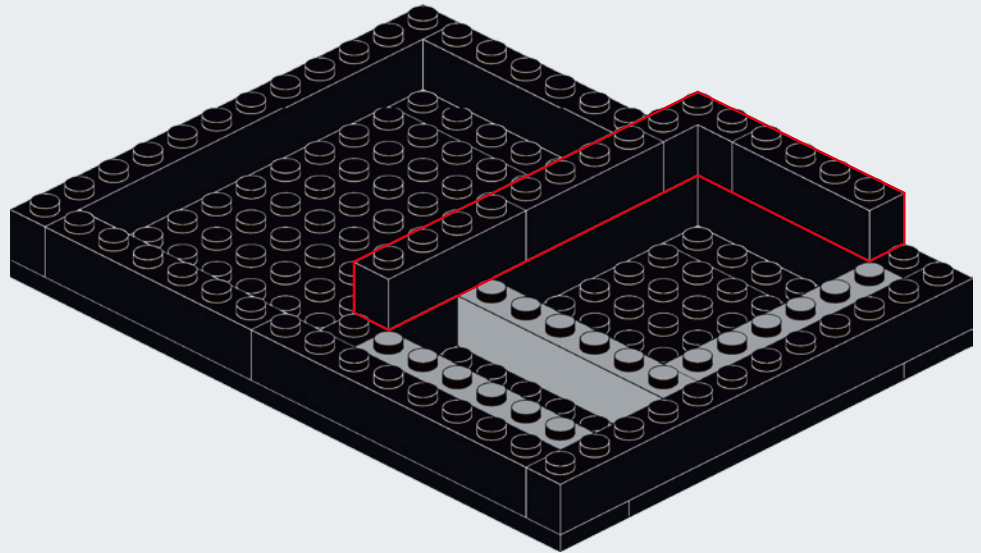


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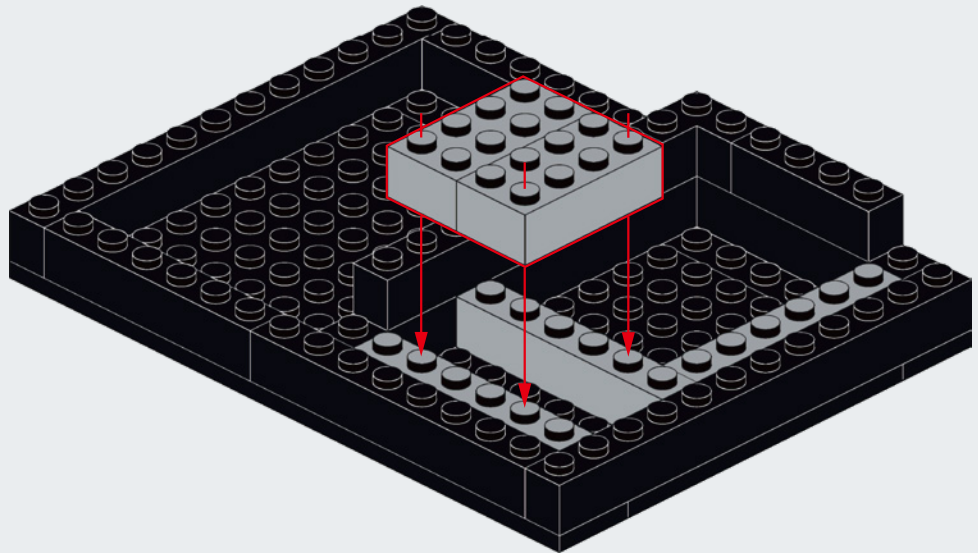


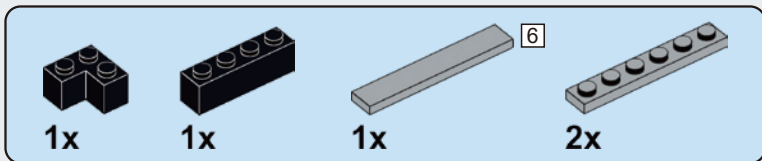


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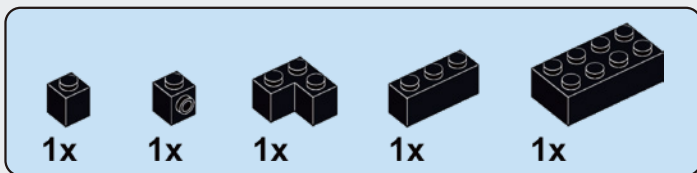
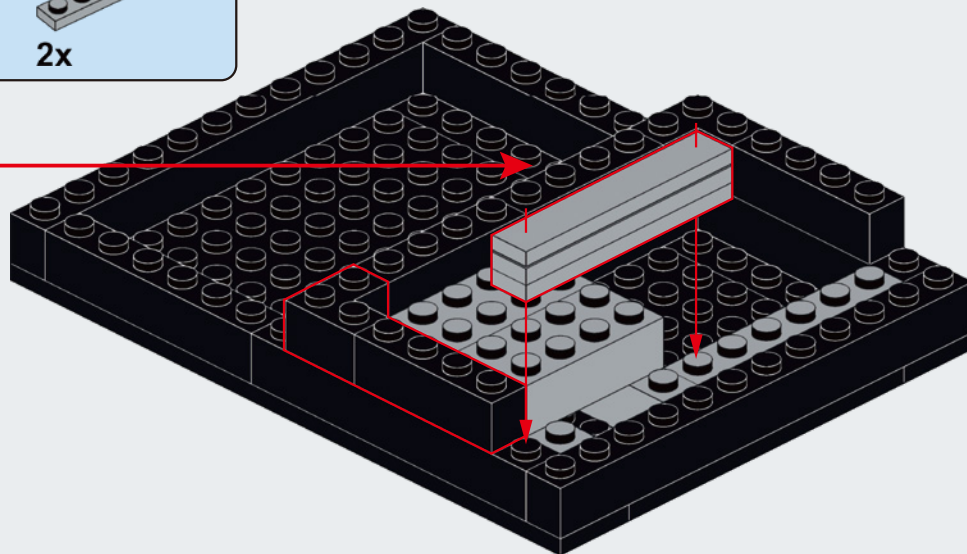
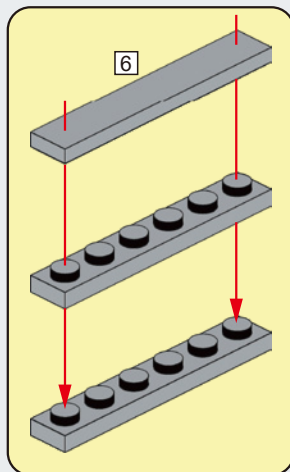


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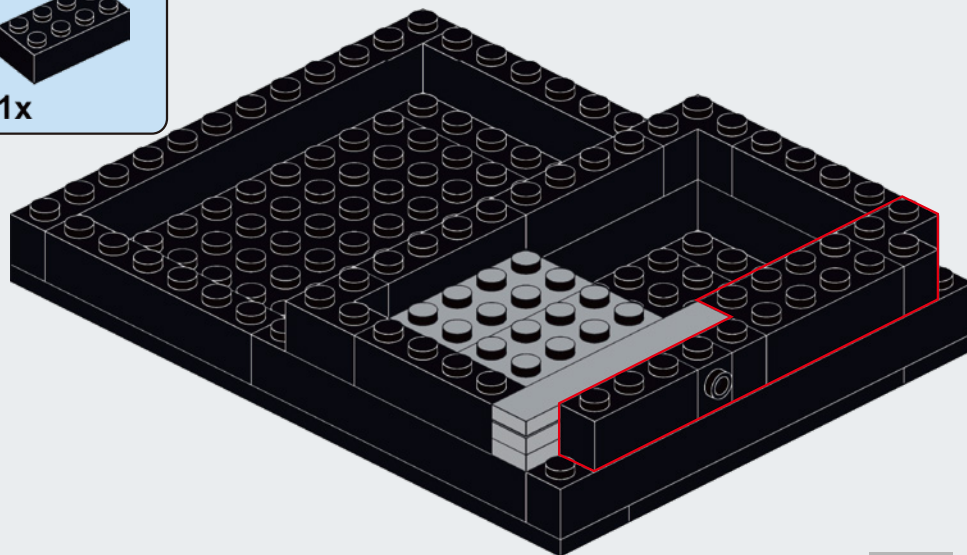




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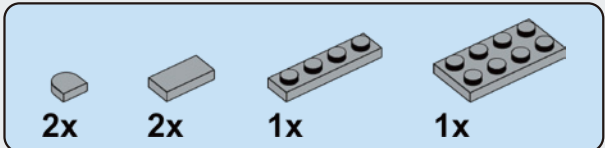
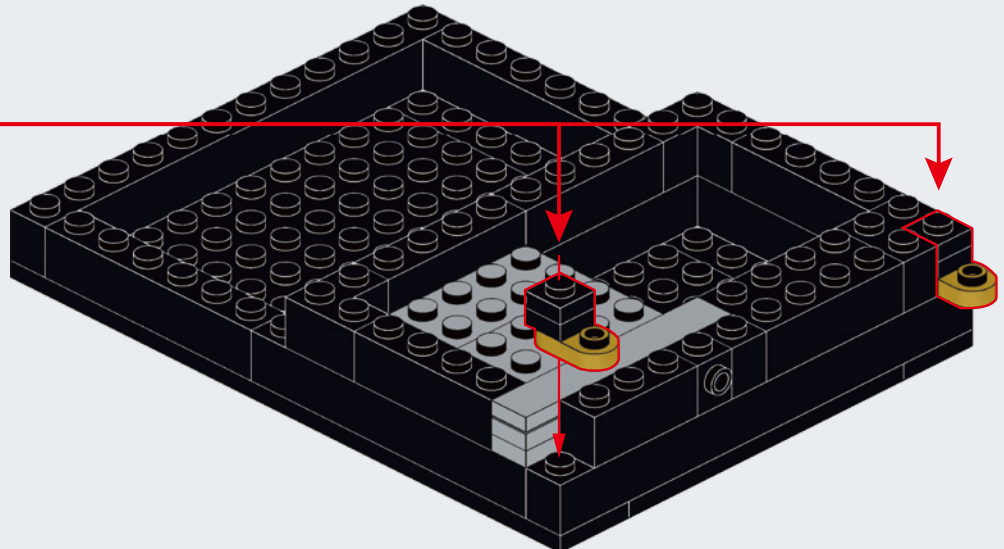
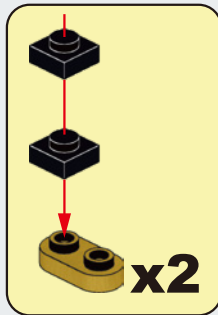


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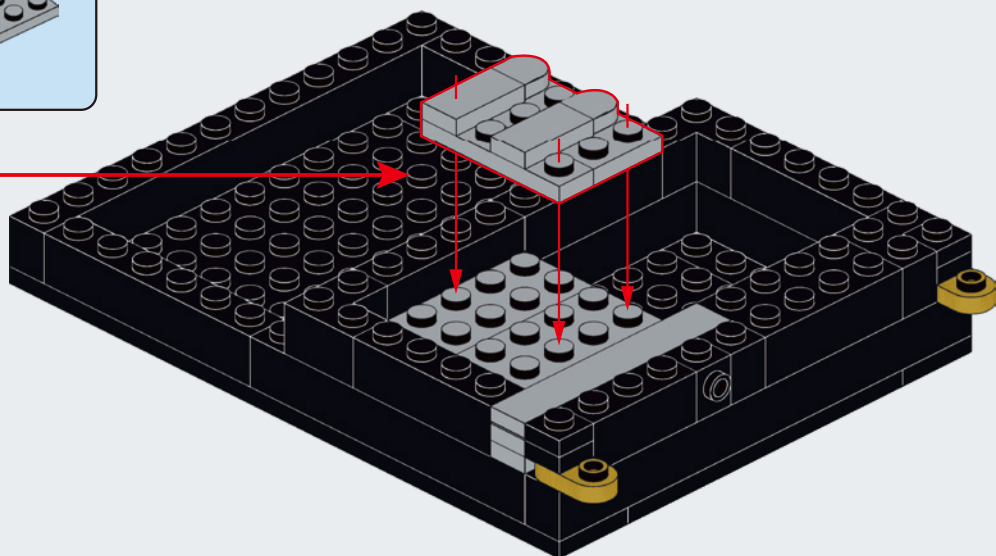
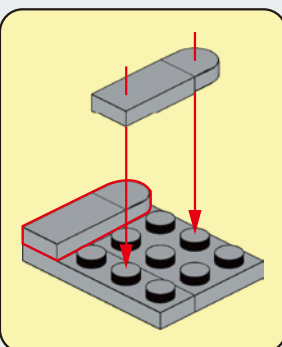


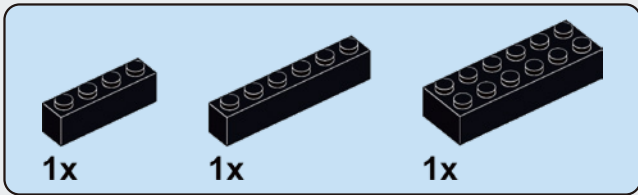


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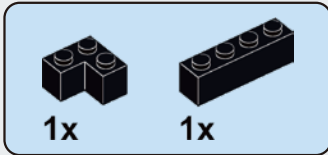
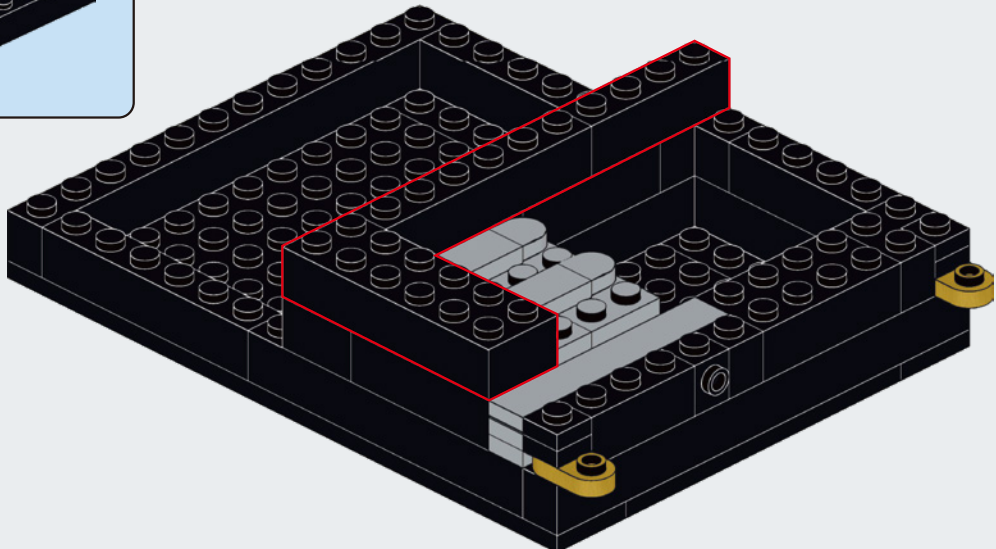


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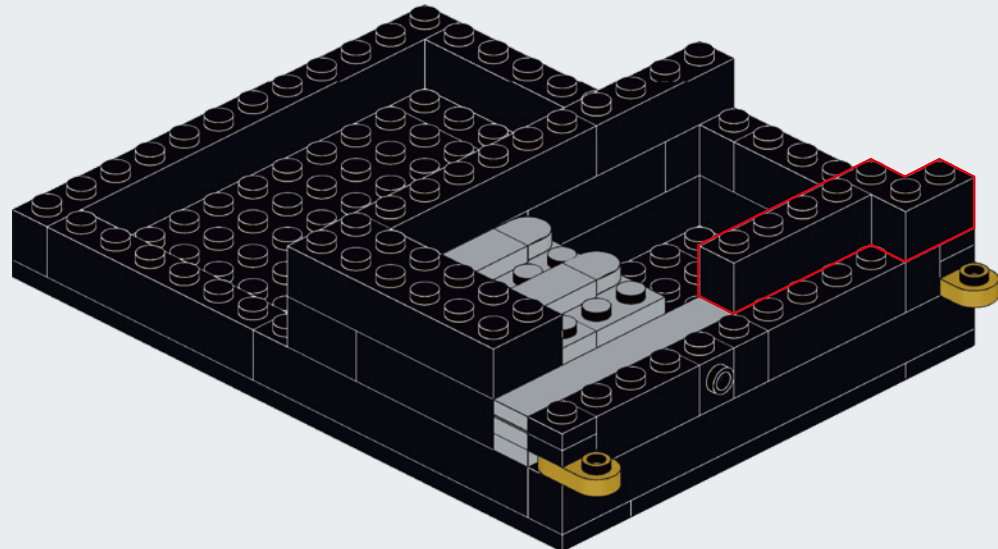




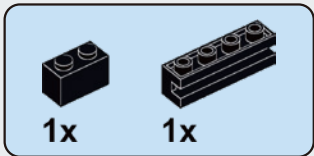
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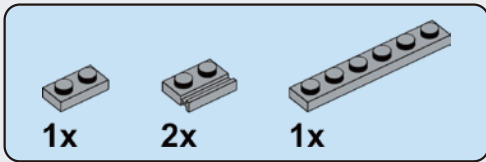
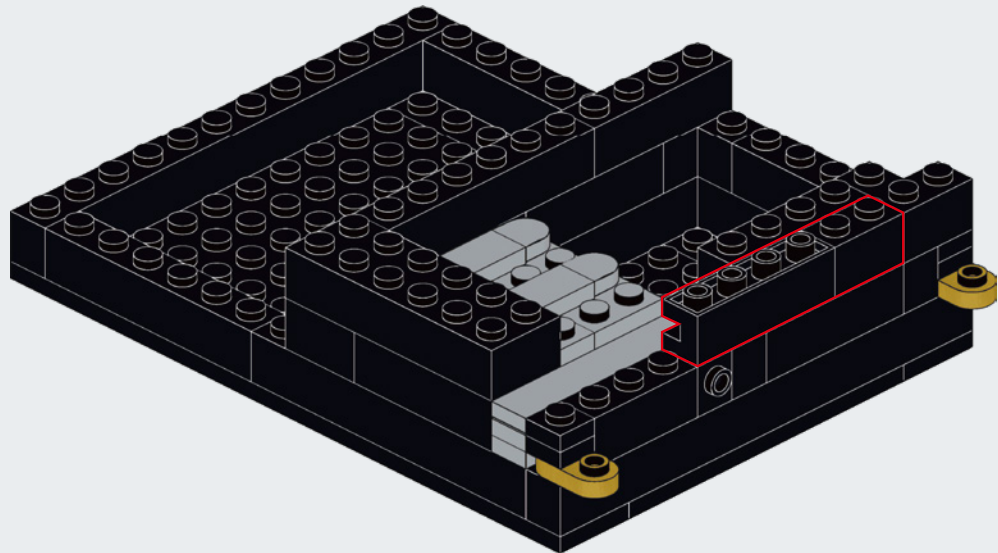
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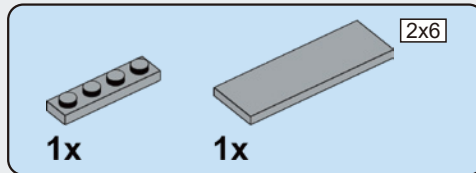
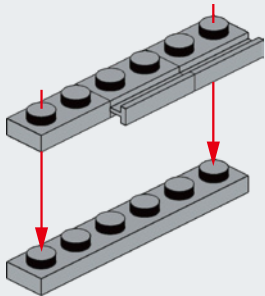




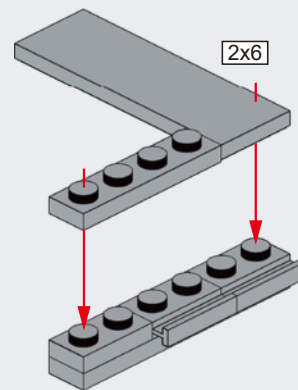
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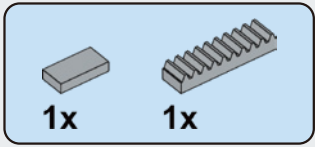


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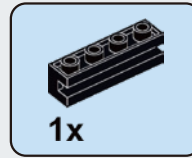
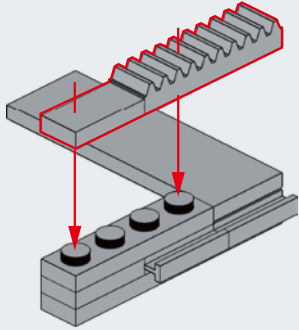


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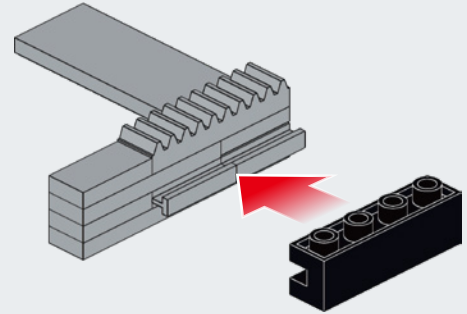




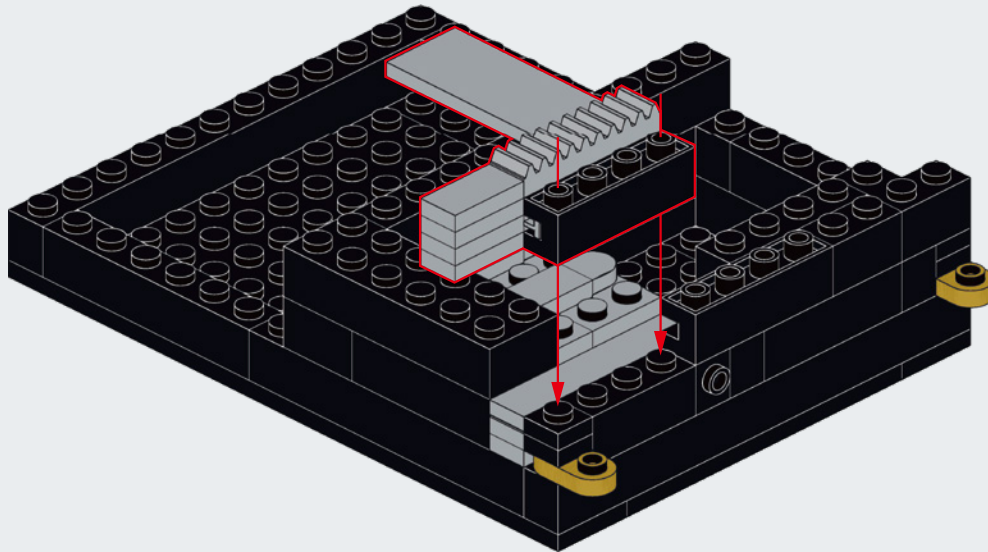
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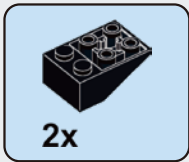


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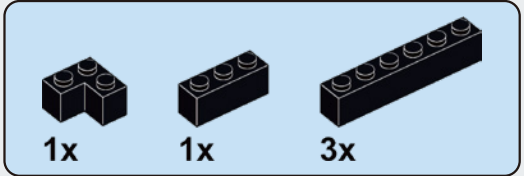
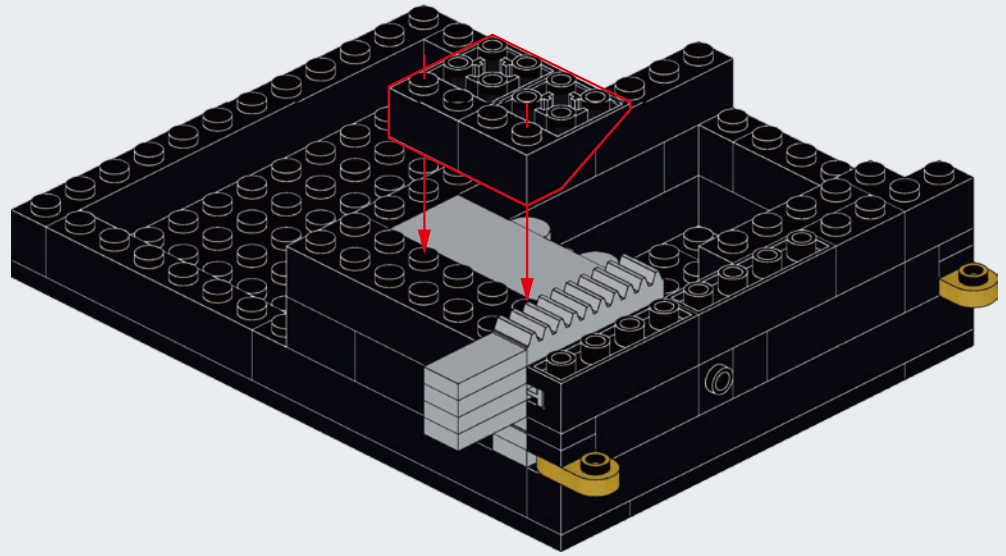


**A19**

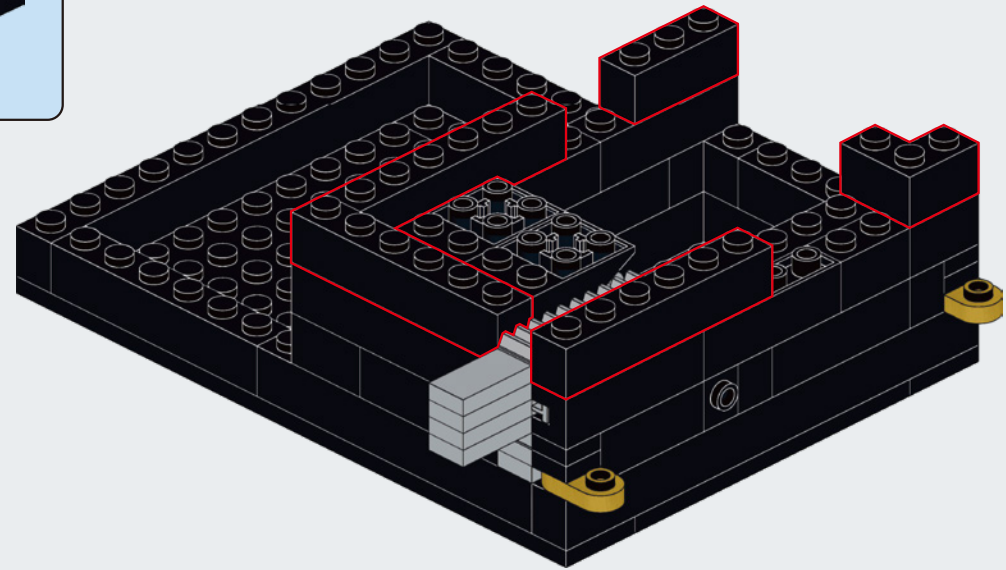


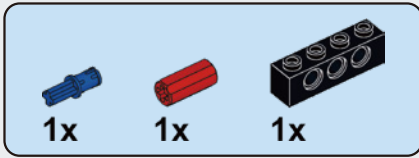


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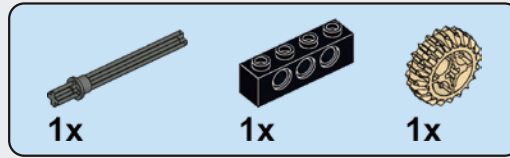
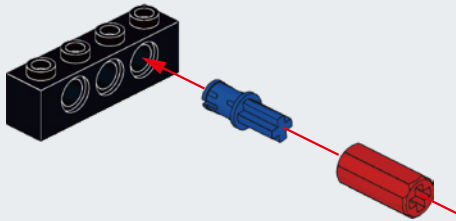


# A21

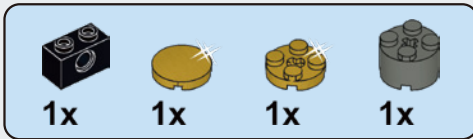
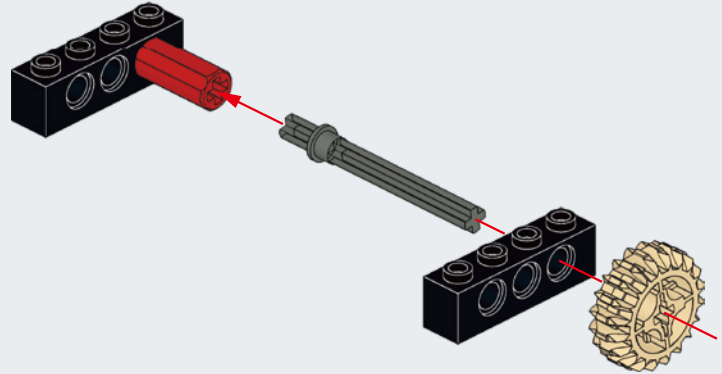




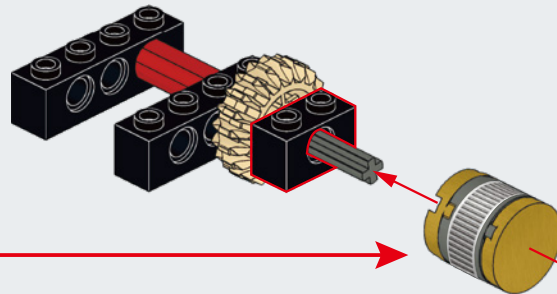
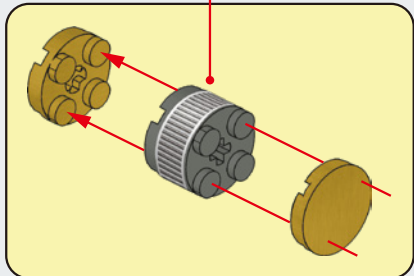
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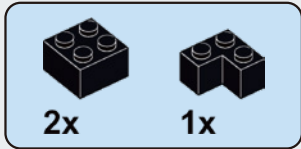
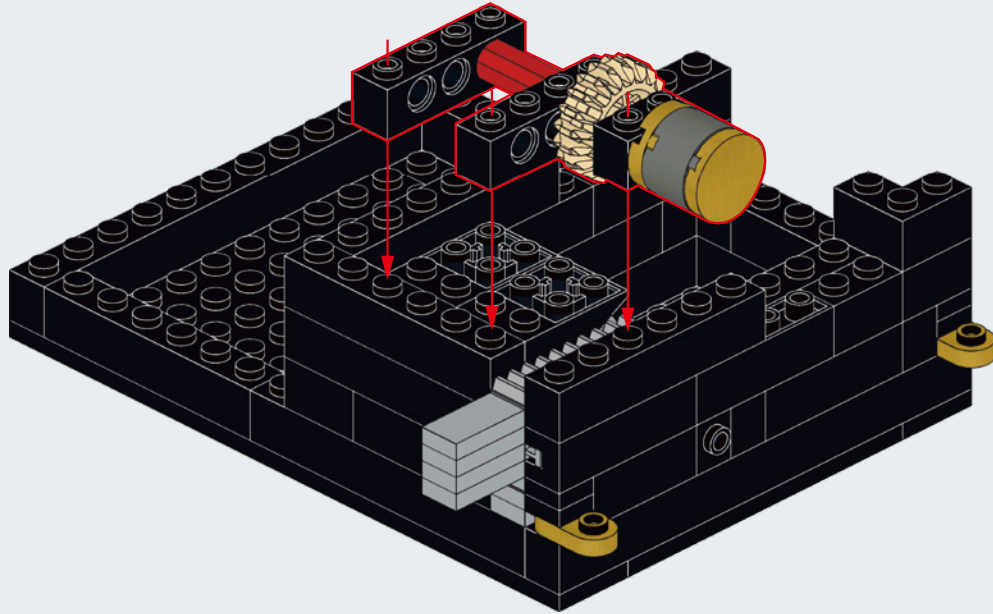
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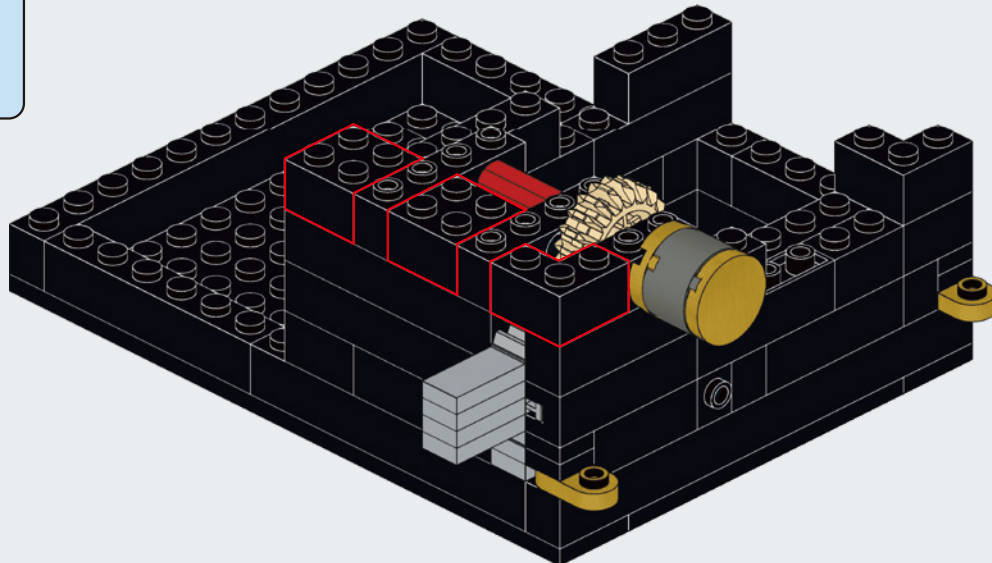
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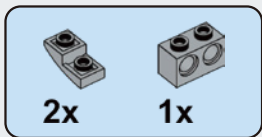


# A25

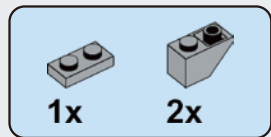
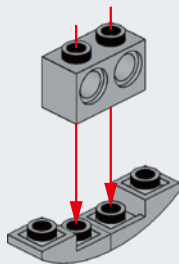


# A26

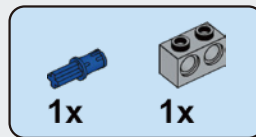
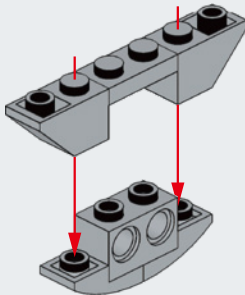




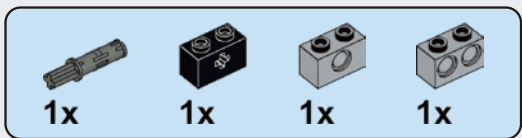
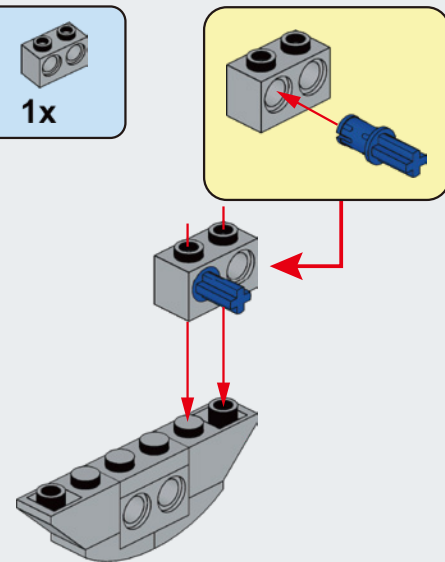
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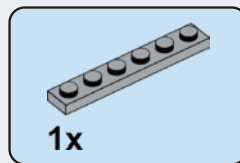
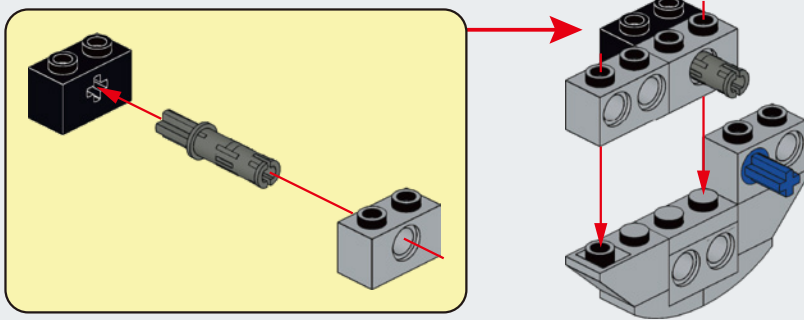
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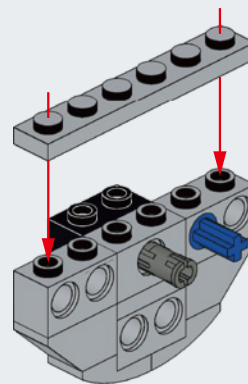
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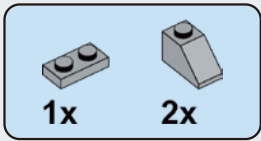


**A30**

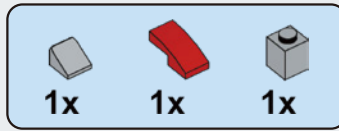
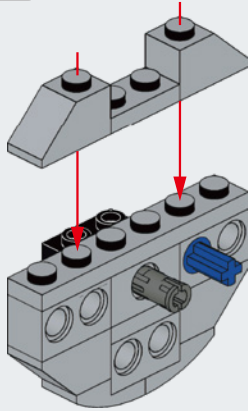


**A31**

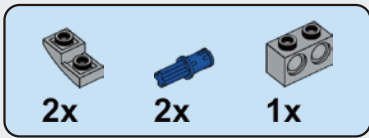
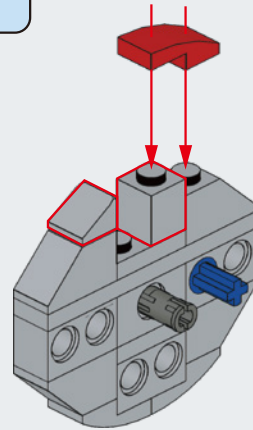




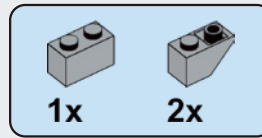
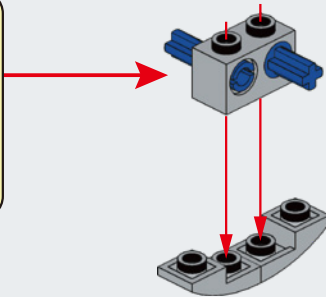
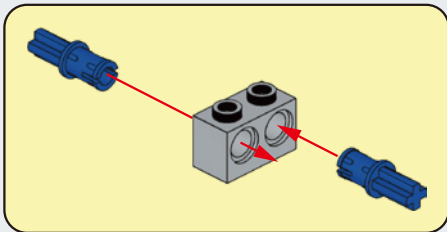
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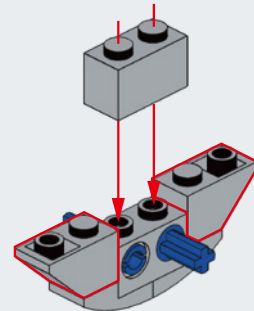
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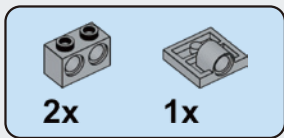


**A34**

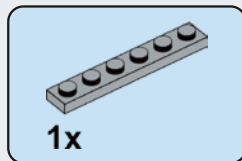
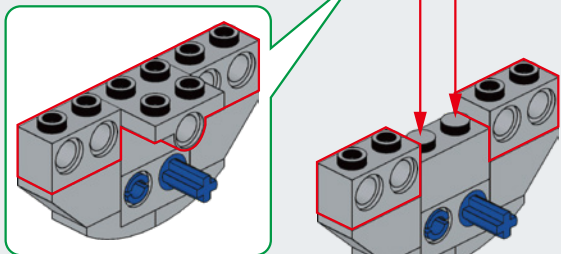


**A35**

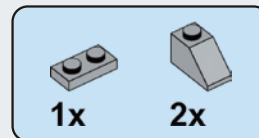
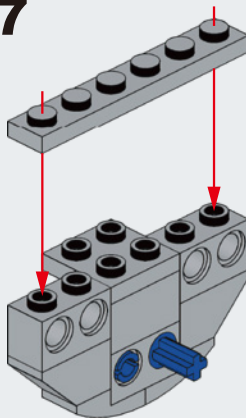




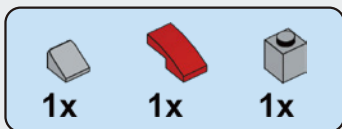
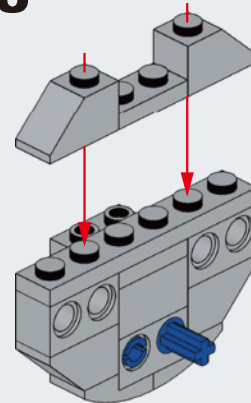
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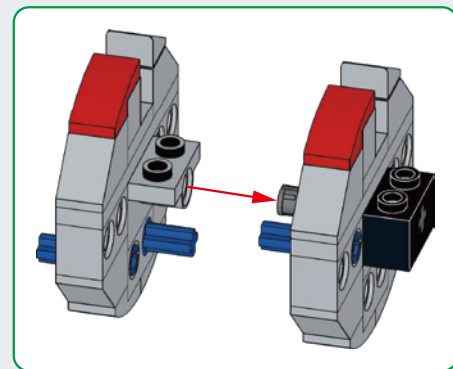
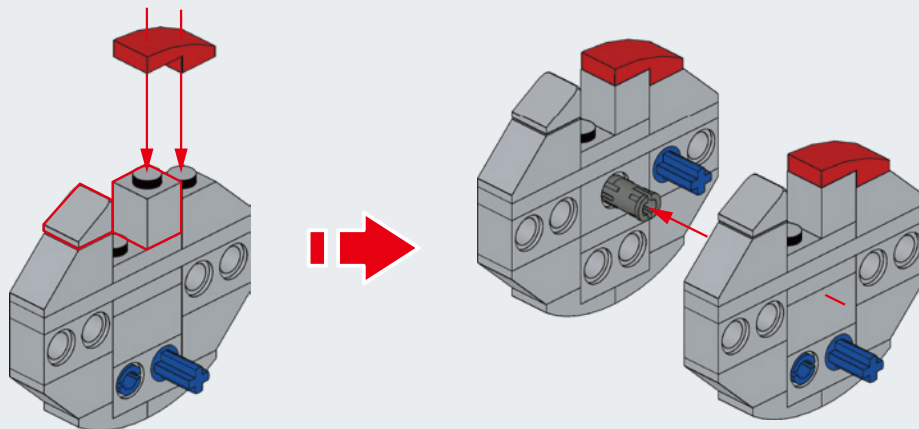
**A37**



**A38**

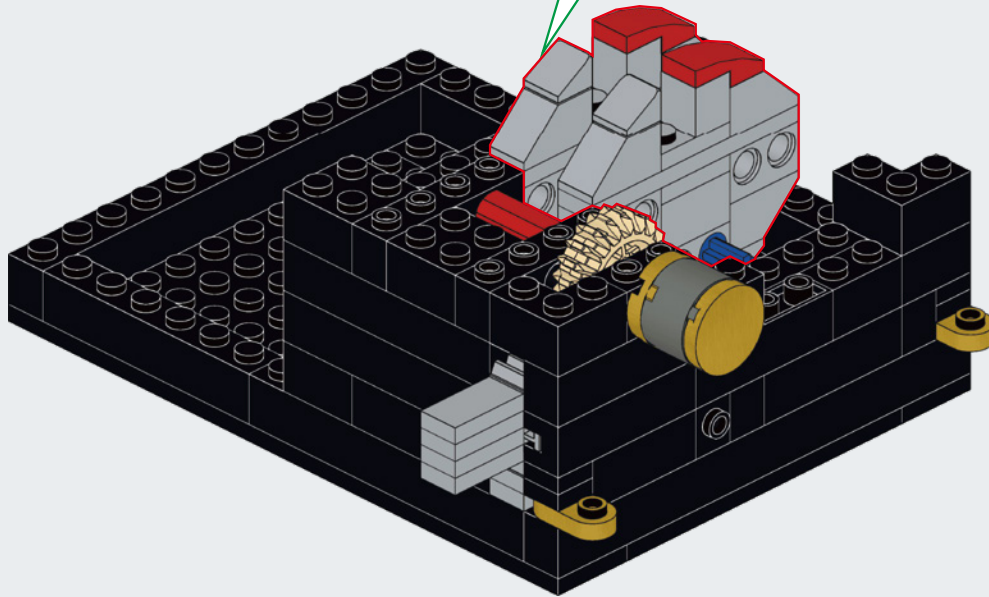
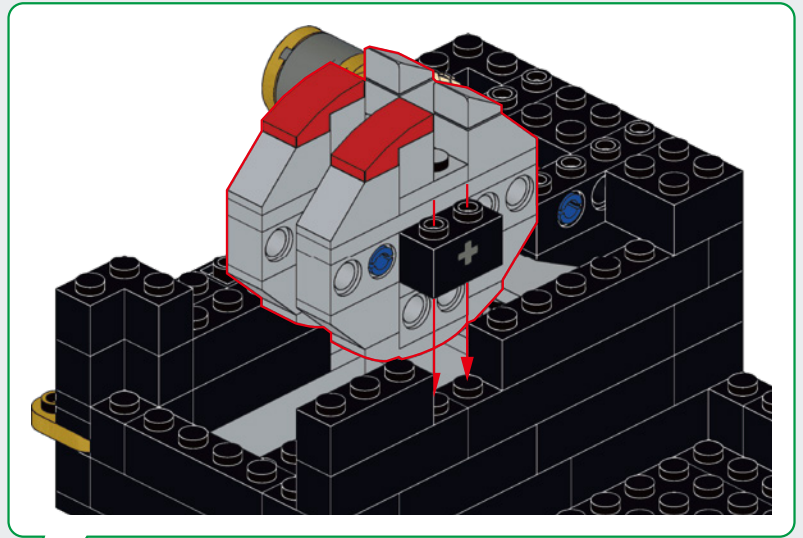


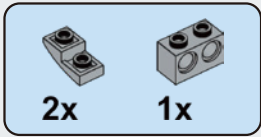
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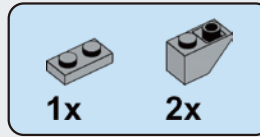
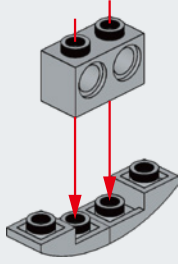


# A40

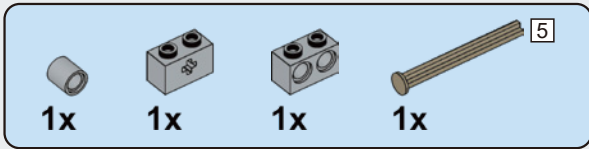
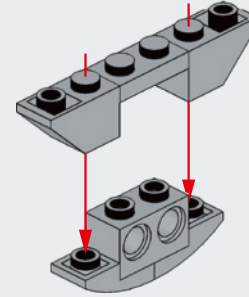




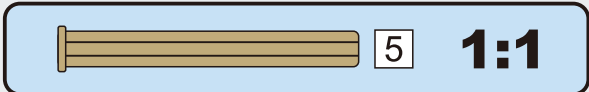
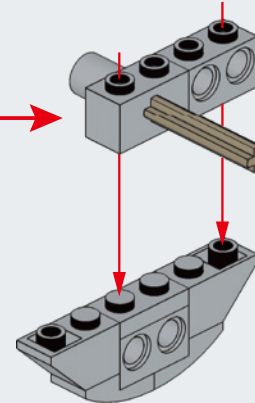
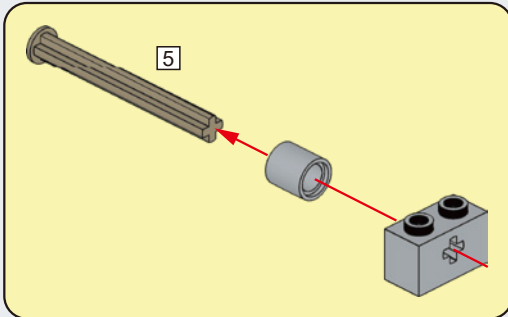
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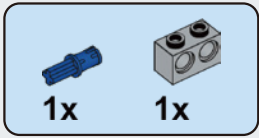


## A42

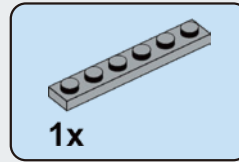
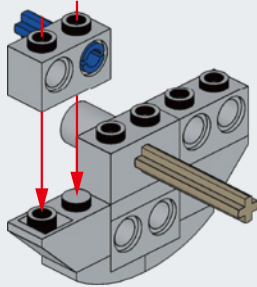
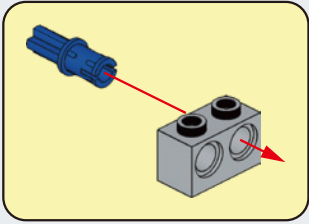


## A43

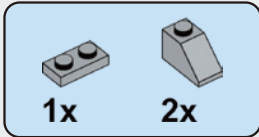
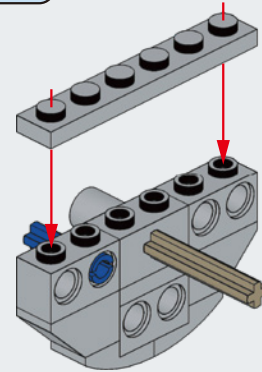




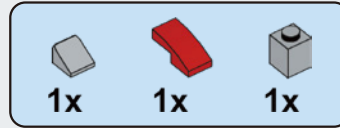
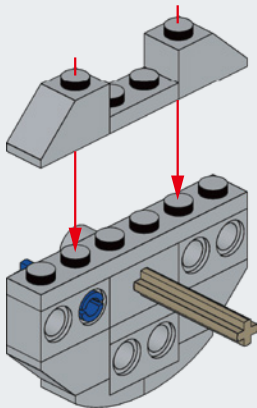
## A44



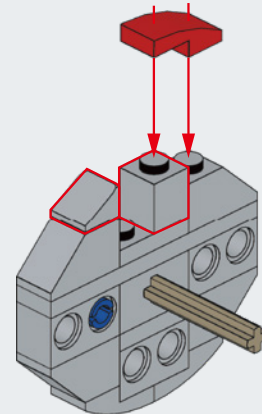
## A45

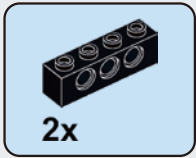


## A46

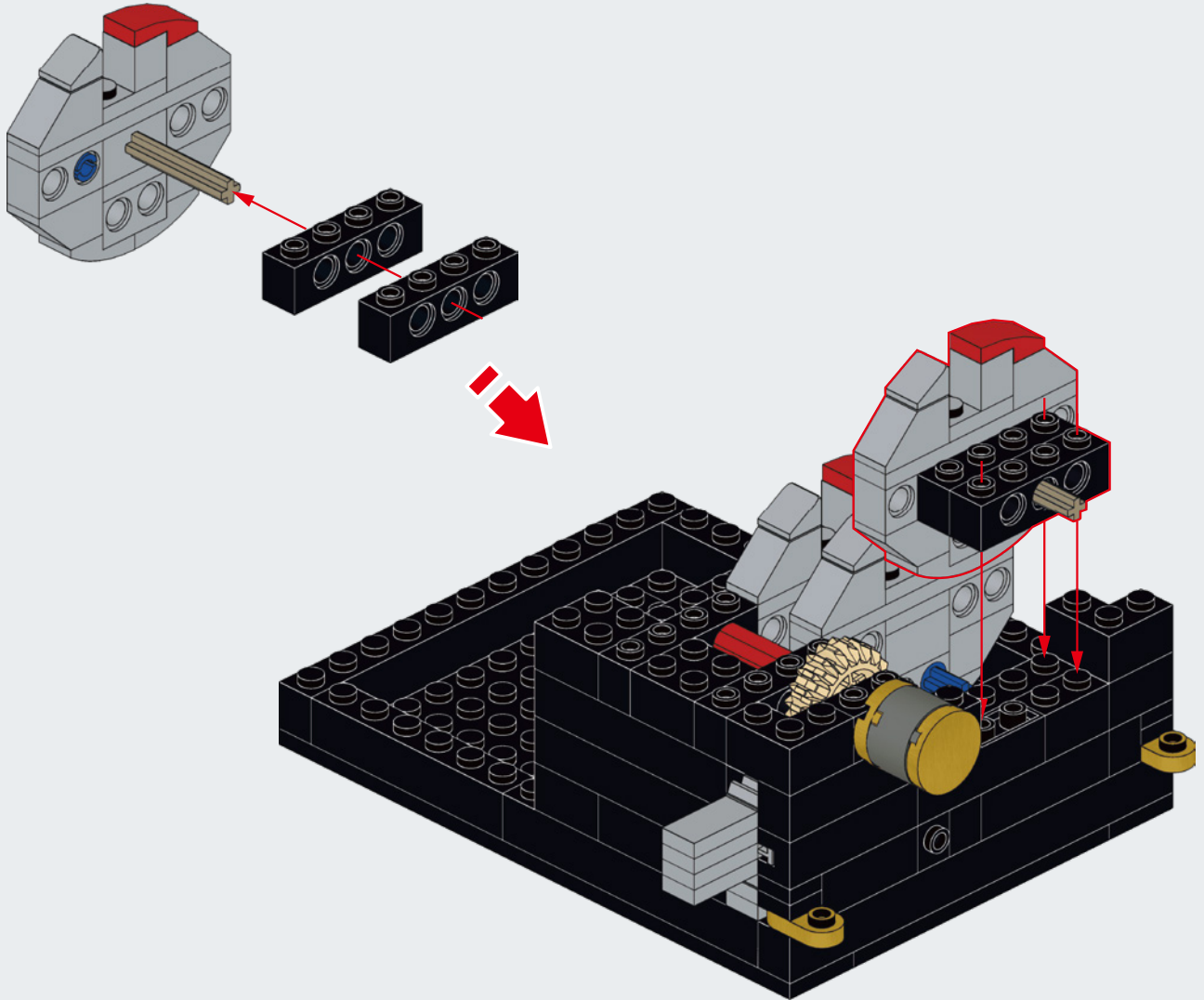


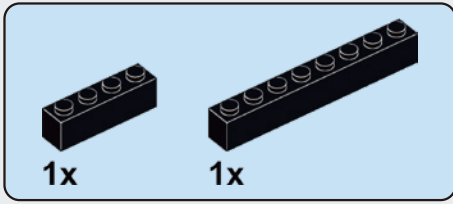
## A47



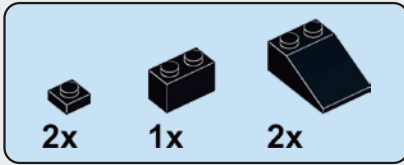
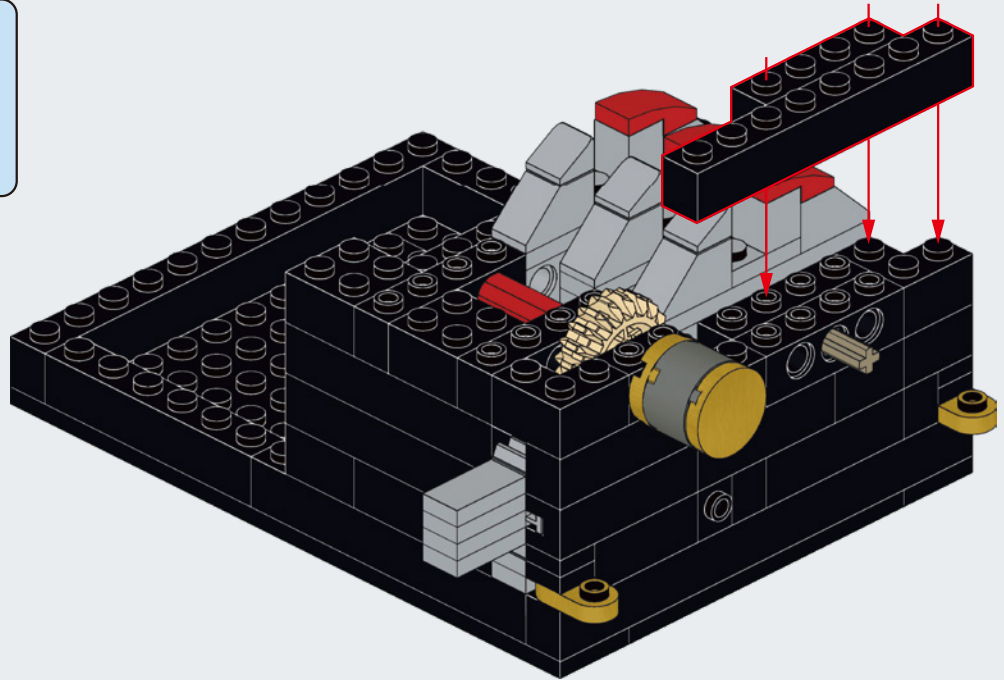


**A48**

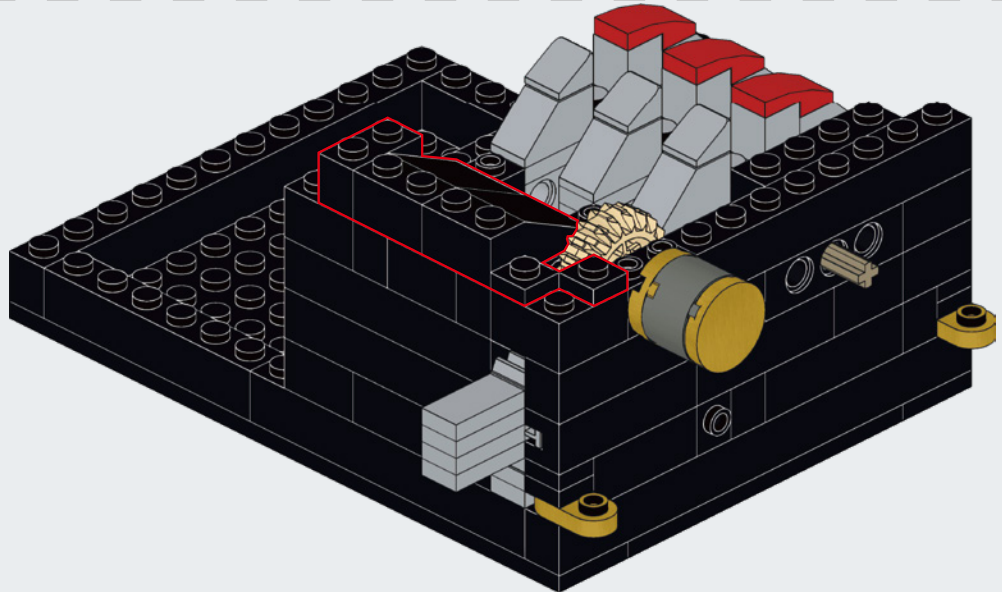




**A49**

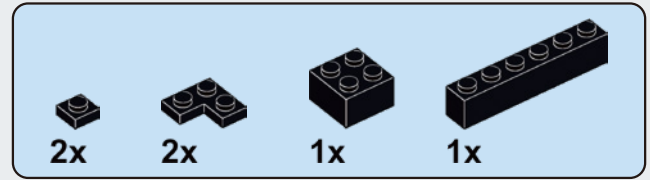
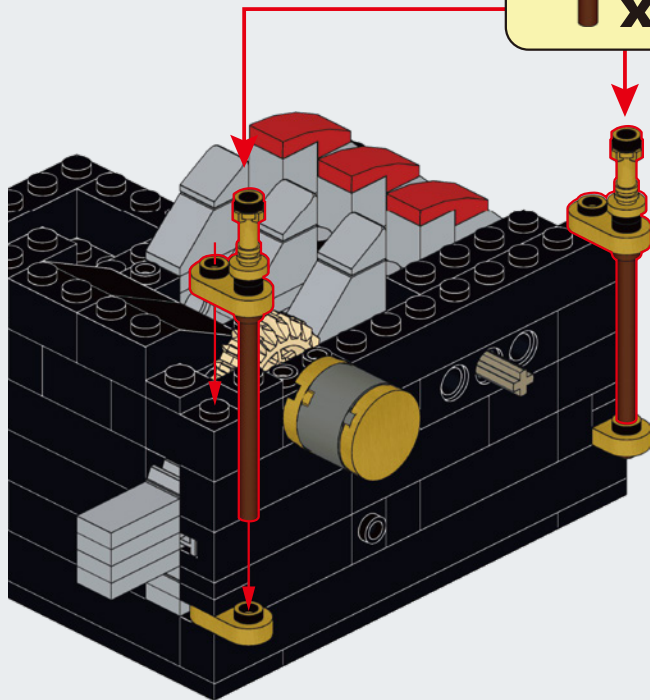
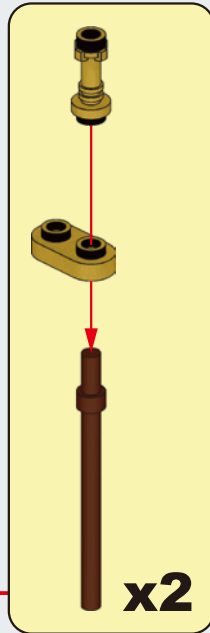


**A50**

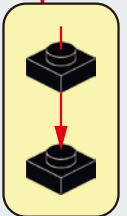
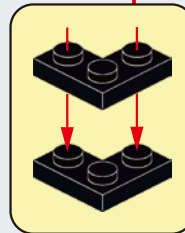
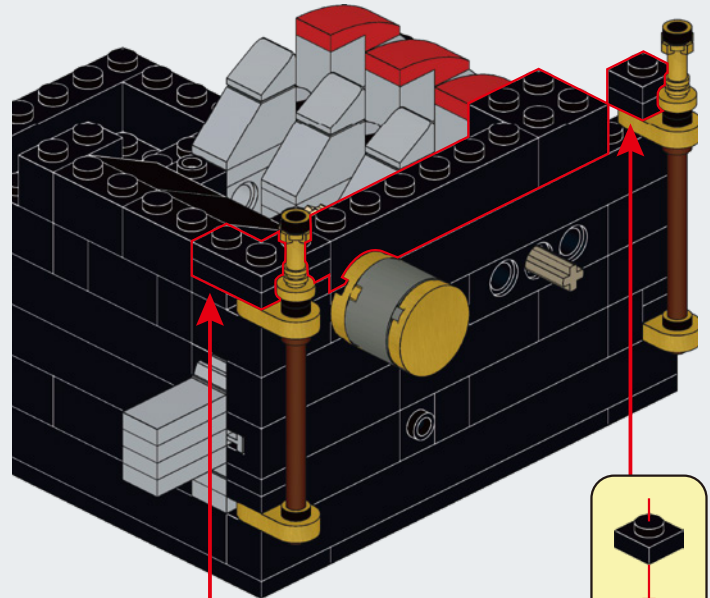


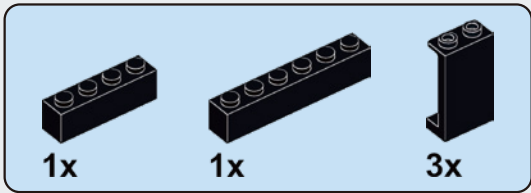


# A51

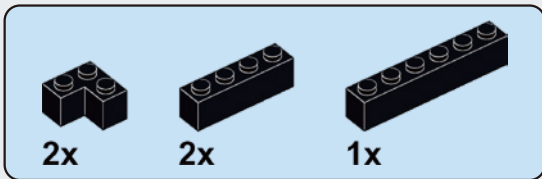
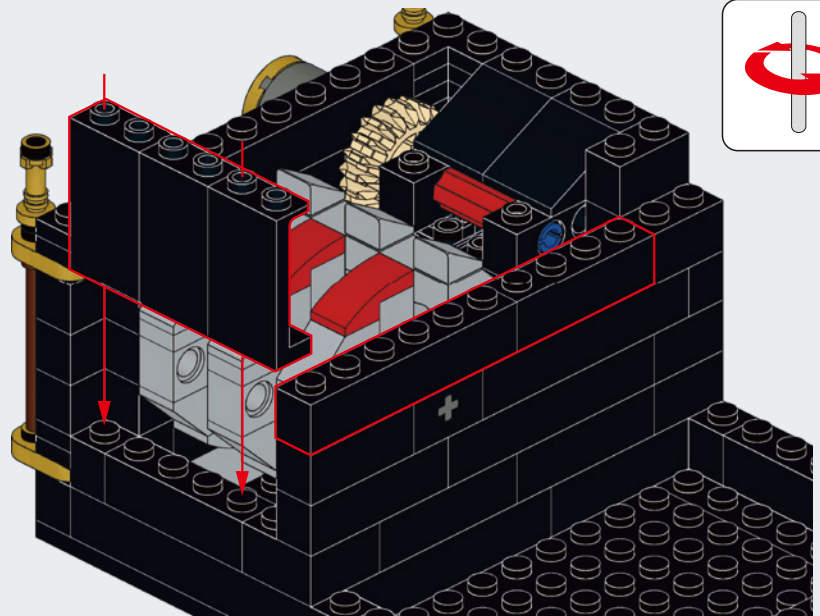


# A52

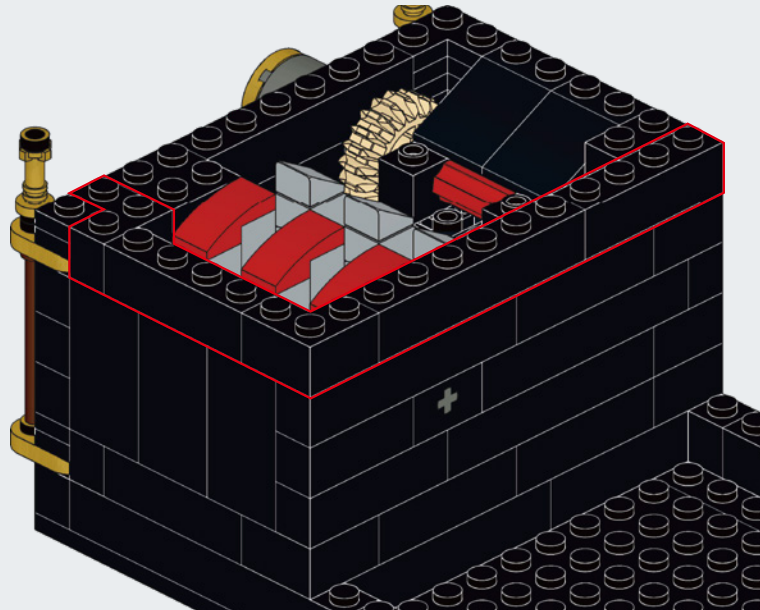


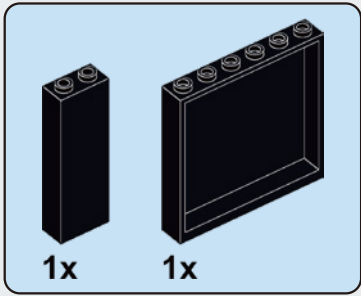


**A53**

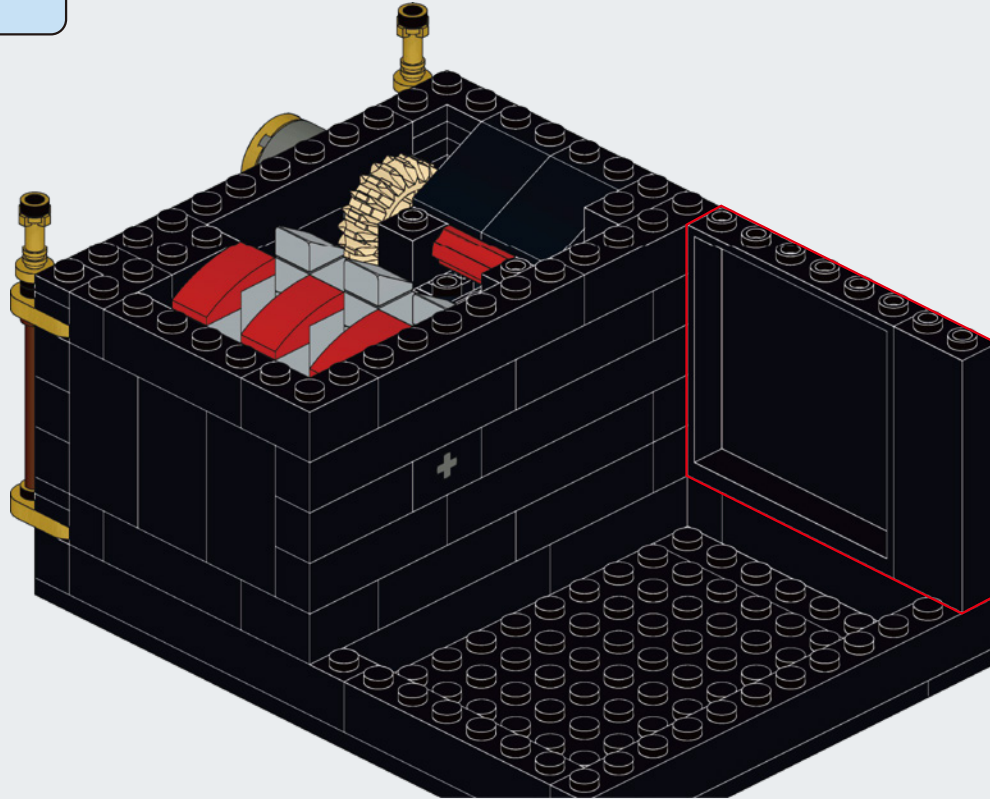


**A54**

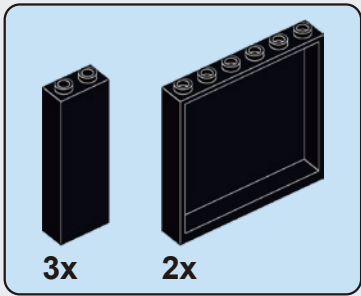




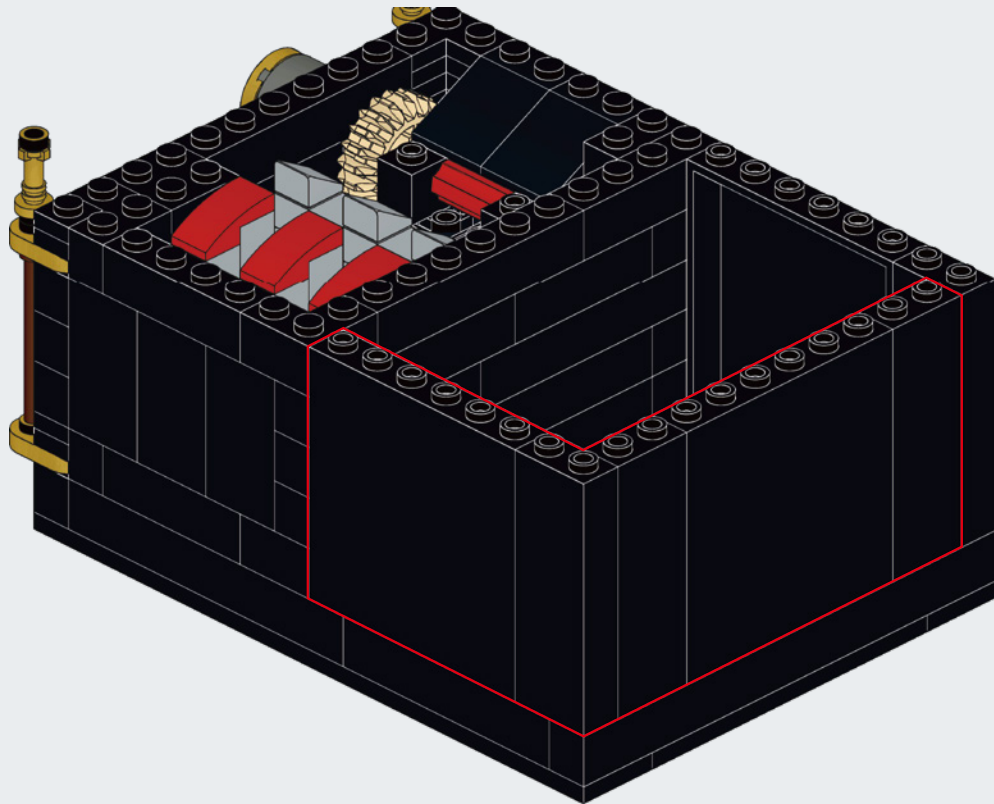
**A55**

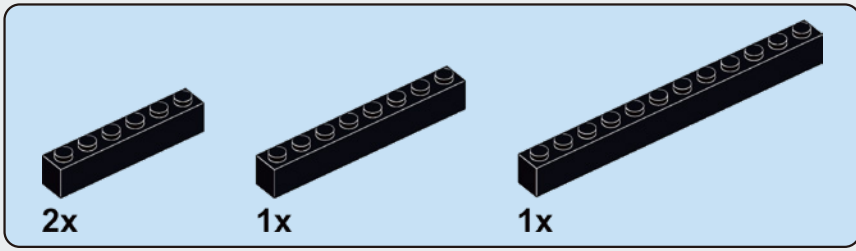




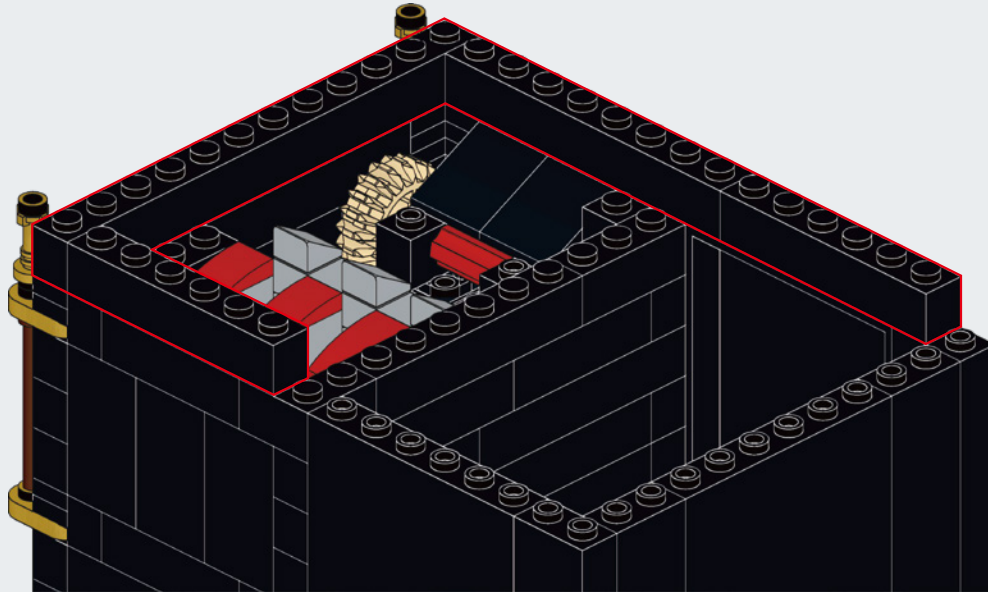


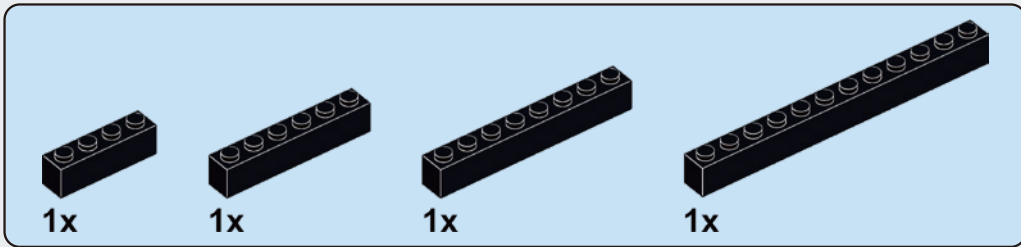
# A56



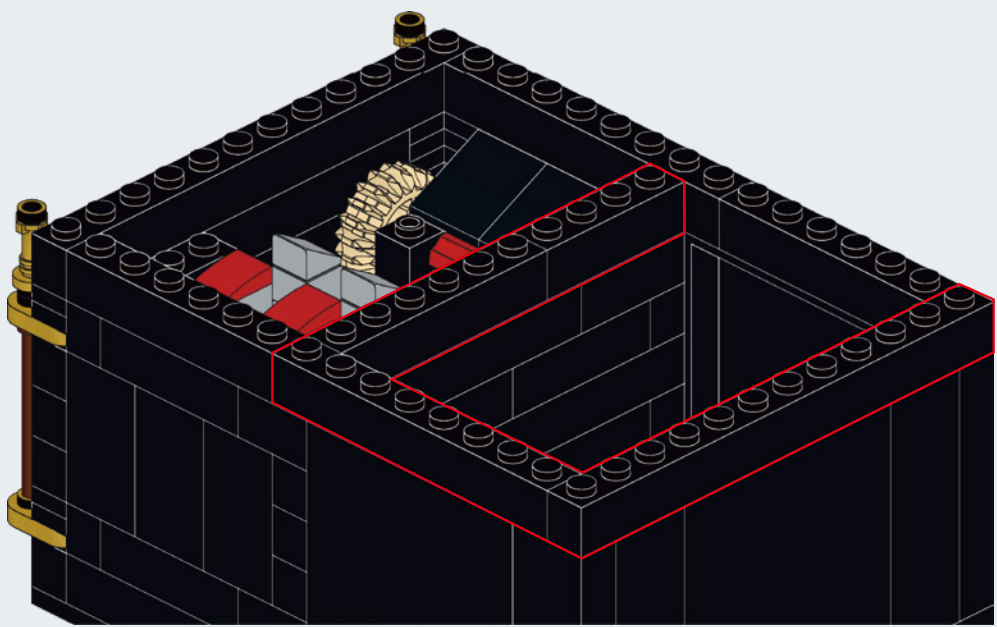


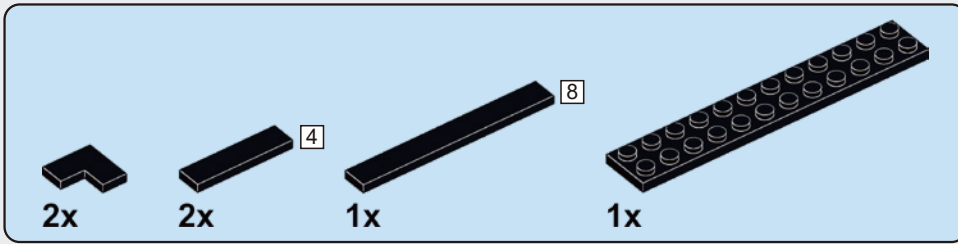
# A57



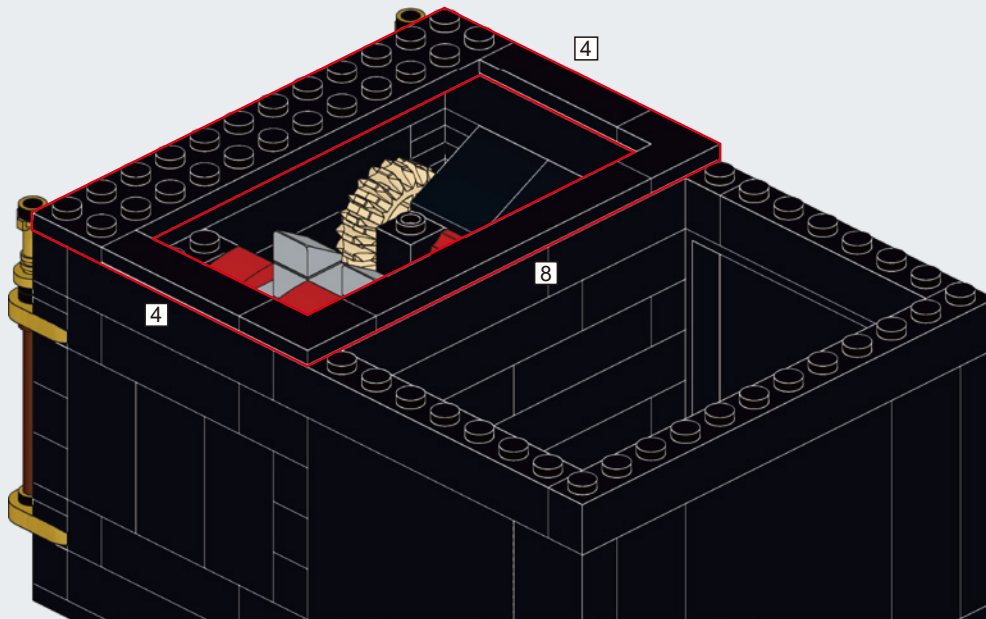


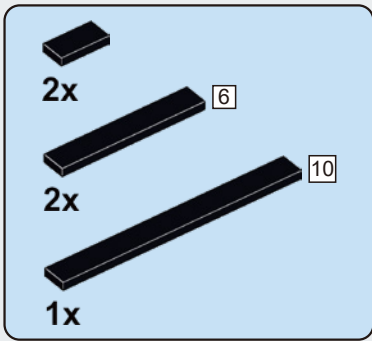
# A58



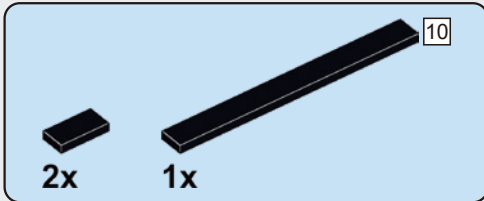
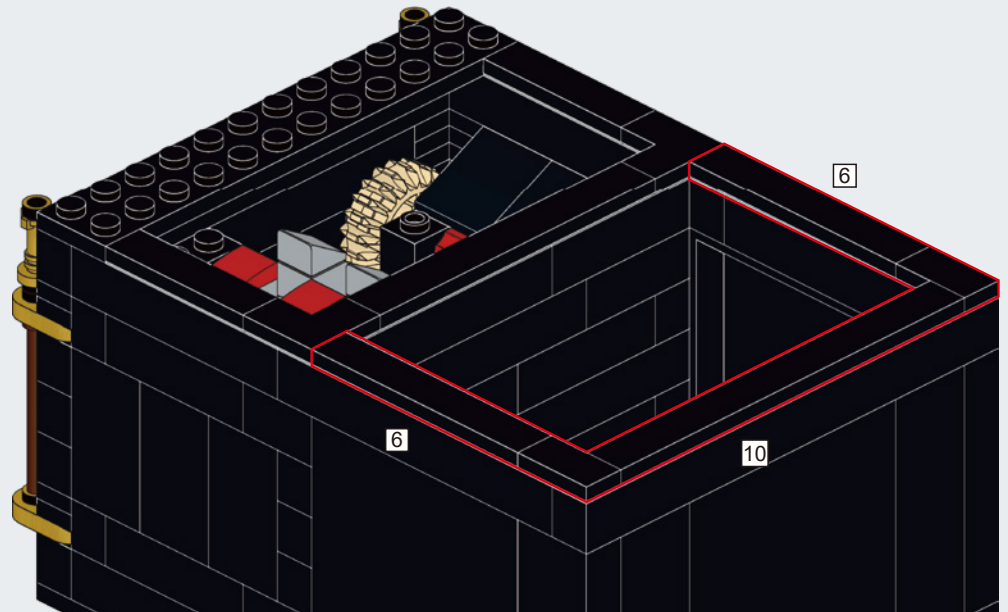


## A59

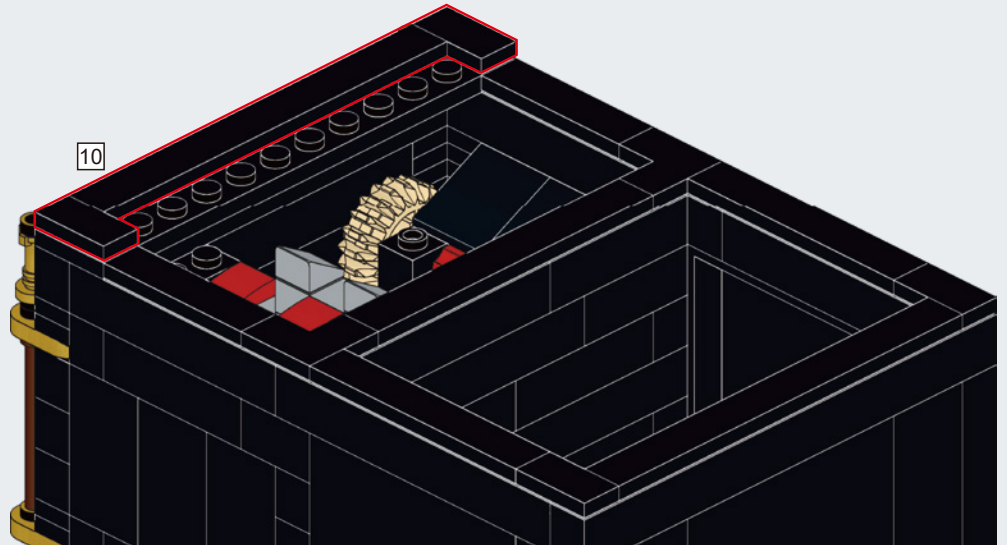


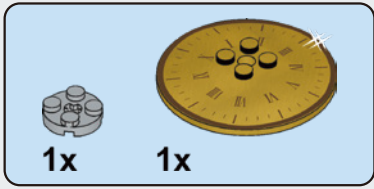


## A60

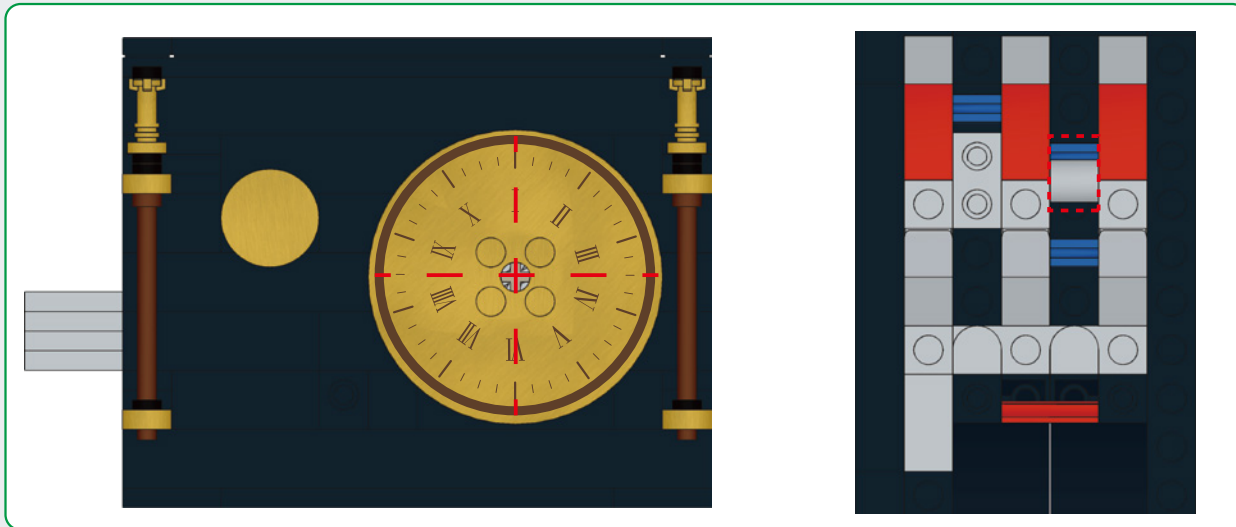
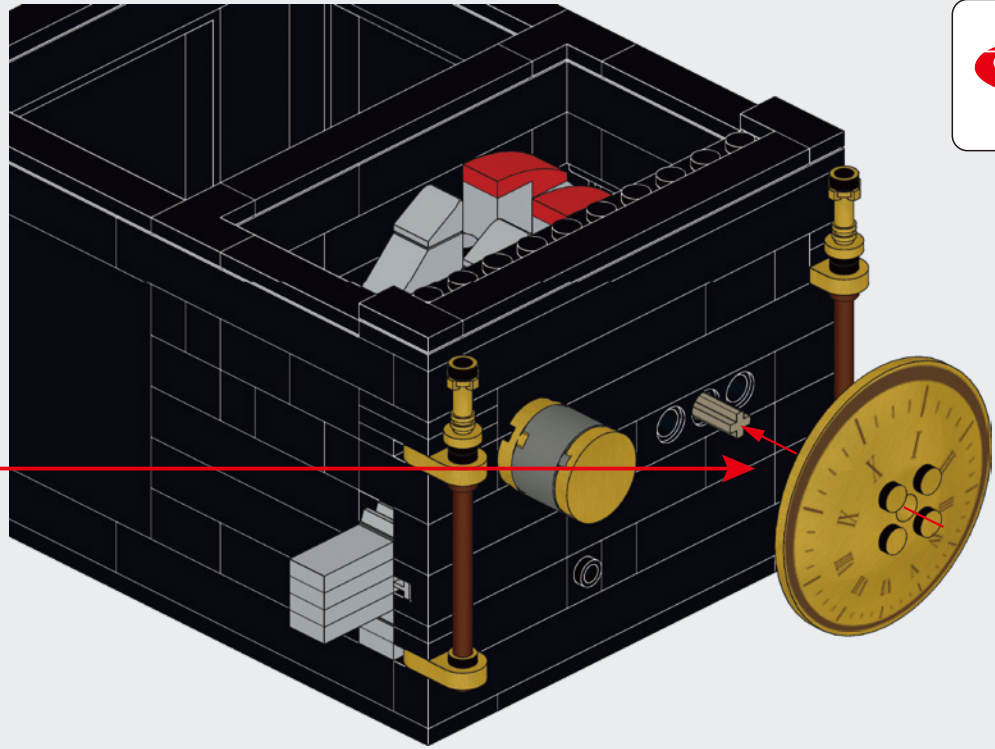
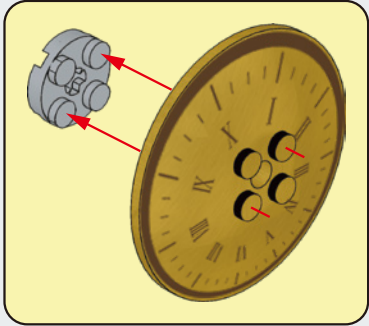


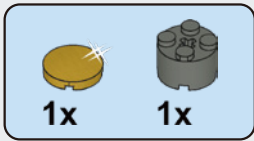
## A61



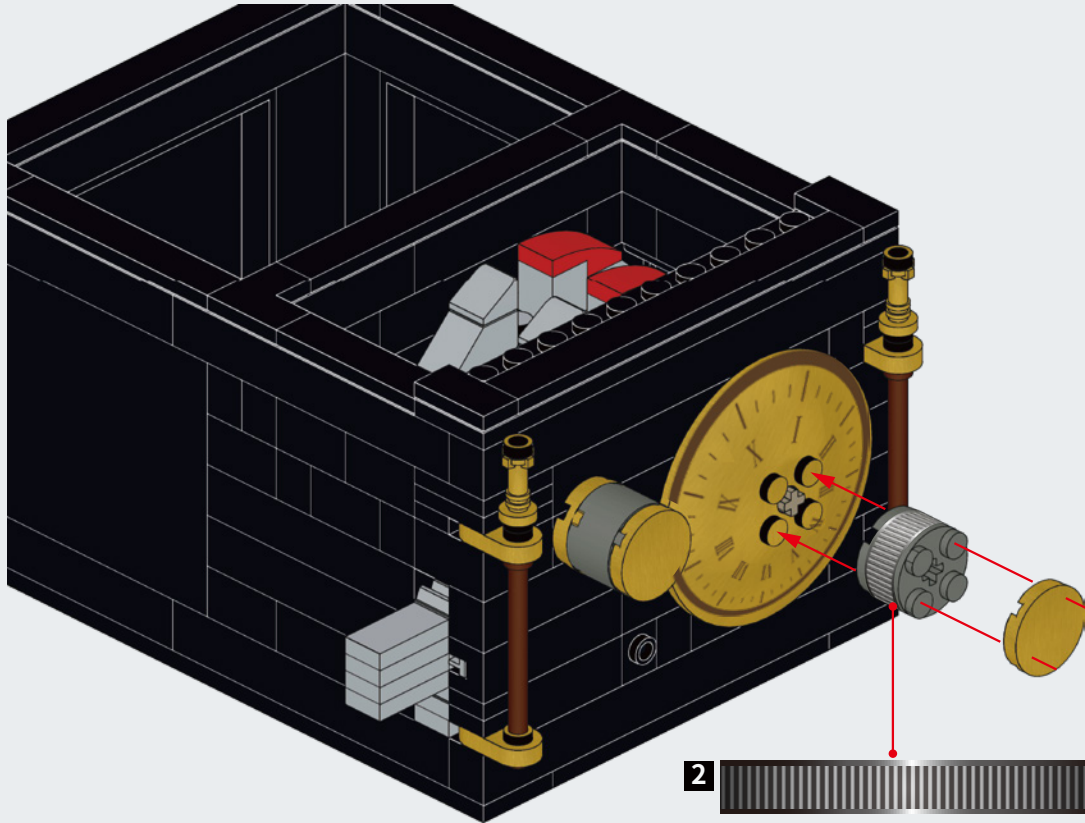


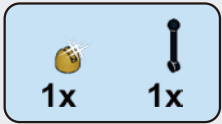
# A62



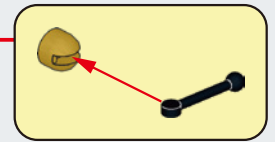
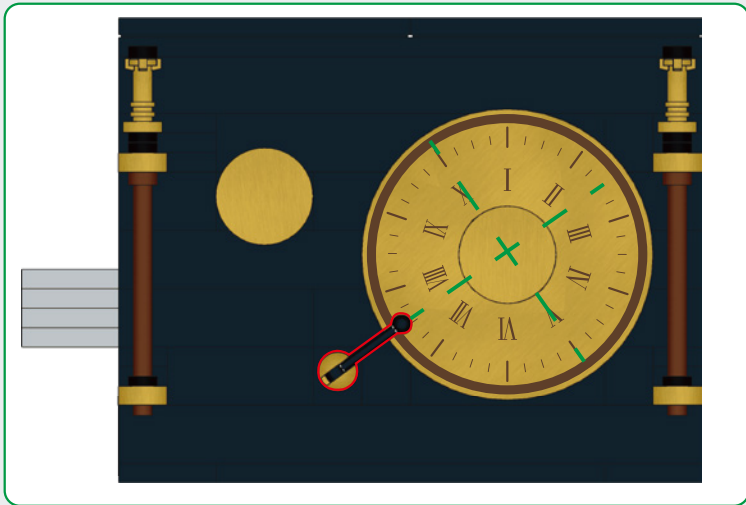
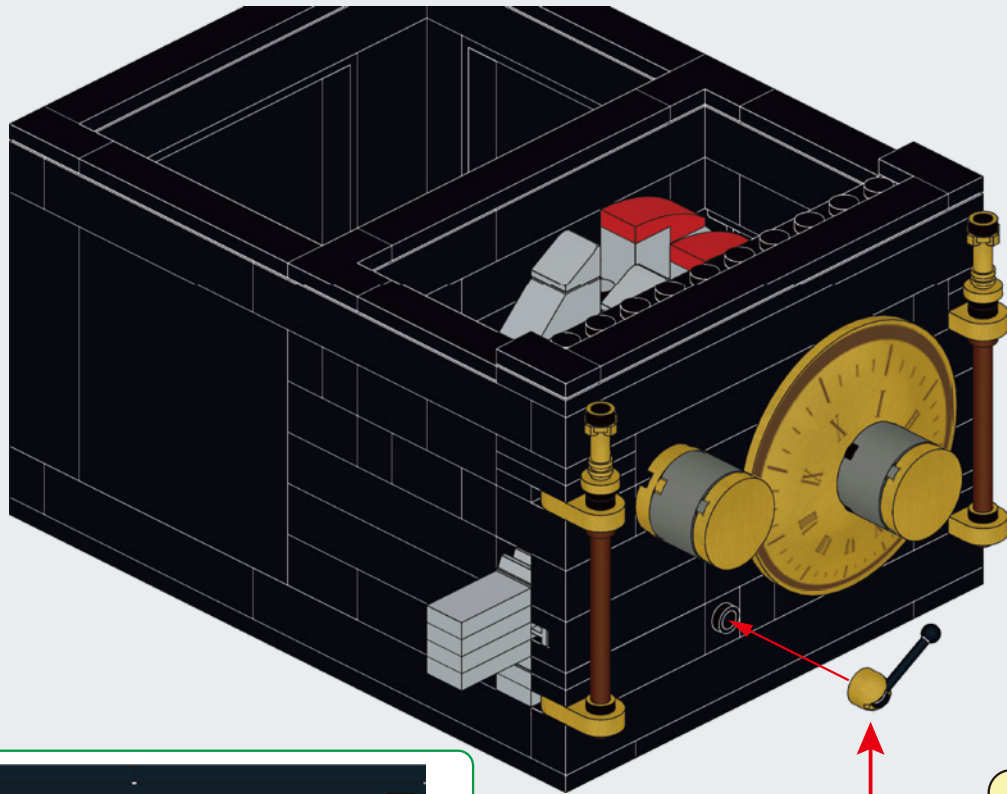


# A63





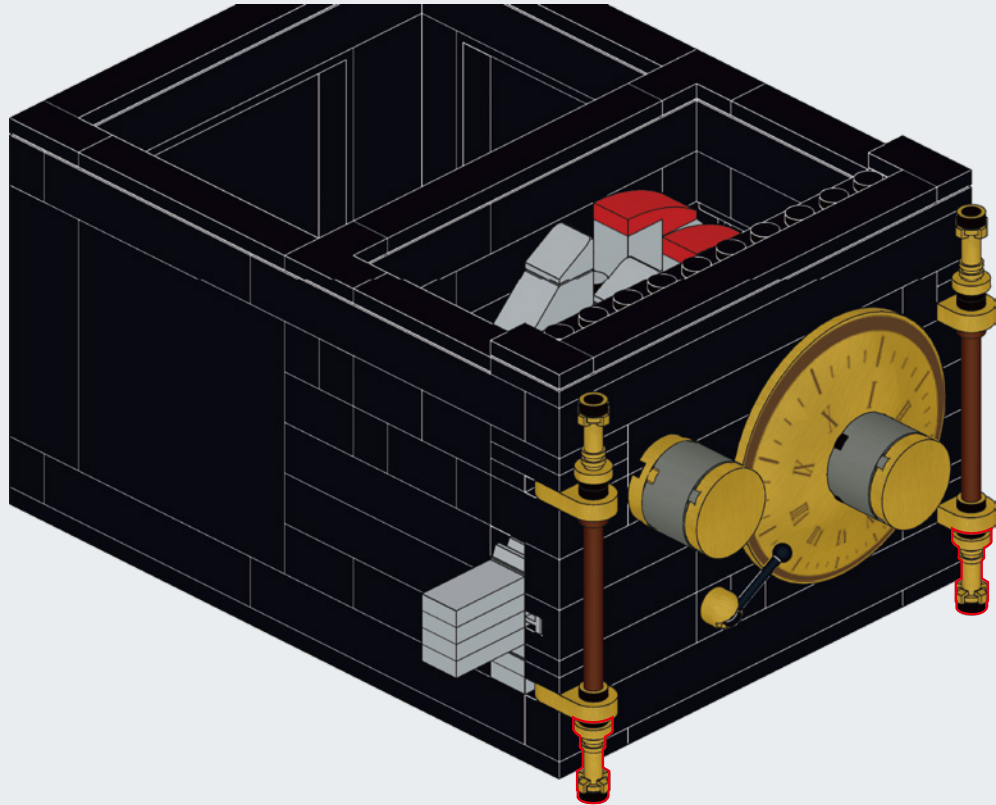
**A64**

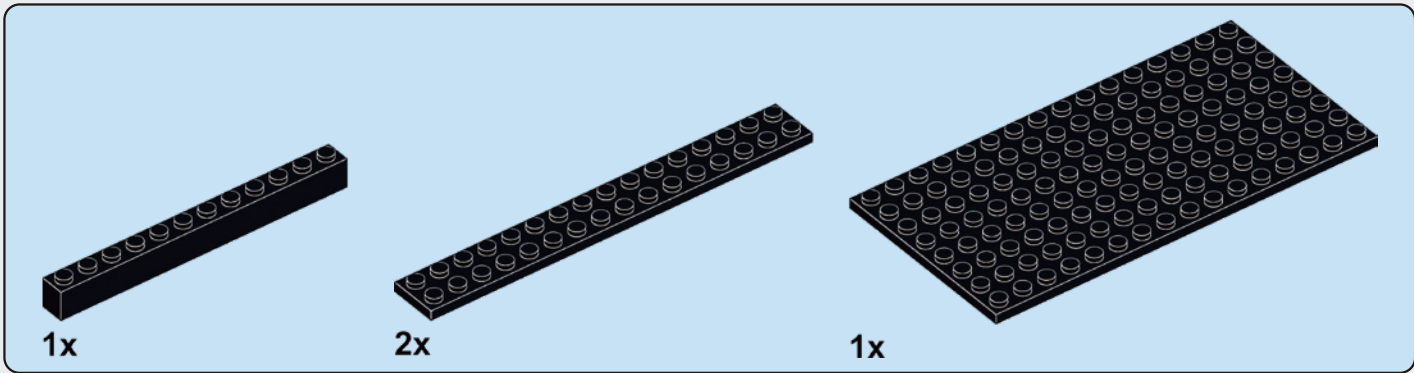




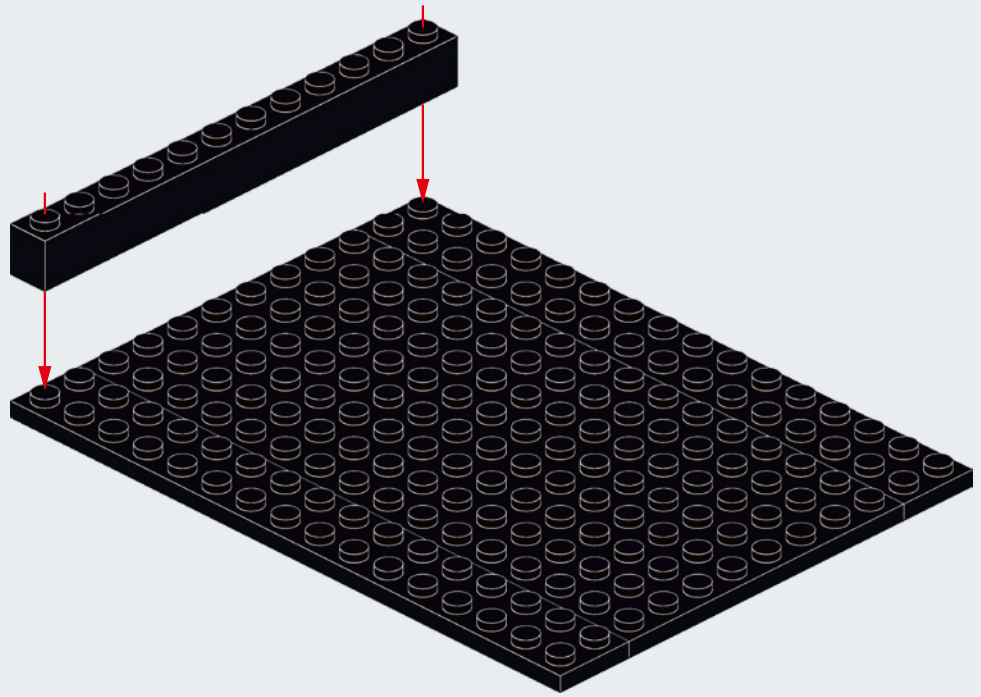


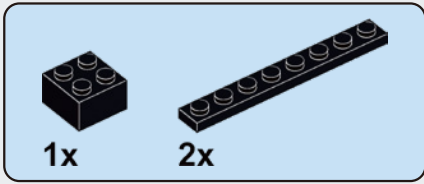
**A65**



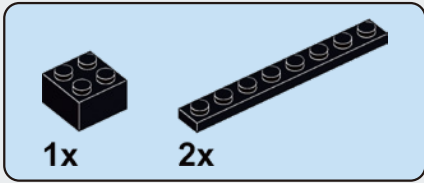
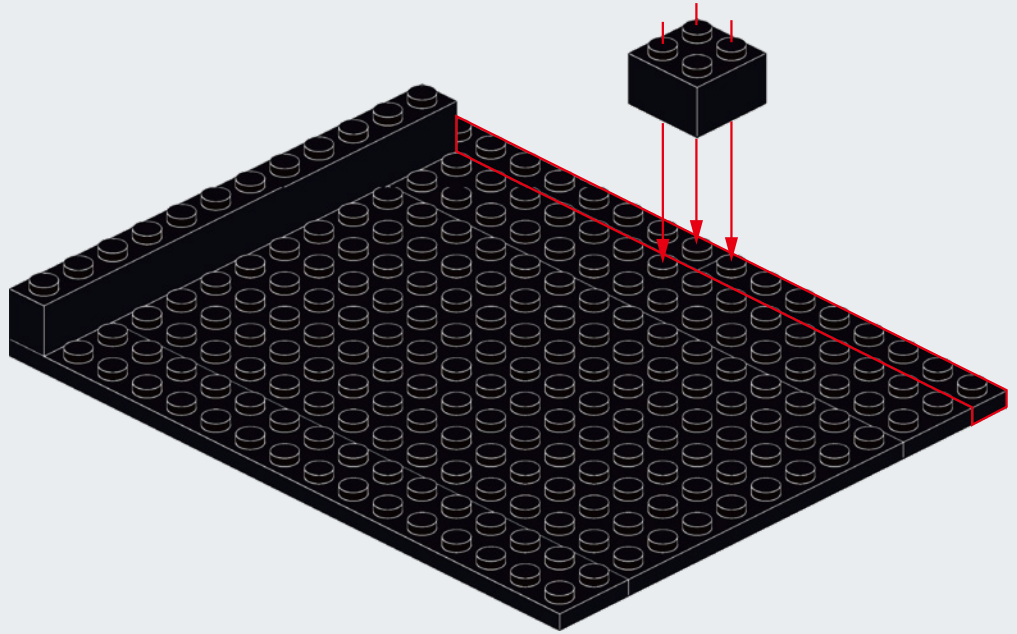


# A66

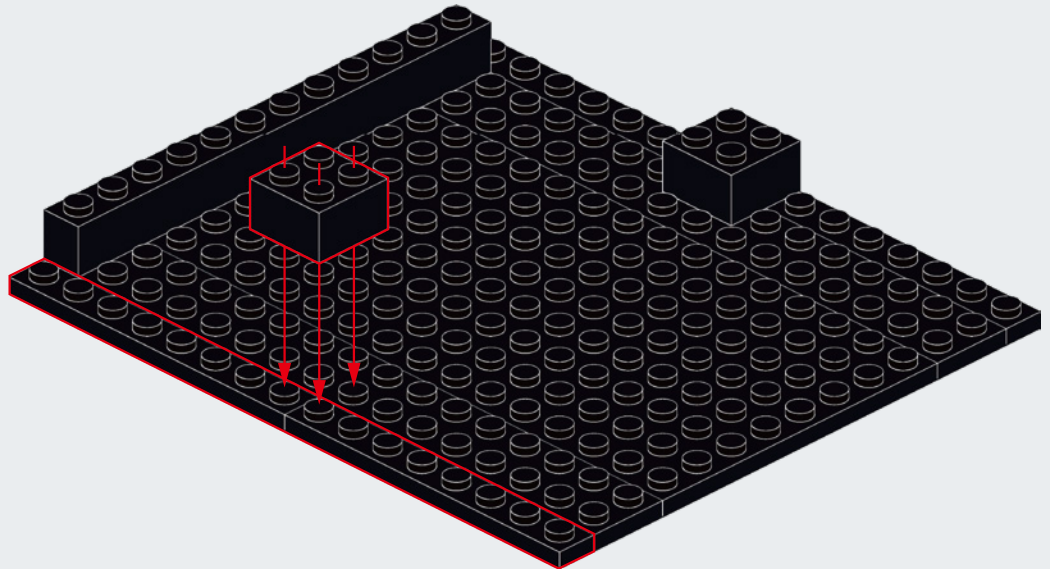


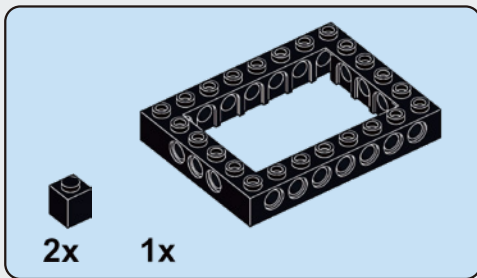


**A67**

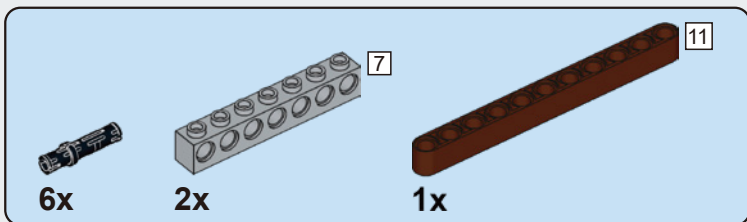
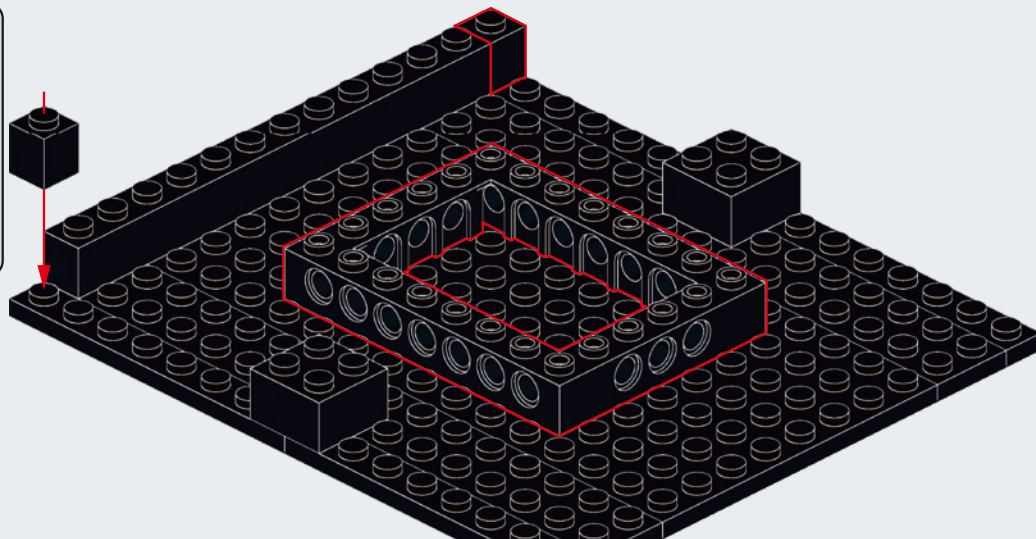


**A68**

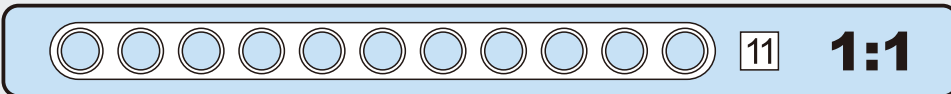
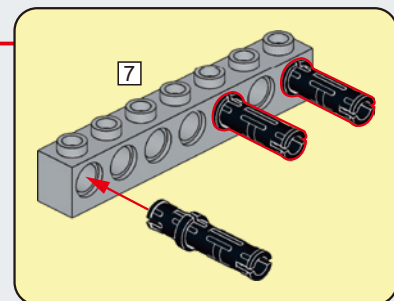
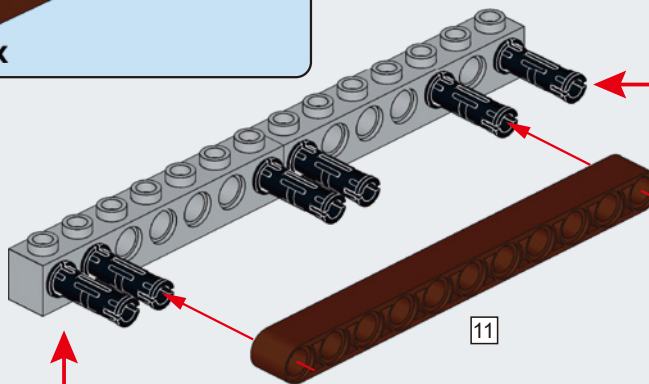
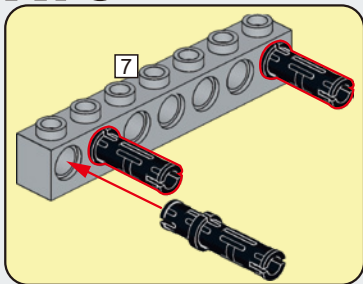


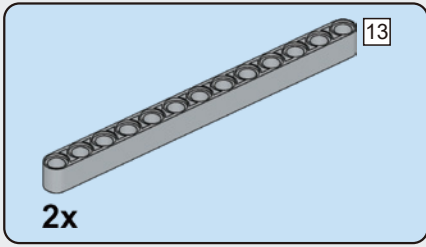


## A69

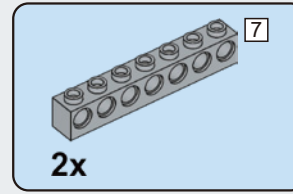
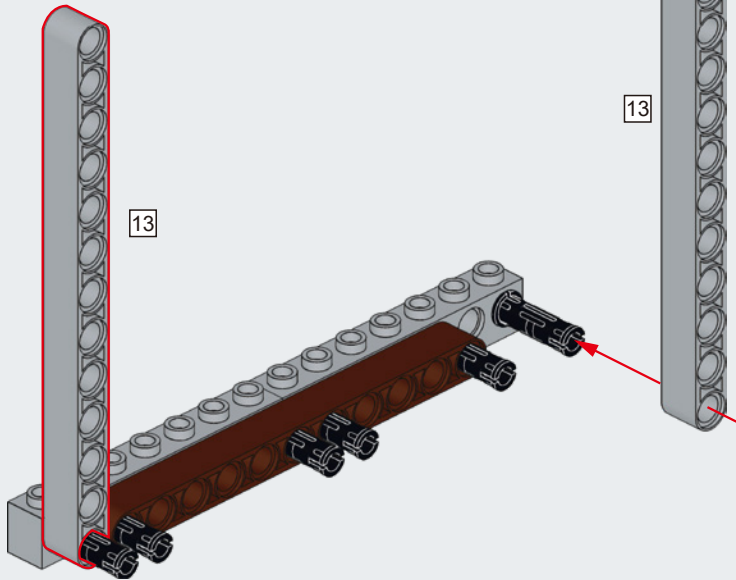


## A70

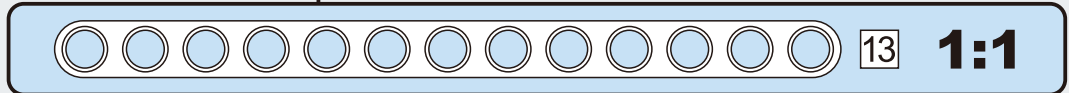
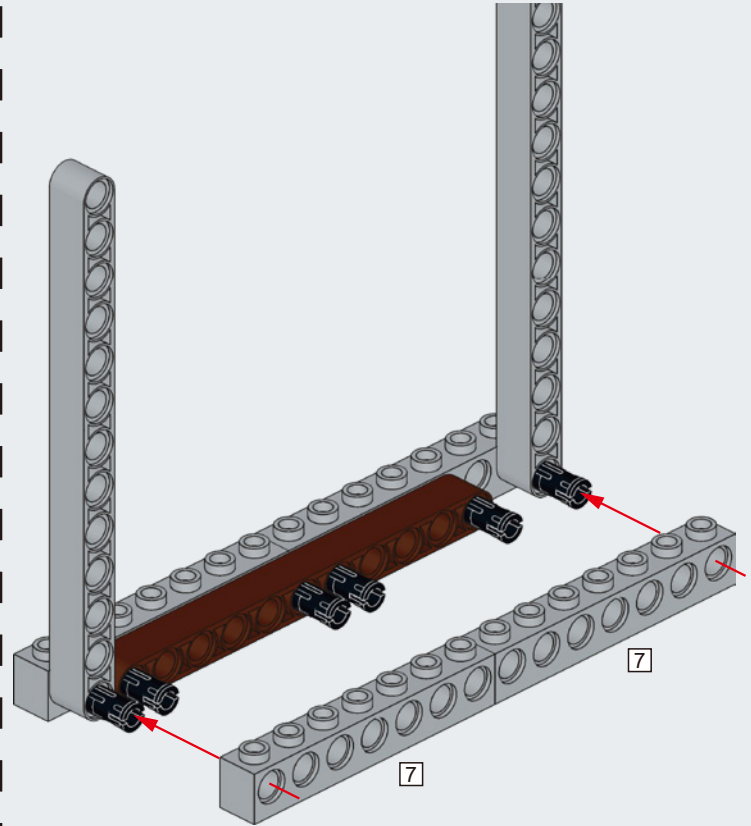




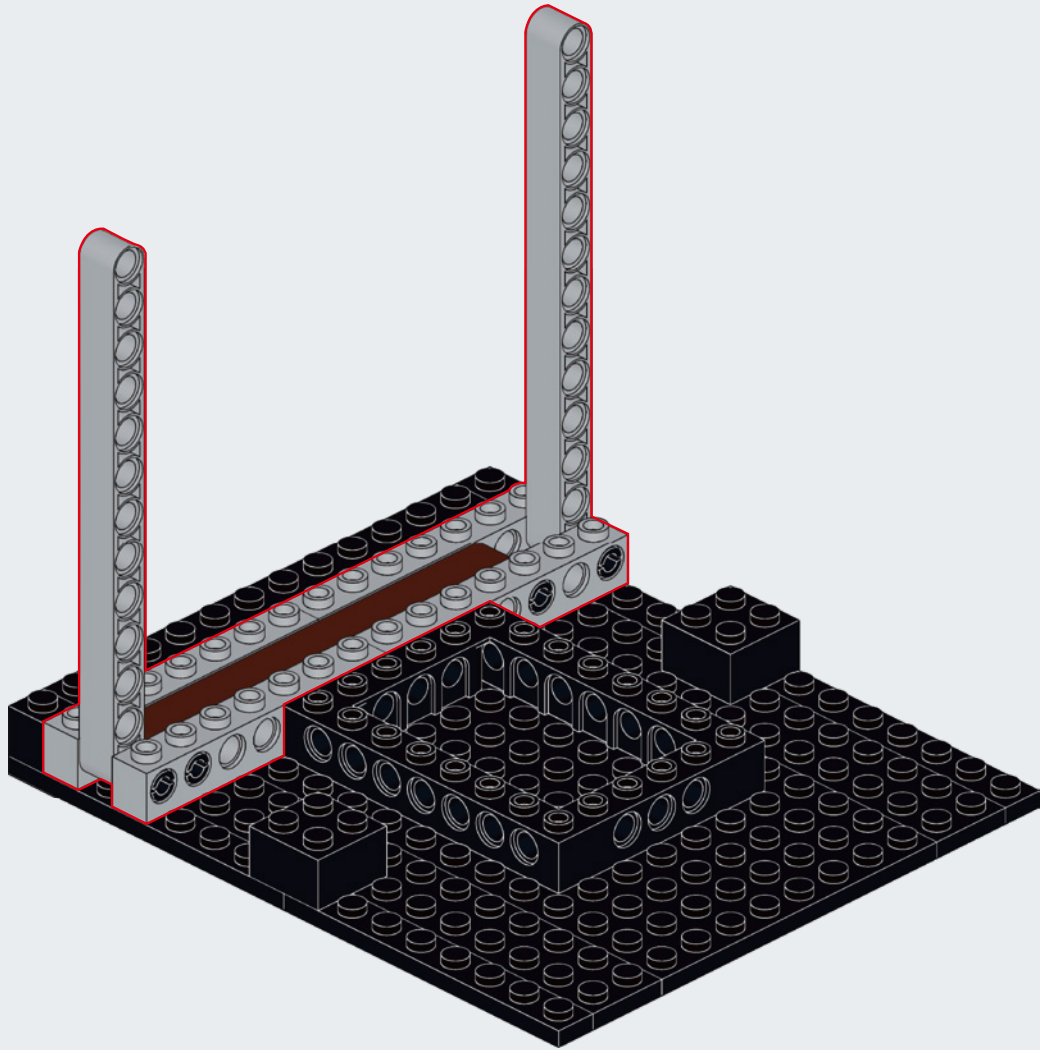
**A71**

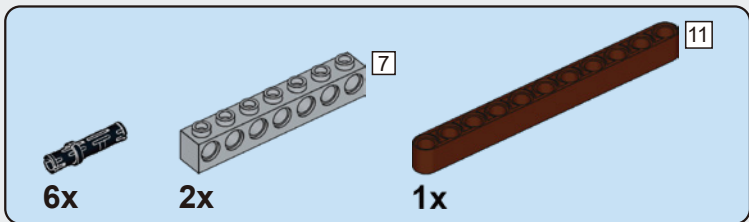


**A72**

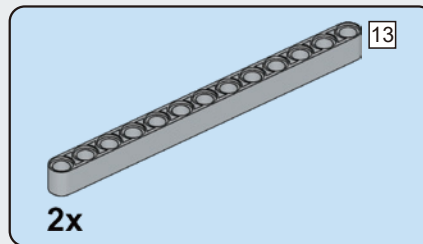
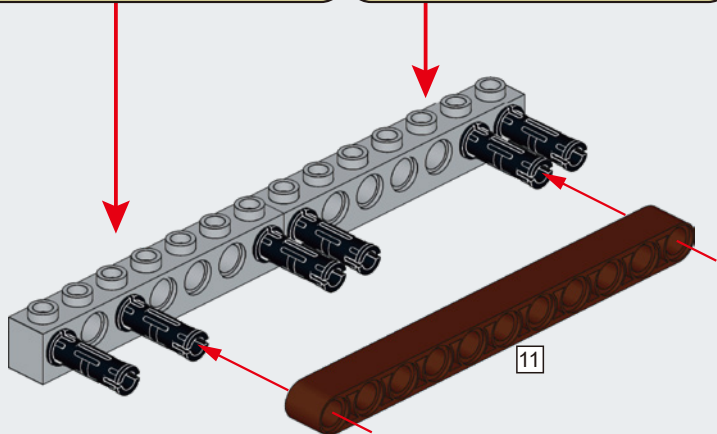
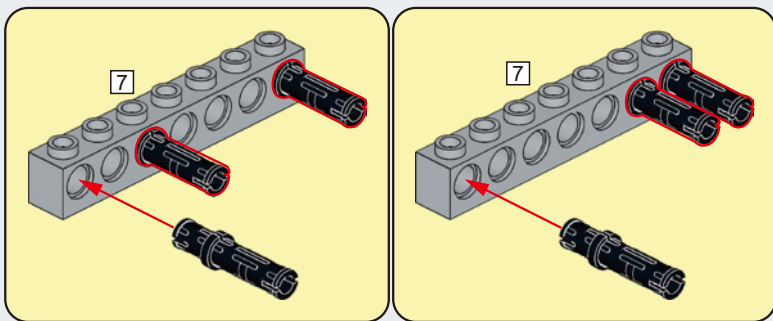


**A73**

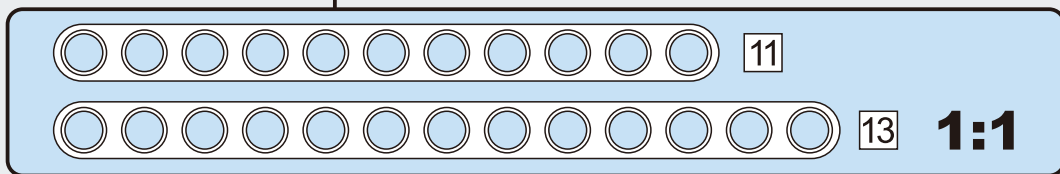
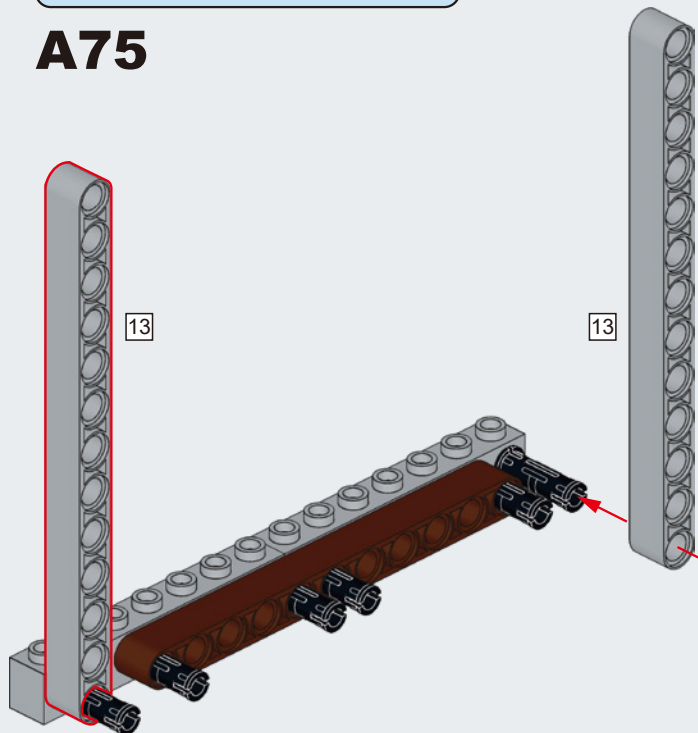


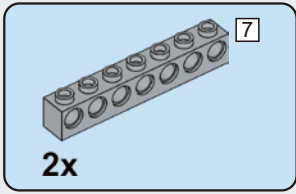


## A74

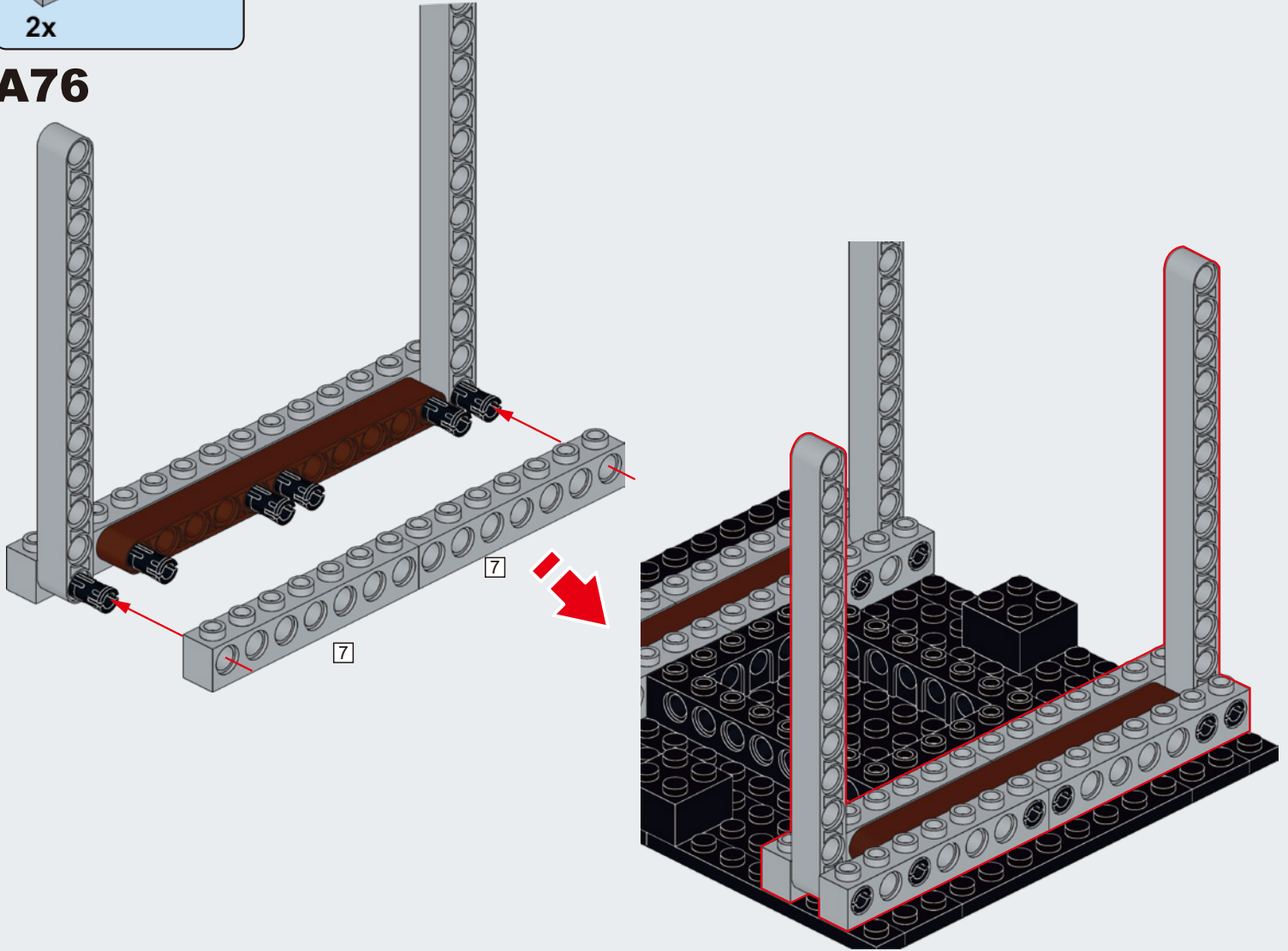


## A75

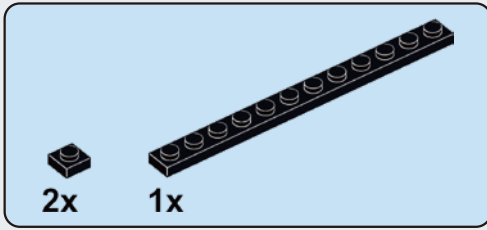




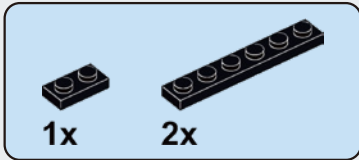
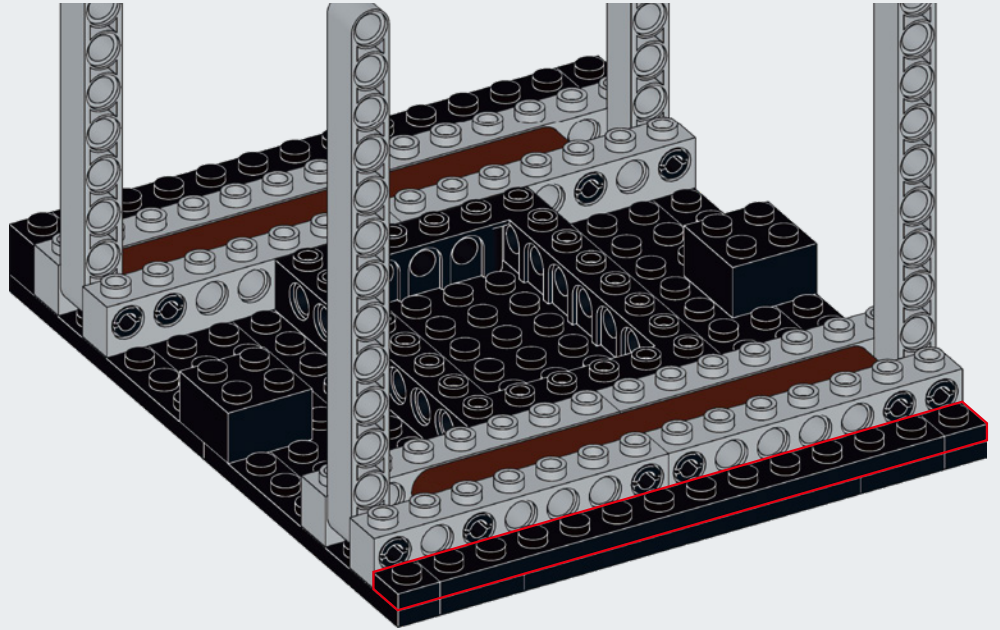
**A76**



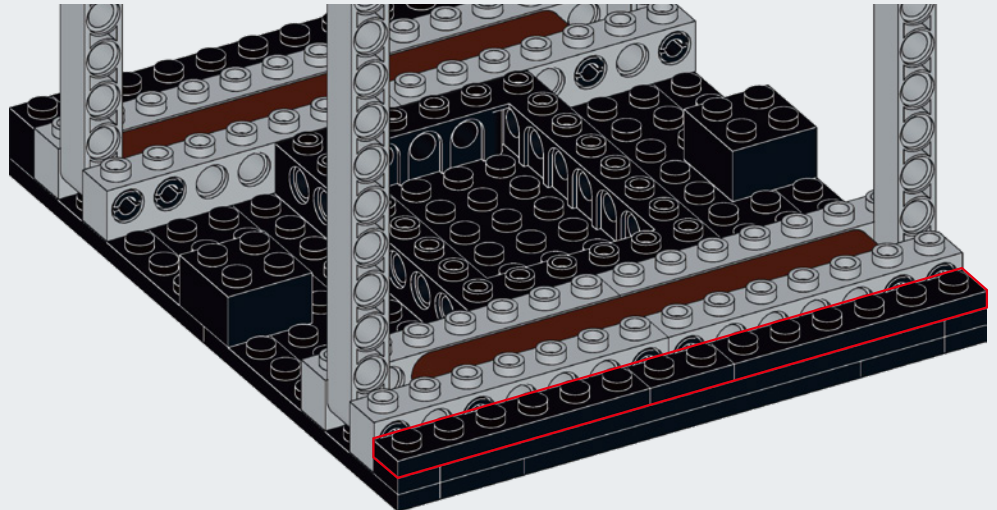


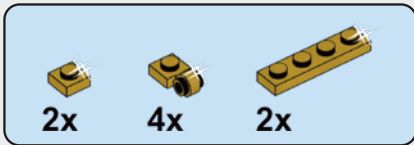


**A77**

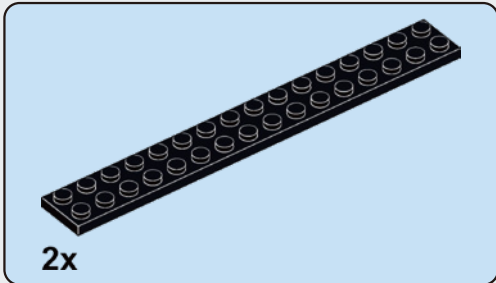
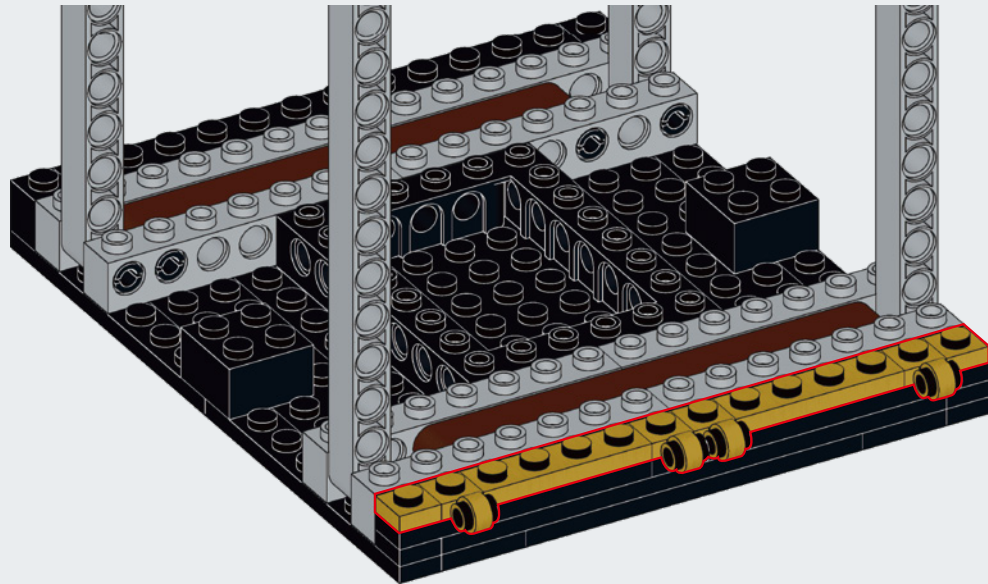


**A78**

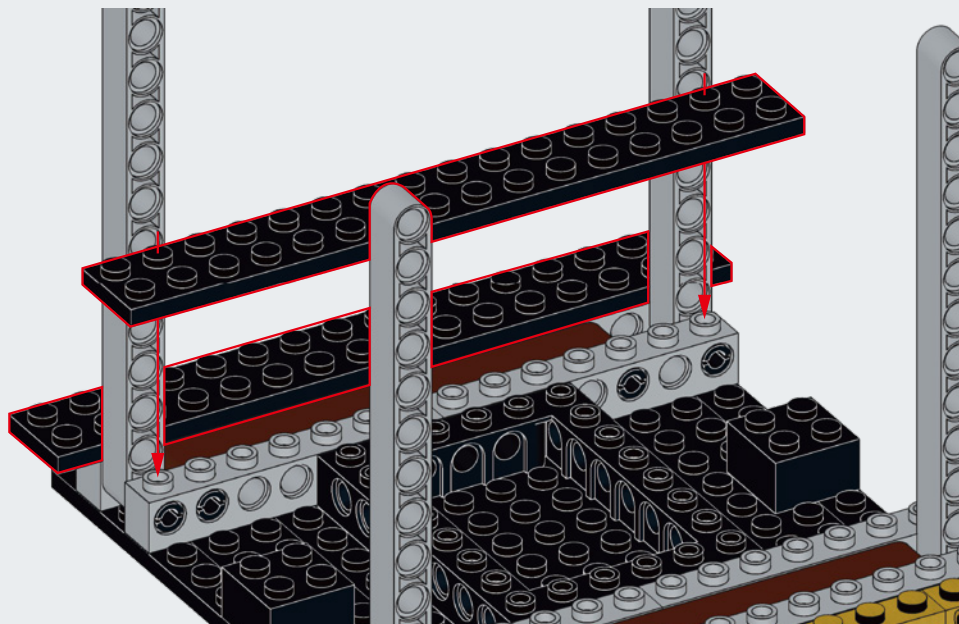


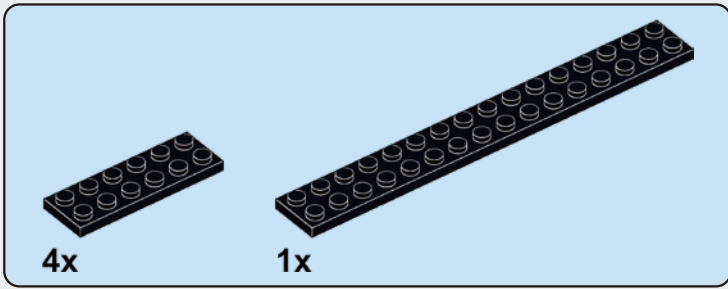


**A79**

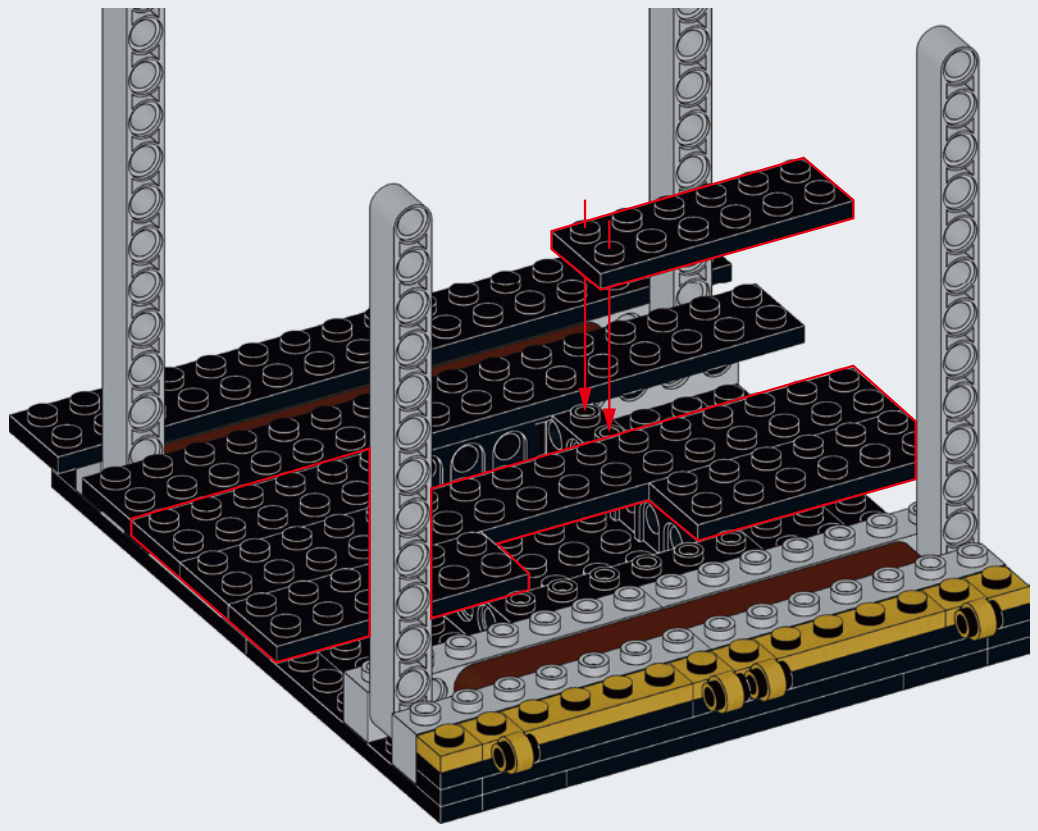


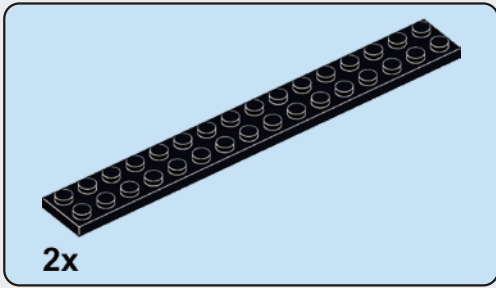
**A80**



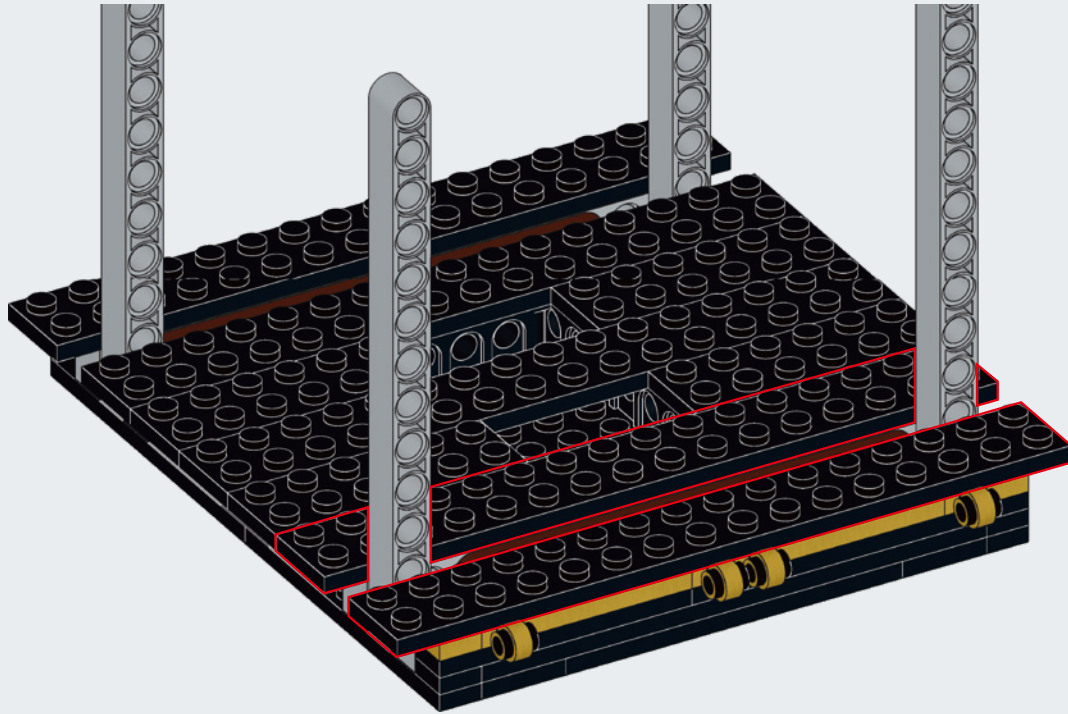


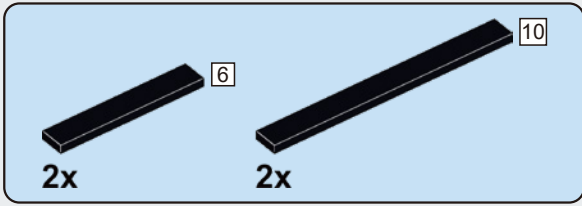
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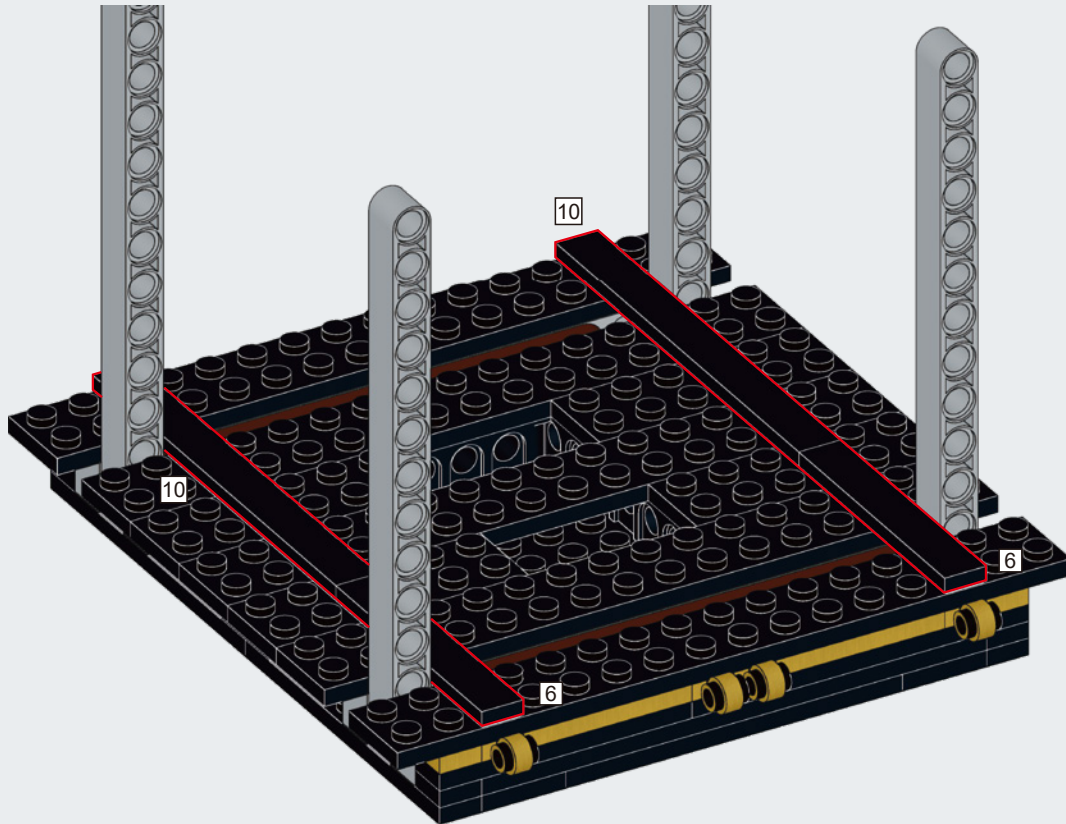


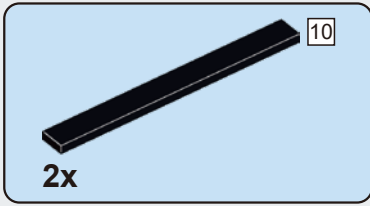
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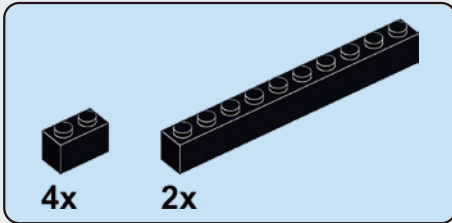
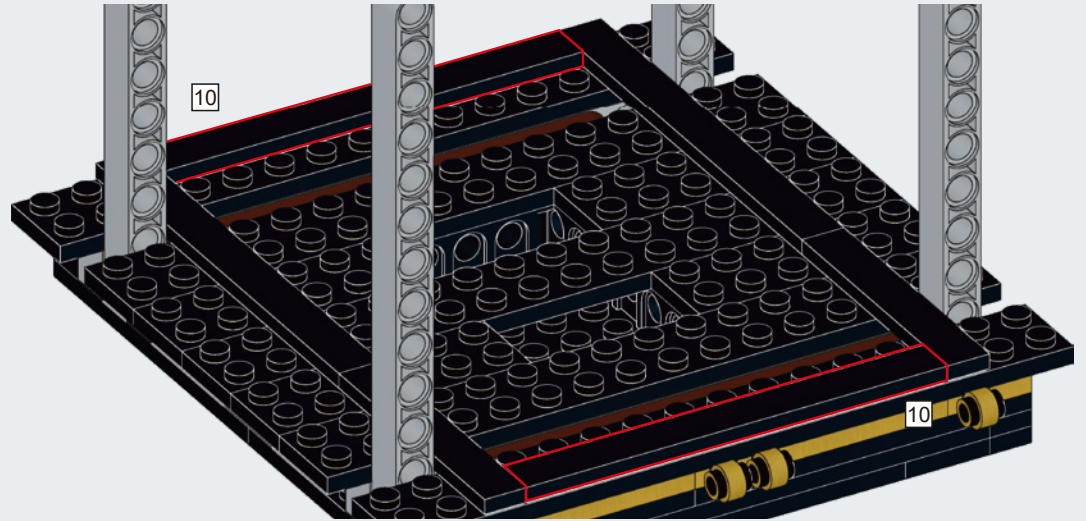


# A83

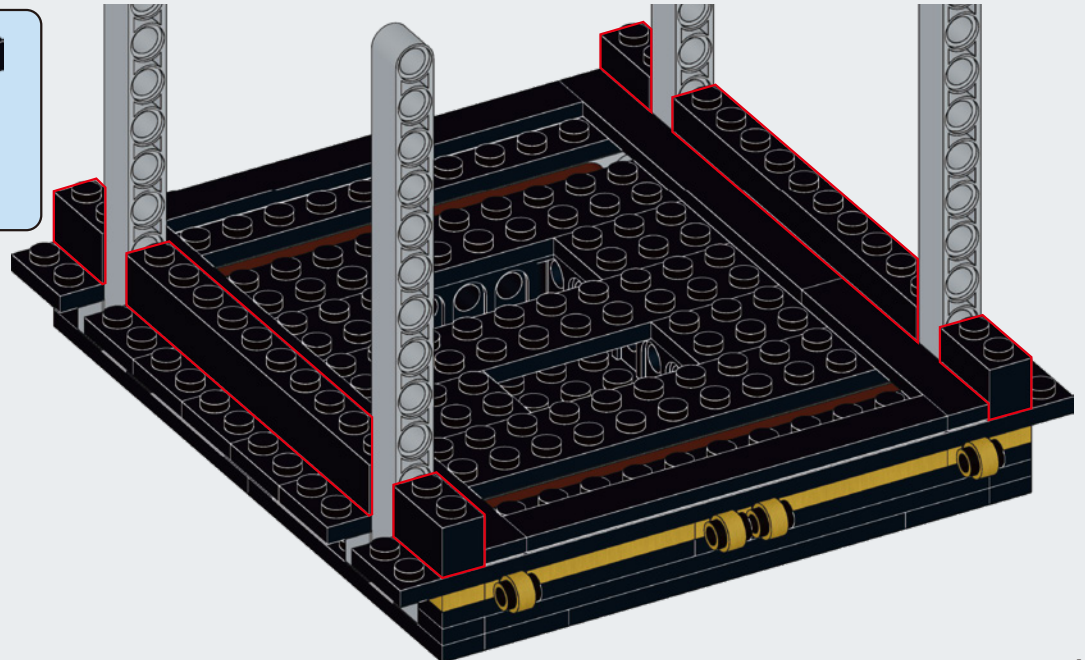


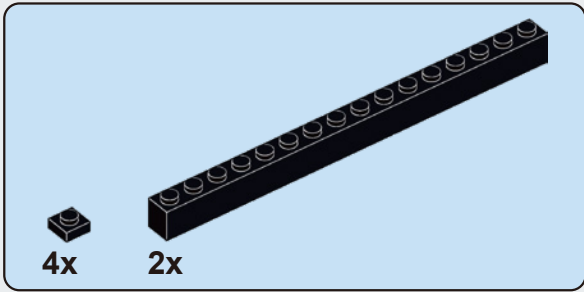


**A84**

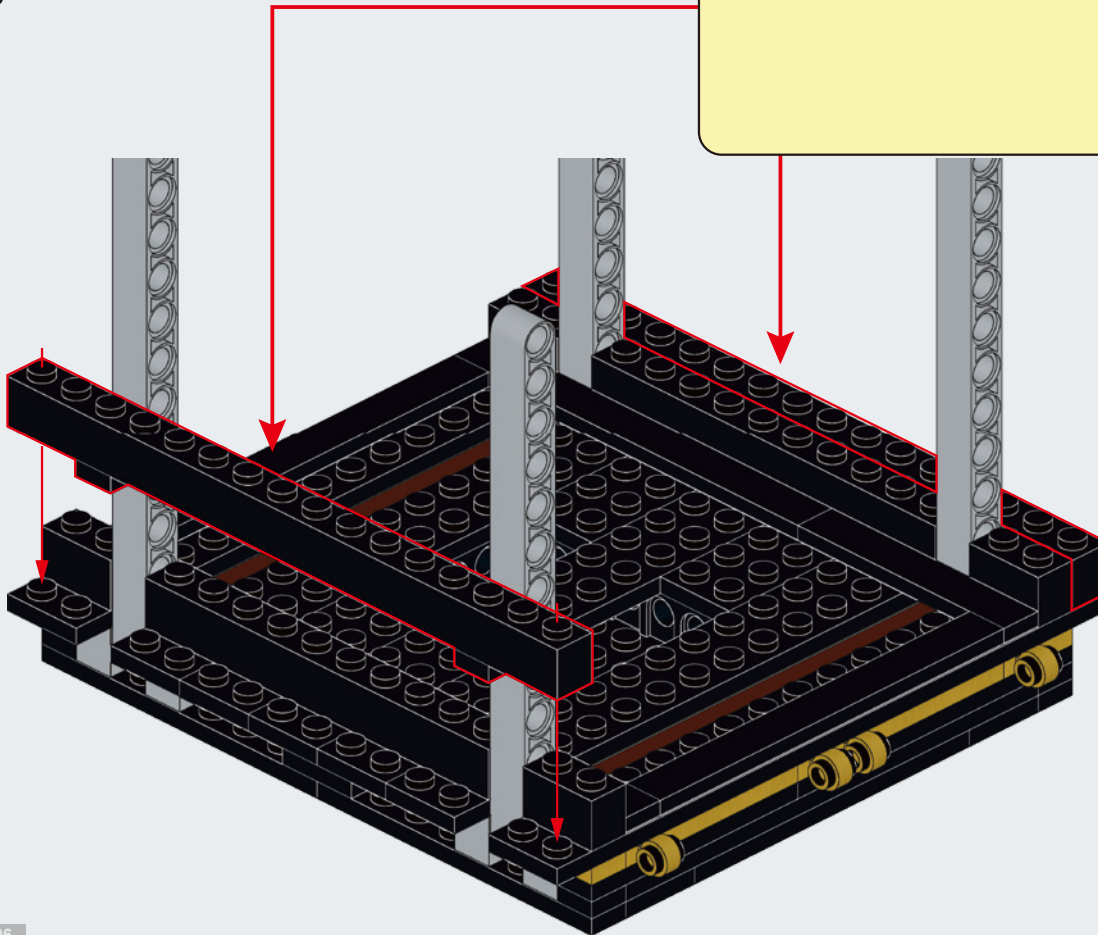
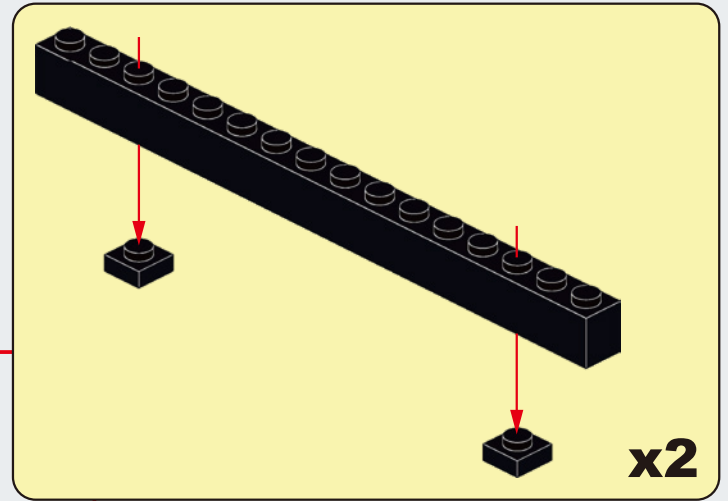


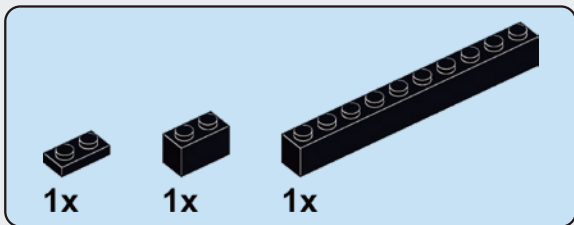
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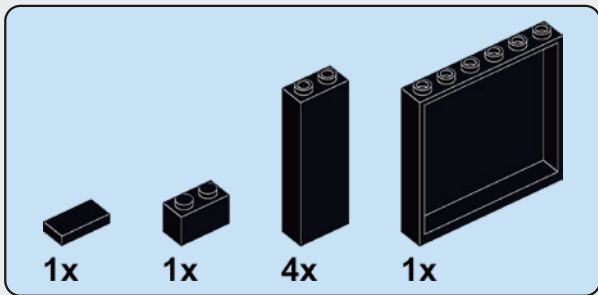
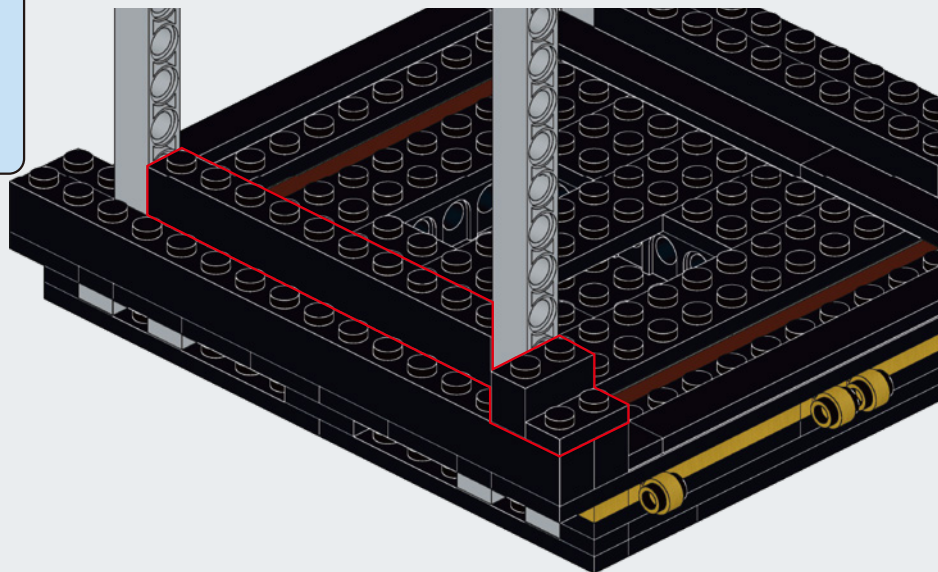


**A86**

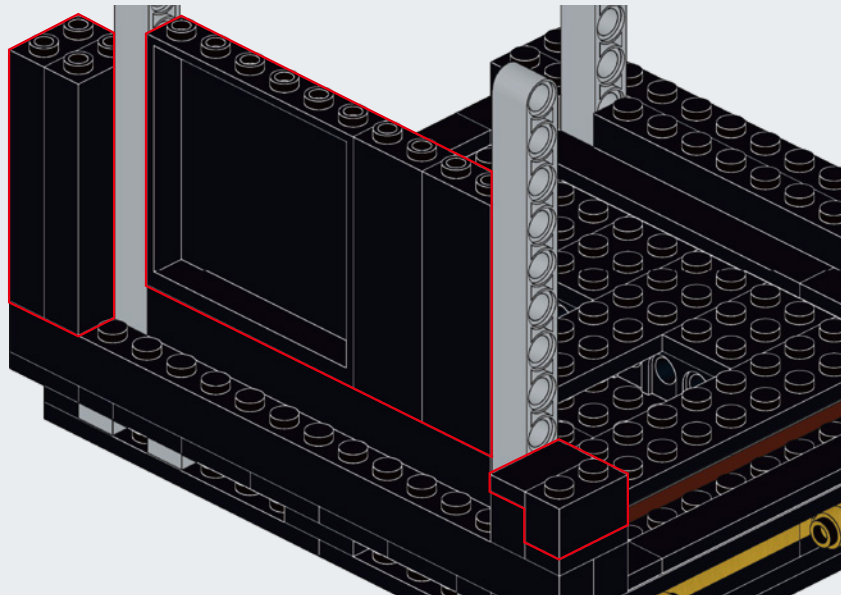




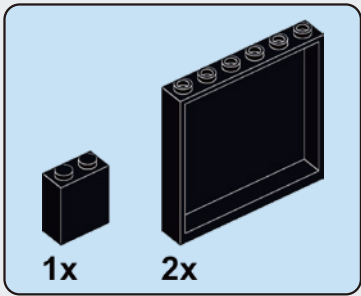
**A87**



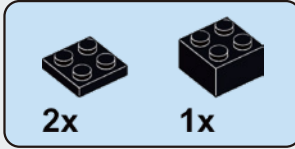
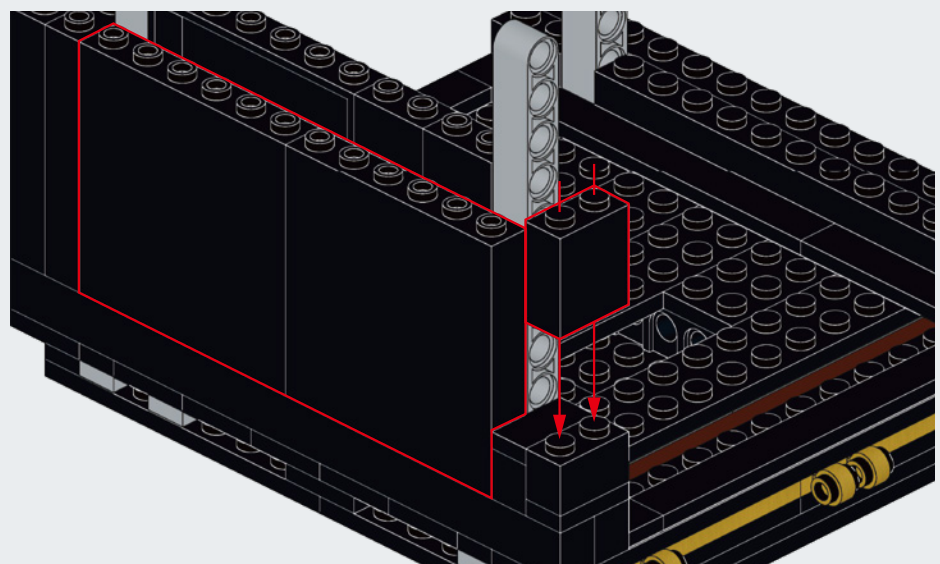
**A88**



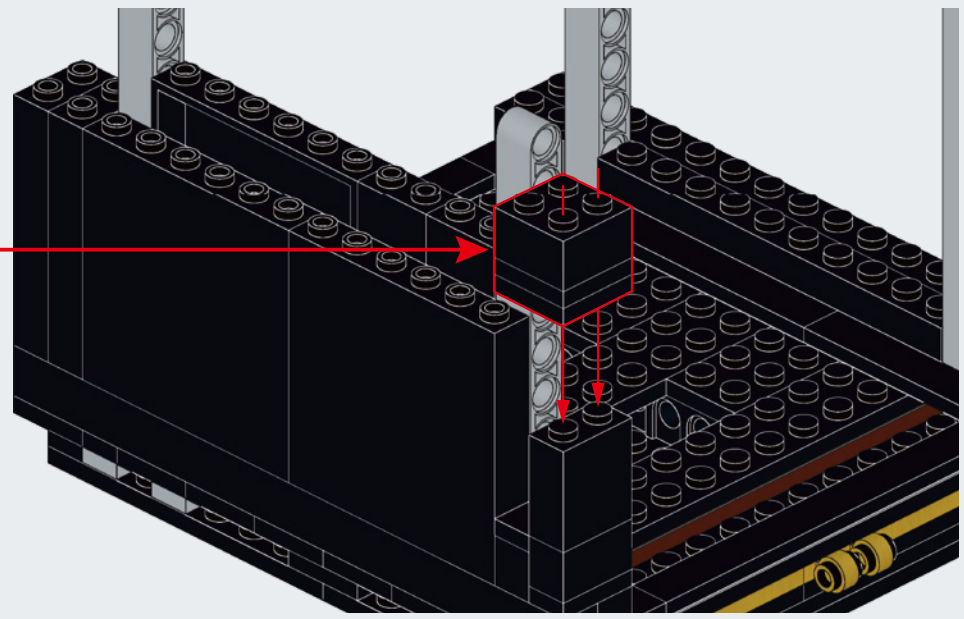
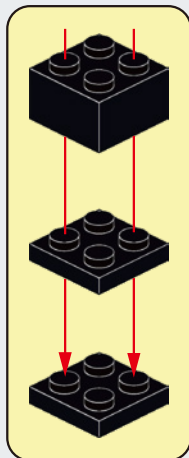


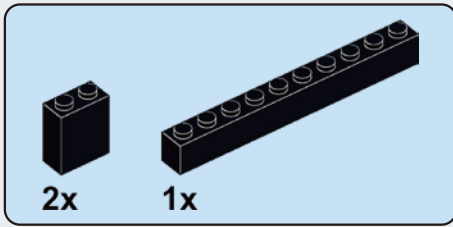


# A89

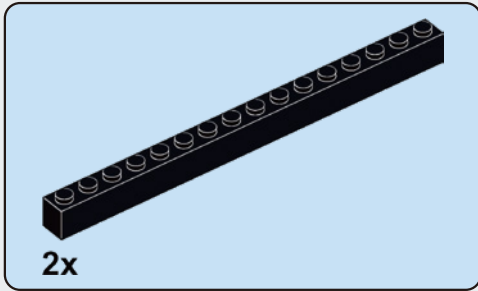
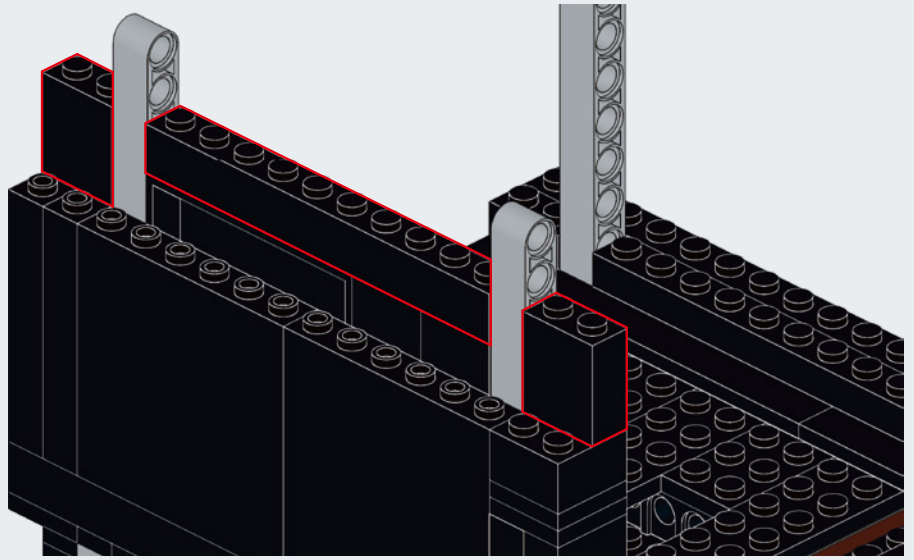


# A90

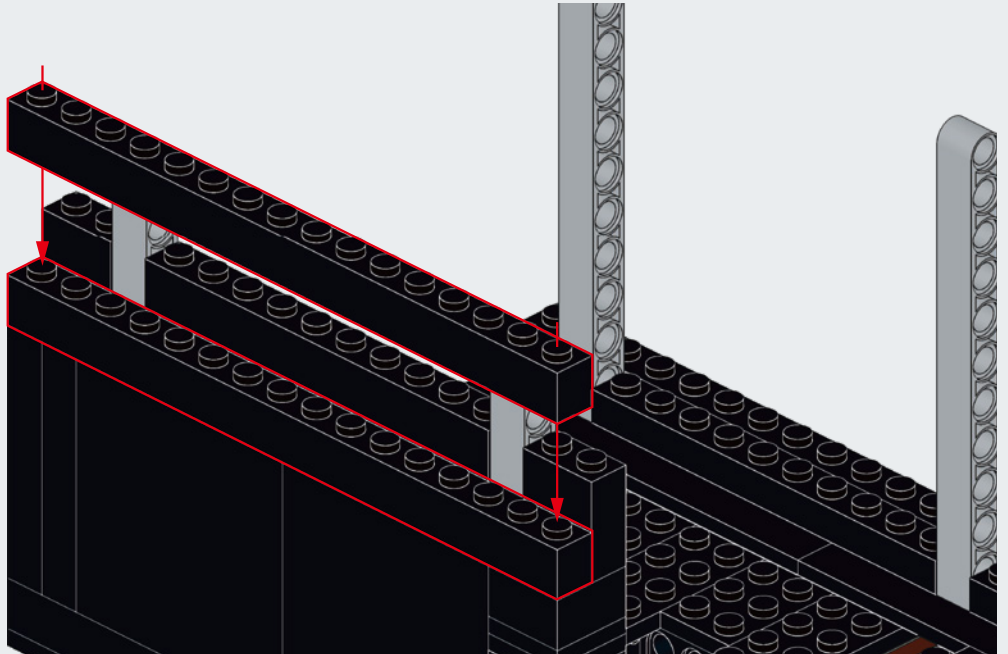


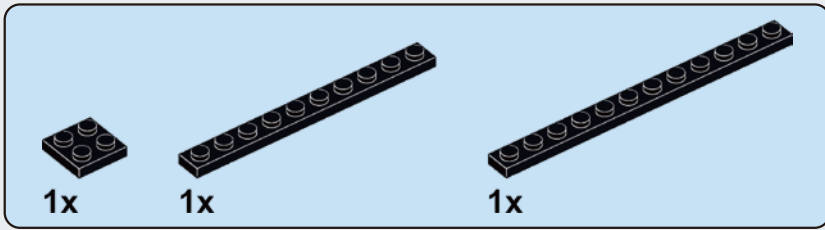


**A91**

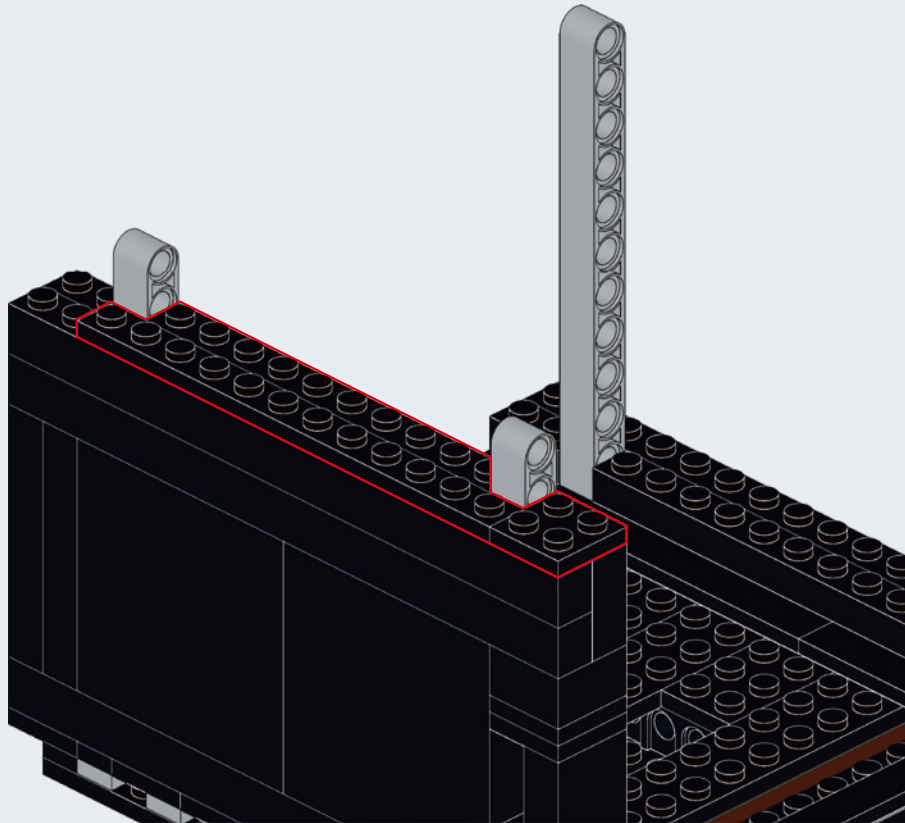


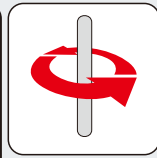
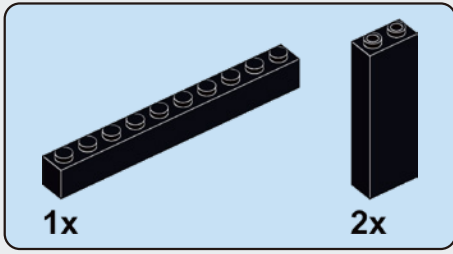
**A92**



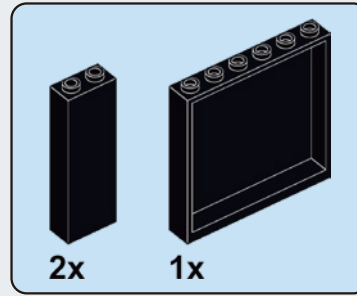


# A93

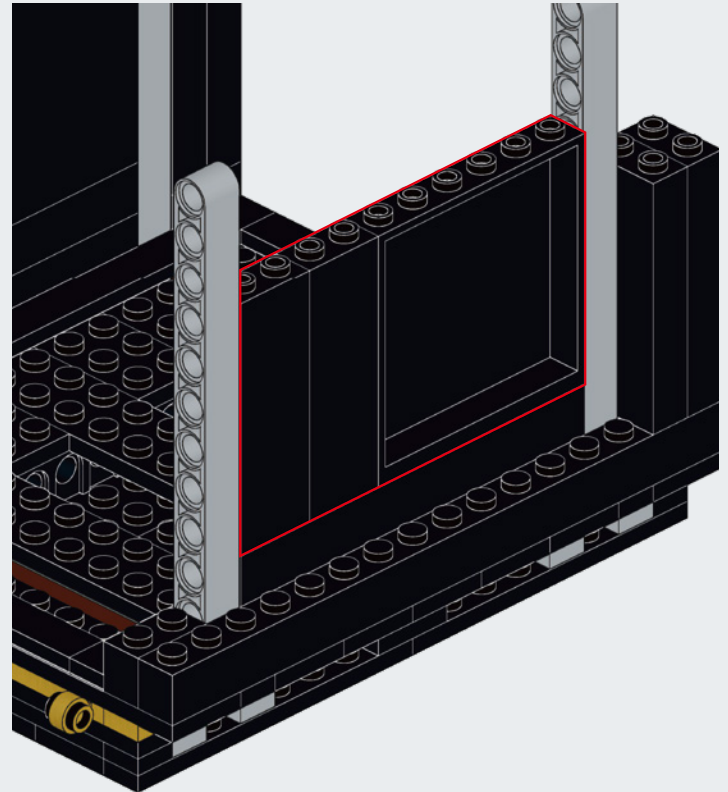
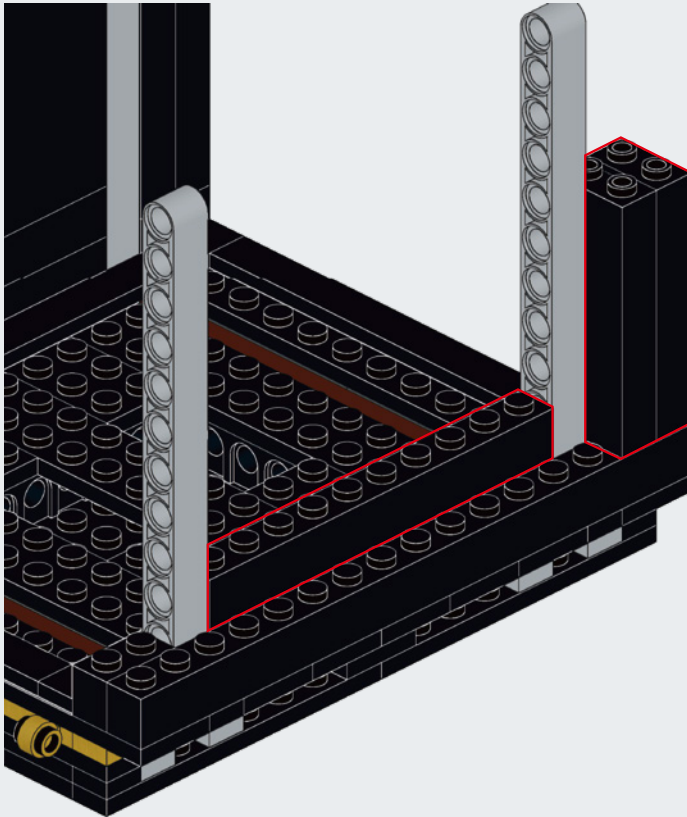


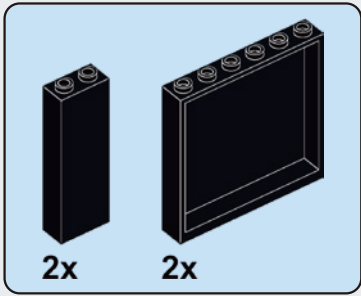


**A94**

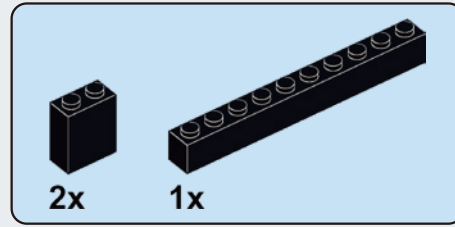
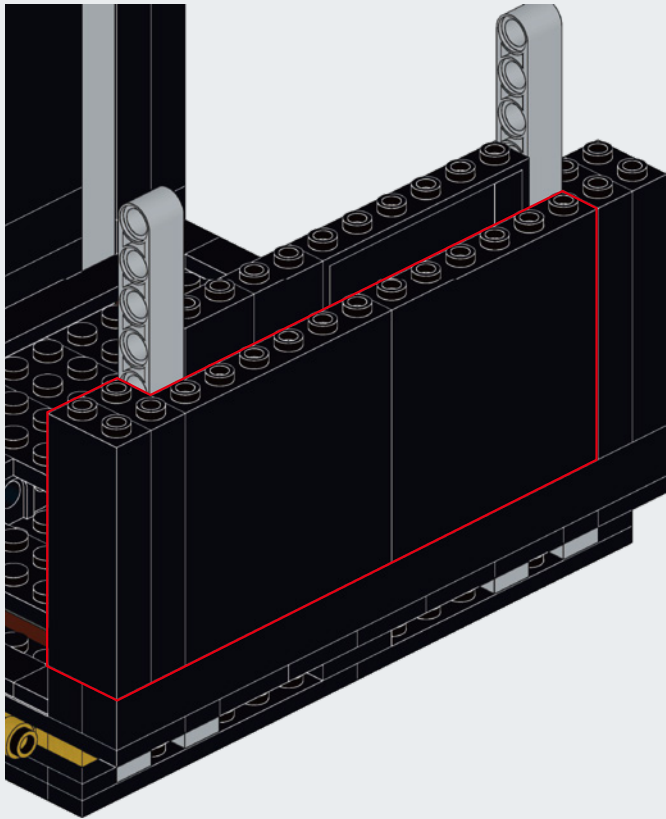


**A95**

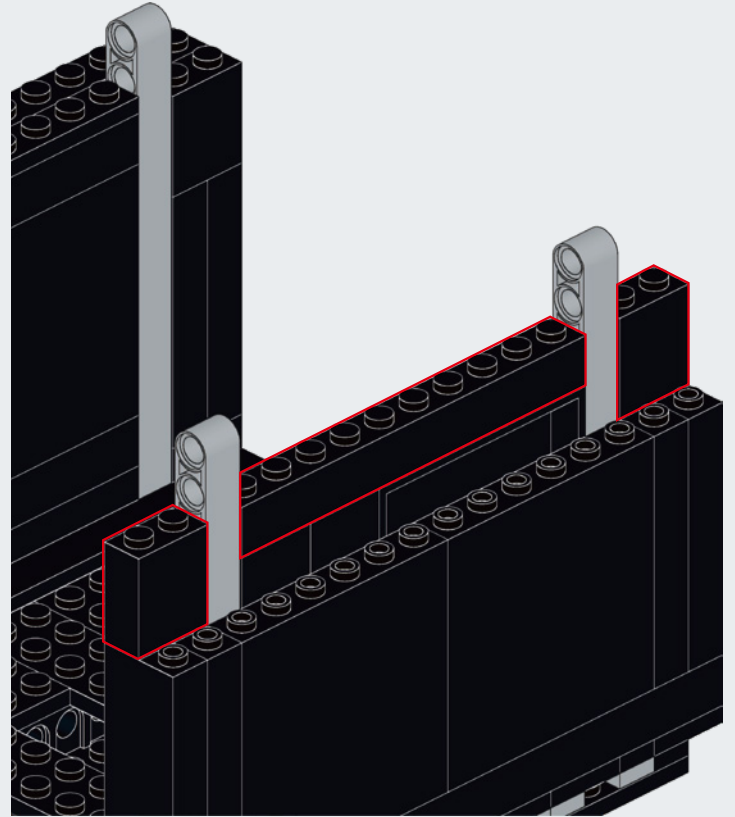


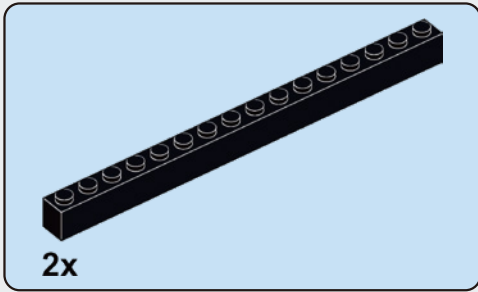


**A96**

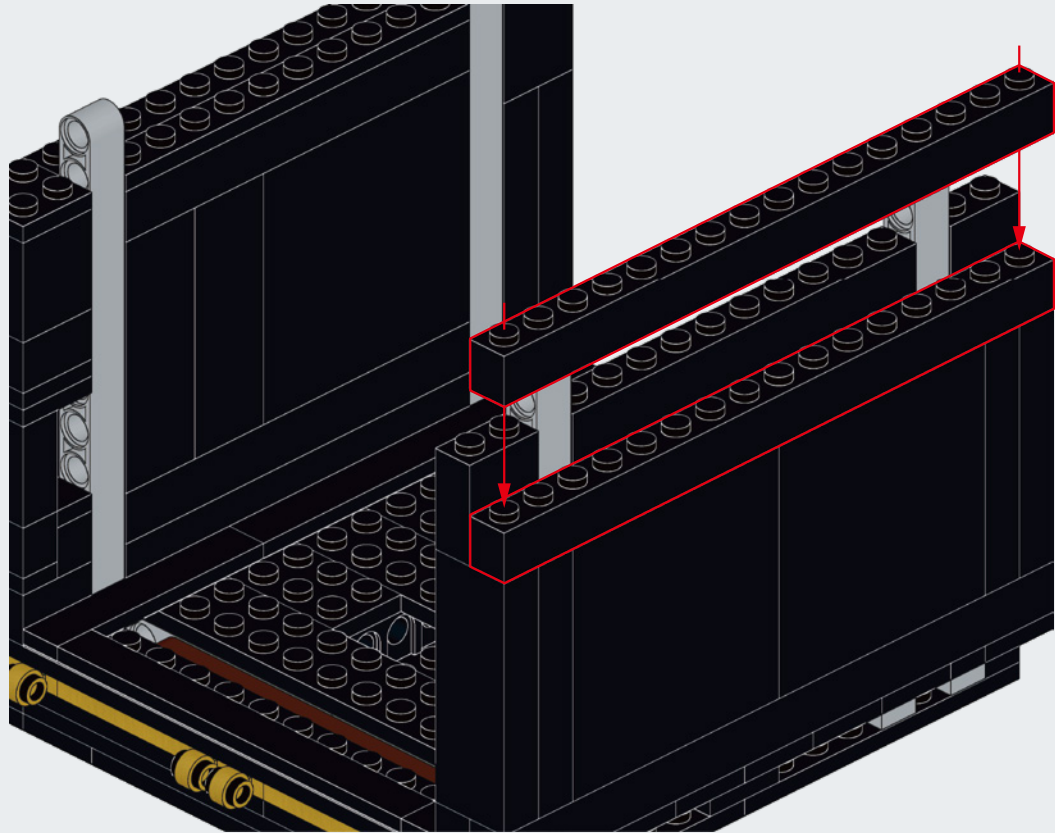


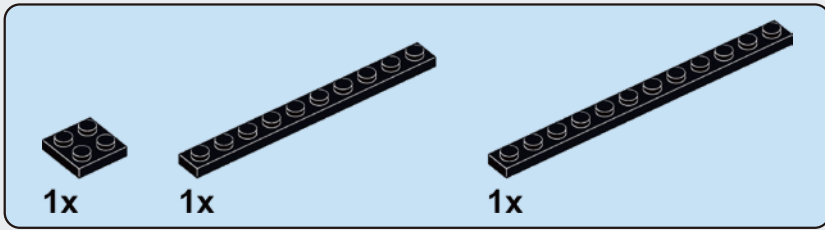
**A97**



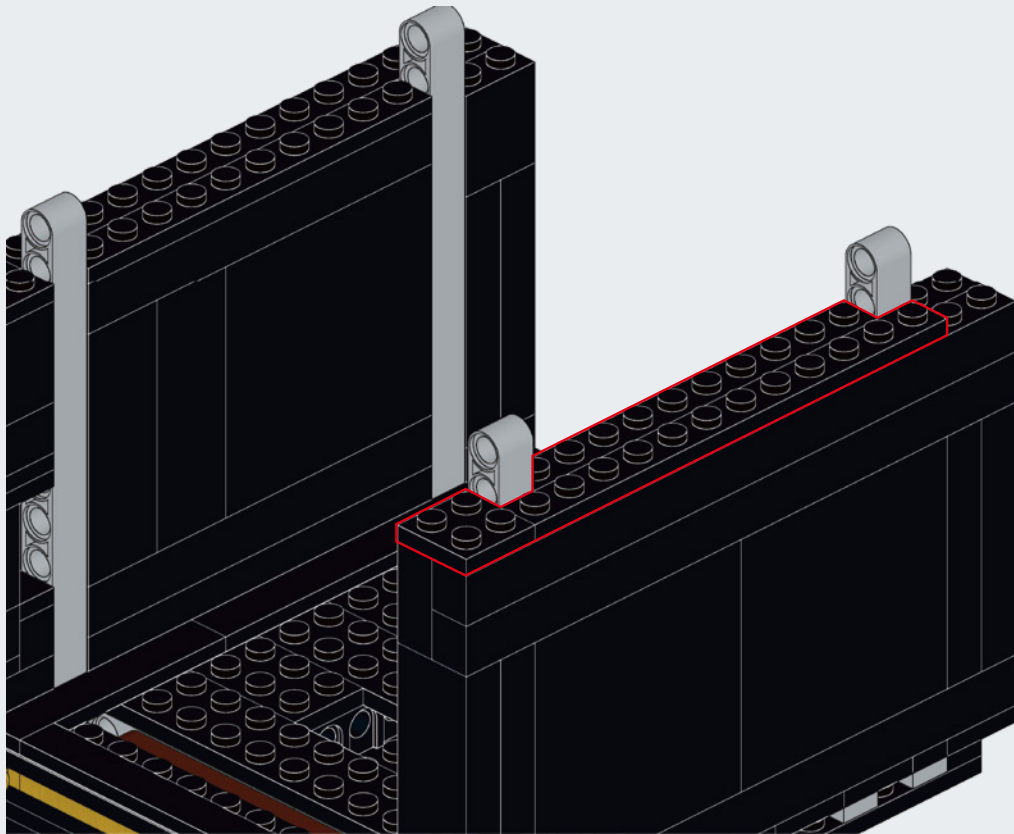


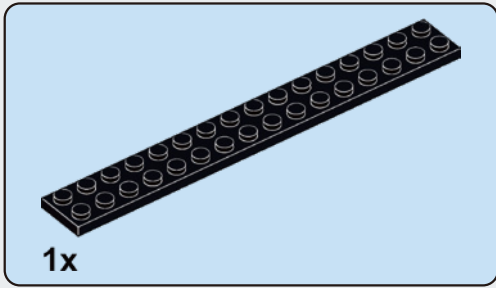
**A98**



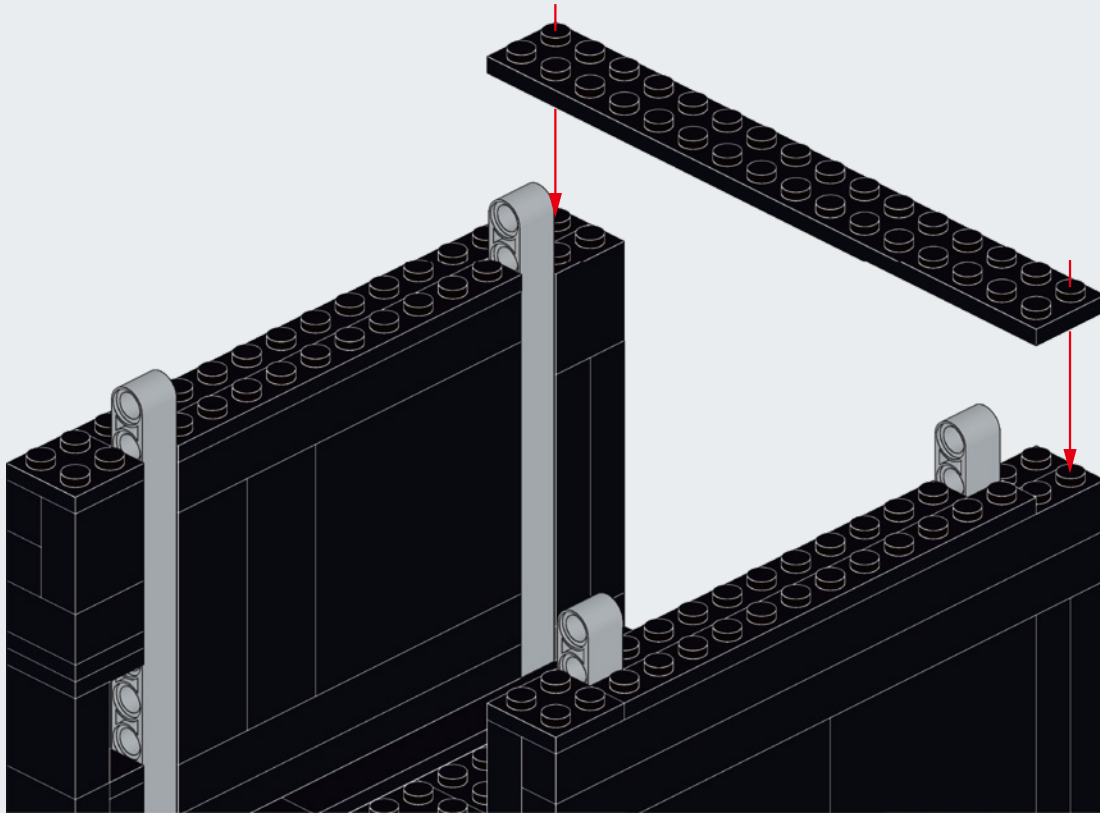


## A99

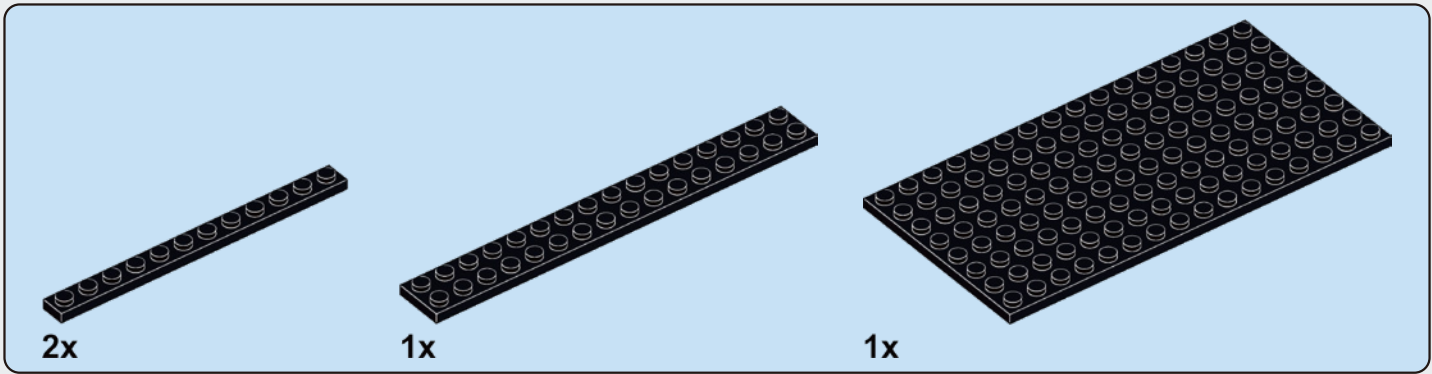




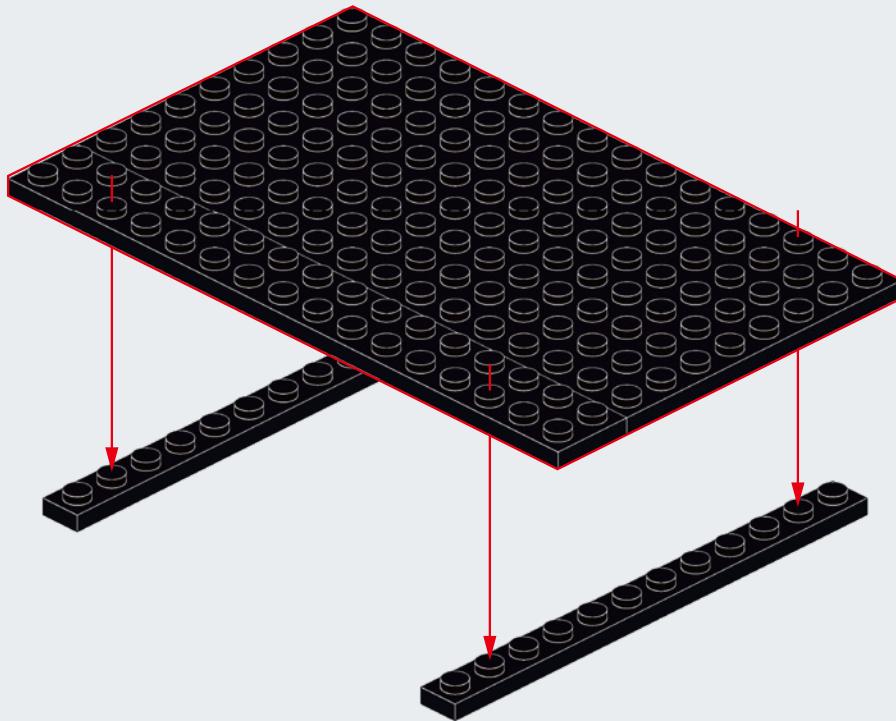
**A100**



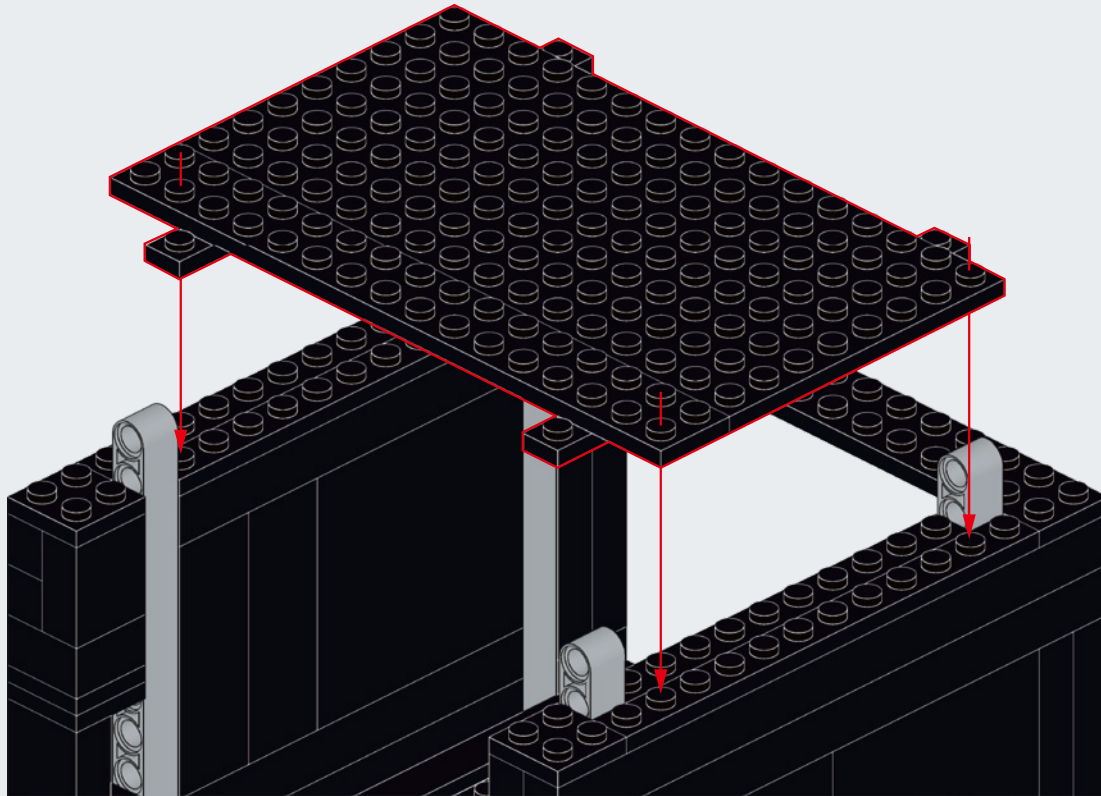


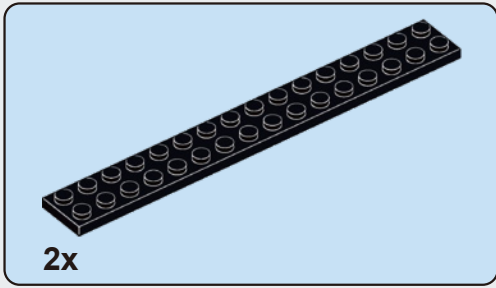


## A101

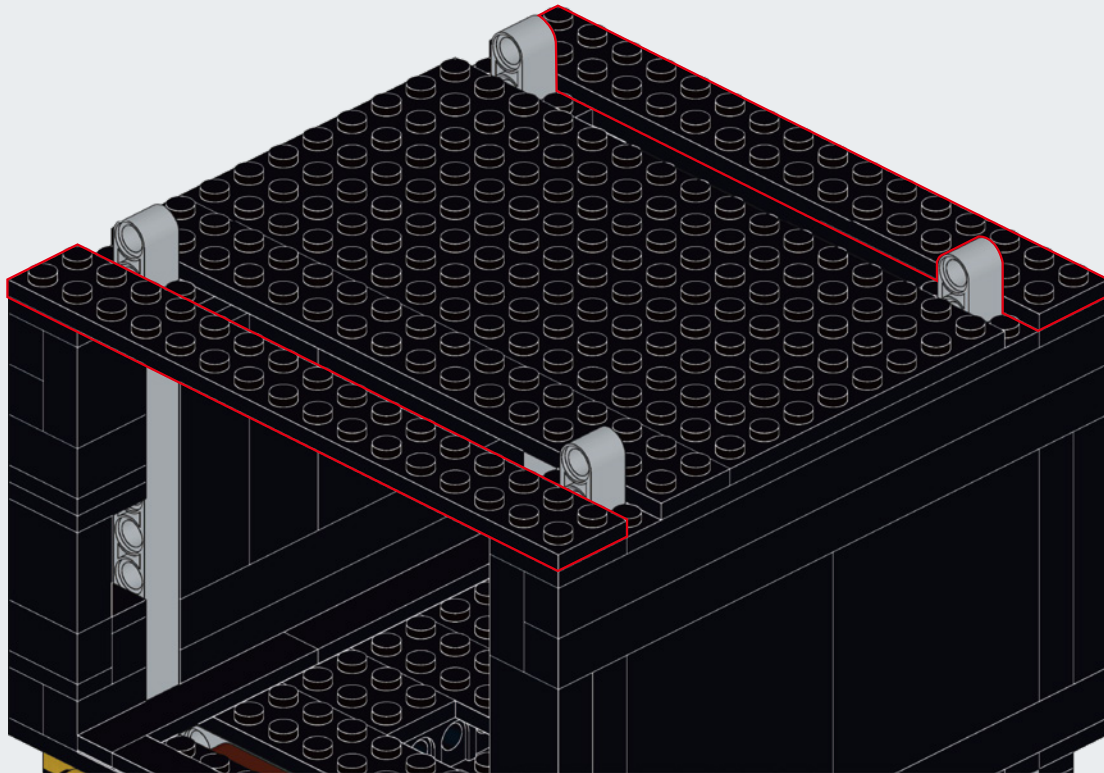


# A102



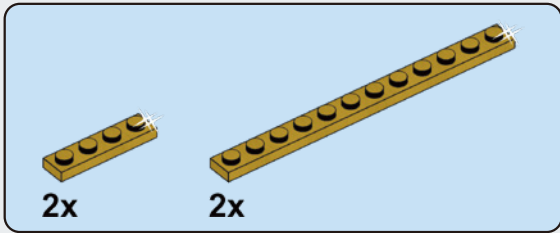
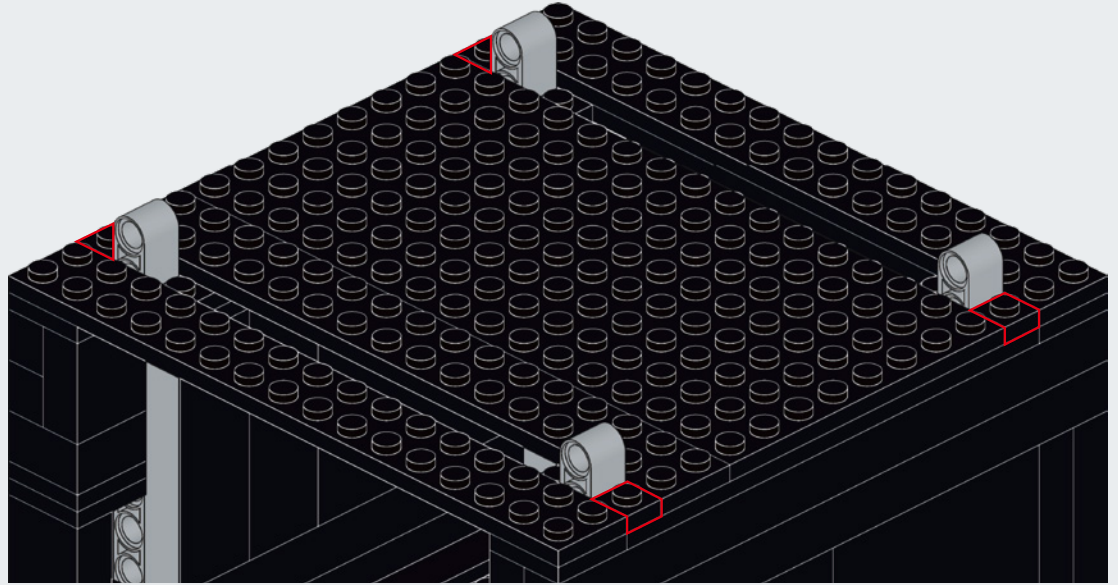


**A103**

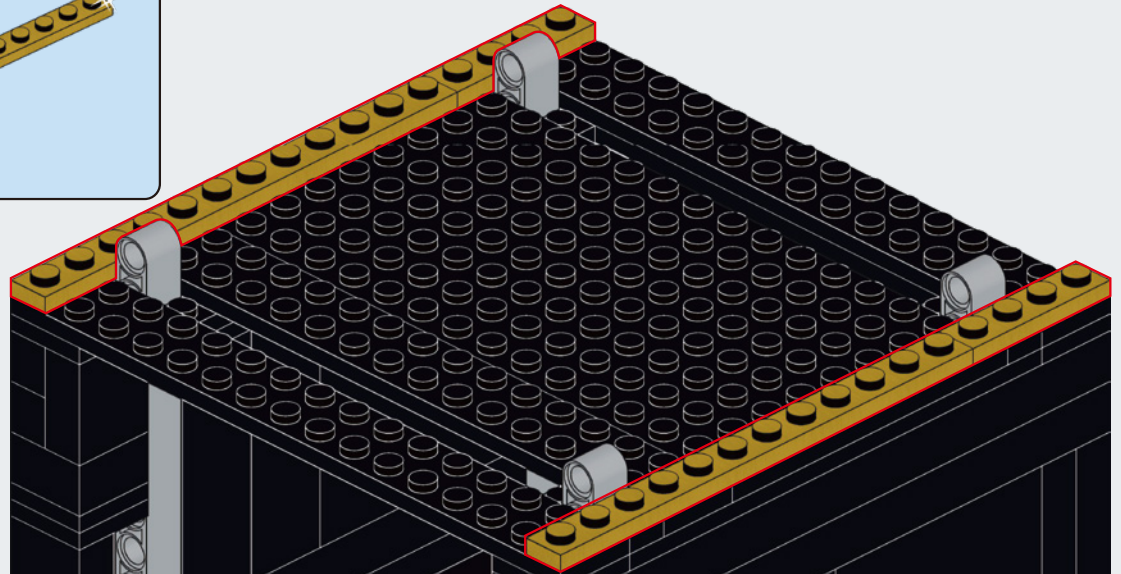




# A104

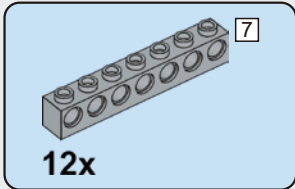
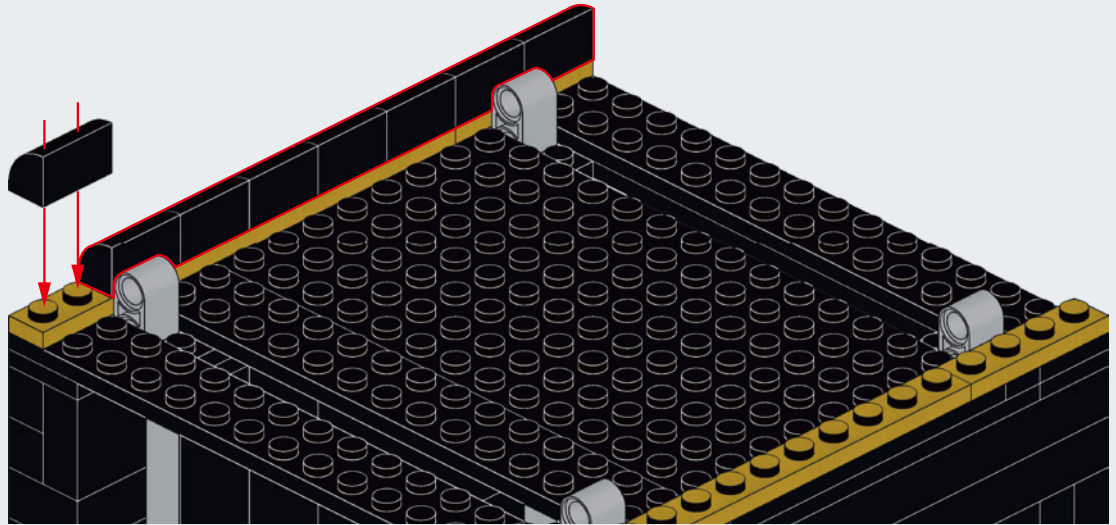


# A105

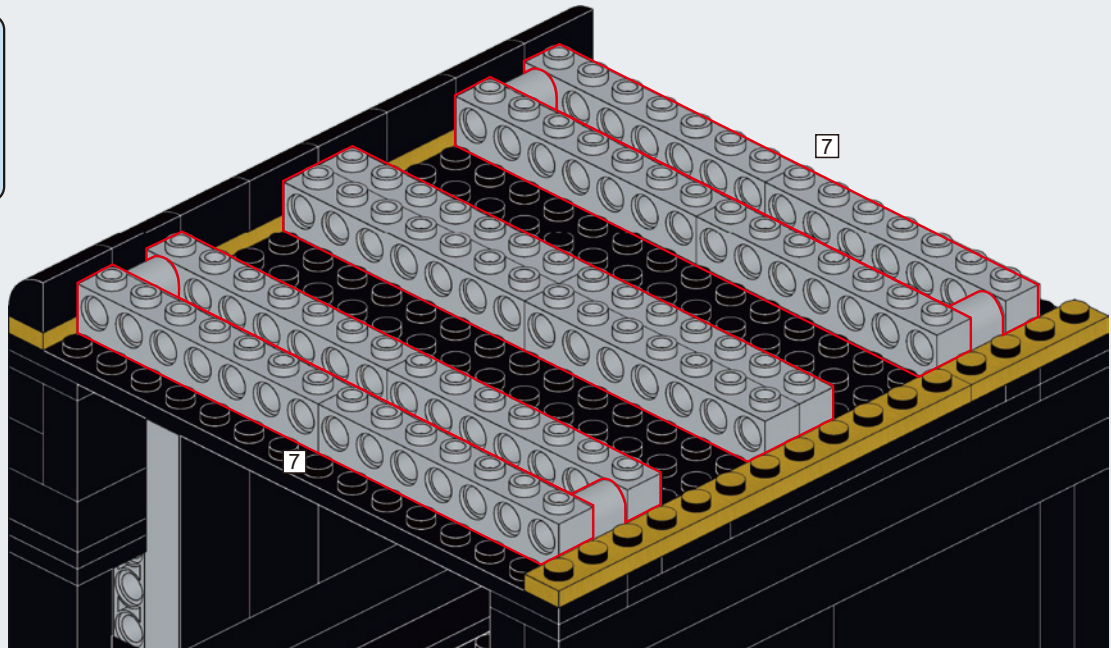


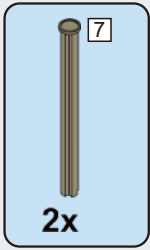


**A106**

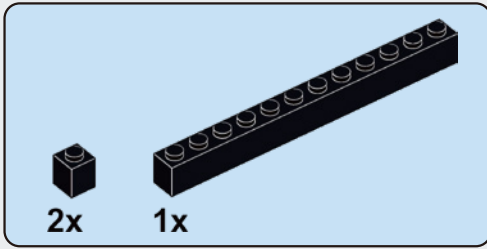
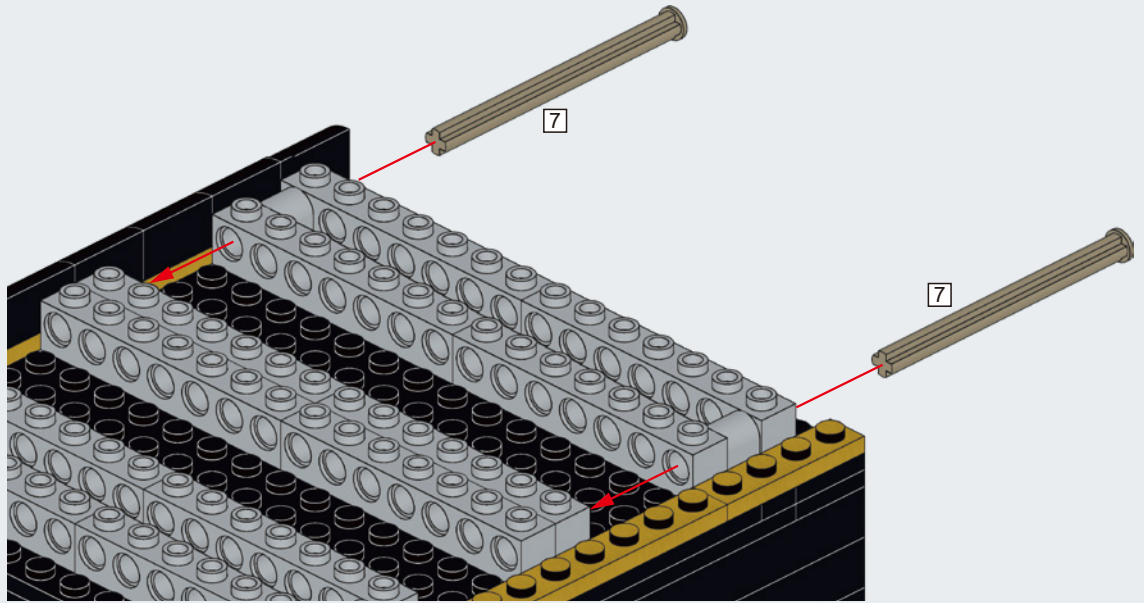


**A107**

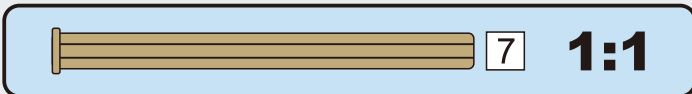
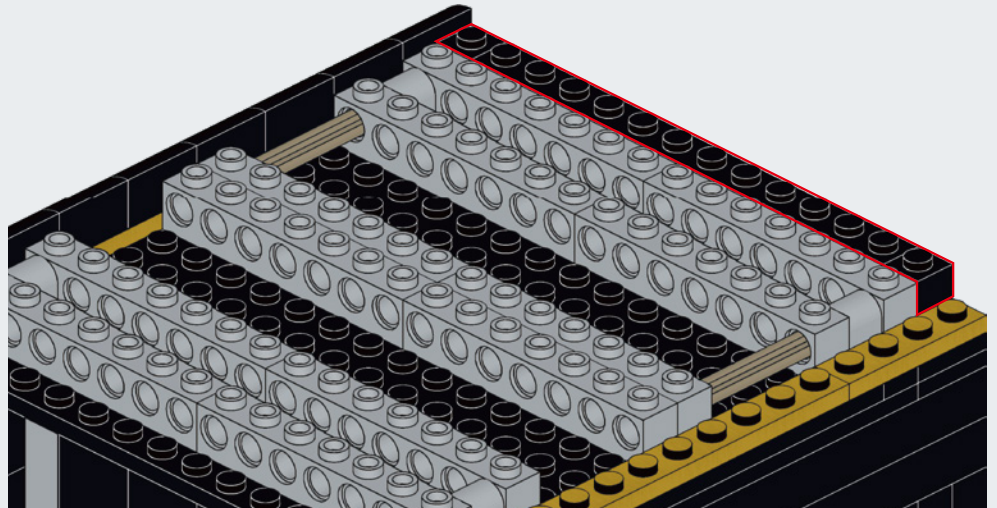


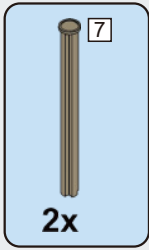


**A108**

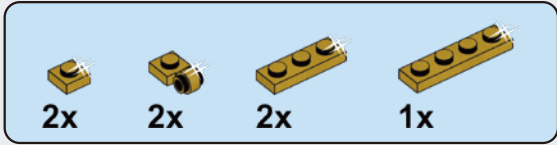
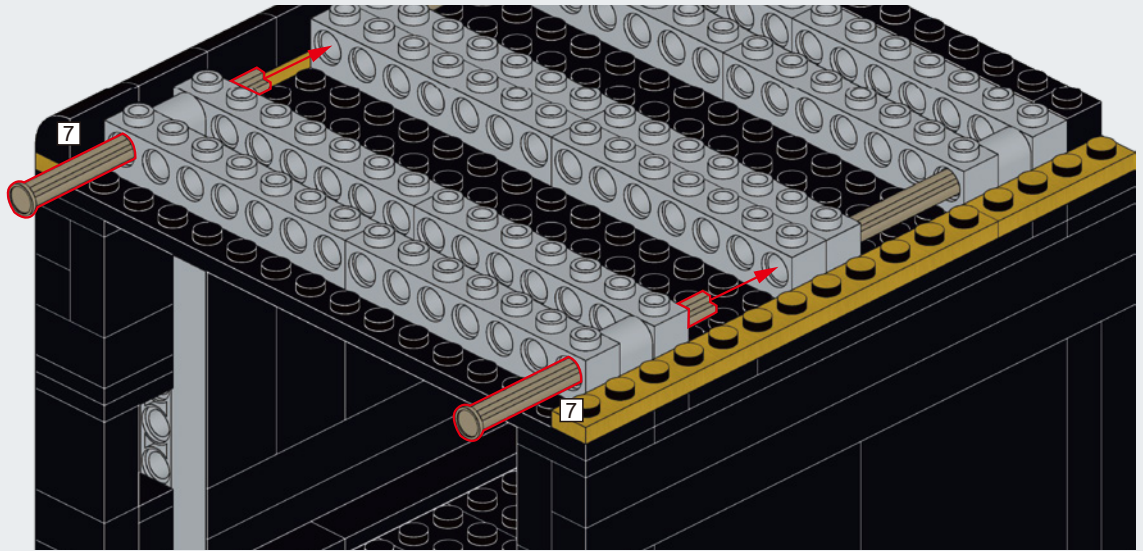


**A109**

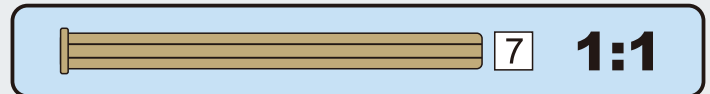
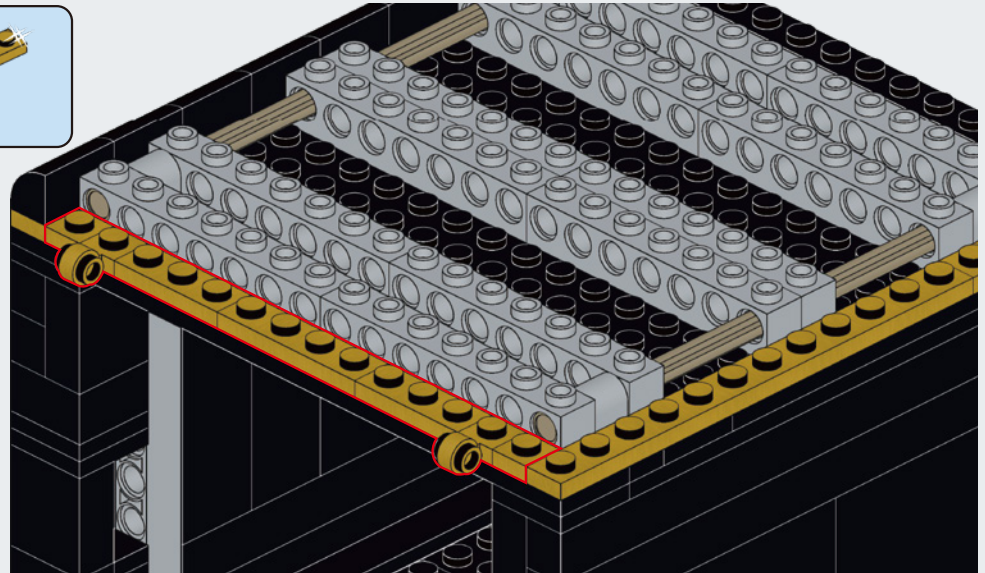


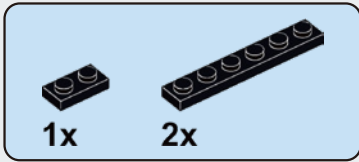


## A110

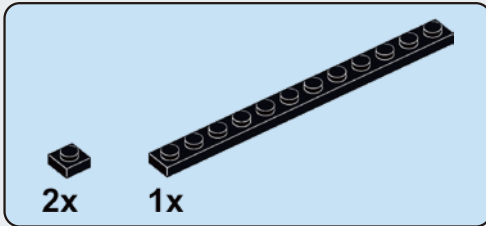
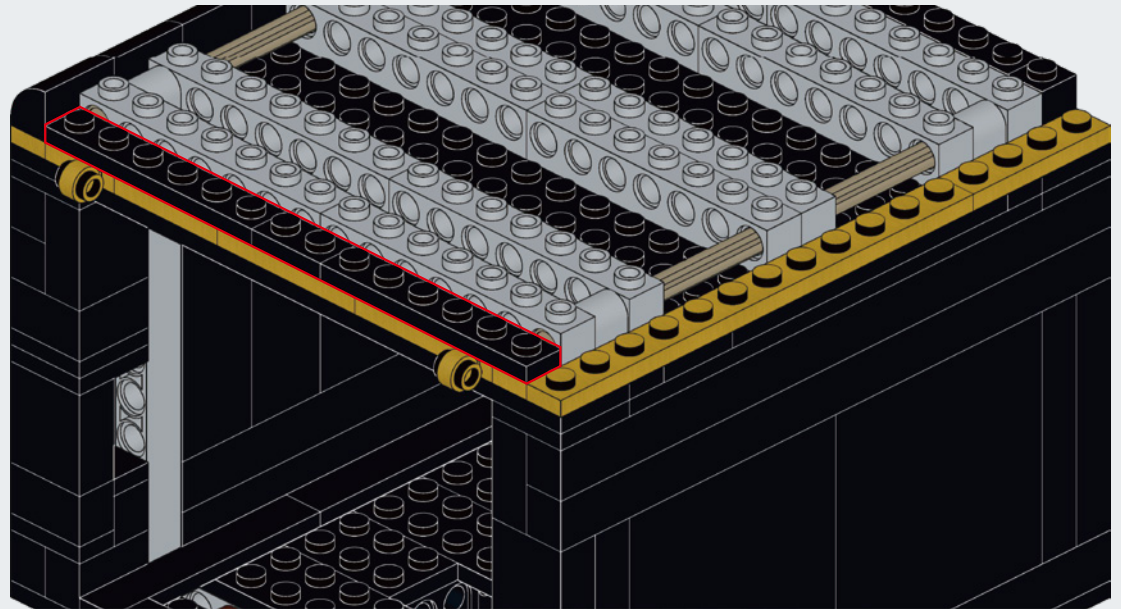


## A111

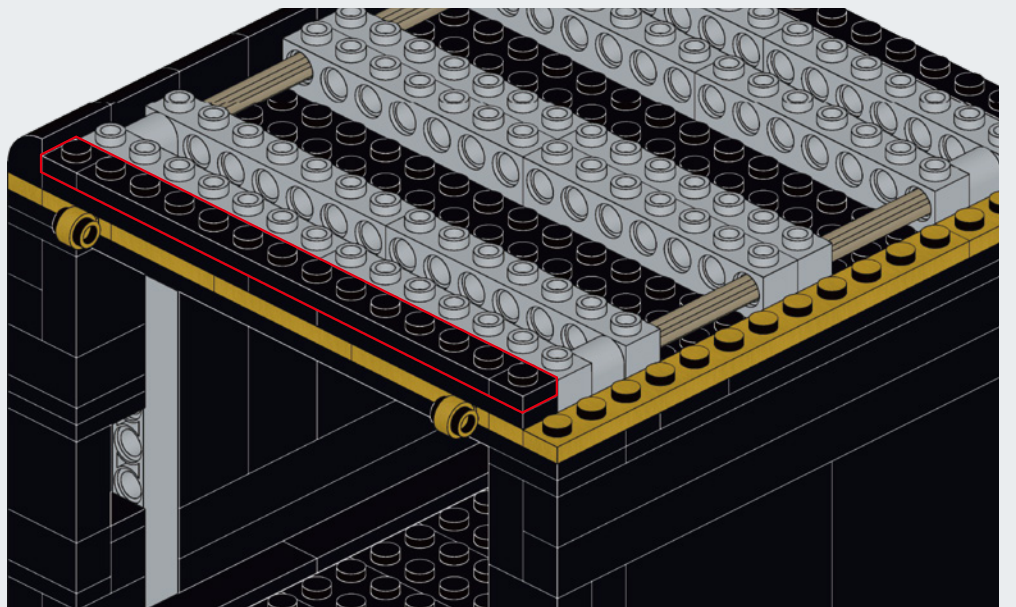




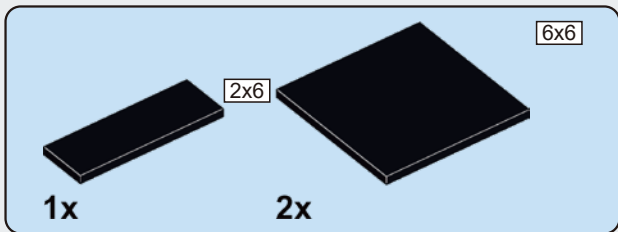
## A112



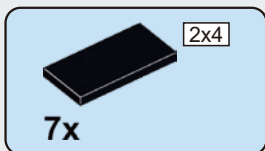
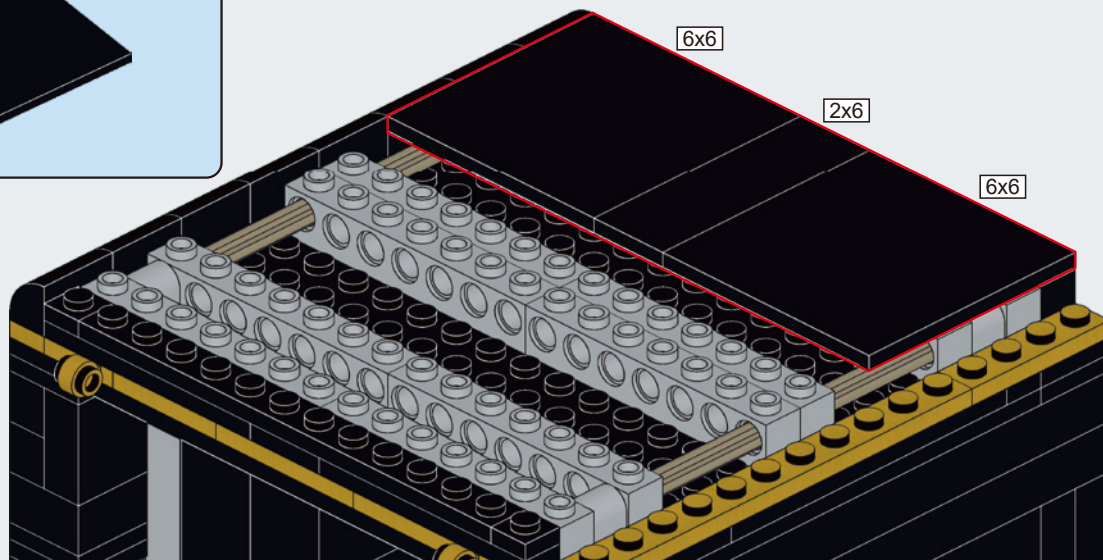
## A113



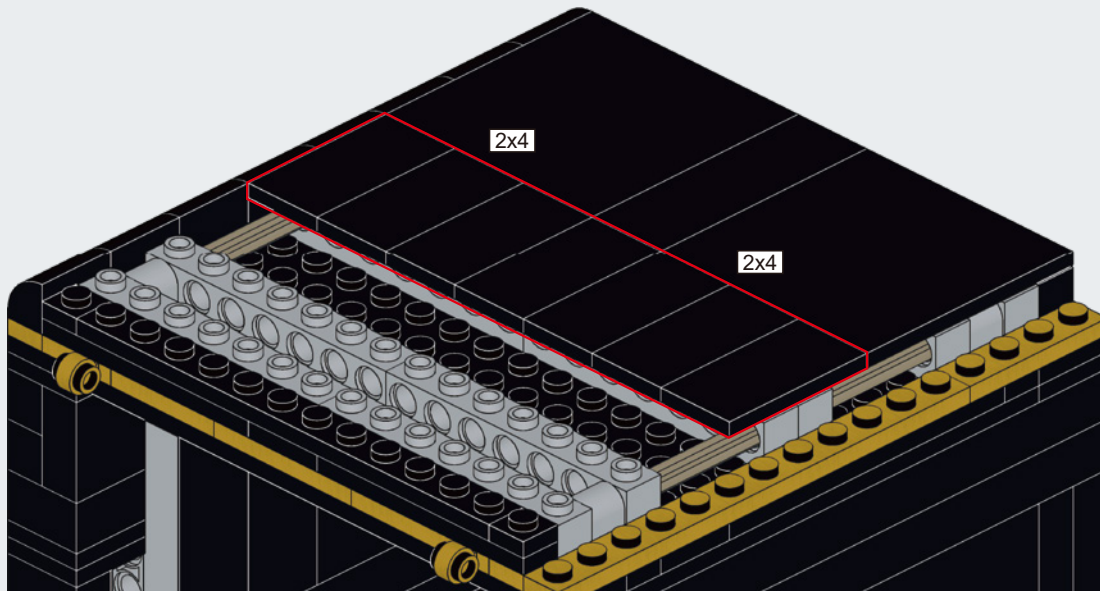


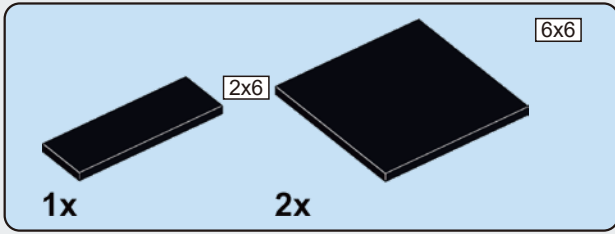


## A114

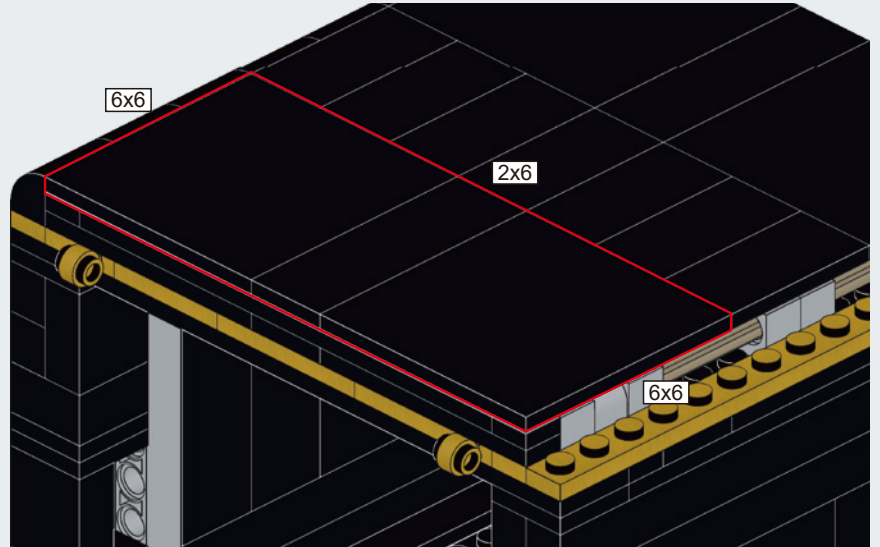


## A115

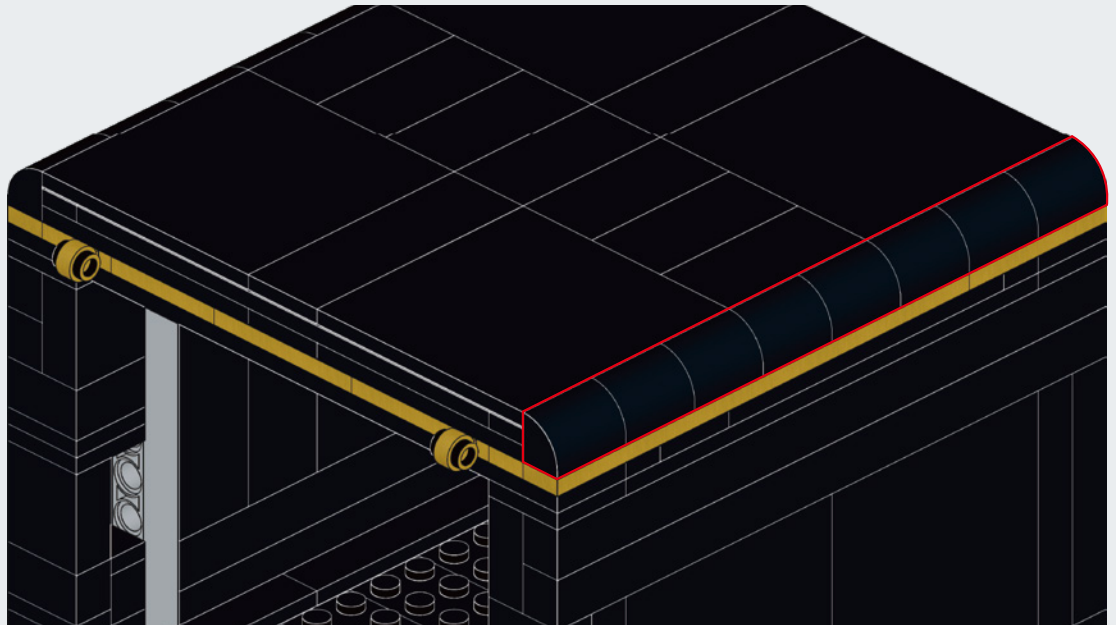




**A116**

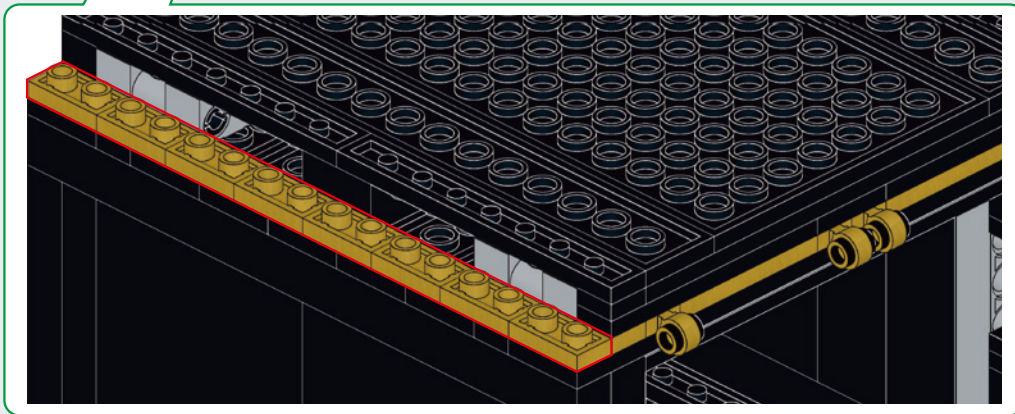
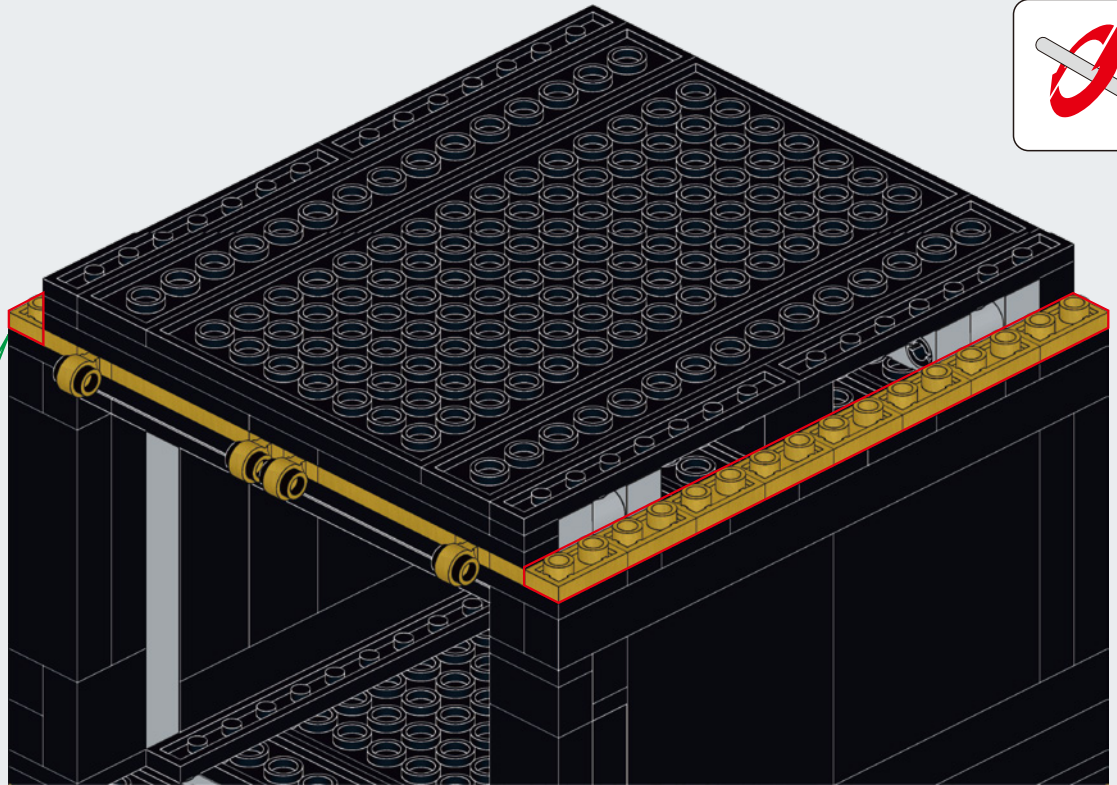
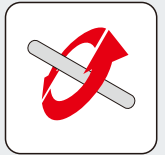


**A117**



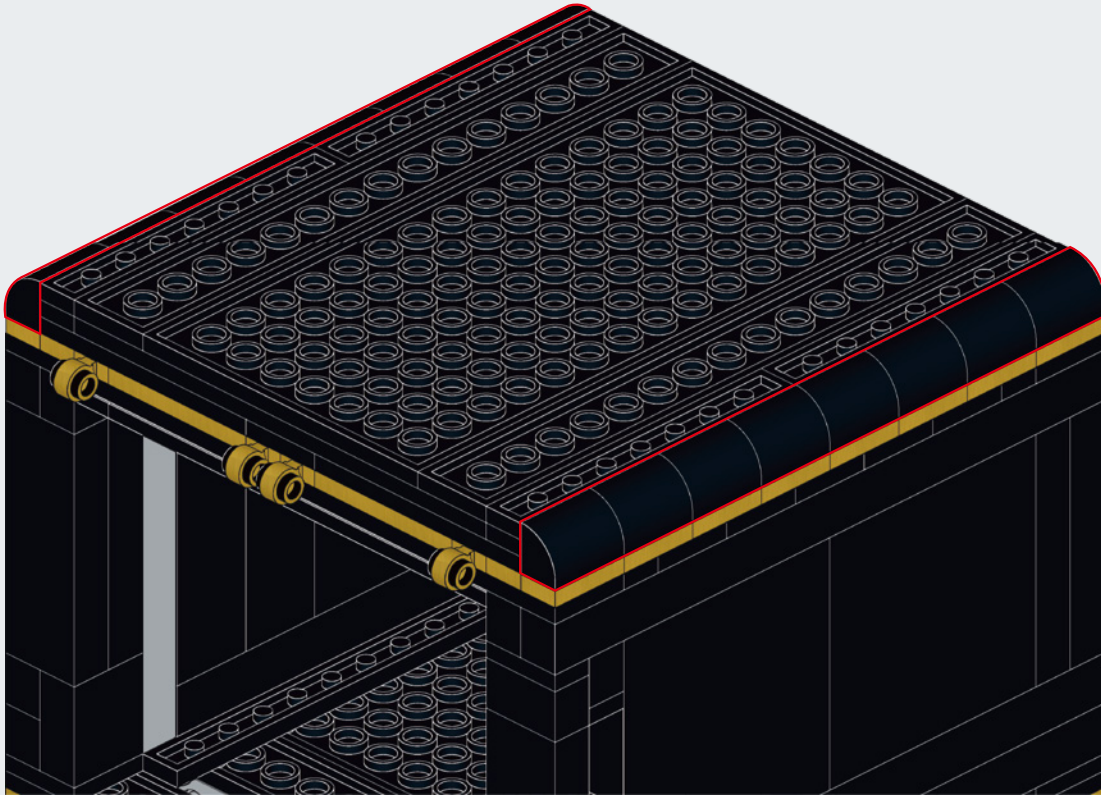


**A118**



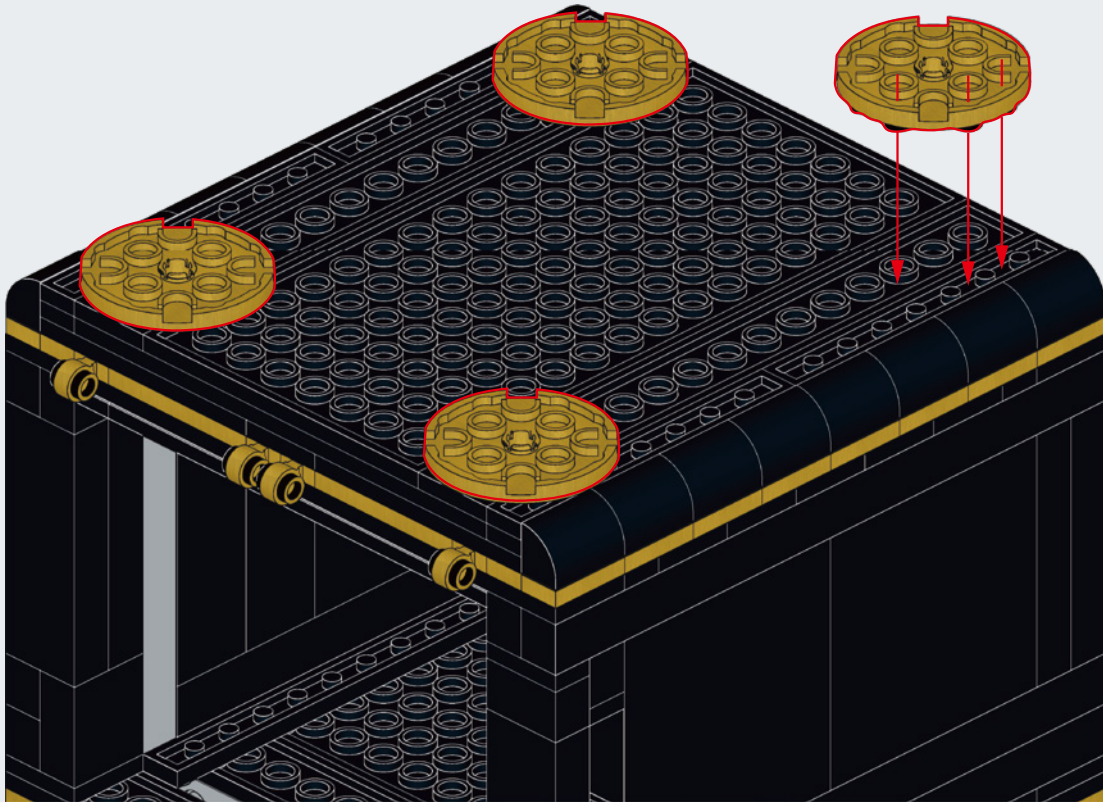


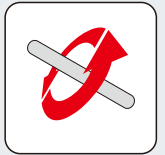
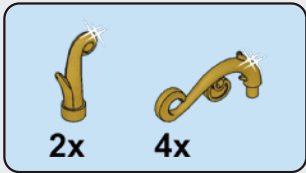
**A119**



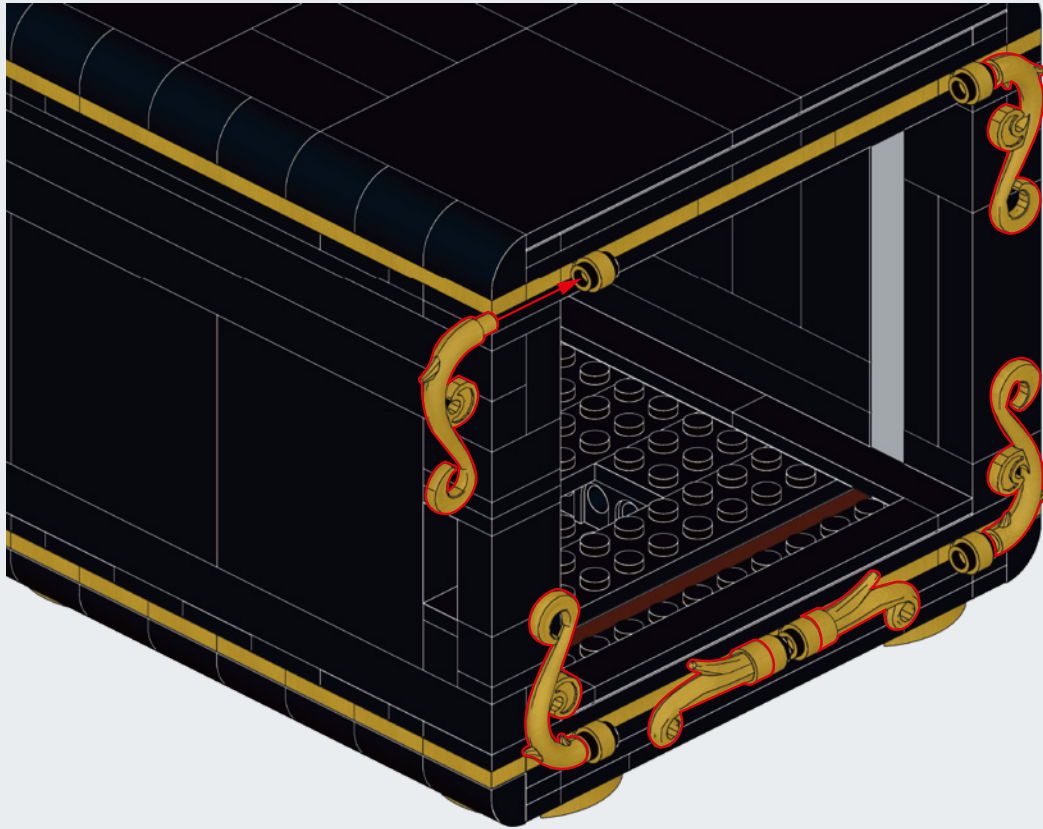


**A120**

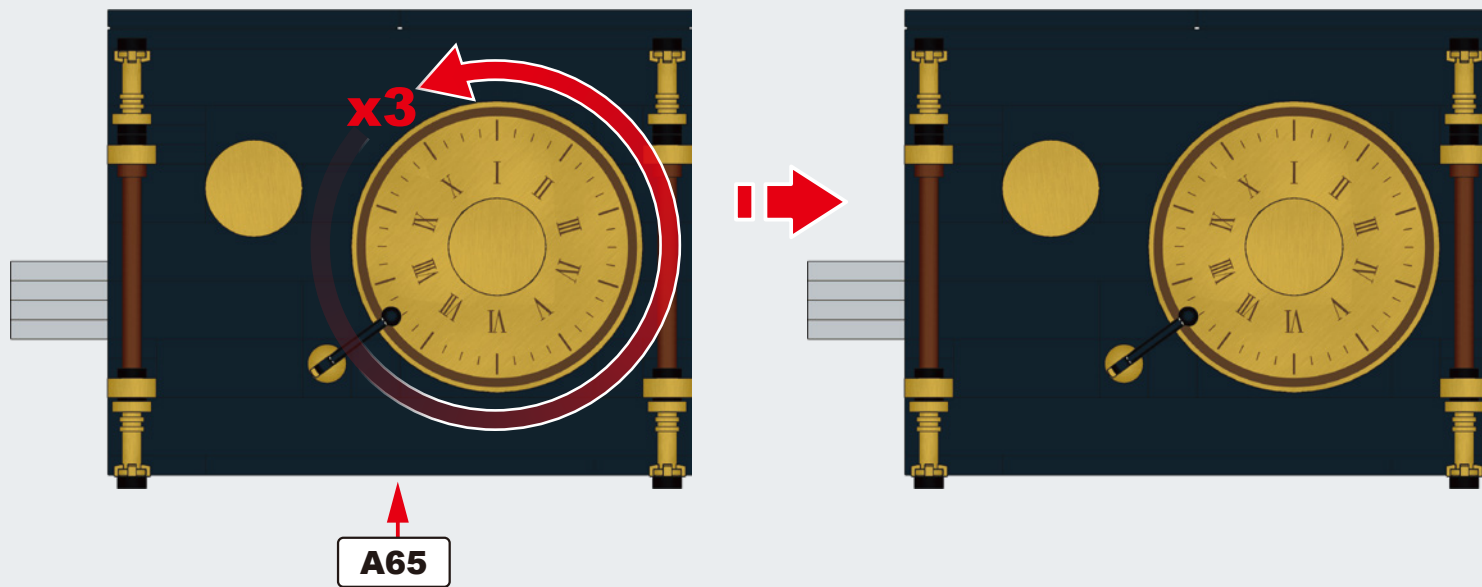




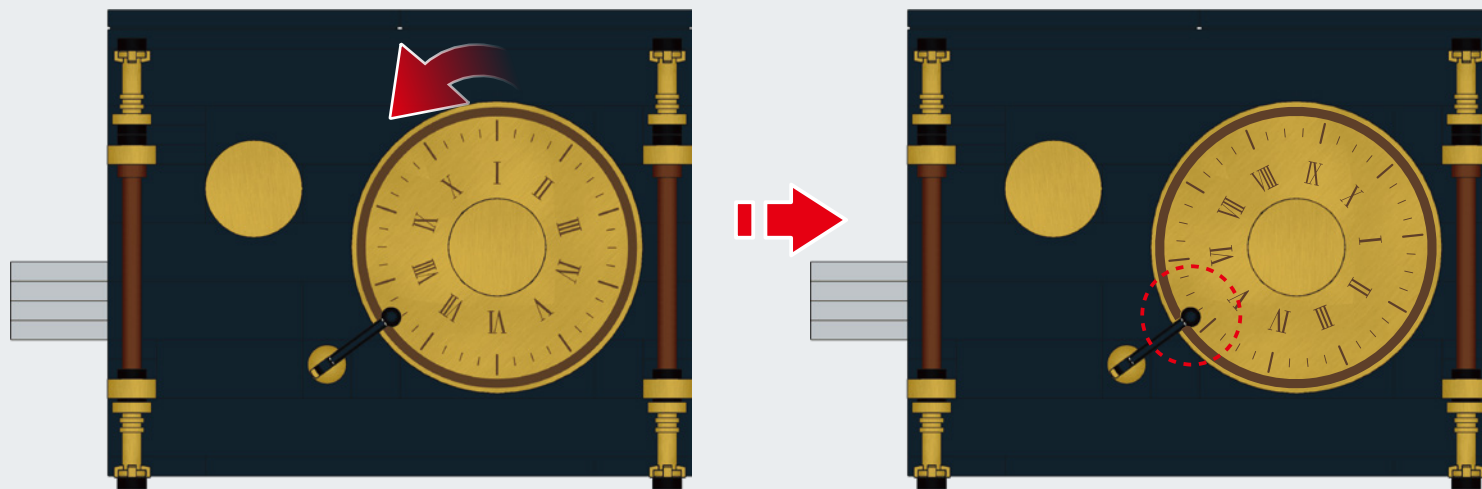
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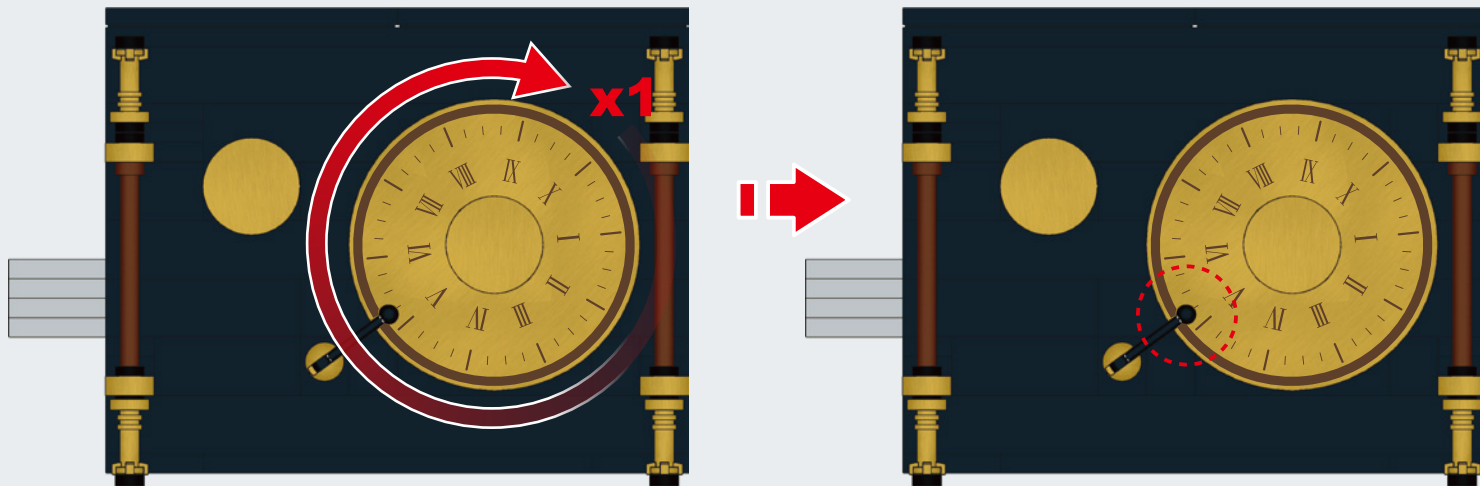
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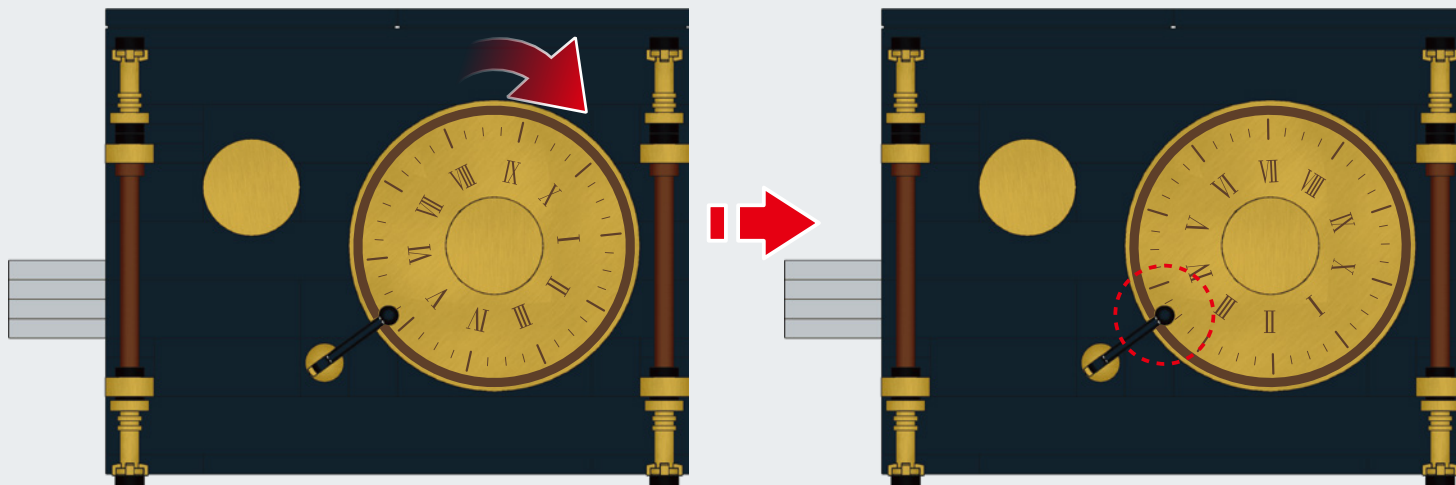
# A123



# A124

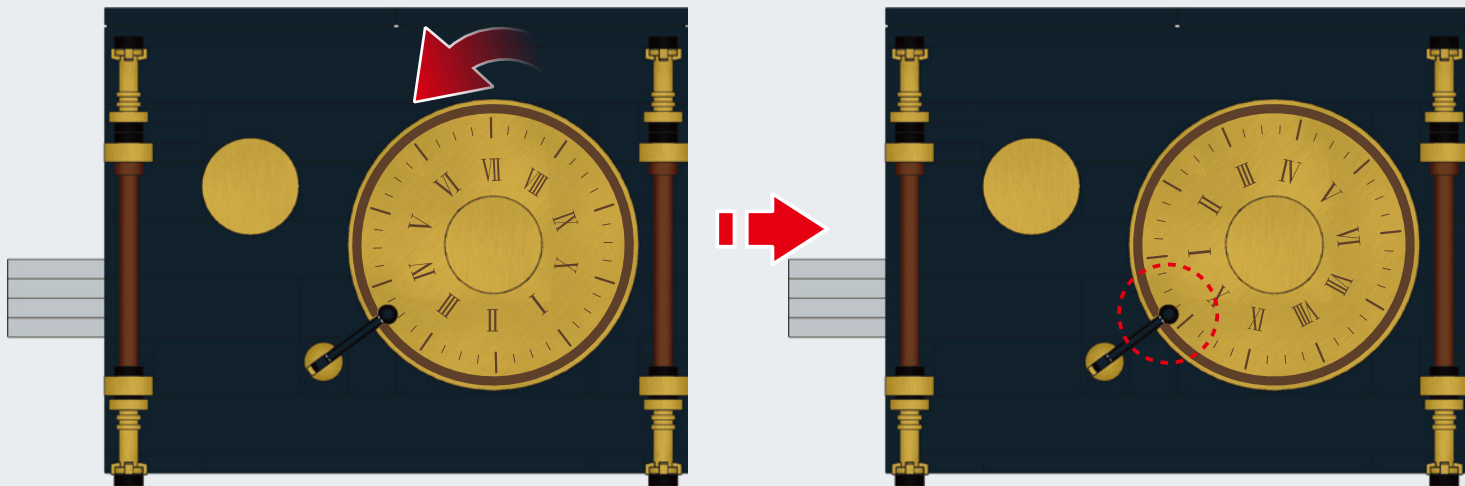


# A125

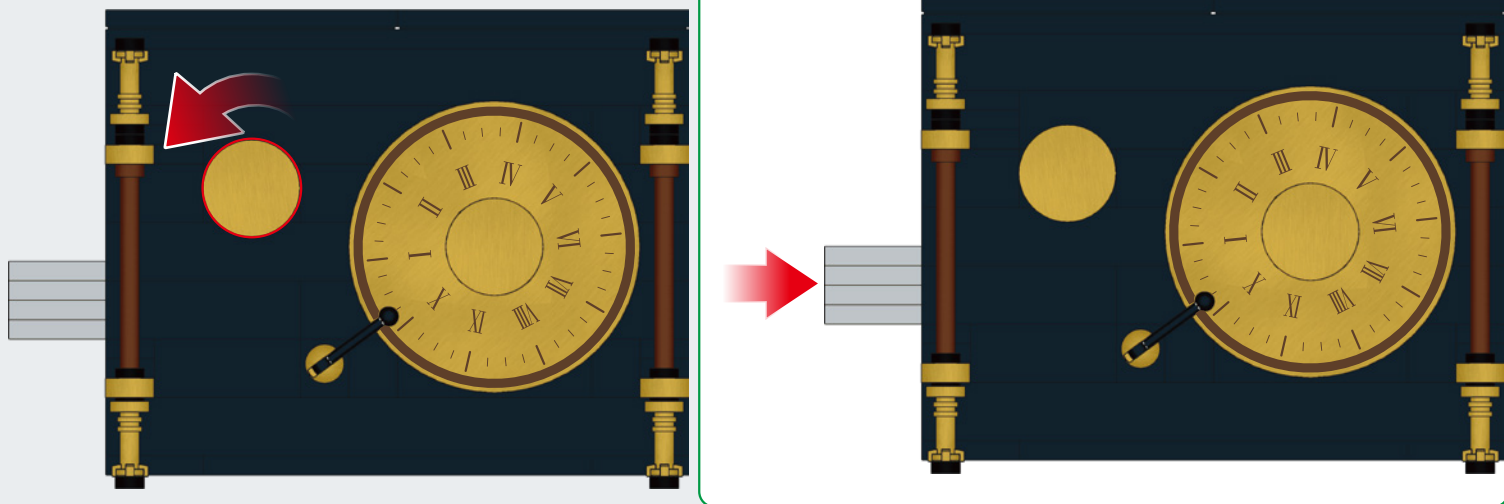




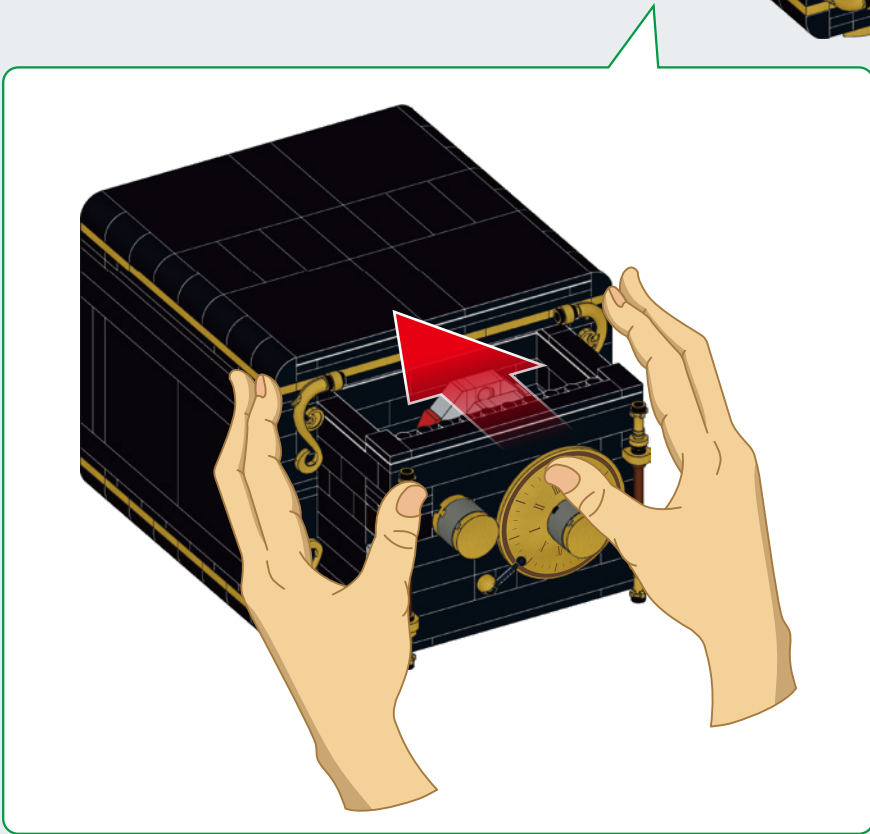
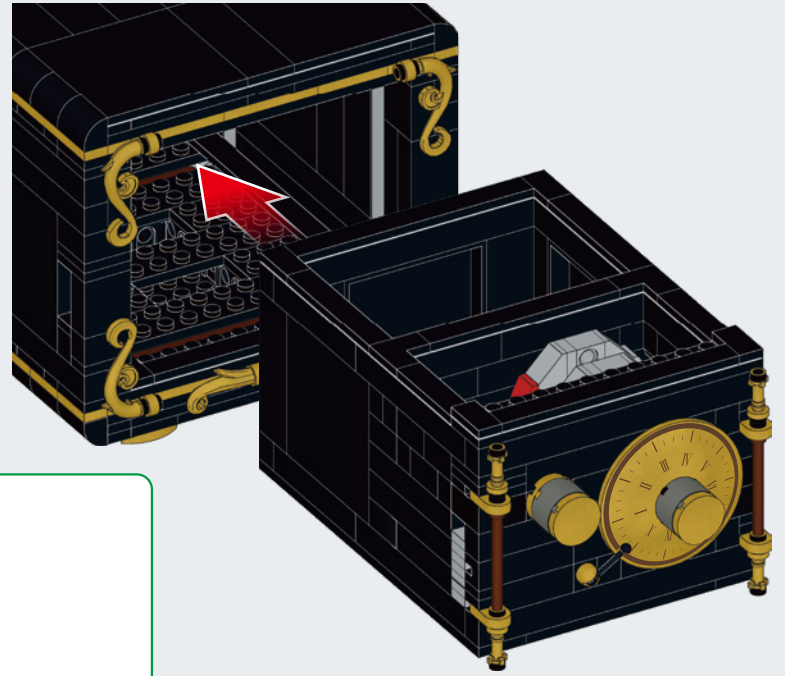
# A126



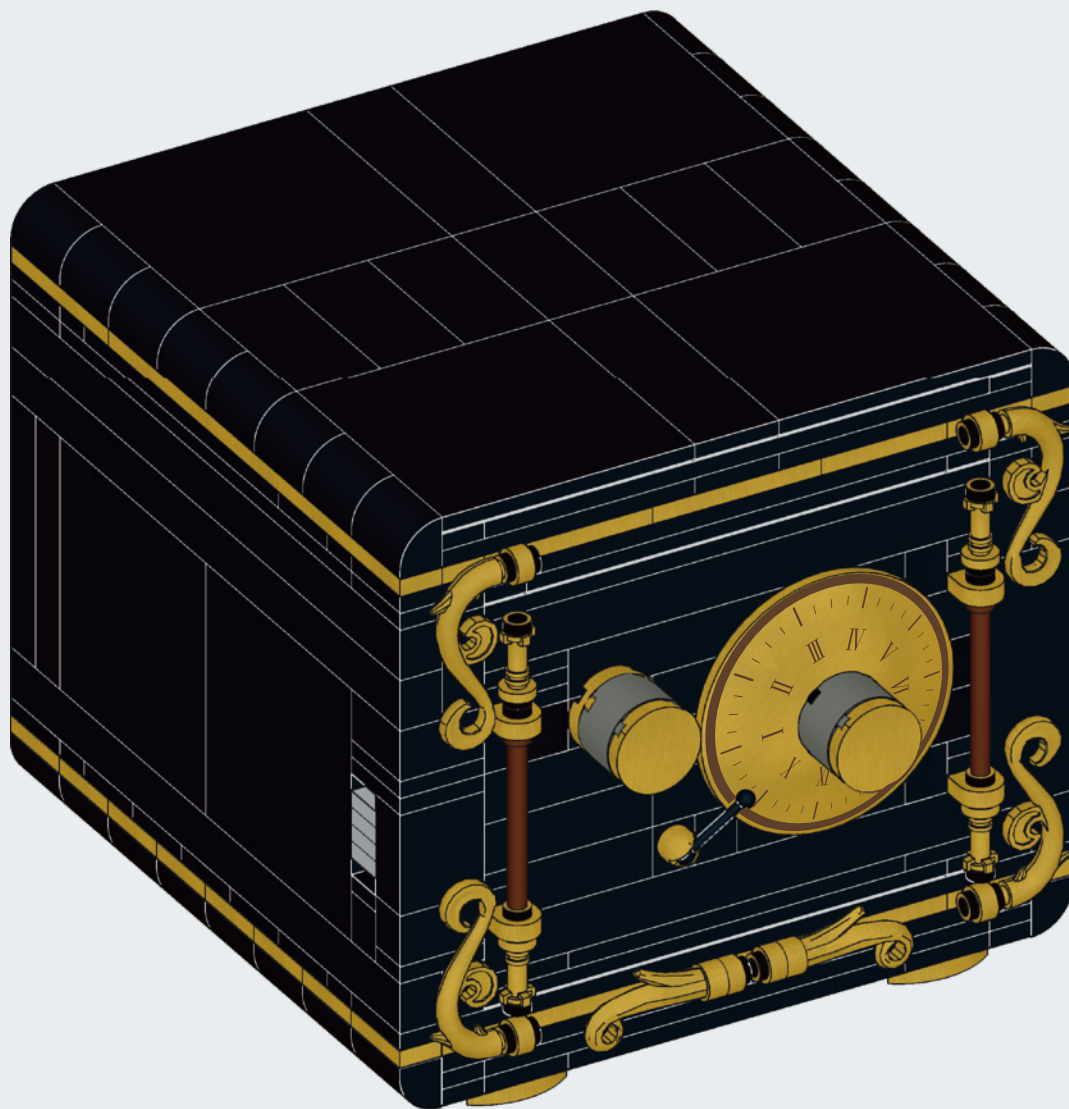
# A127



A128



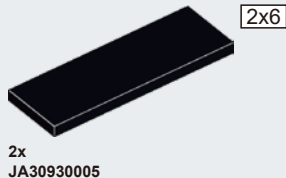
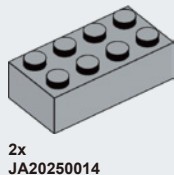
**A129**



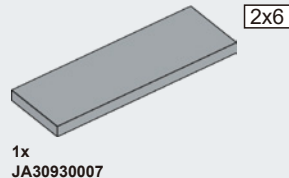




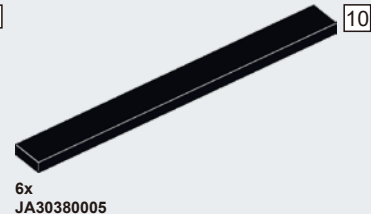
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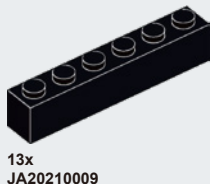
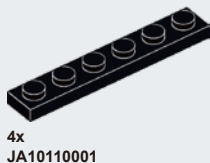
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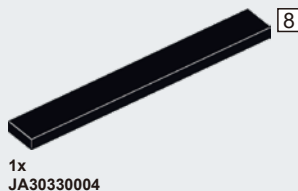
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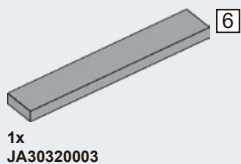
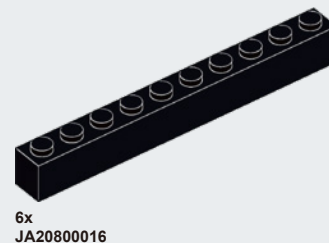
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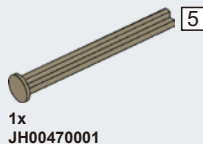
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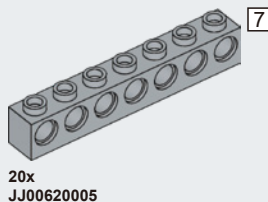
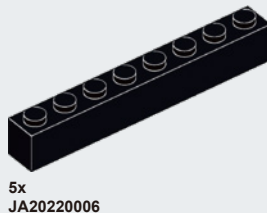
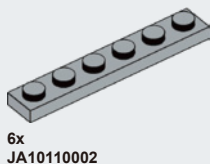
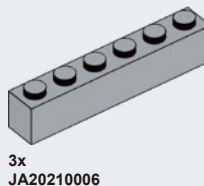
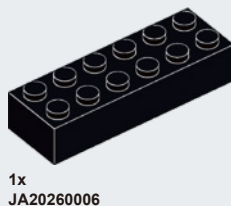
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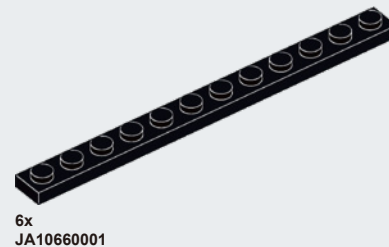
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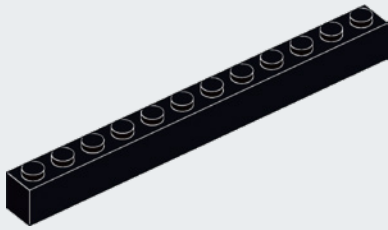


5

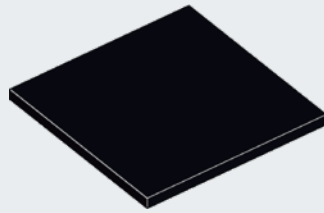


7



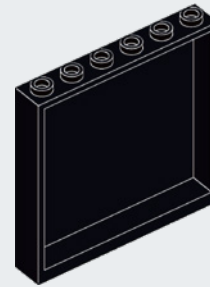


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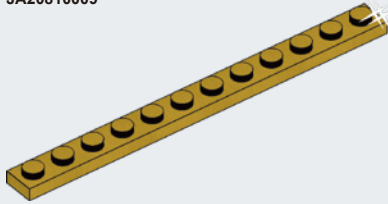


6x6

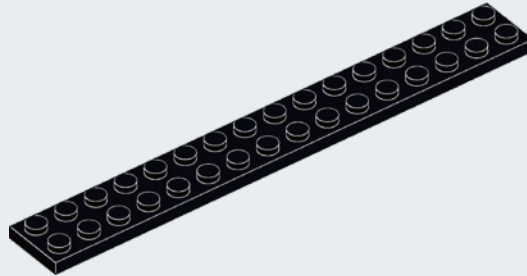
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9x  
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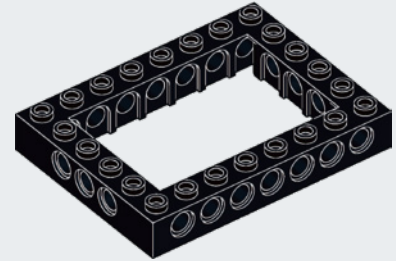


13x  
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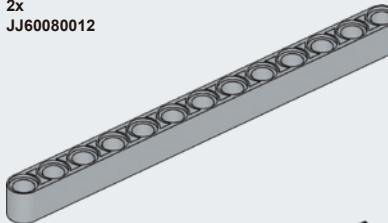


11

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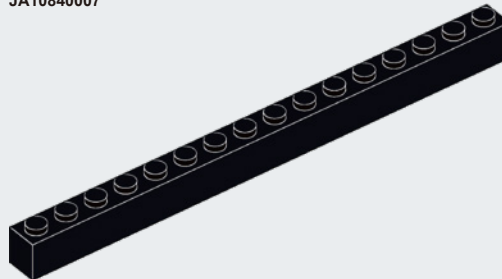


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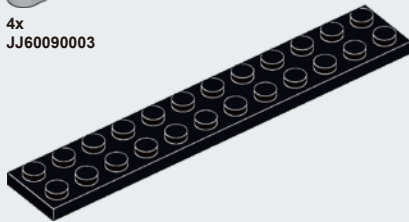


13

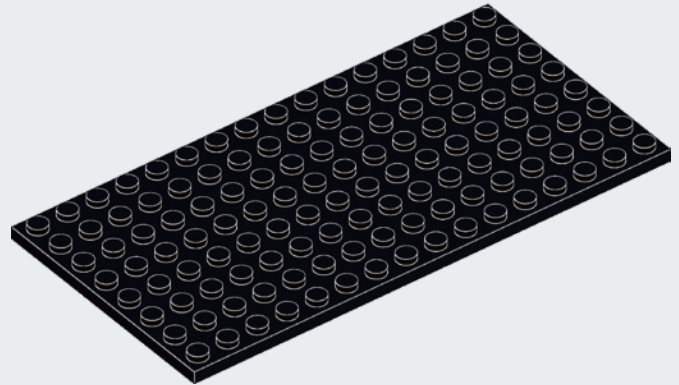
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6x  
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1x  
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3x  
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