

# Launch Complex 34



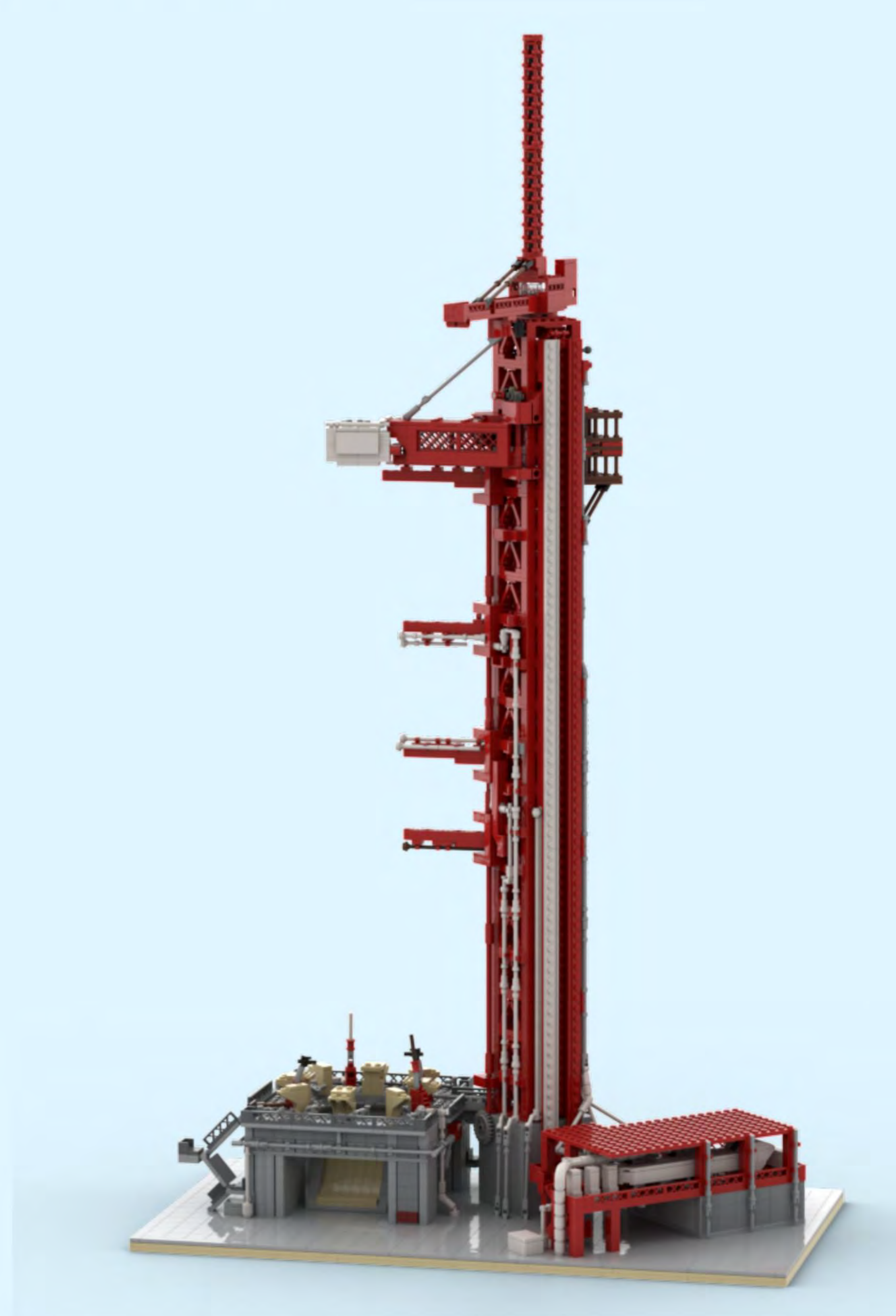
Apollo 7  
scale 1:110

Building instructions for:

- Base
- Umbilical Tower
- Launch platform
- ECS building
- Plume deflector

3396 pcs.

version 2  
David Welling & Nico Daams,  
march 2020



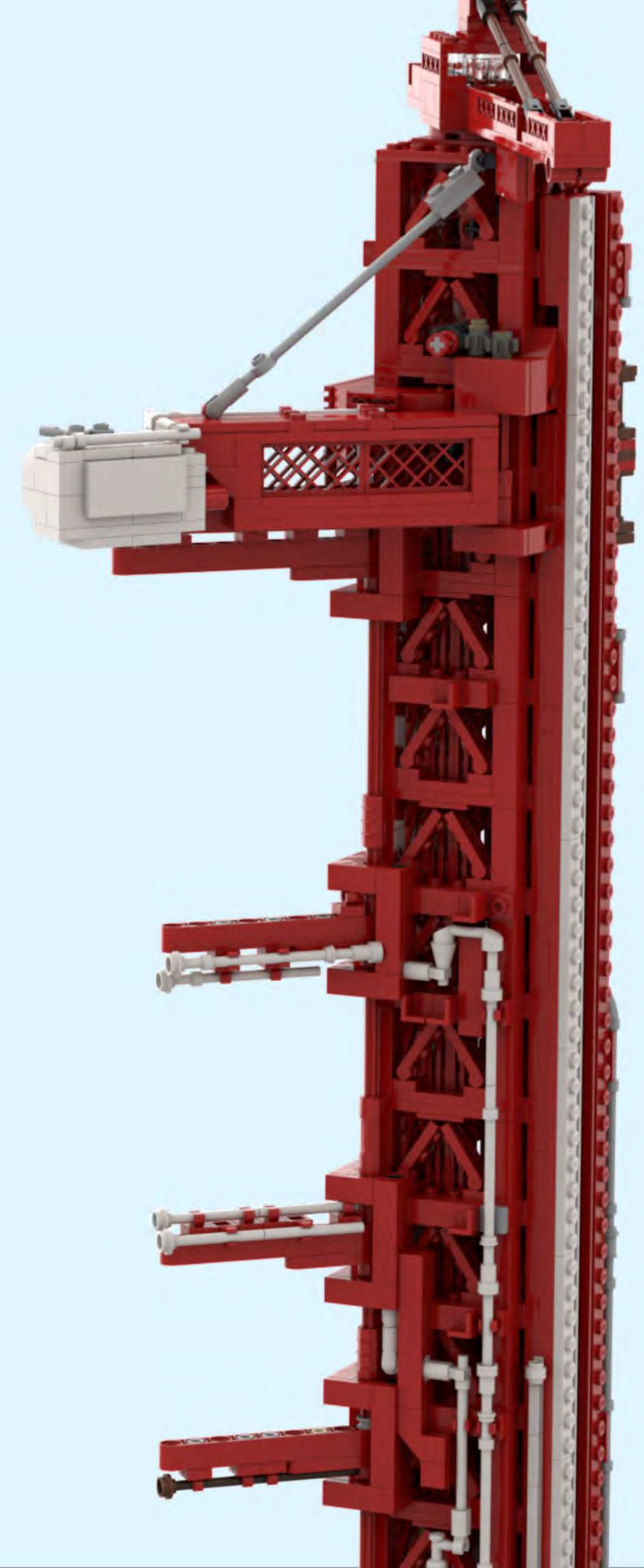
## Build notes

This version of the scale 1:110 Launch Complex 34 is a collaboration by Nico Daams and David Welling. The design is based on the original version by David Welling, 2018.

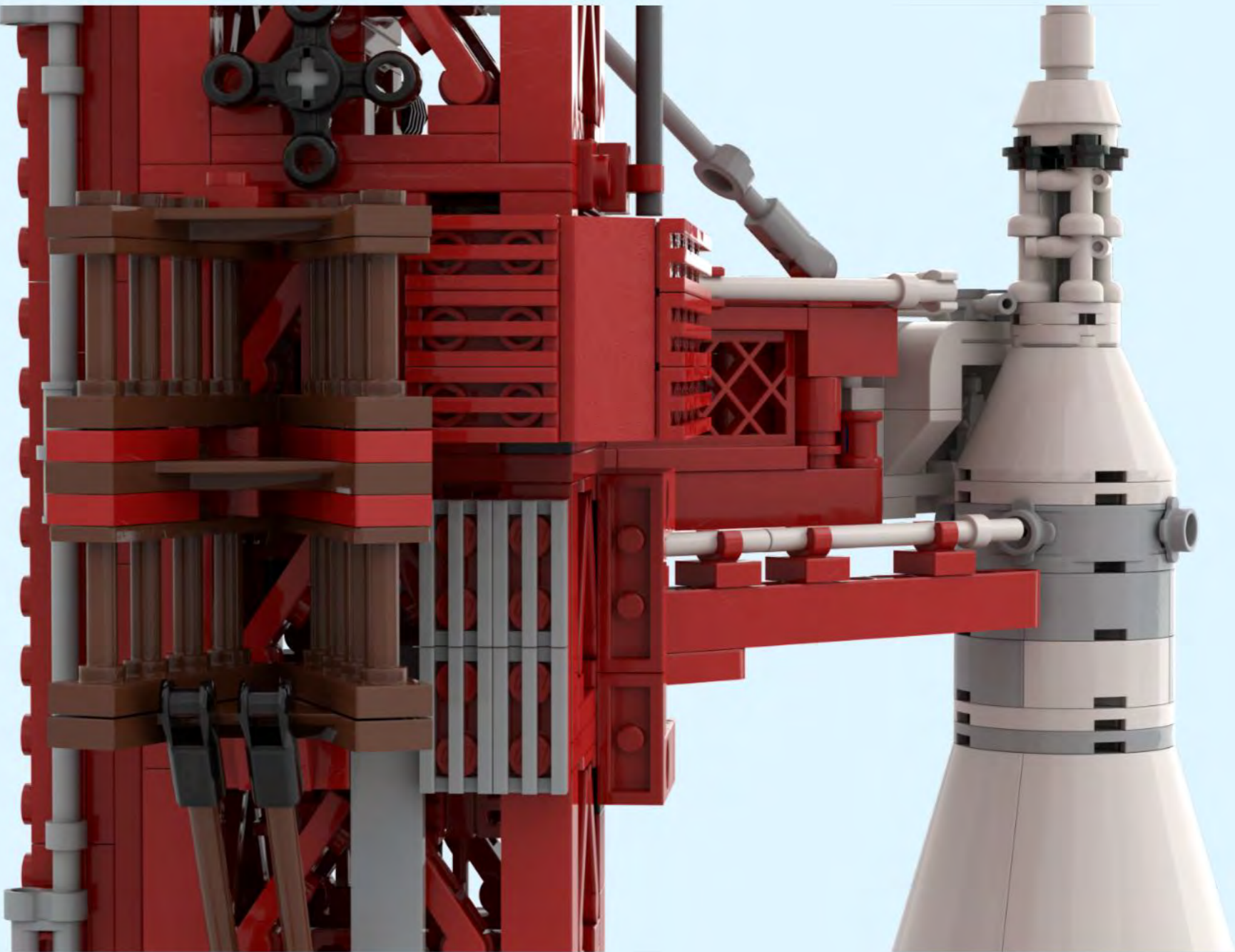
1. This version covers the Base, Umbilical Tower, Launch platform, Environmental Control System (ECS) building, Plume deflector.
2. Parts lists and instructions for the Apollo 7's launch vehicle, Saturn 1B, by David Welling and the ARV and Astrovan by Eiffleman are not included in this build and should be found elsewhere. They really fit well to this build.
3. The key improvements comparing to version 1 are:
  - a bigger brick-built base plate, with tracks for the plume deflector
  - more detailed piping, including the tail service masts
  - added the Environmental Control System (ECS) building
  - new electrical conduits on the side and on the inside the Umbilical Tower
  - a suspension for the crew access arm, and more white room details
  - the elevator now actually can travel both up and down
  - the water deluge system is now fully connected
  - added Launch platform electrical systems with visible wiring
4. The base measures 62x42 studs (49,6 x 33,6 cm | 19.5 x 13.2")  
The total model height is 112,7 studs (90,2 cm | 35.5 ")
5. For the elevator you need a strong, thin wire of at least 150 cm | 59". Use a white fishing line for strength, elasticity and aesthetics.
6. Install the elevator wire around the pulley wheel in the top and the bars on both ends of the elevator rail, then tie a knot. The elevator is then connected to the front wire. You might need to detach one of the 1x8 plates with rail to fit the wire suspended elevator between its tracks afterwards. See further instructions on page 112.
7. Consider installing the crew access arm as late as possible as the arm likes to swing back and forth while handling the rest of the tower.

Finally, some tips for keeping part costs down:

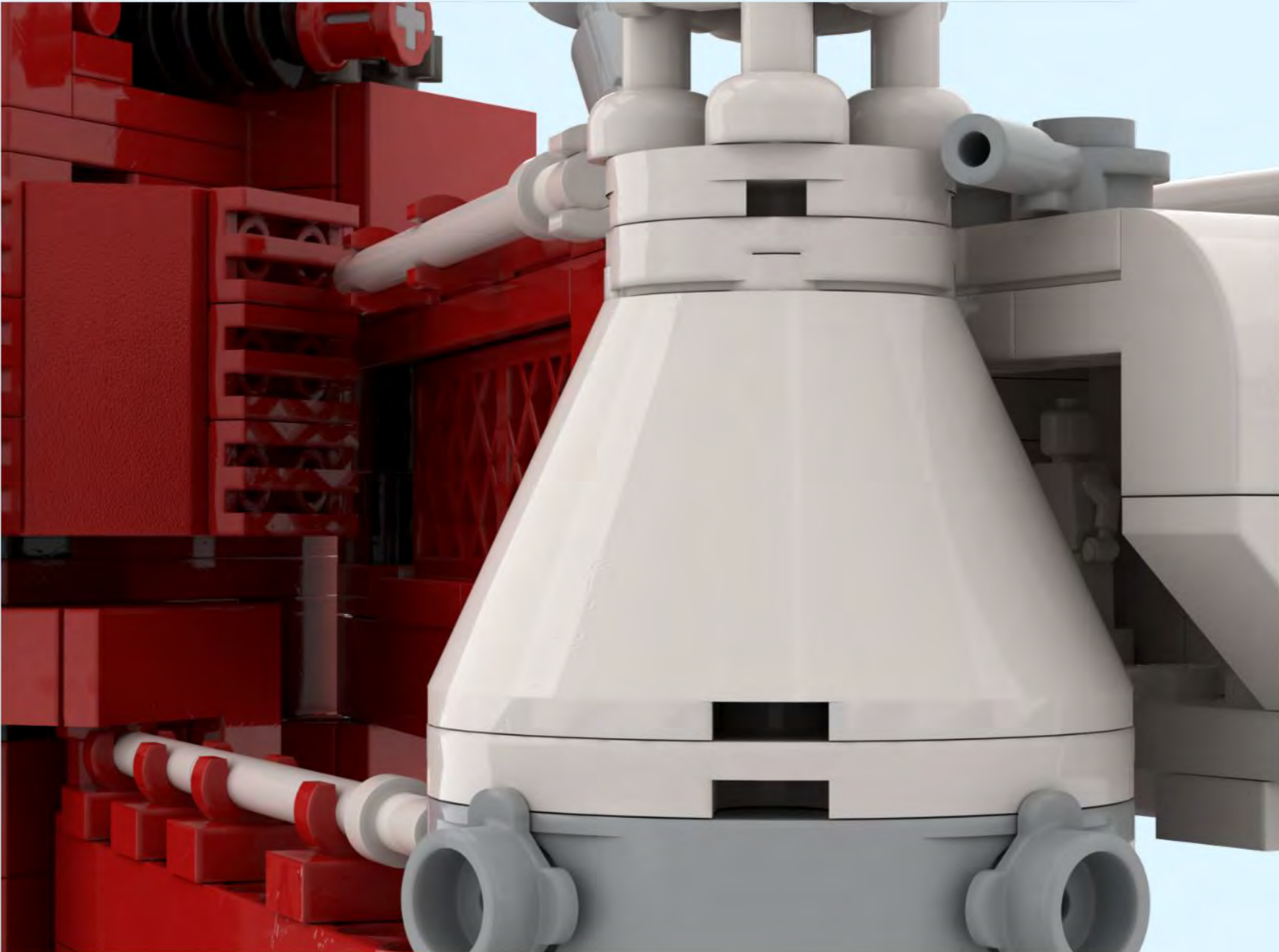
- A. For each hidden part, the cheapest color was selected in Stud.io. Although this a good strategy for minimising part cost, it is not a guarantee as it depends on which parts you own in advance and where you purchase your missing ones. Feel free to substitute those hidden parts in any way
- B. When using Bricklink, while adding parts on a wanted list, you can select "Not applicable" as the part's color. This will allow you to let Bricklink decide the color during the buying process for those specific parts, depending on your price maximum or availability at selected store(s).



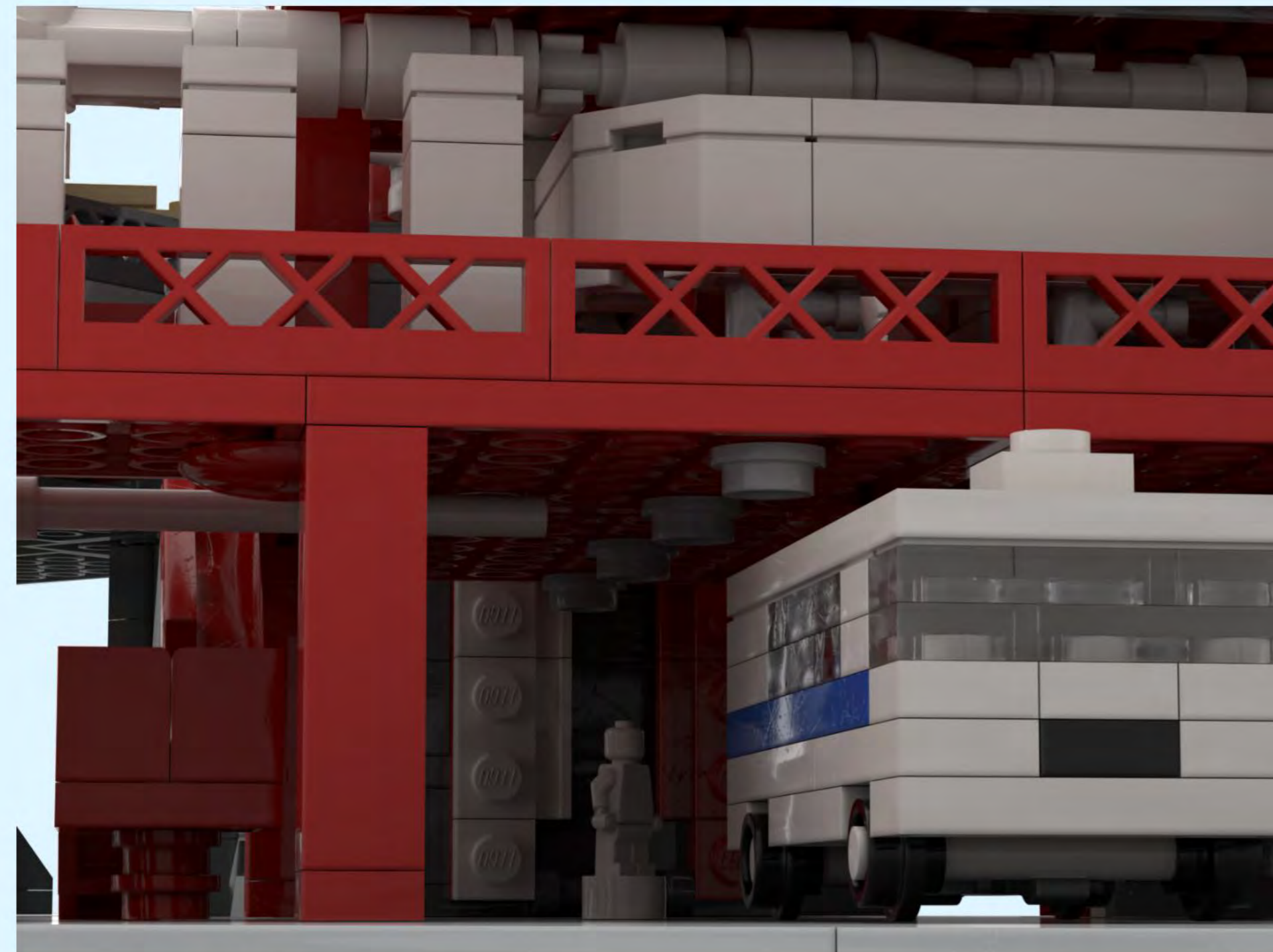
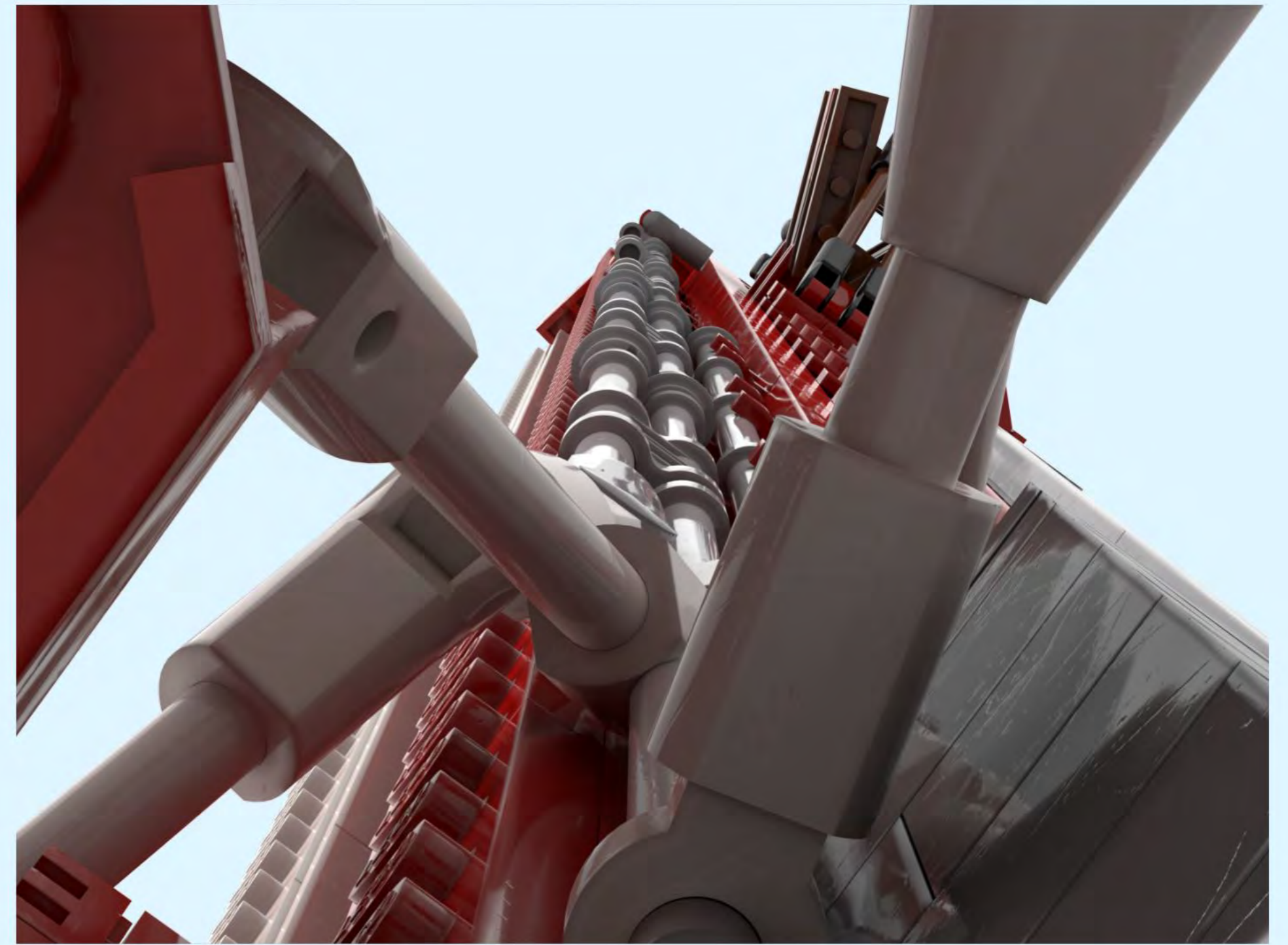
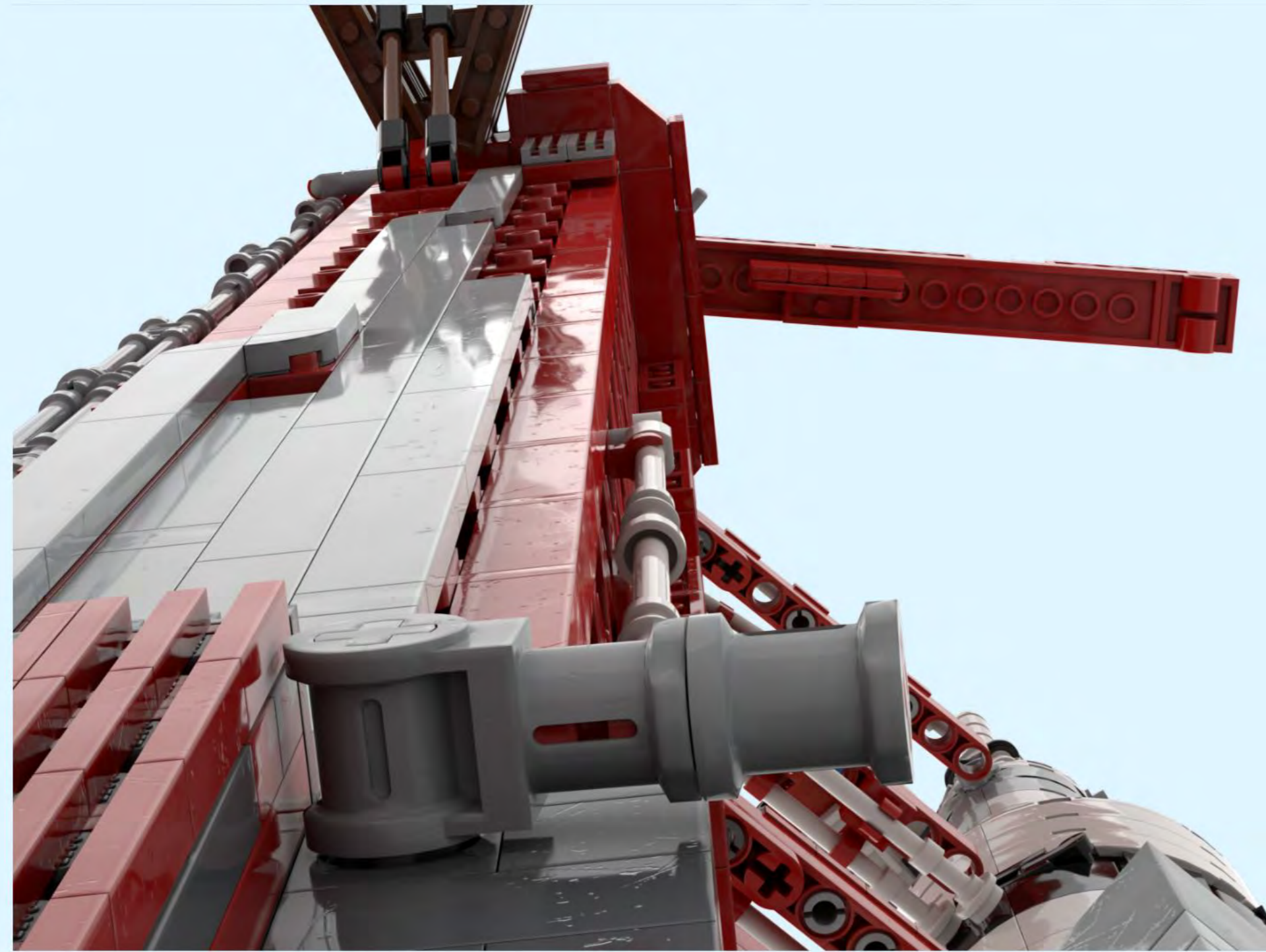
Piping & conduits



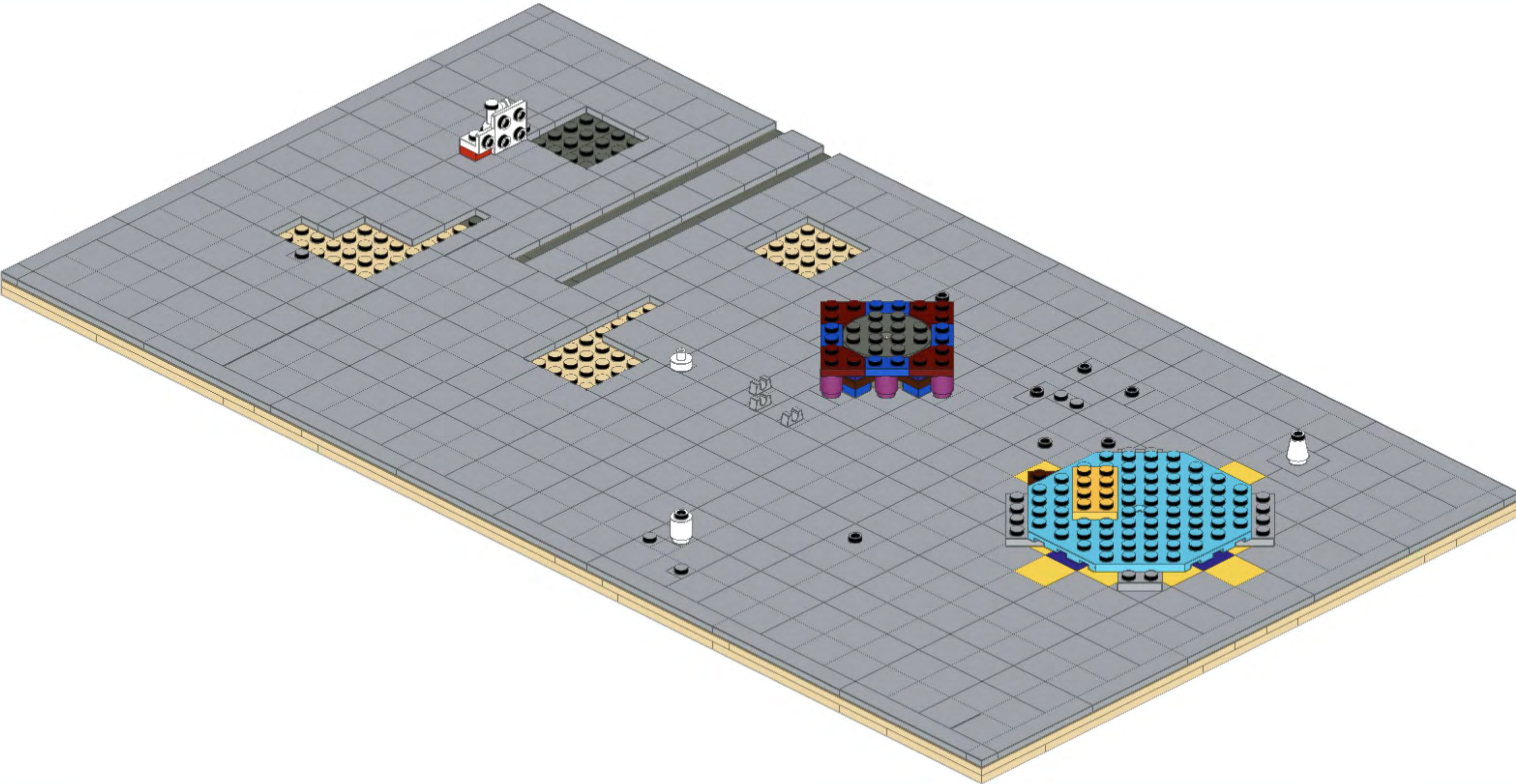
White room



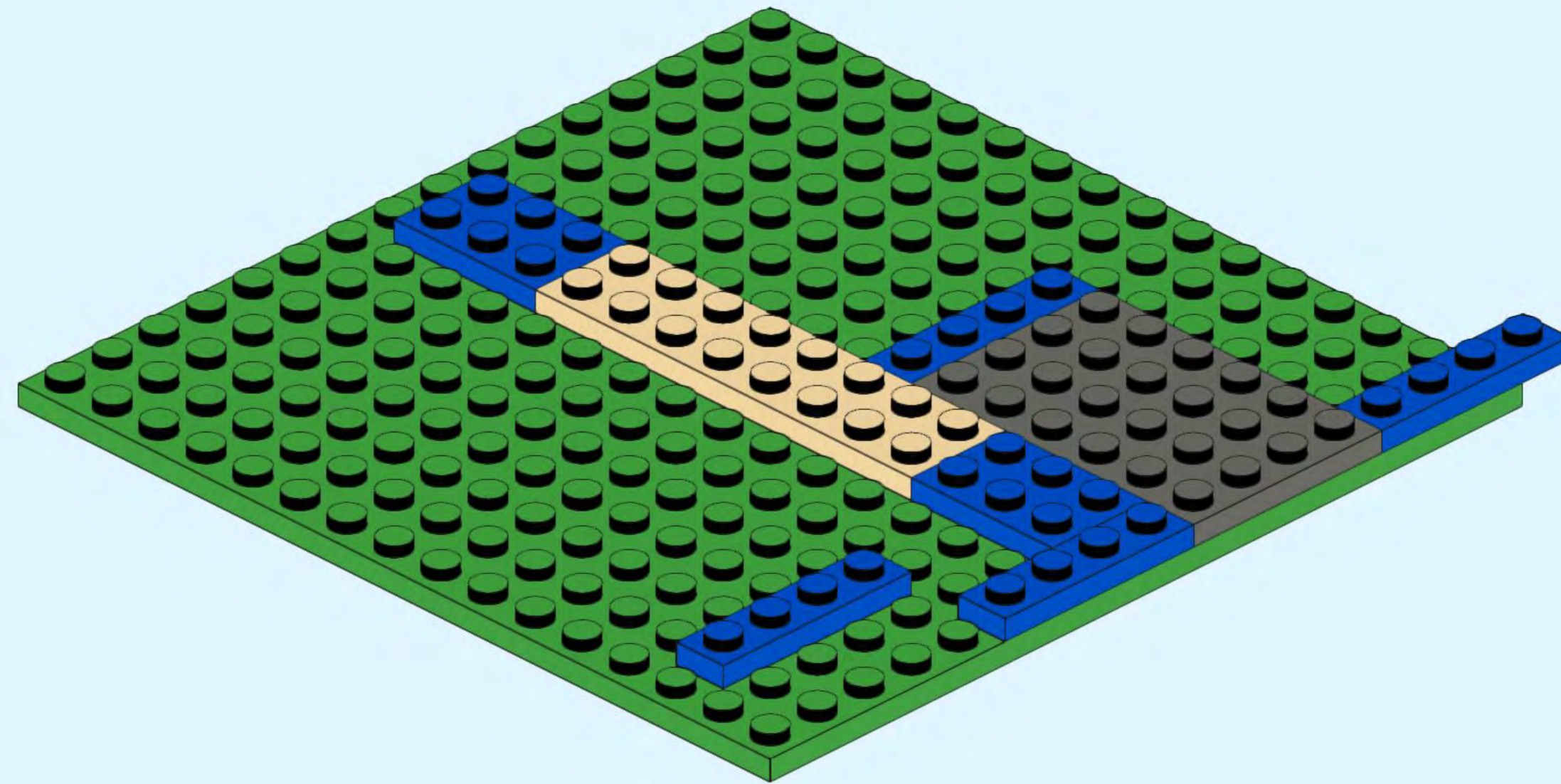
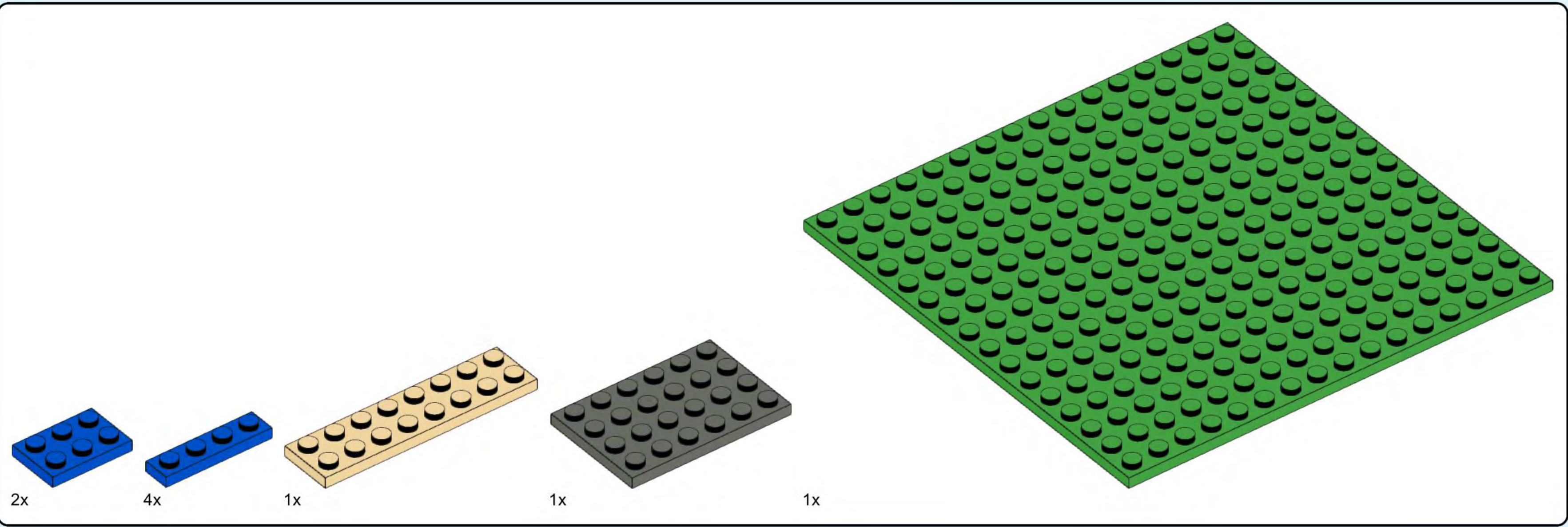
Crew  
vantage  
points



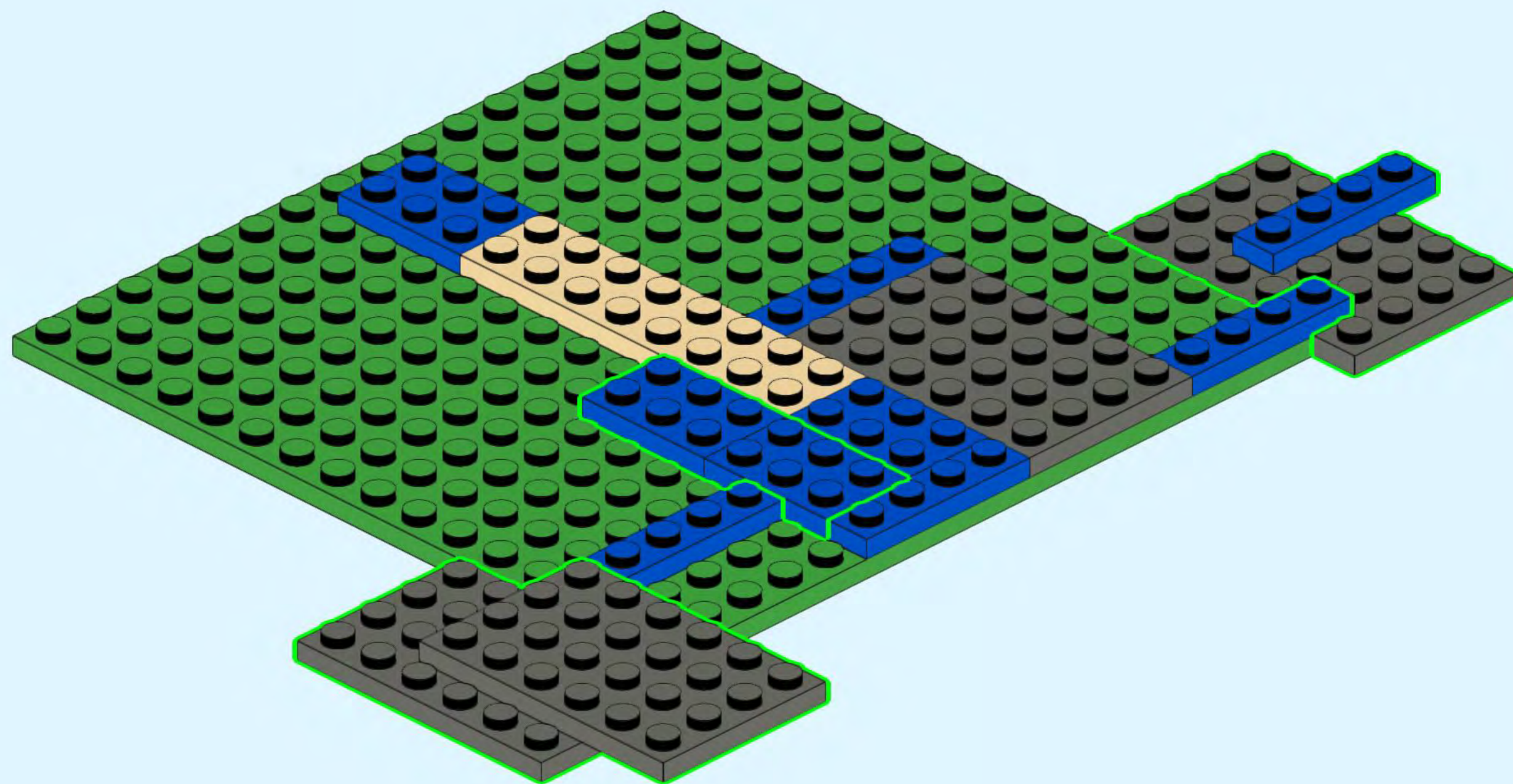
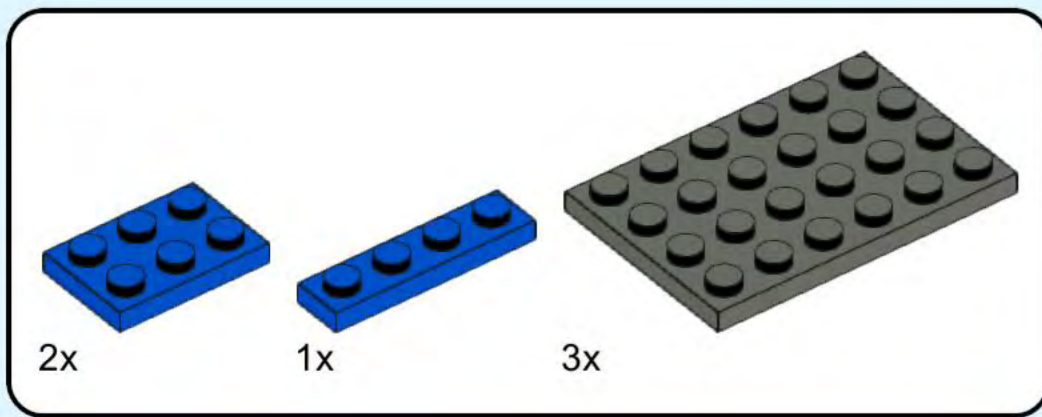
Base



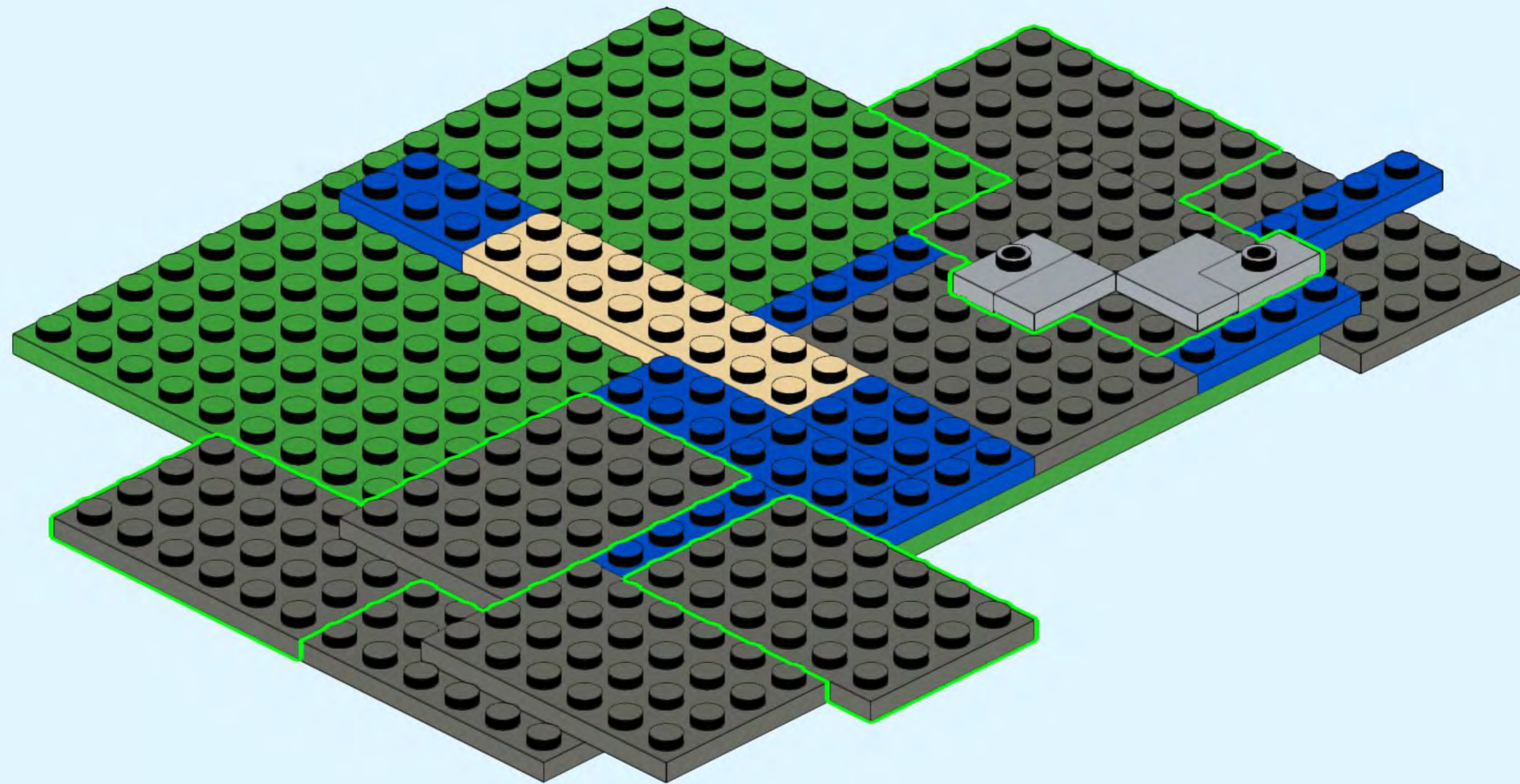
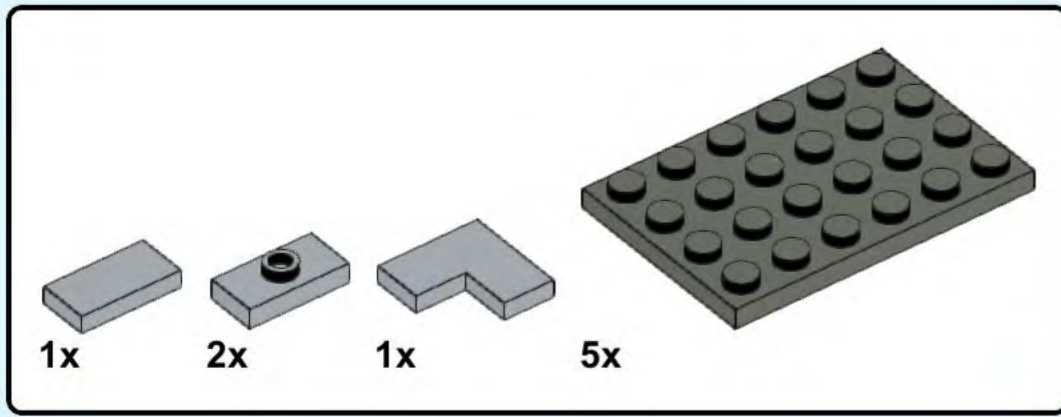
1



2

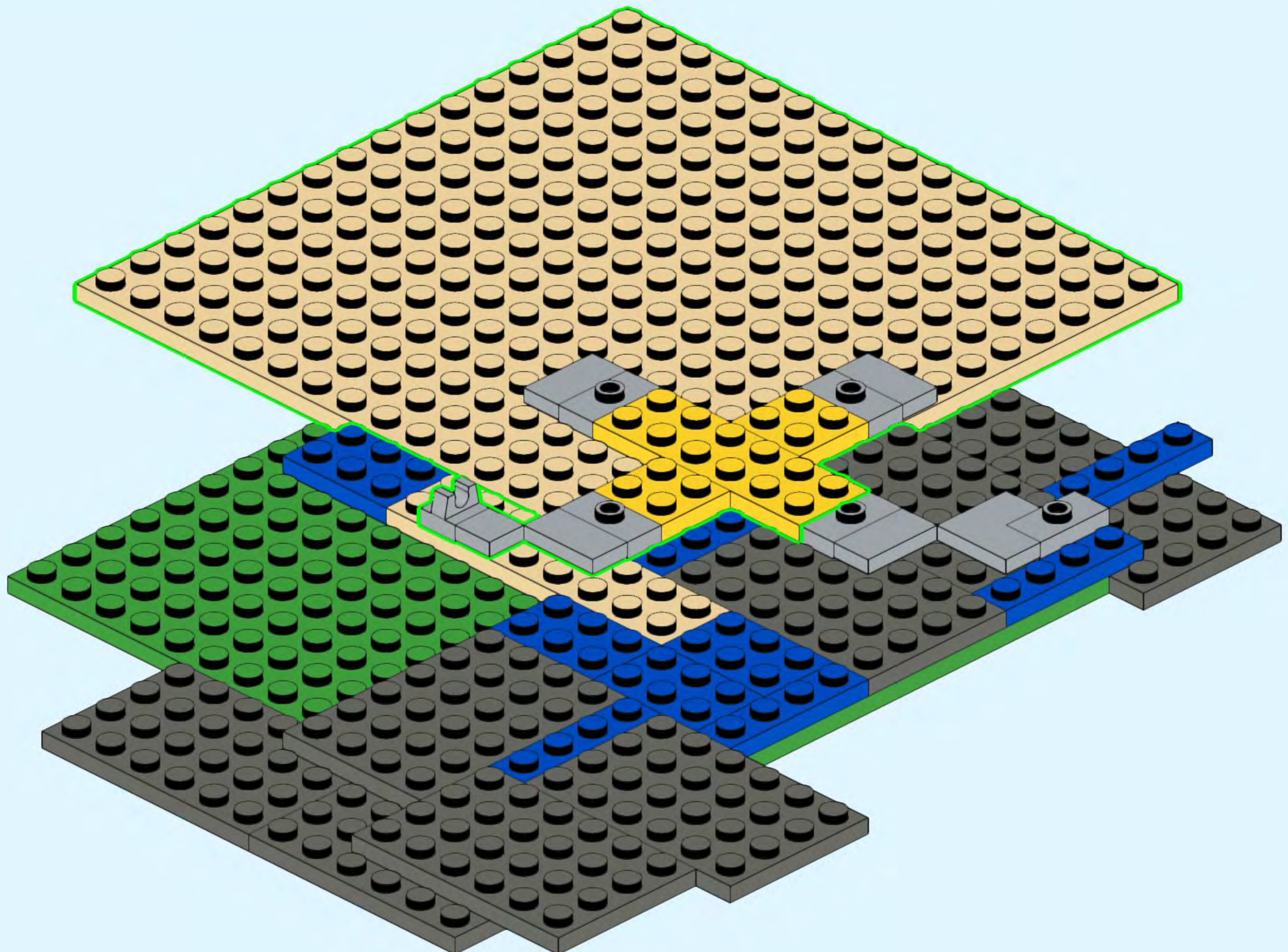
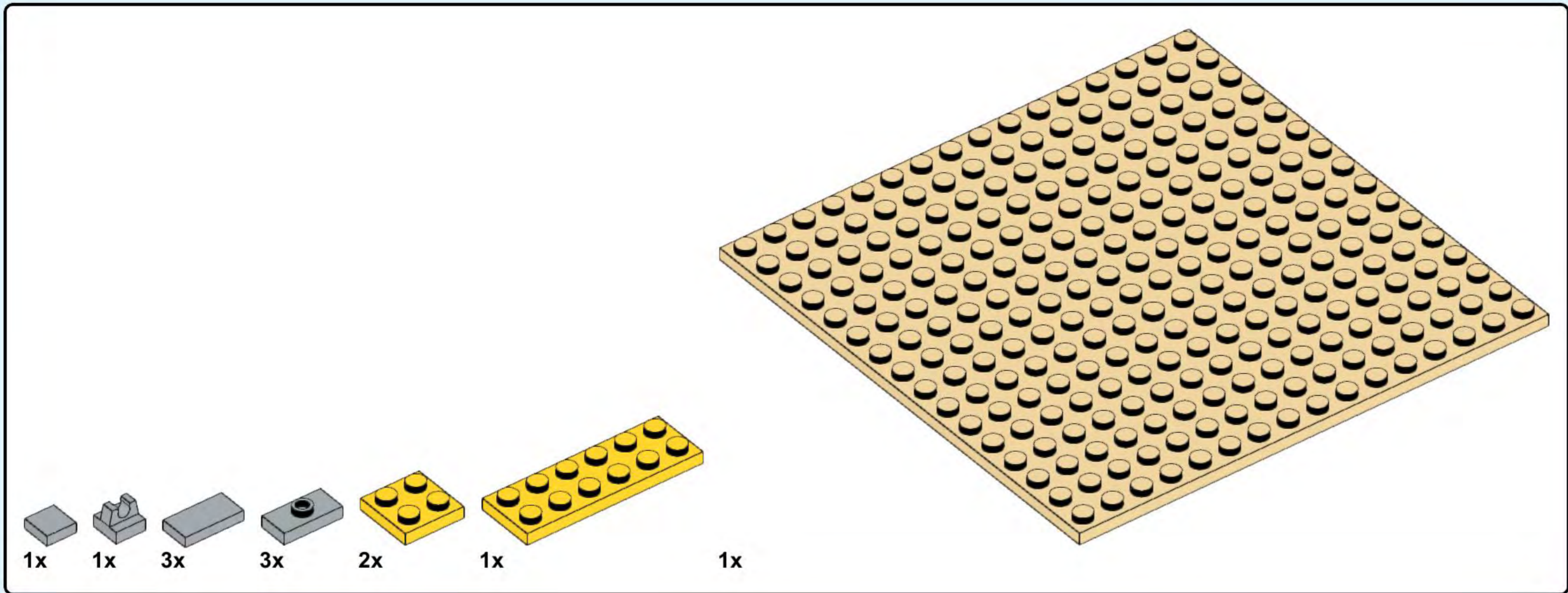


3

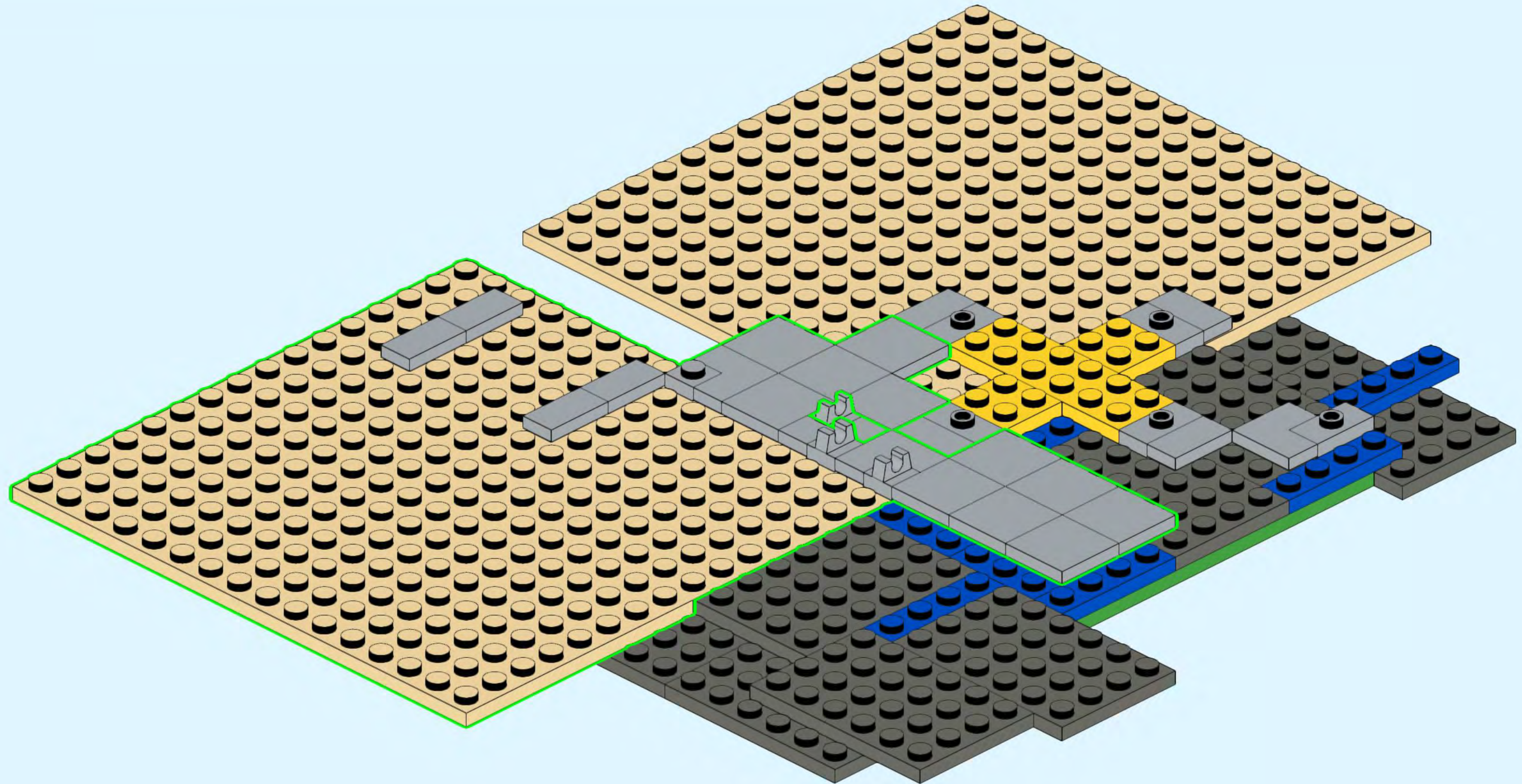
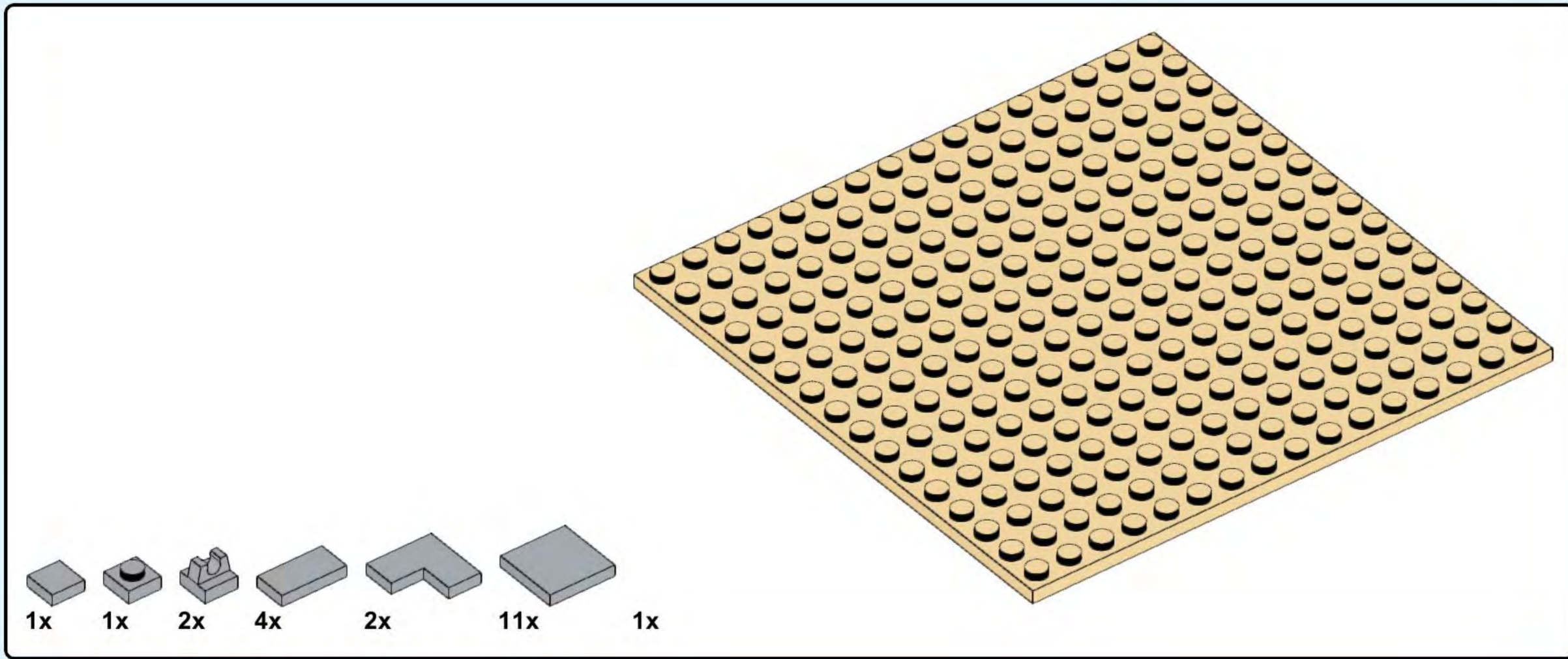




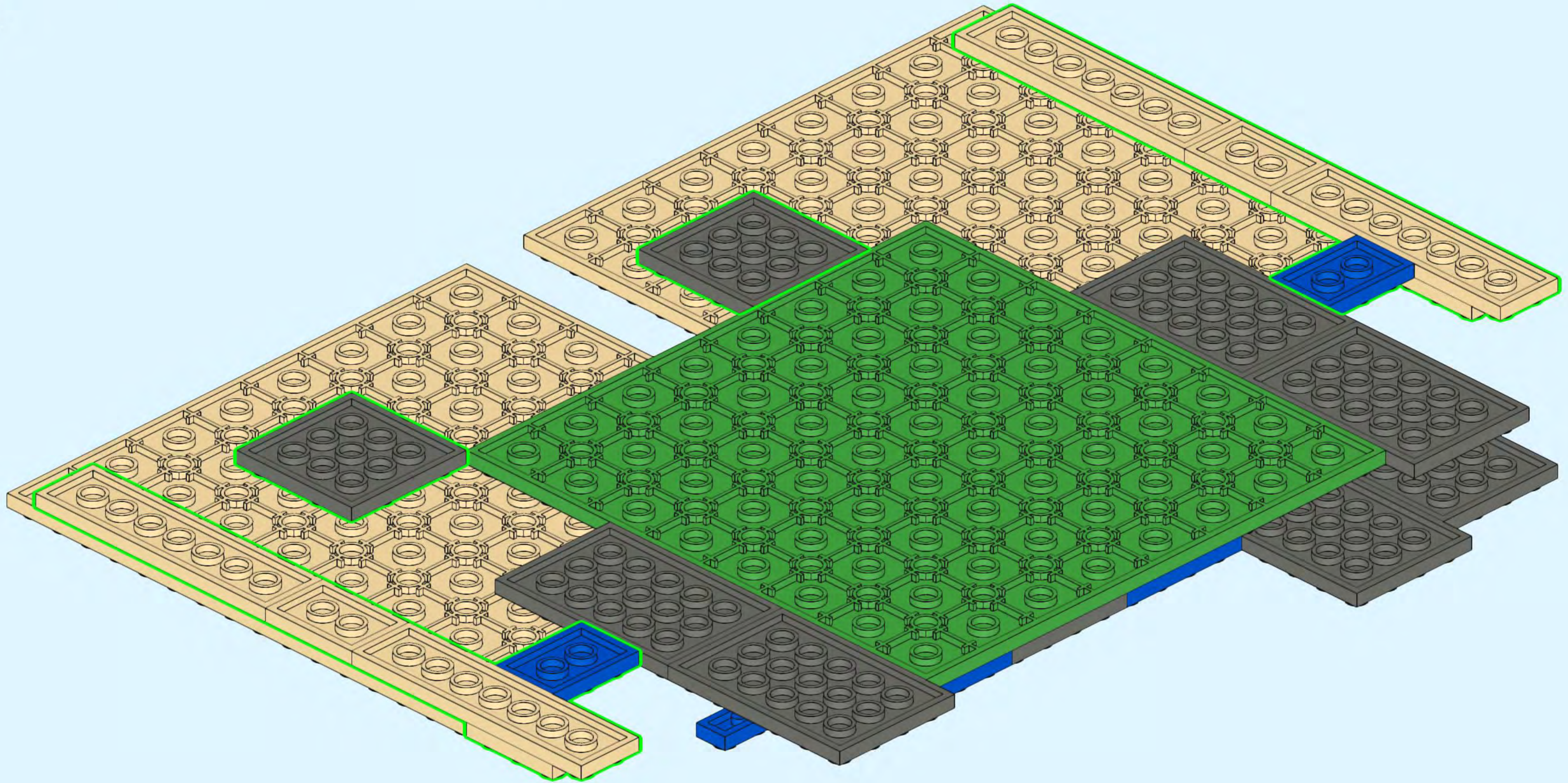
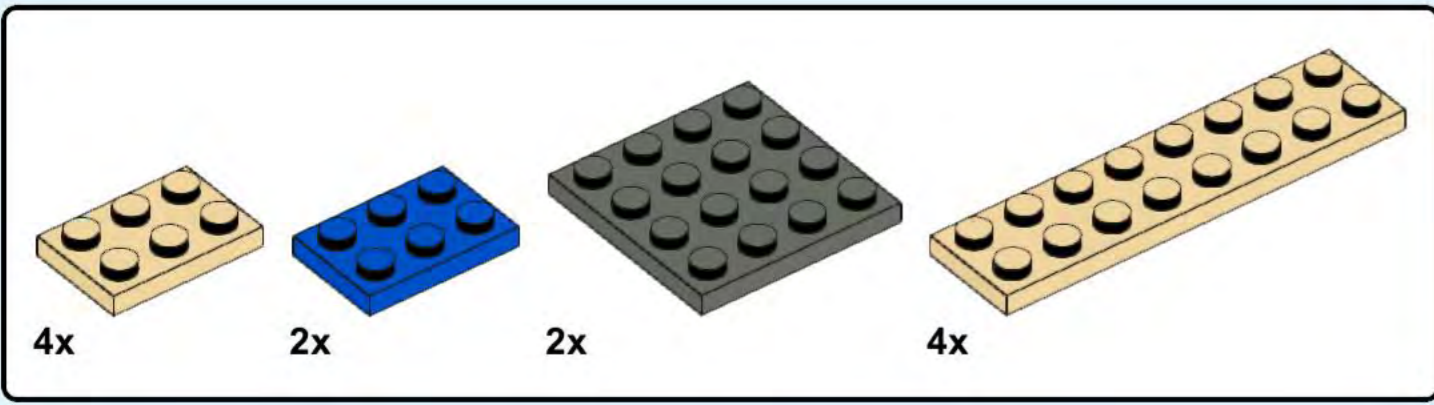
4



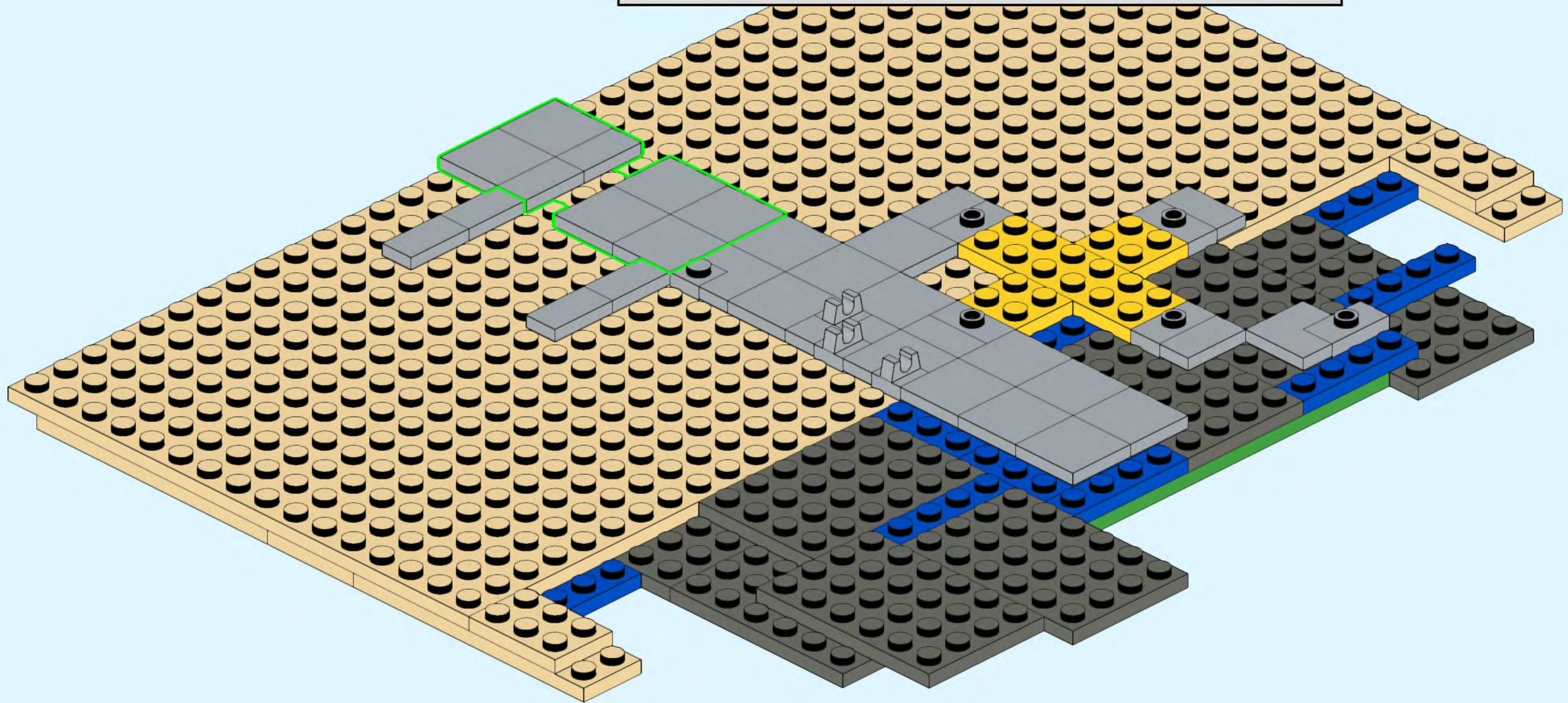
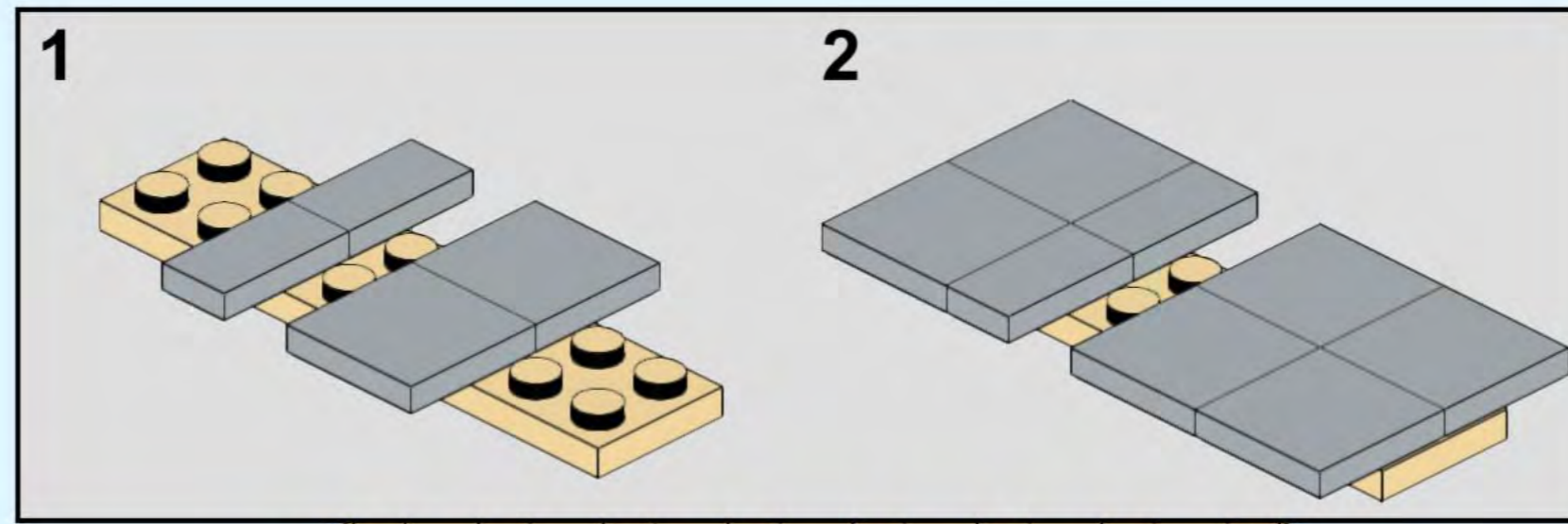
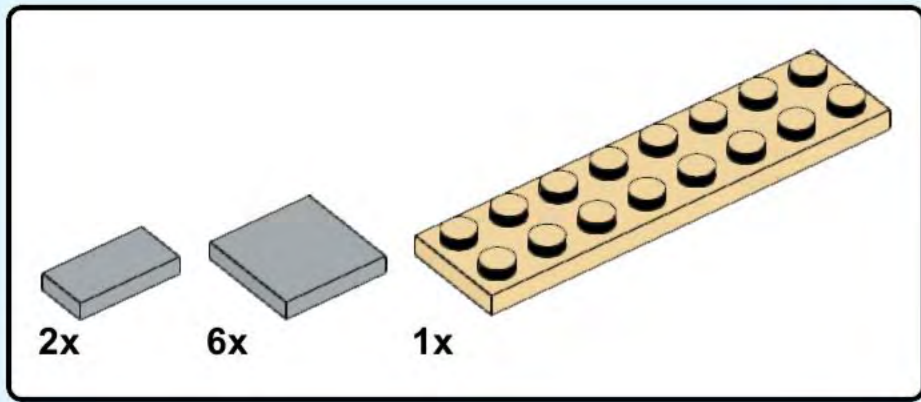
5



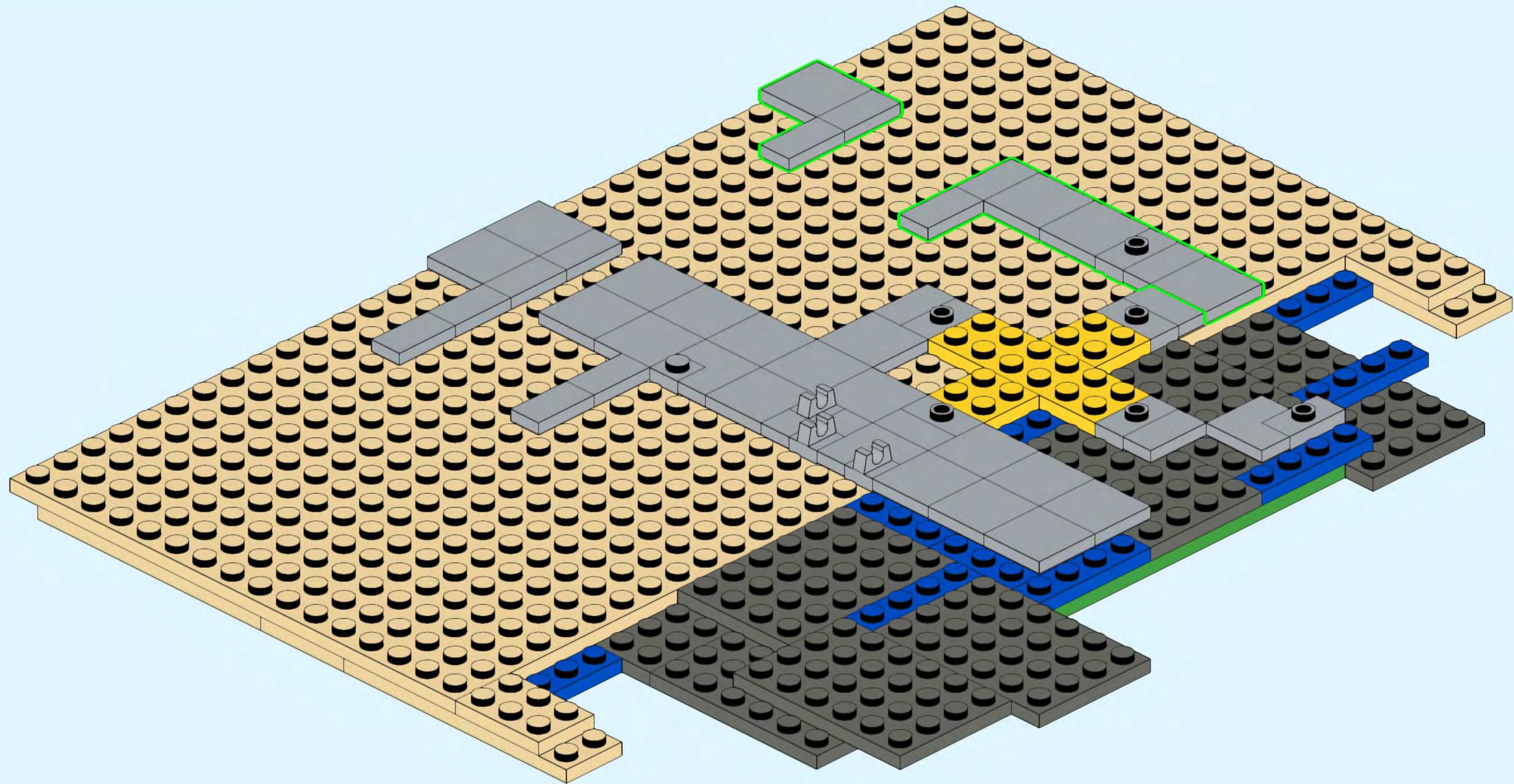
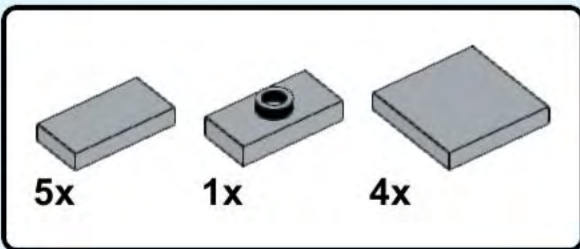
6



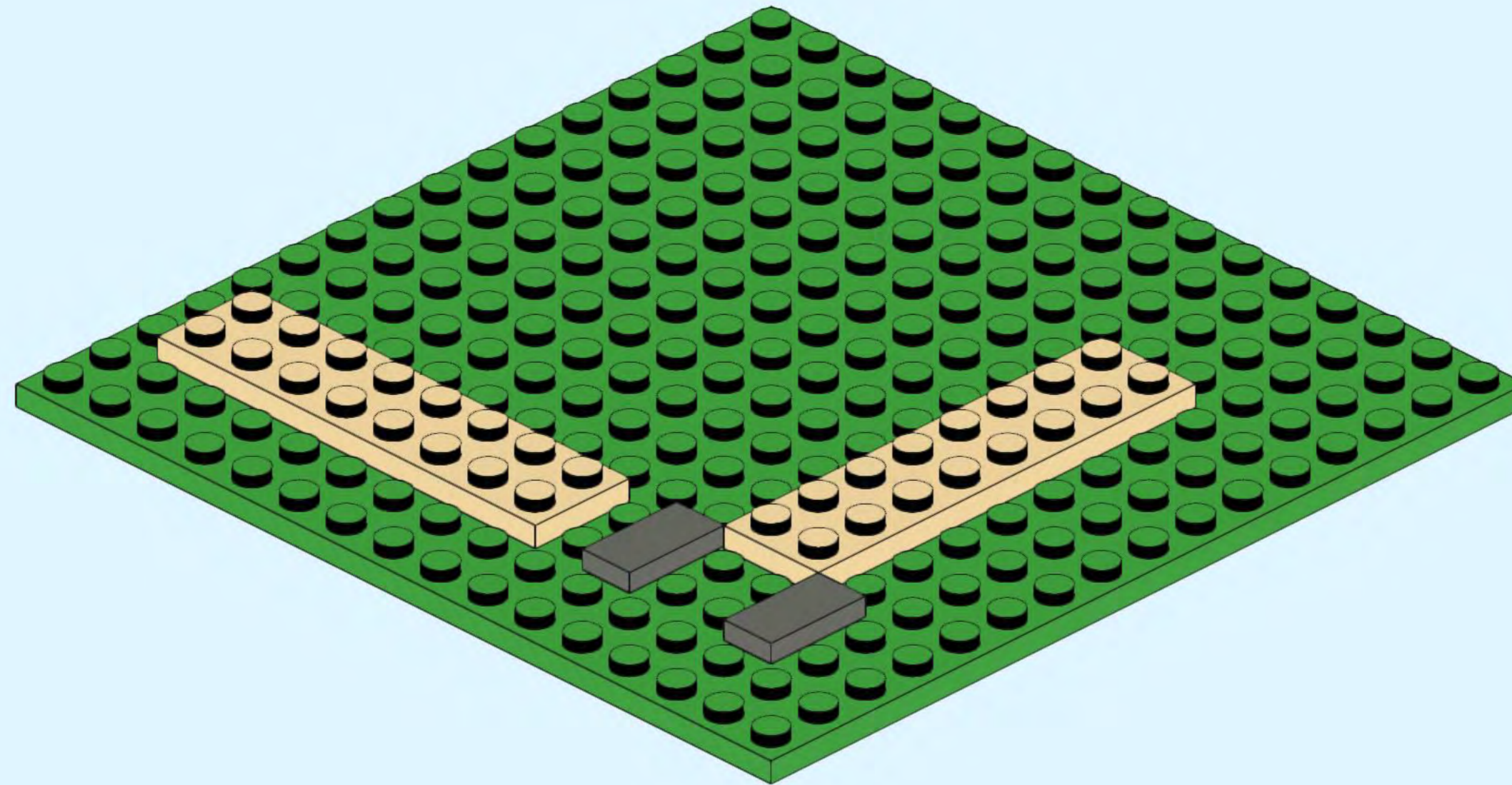
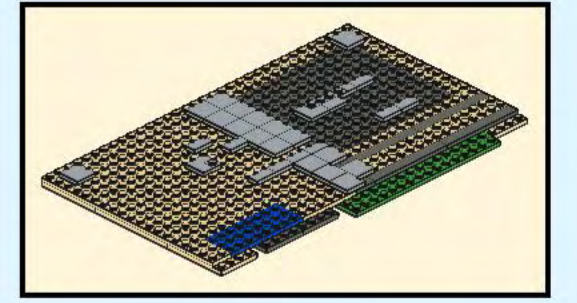
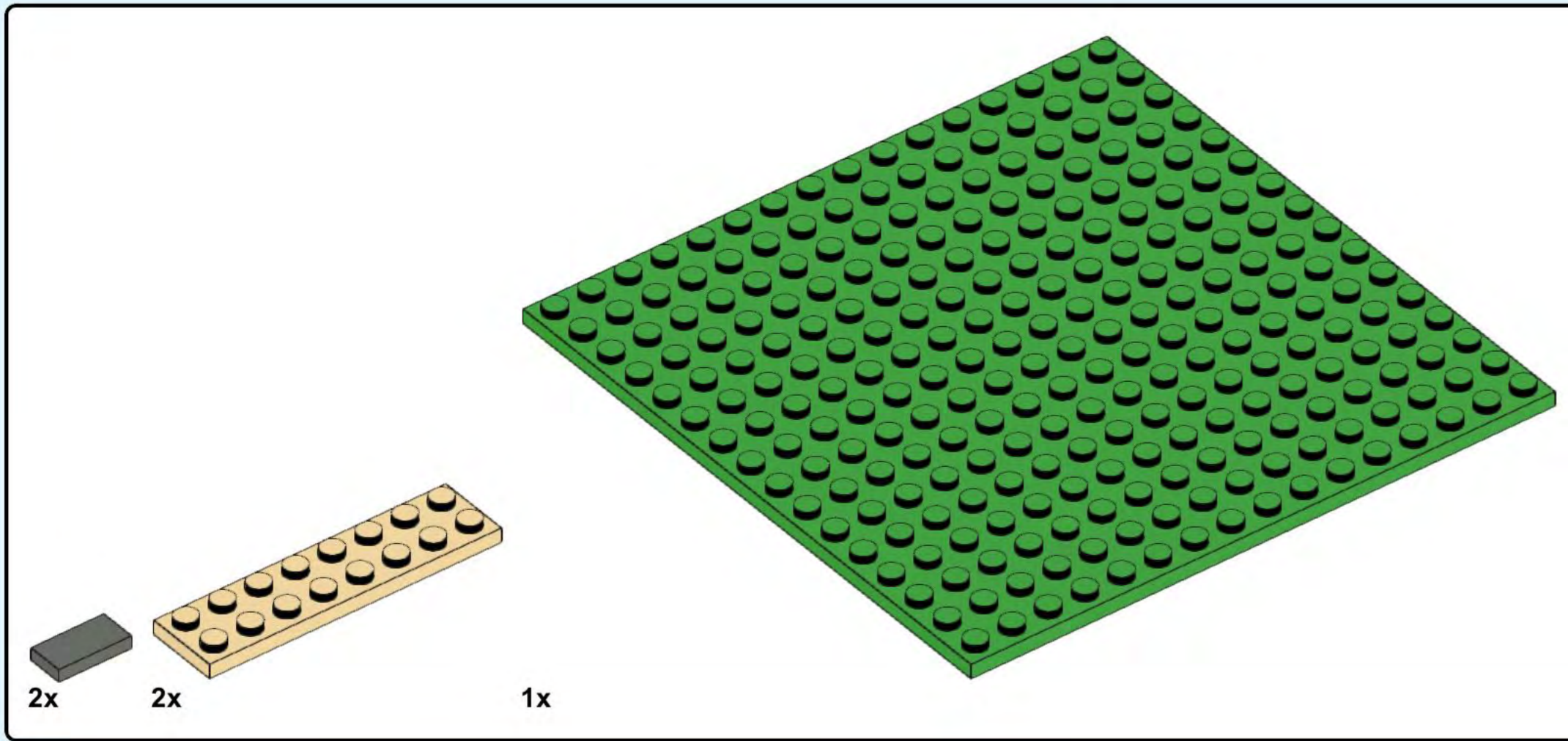
7



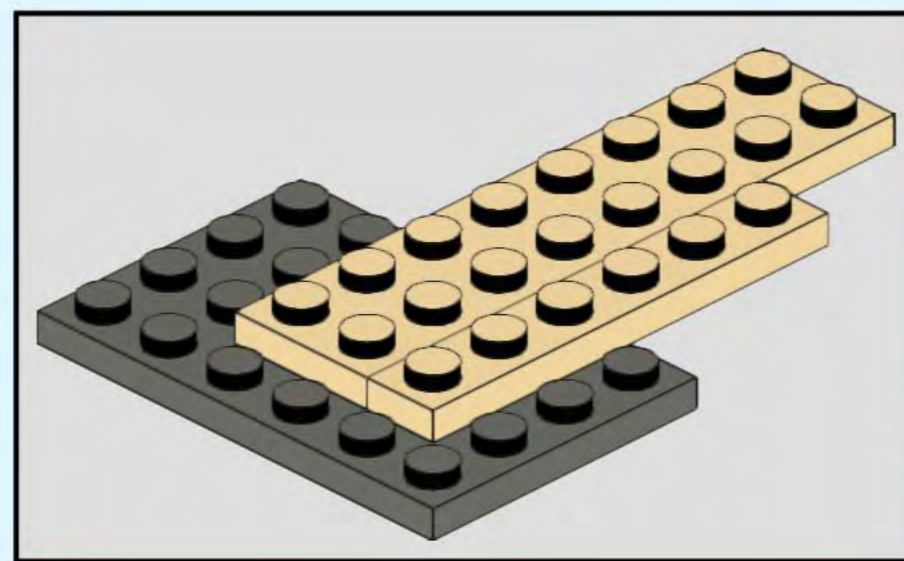
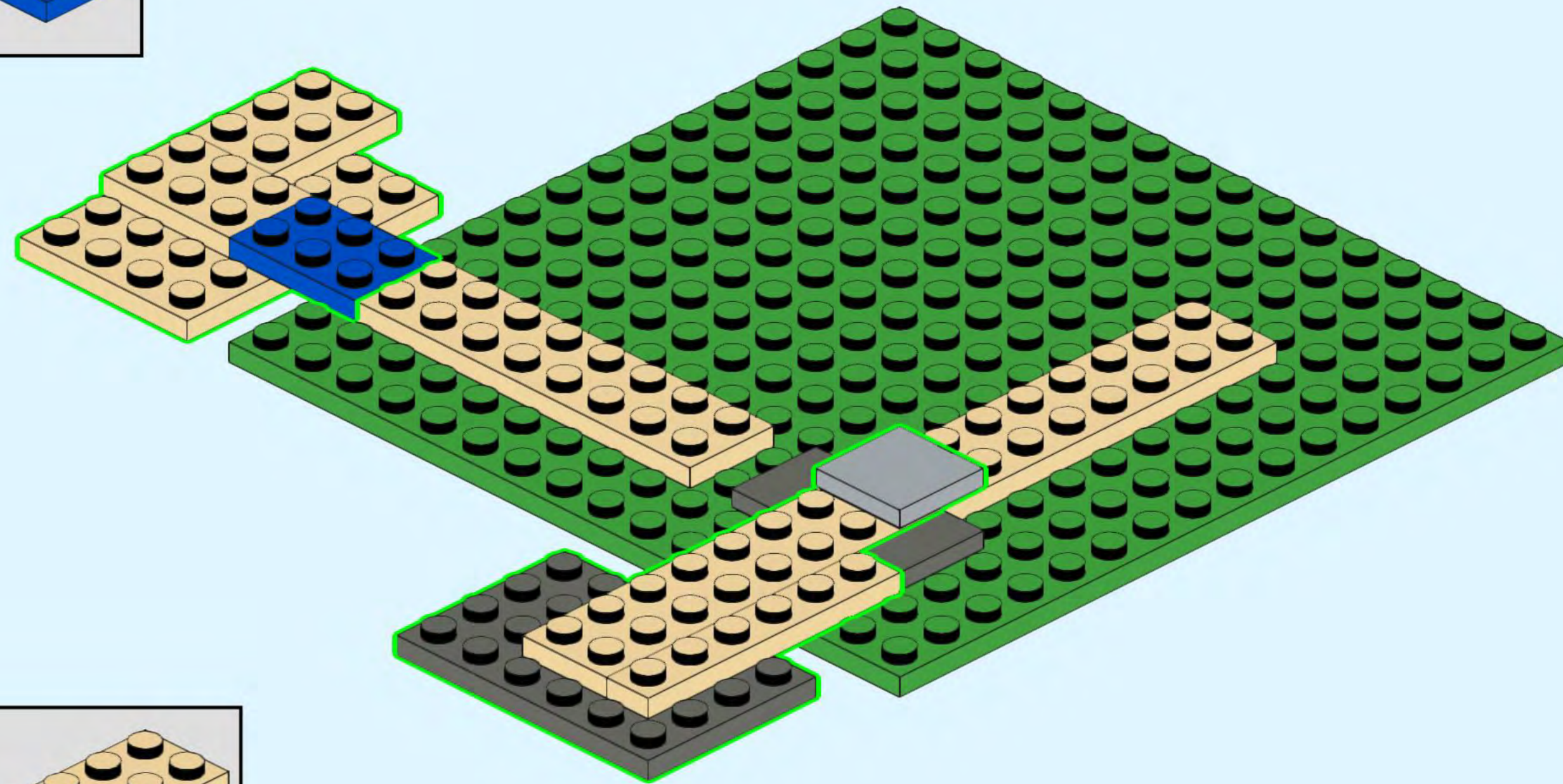
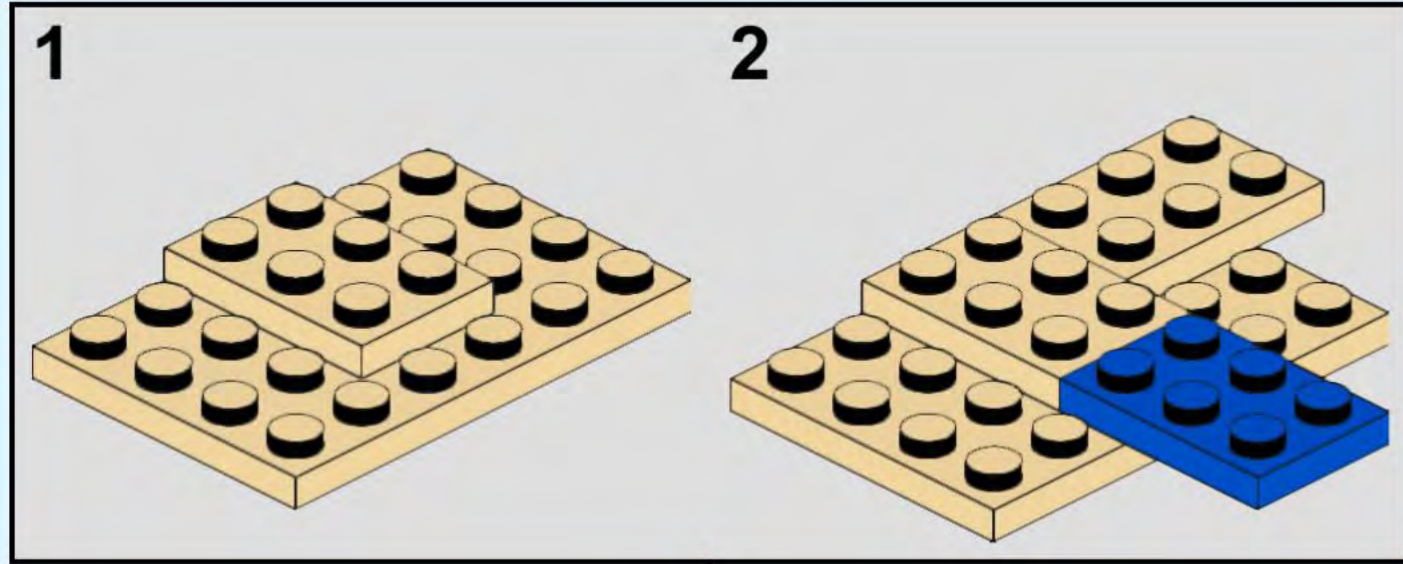
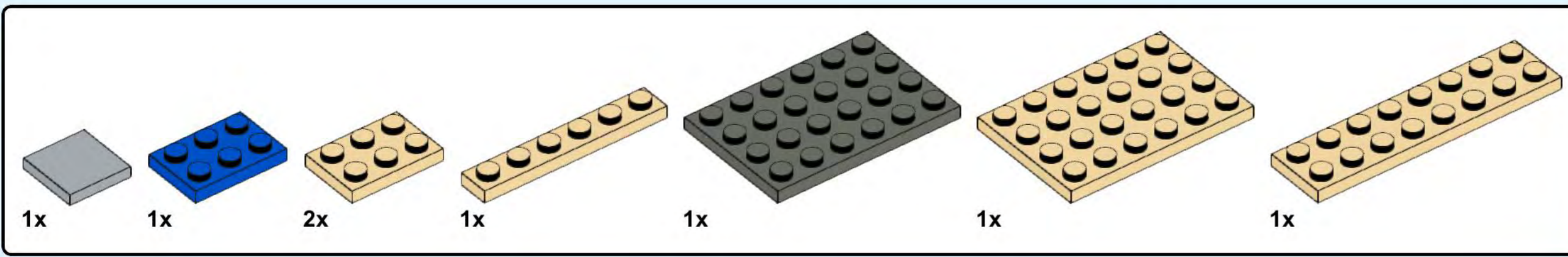
8



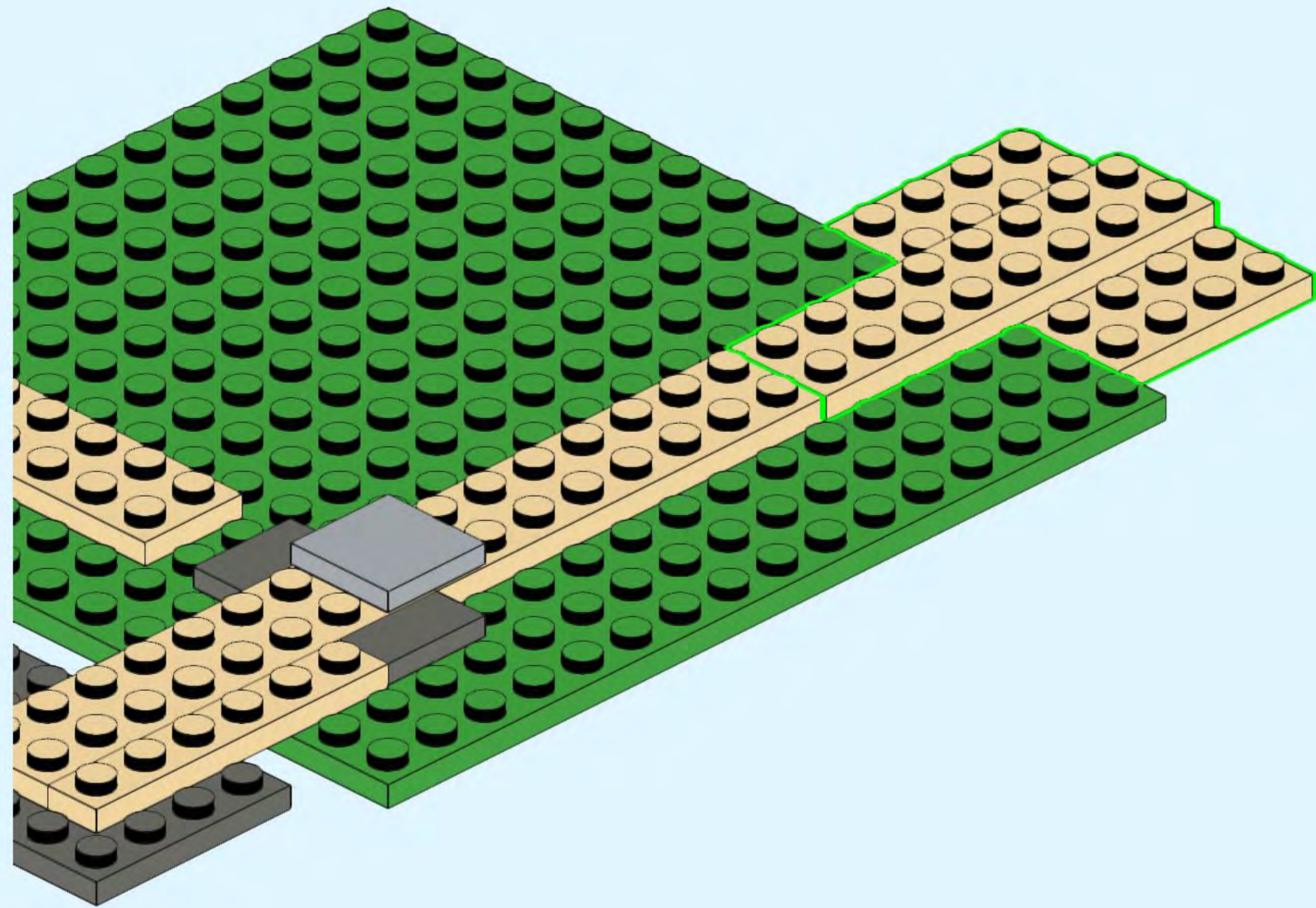
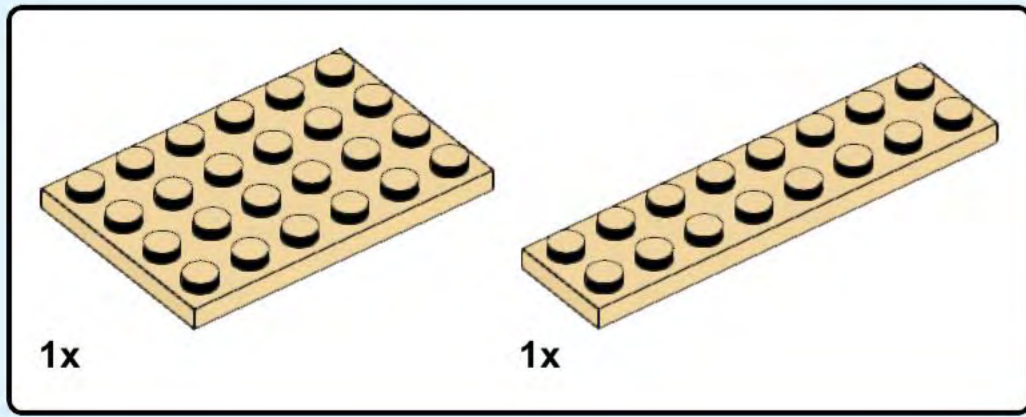
9



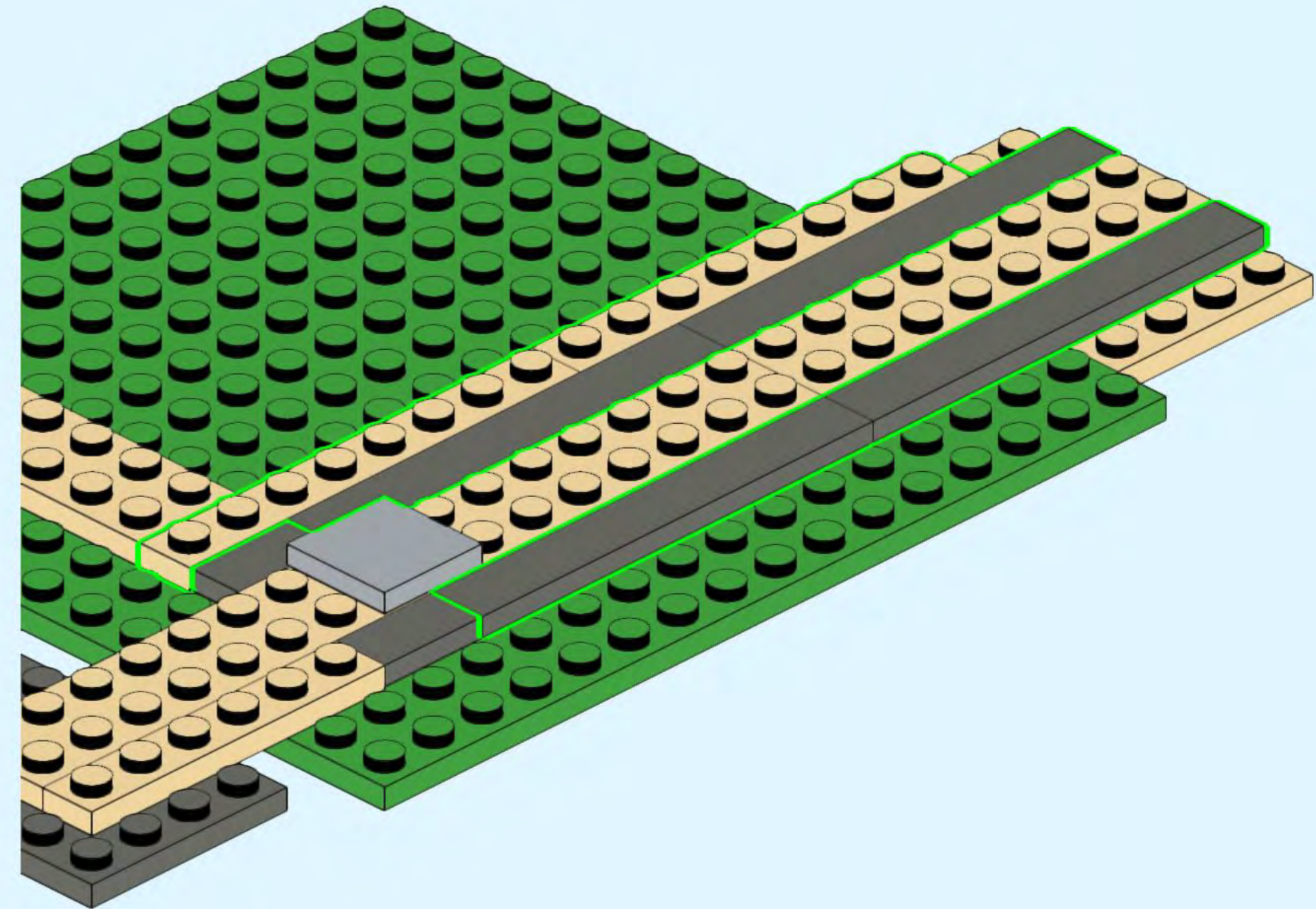
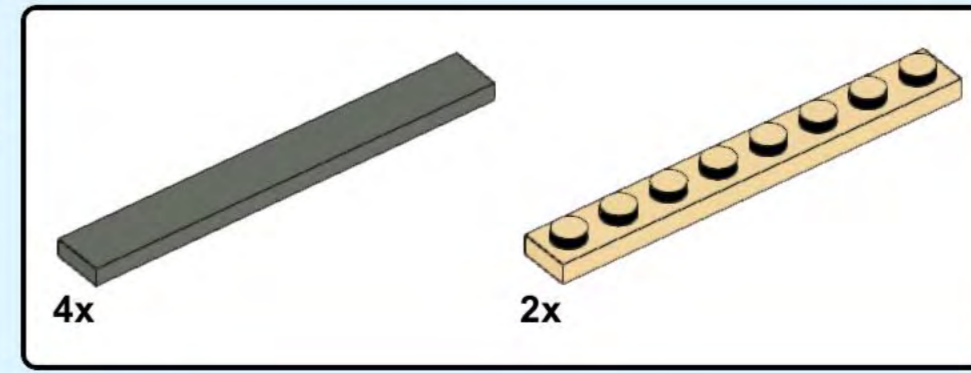
# 10



11

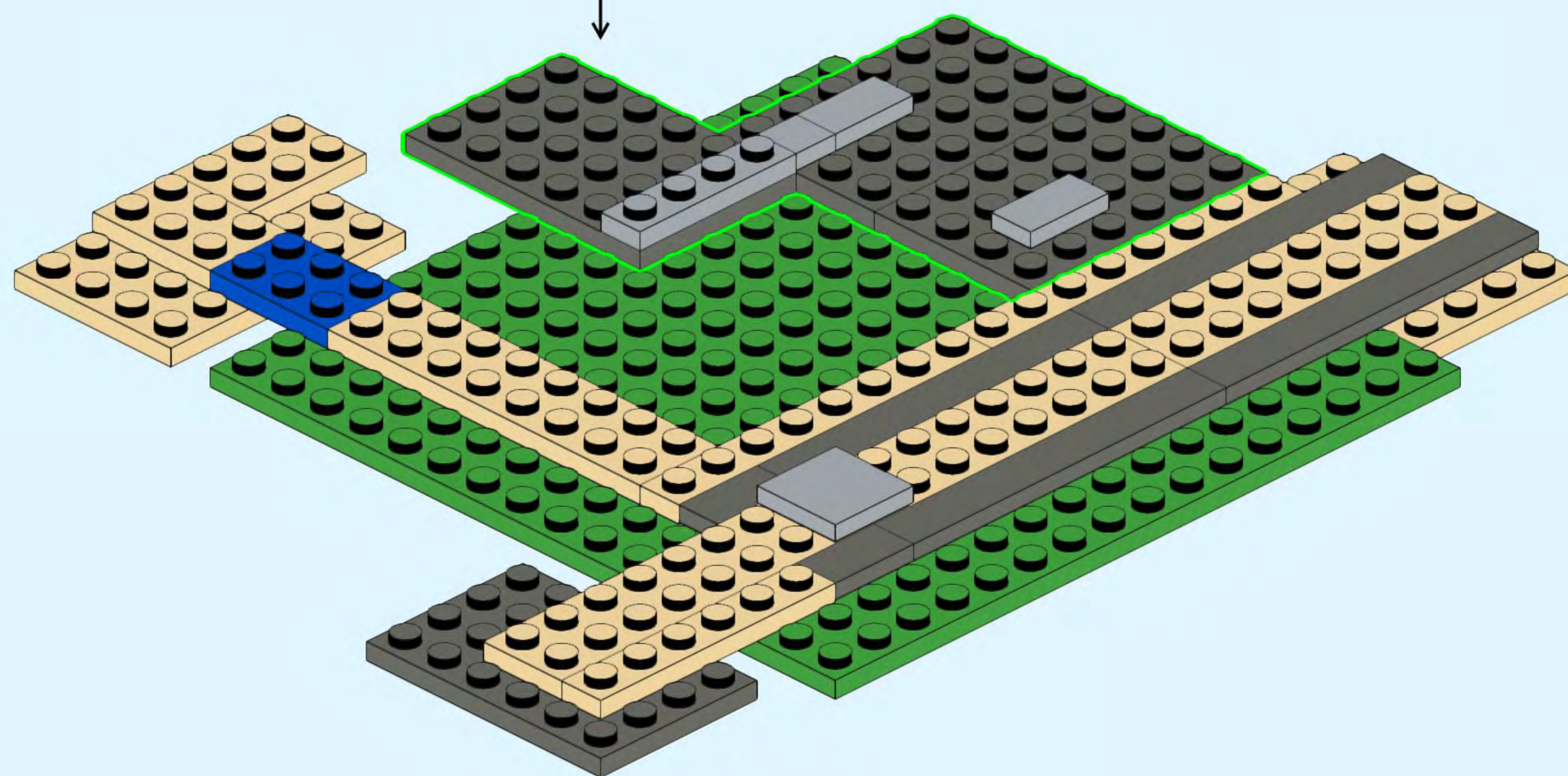
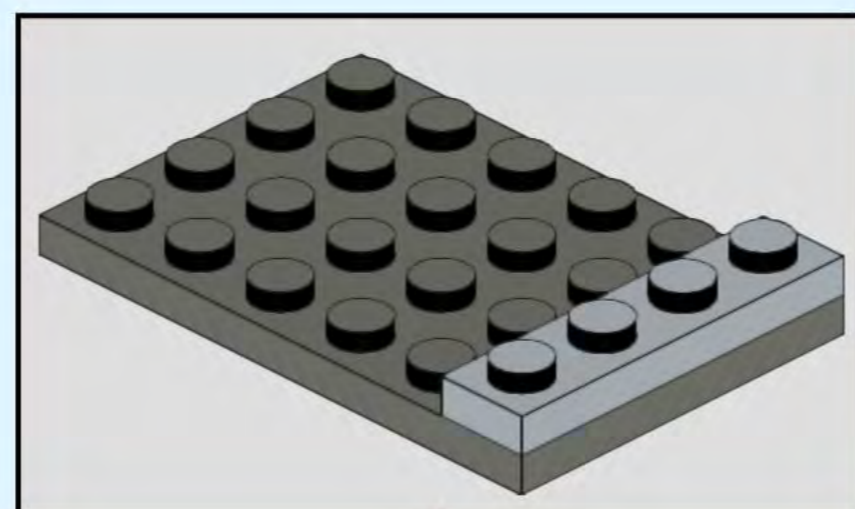
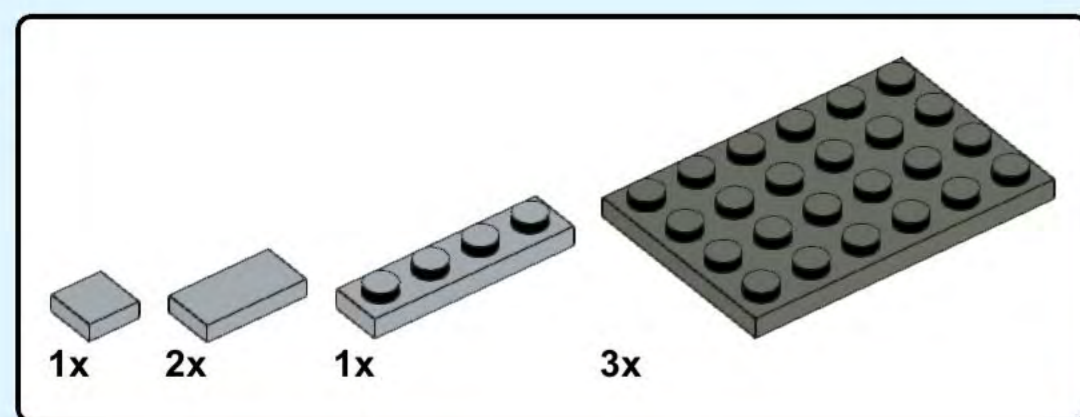


12

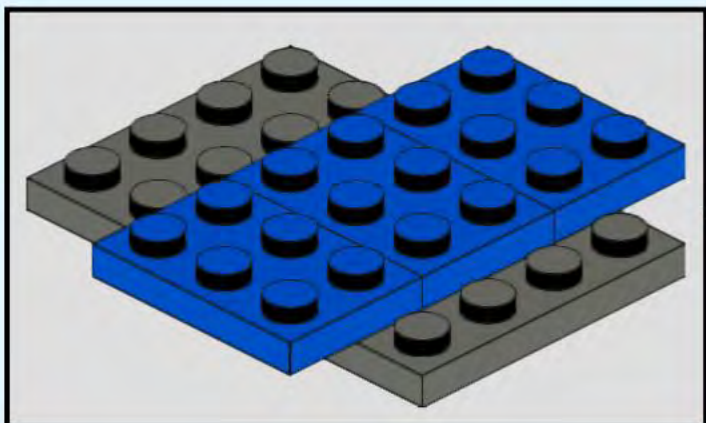
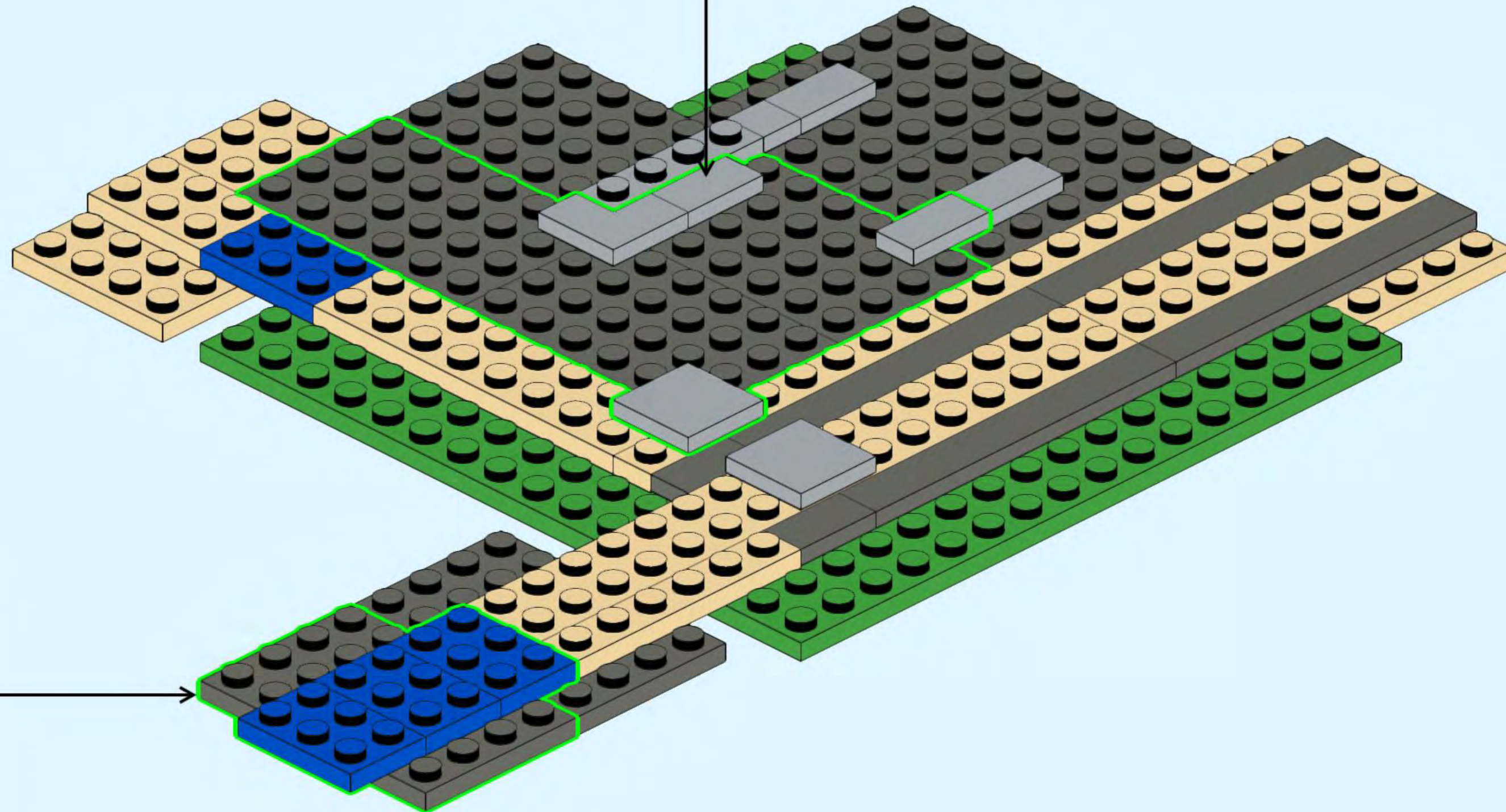
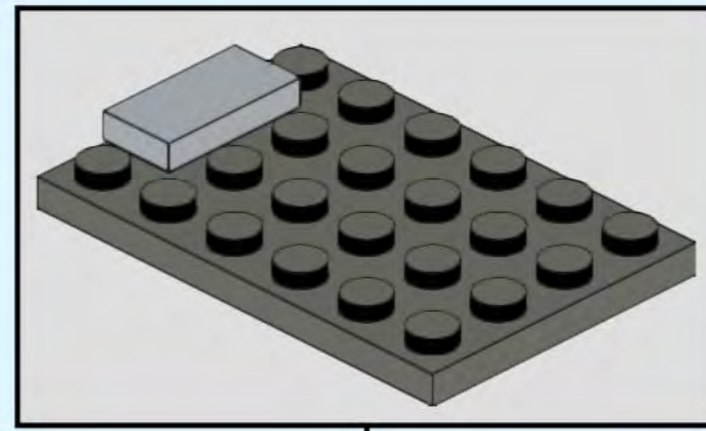
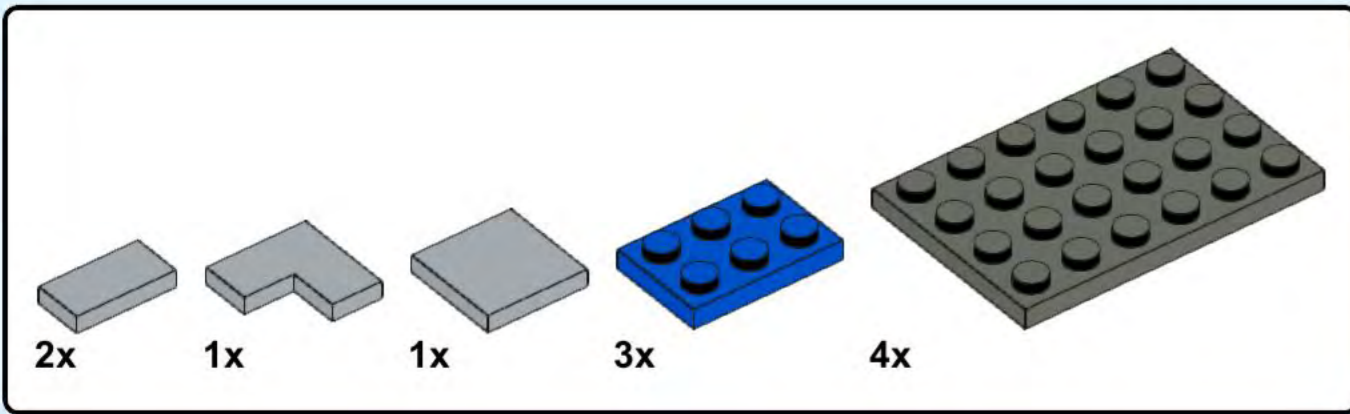




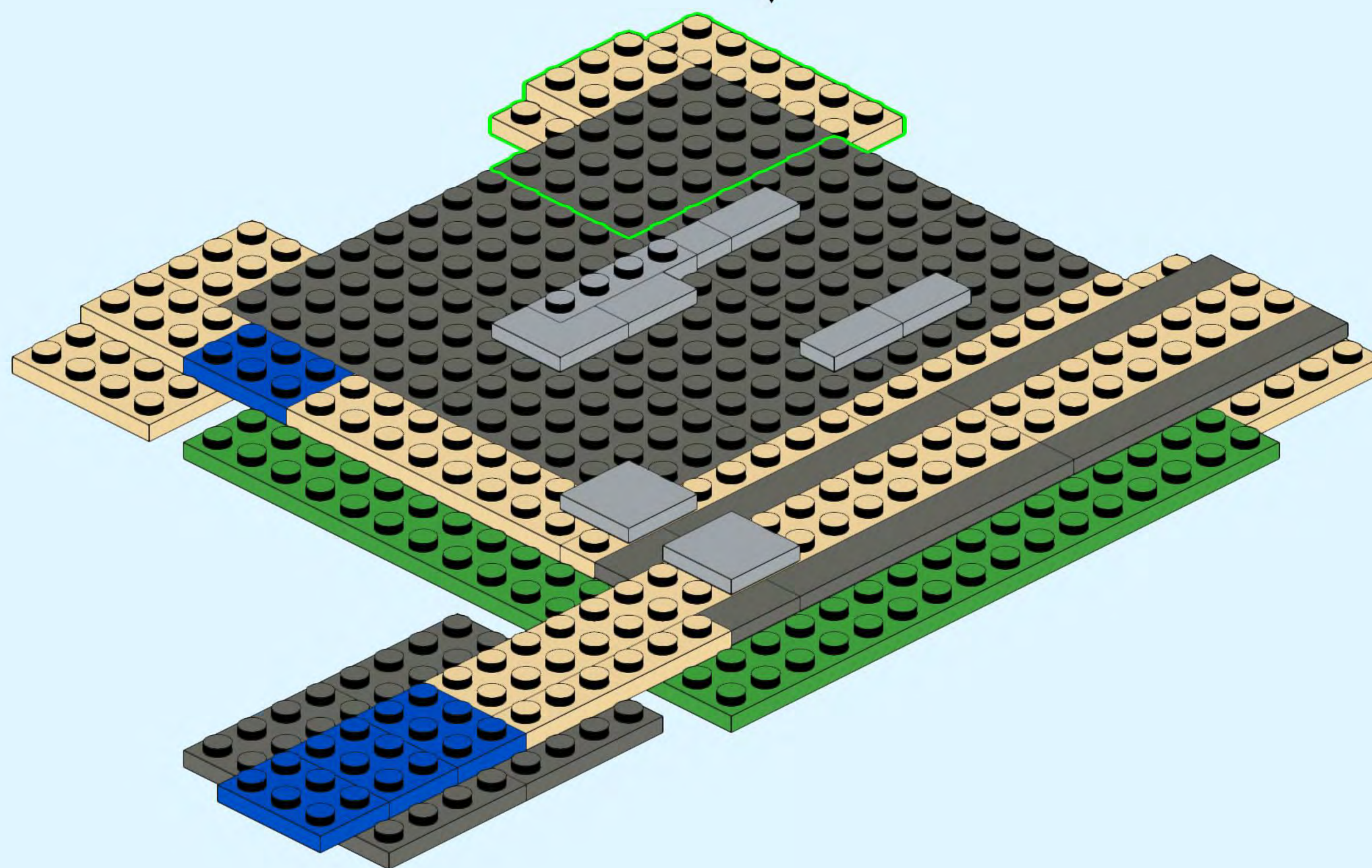
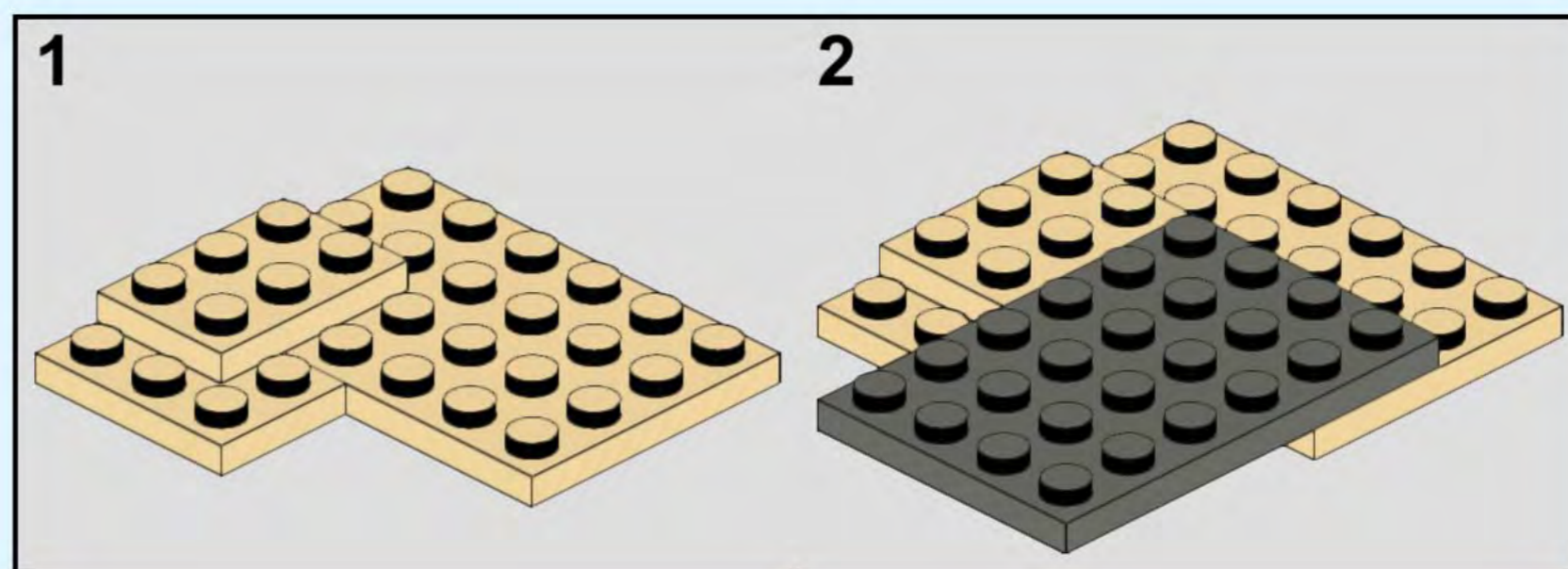
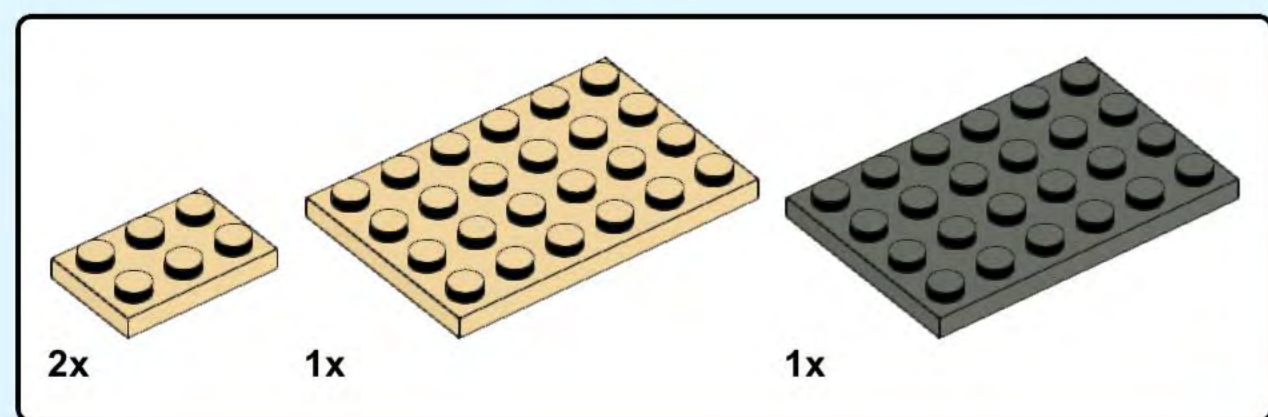
13



14

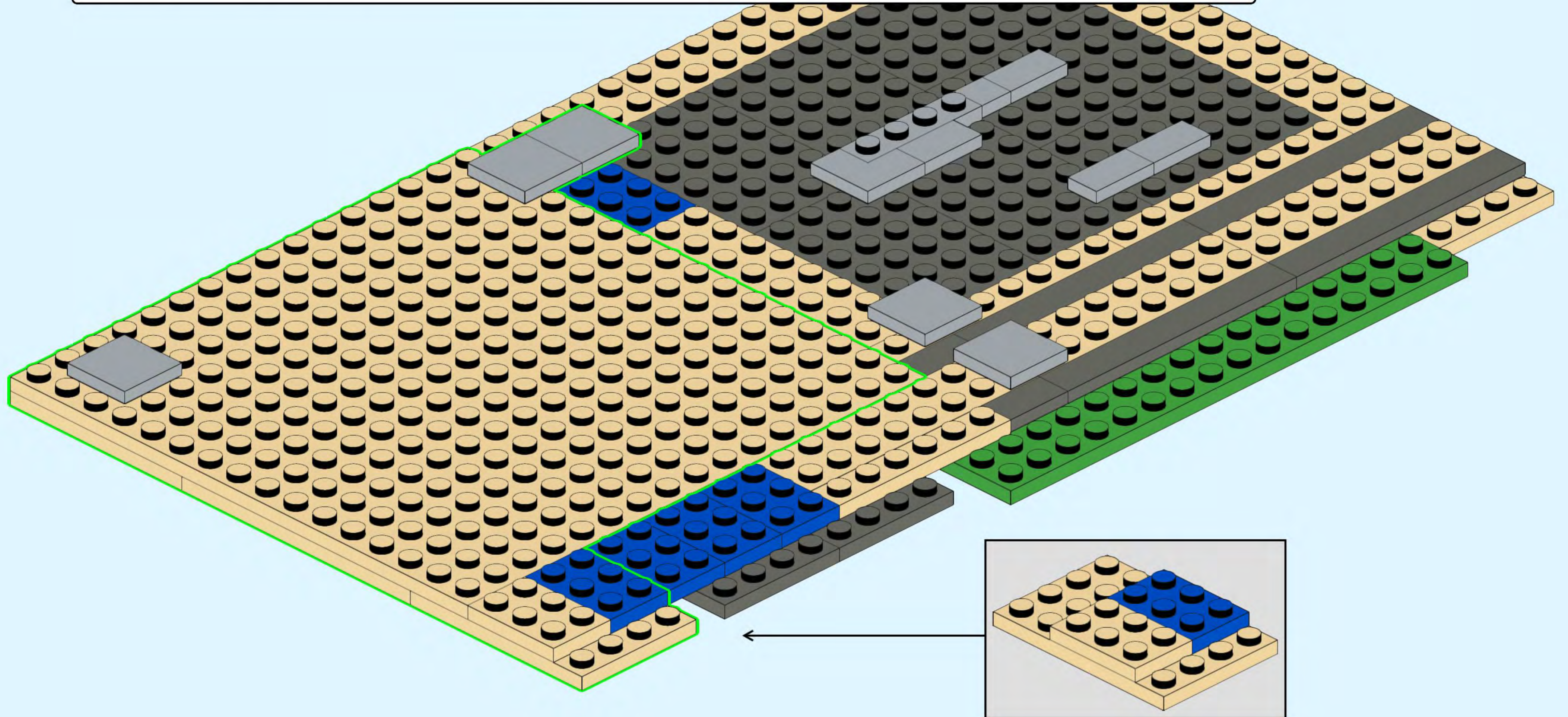
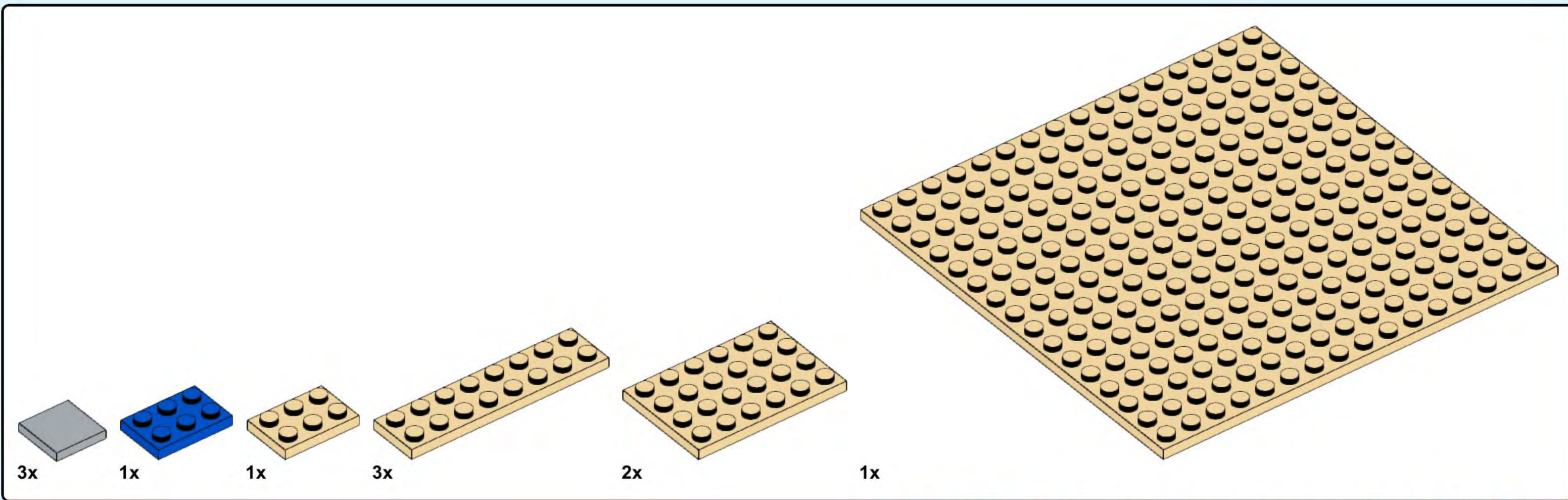


15

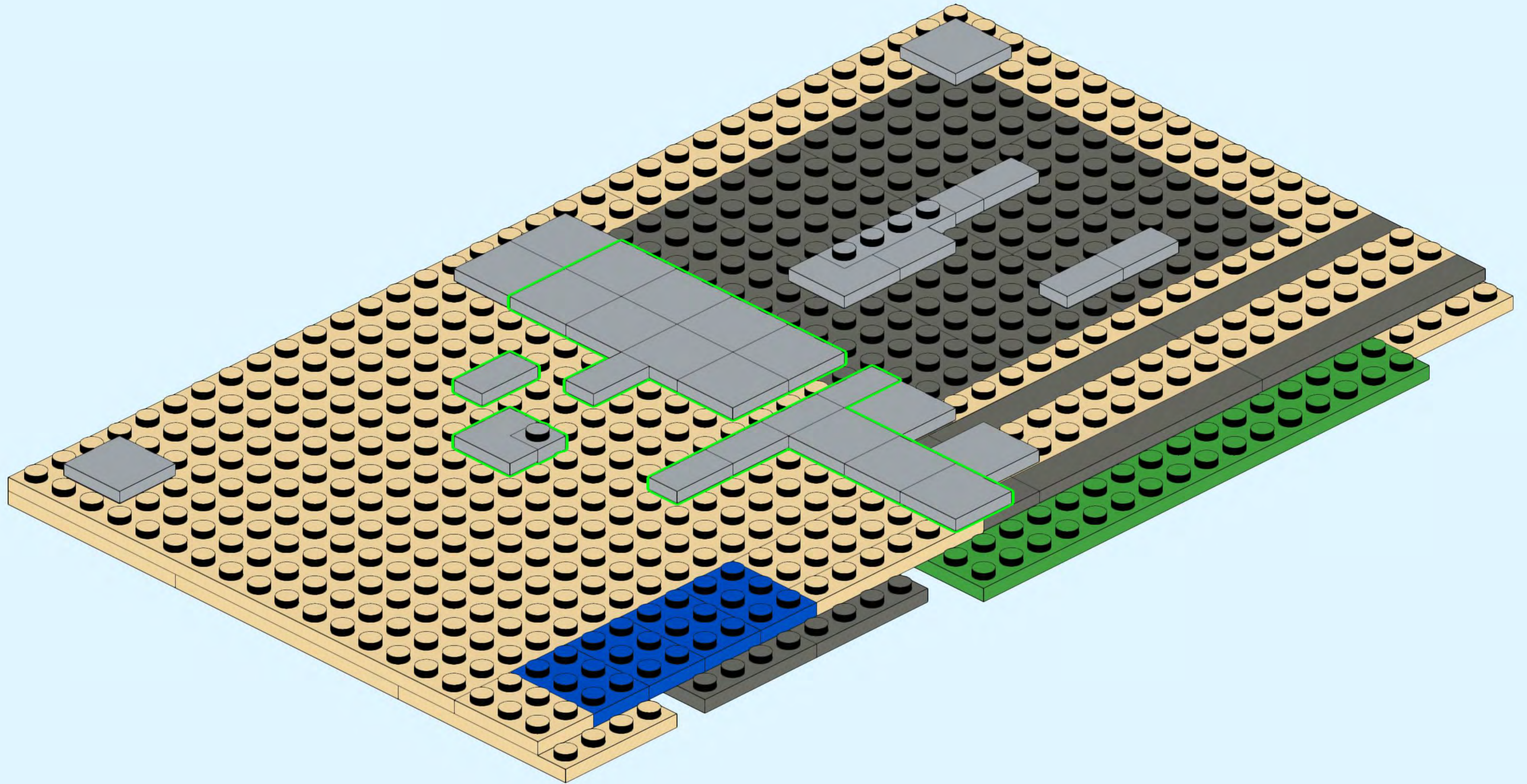
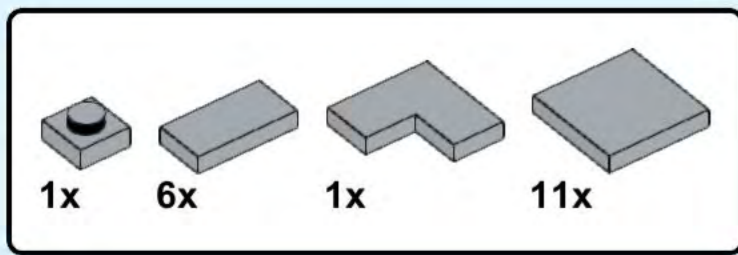




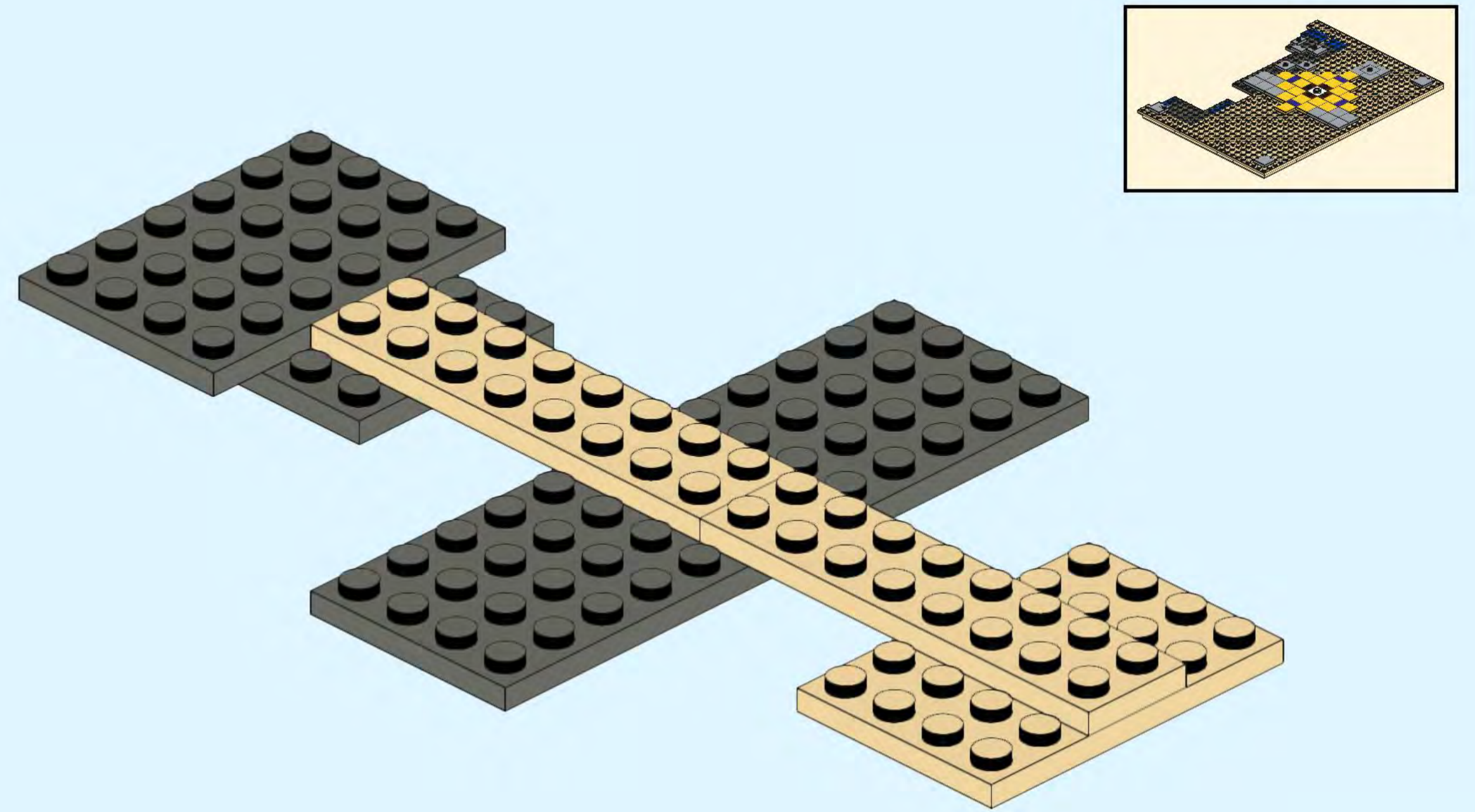
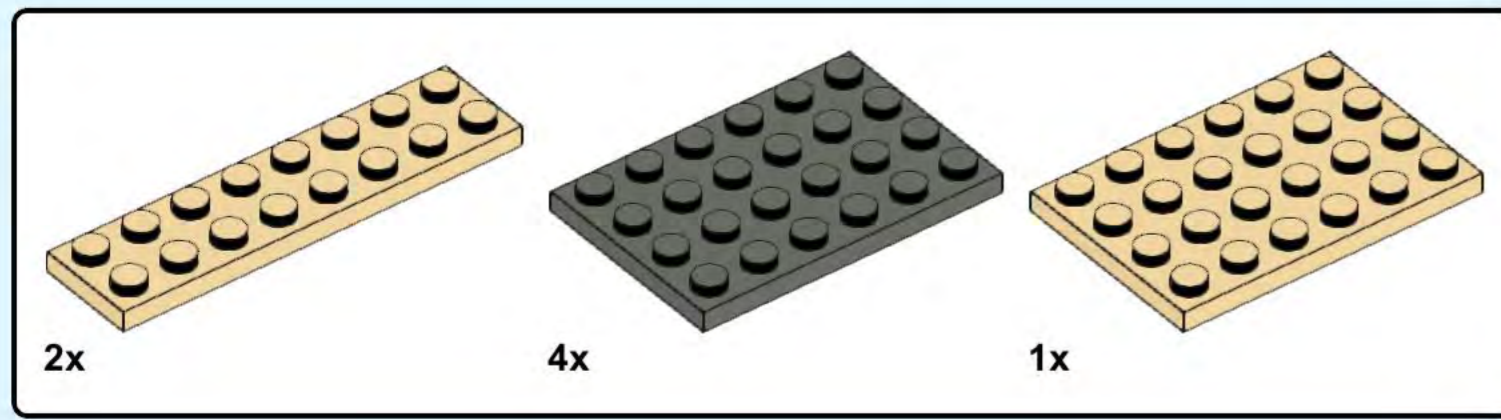
18



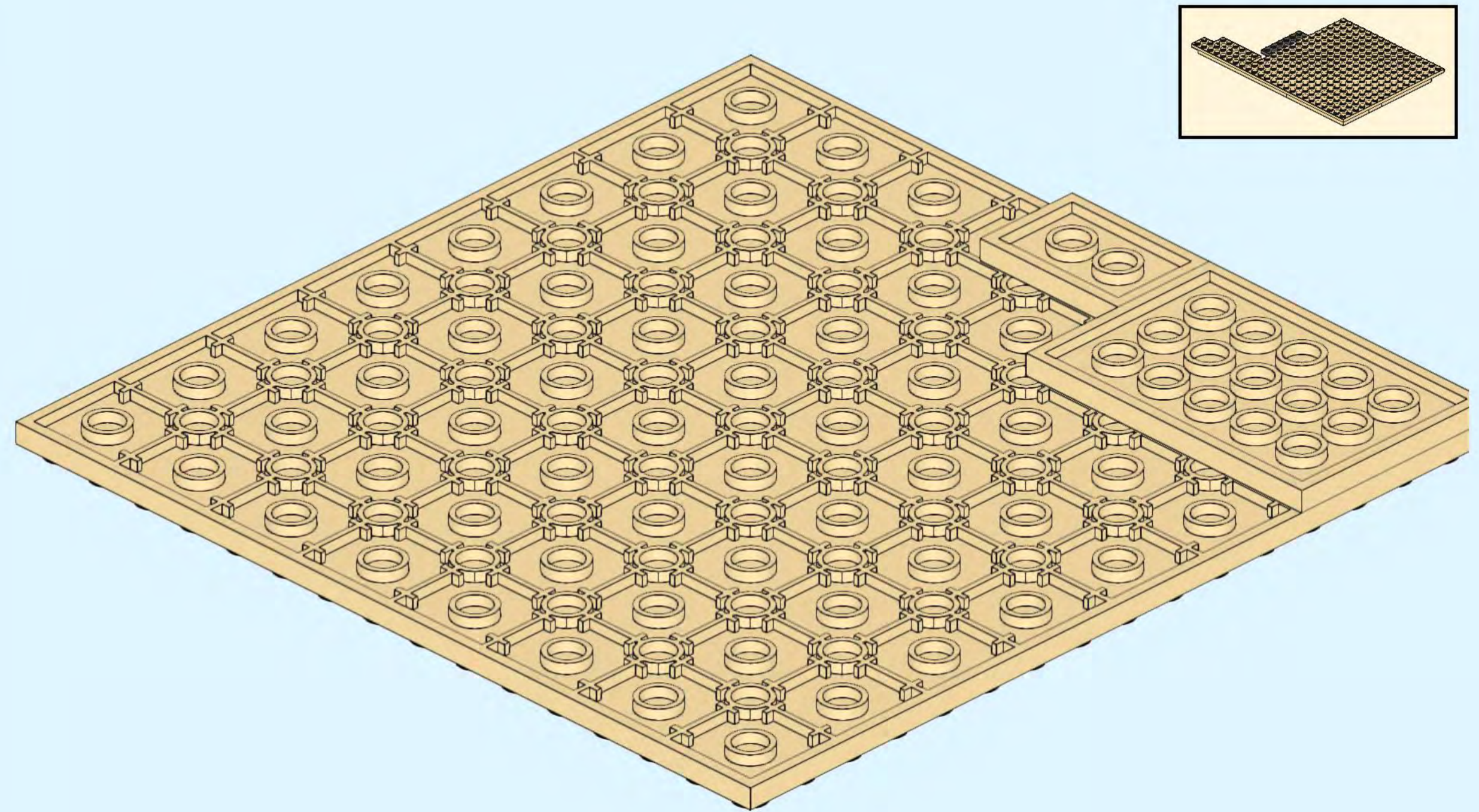
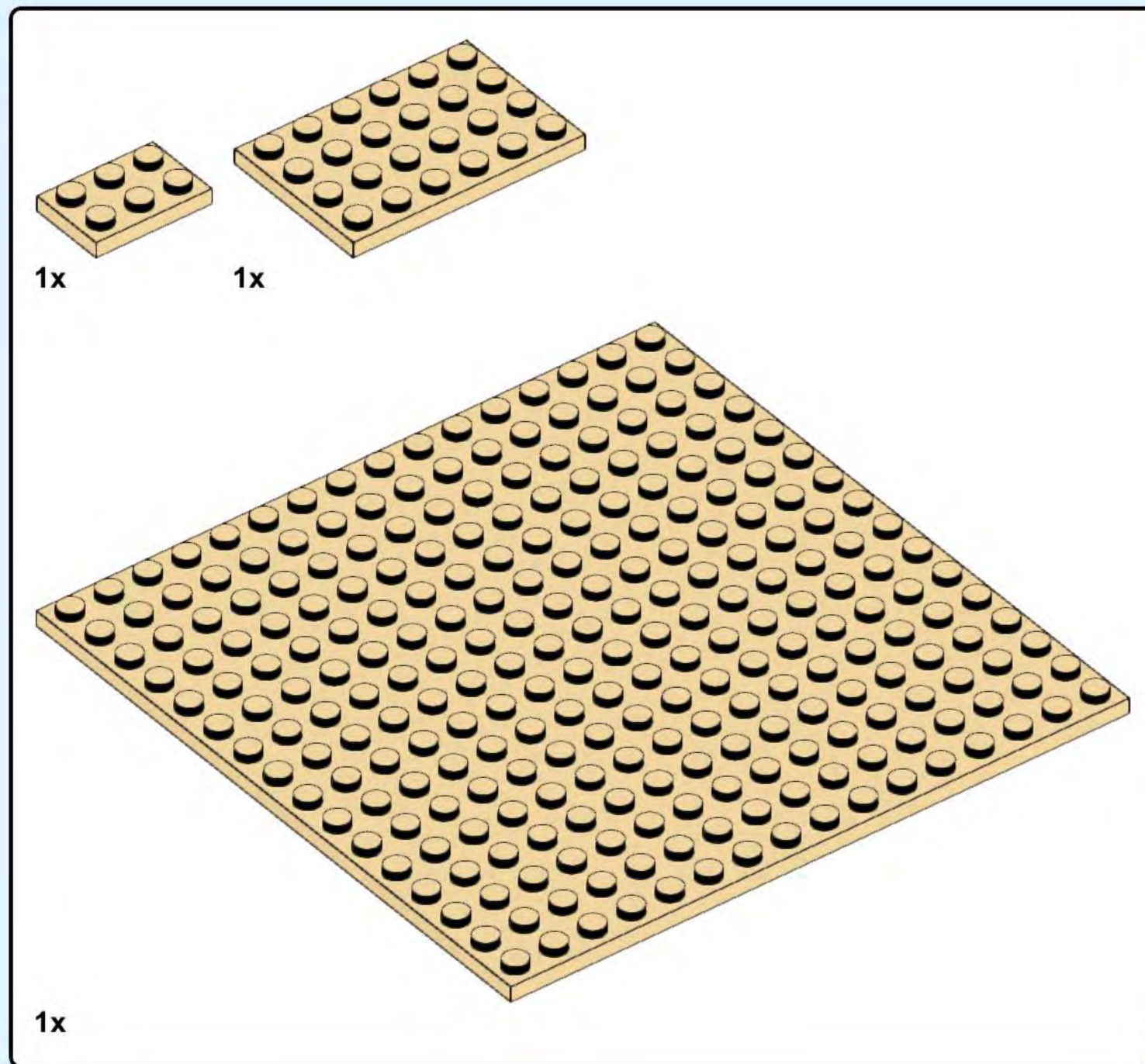
19



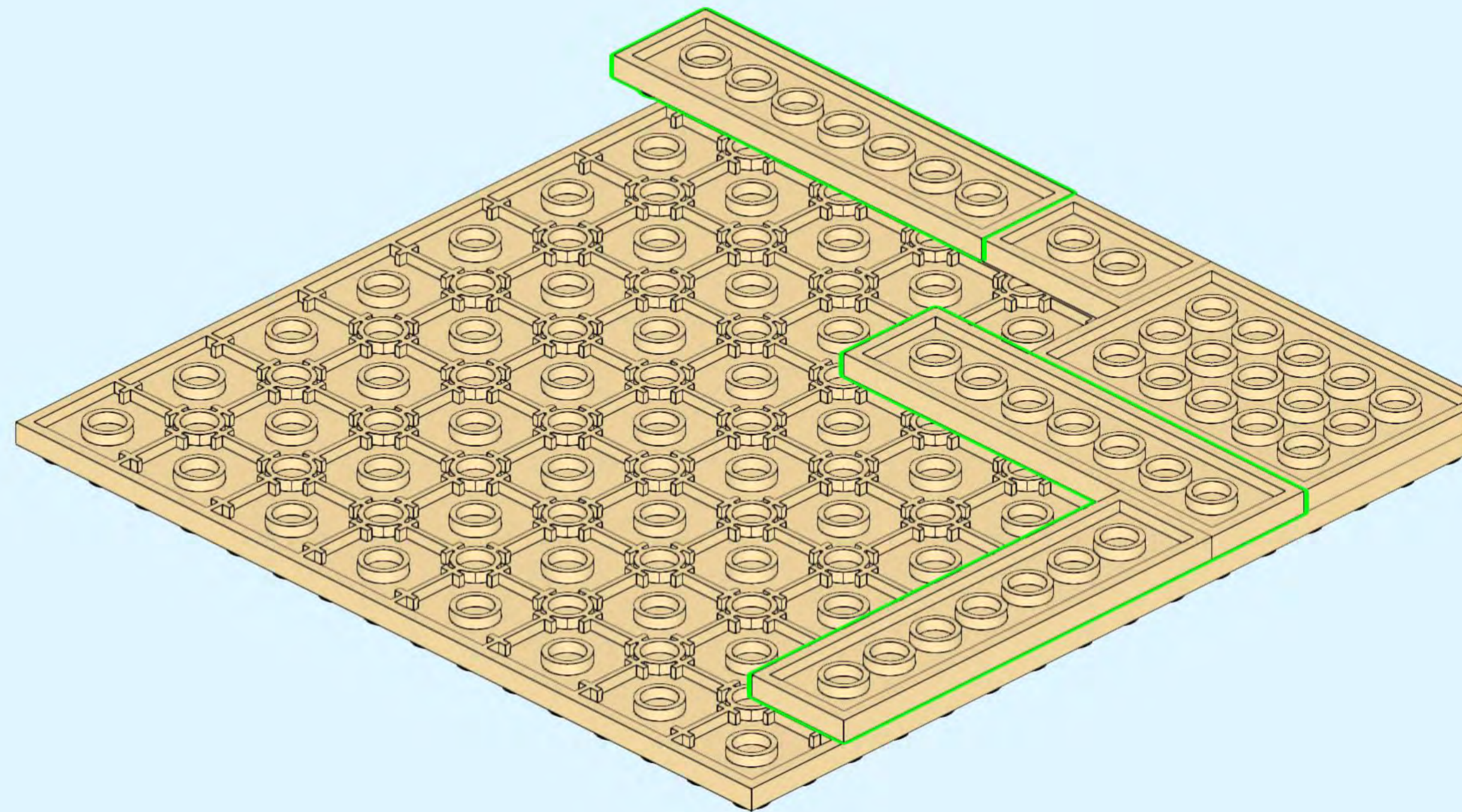
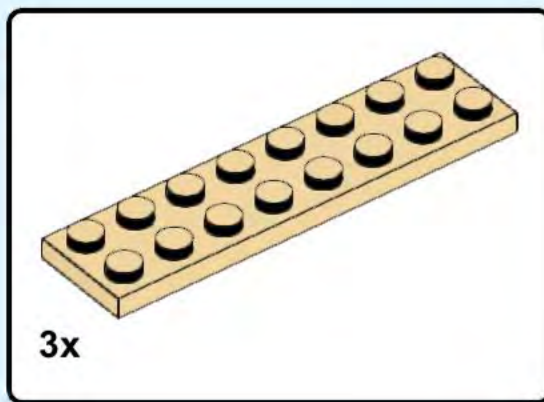
20



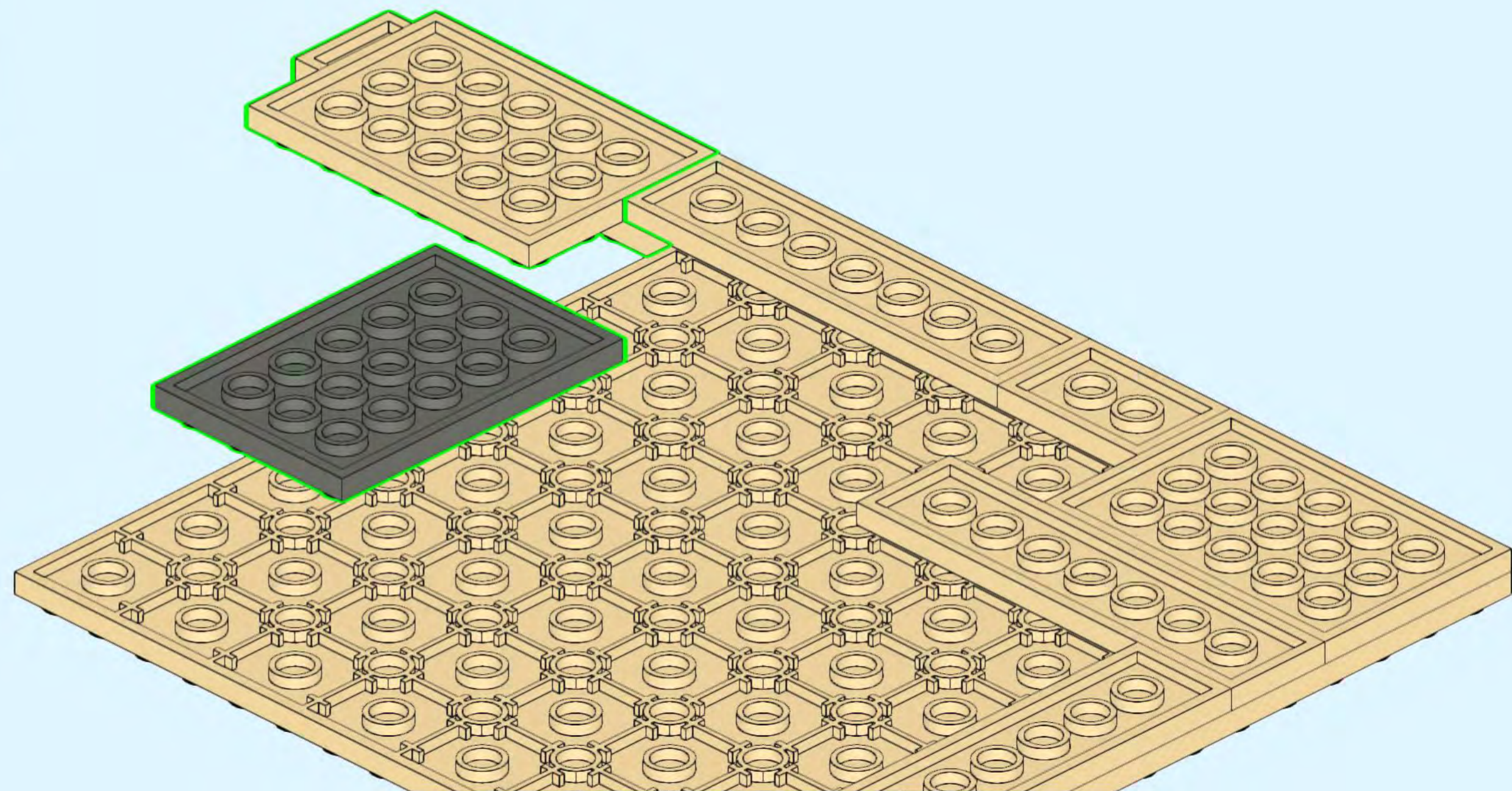
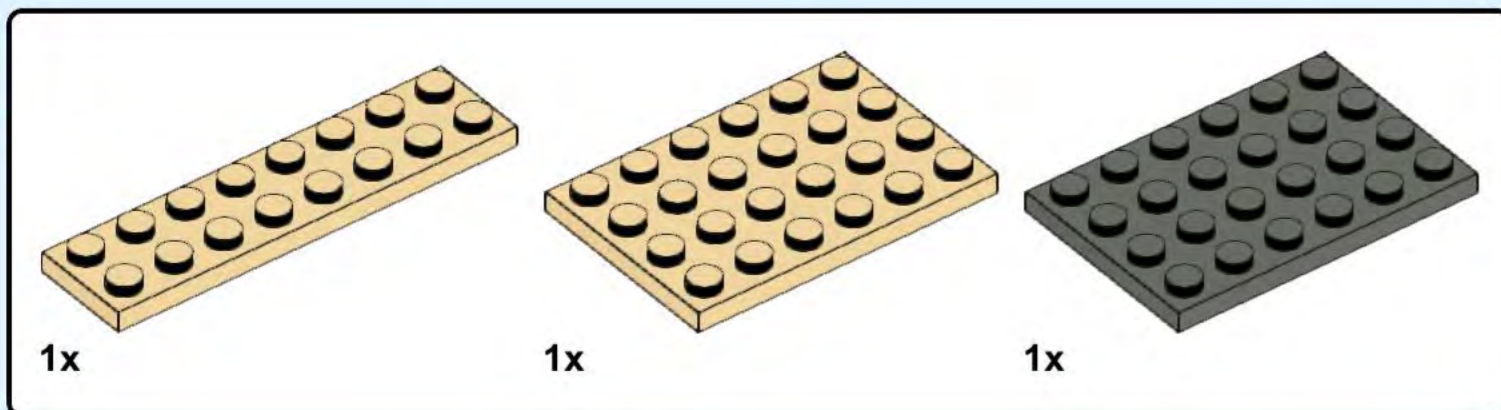
21



22

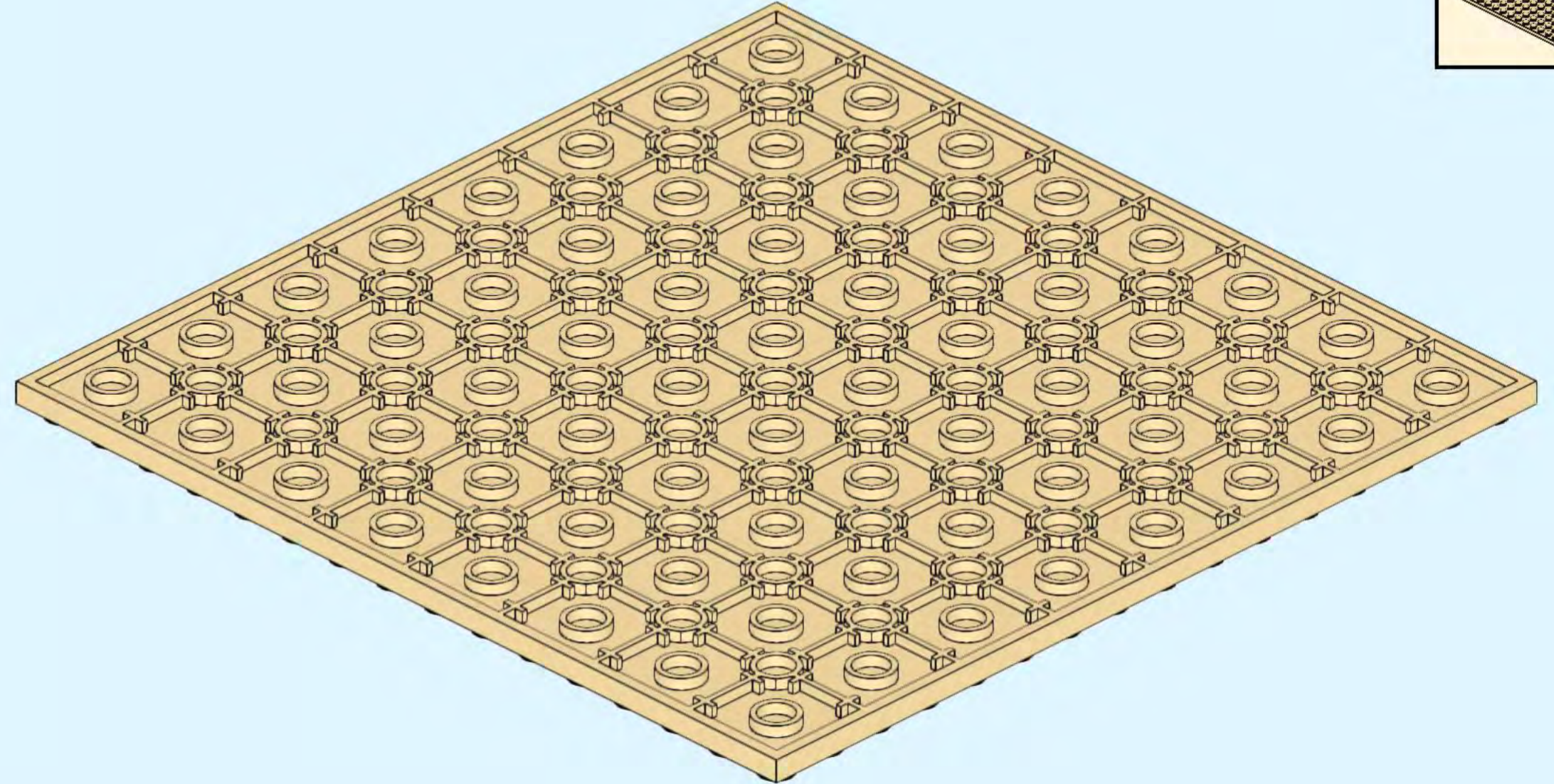
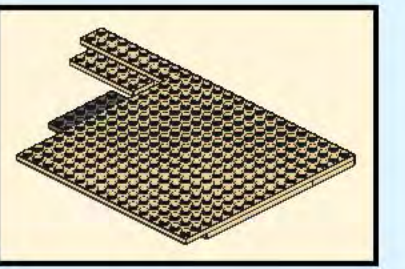
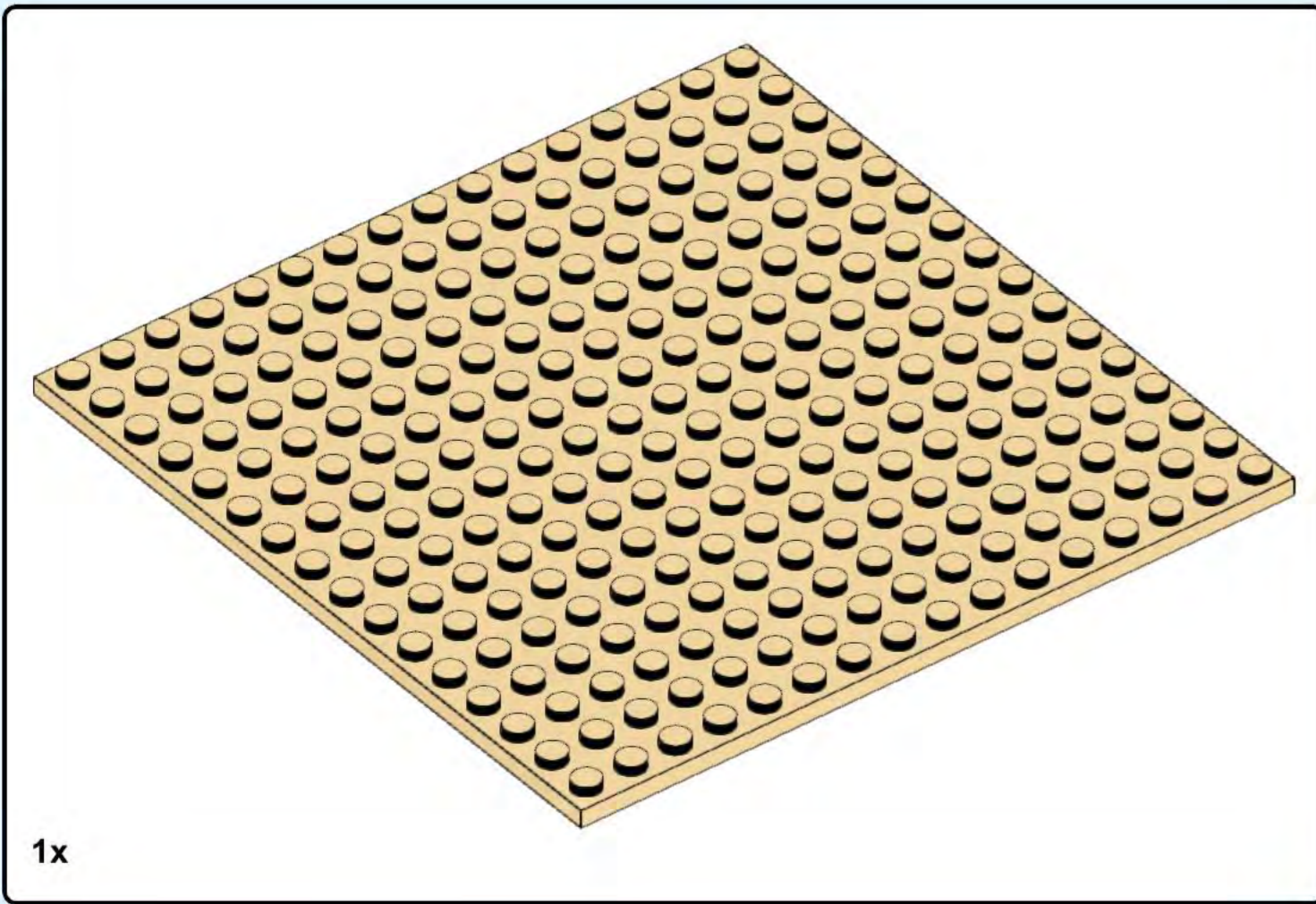


23

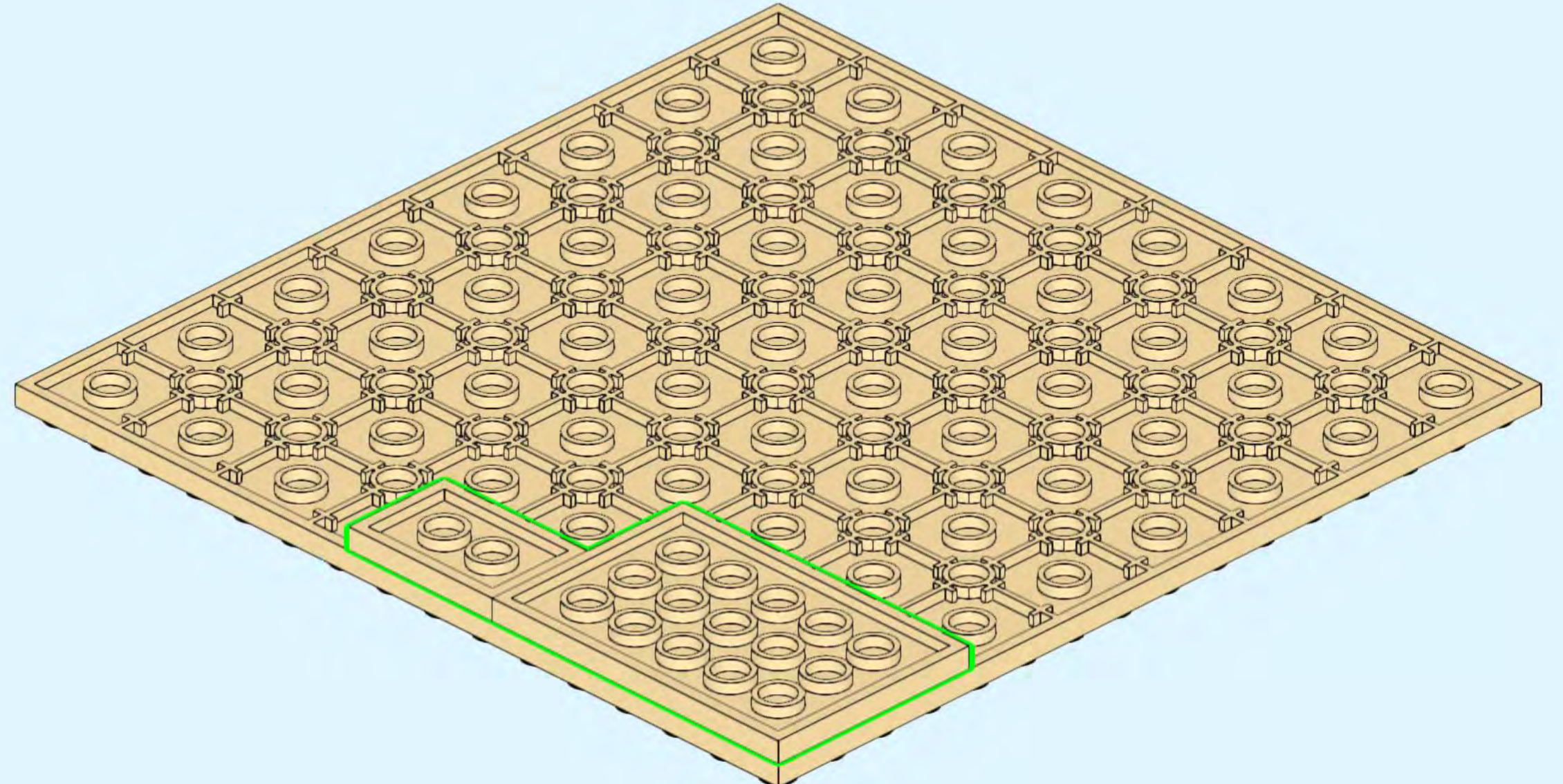
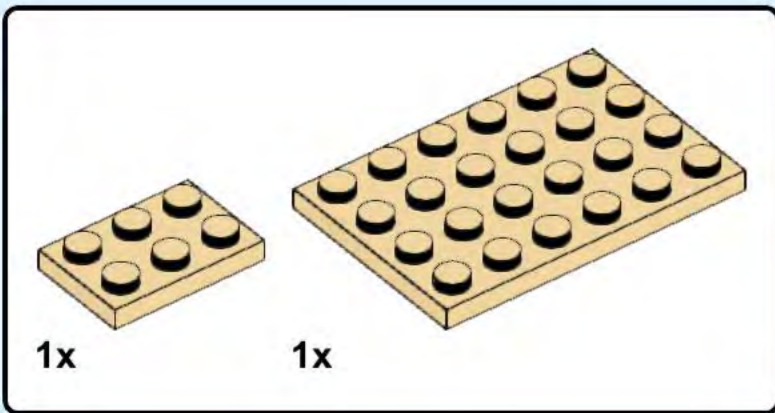




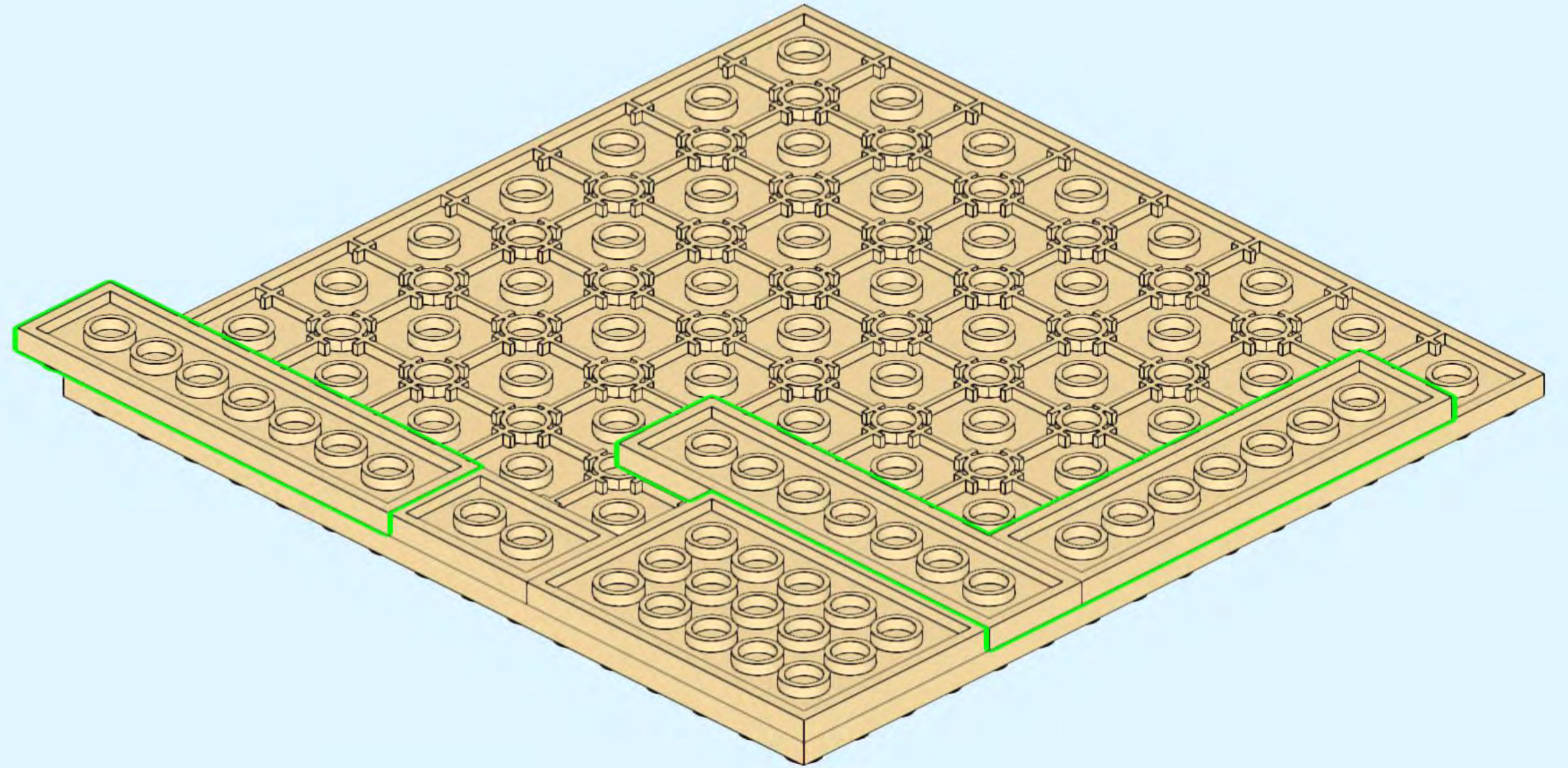
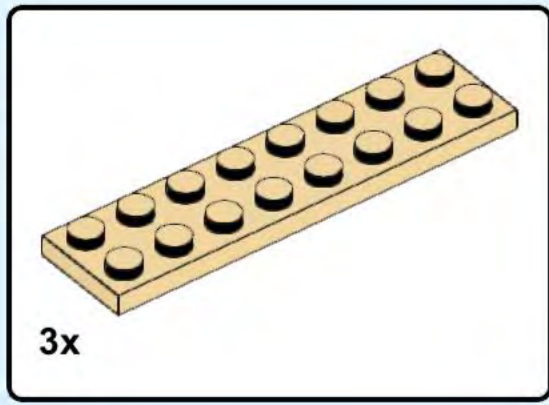
24



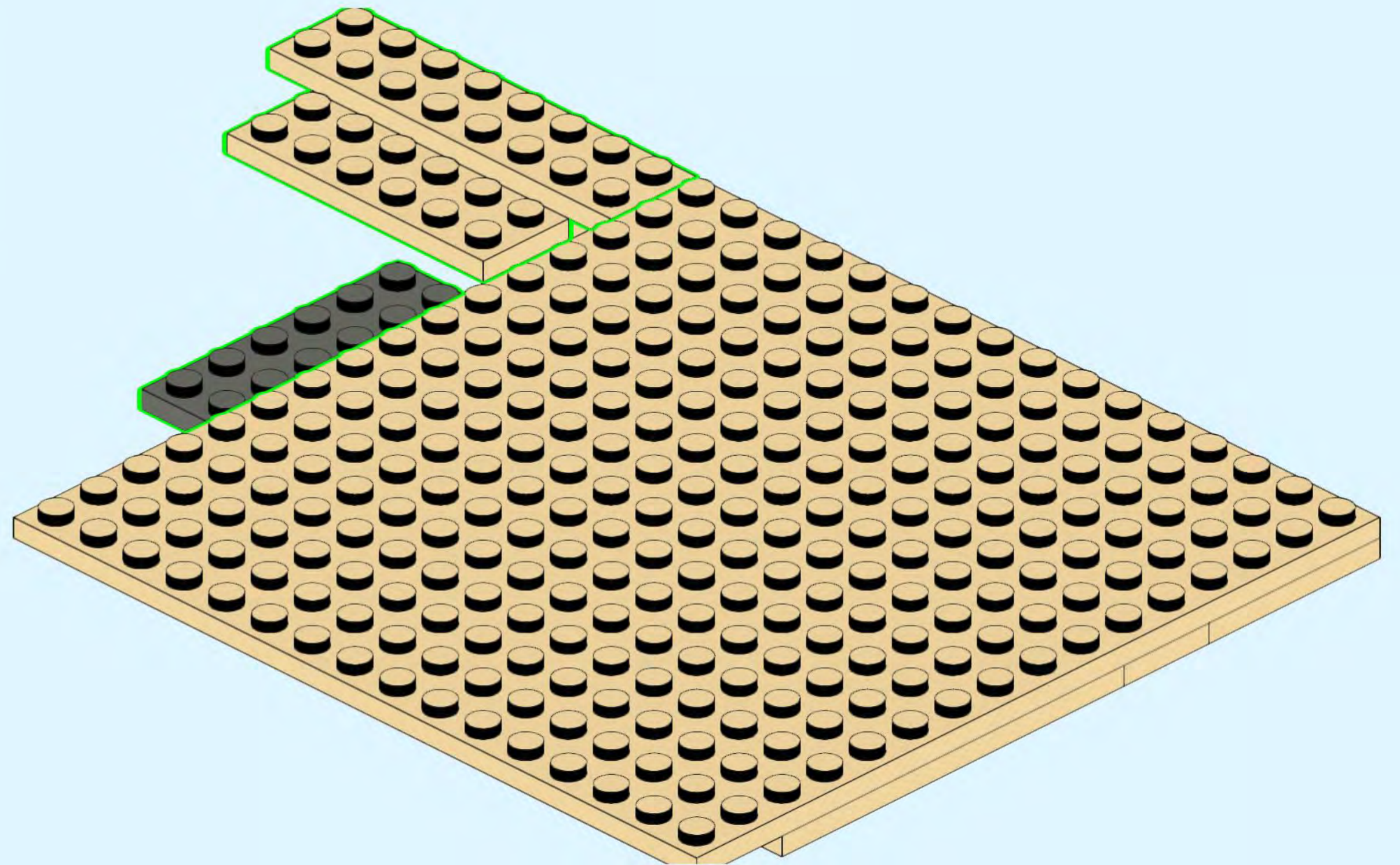
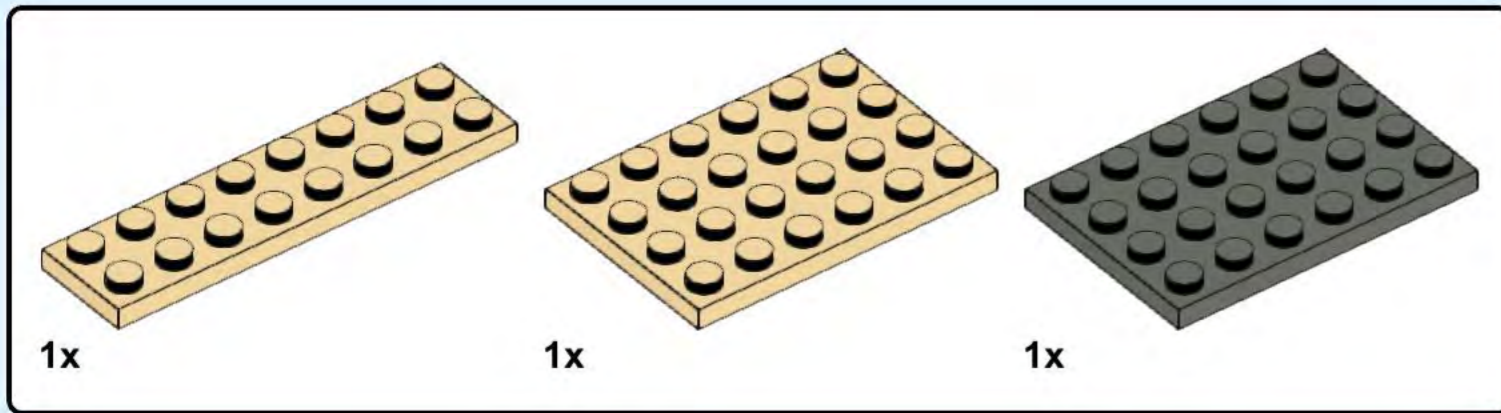
25



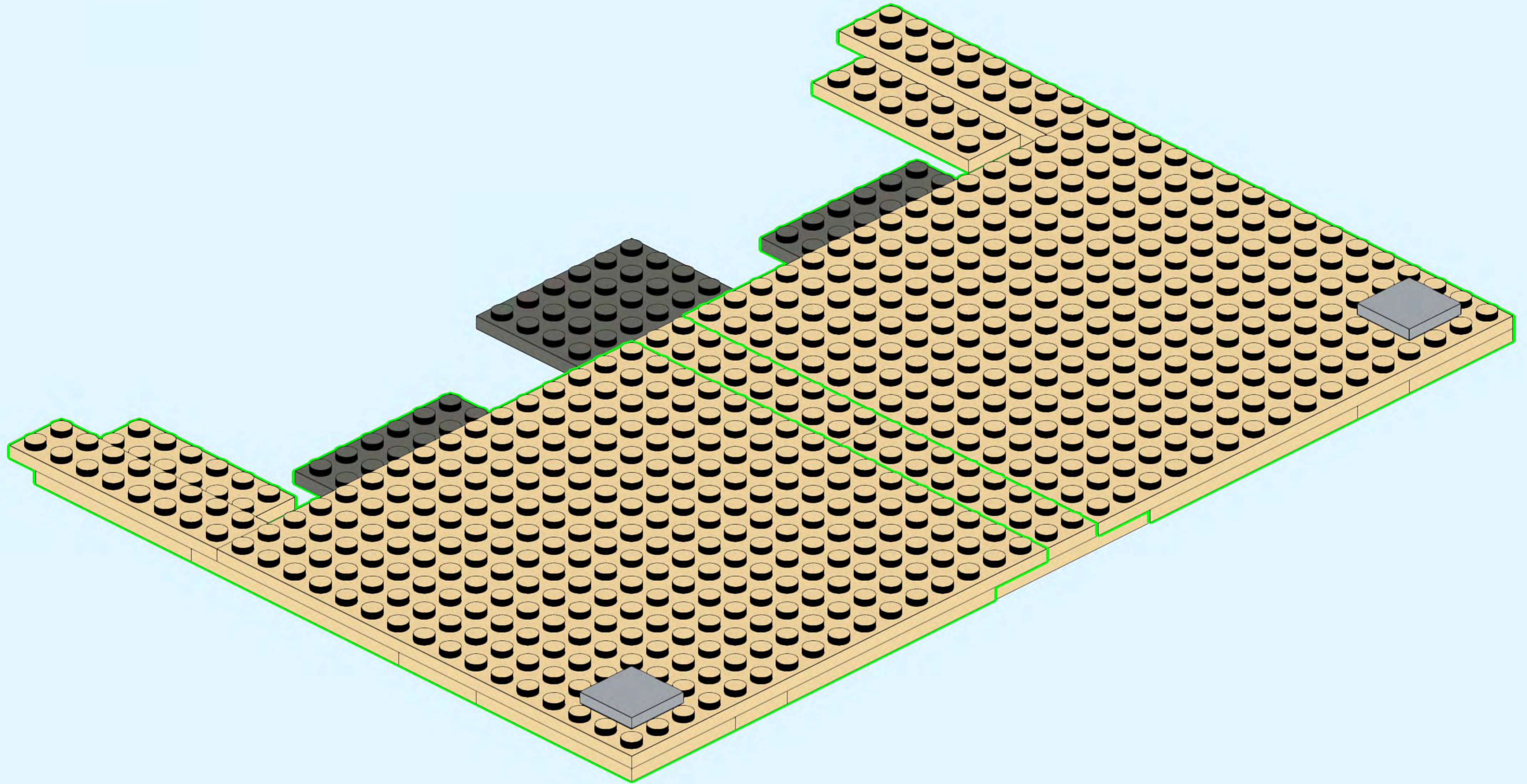
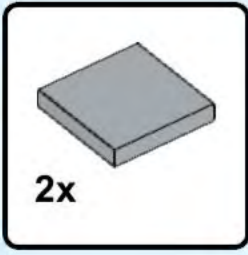
26



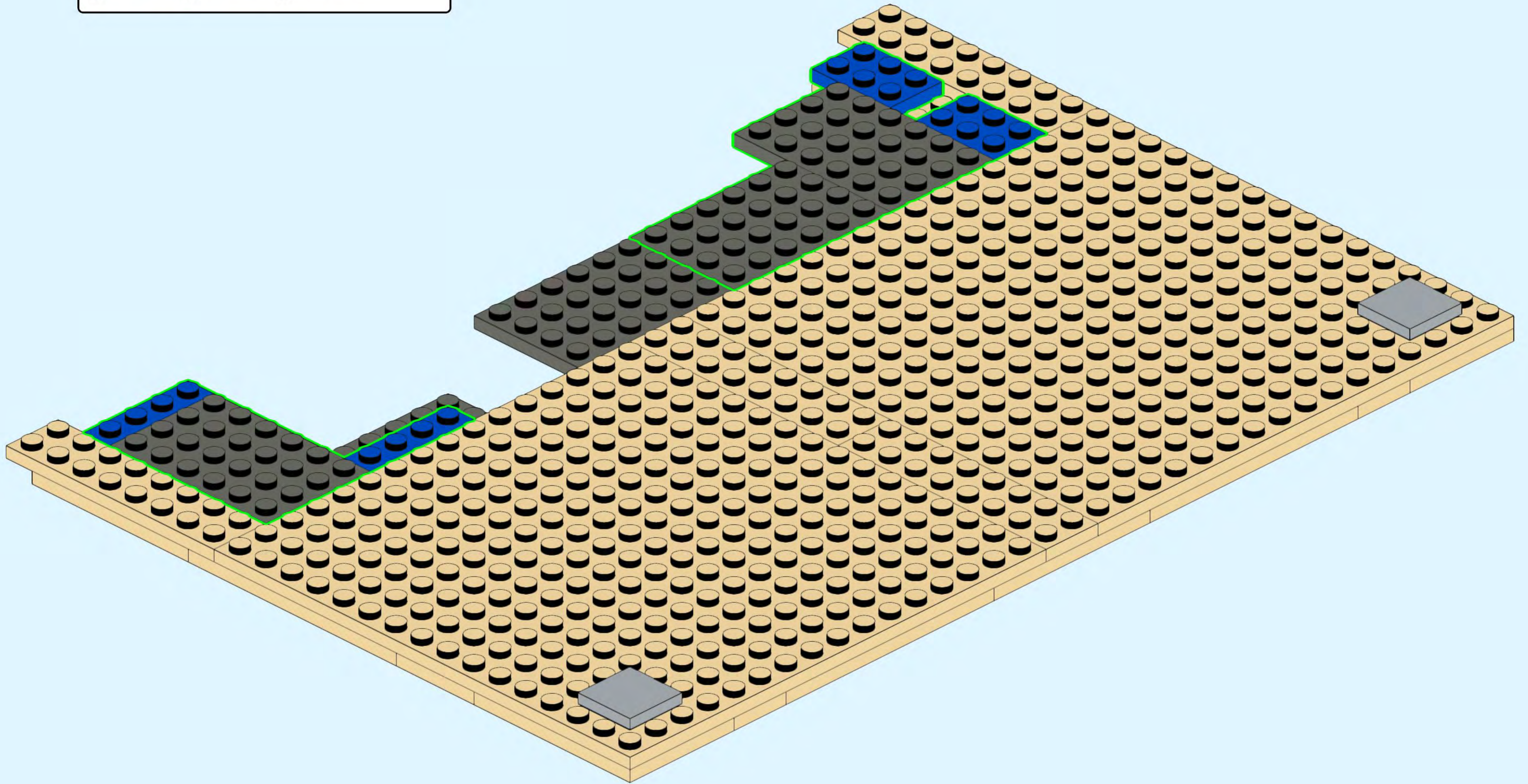
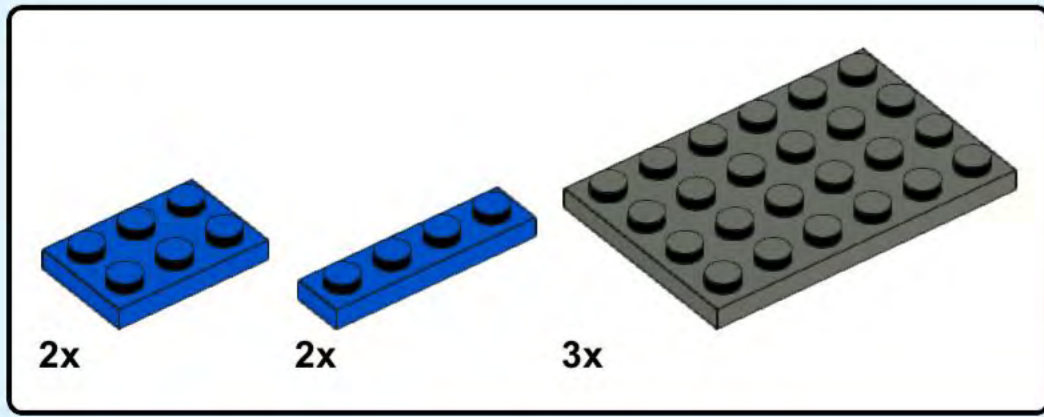
27



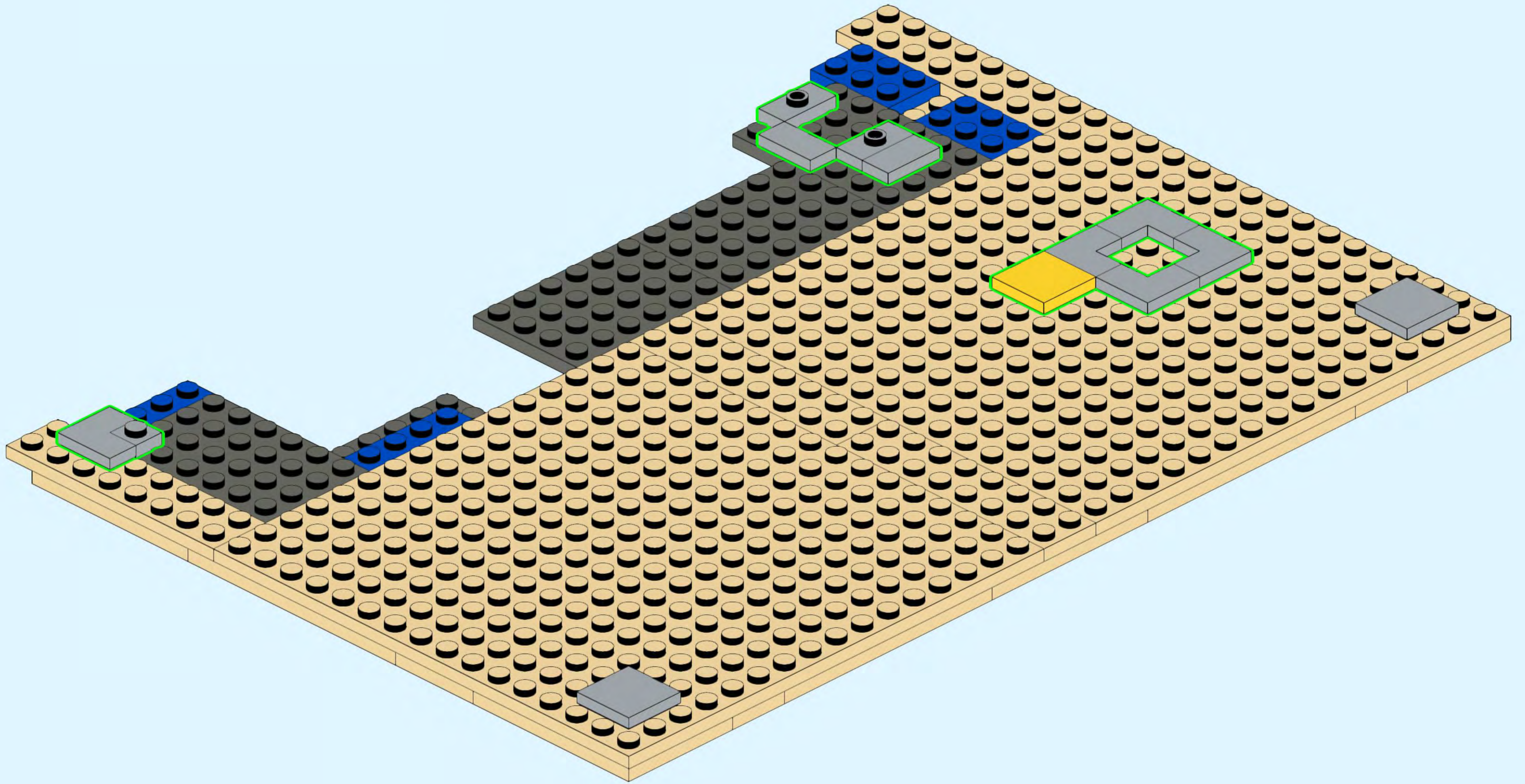
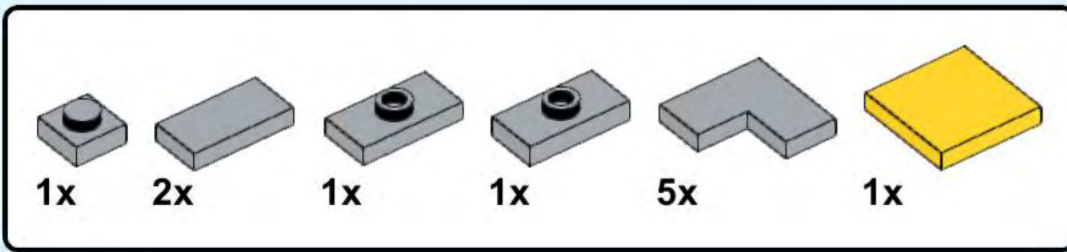
28



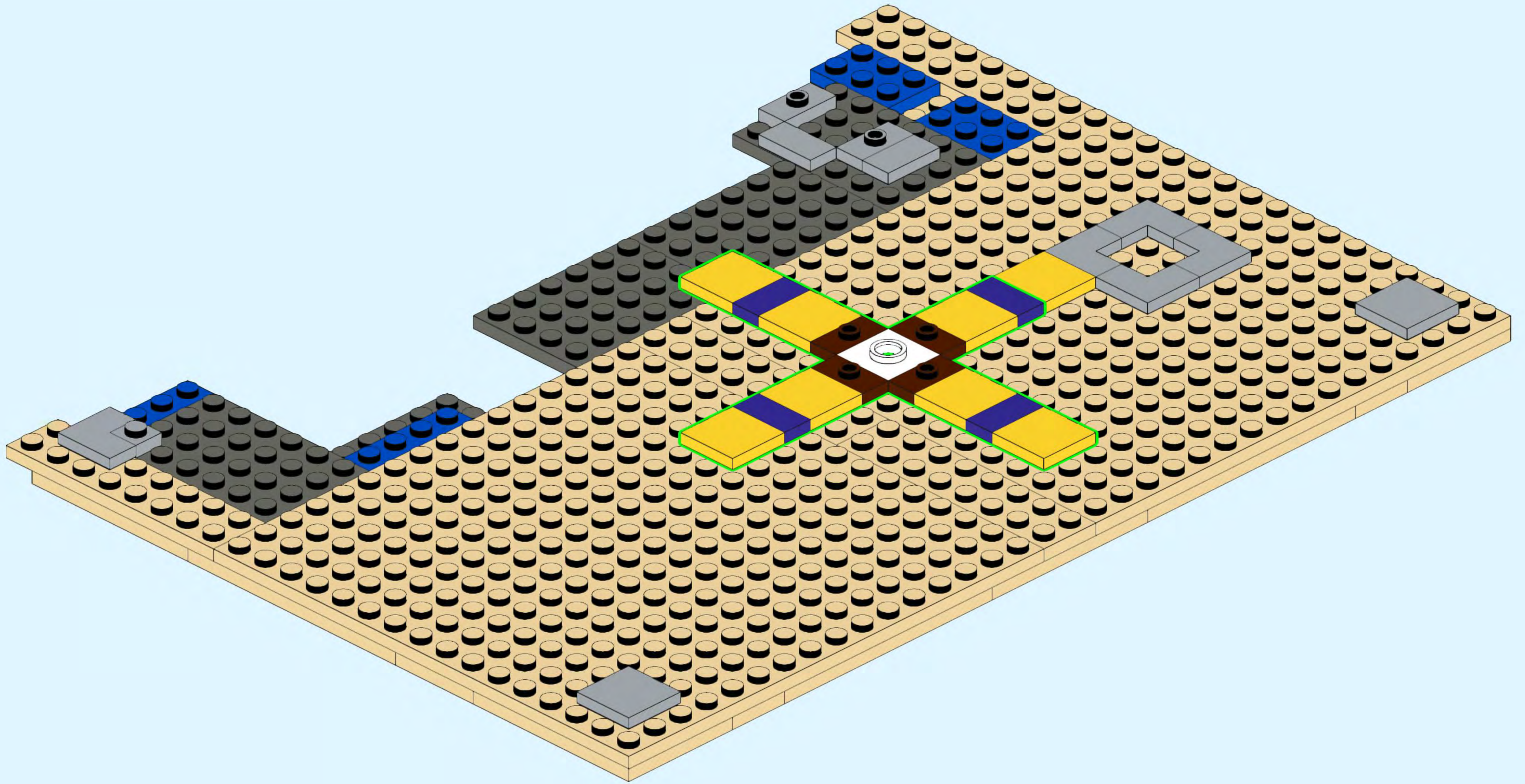
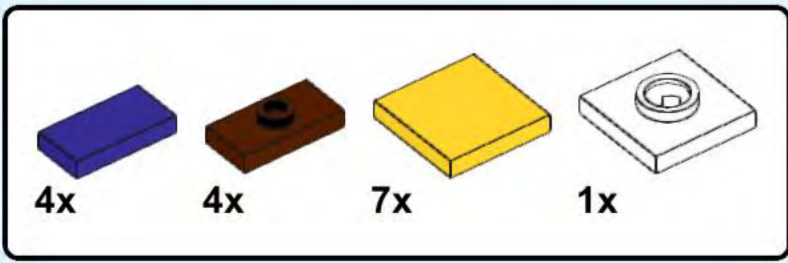
29



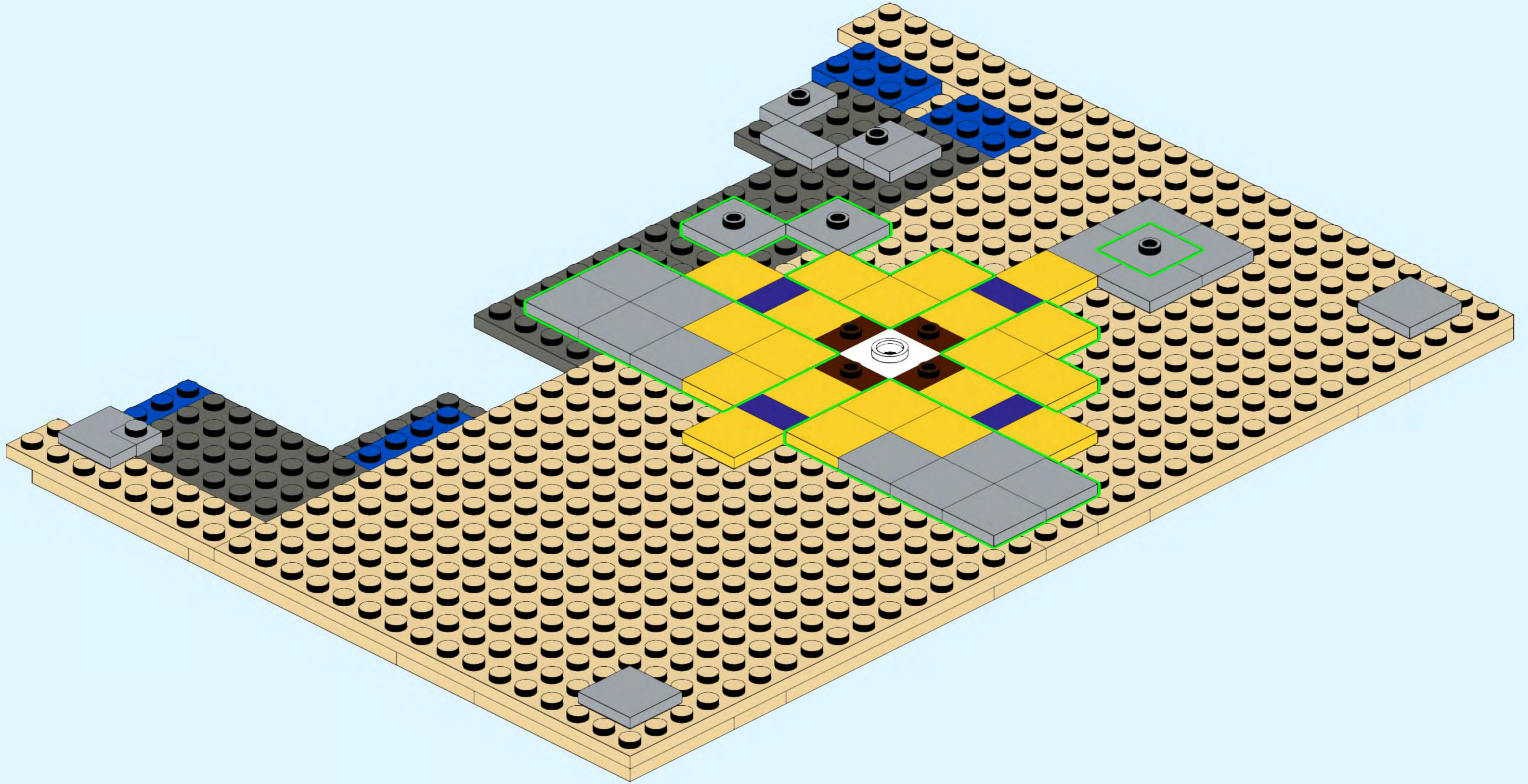
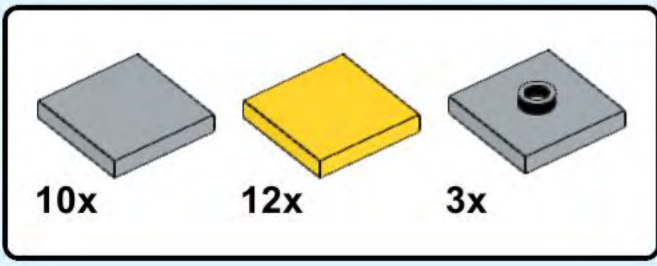
30

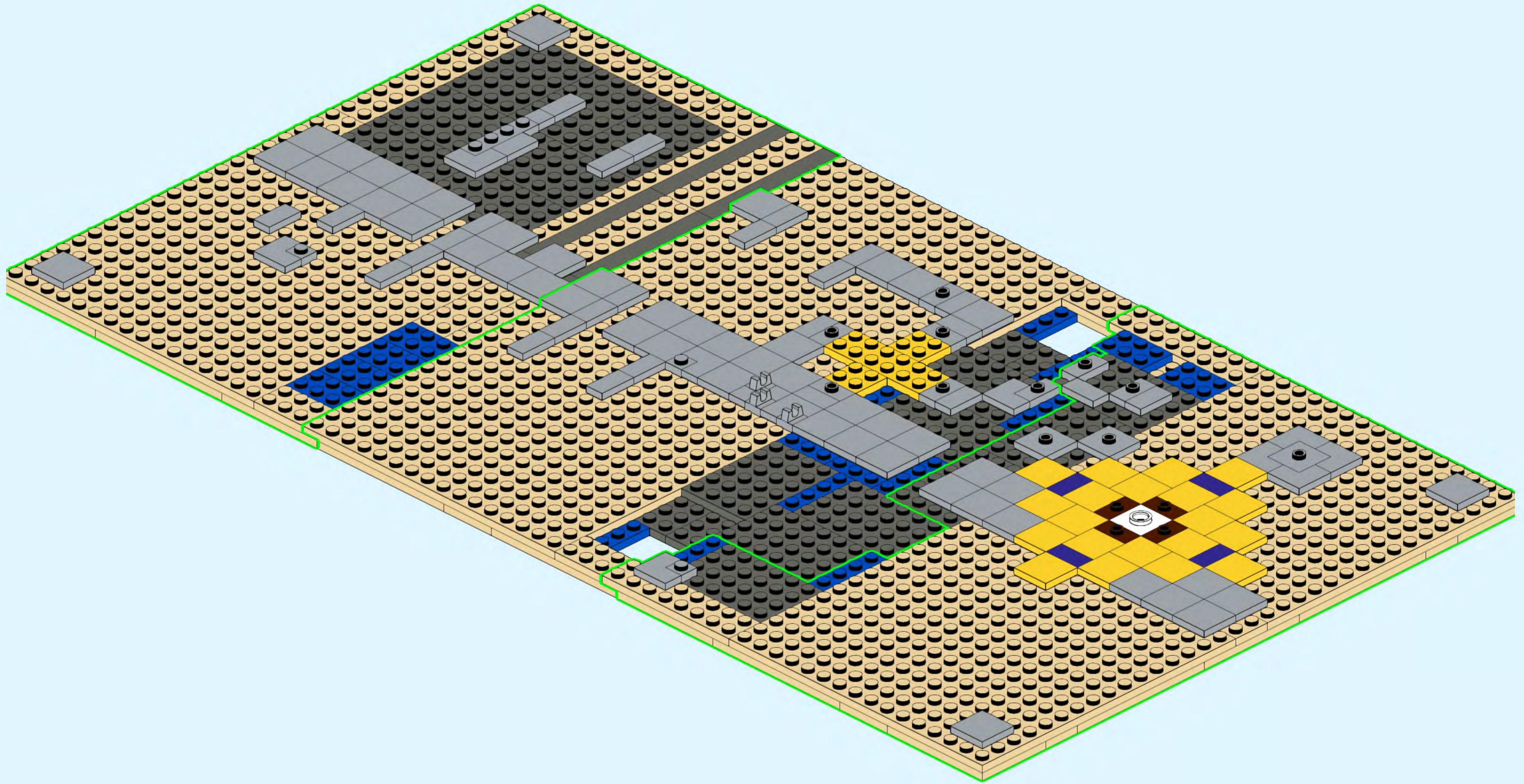


31



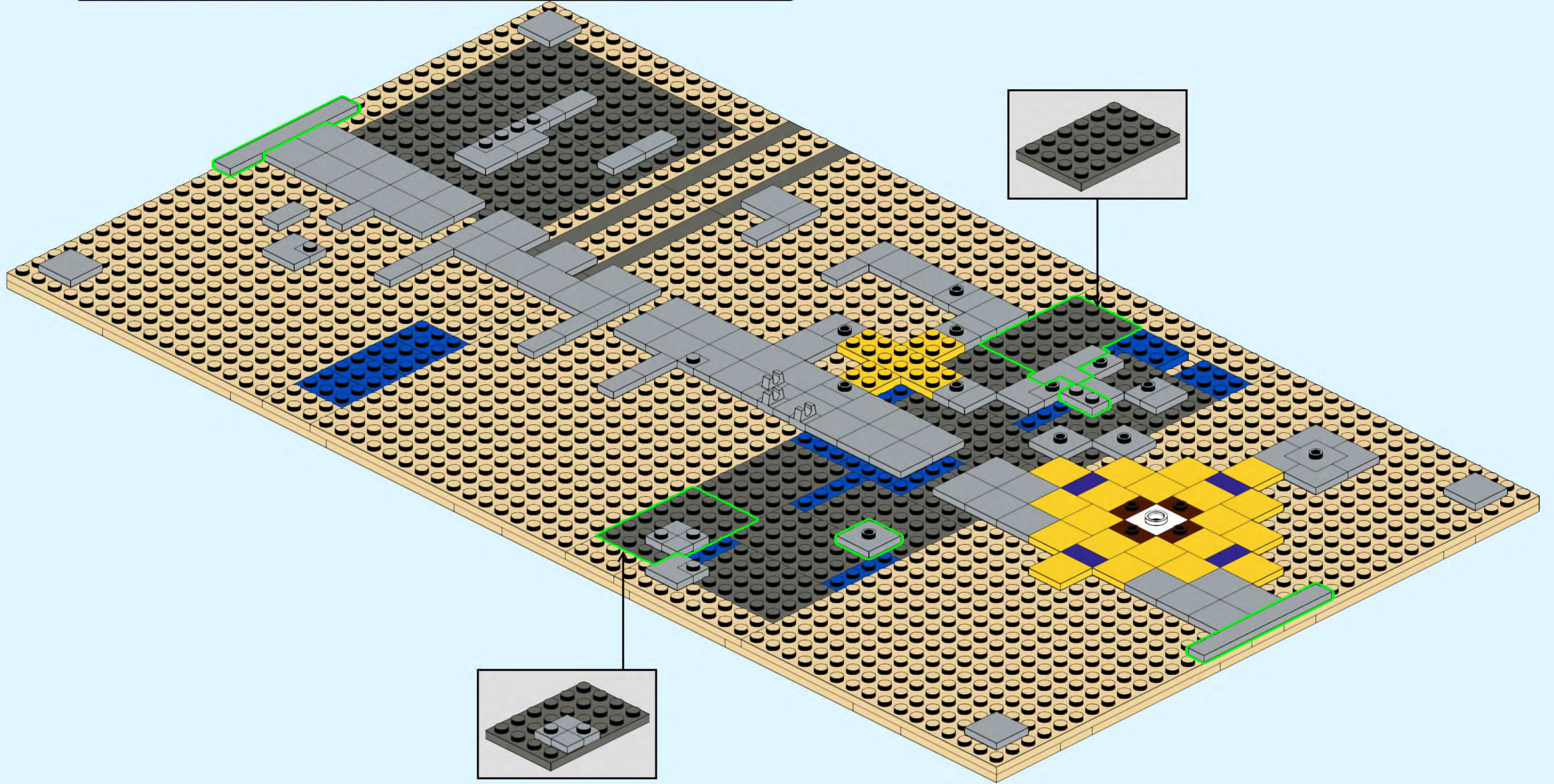
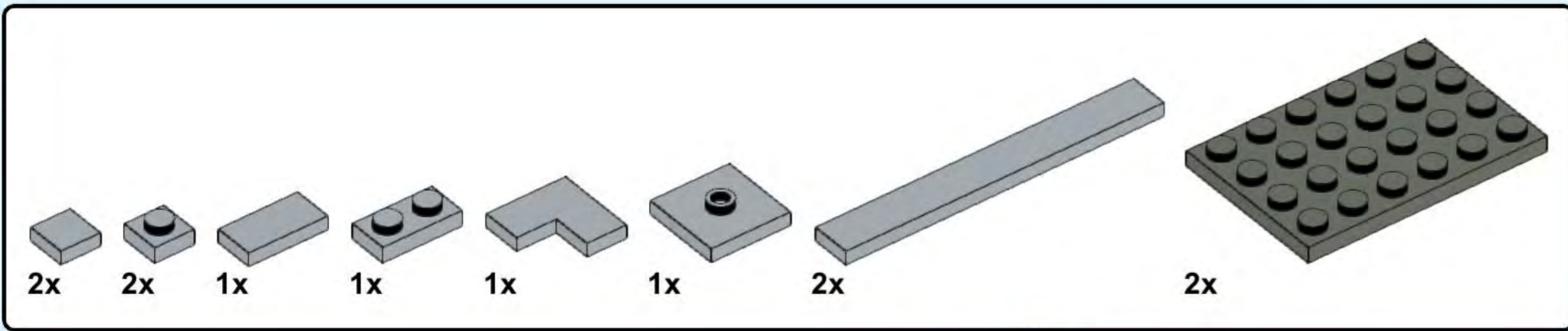
32



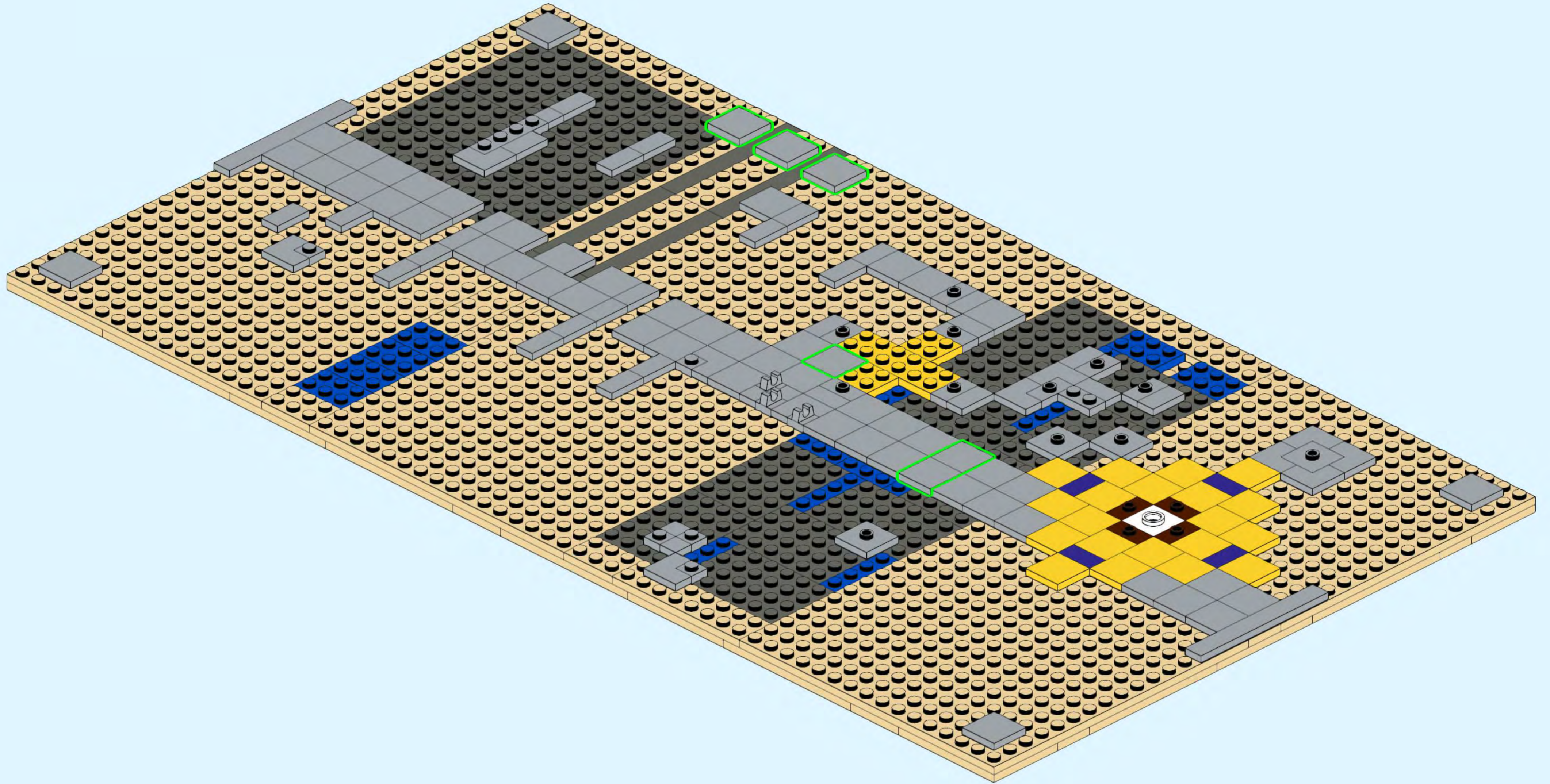
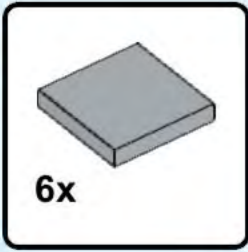




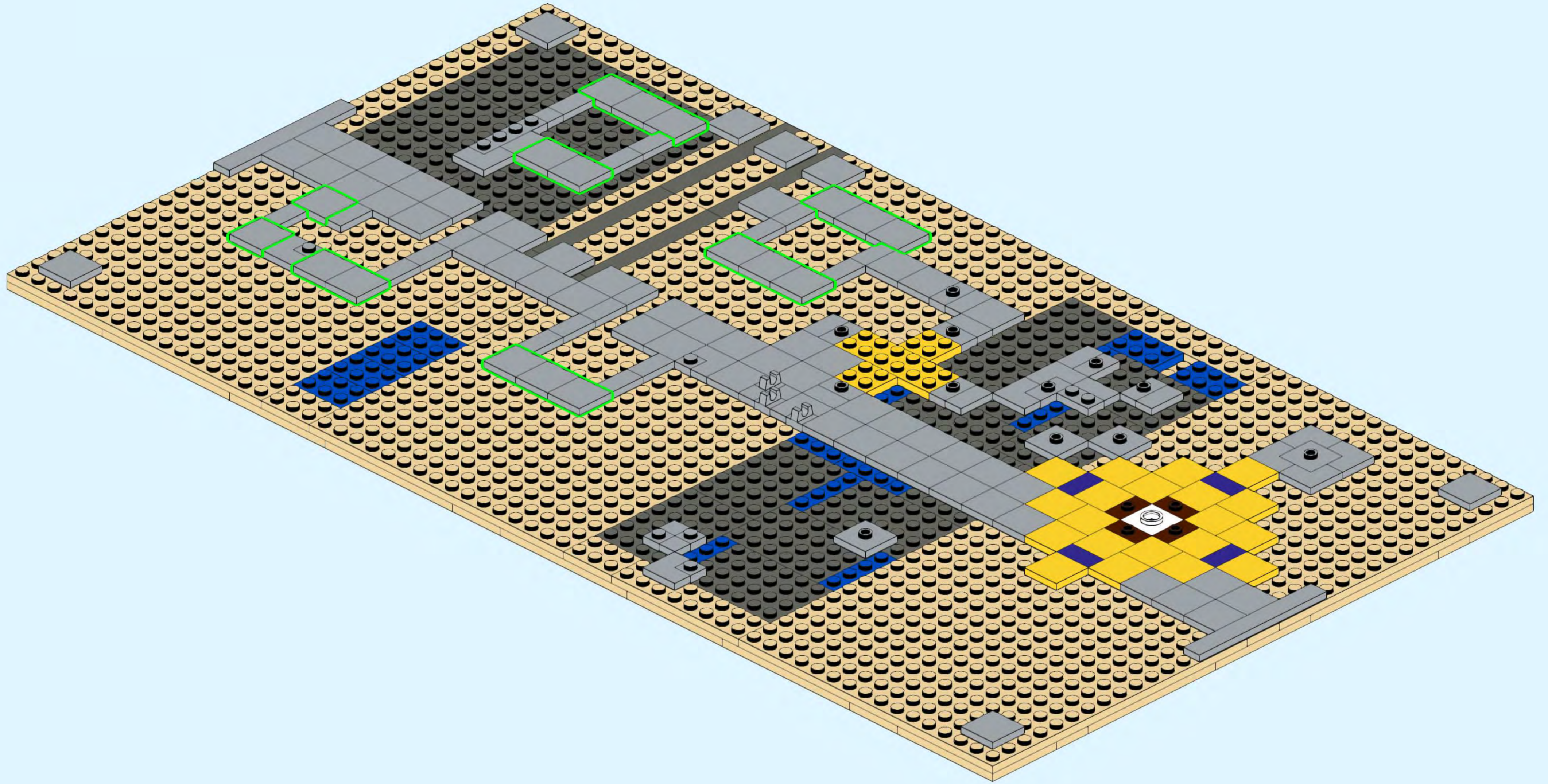
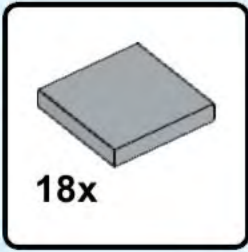
34



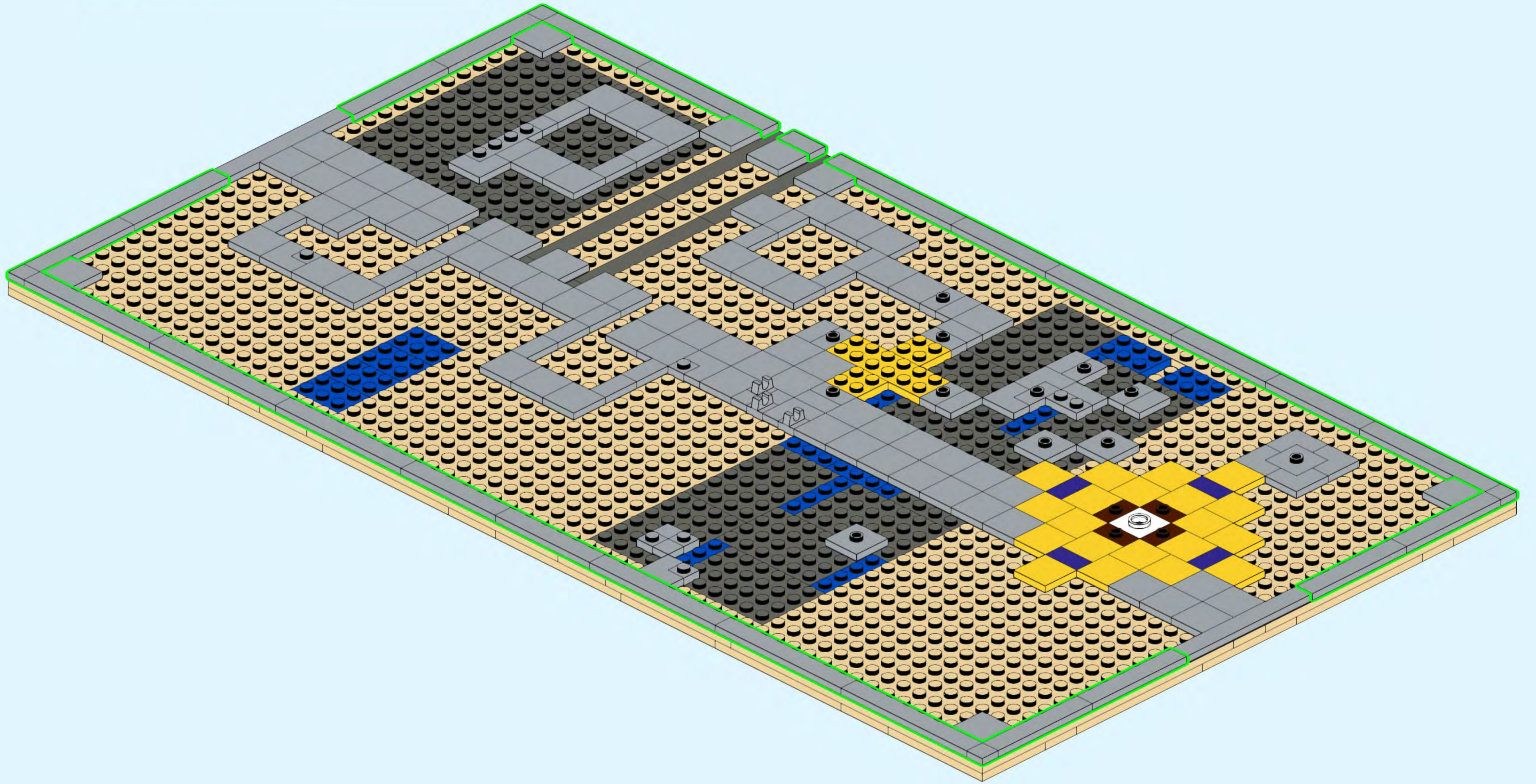
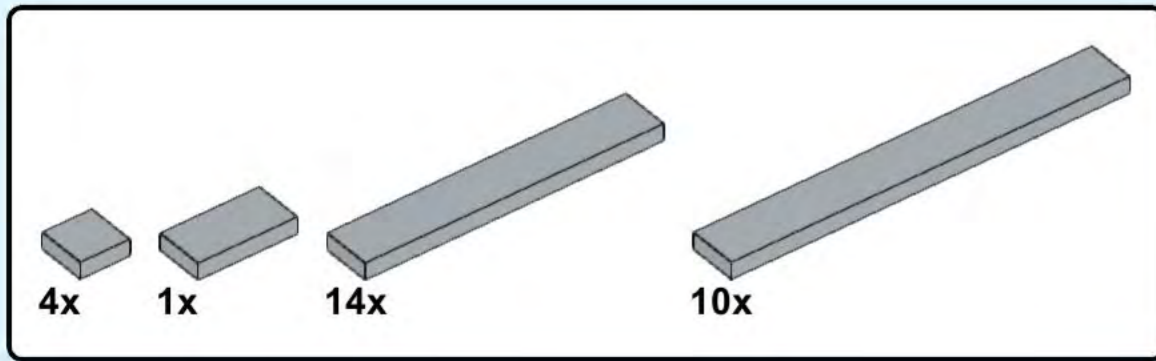
35



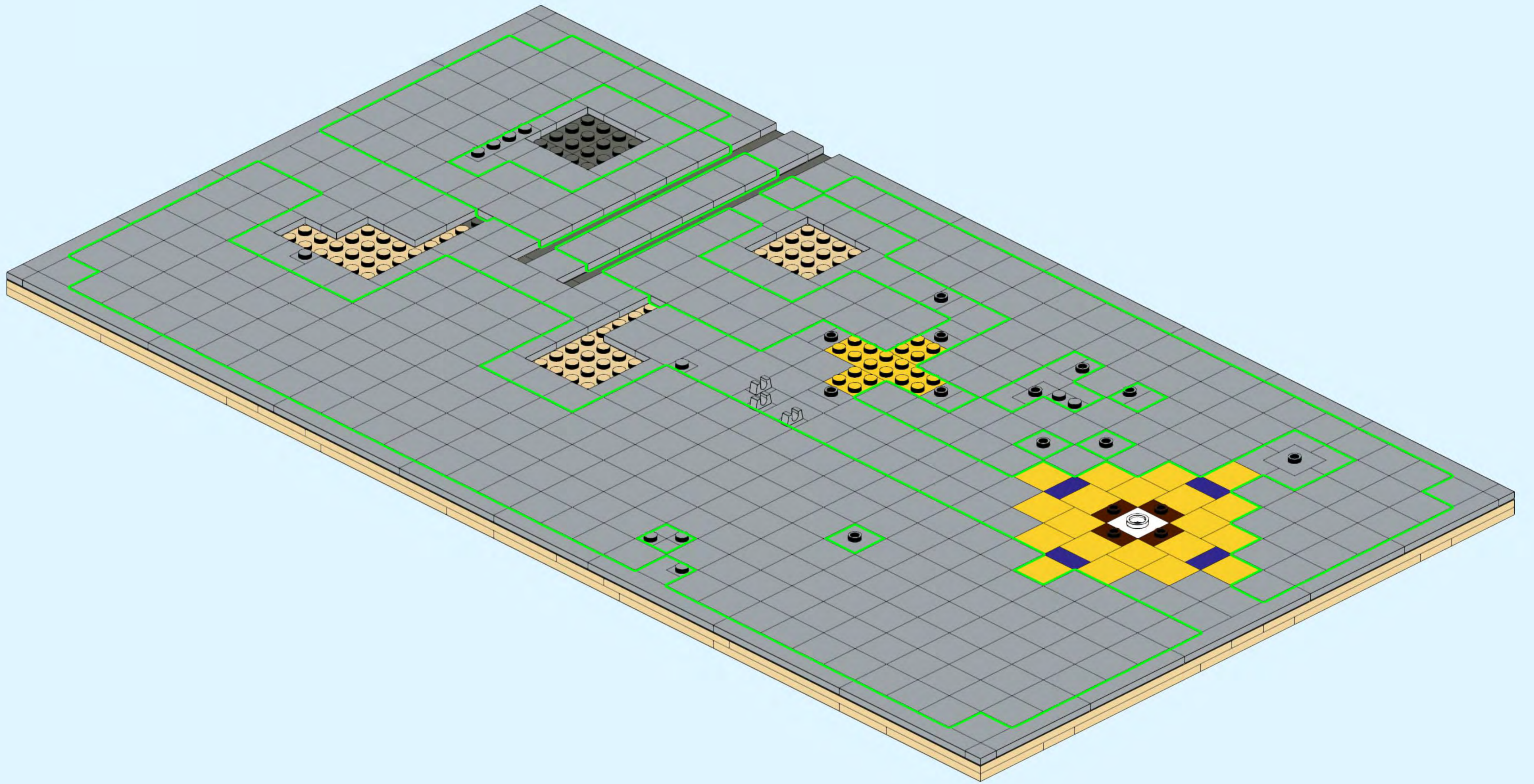
36



37

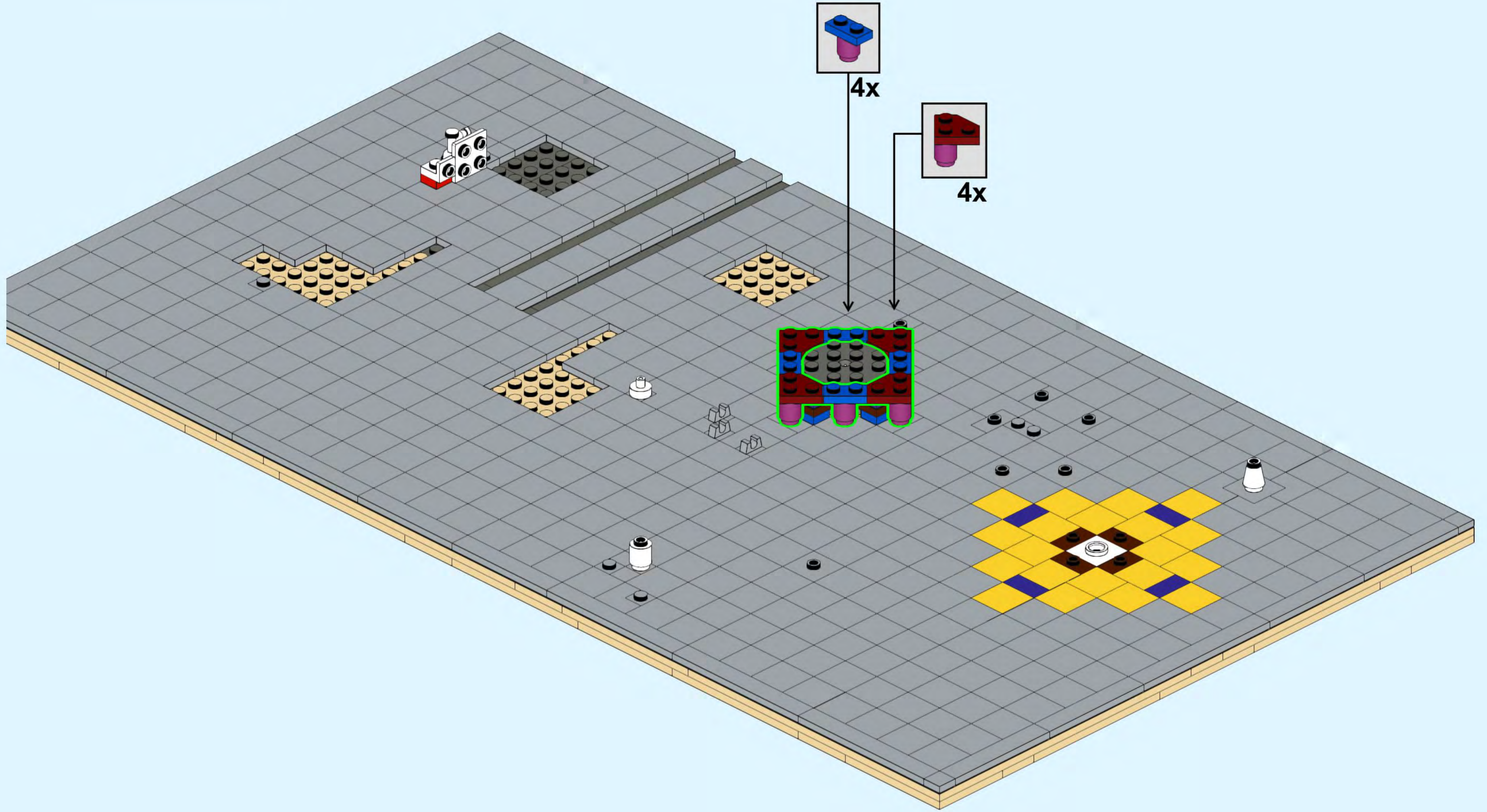
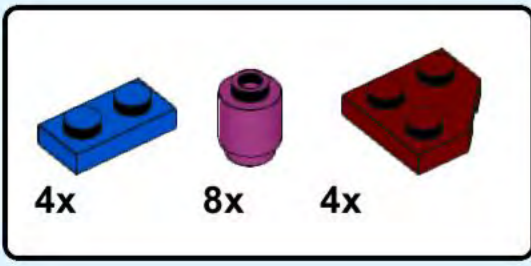


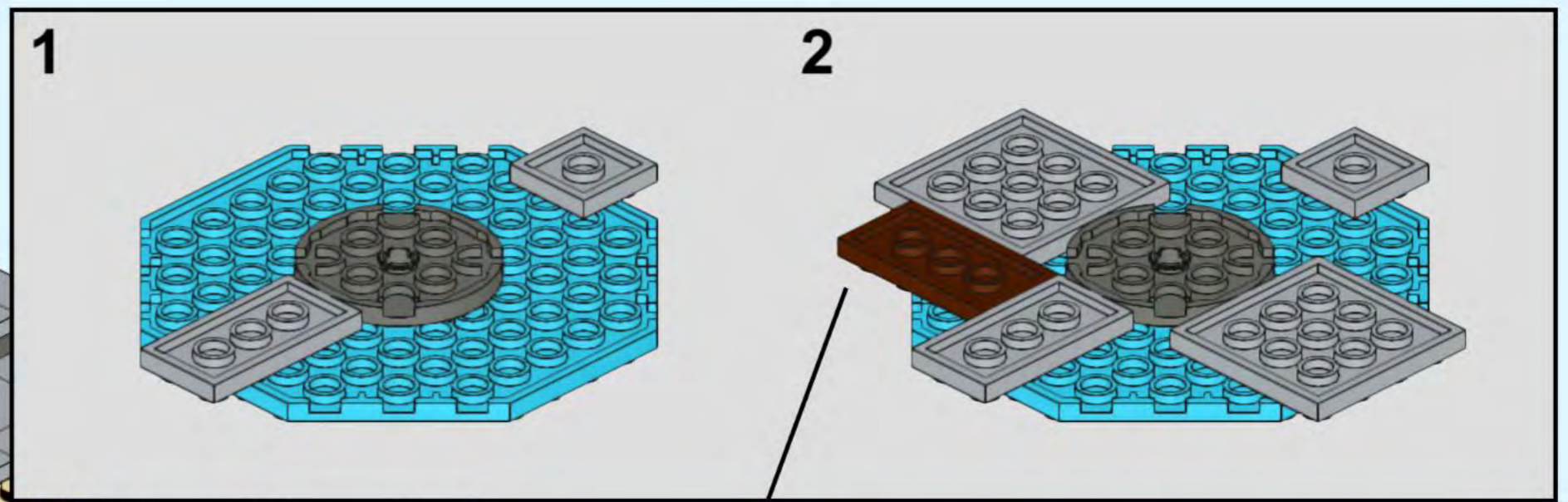
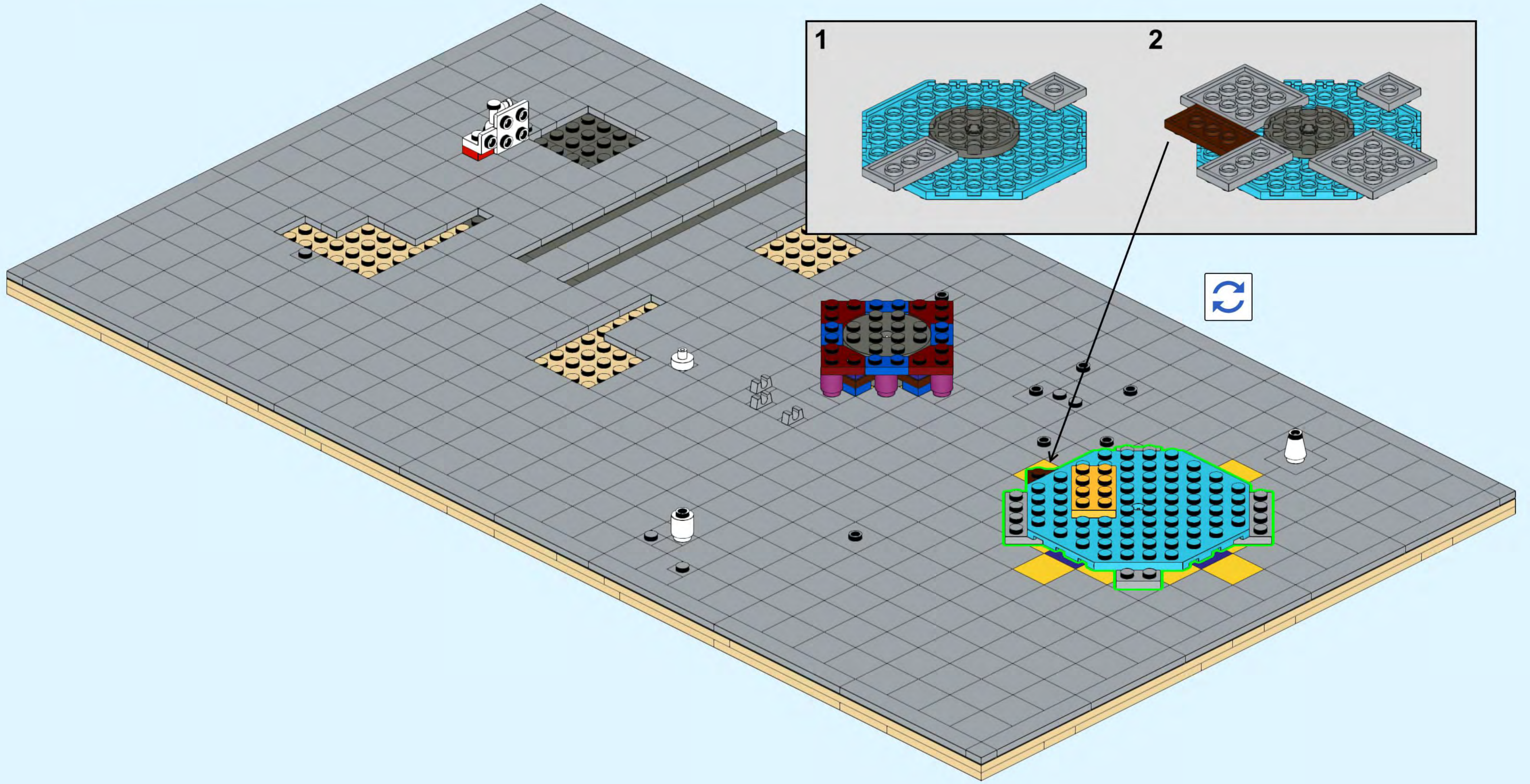
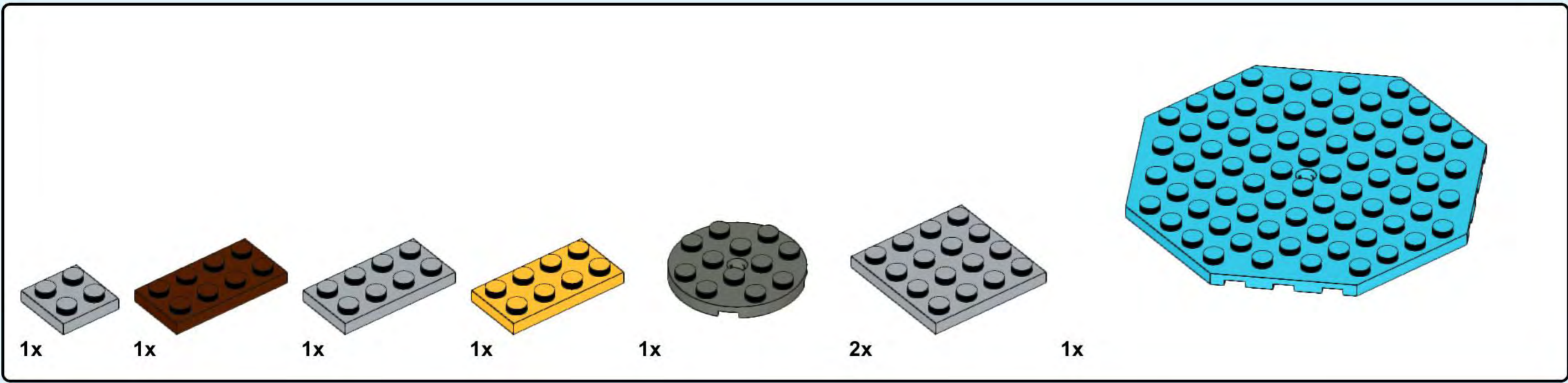
38



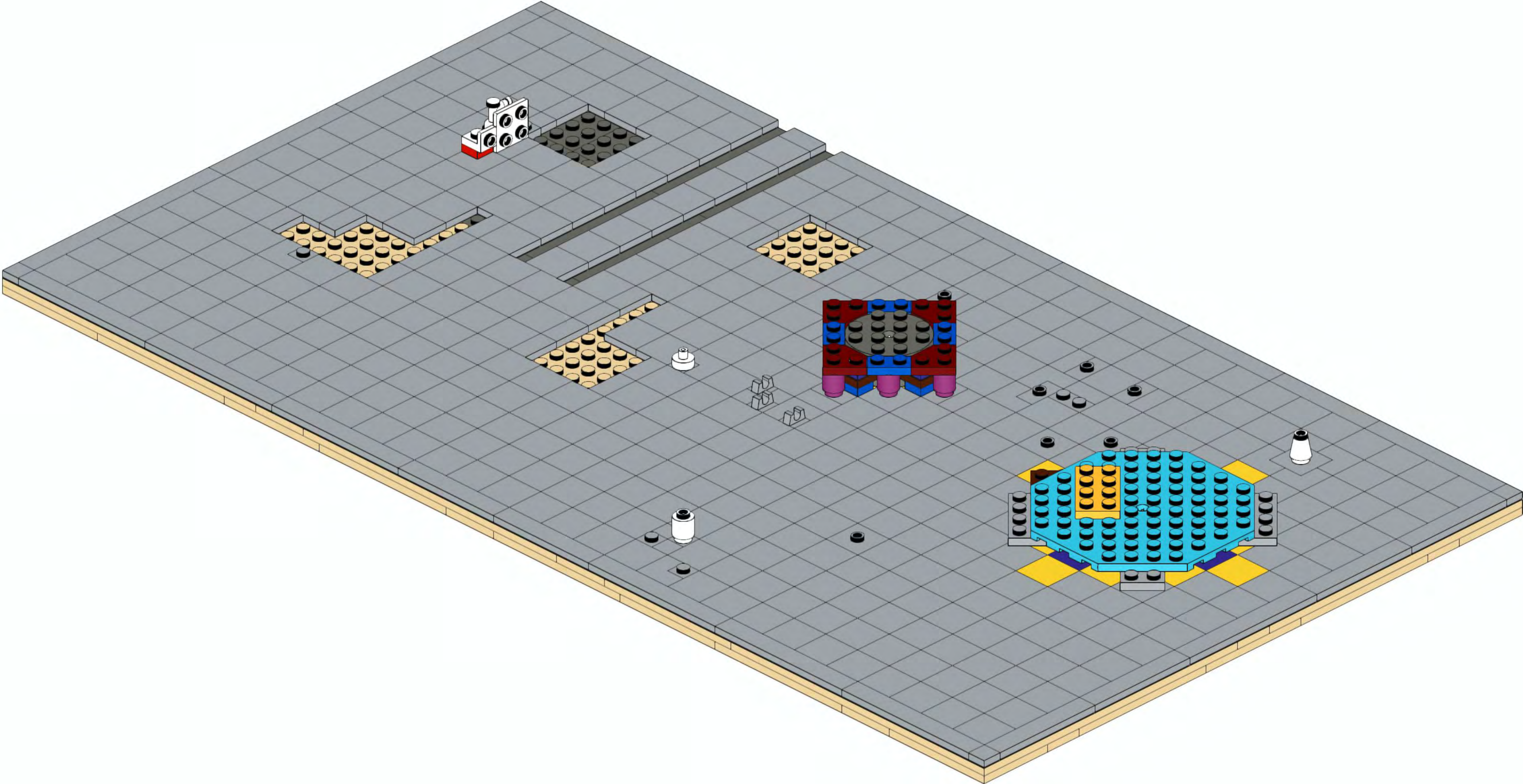


40

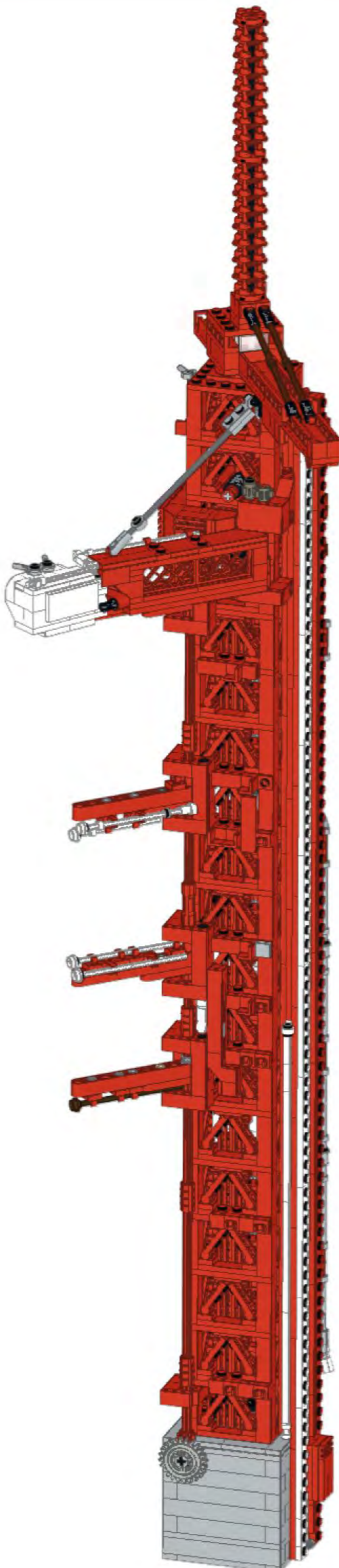




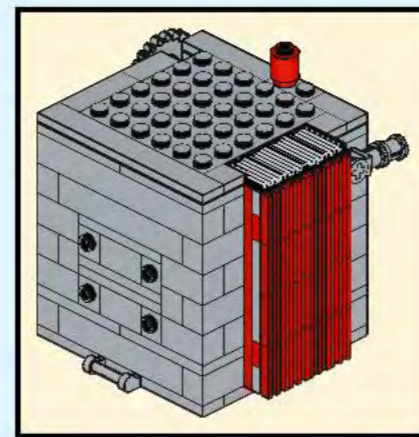
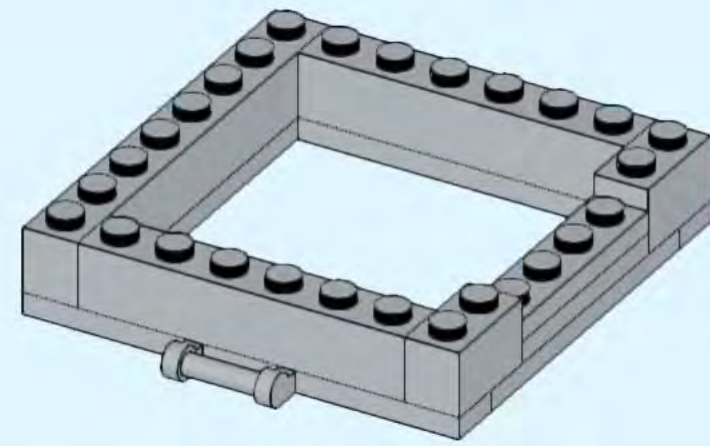
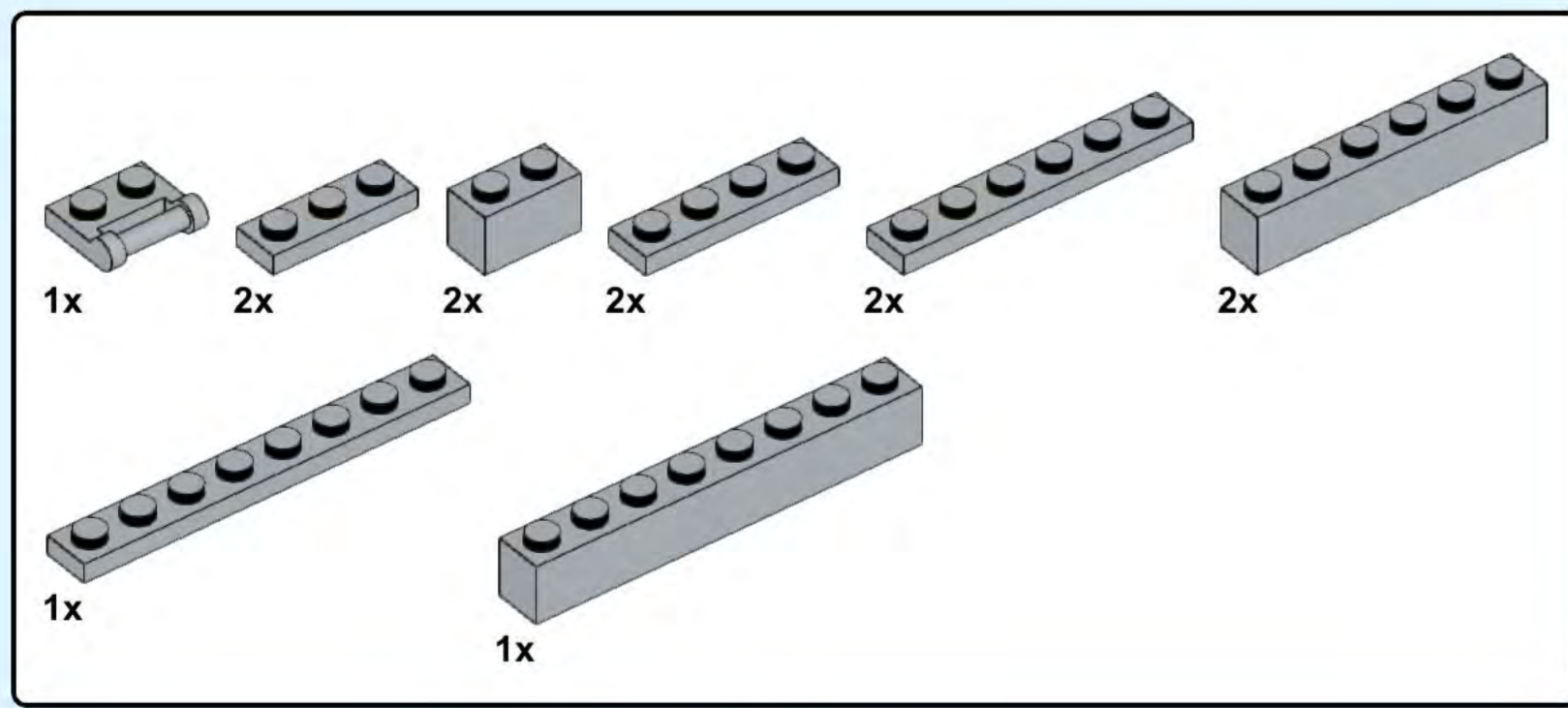




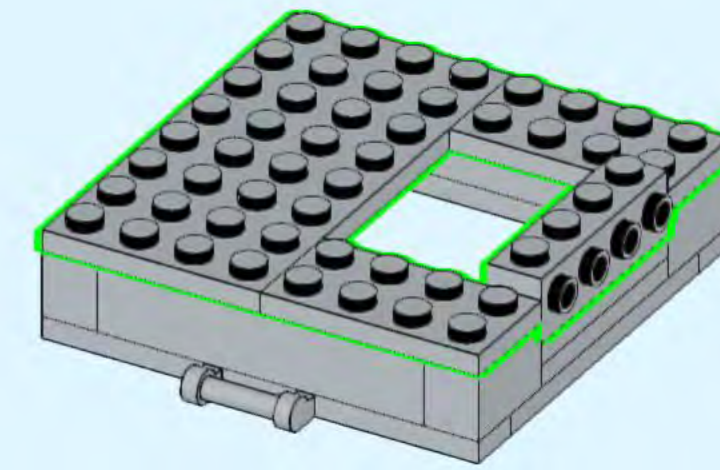
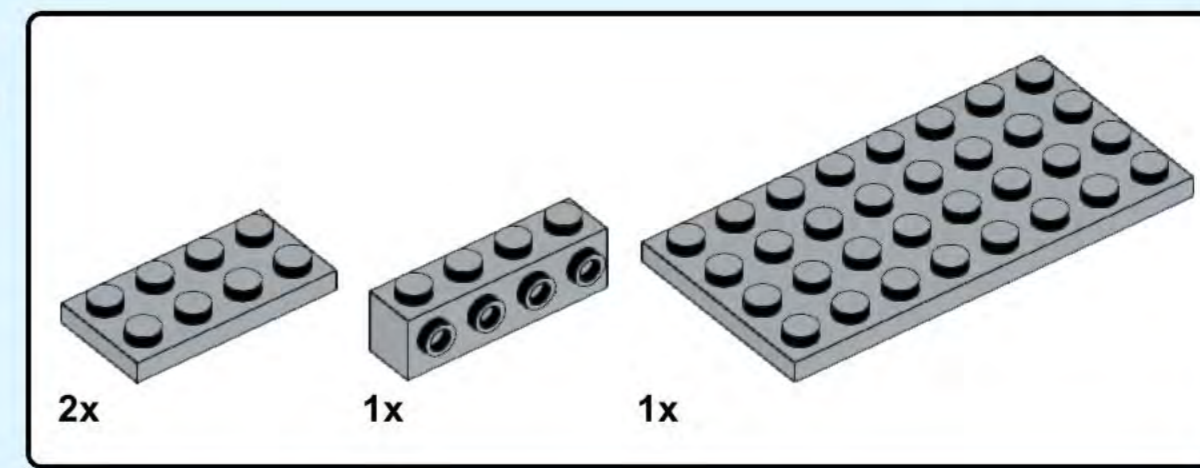
Umbilical Tower



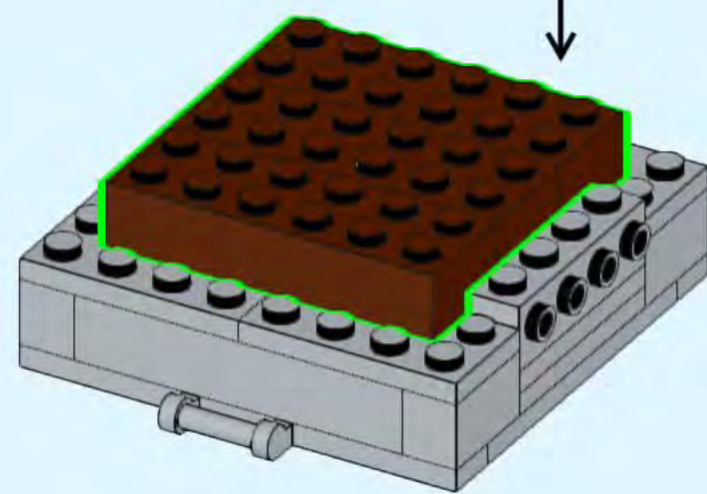
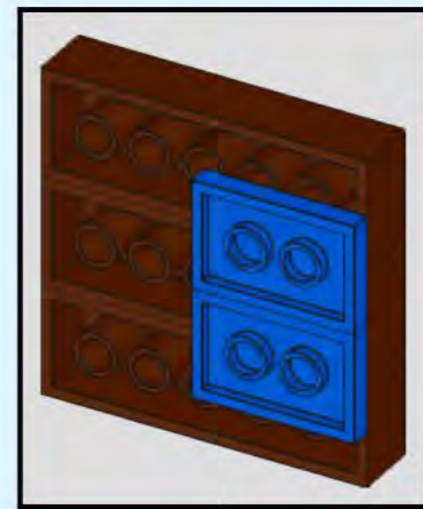
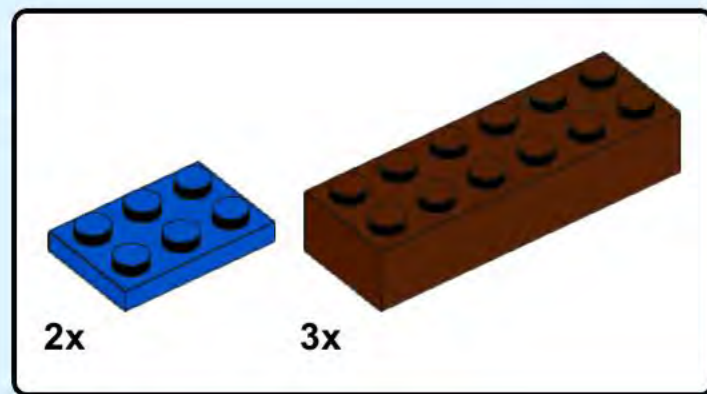
# 43



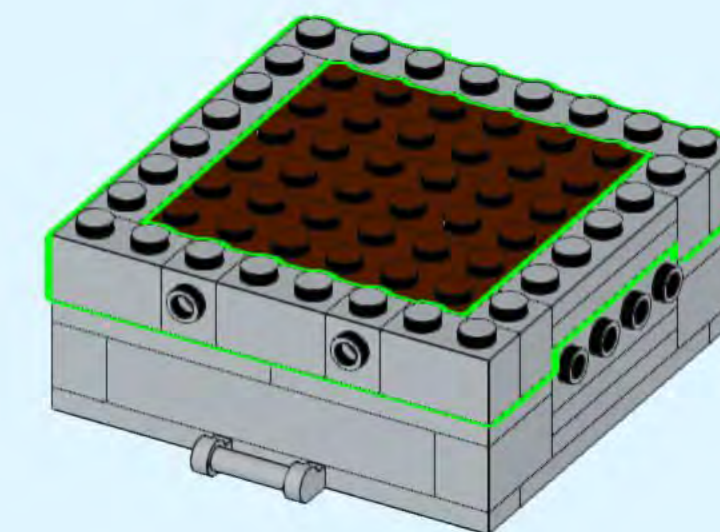
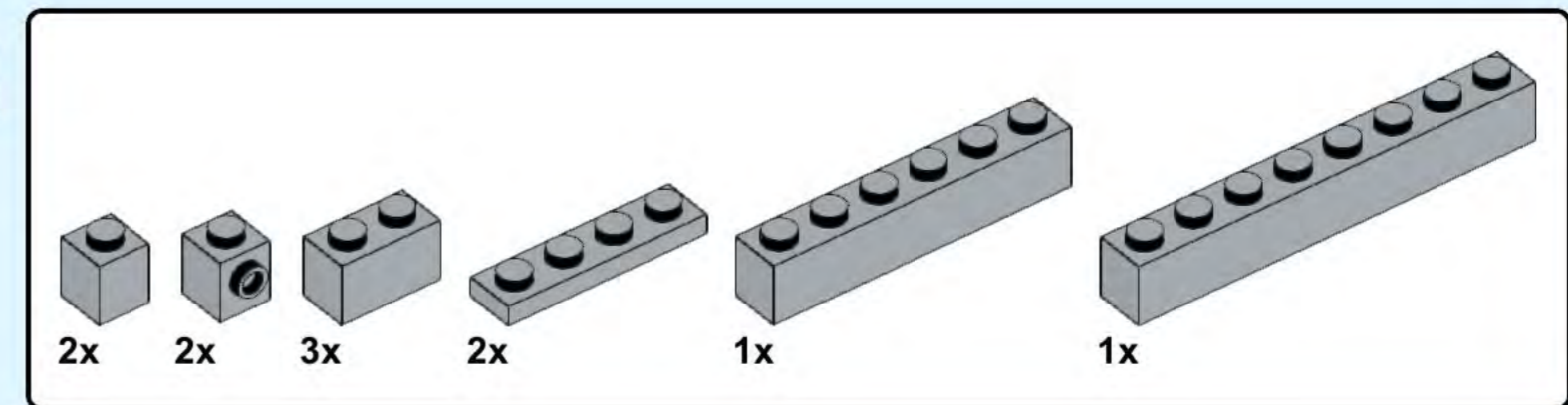
# 44



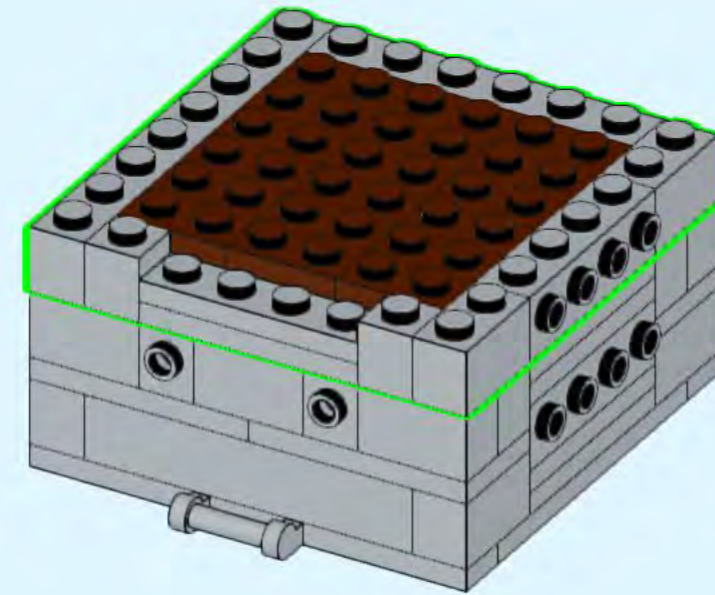
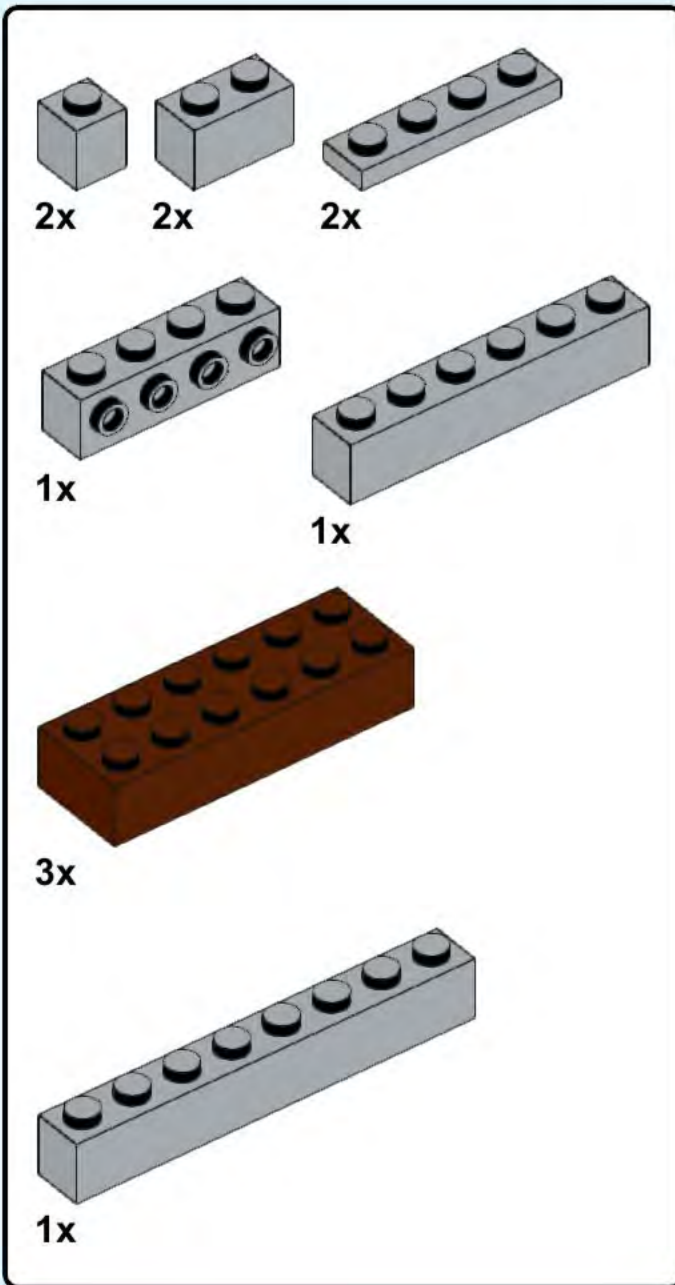
# 45



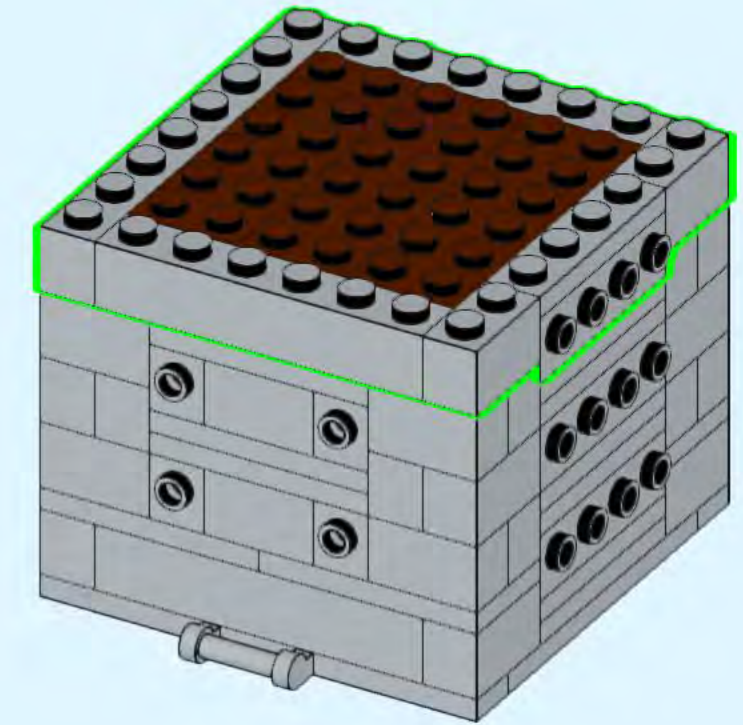
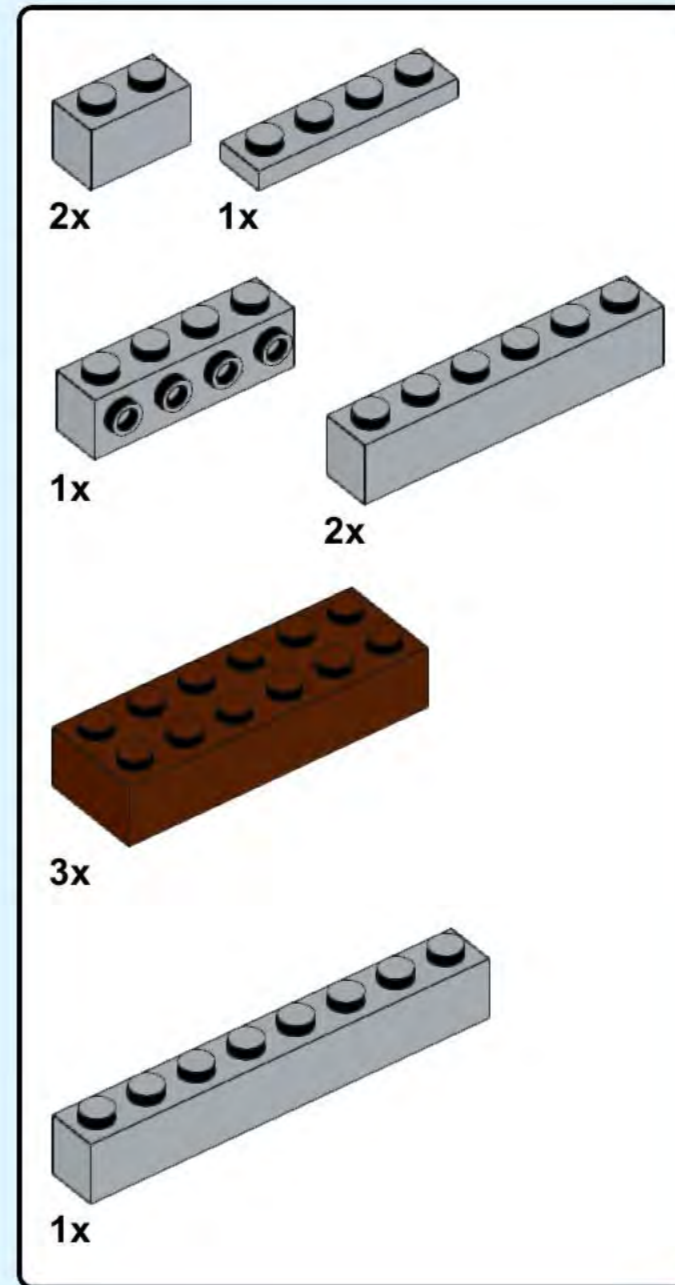
# 46



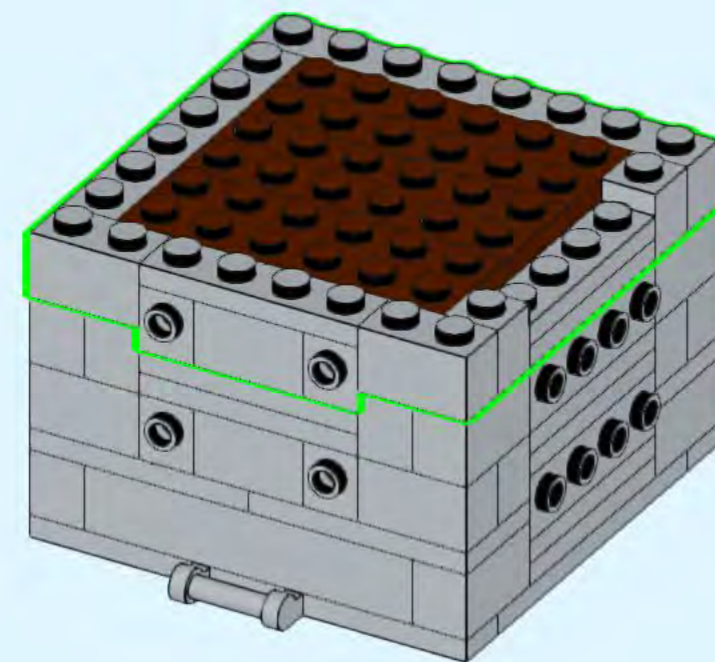
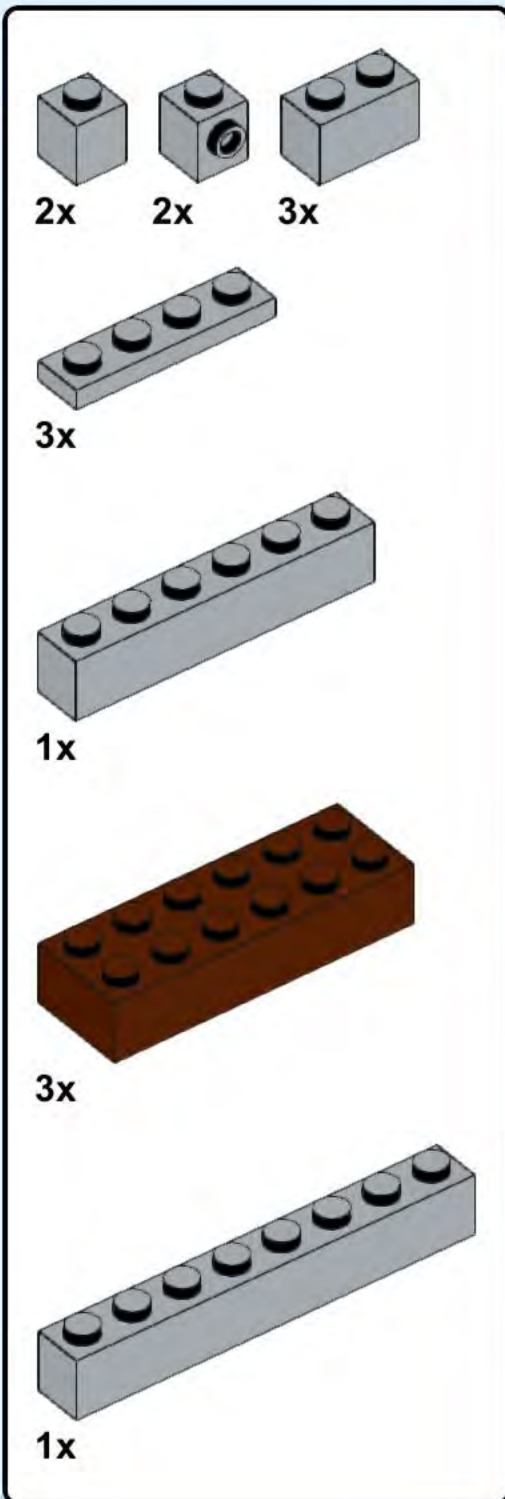
# 47



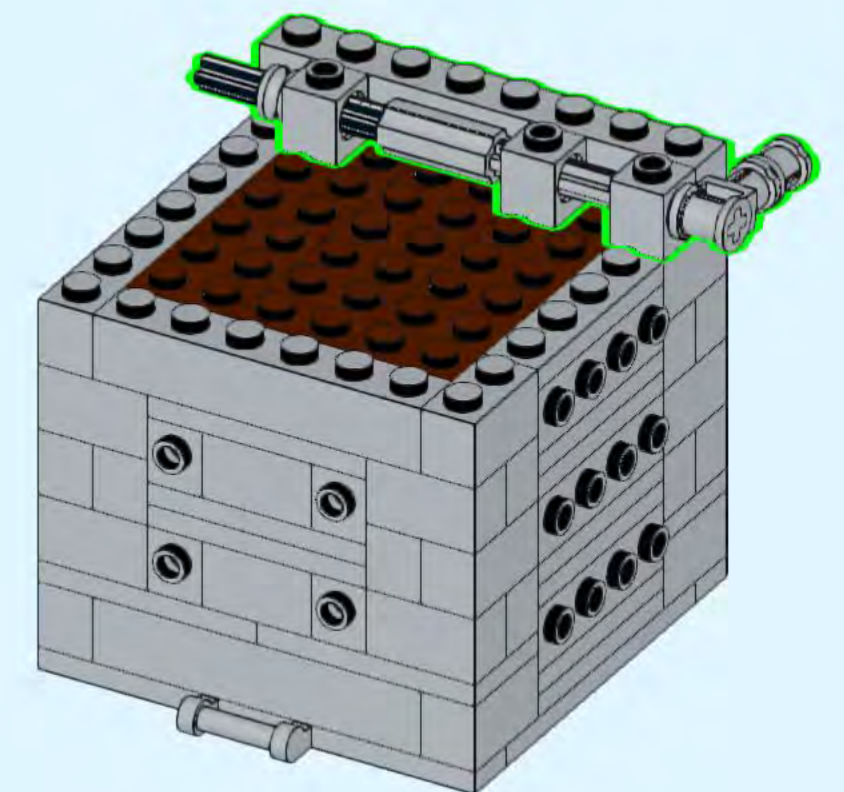
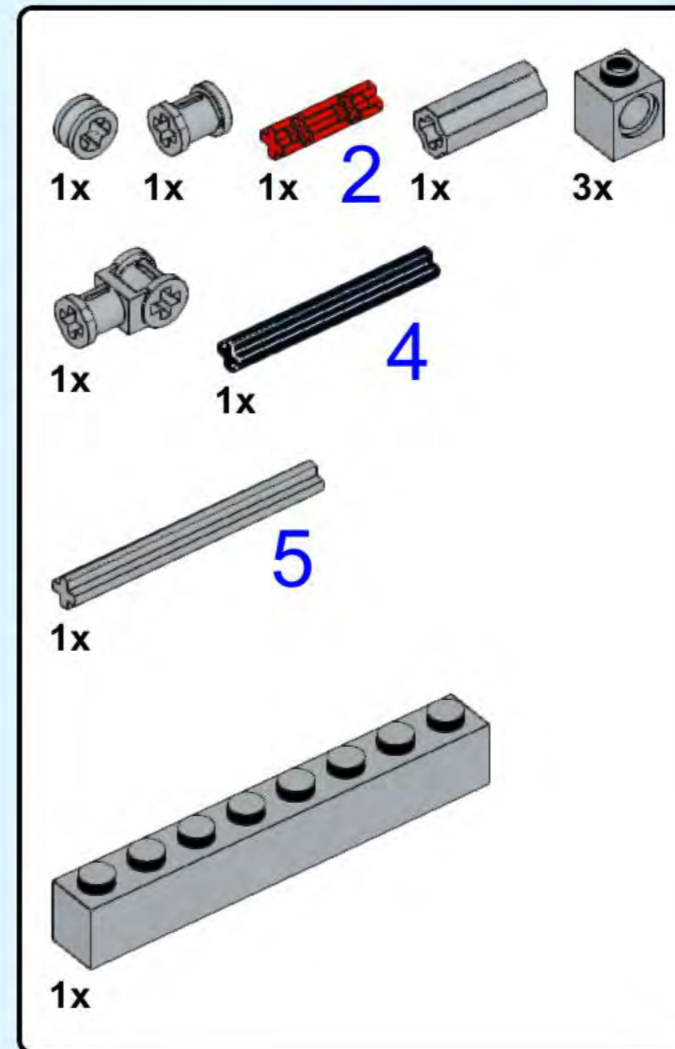
# 49



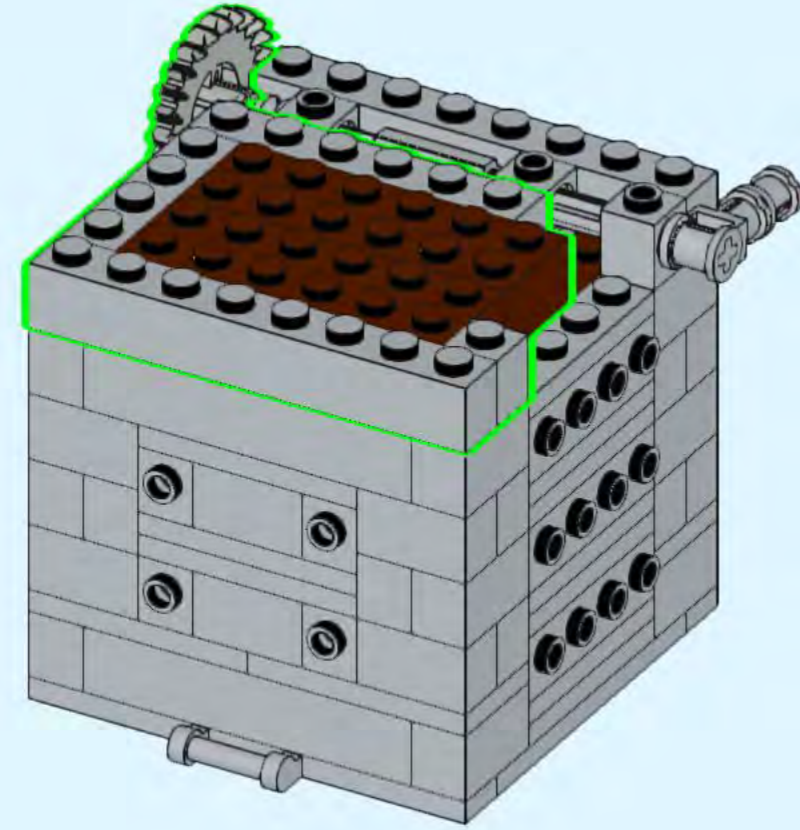
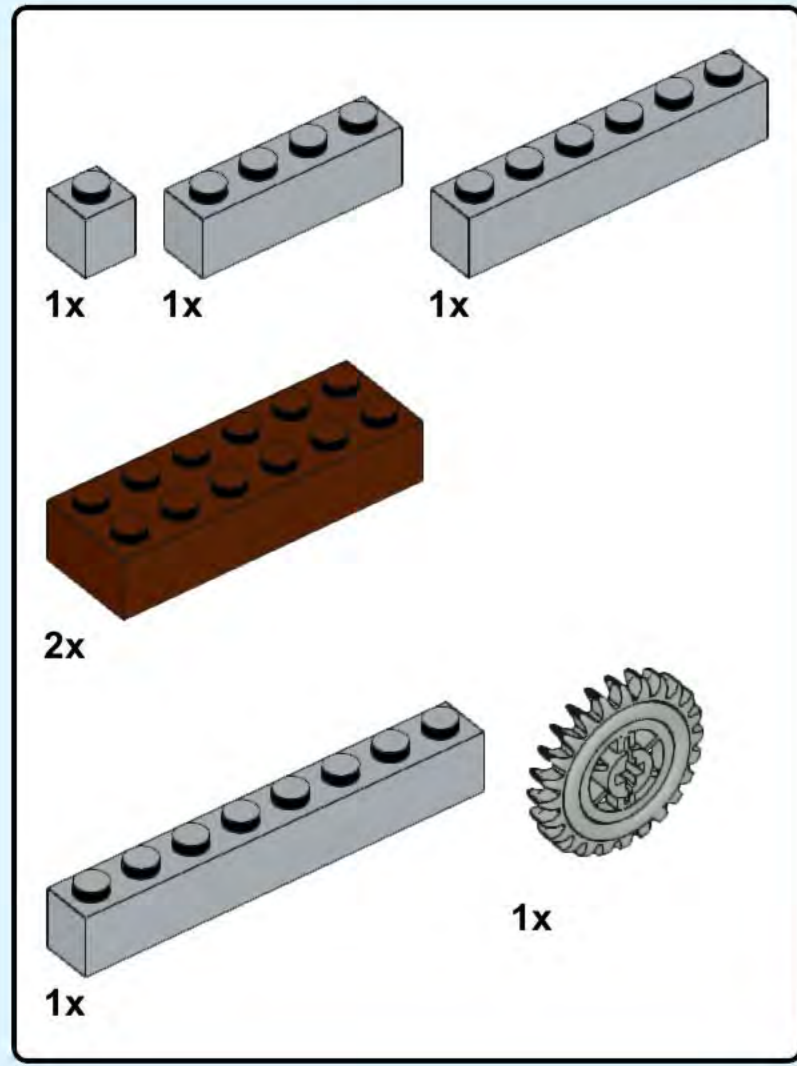
# 48



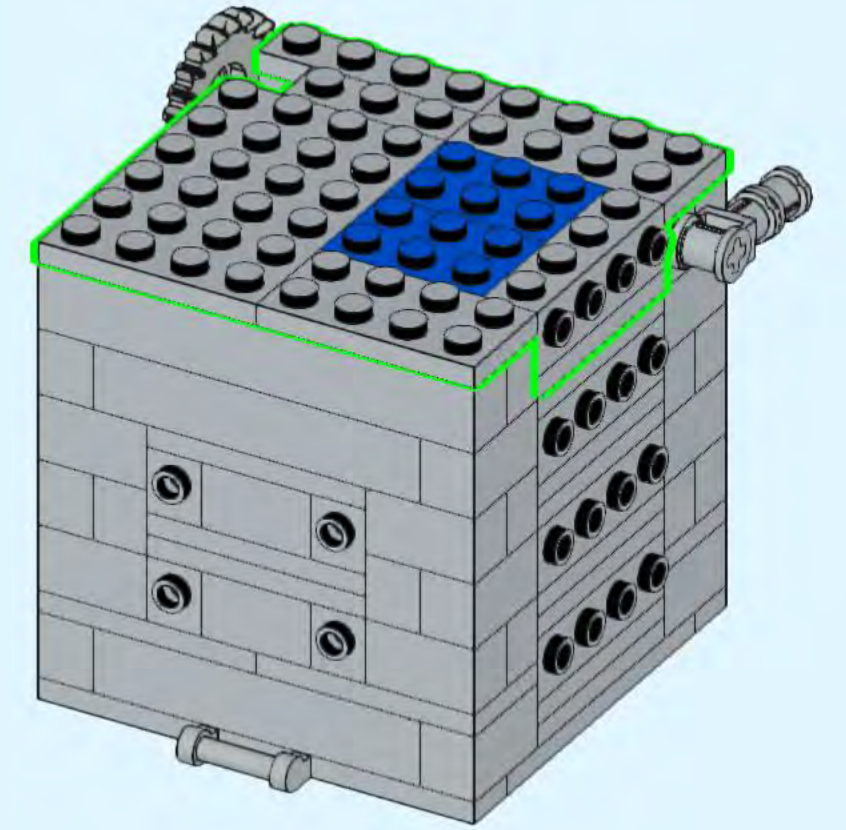
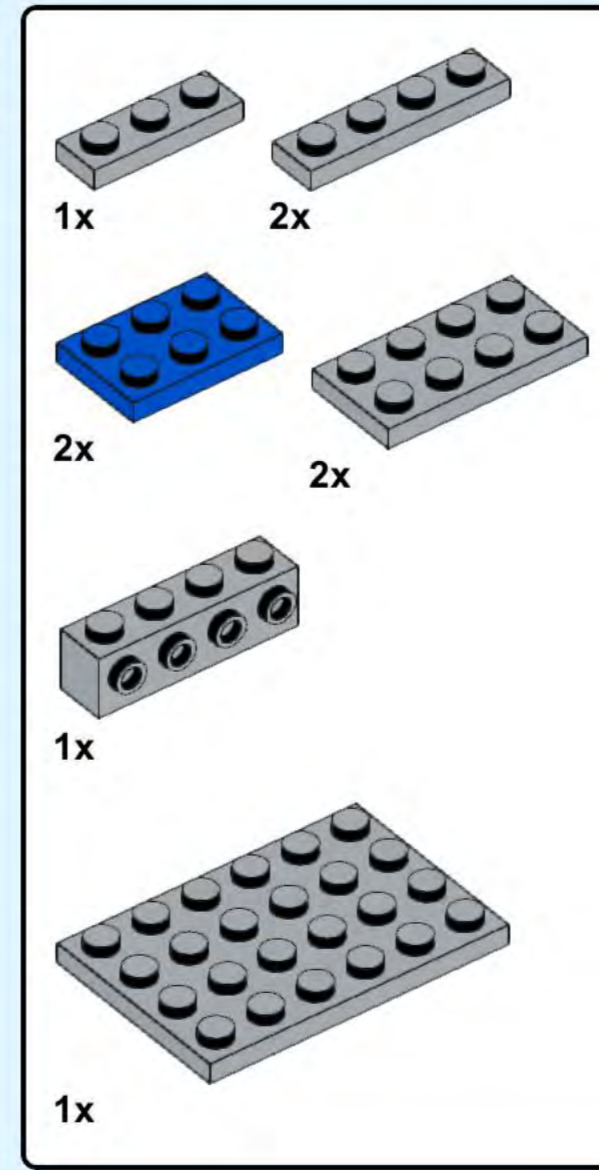
# 50



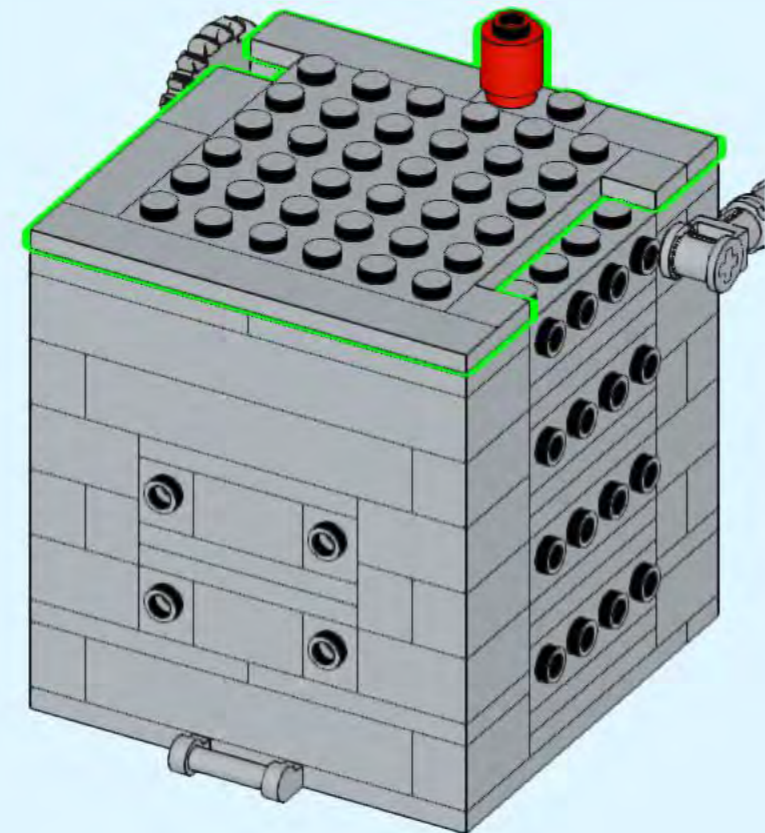
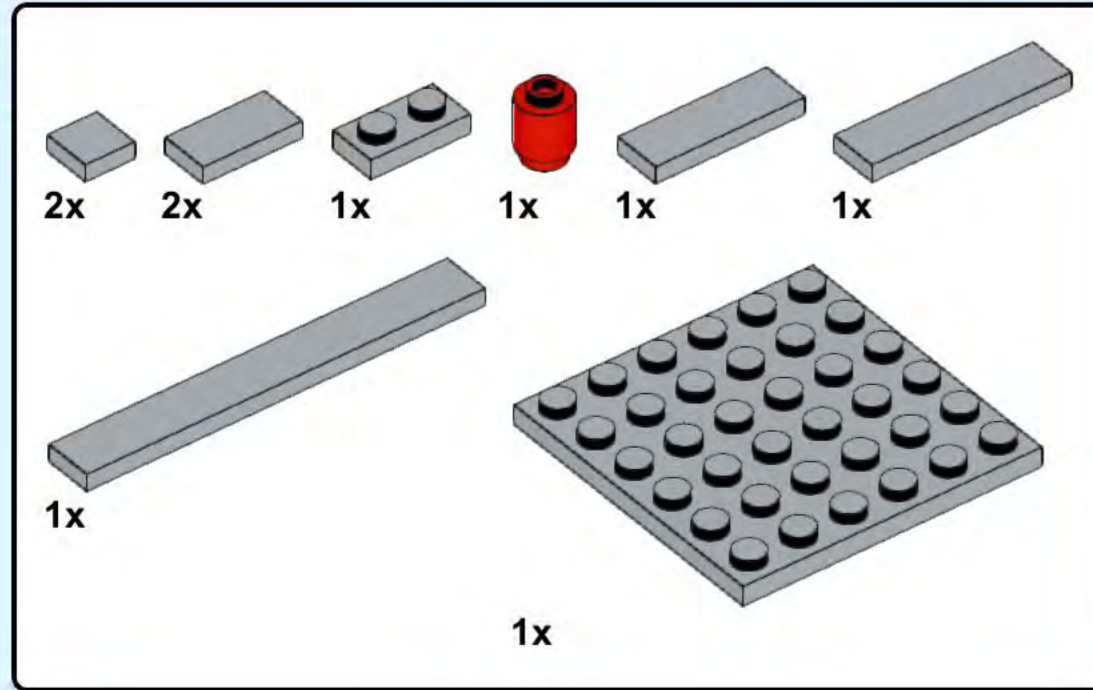
# 51



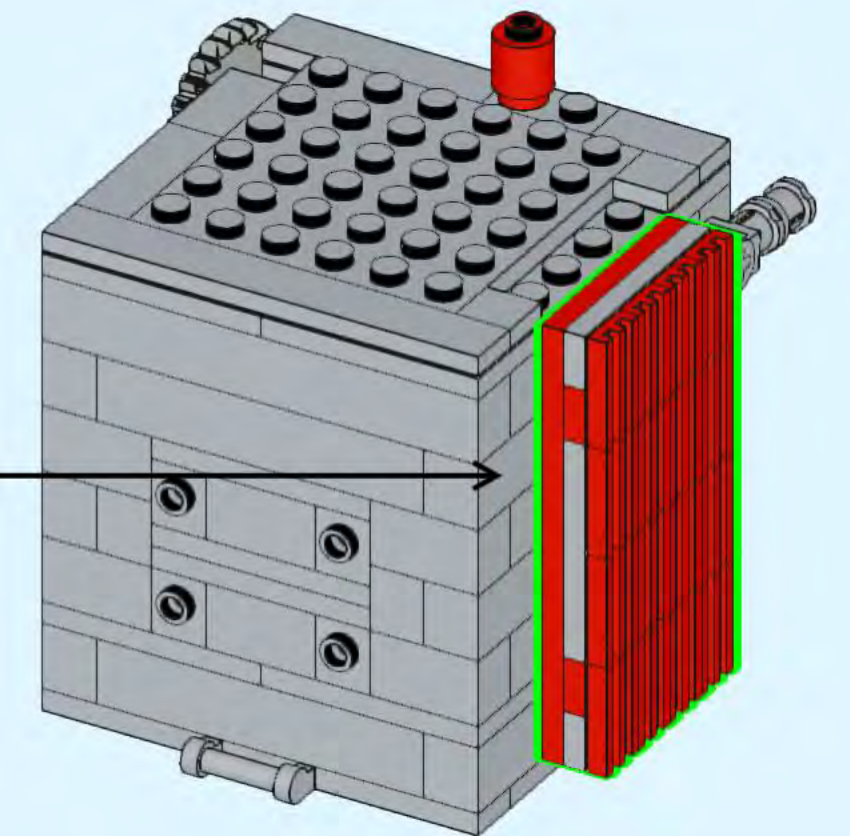
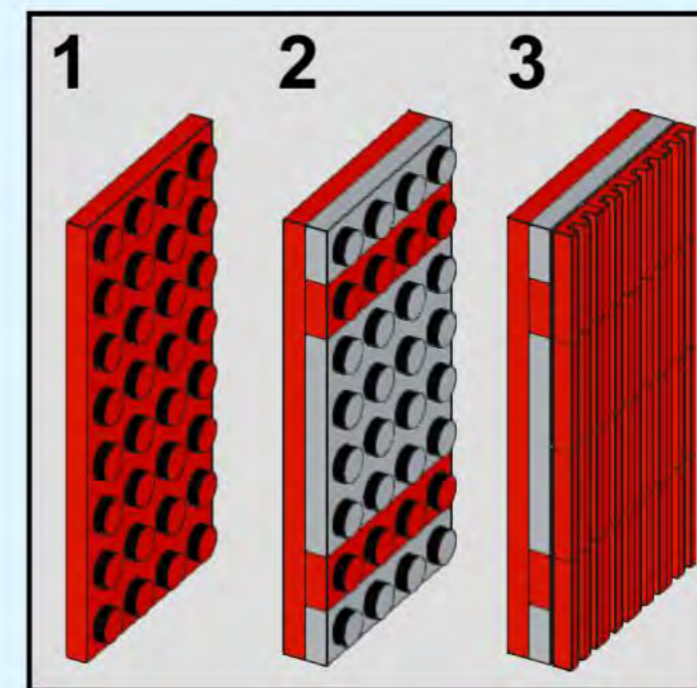
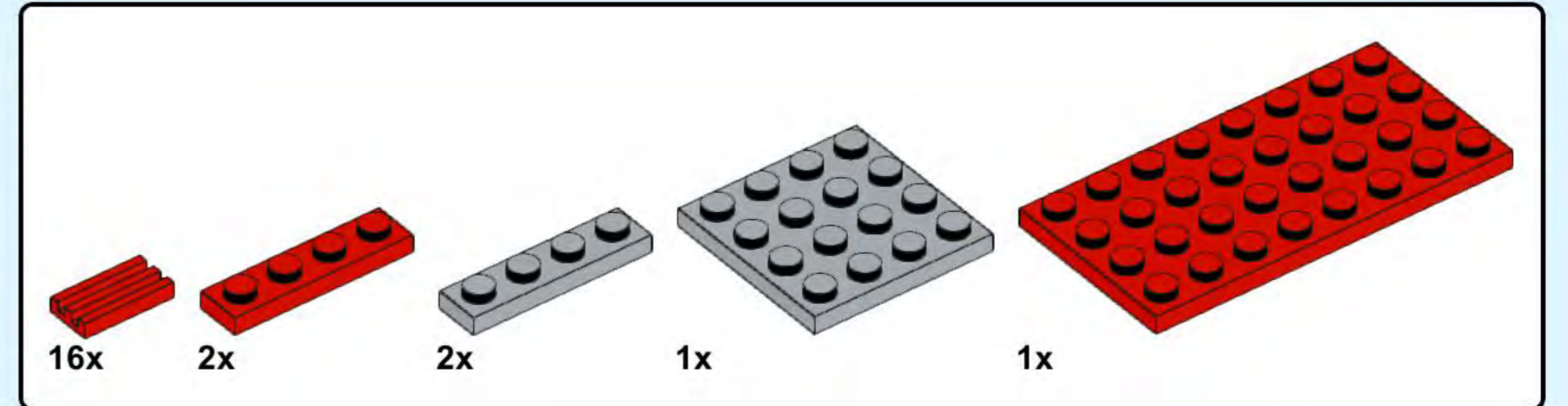
# 52



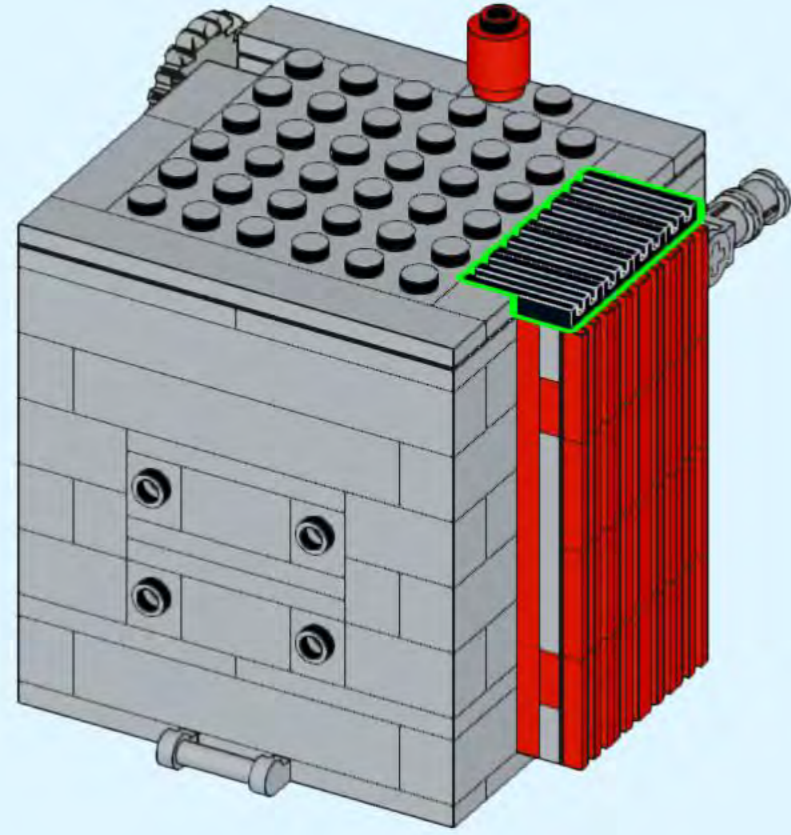
# 53



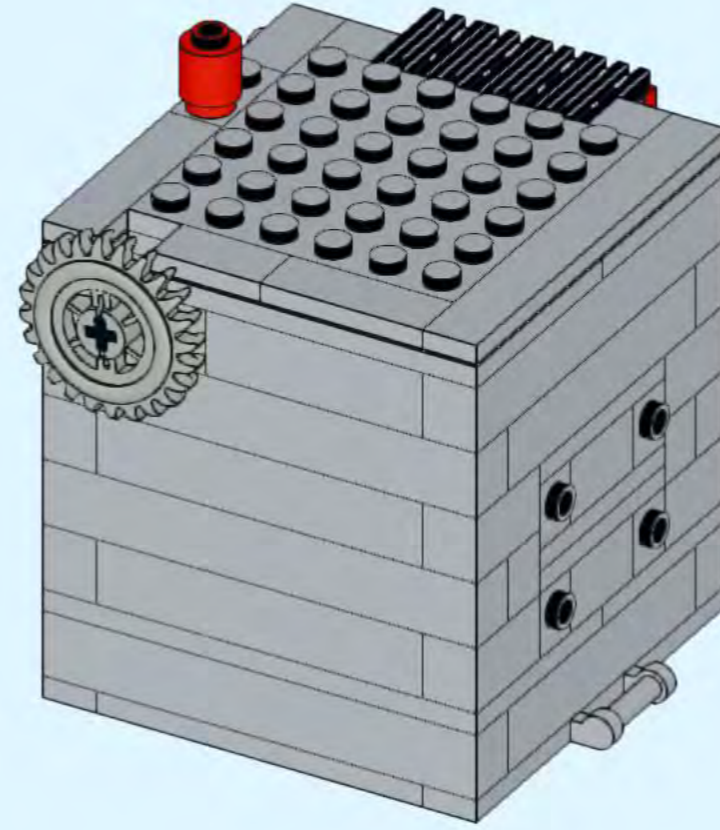
# 54



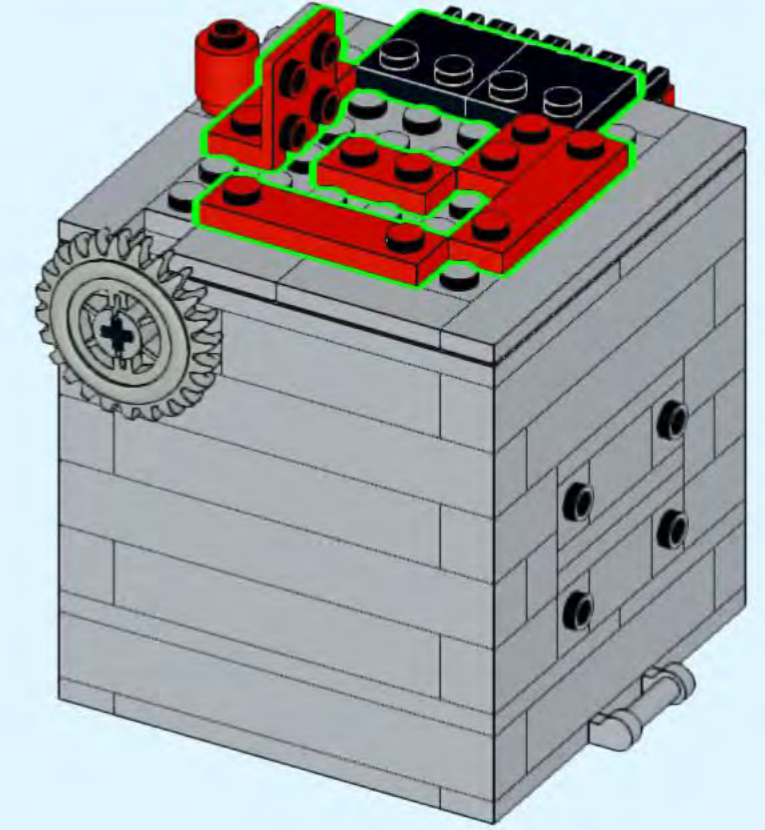
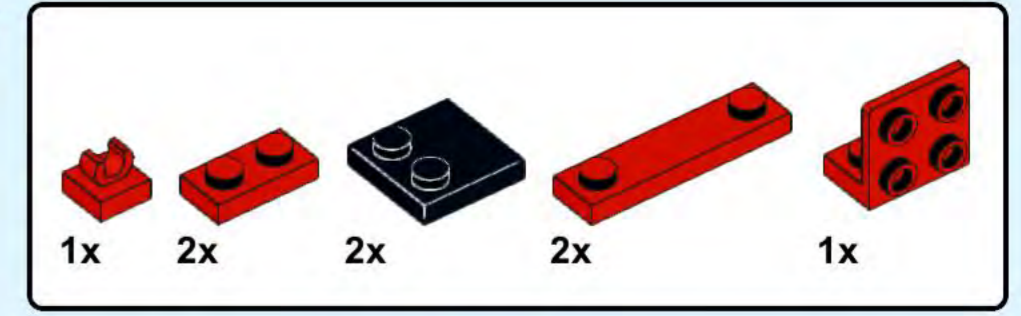
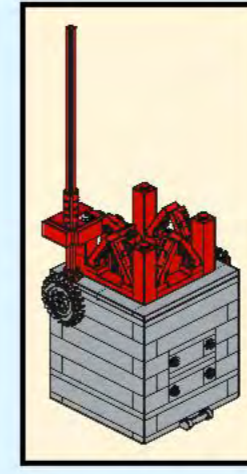
55



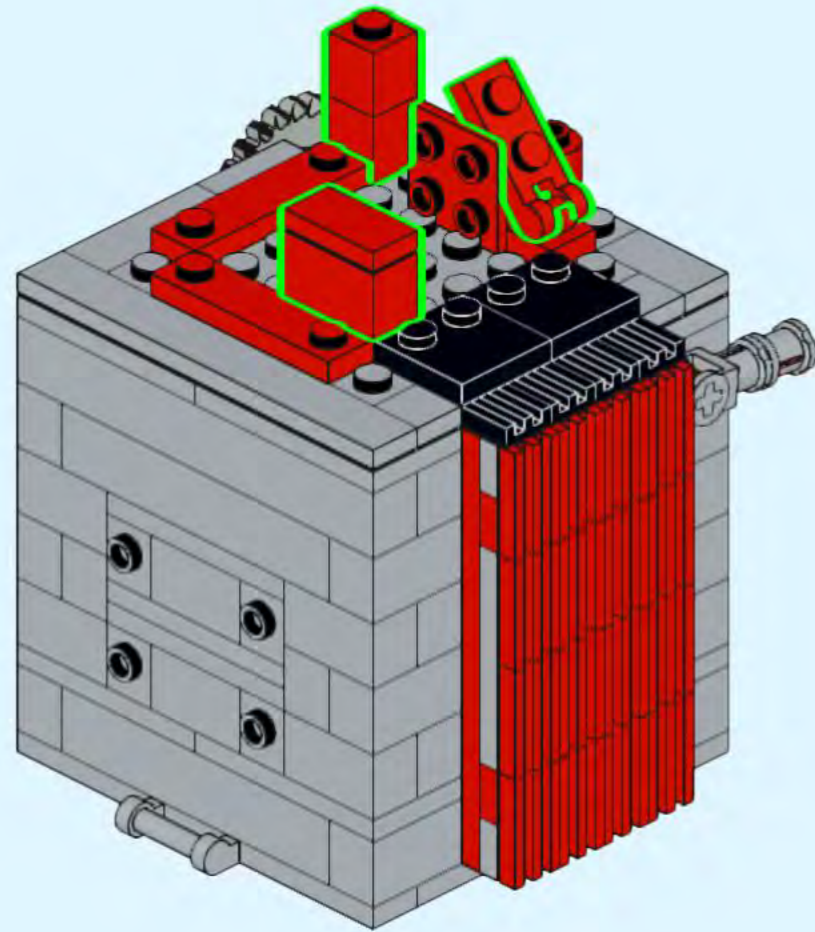
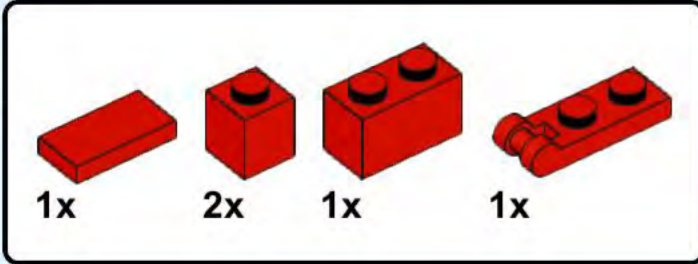
56



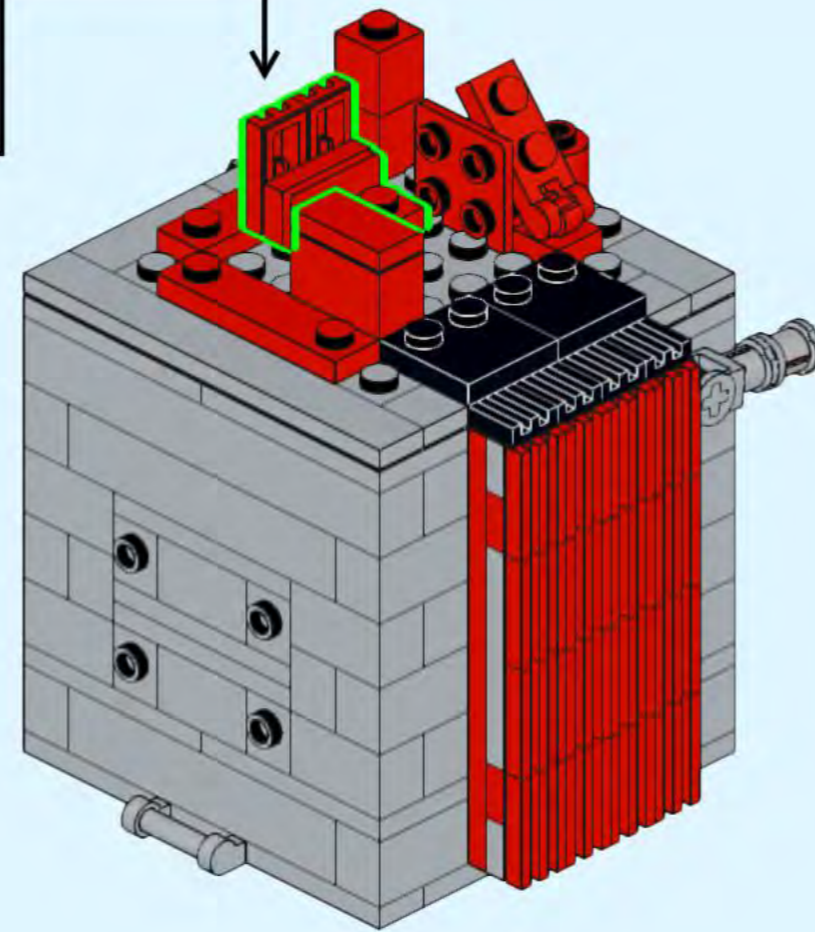
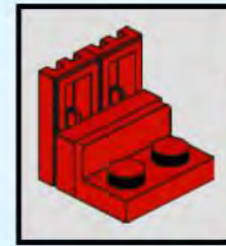
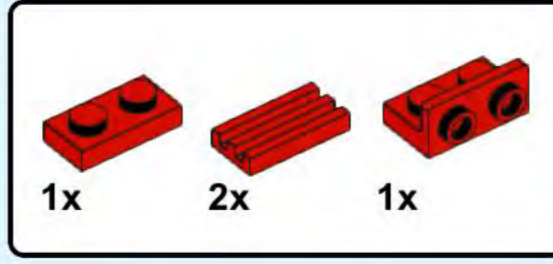
57



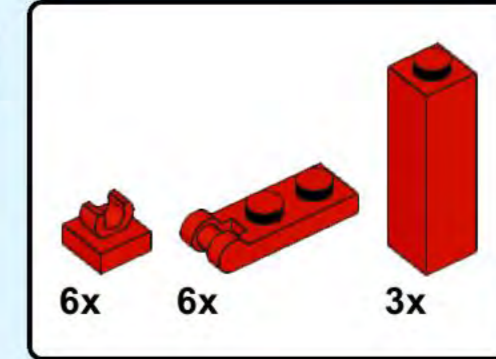
58



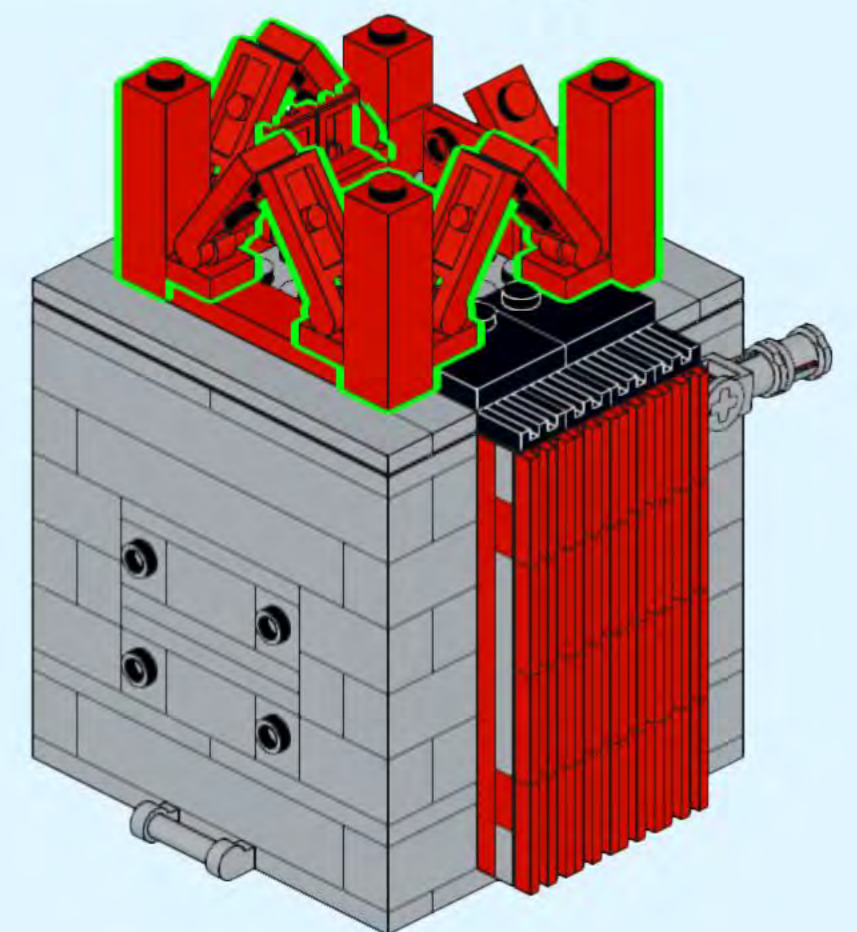
59



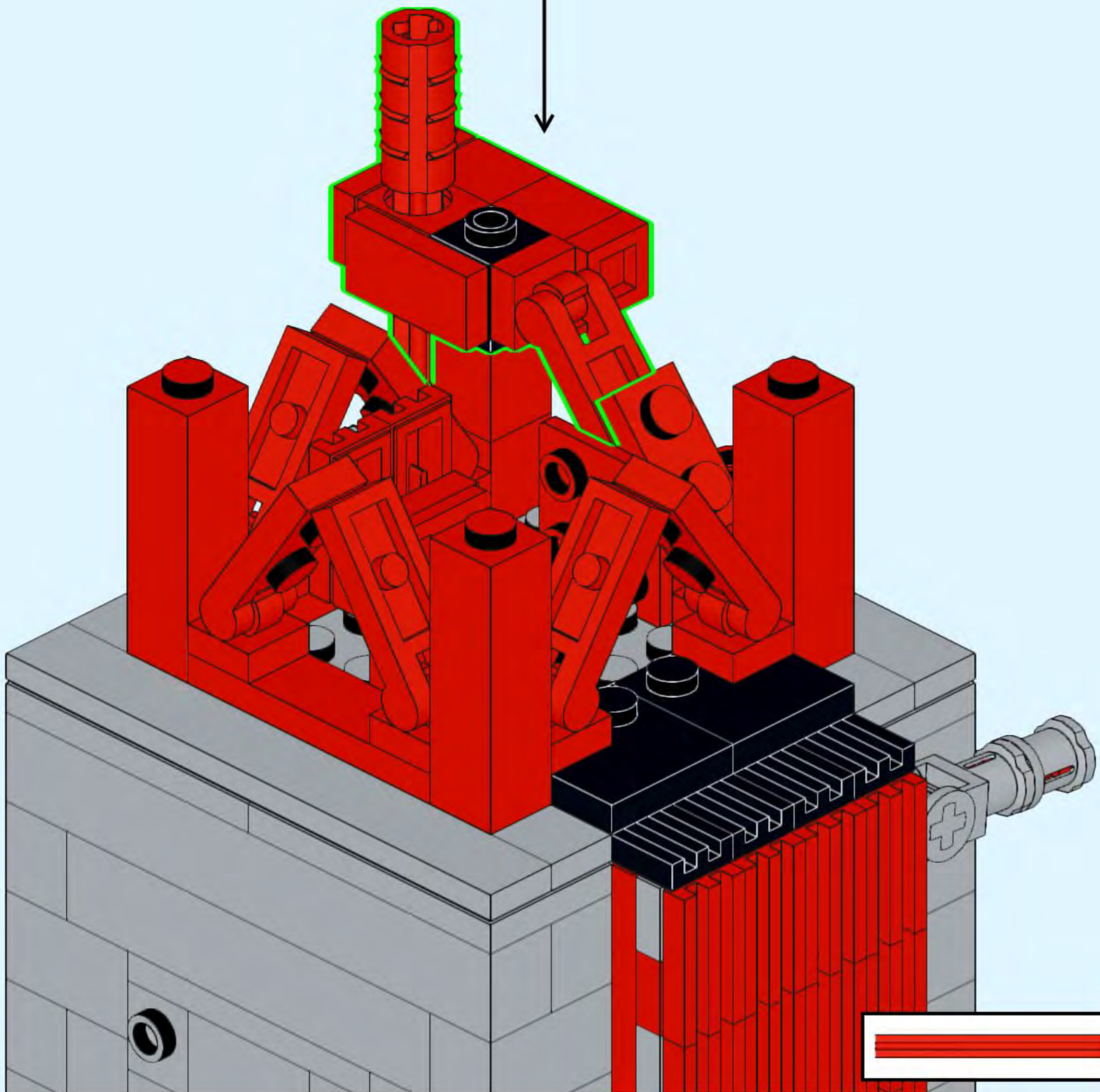
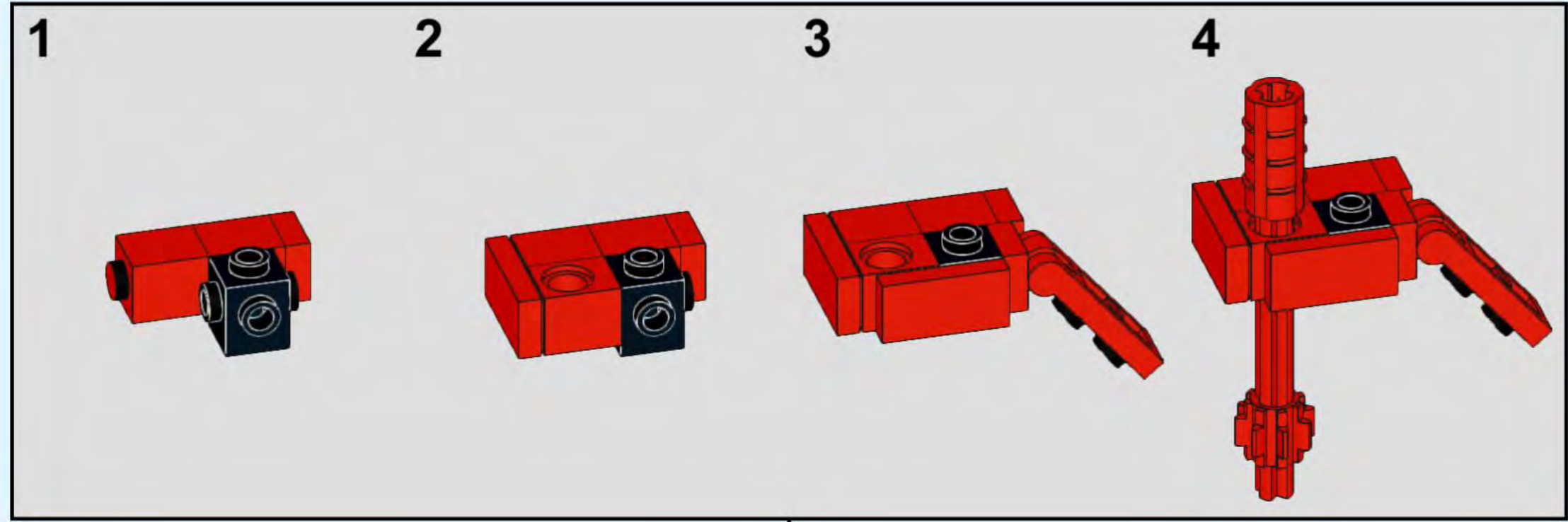
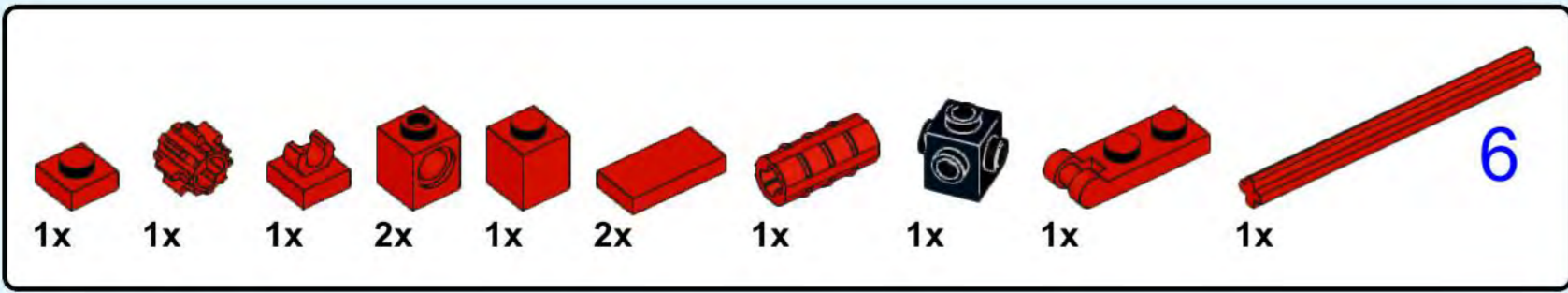
60



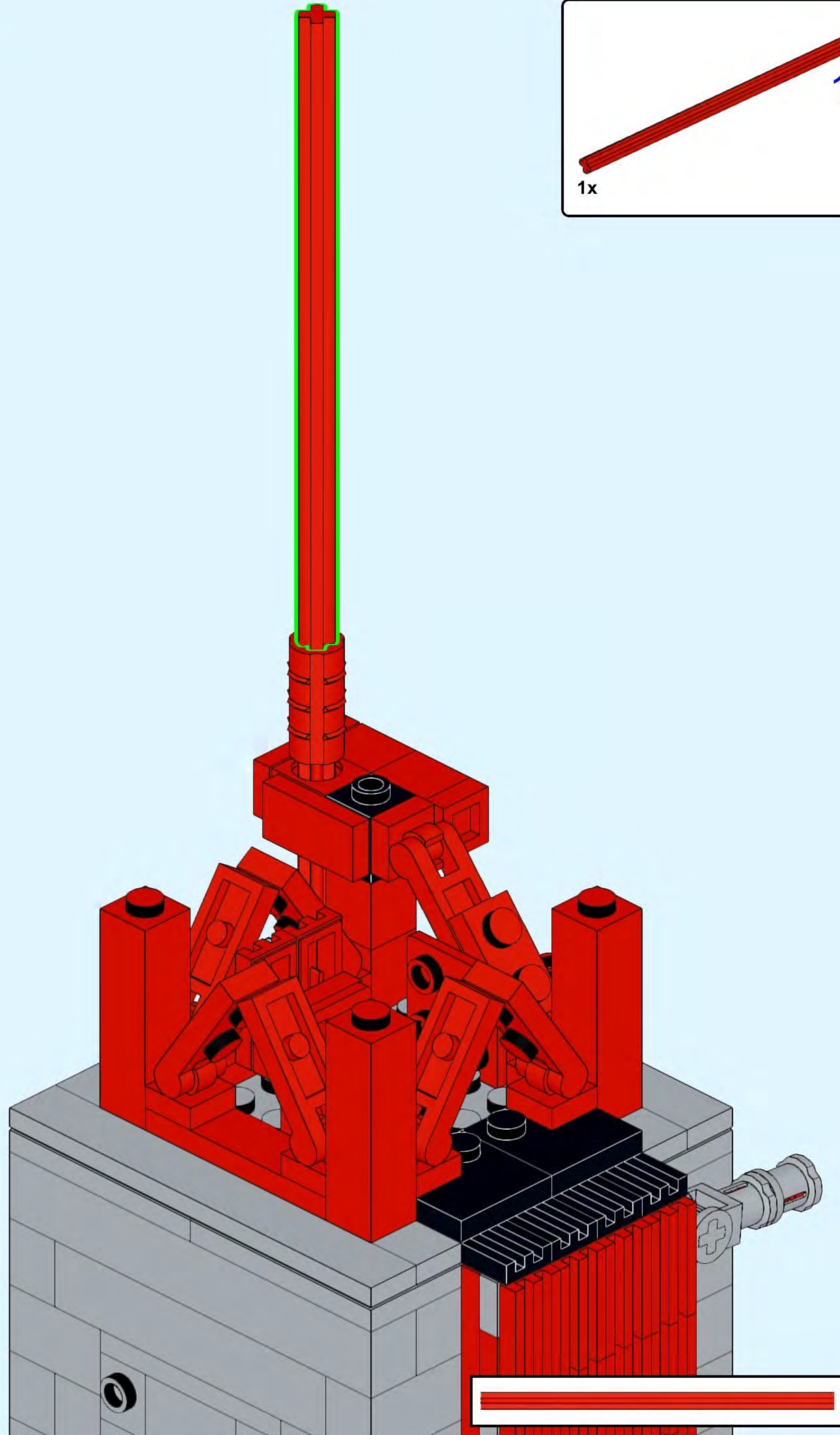
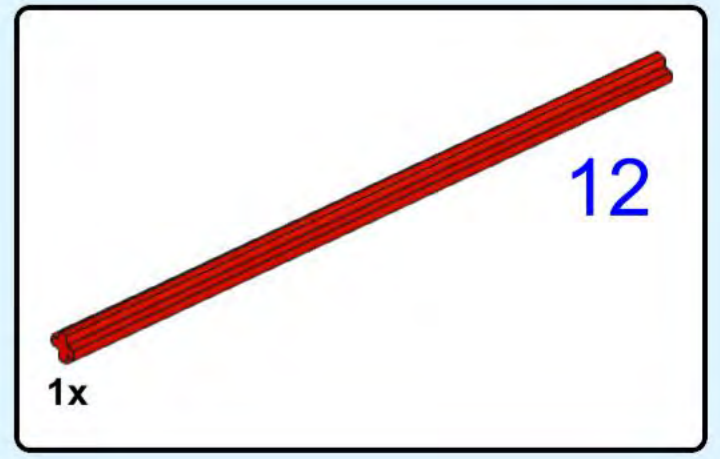
6x

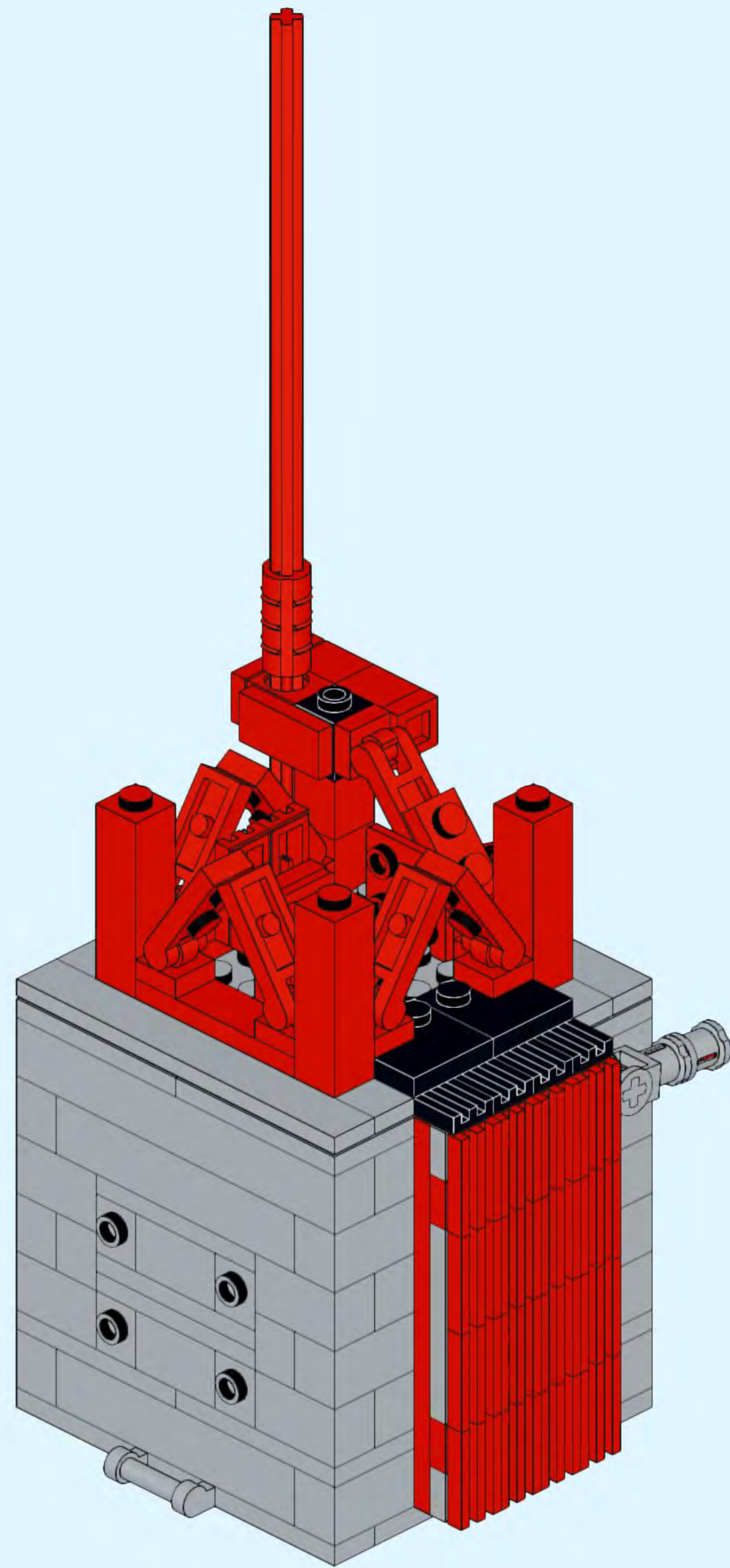
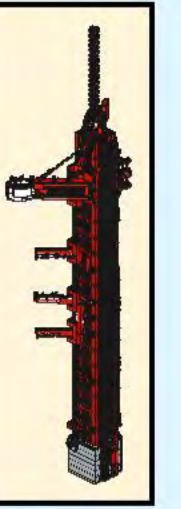


61



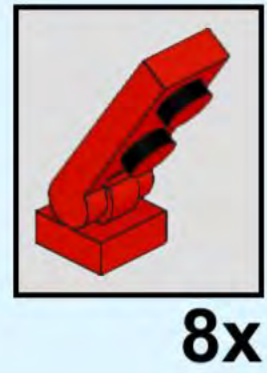
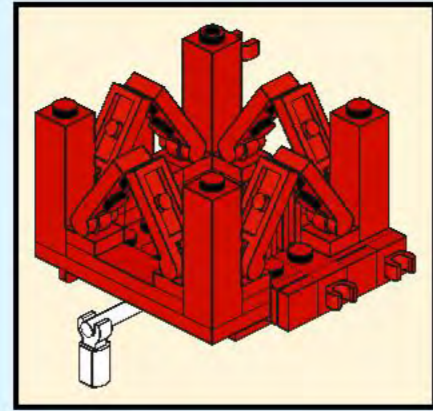
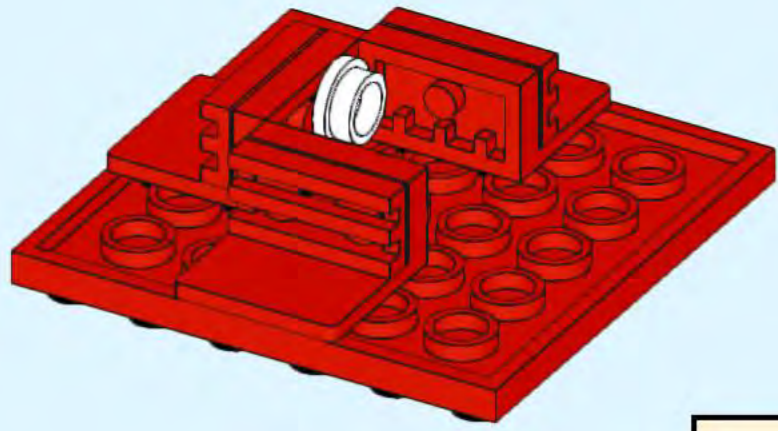
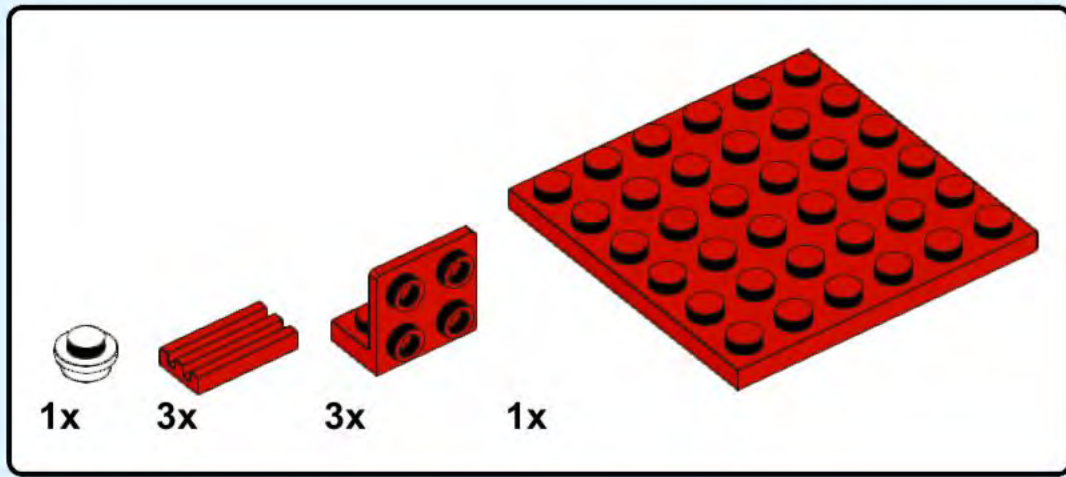
62



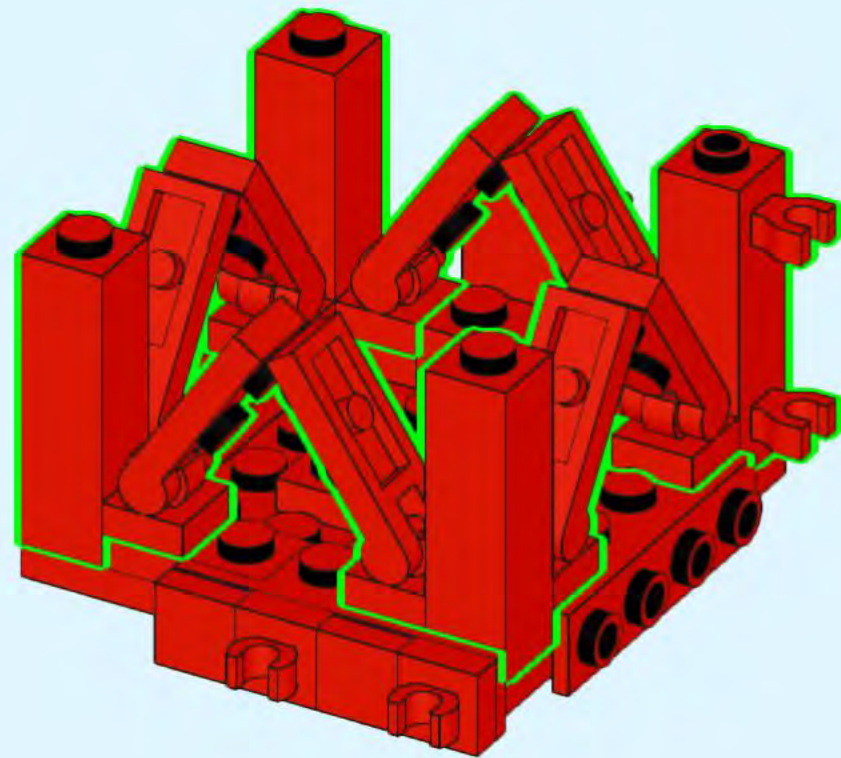
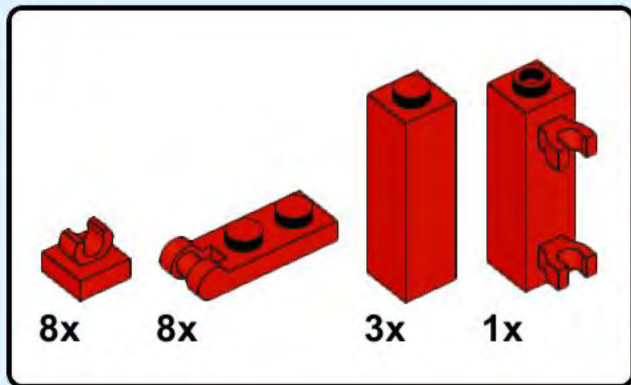




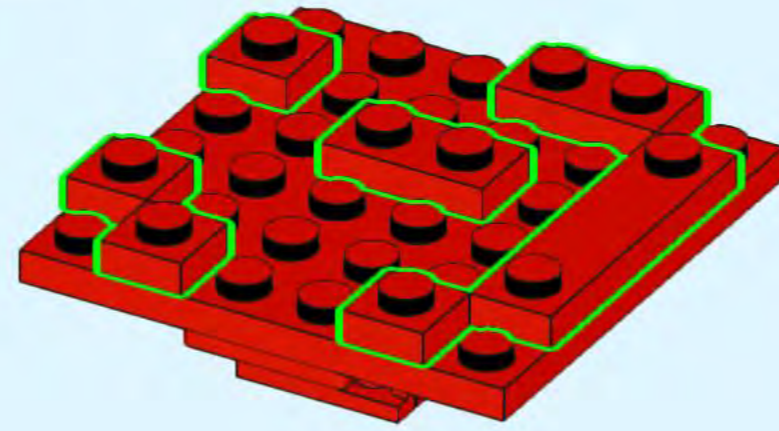
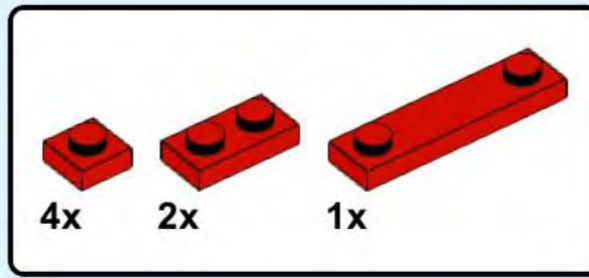
64



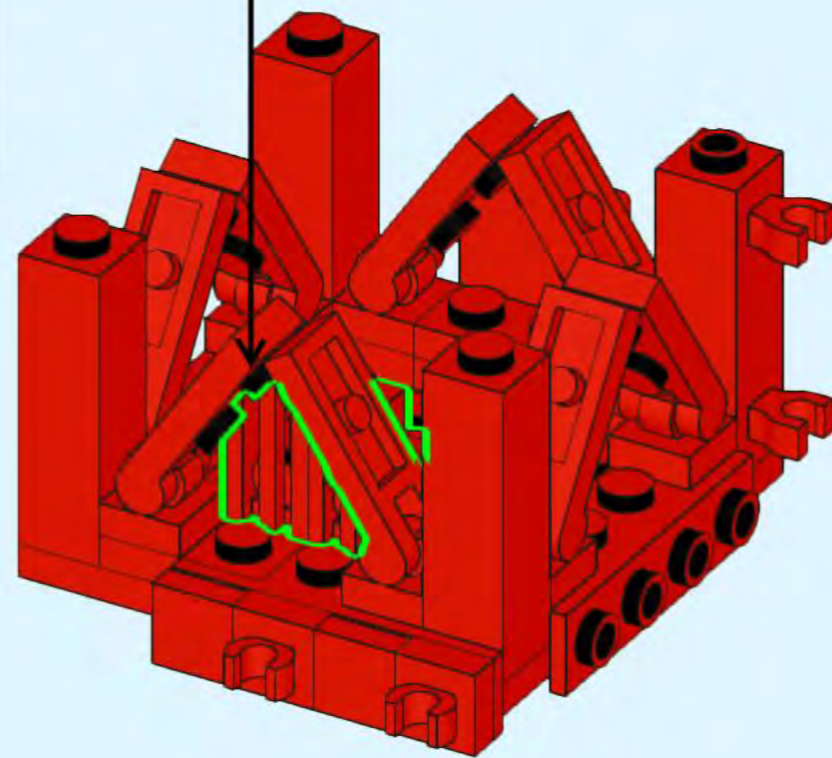
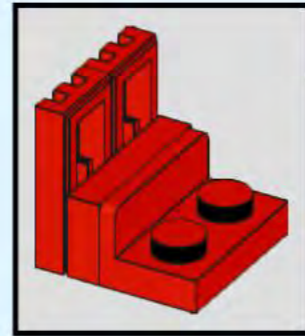
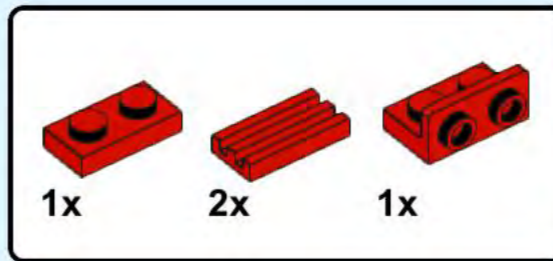
67



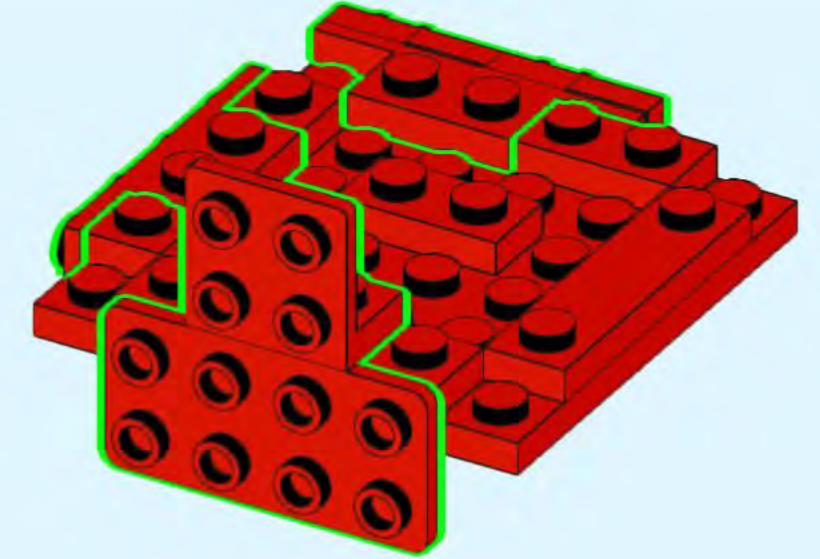
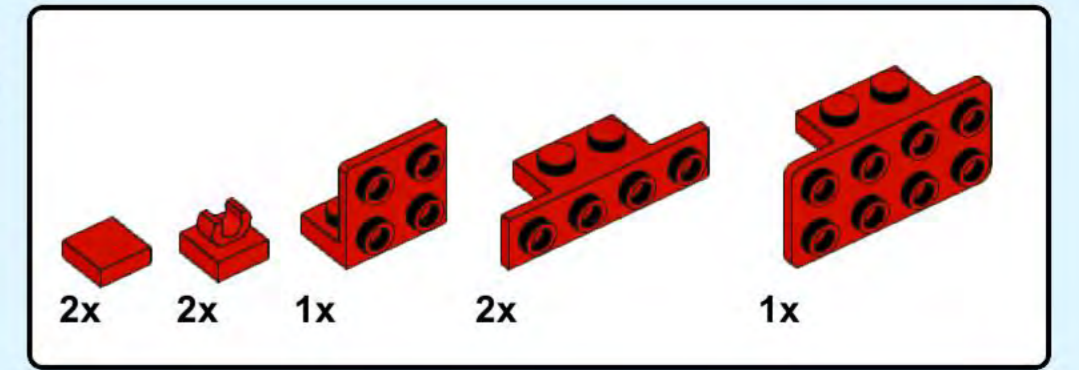
65



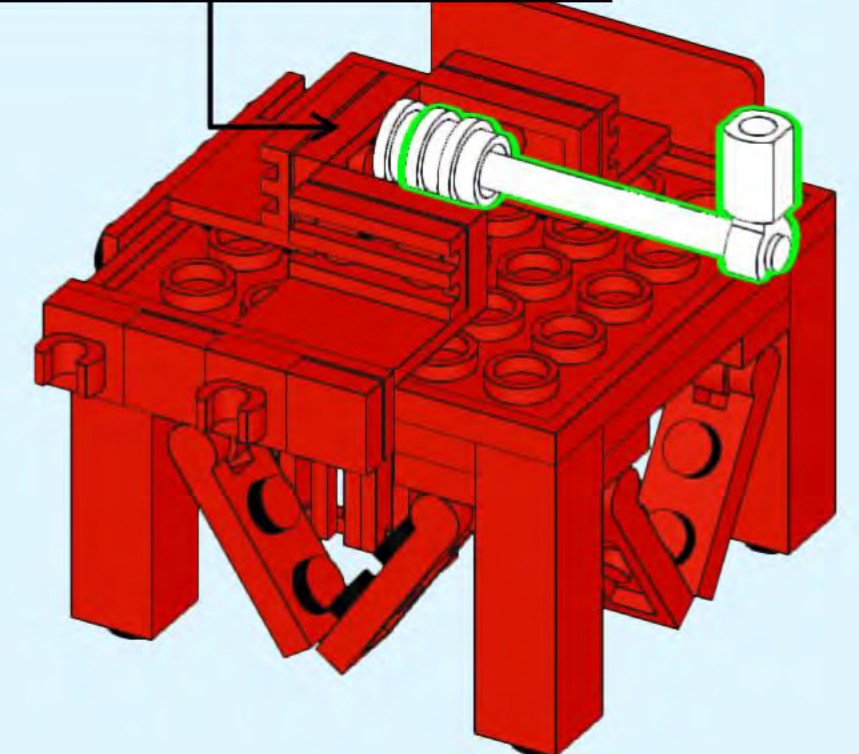
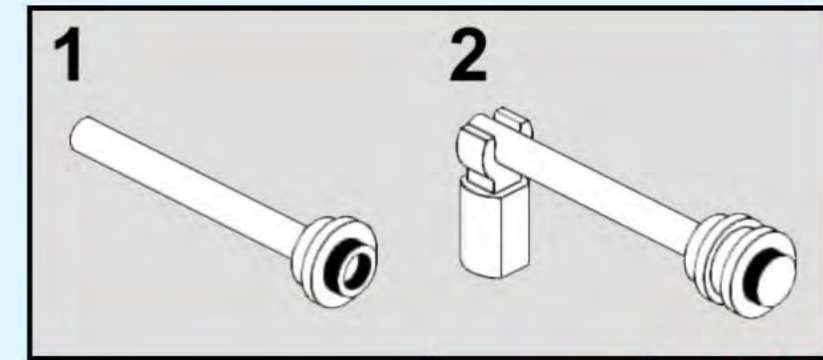
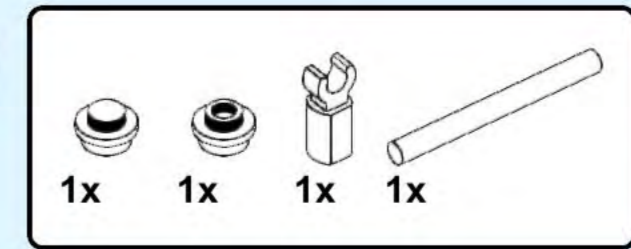
68



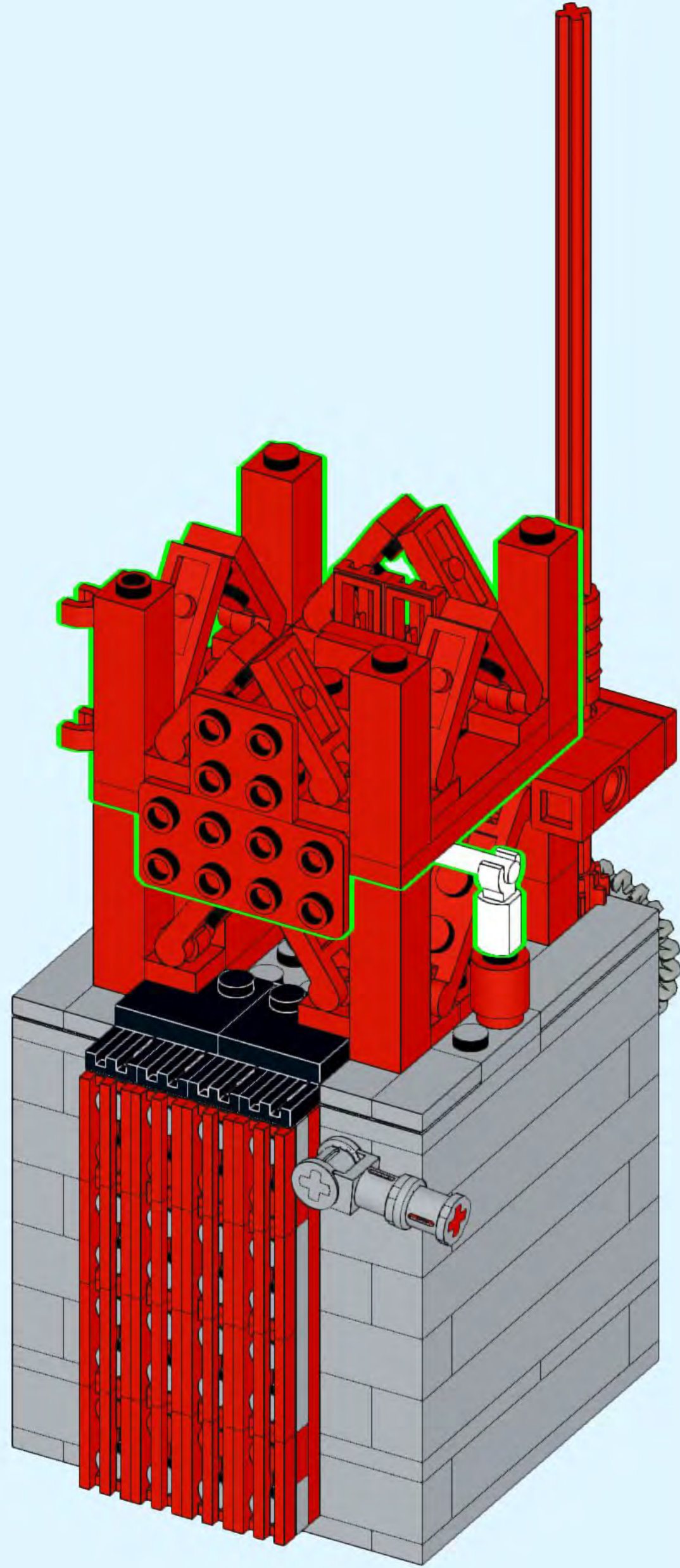
66



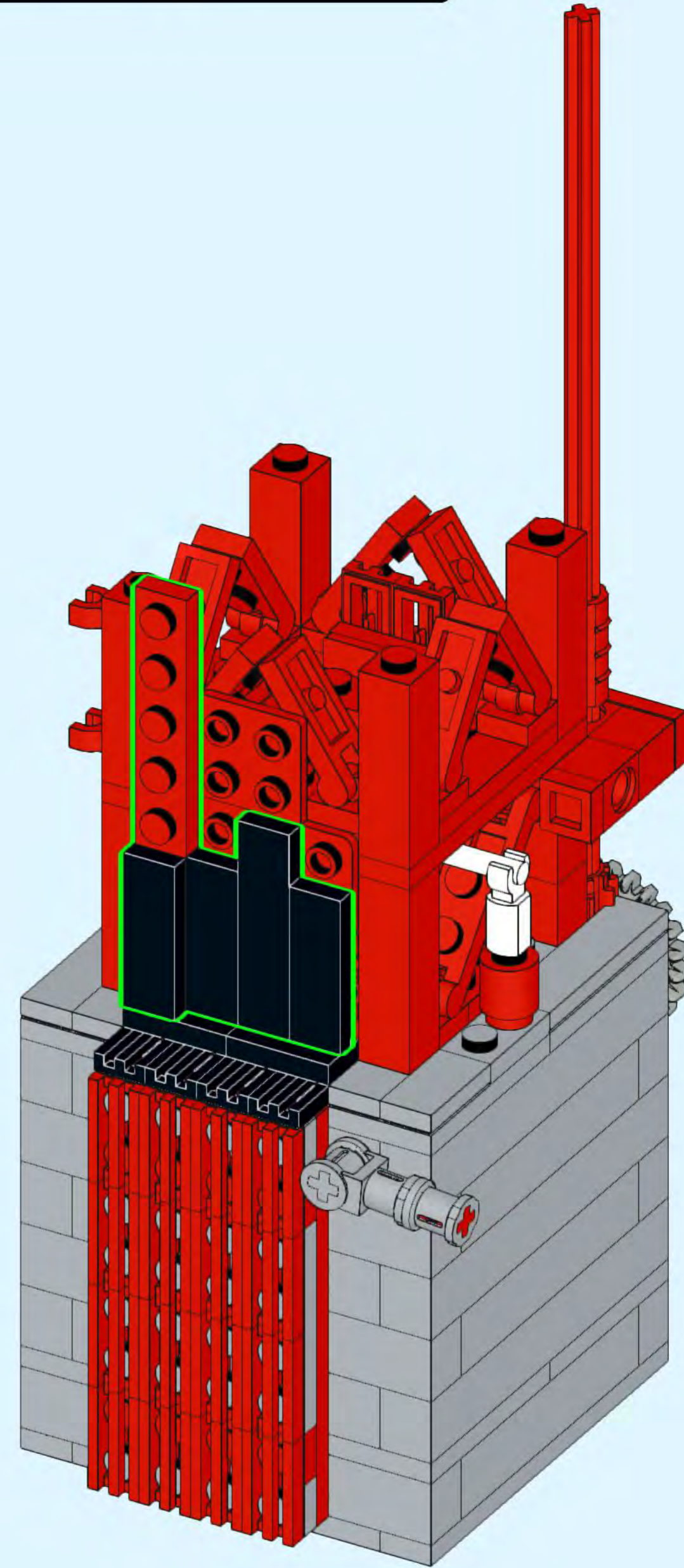
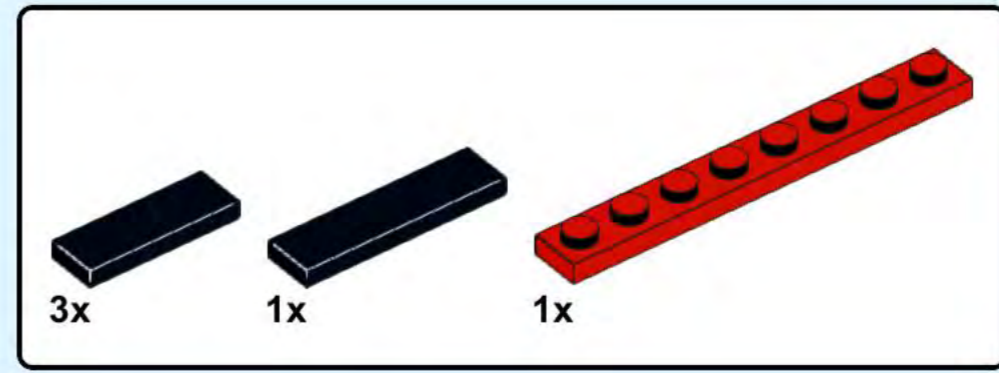
69



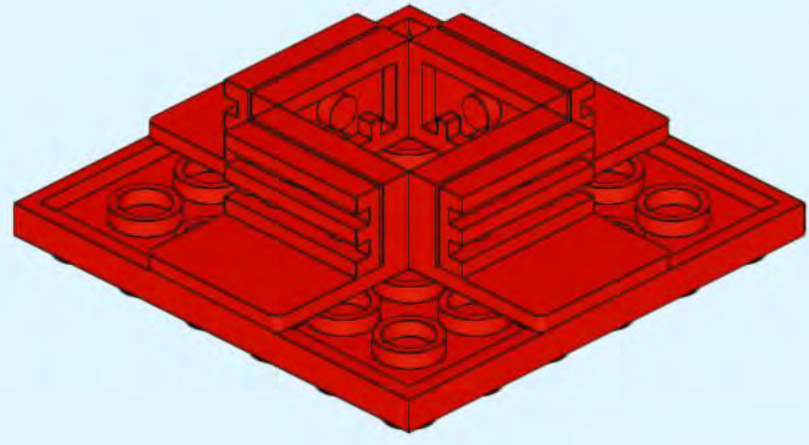
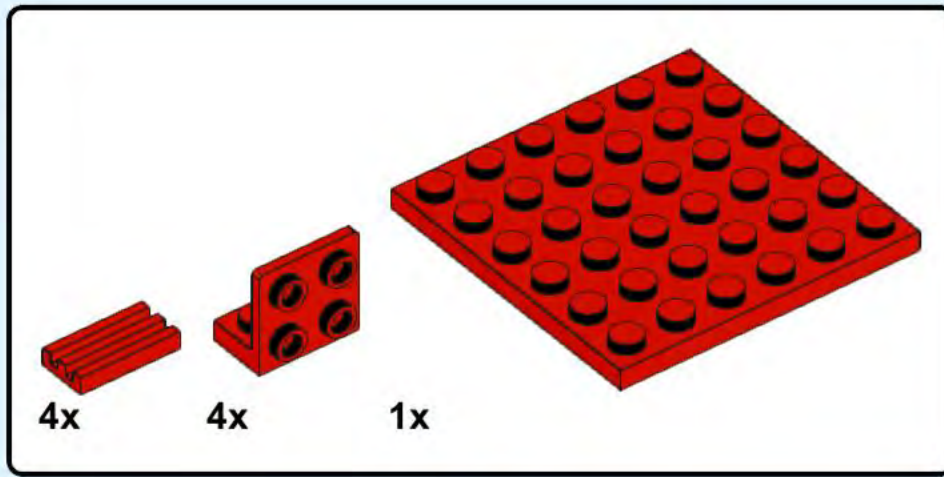
70



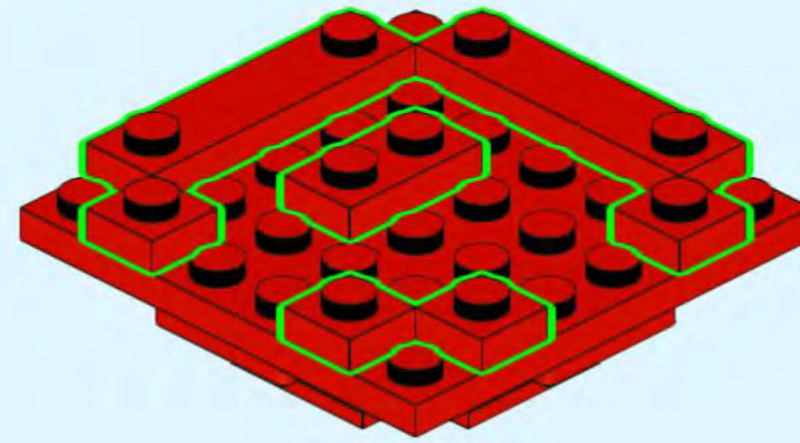
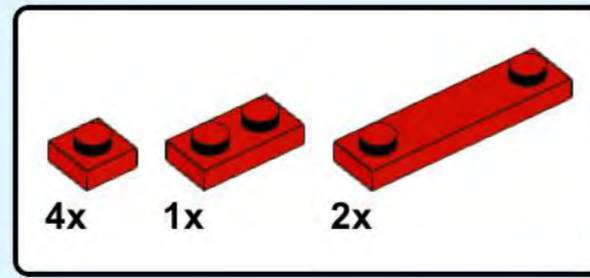
71



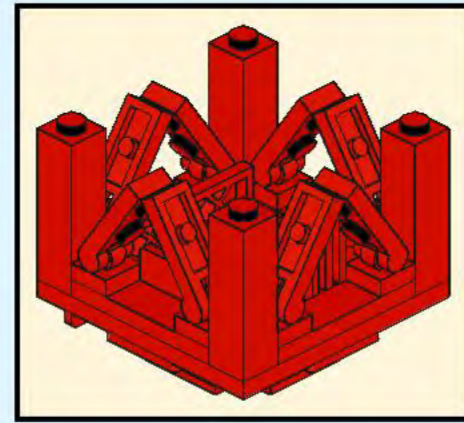
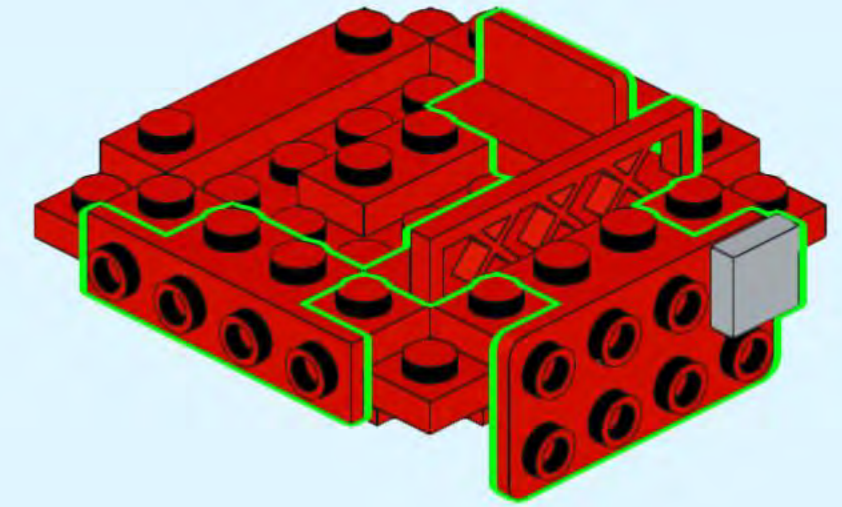
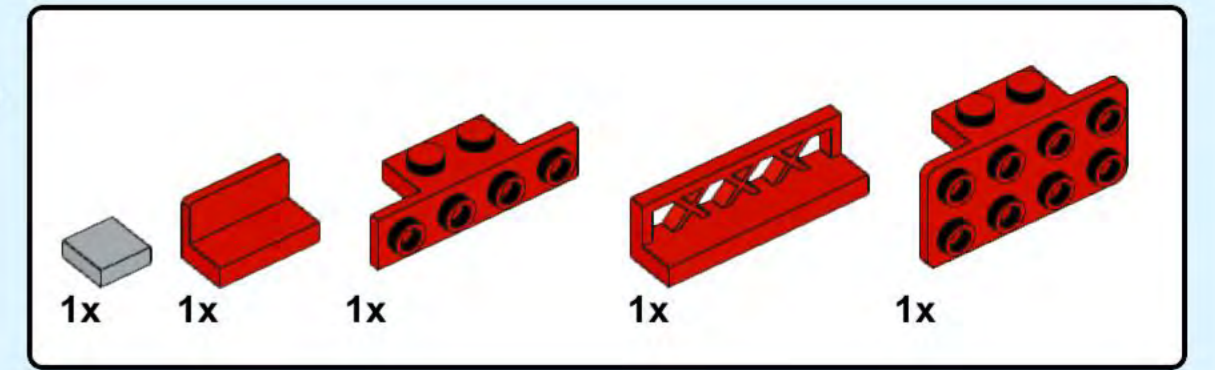
72



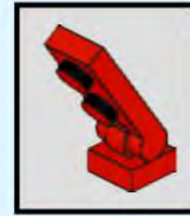
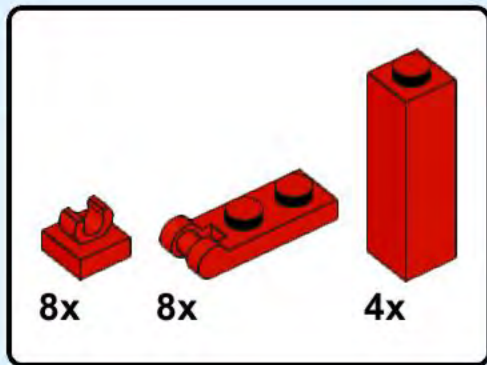
73



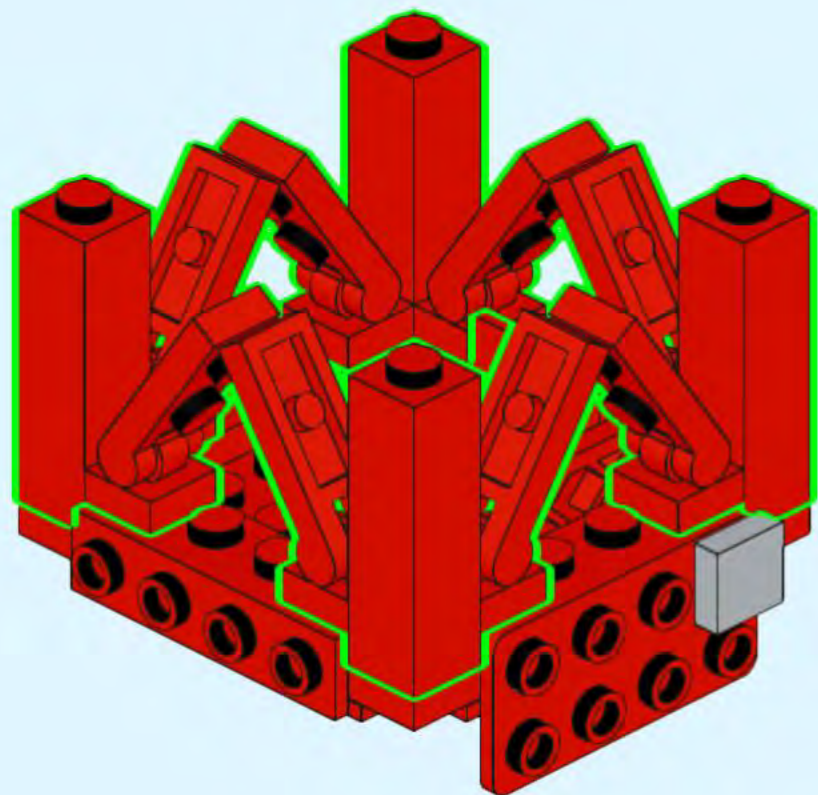
74



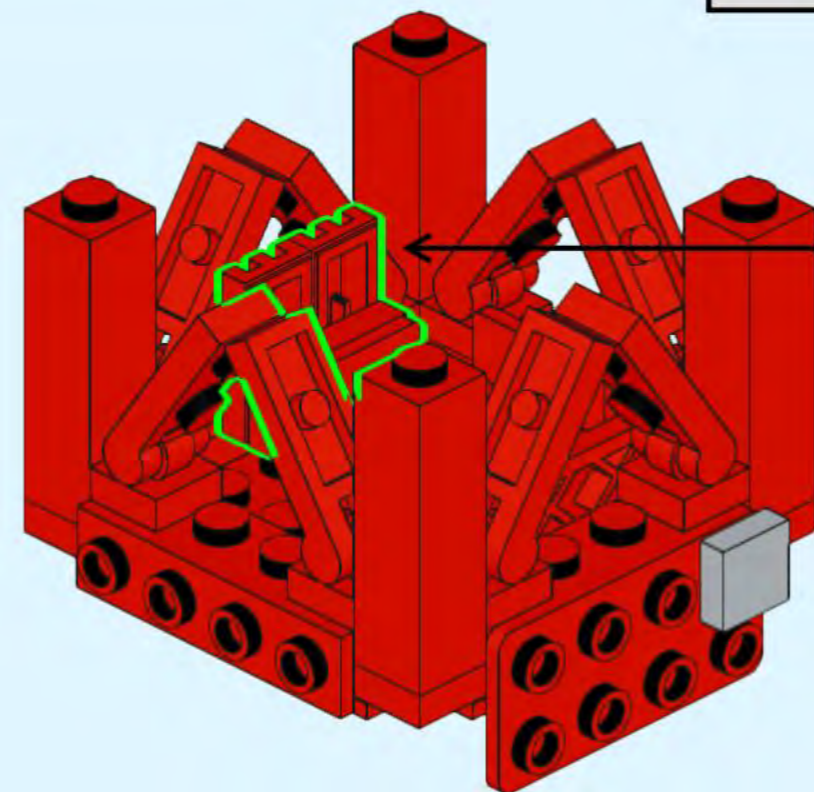
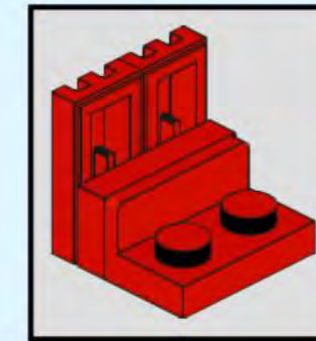
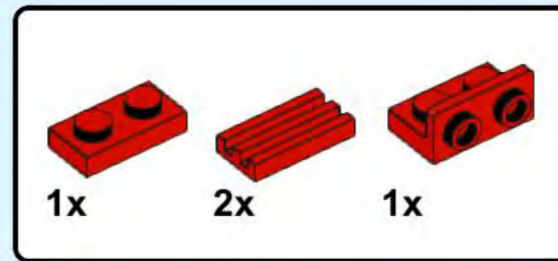
75



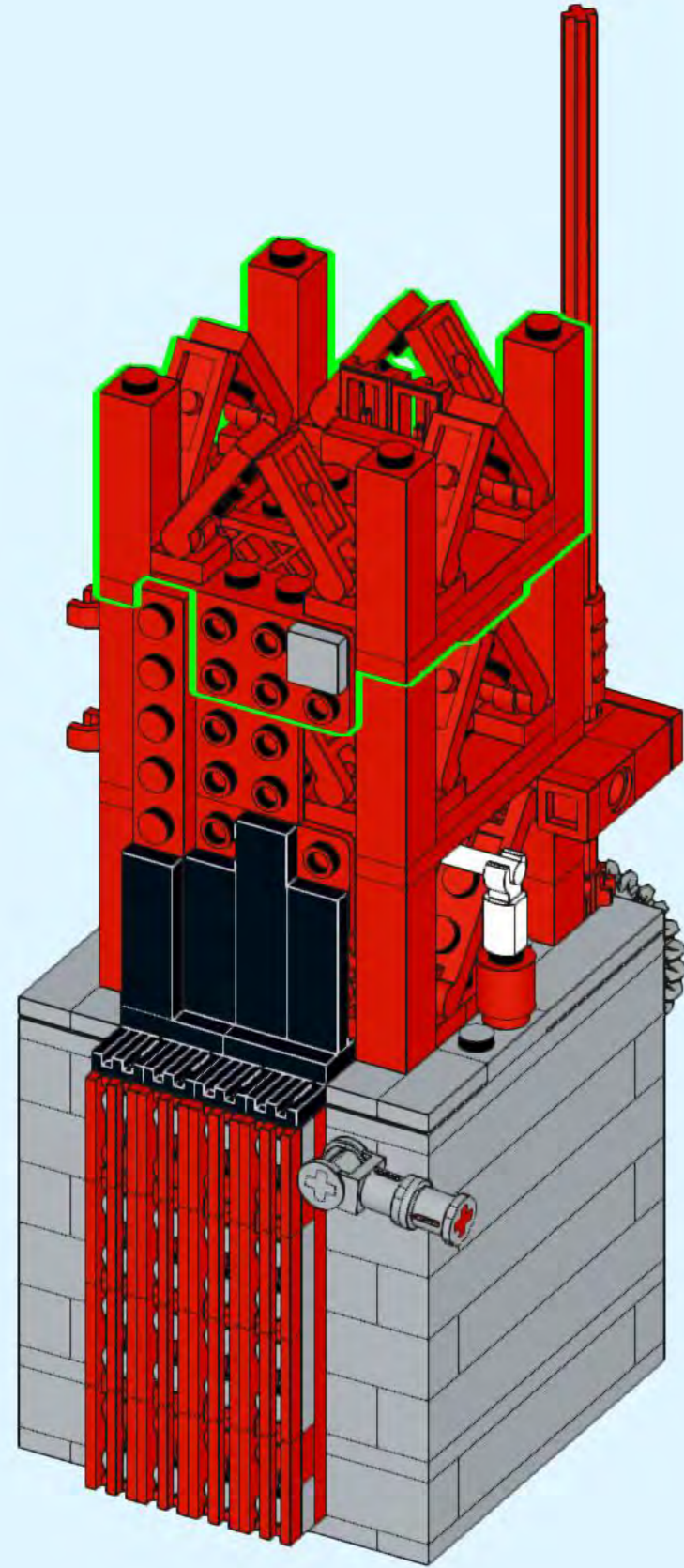
8x



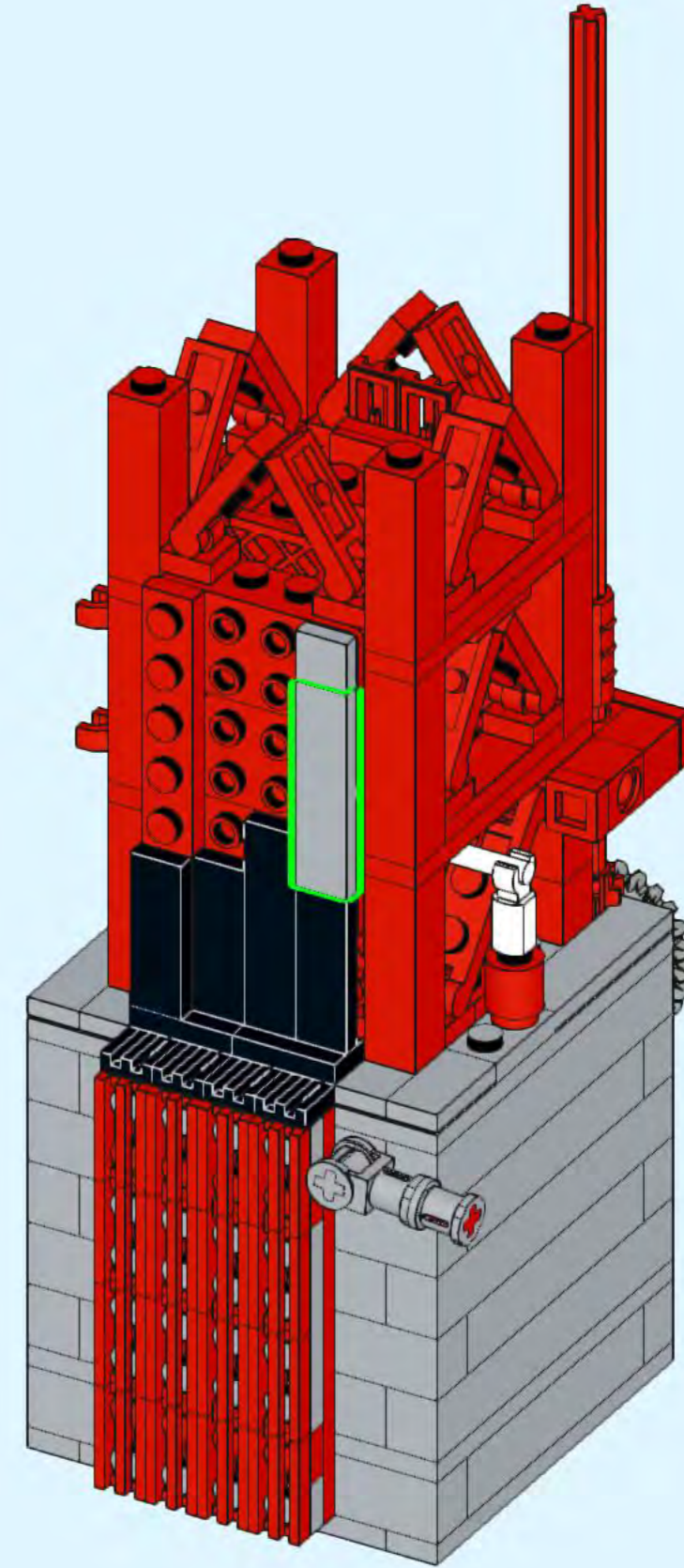
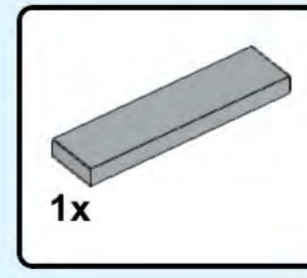
76



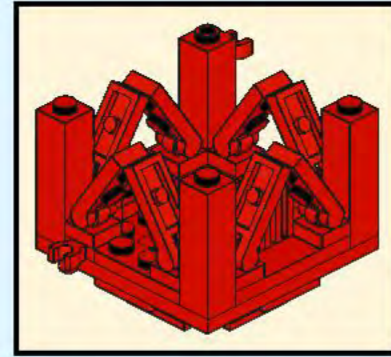
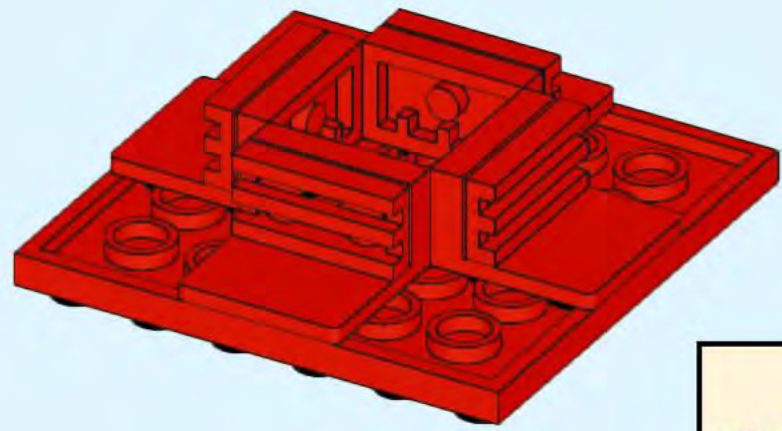
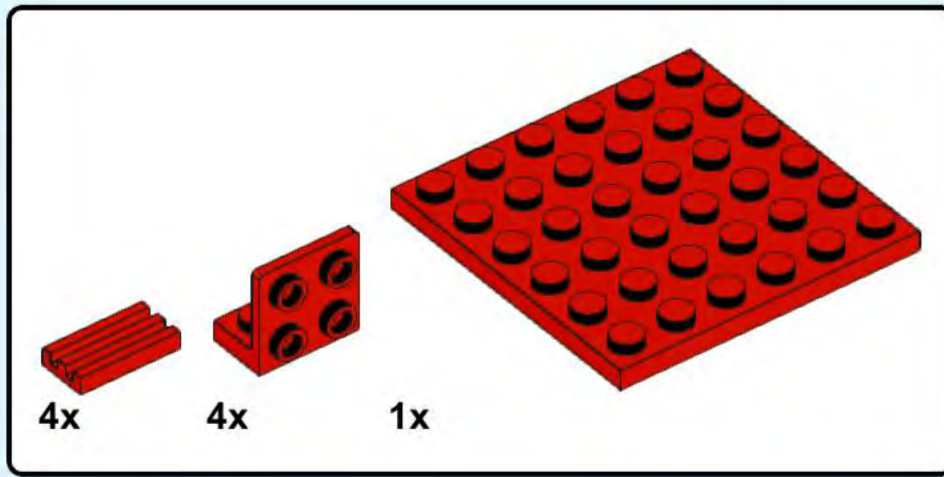
77



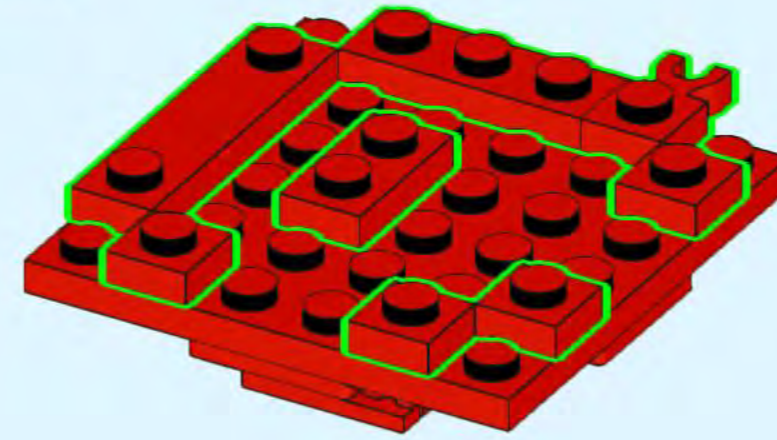
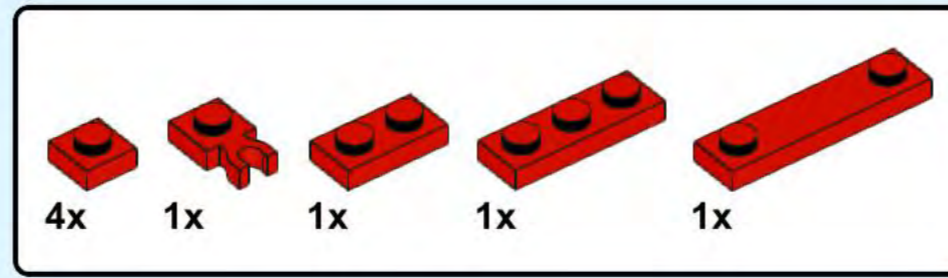
78



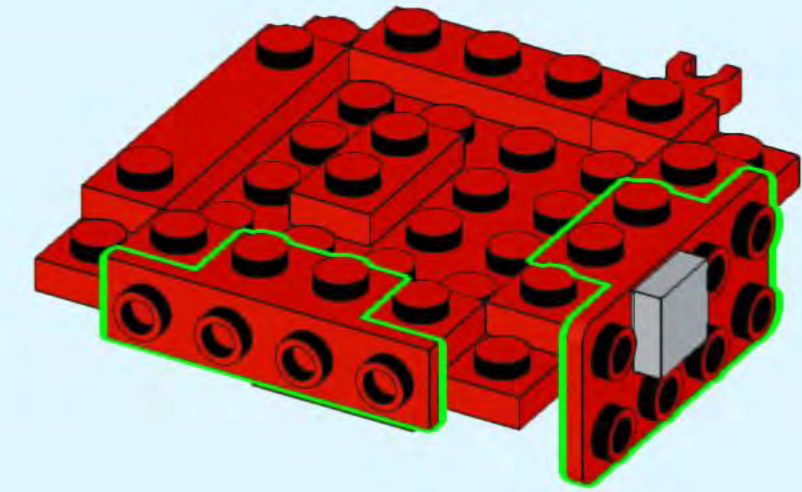
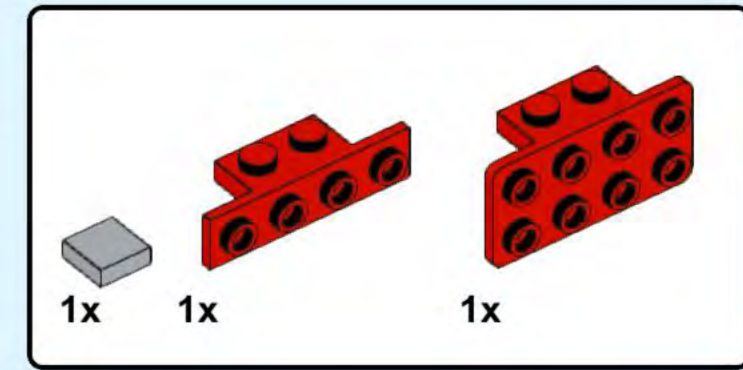
79



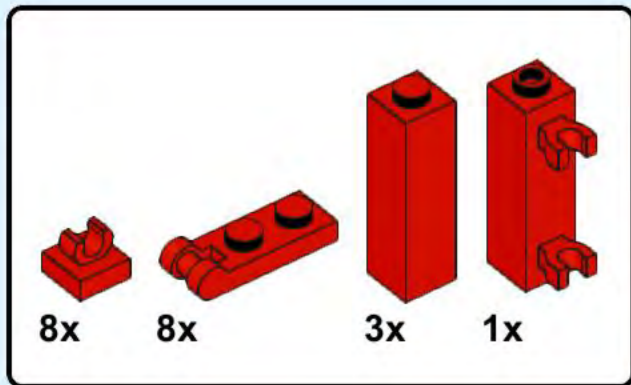
80



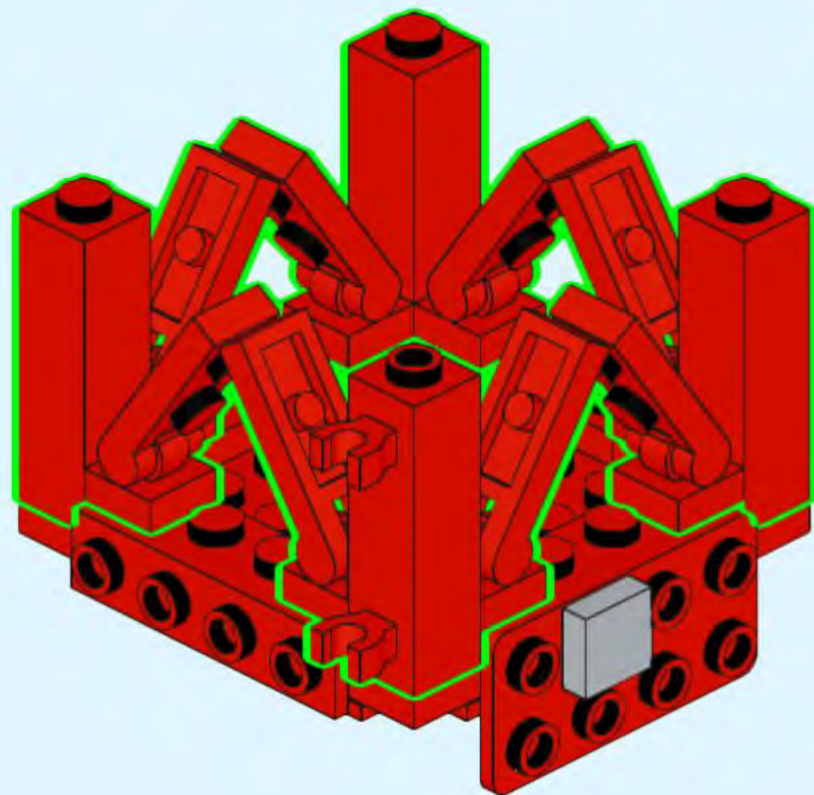
81



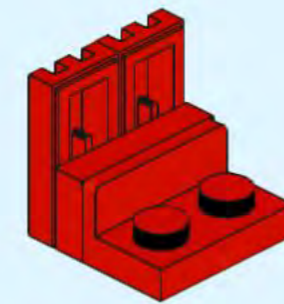
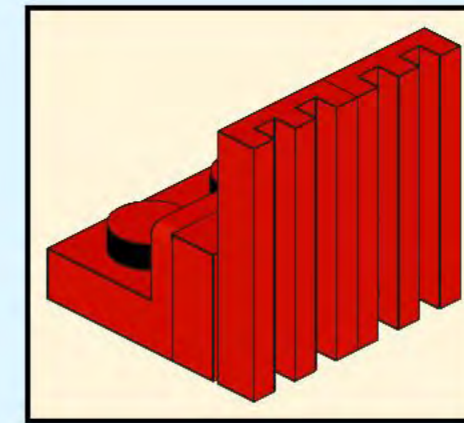
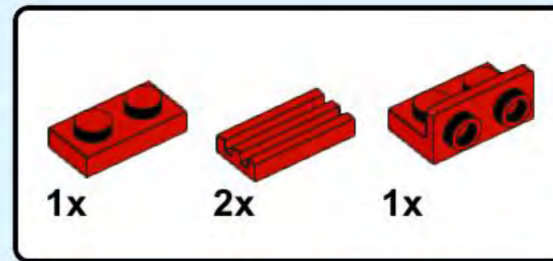
82



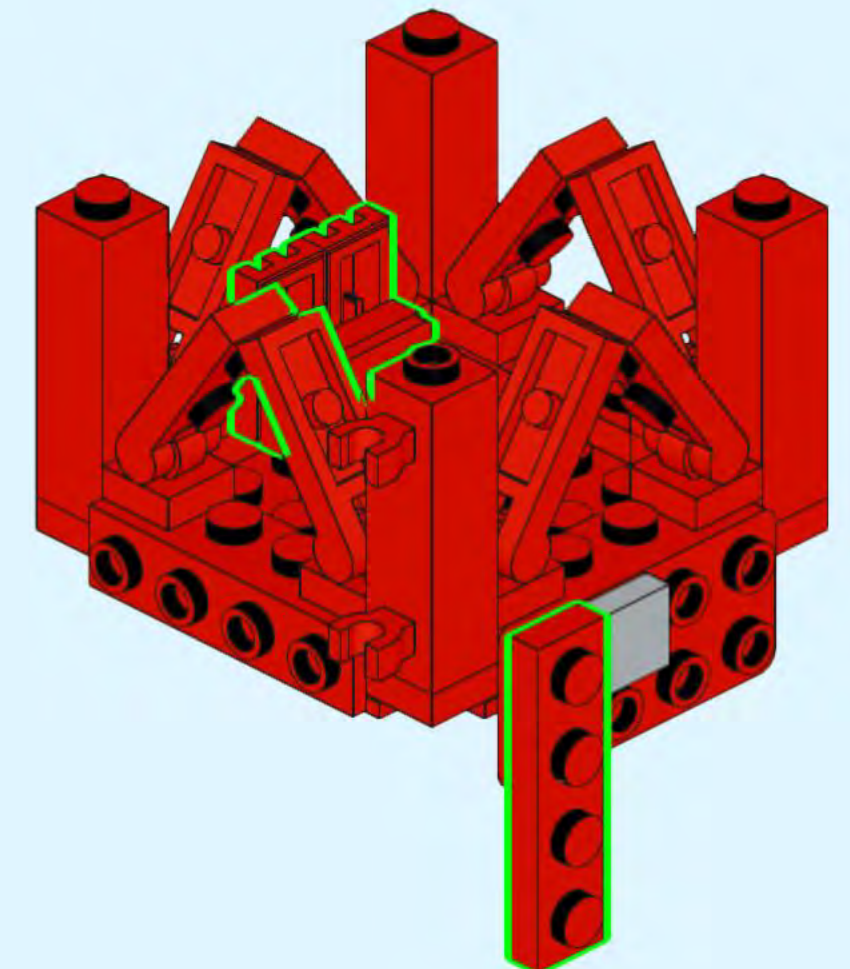
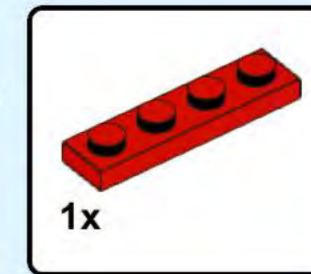
8x



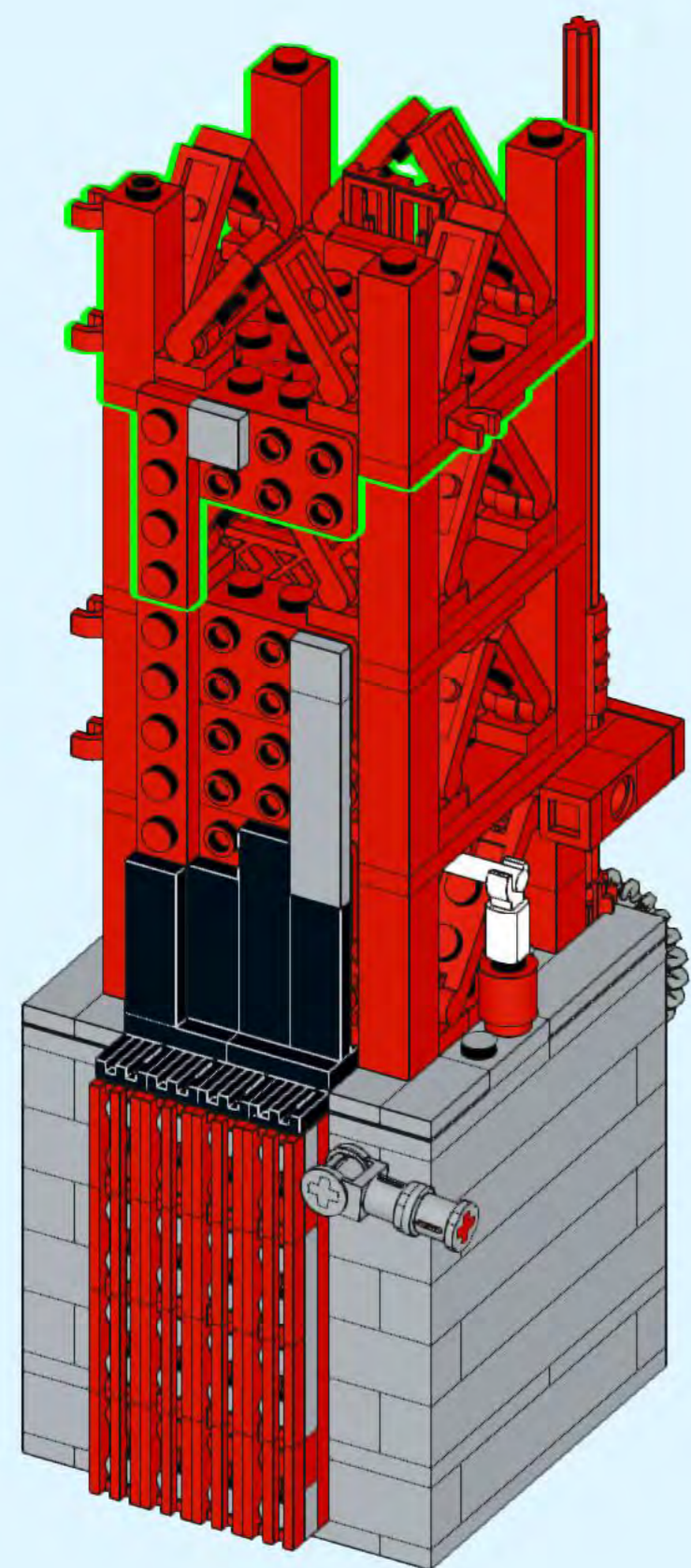
83



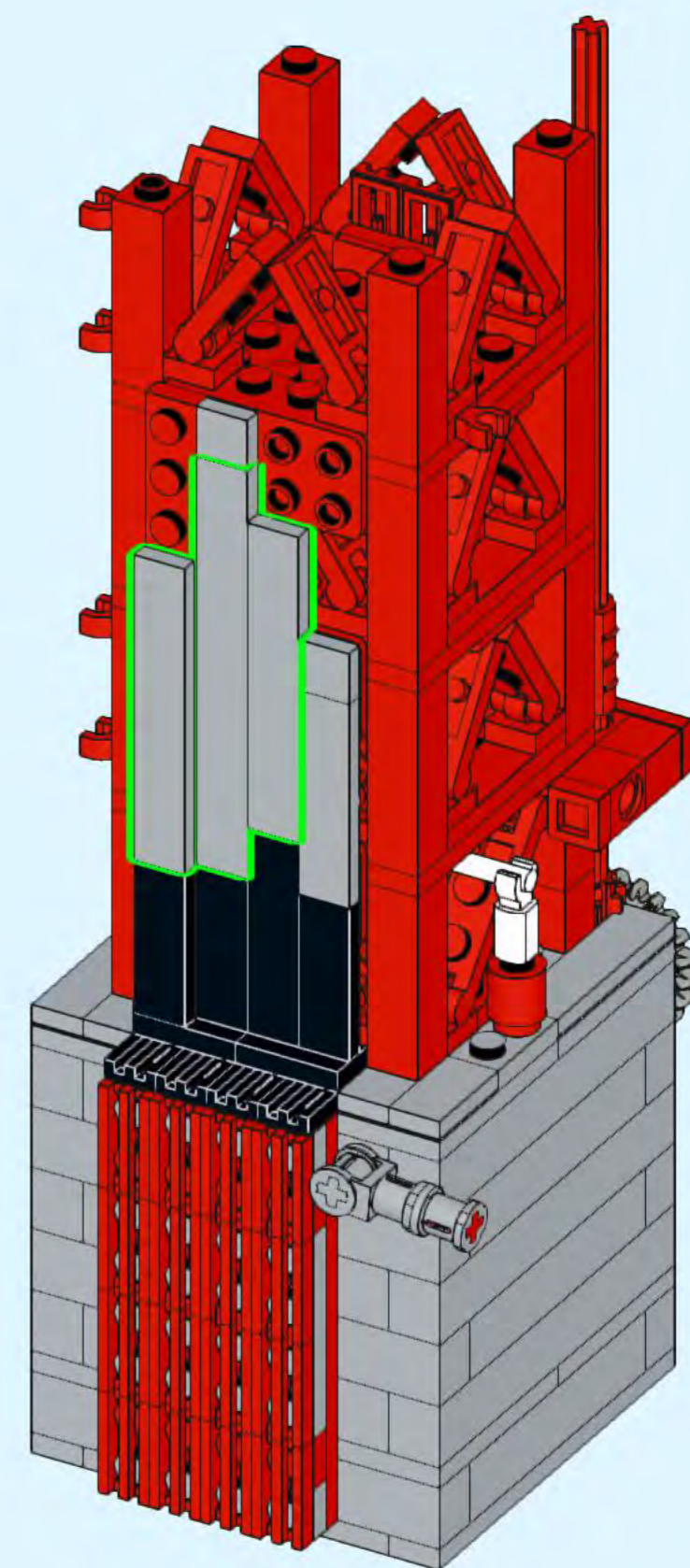
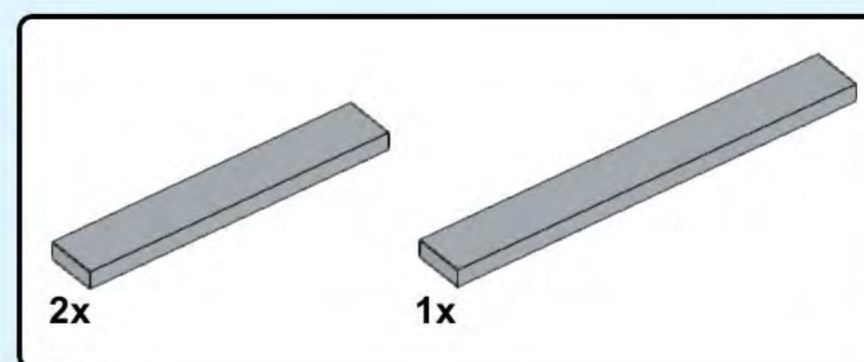
84



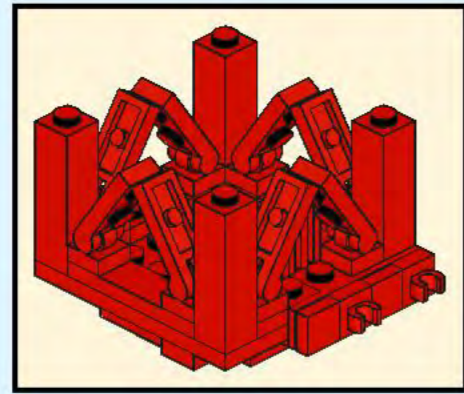
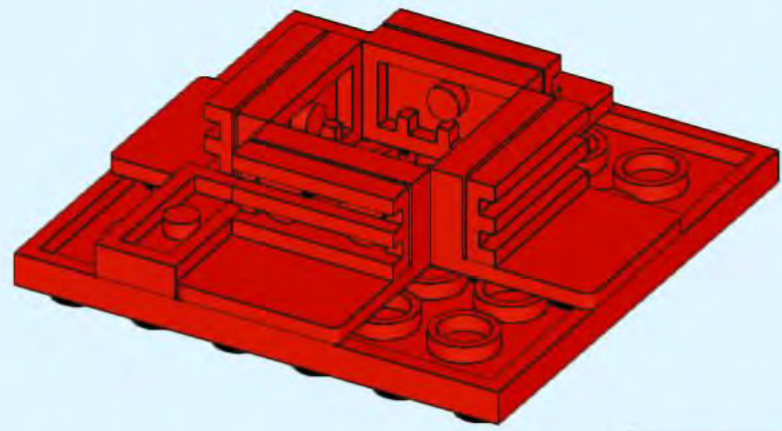
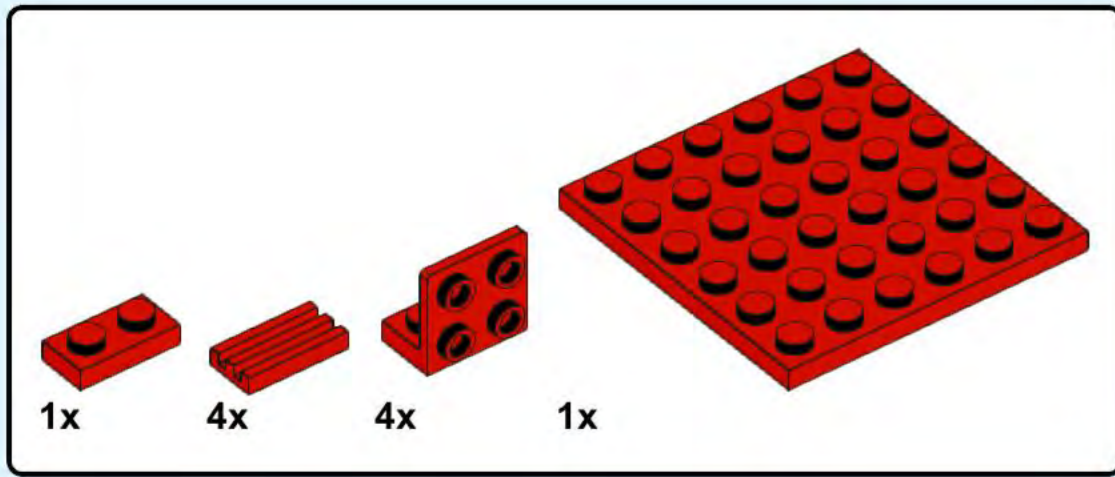
85



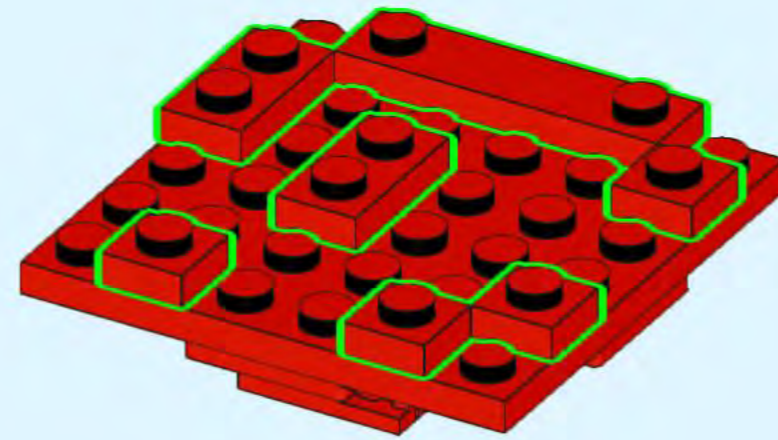
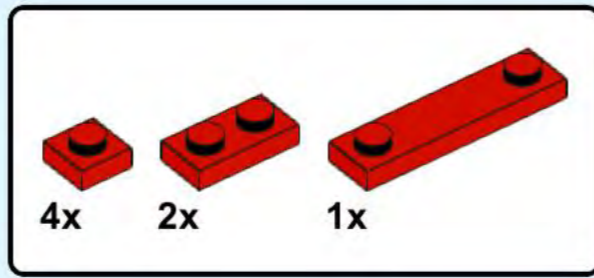
86



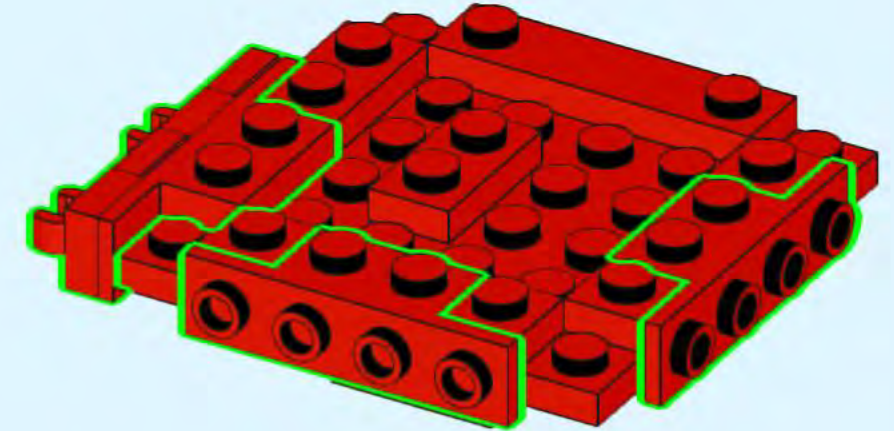
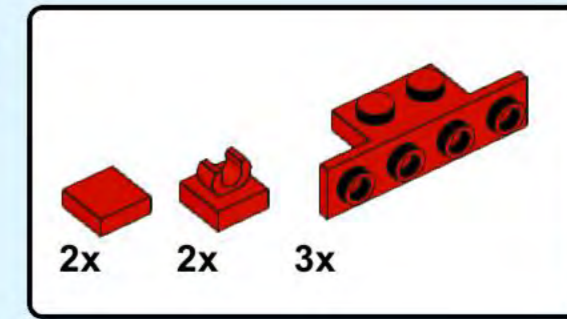
87



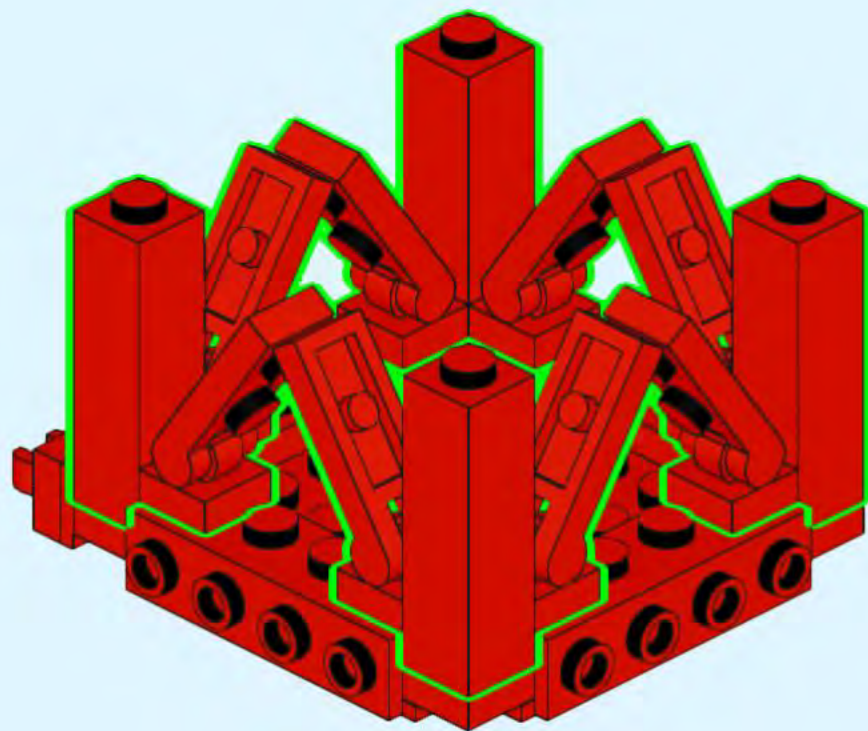
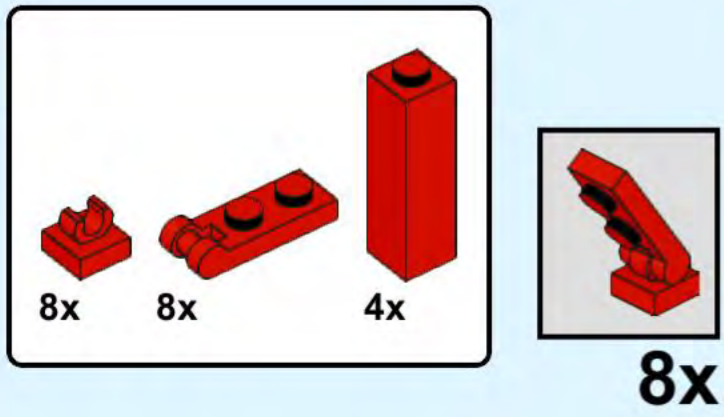
88



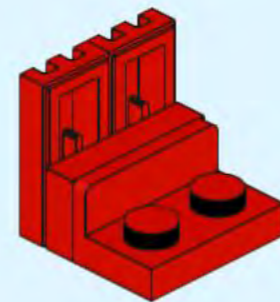
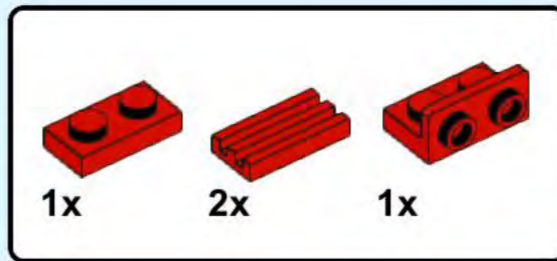
89



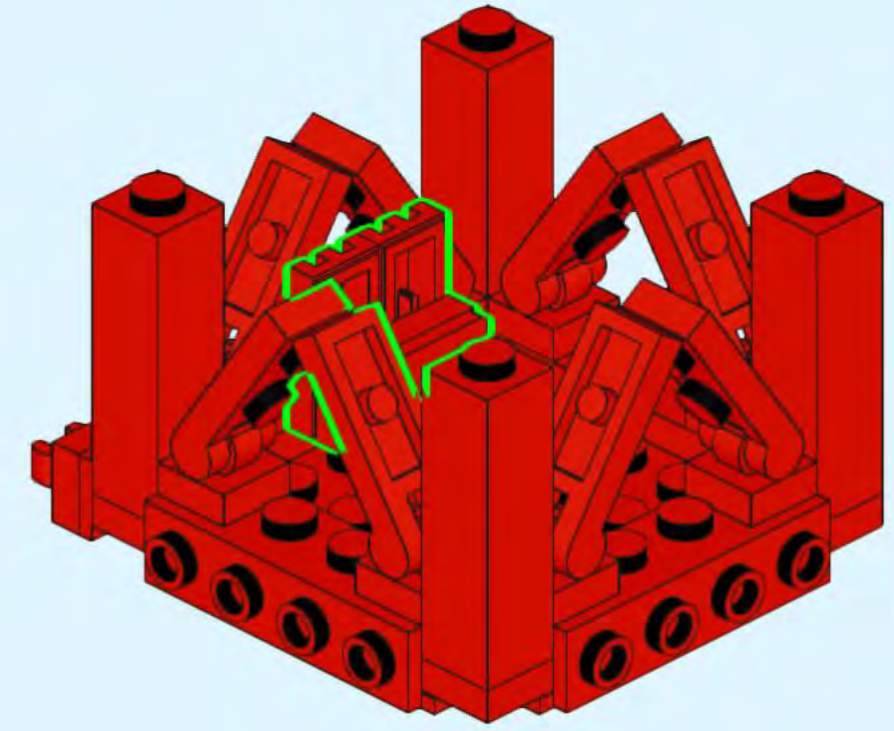
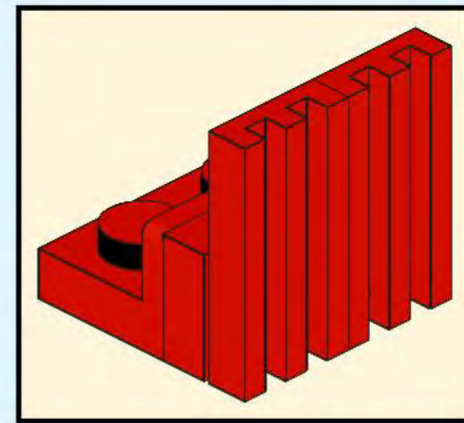
90



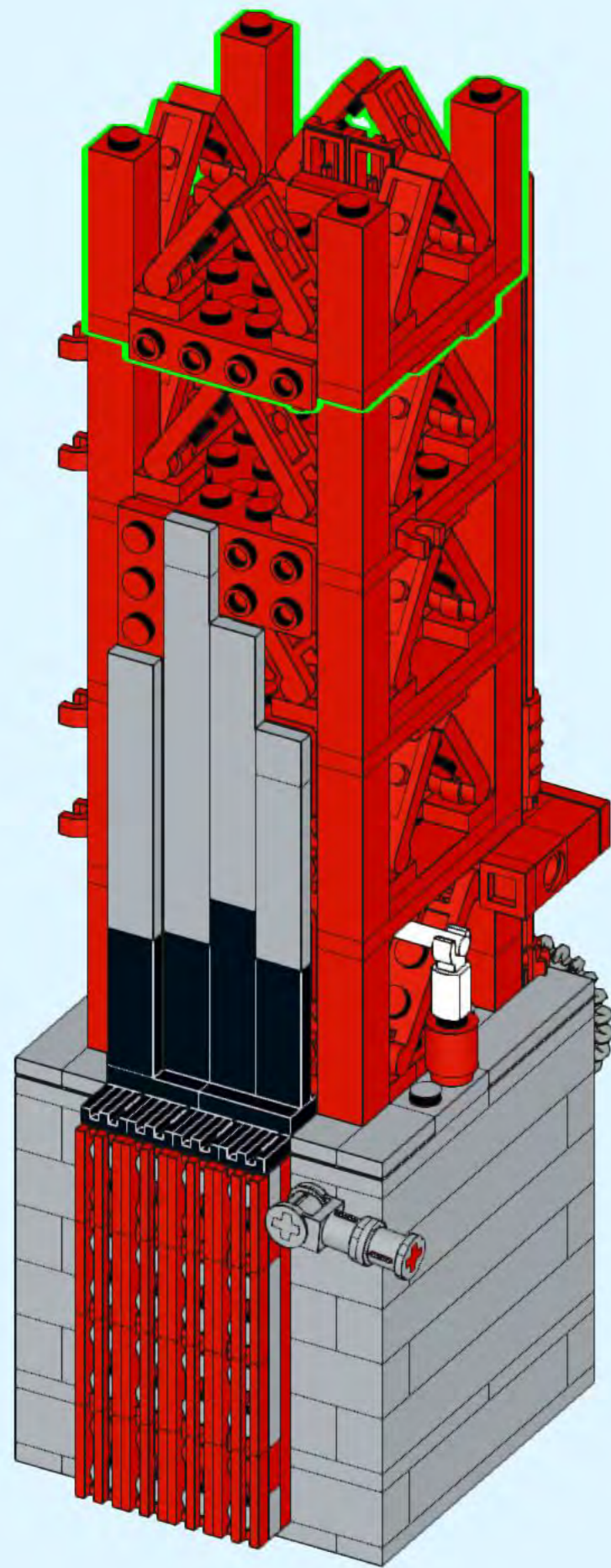
91



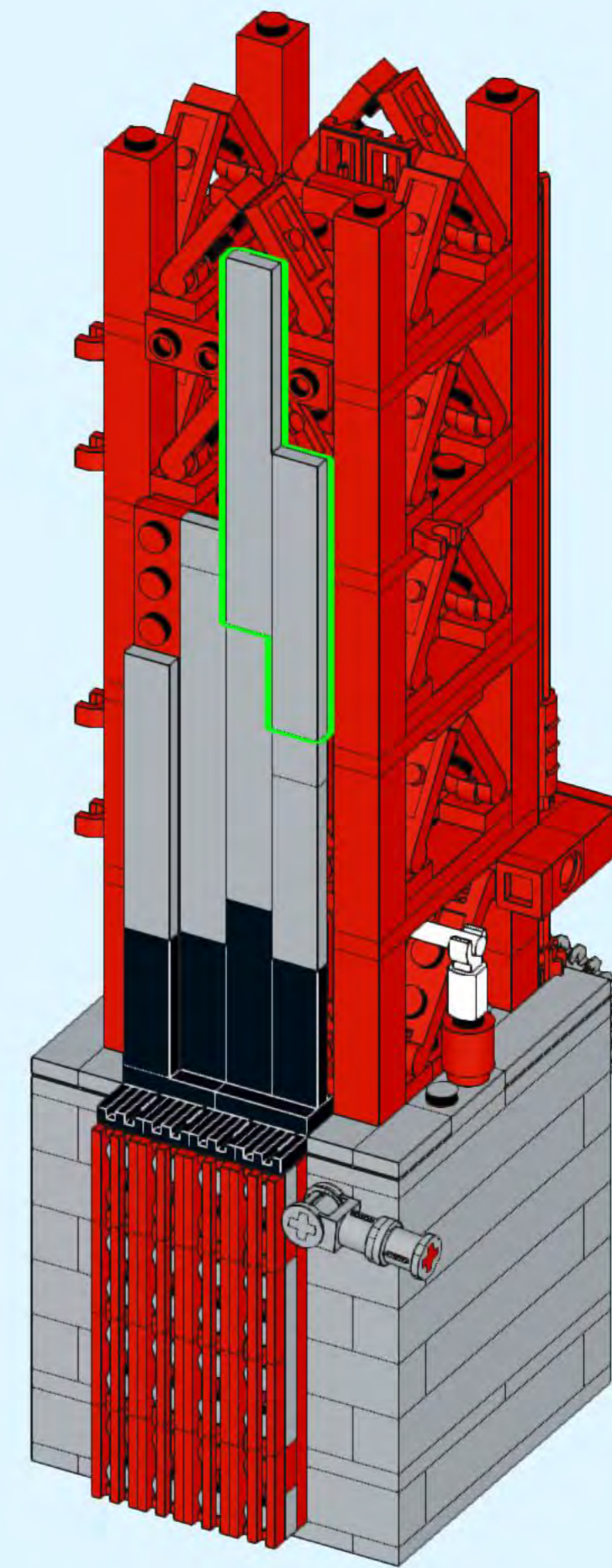
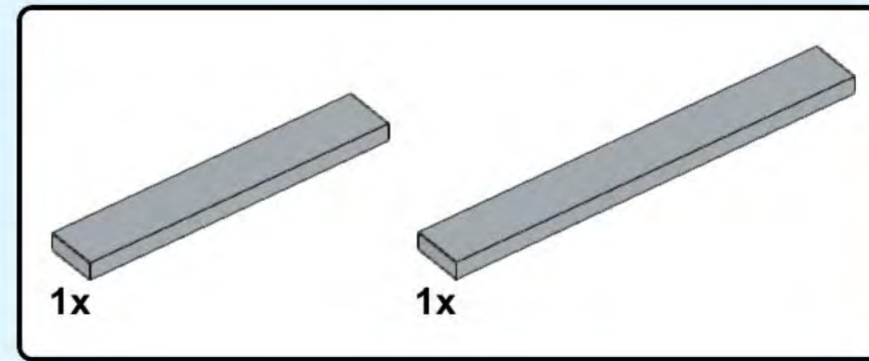
92



93

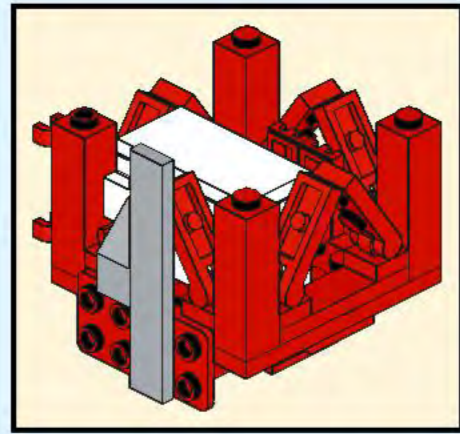
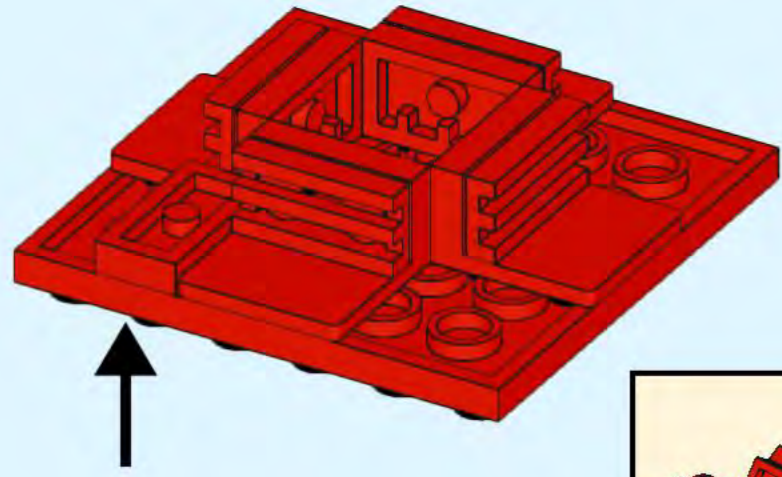
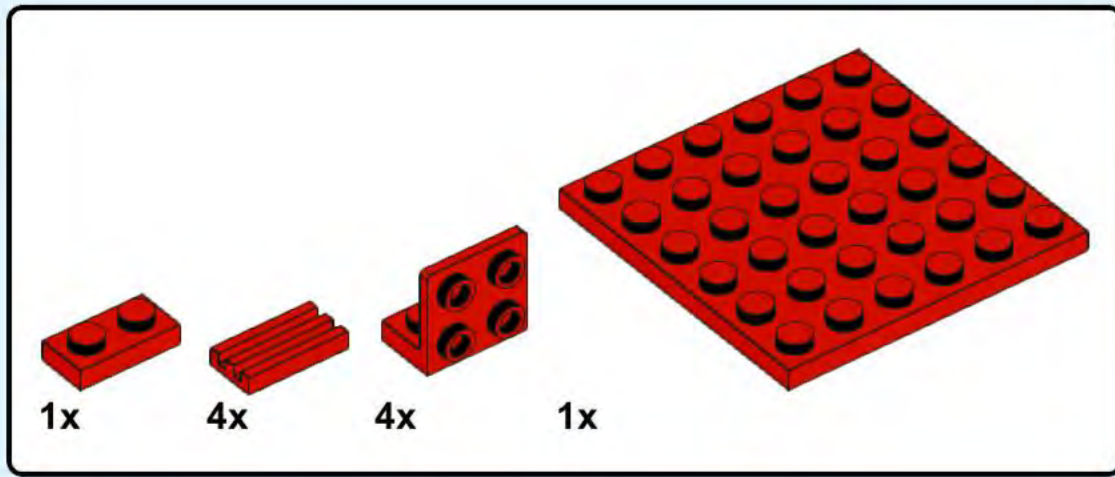


94

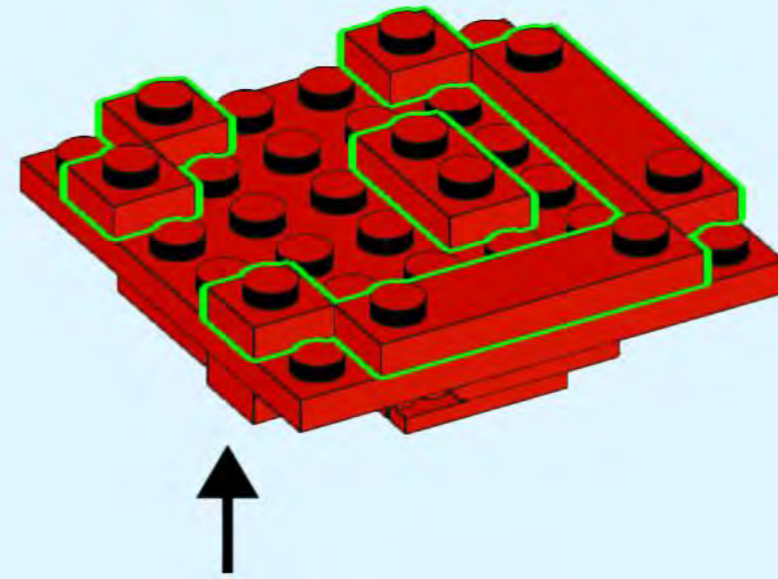
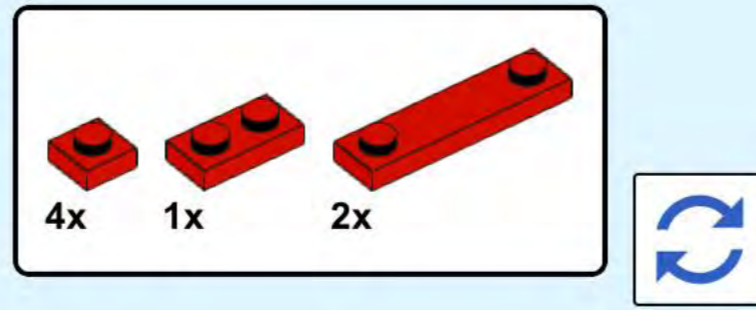




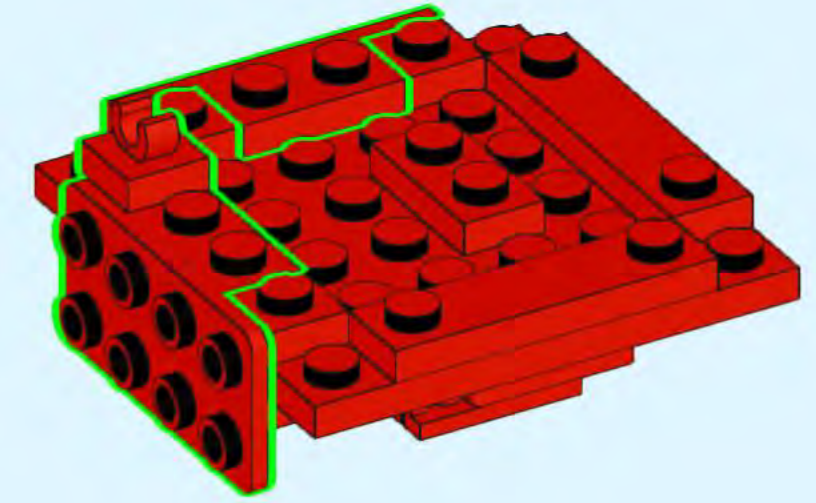
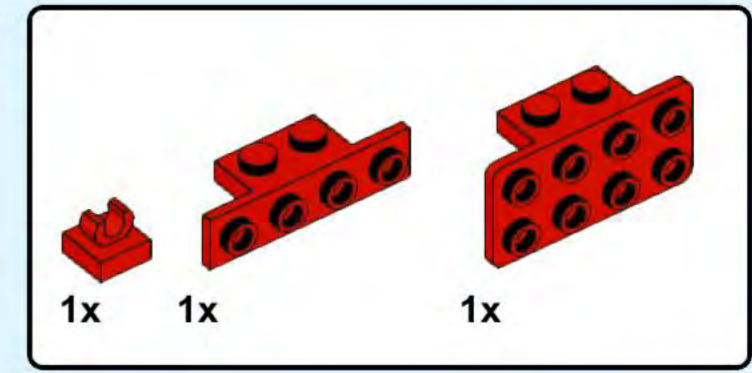
95



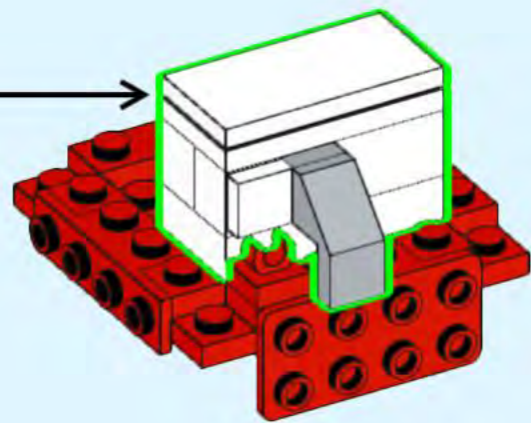
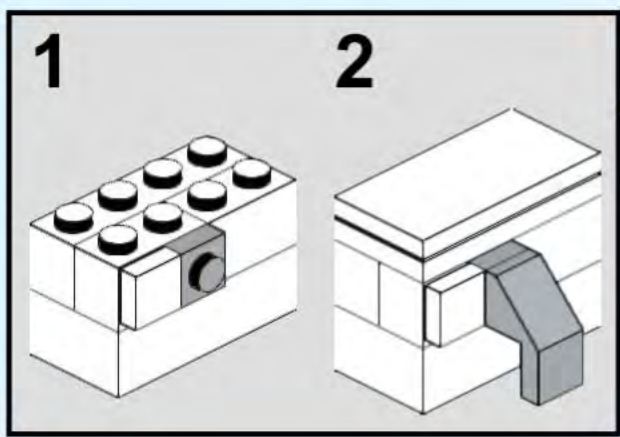
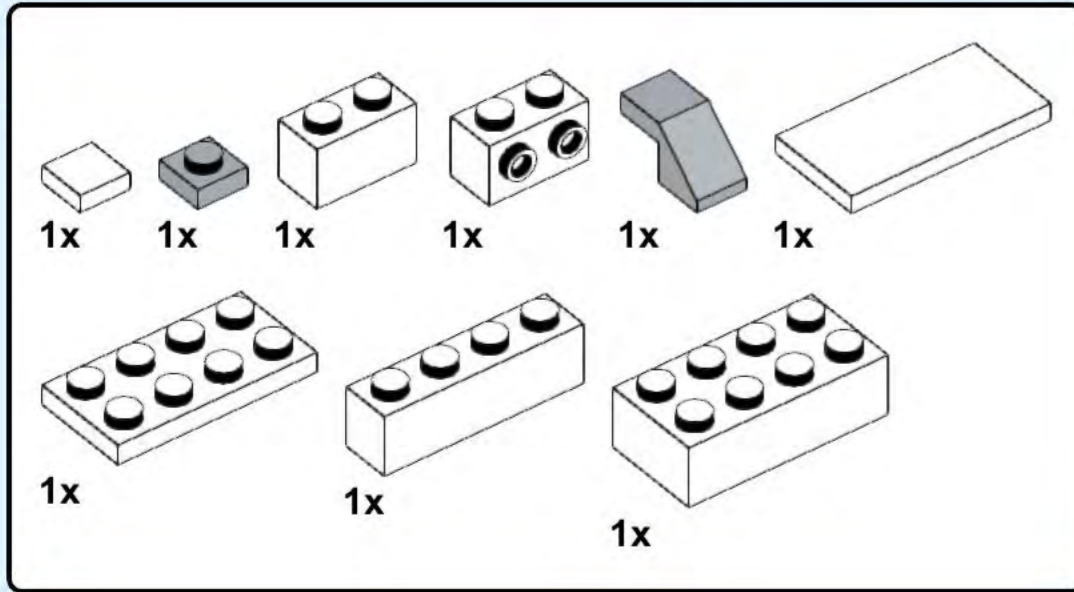
96



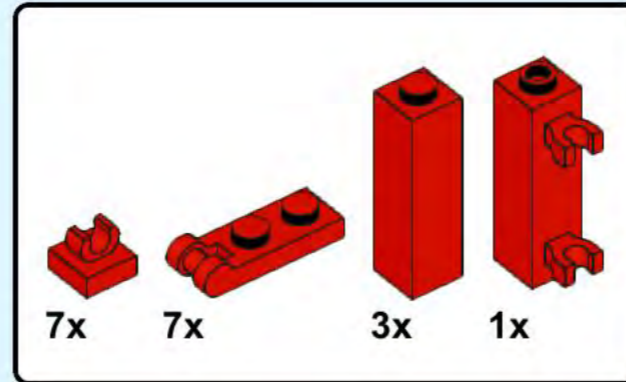
97



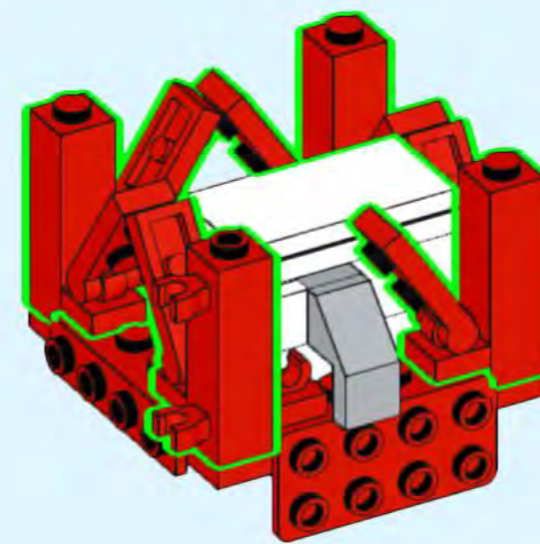
98



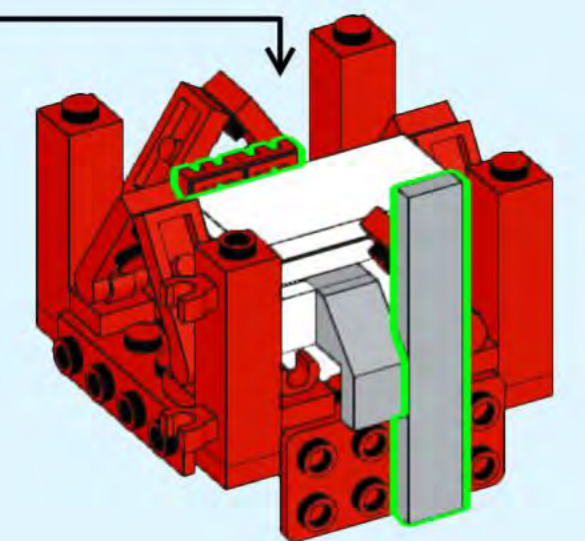
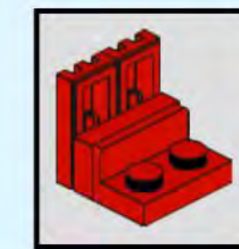
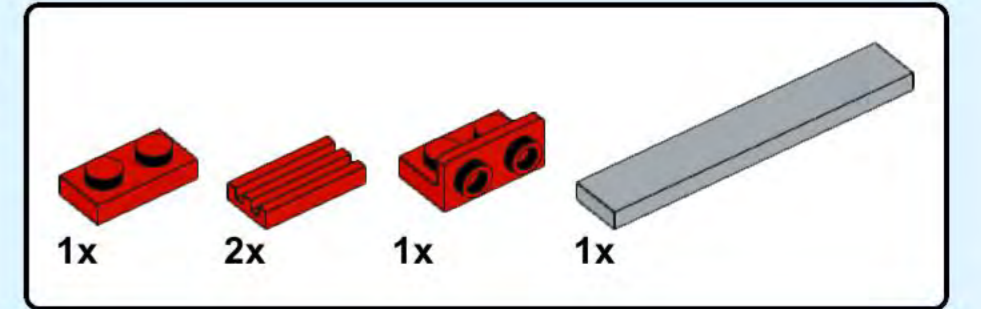
99



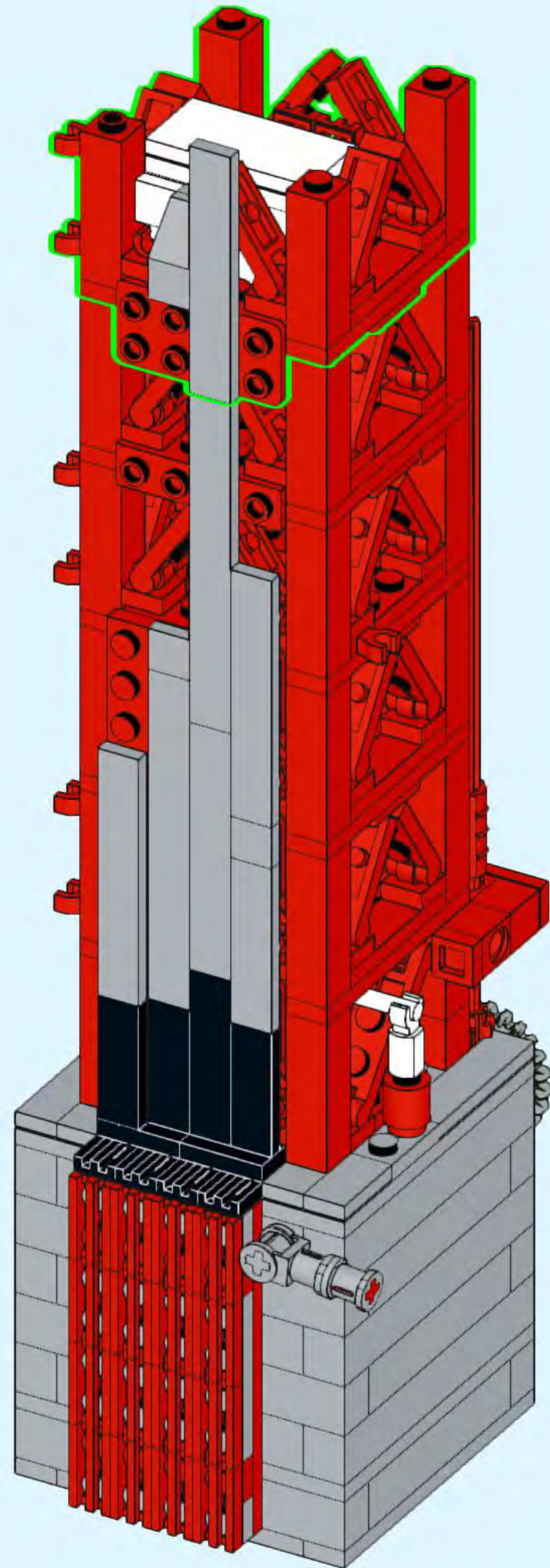
7x



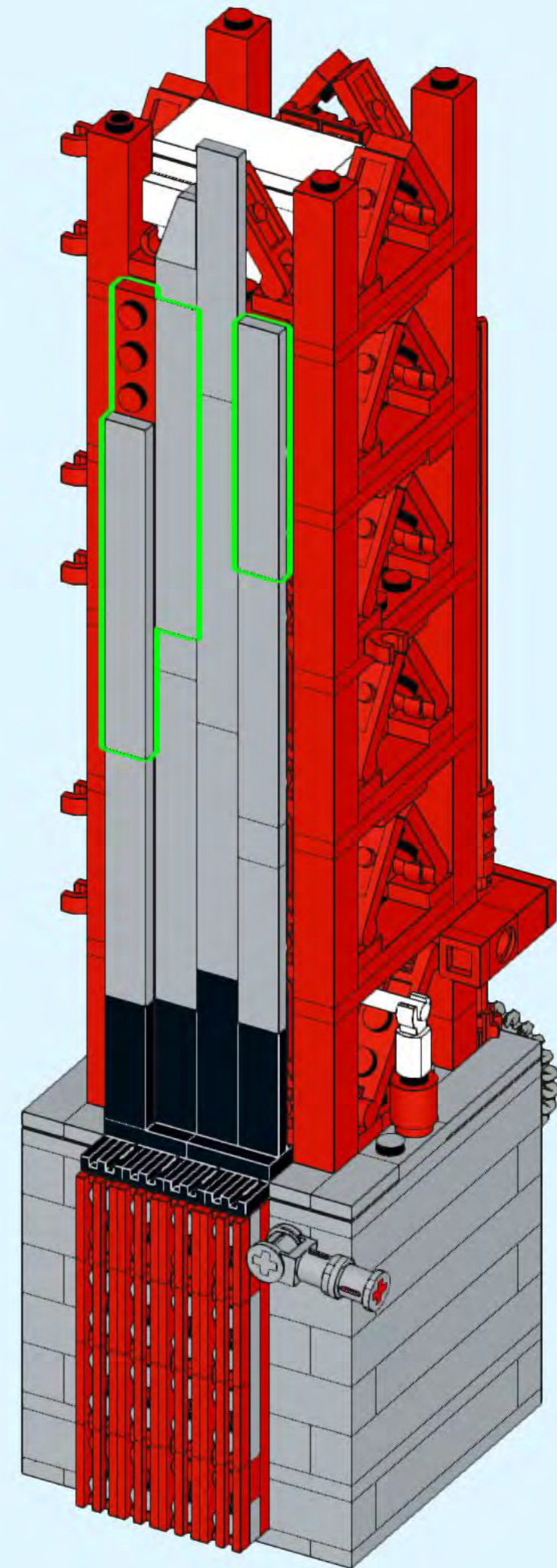
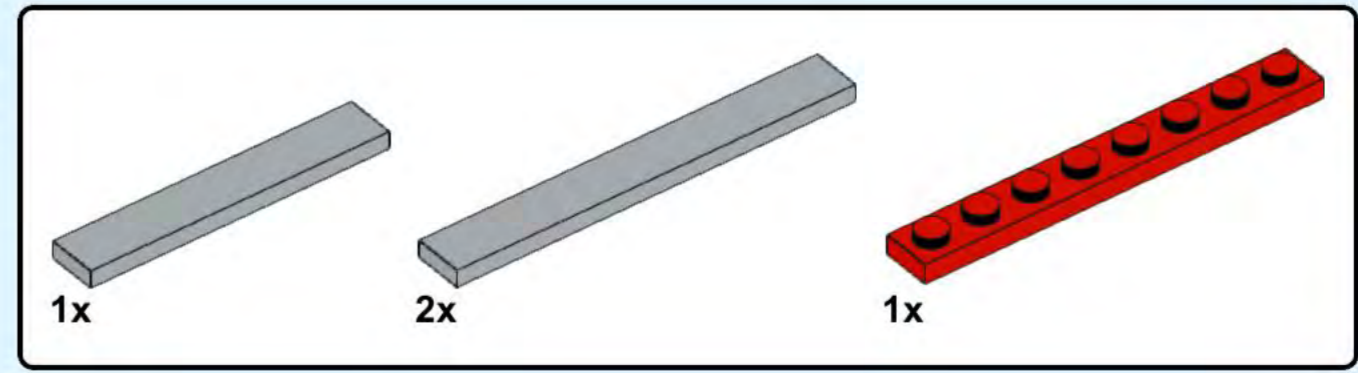
100



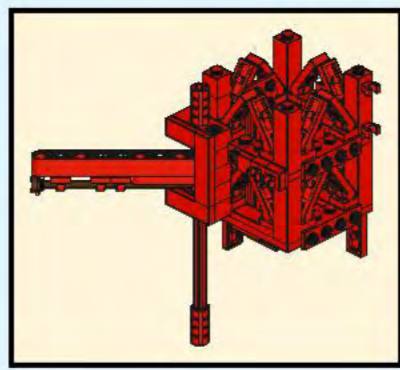
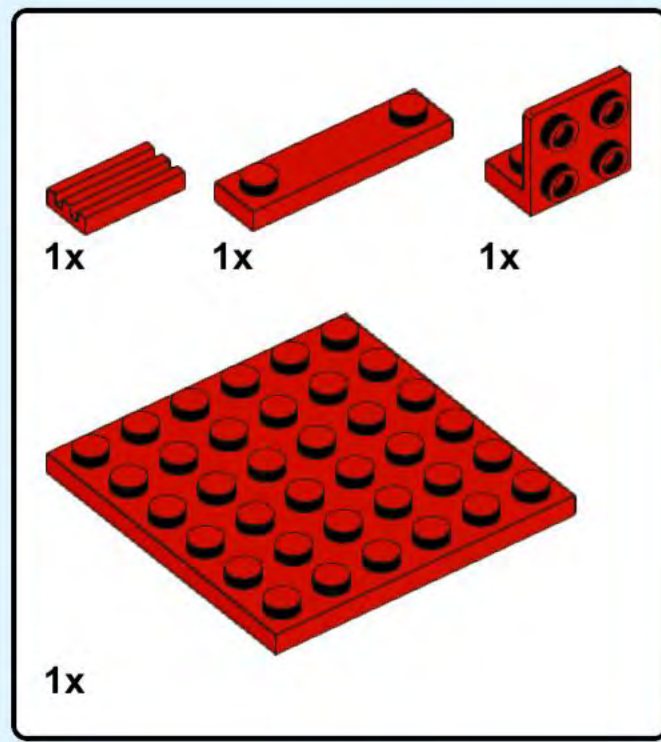
101



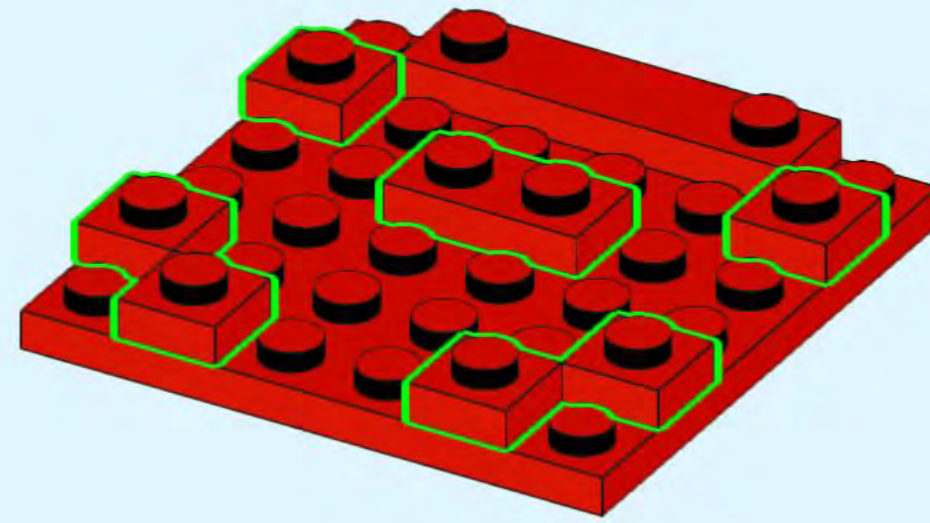
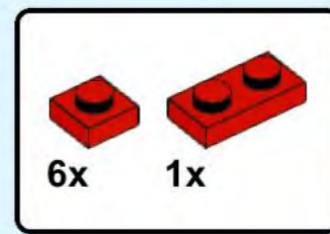
102



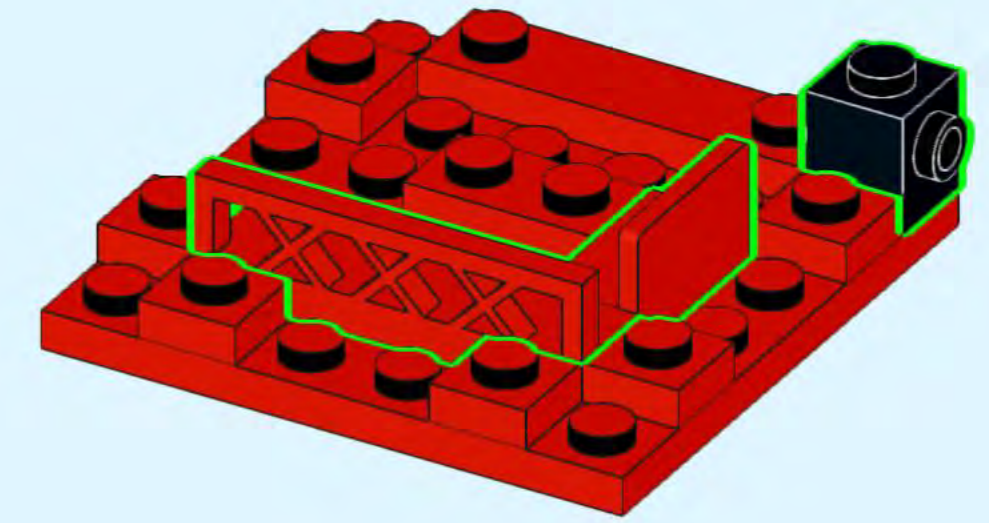
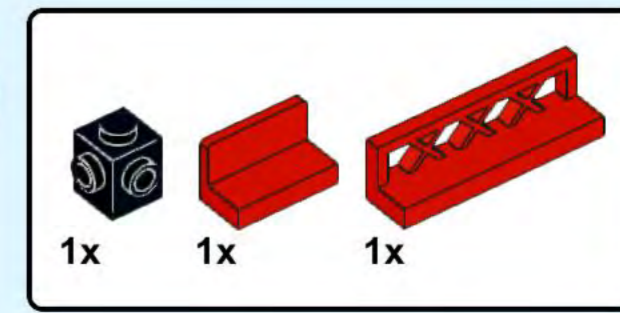
103



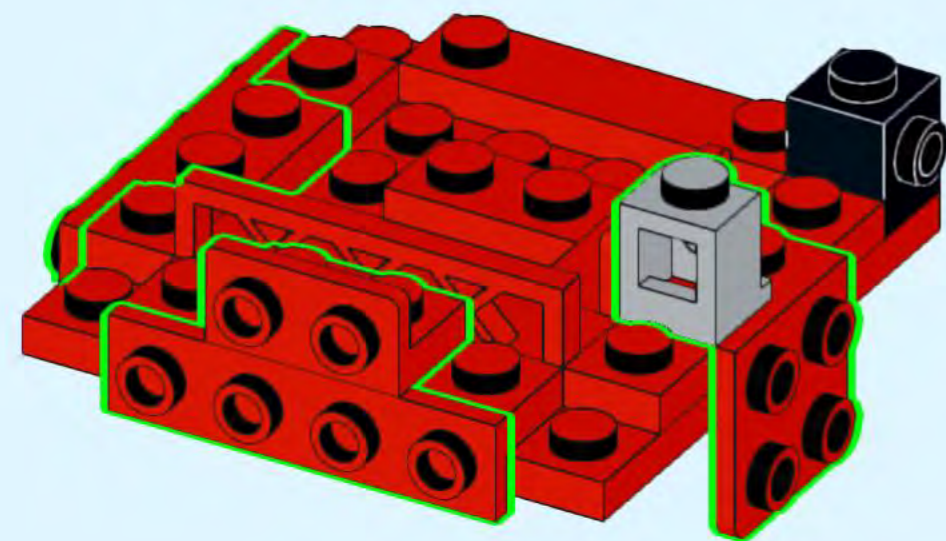
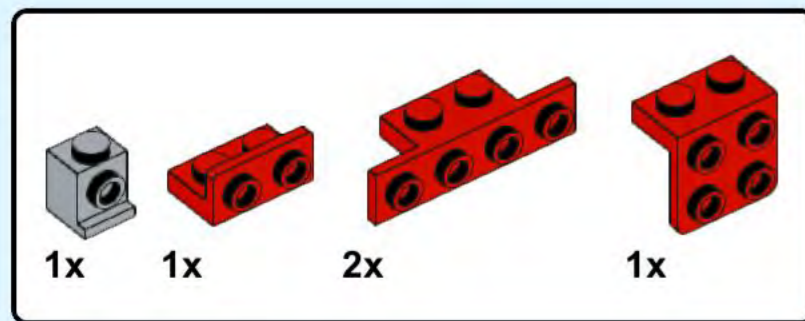
104



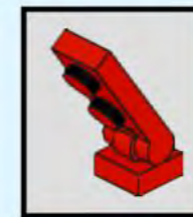
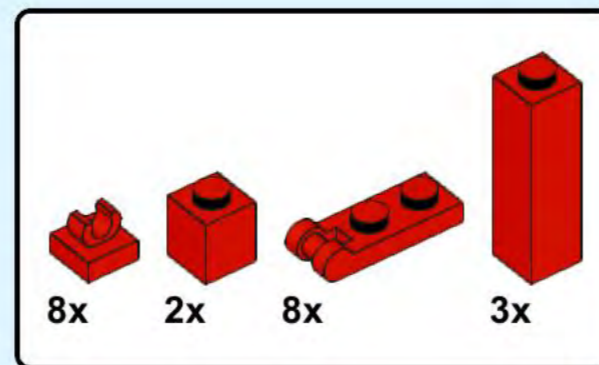
105



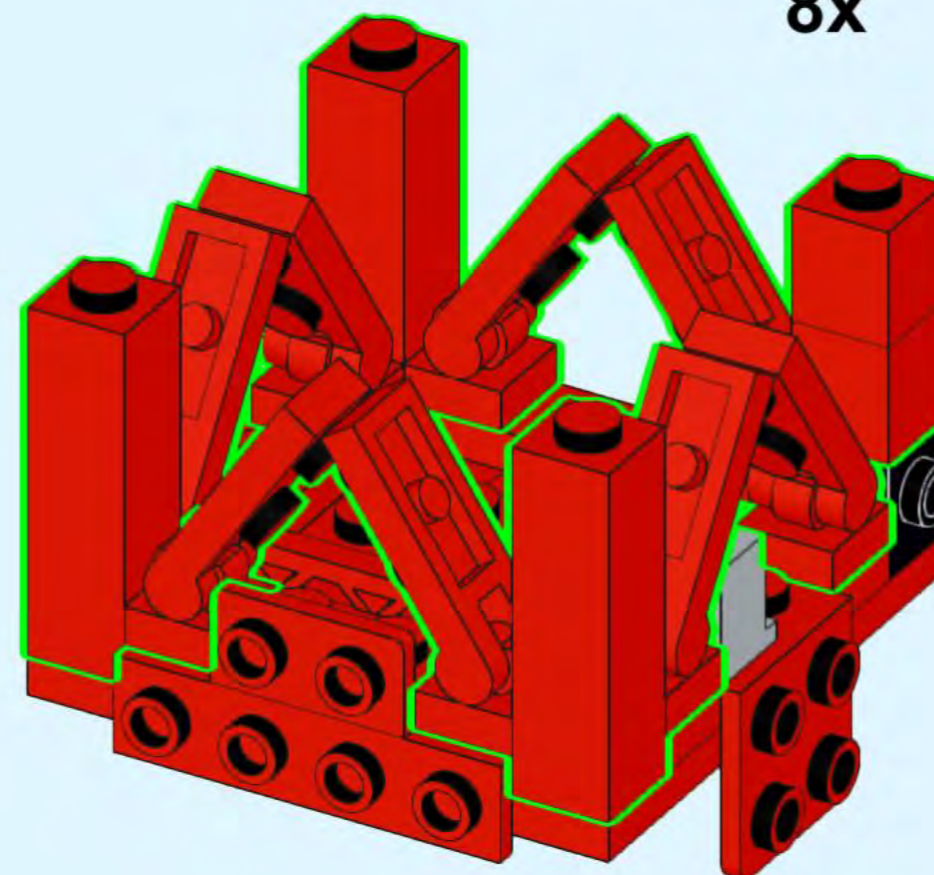
106



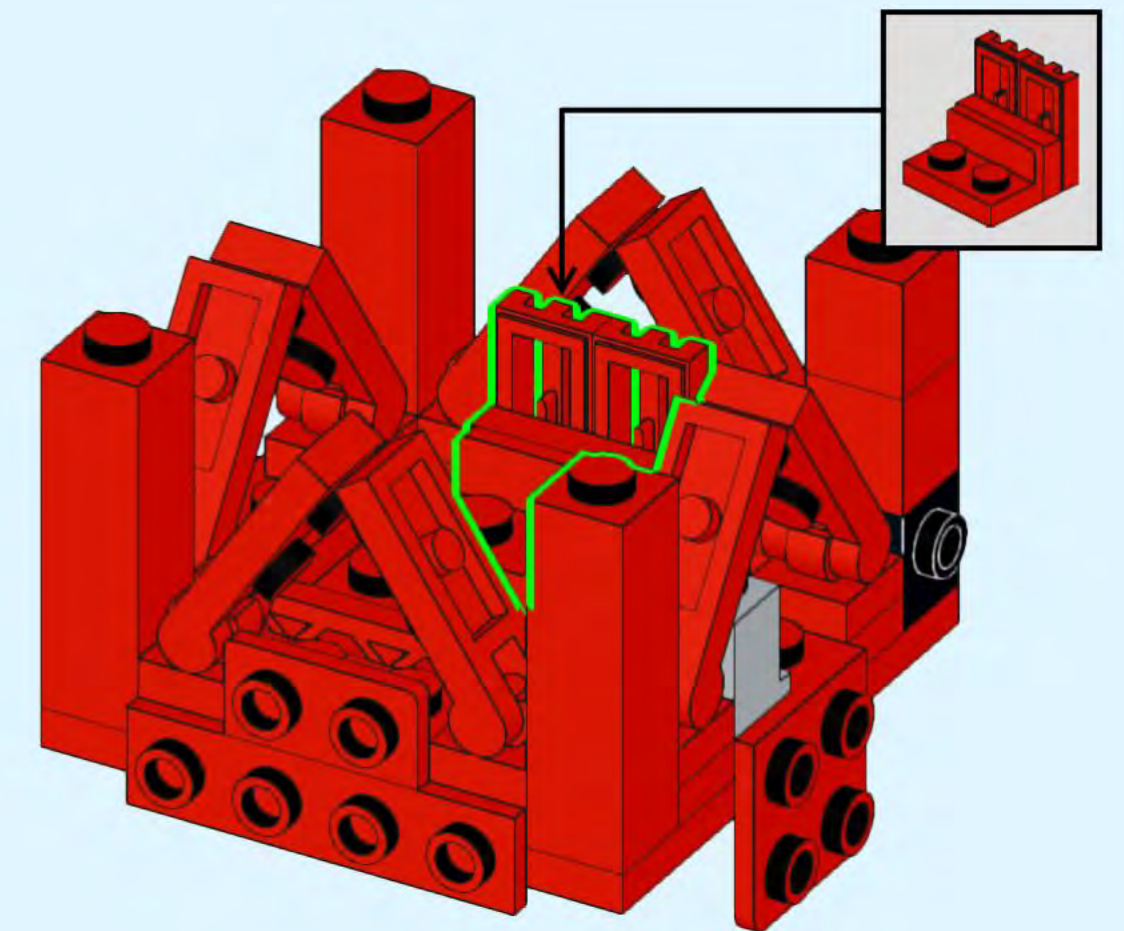
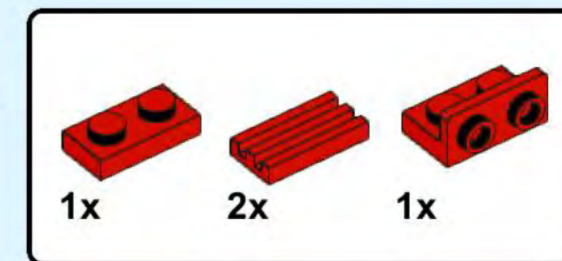
107



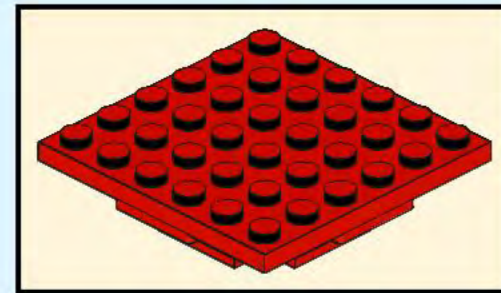
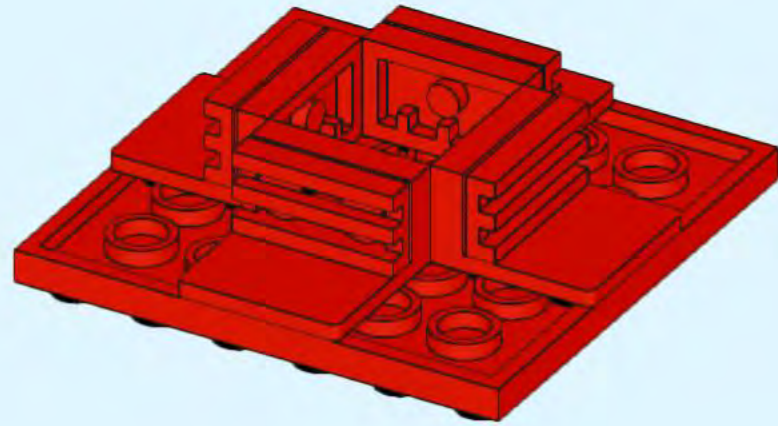
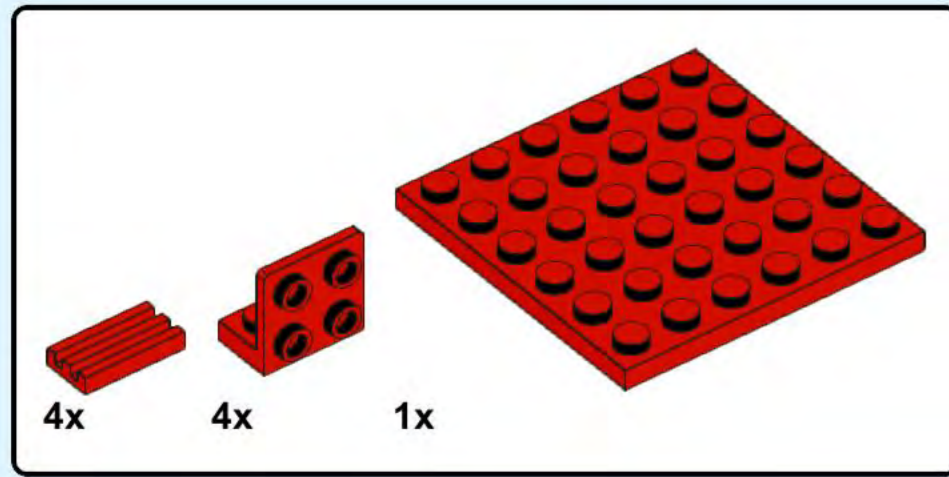
8x



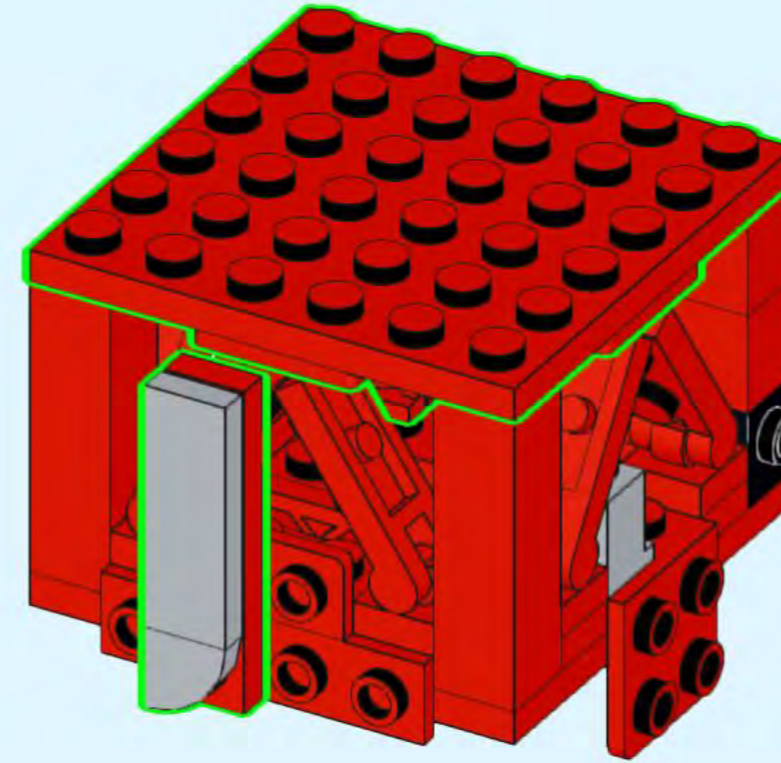
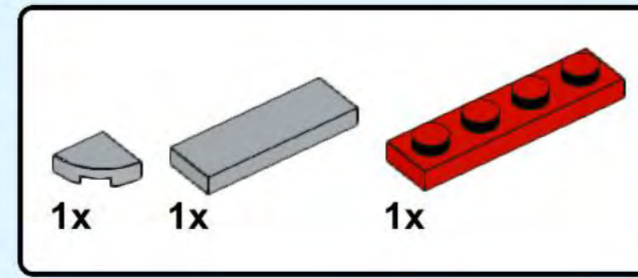
108



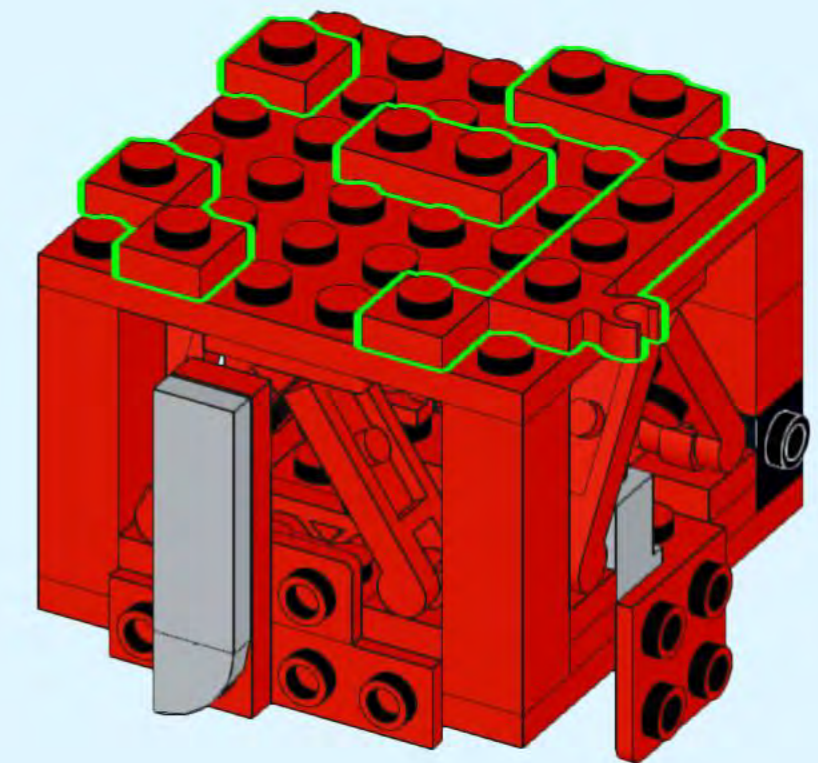
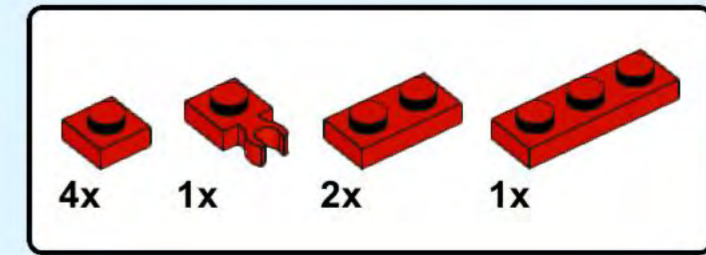
109



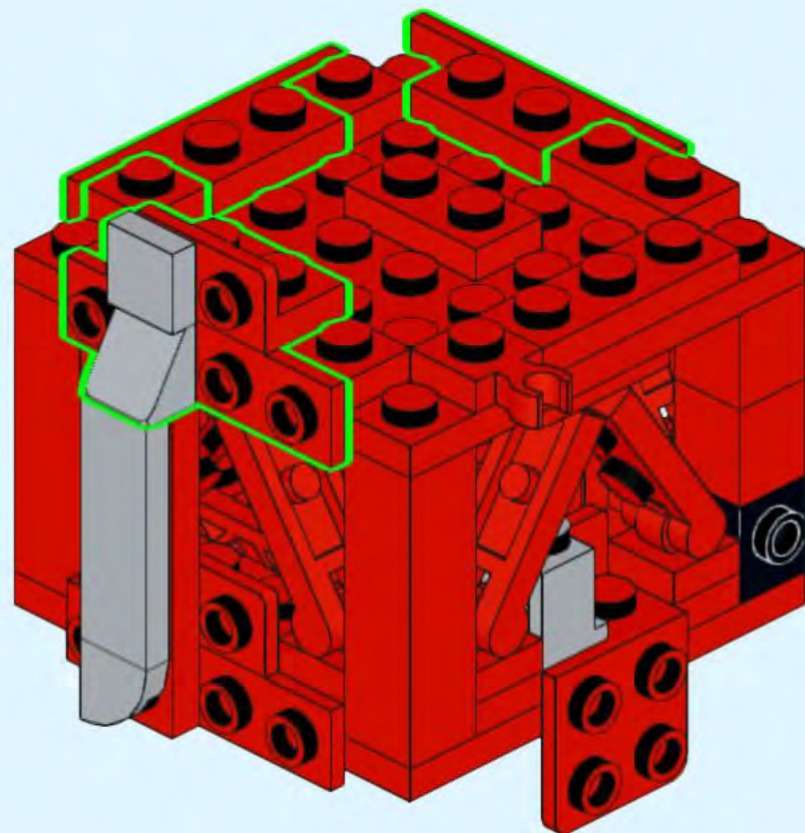
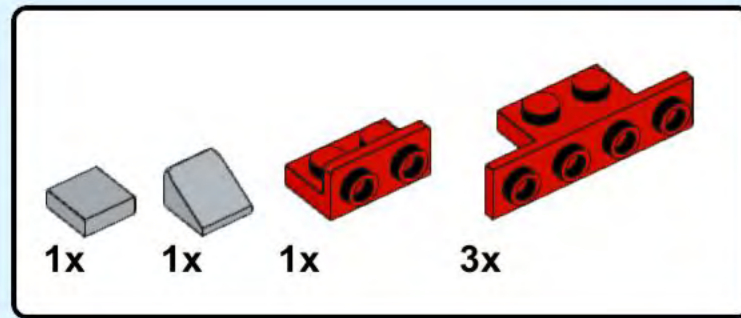
110



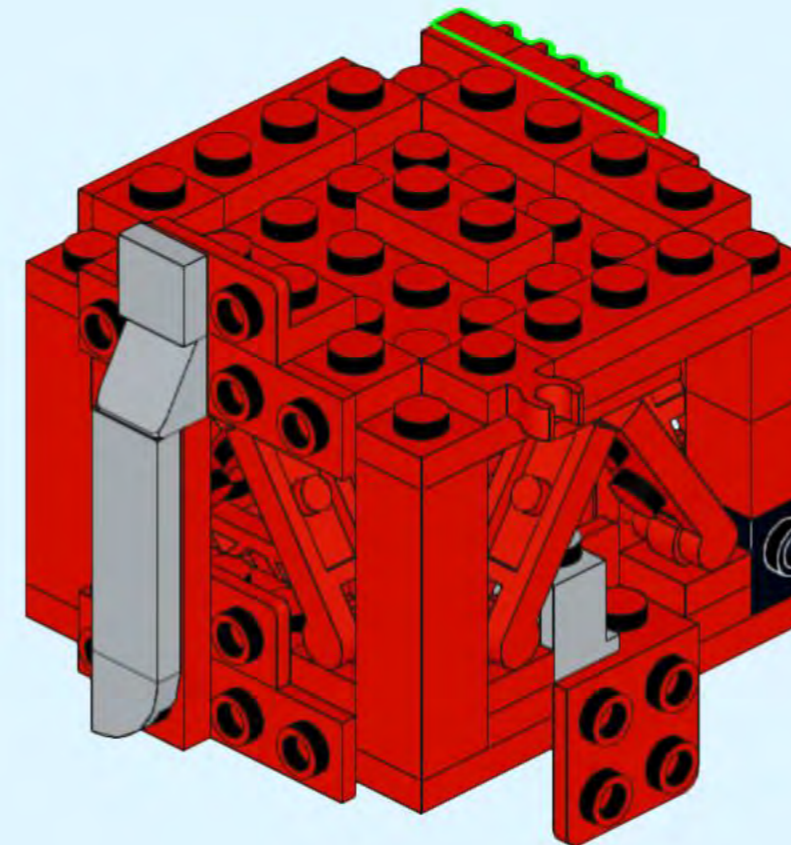
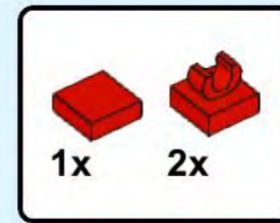
111



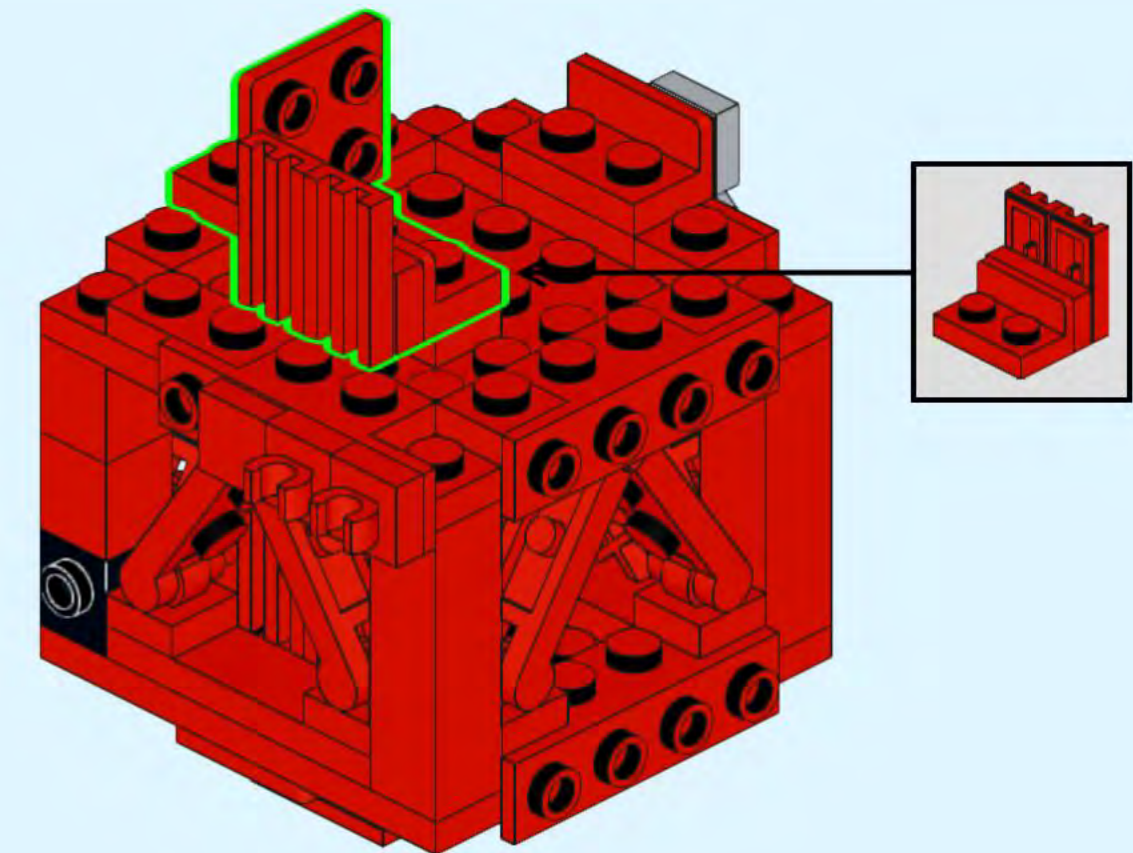
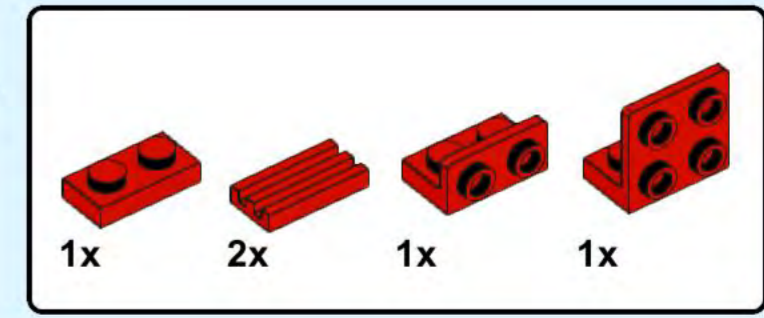
112



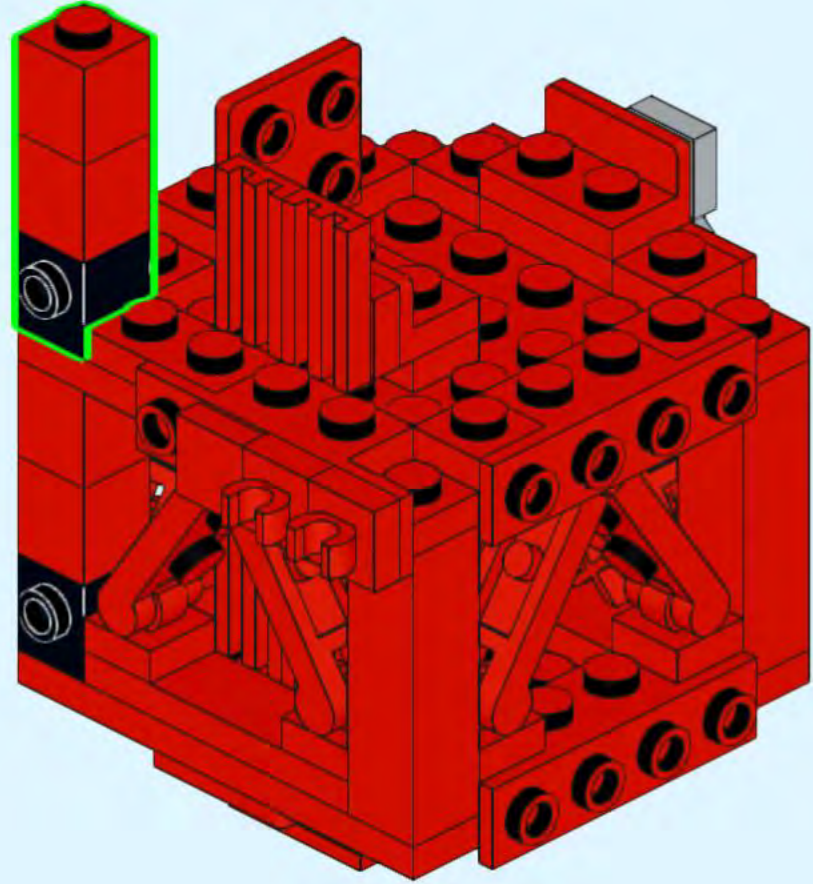
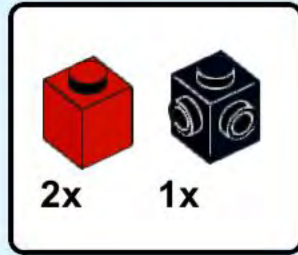
113



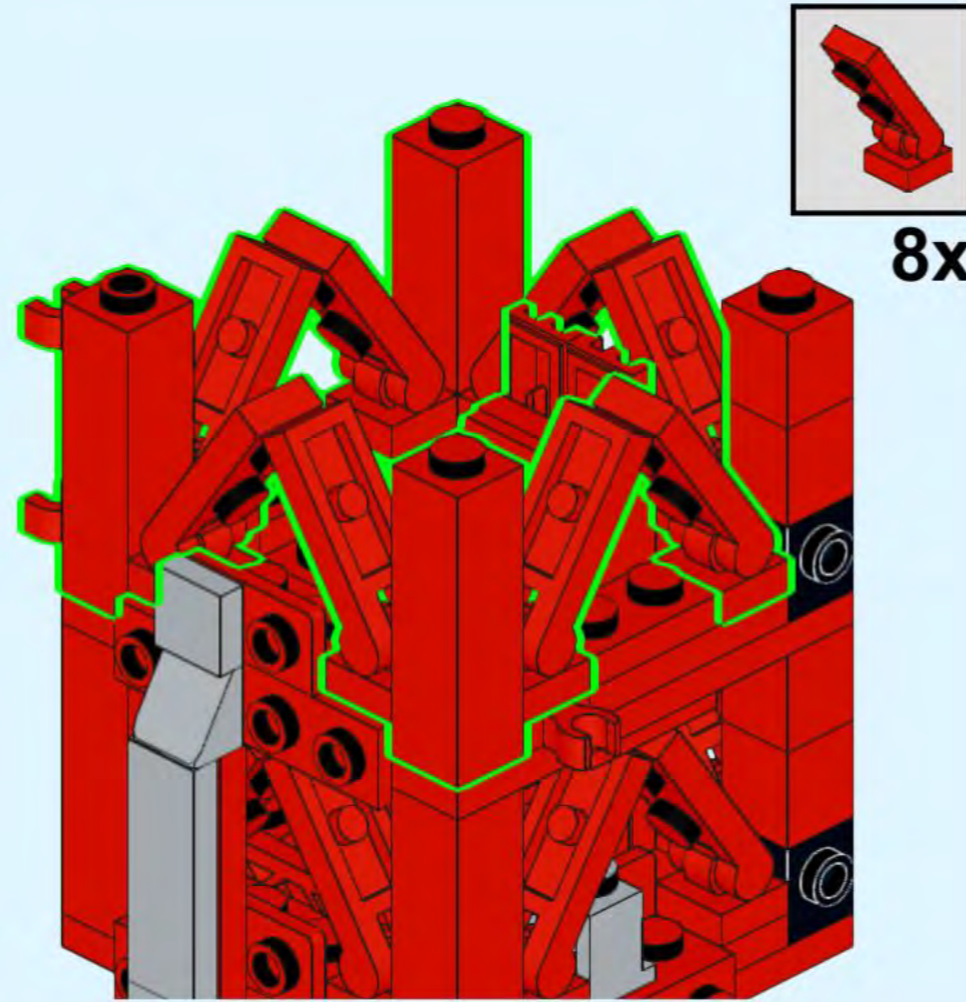
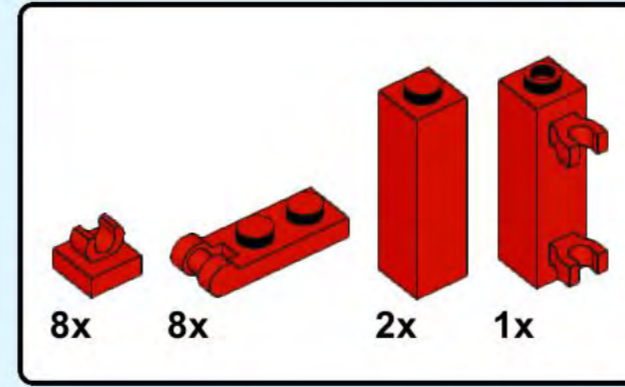
114



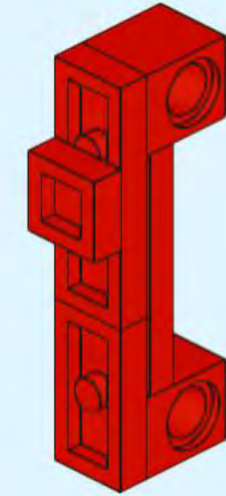
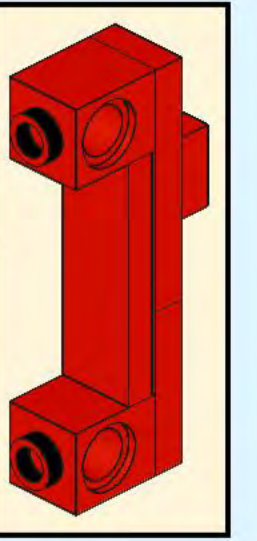
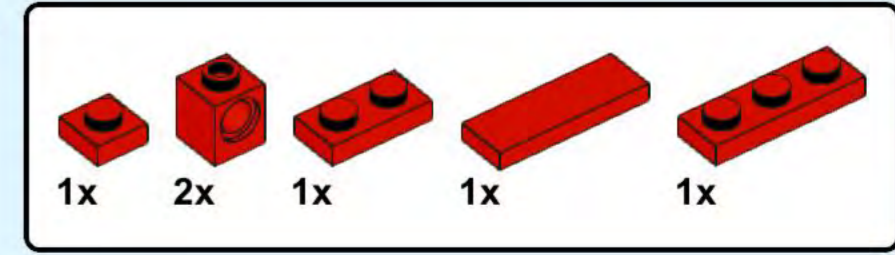
# 115



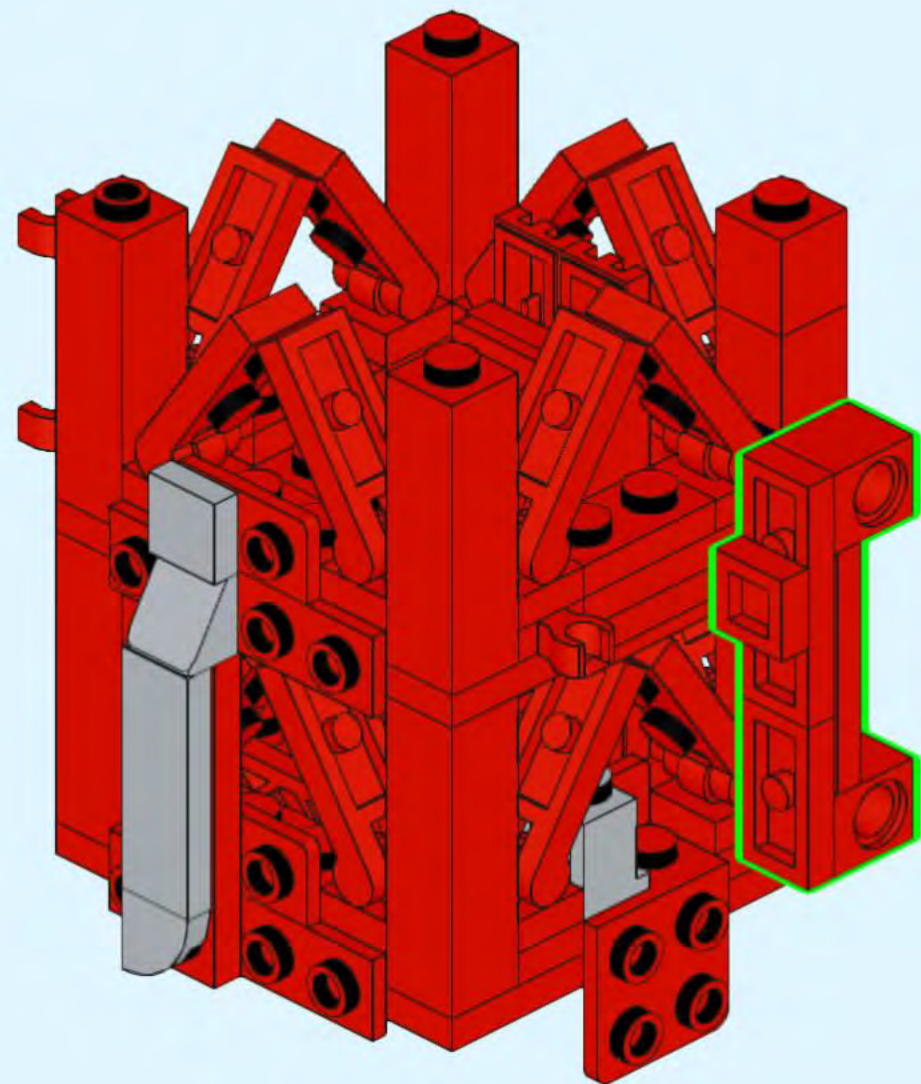
# 116



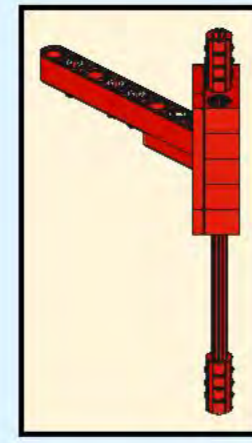
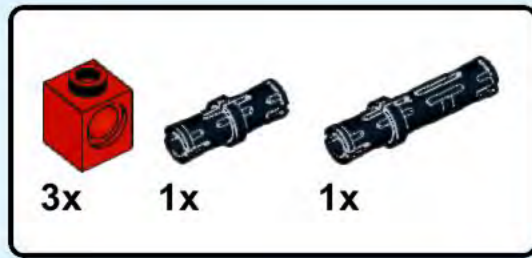
# 117



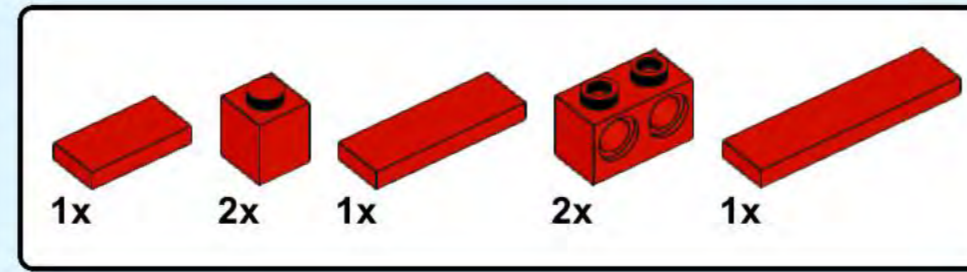
# 118



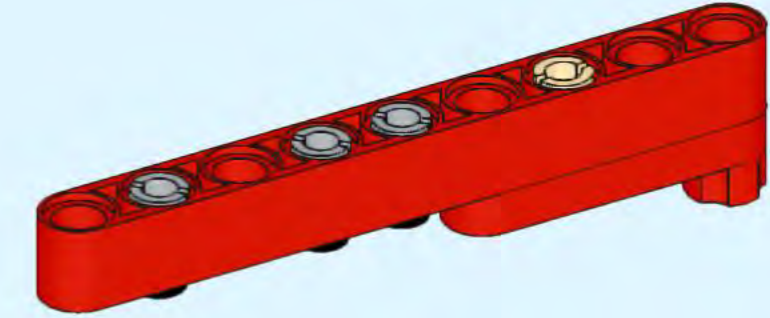
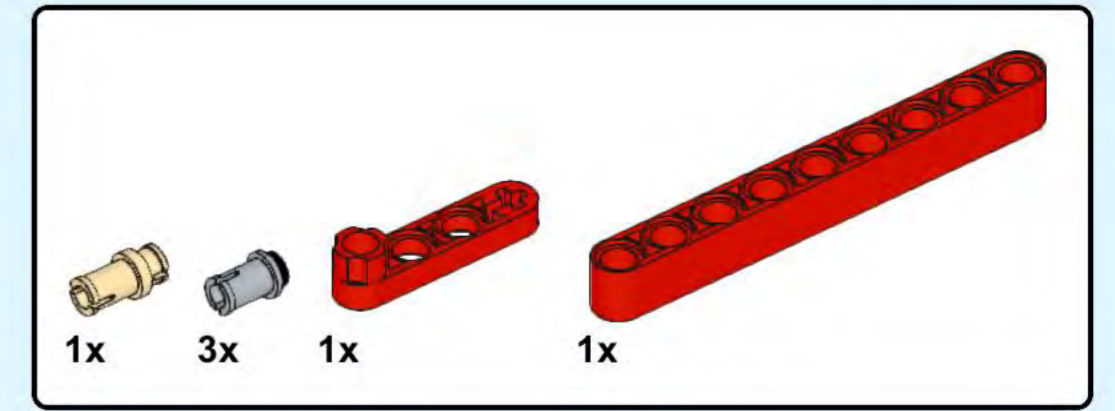
119



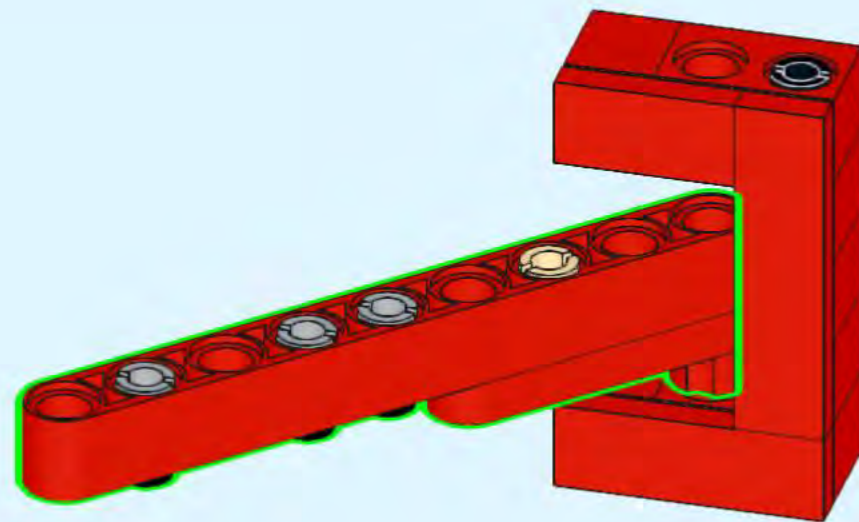
120



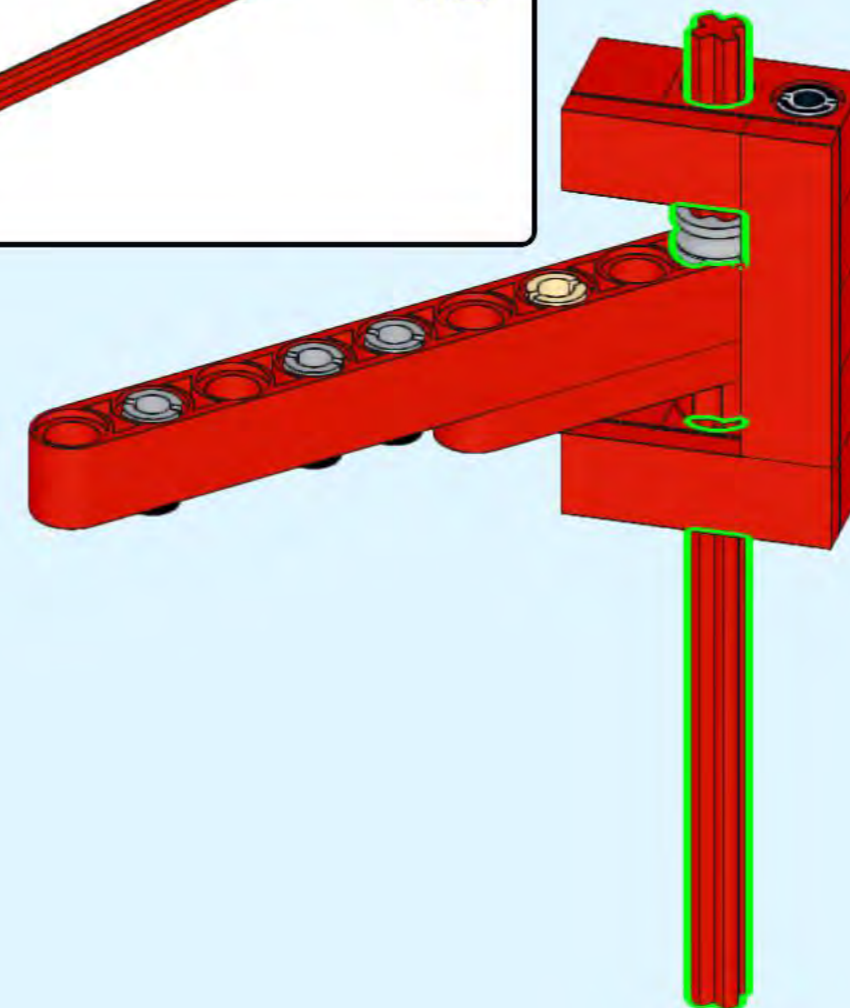
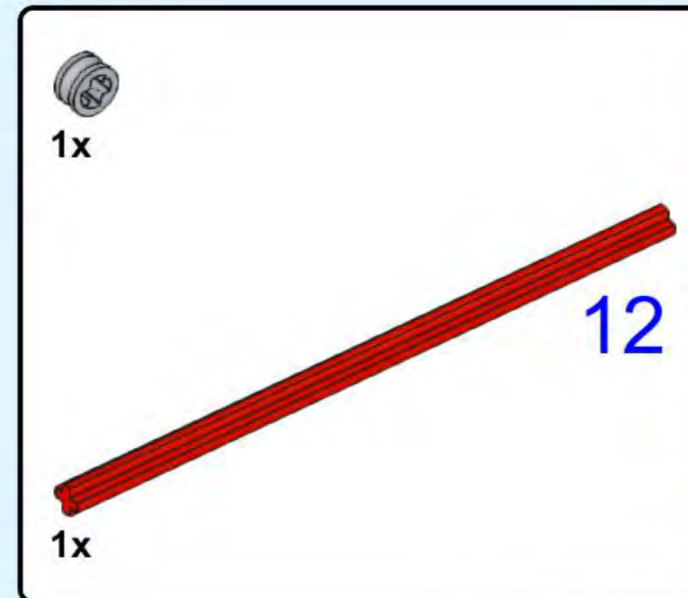
121



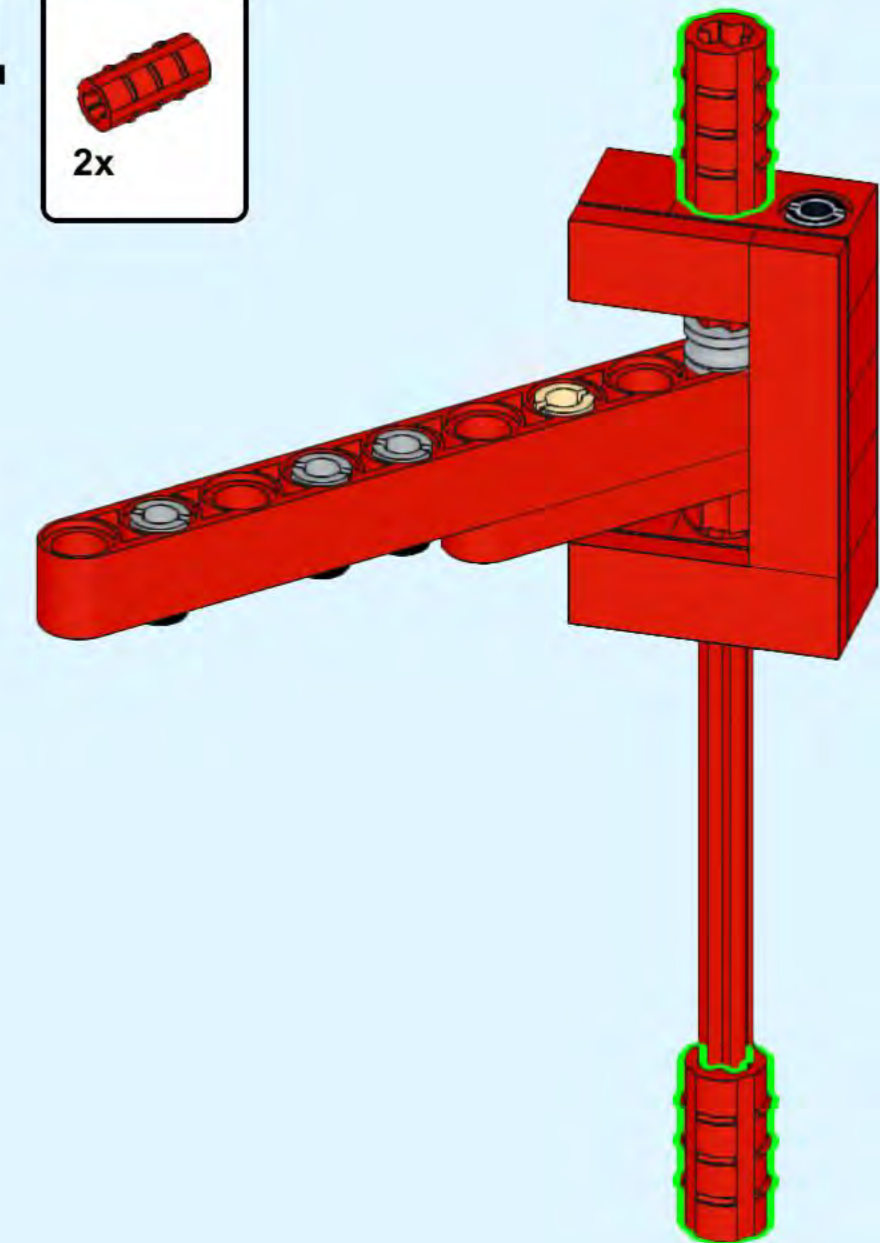
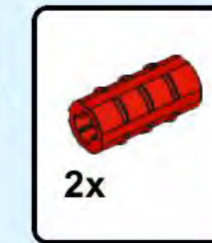
122



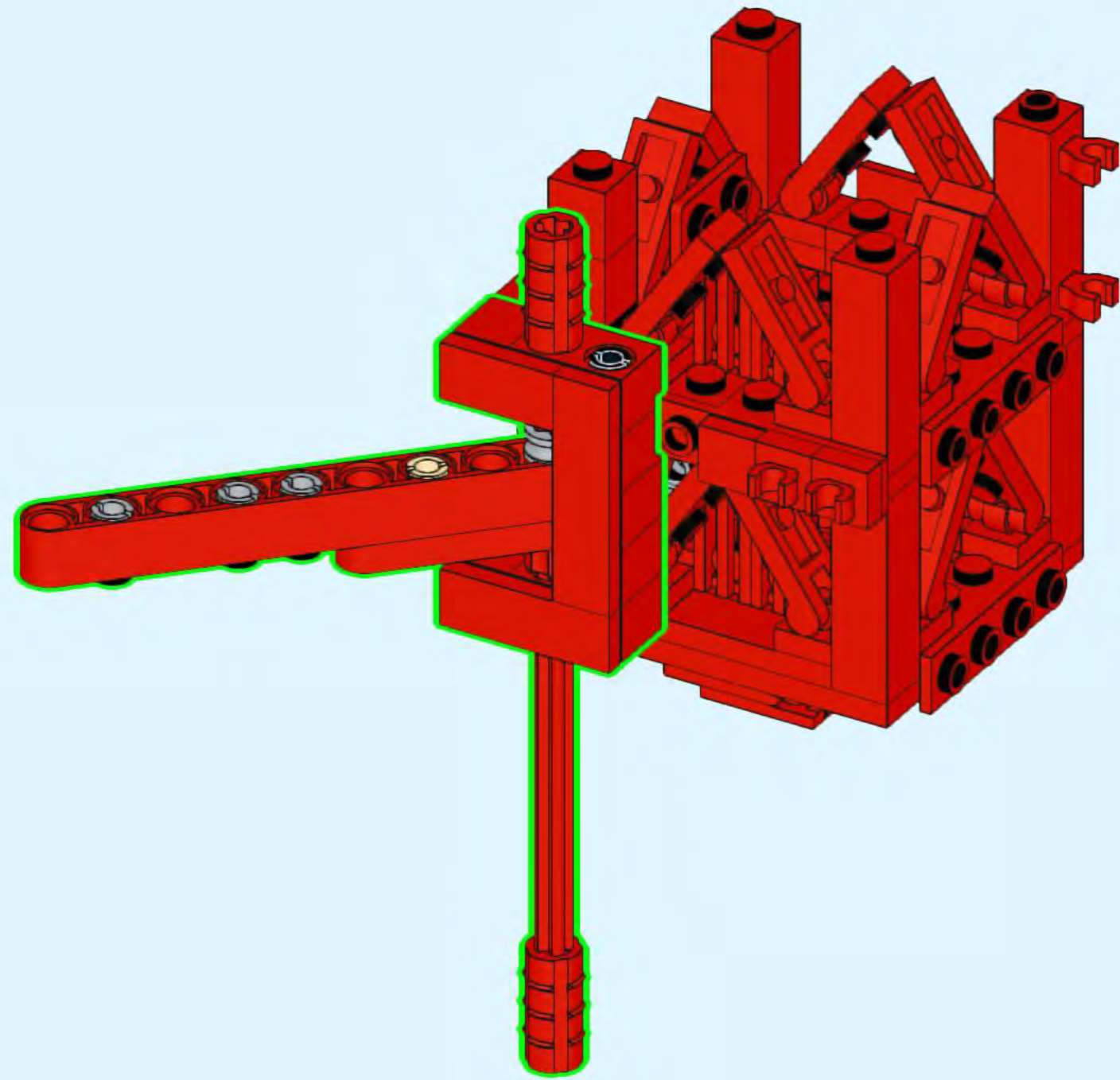
123



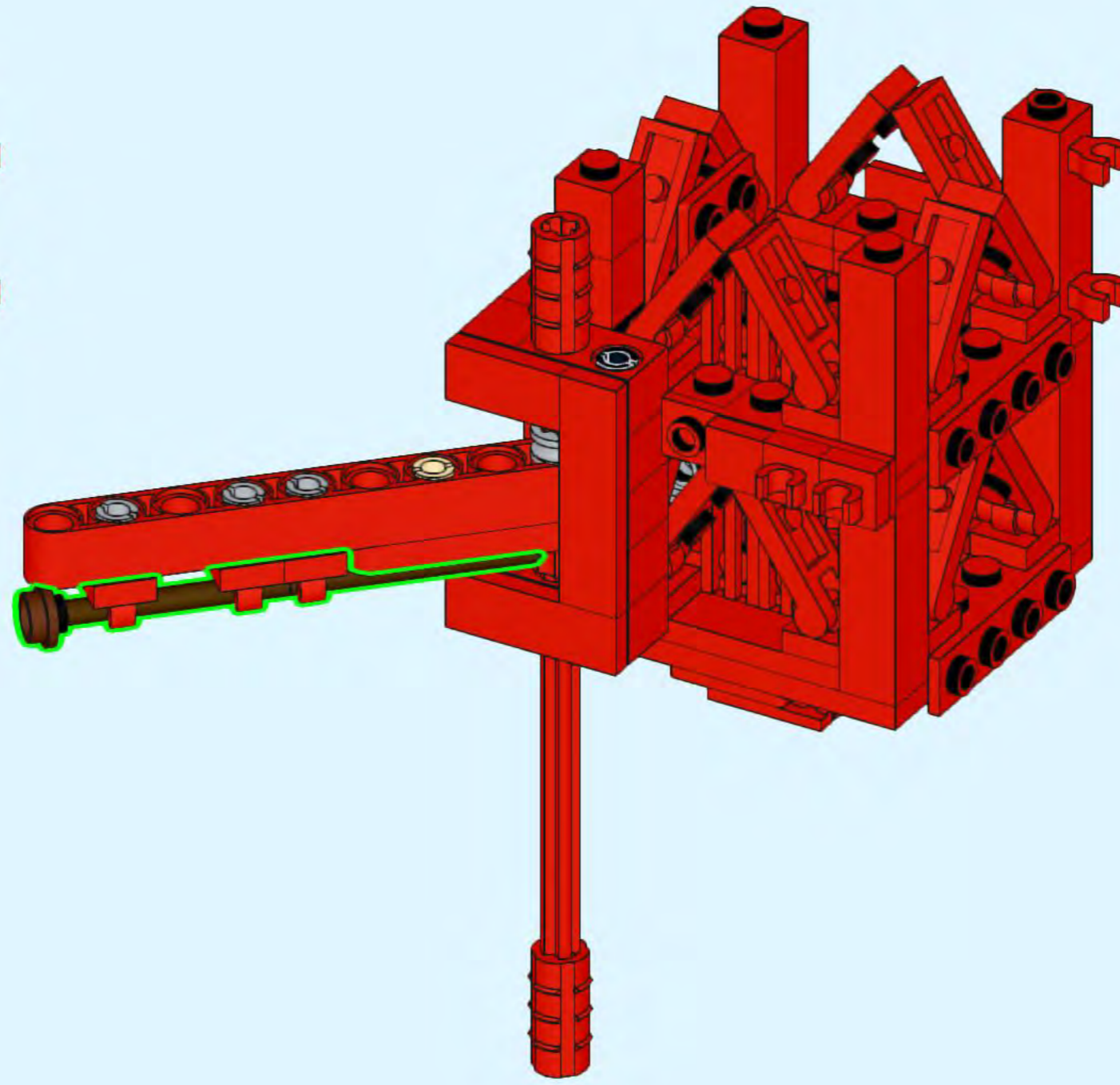
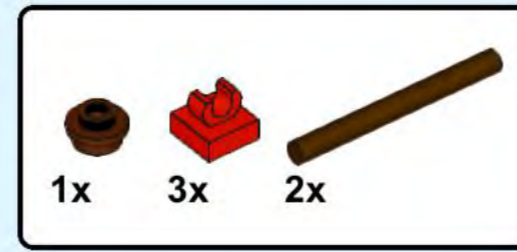
124



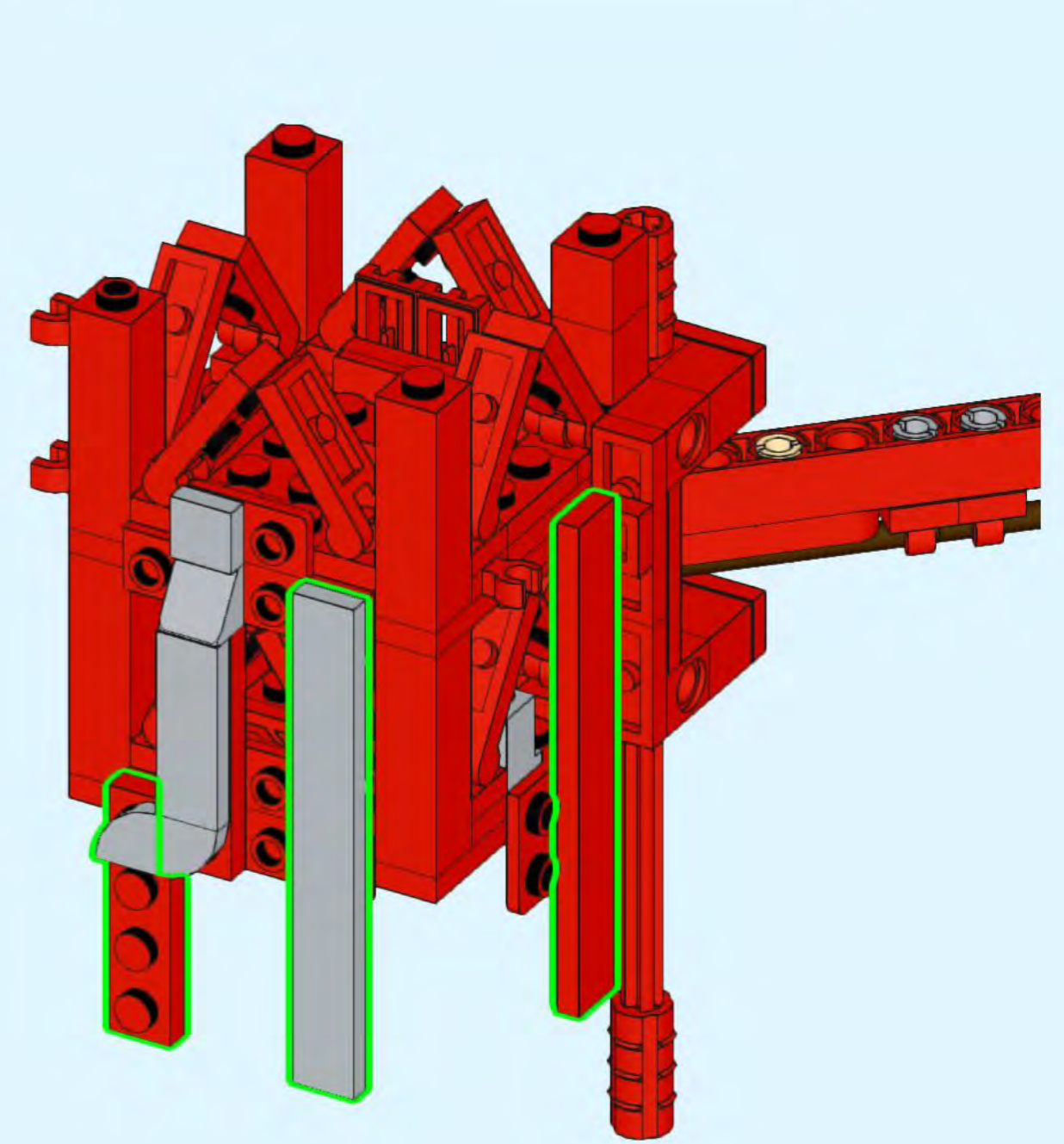
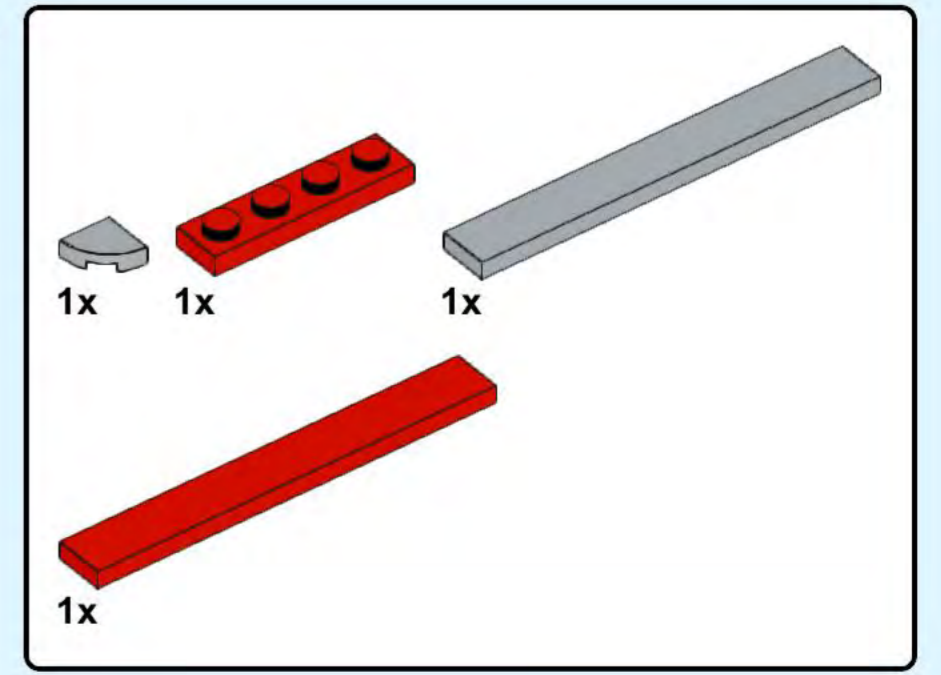
125



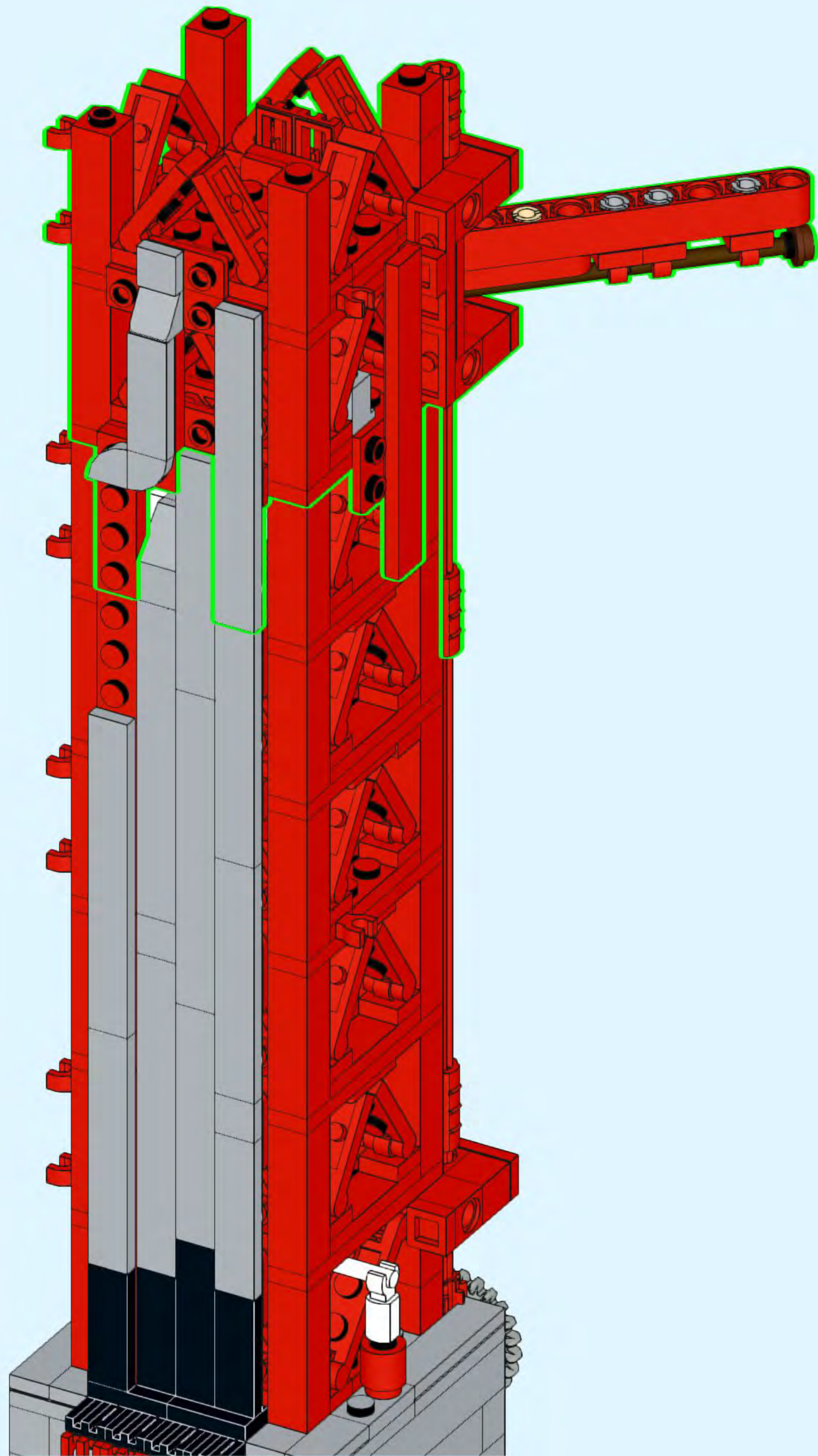
126



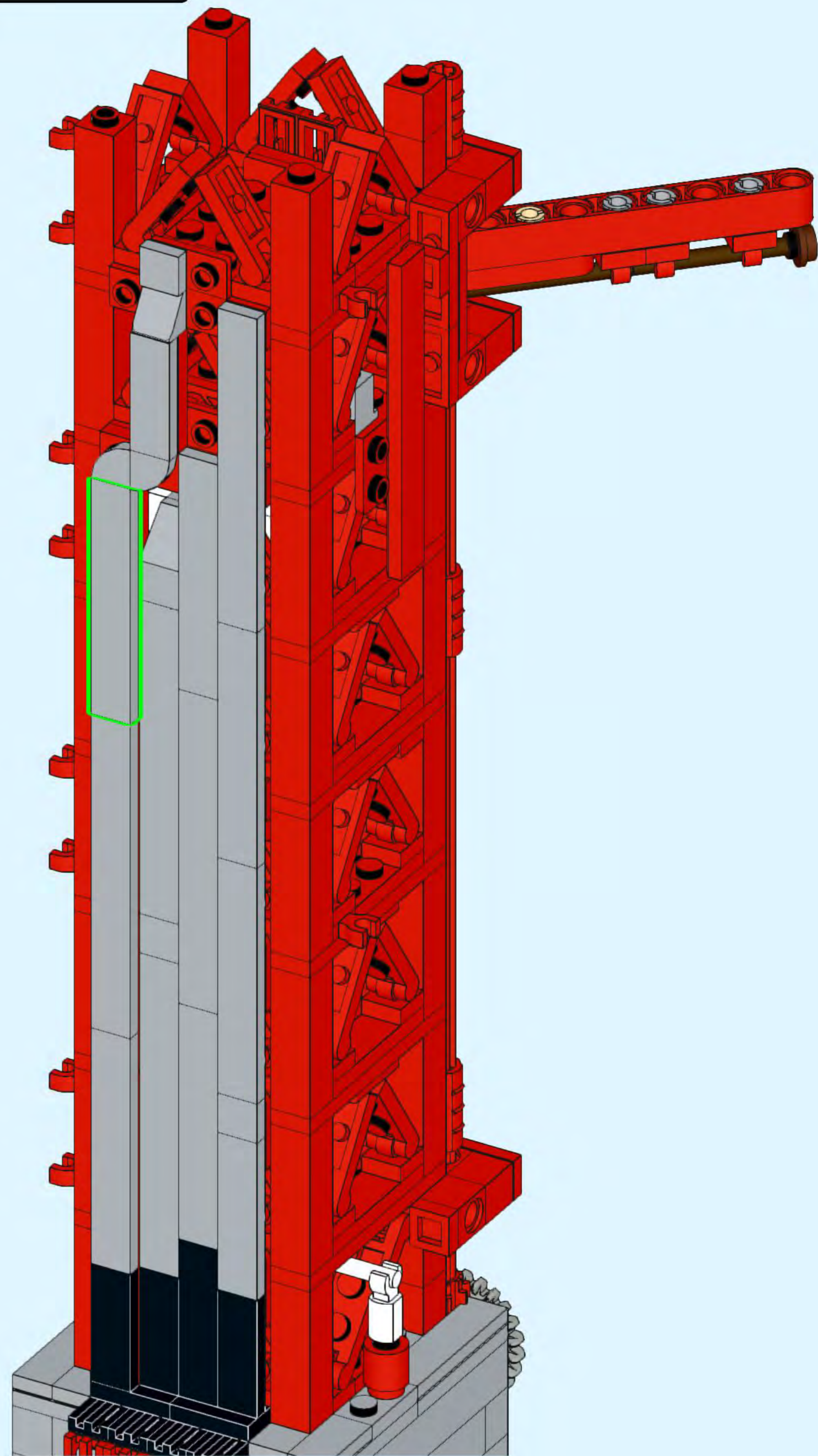
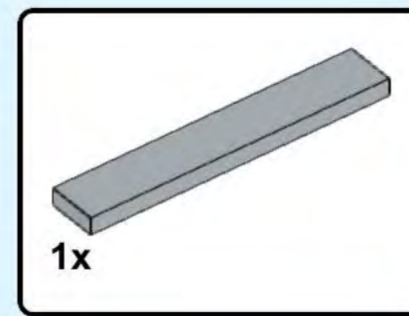
127



128

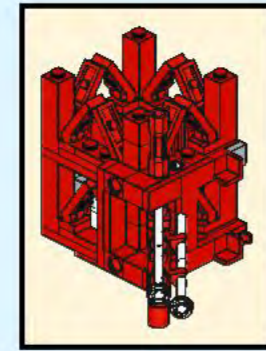
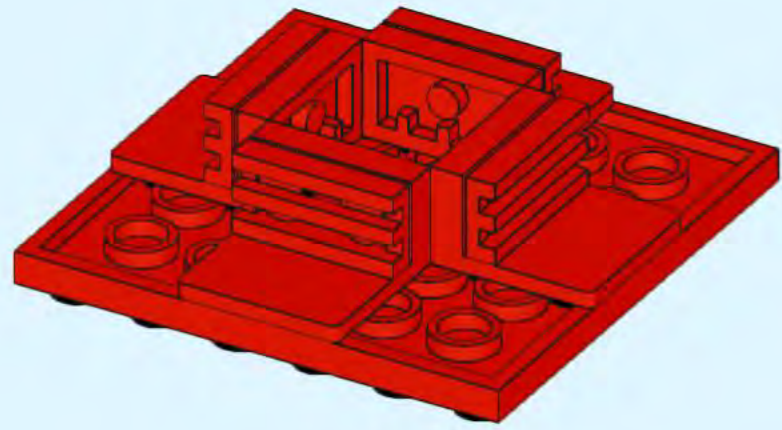
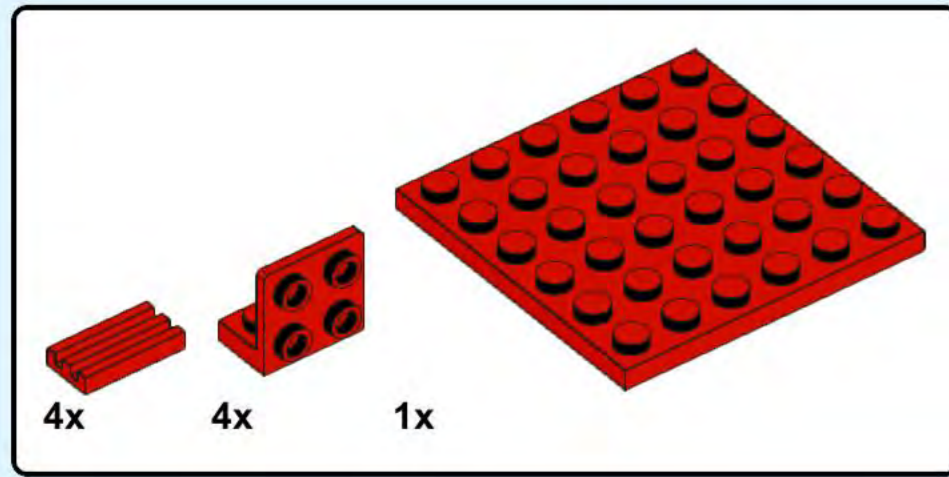


129

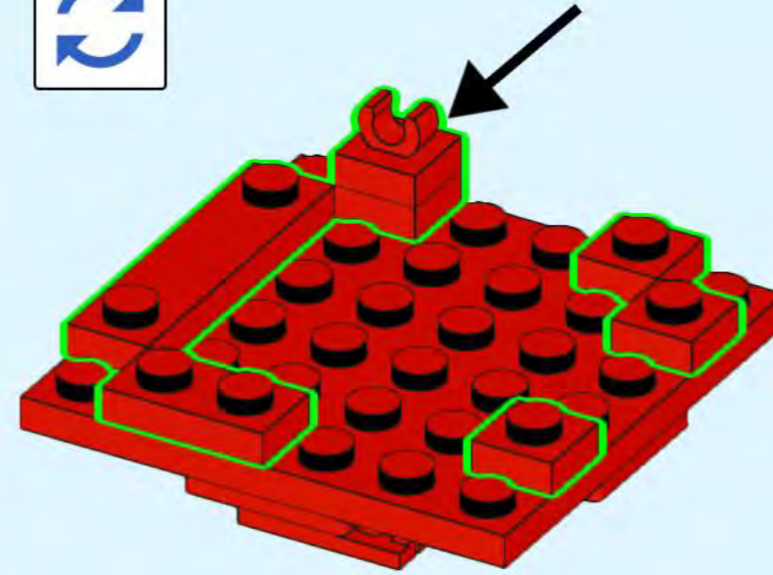
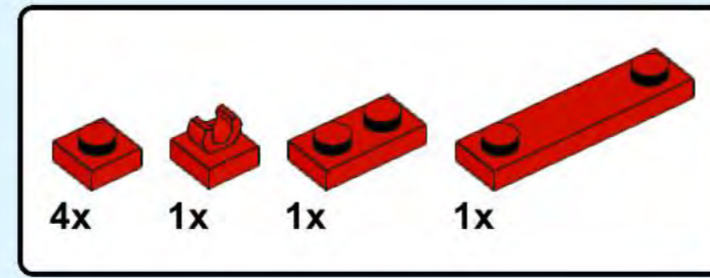




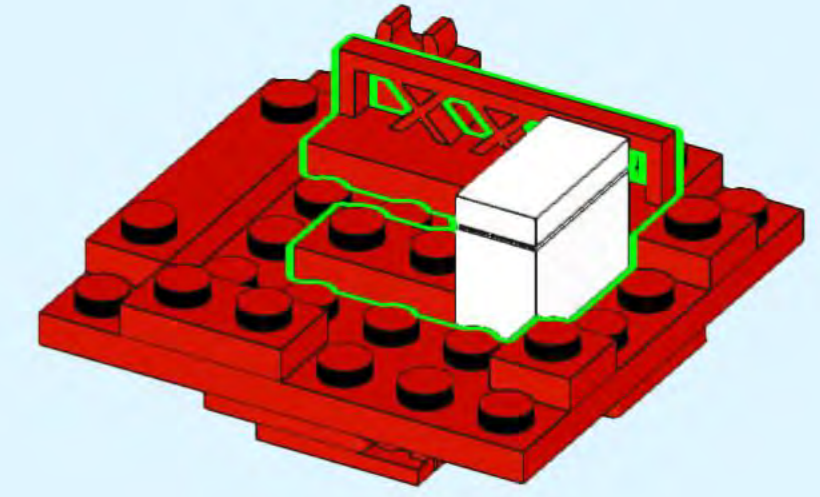
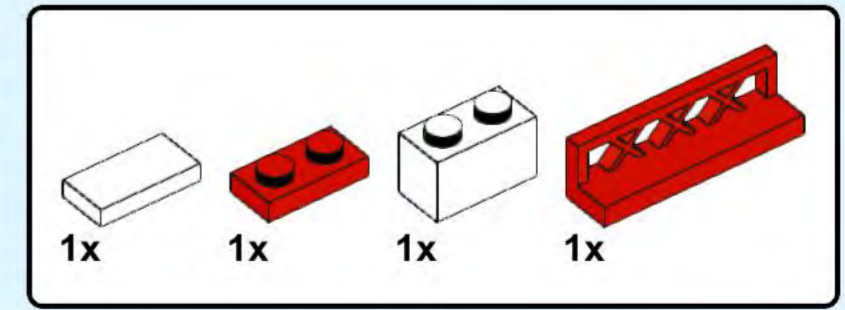
# 130



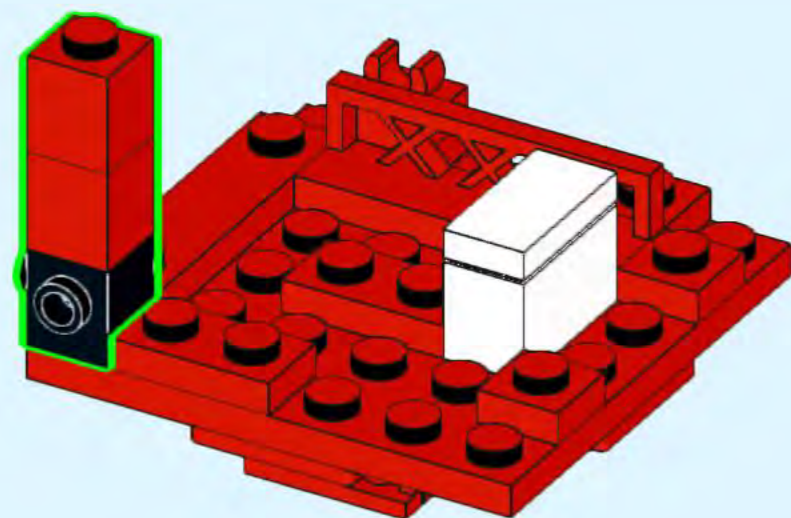
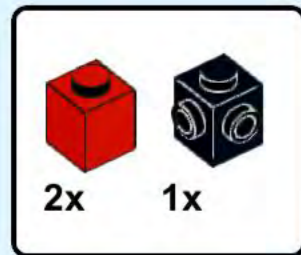
# 131



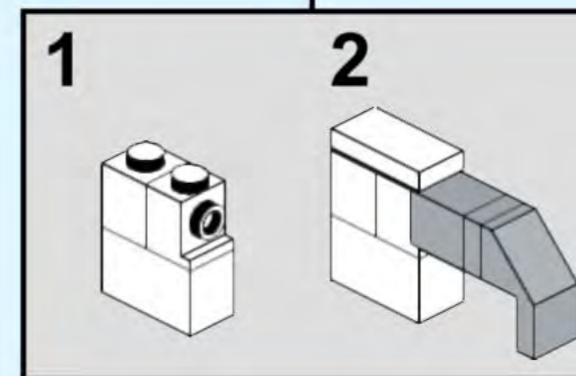
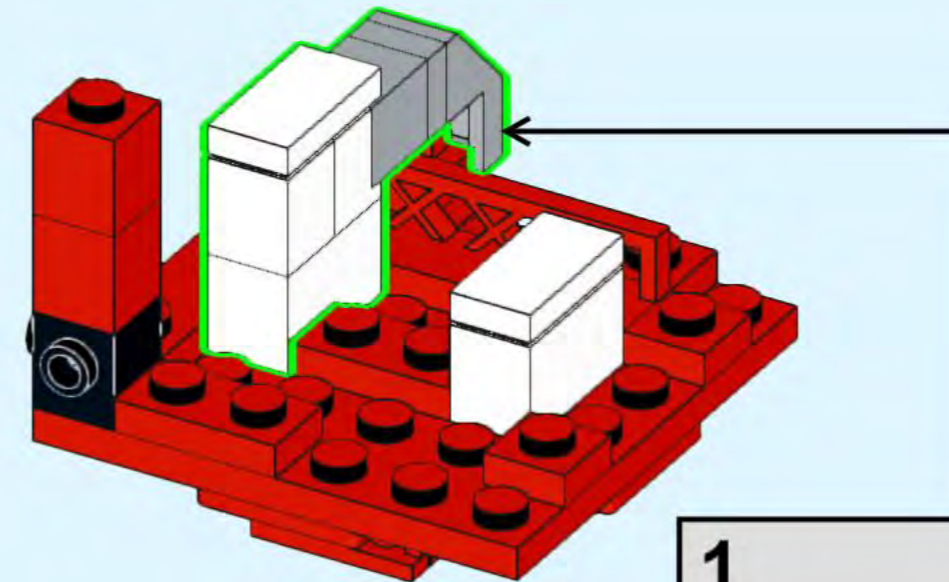
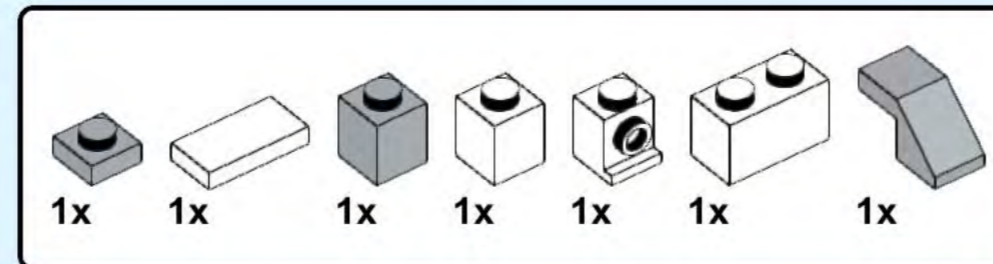
# 132



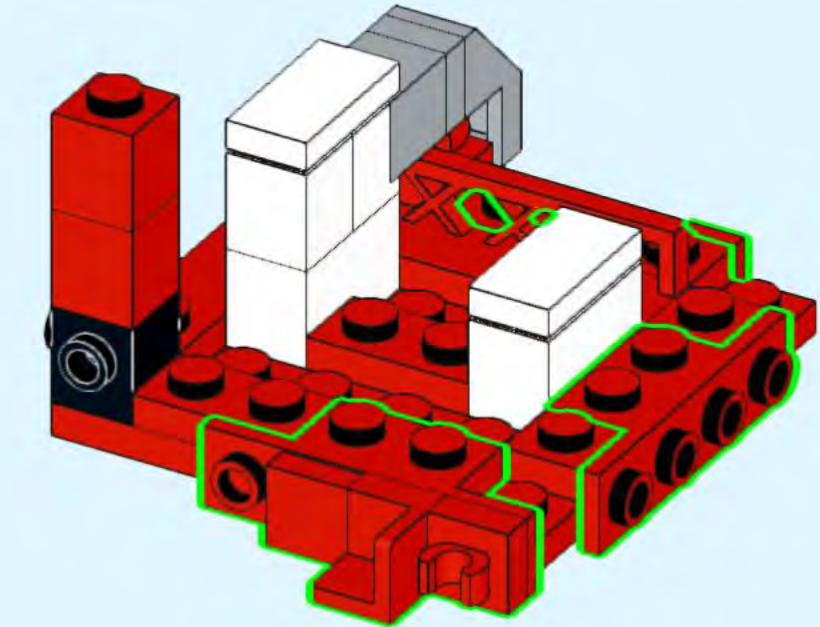
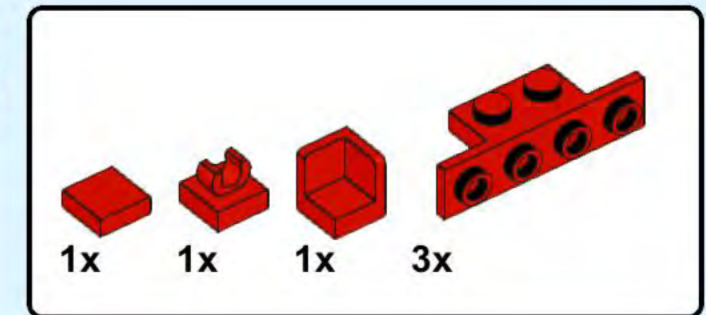
# 133



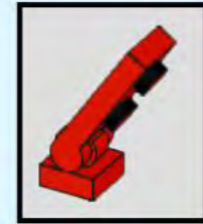
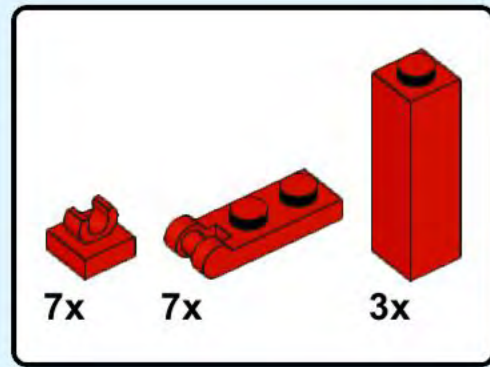
# 134



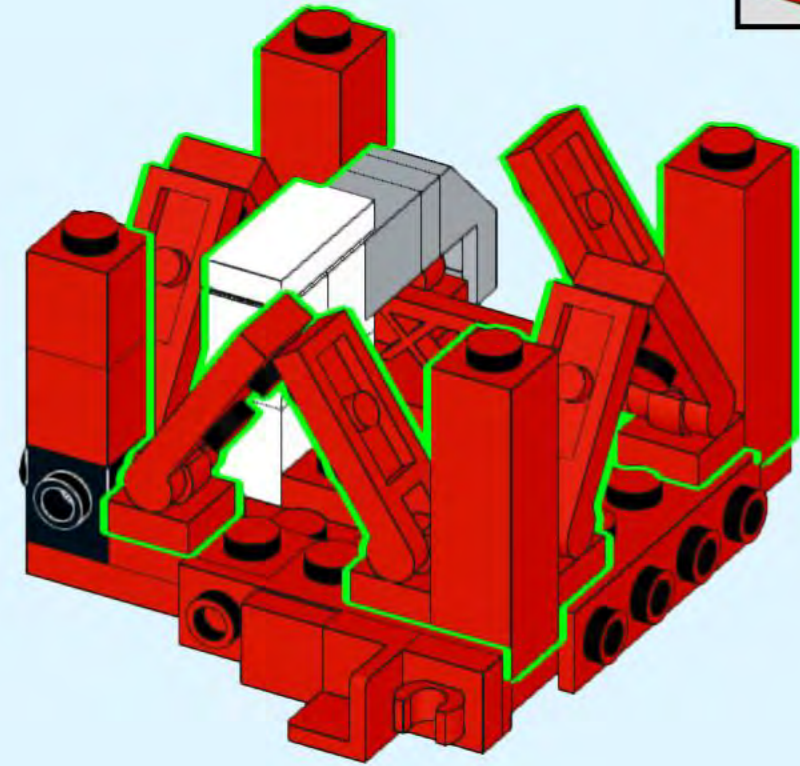
# 135



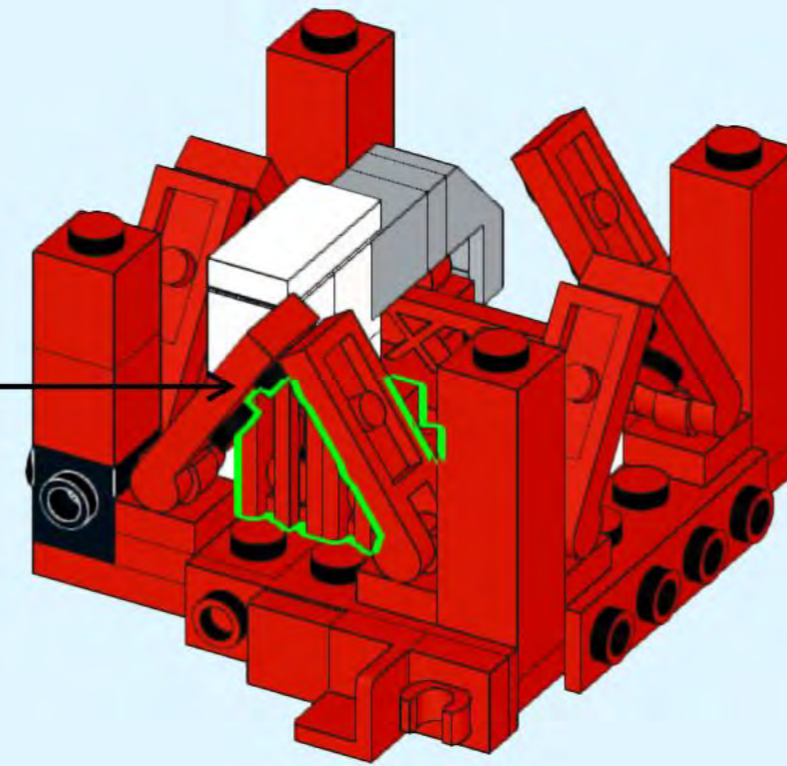
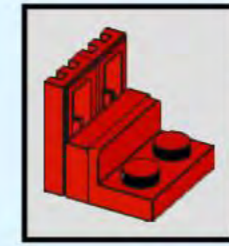
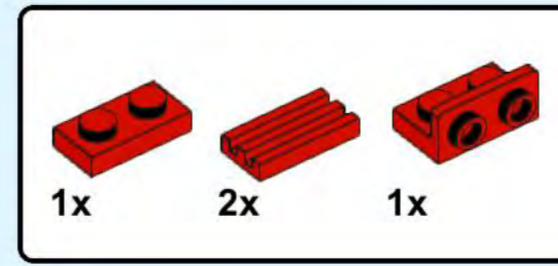
136



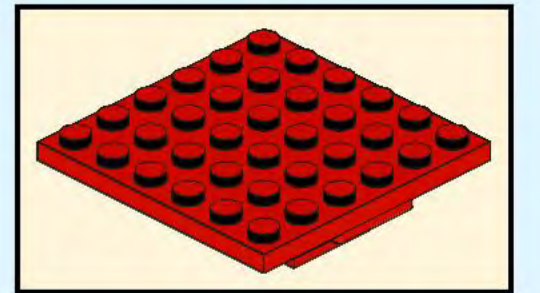
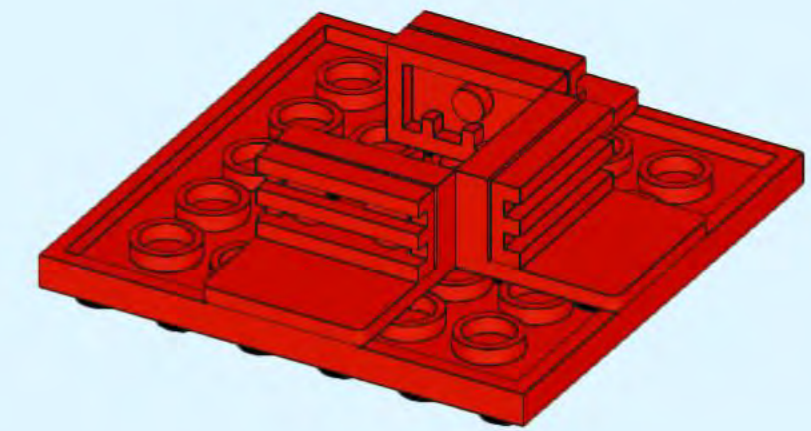
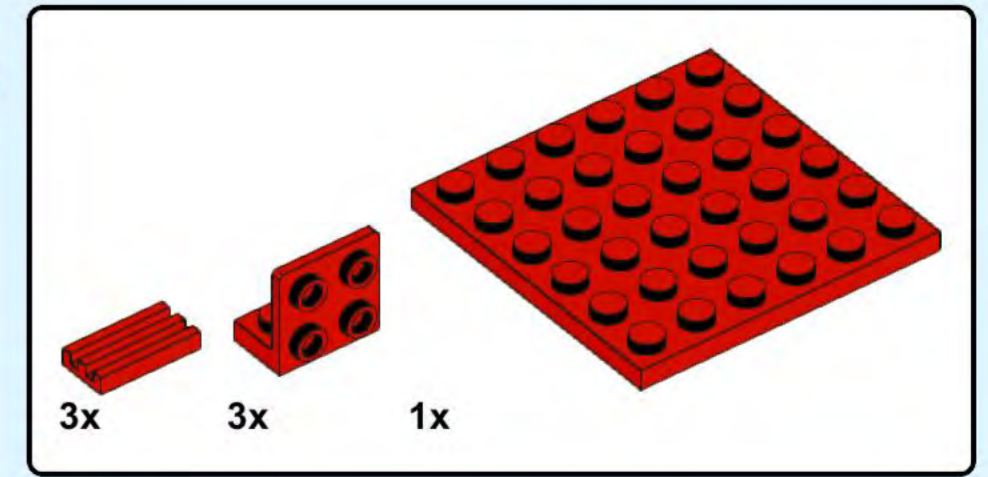
7x



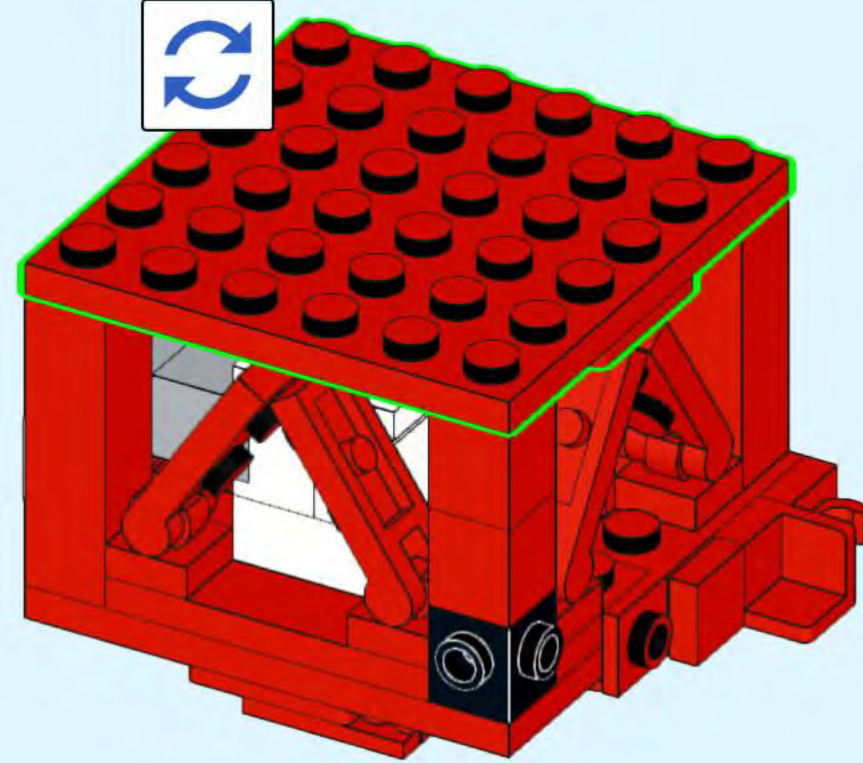
137



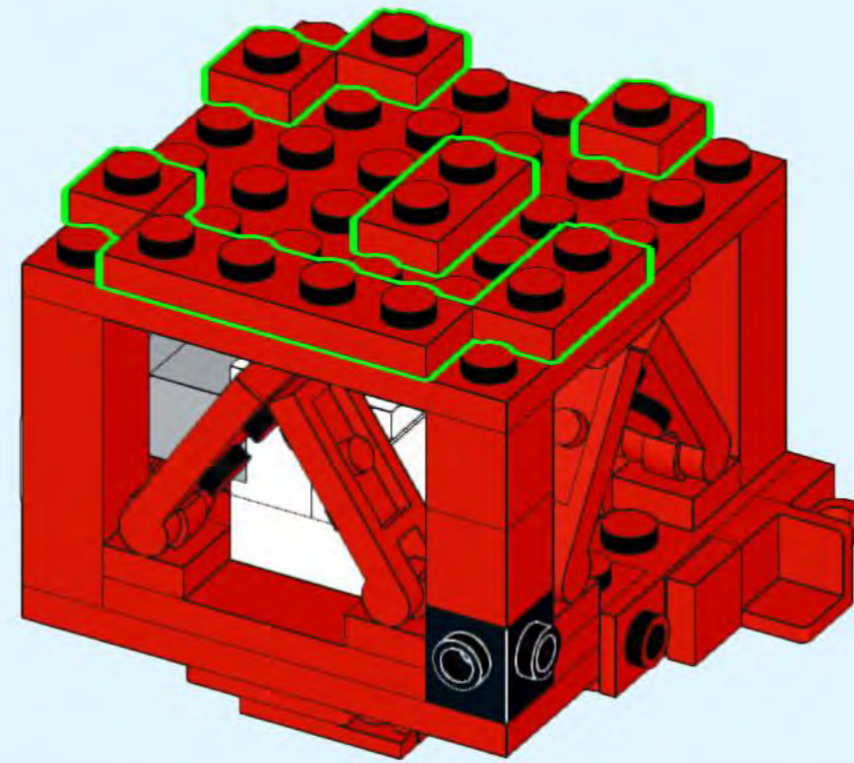
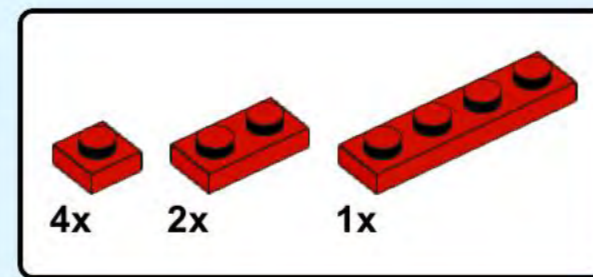
138



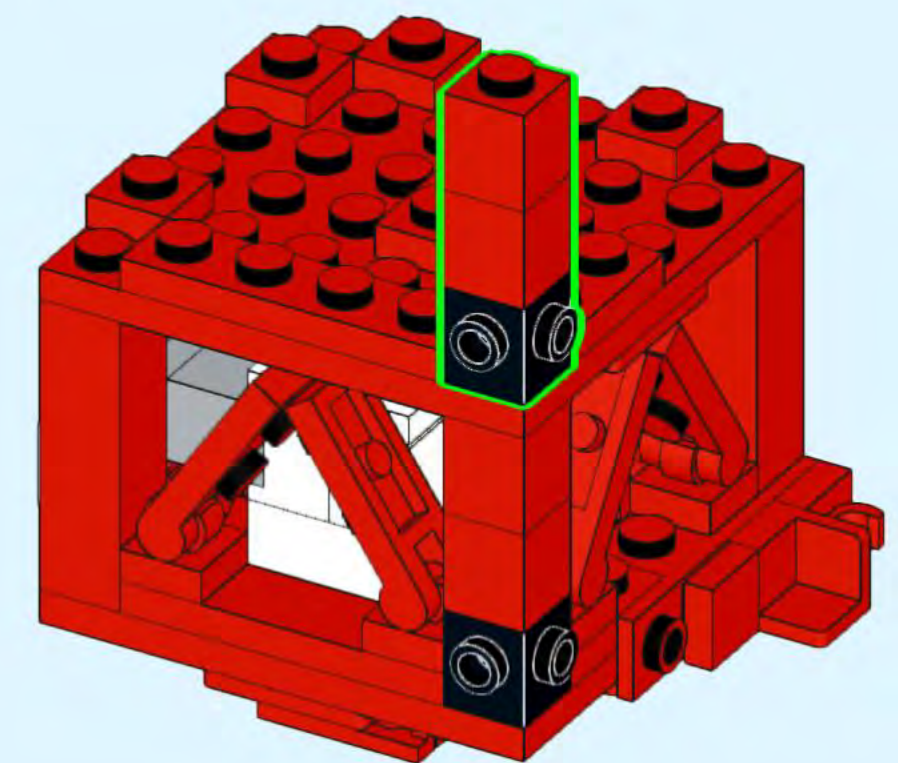
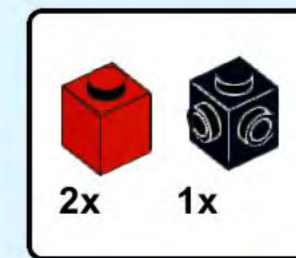
139



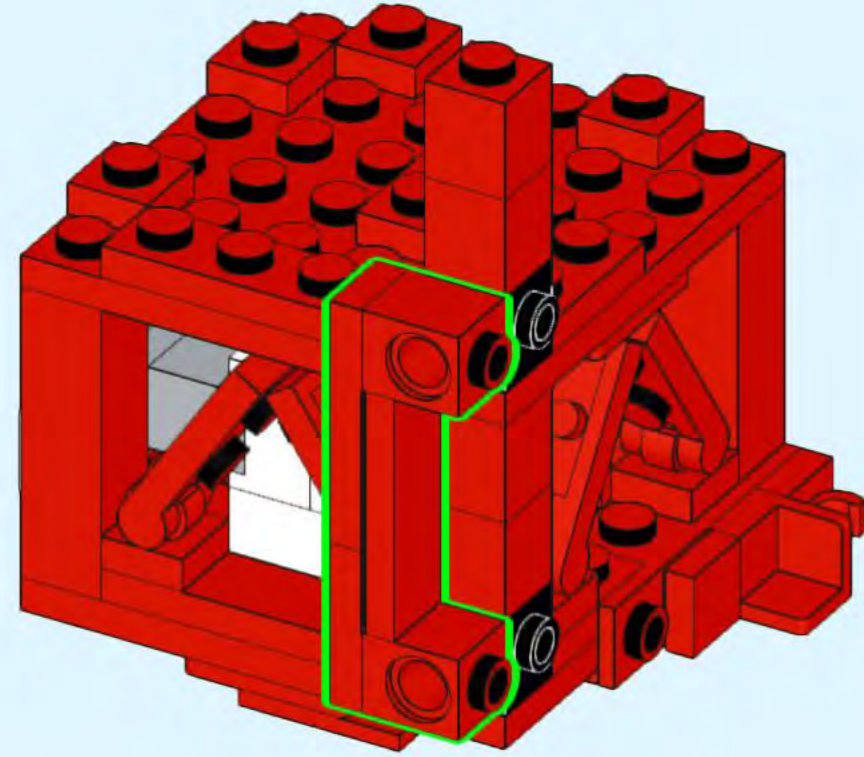
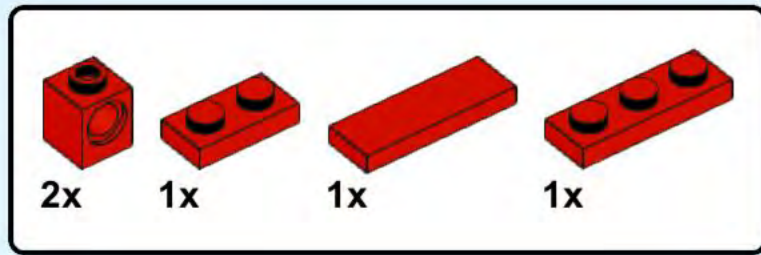
140



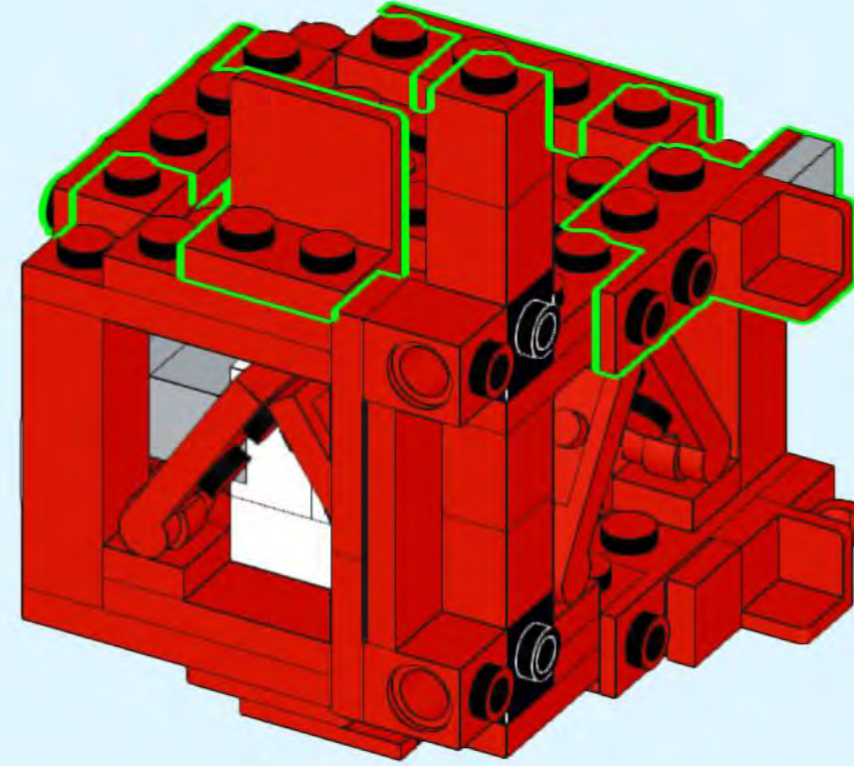
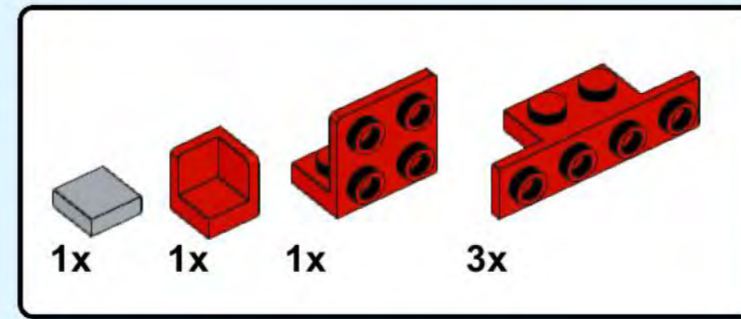
141



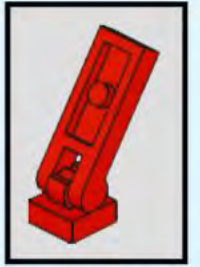
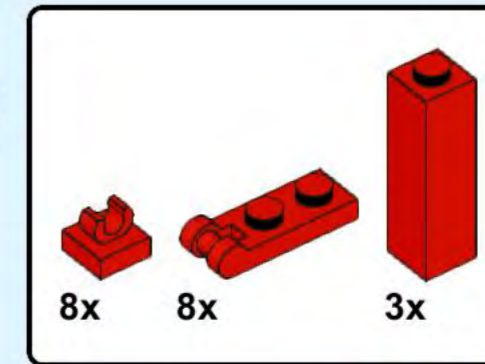
# 142



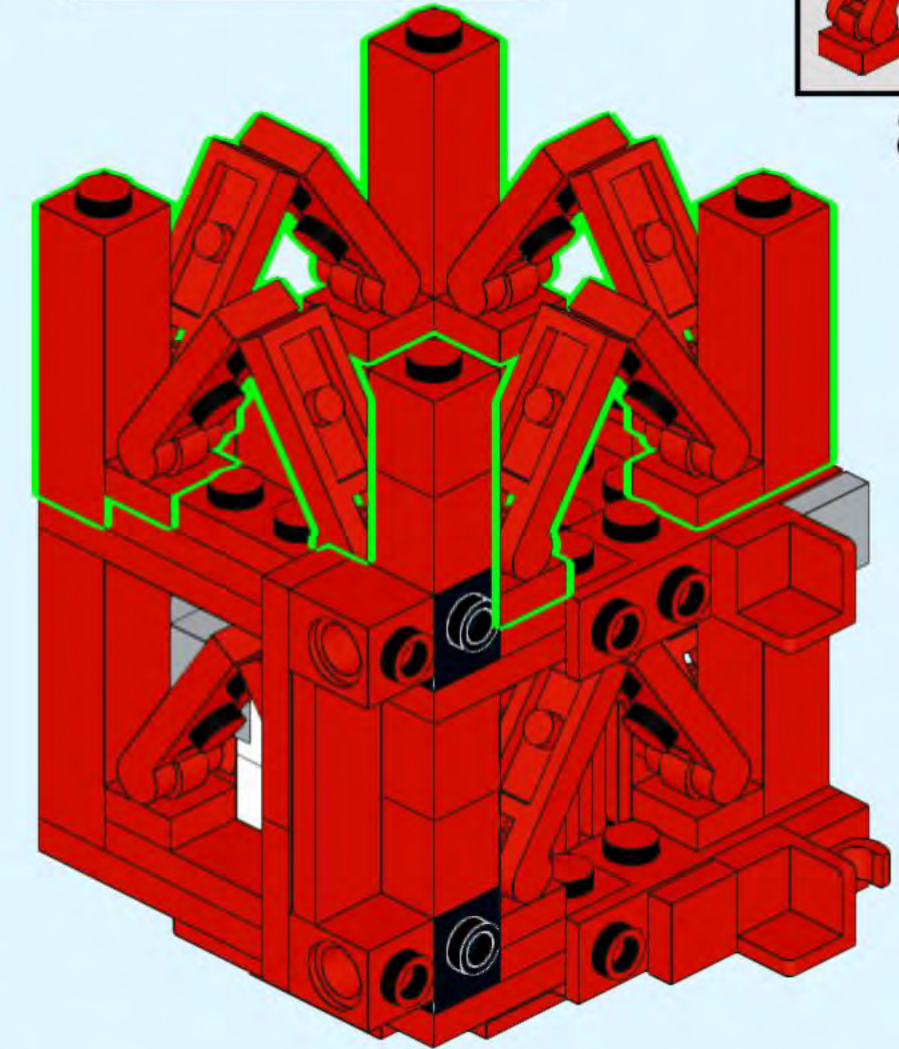
# 143



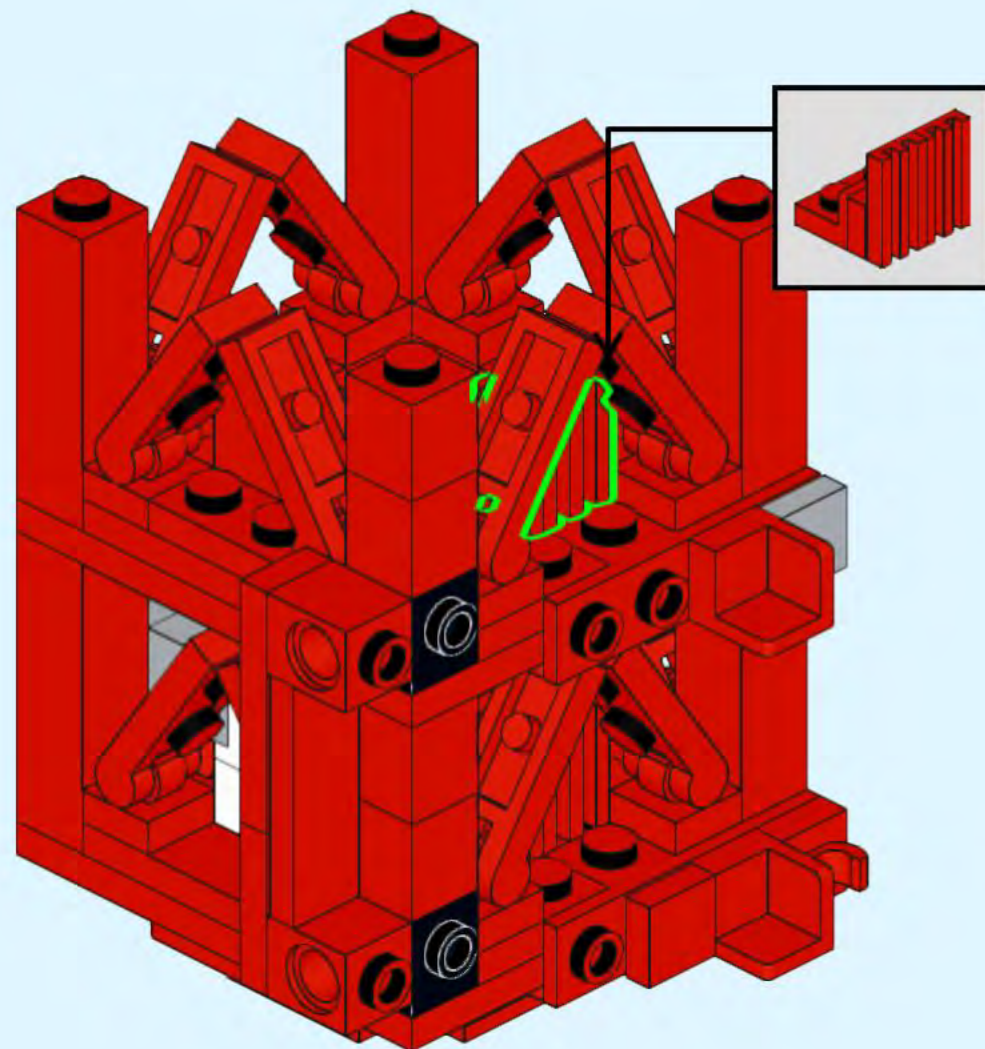
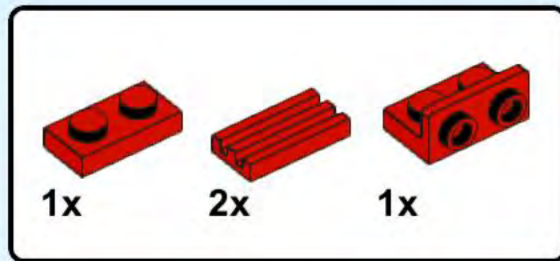
# 144



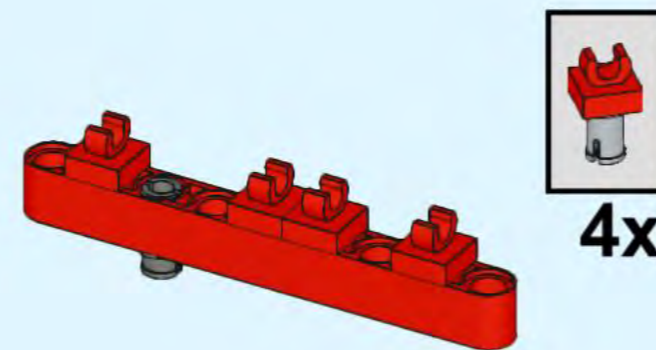
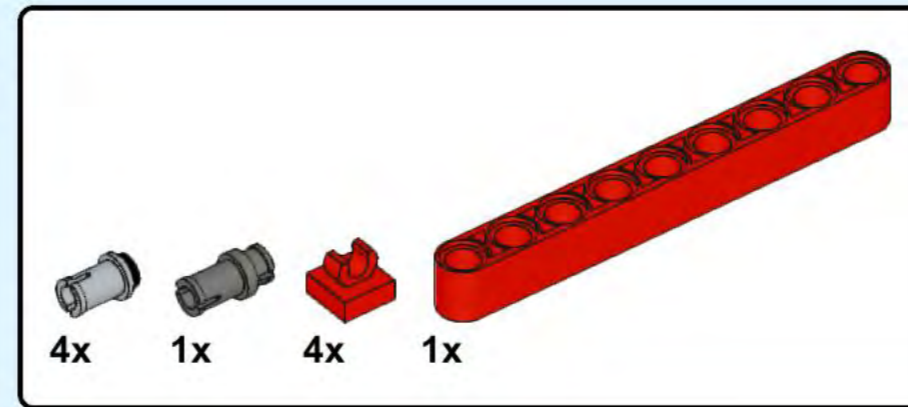
8x



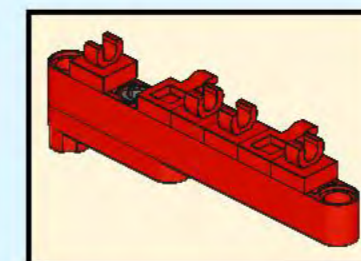
# 145



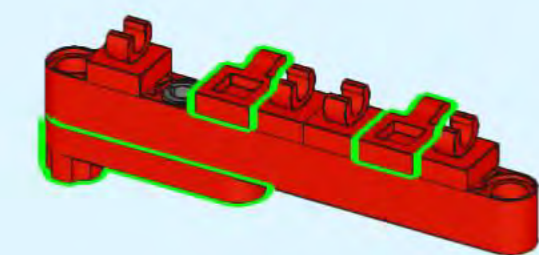
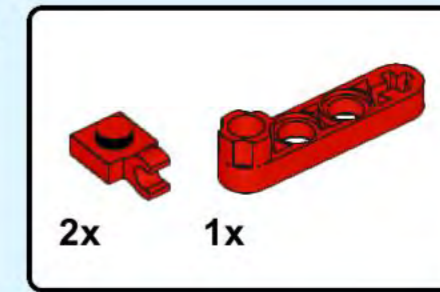
# 146



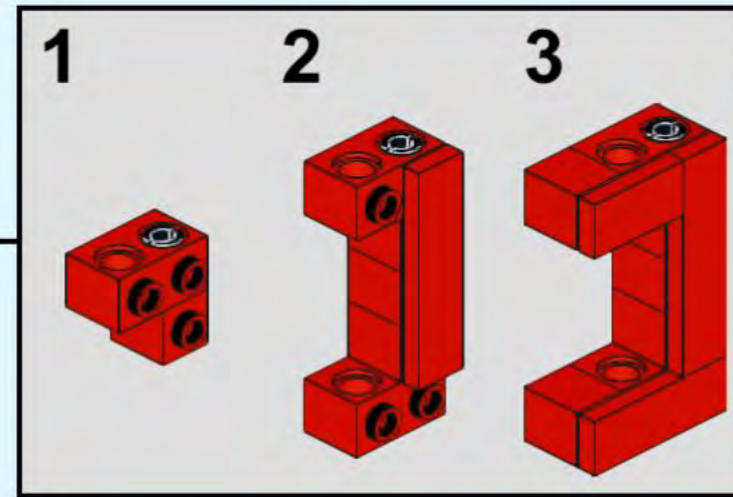
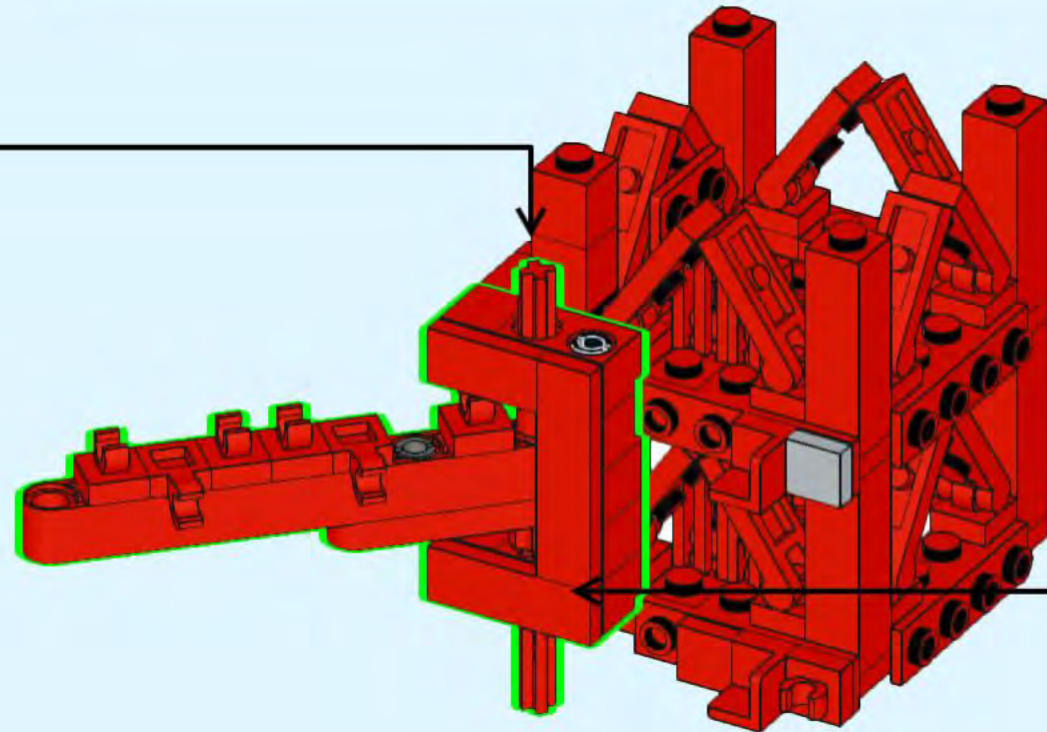
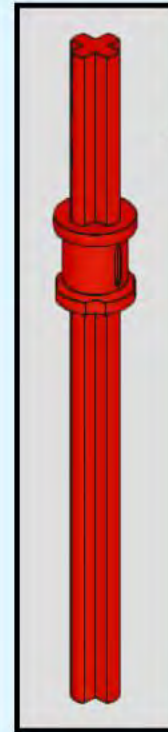
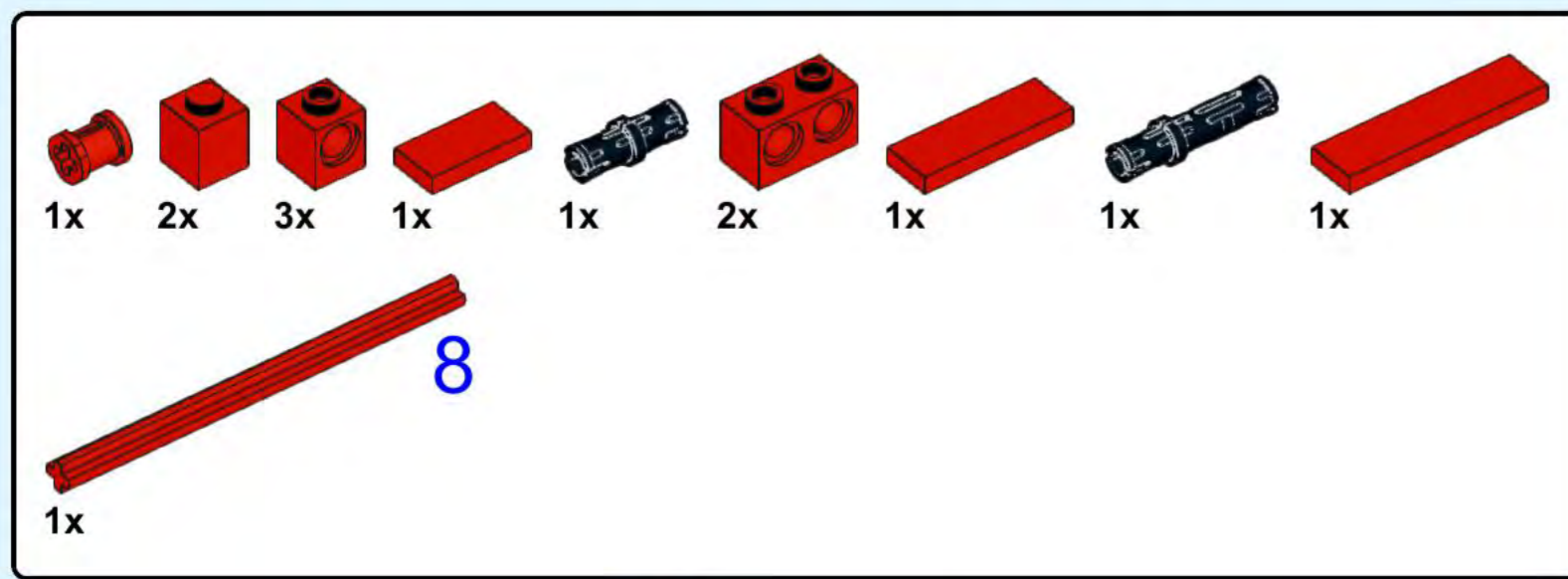
4x



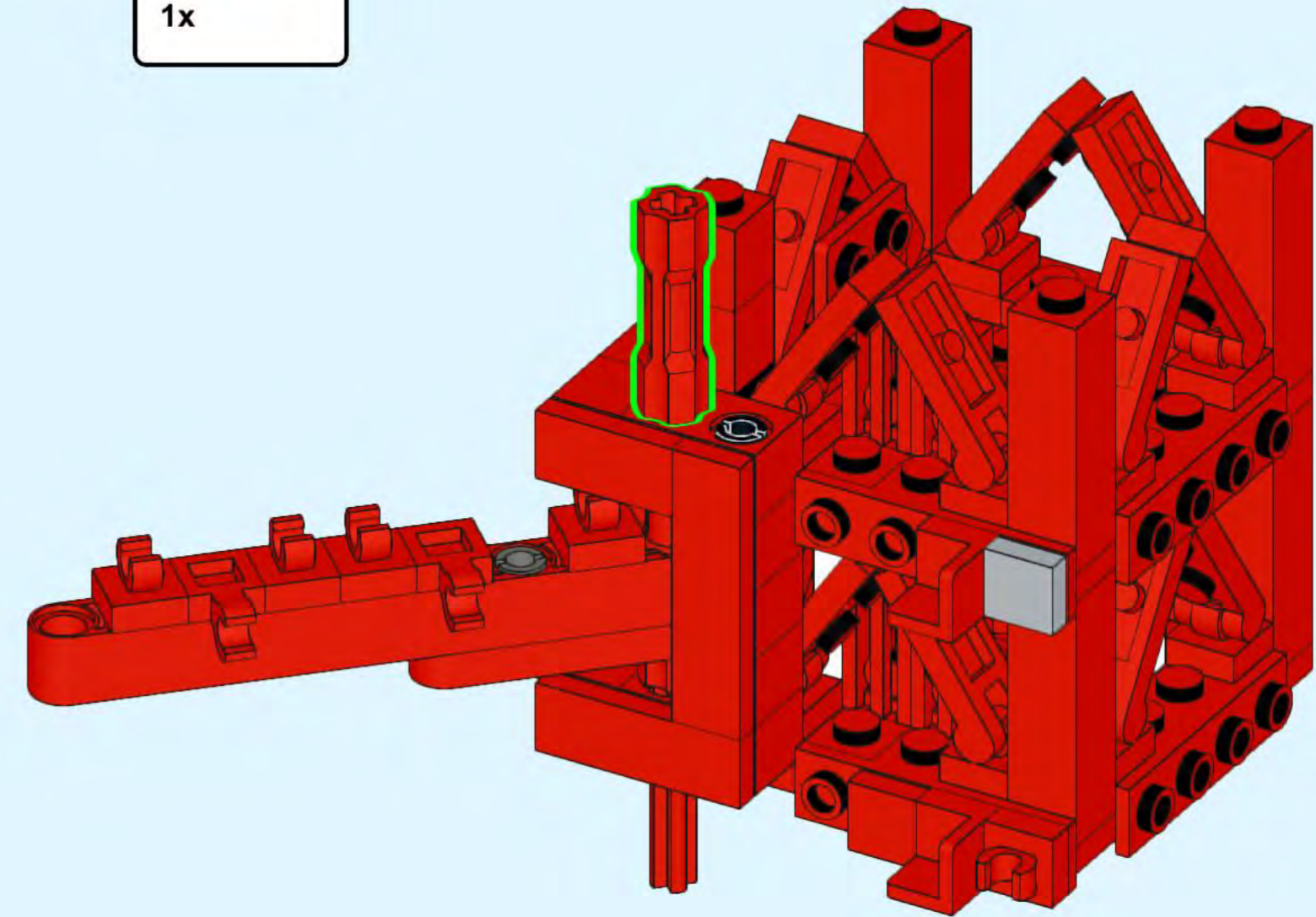
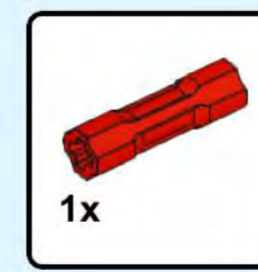
# 147



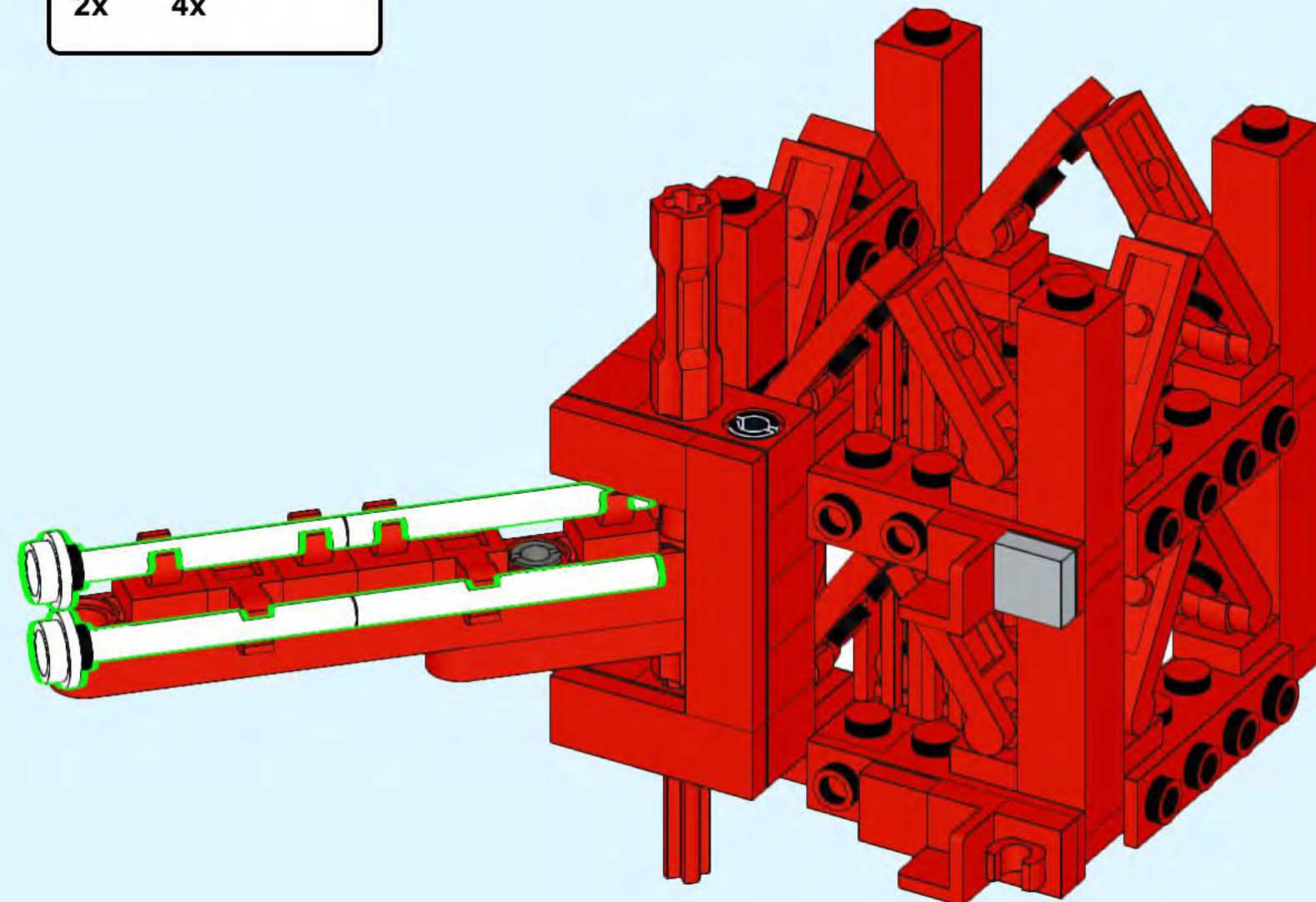
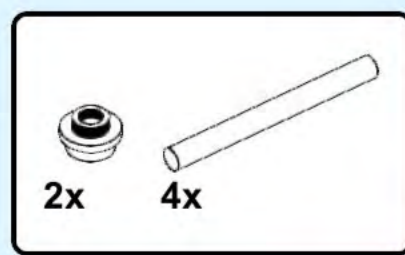
# 148



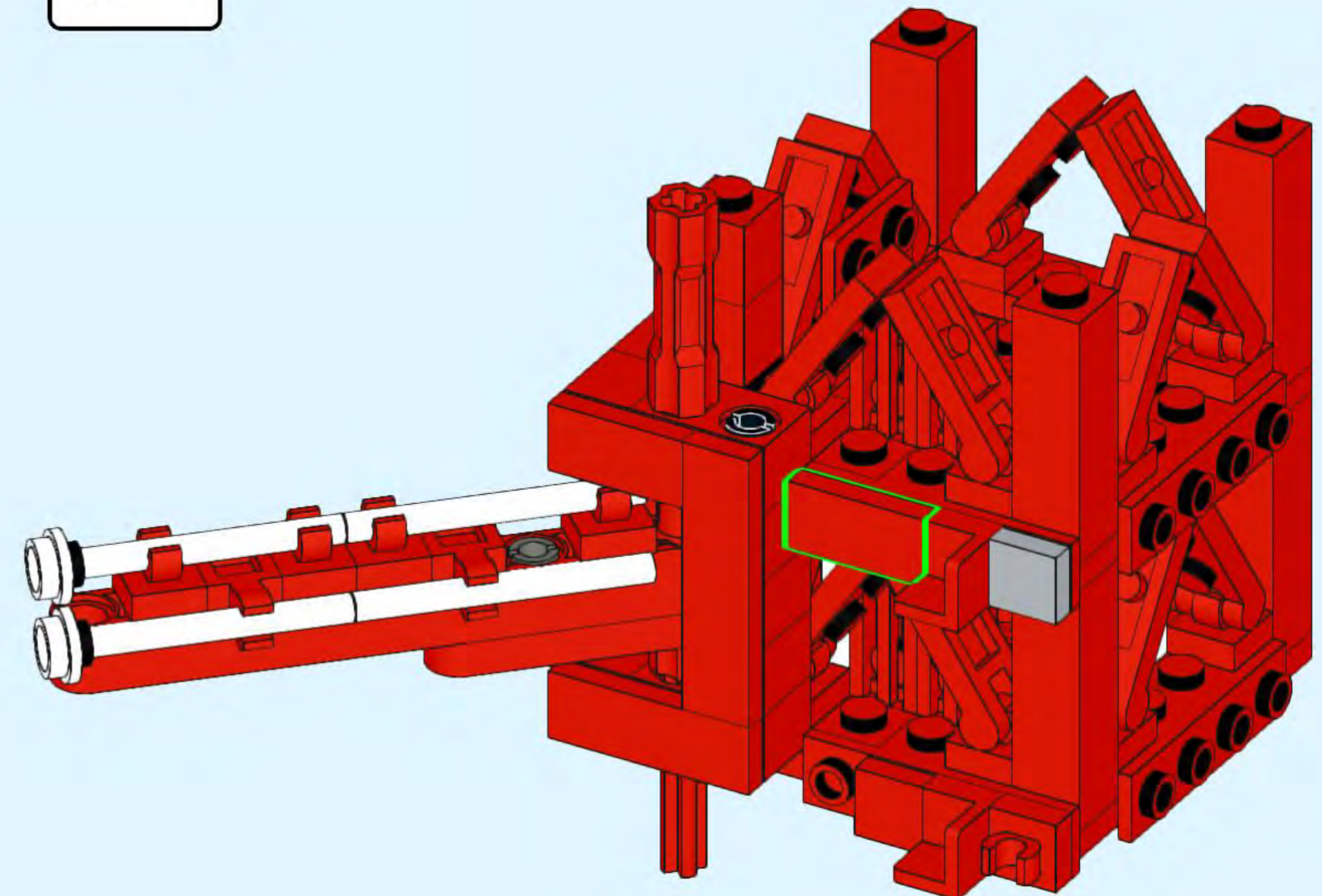
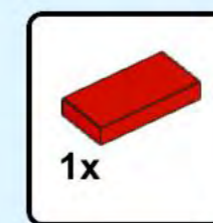
# 149



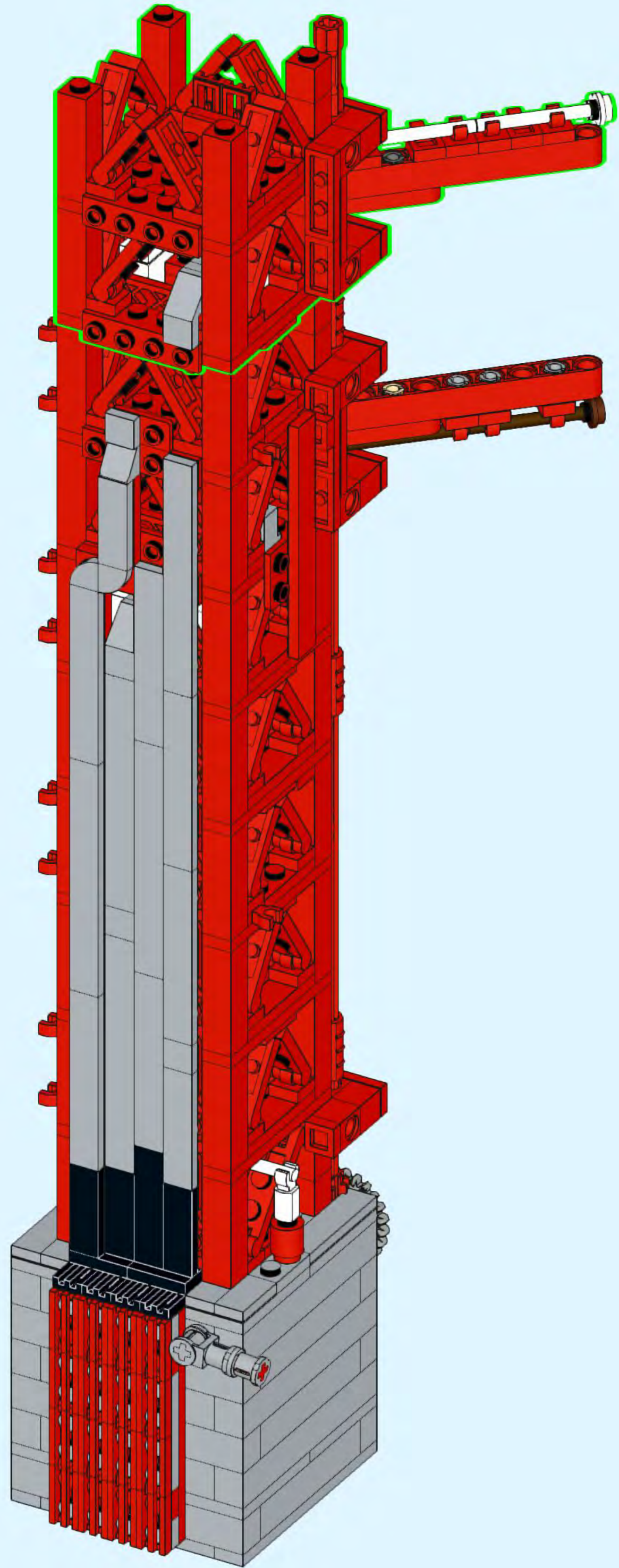
# 150



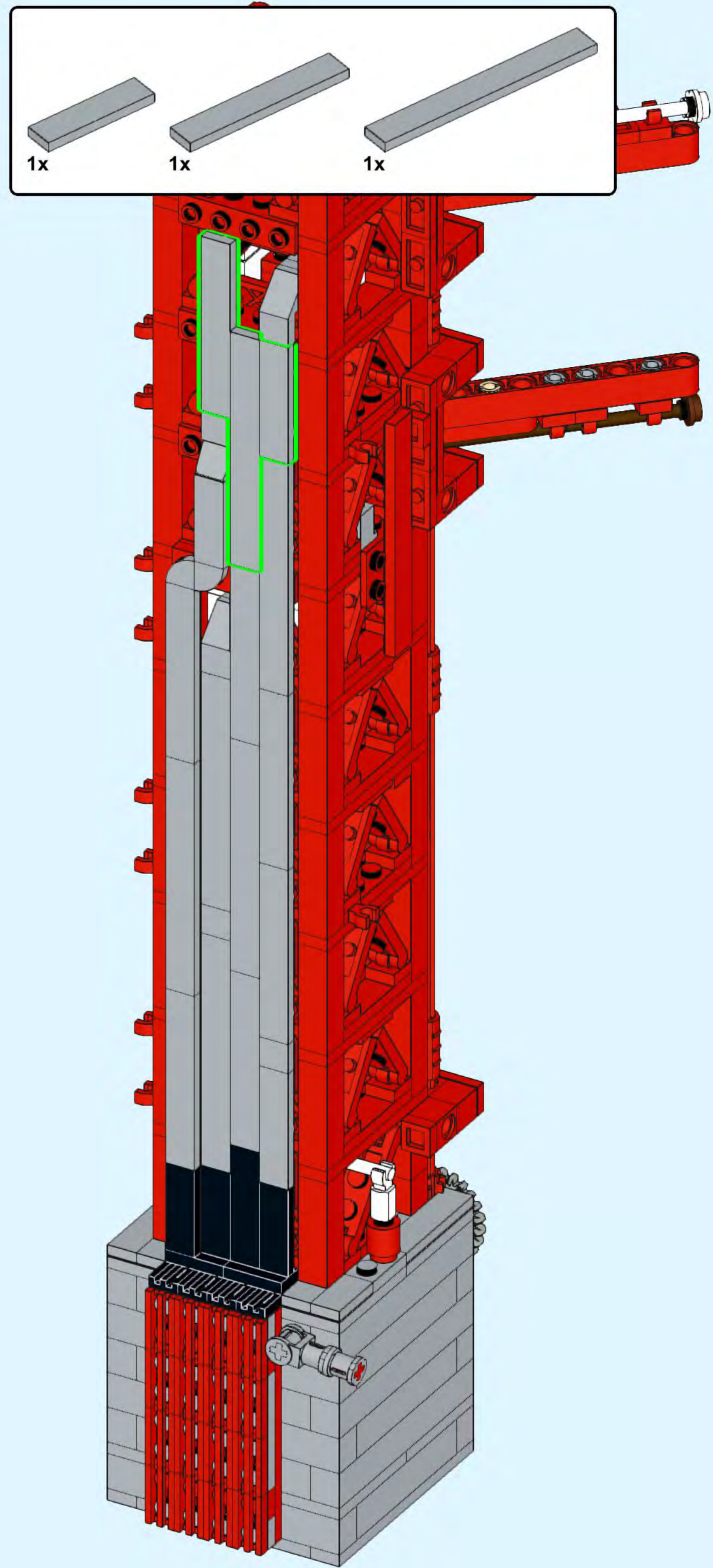
# 151

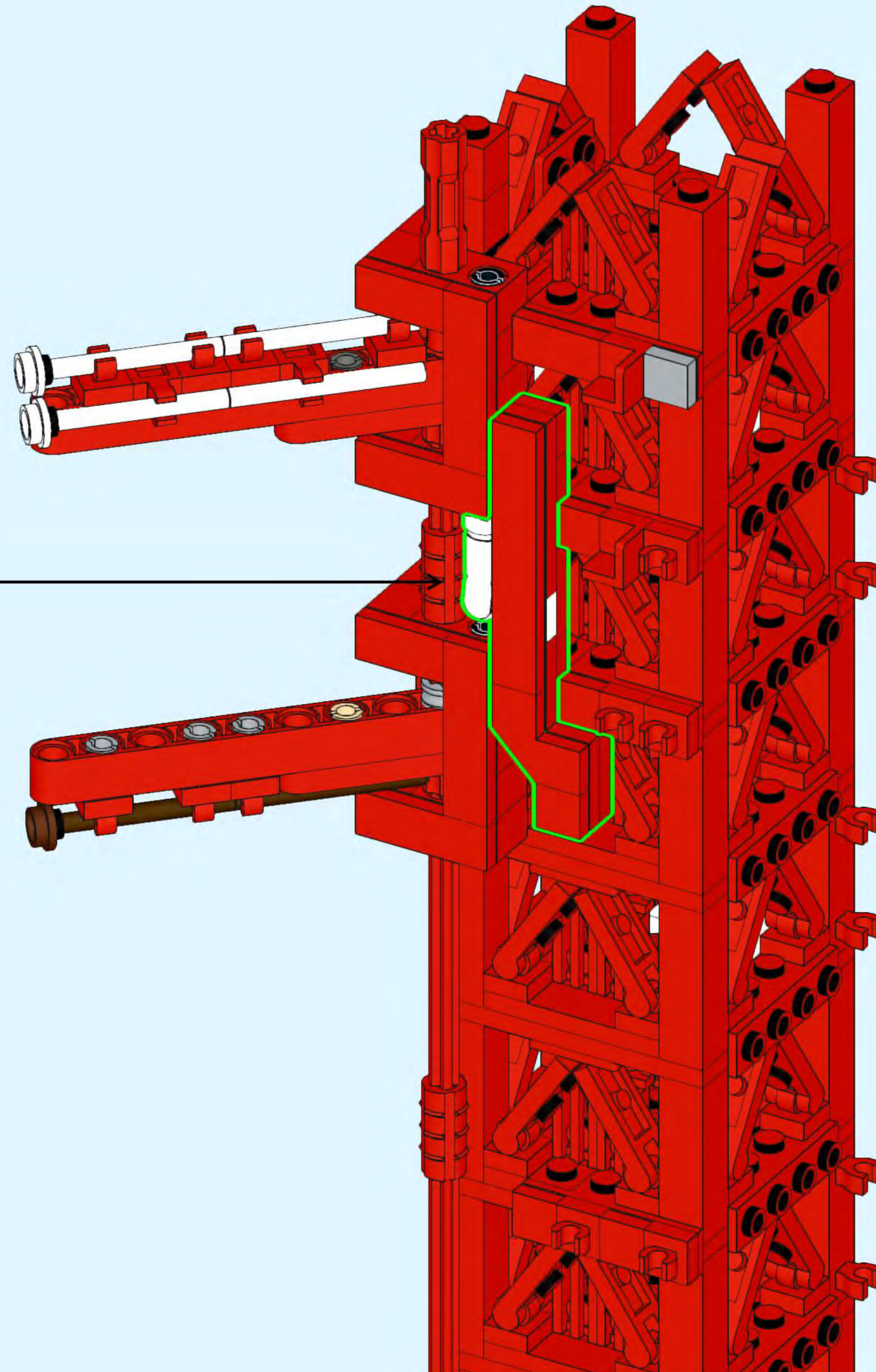
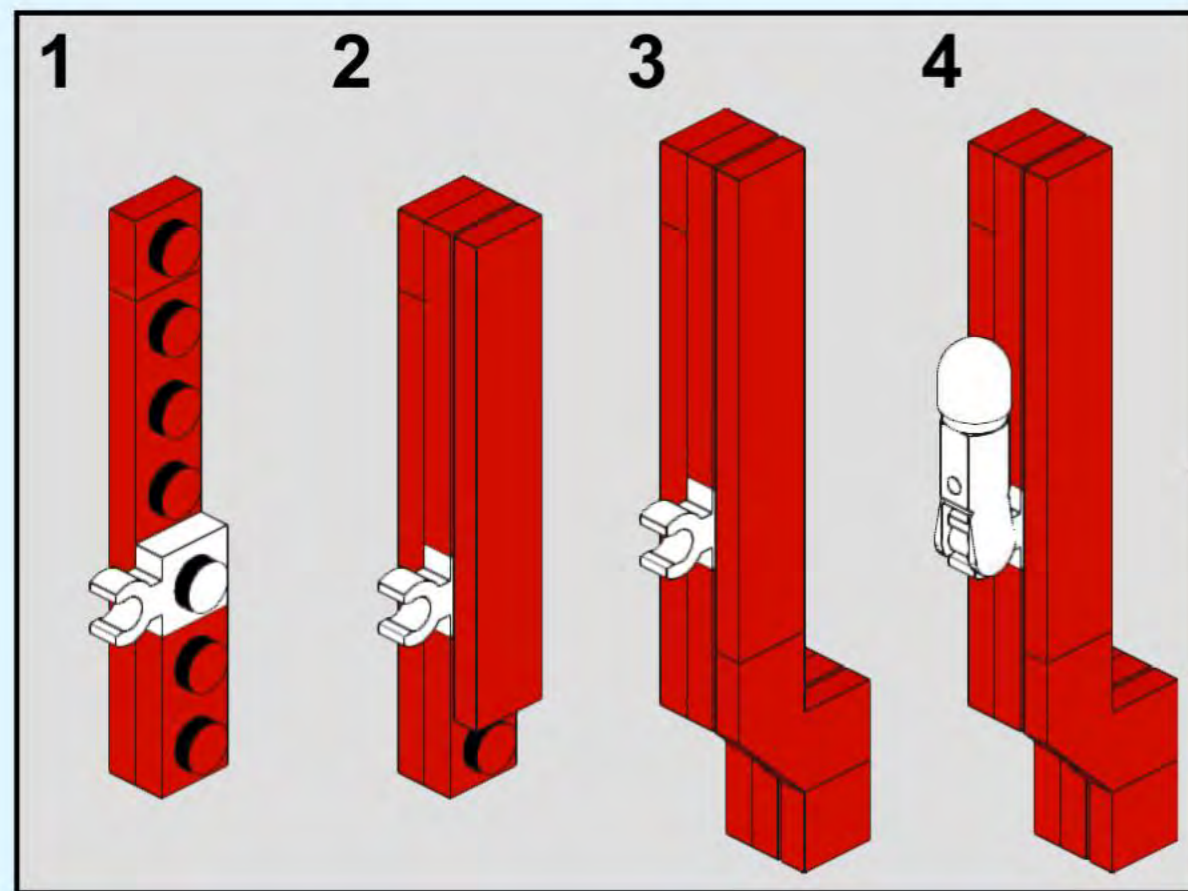
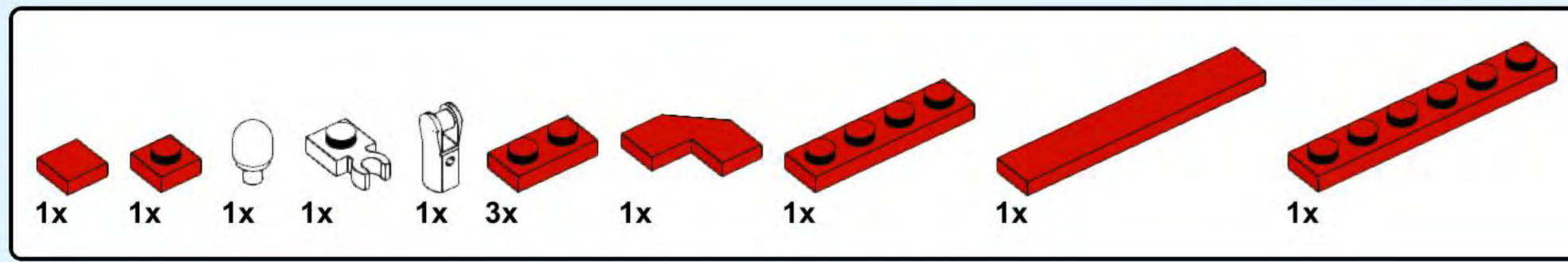


152

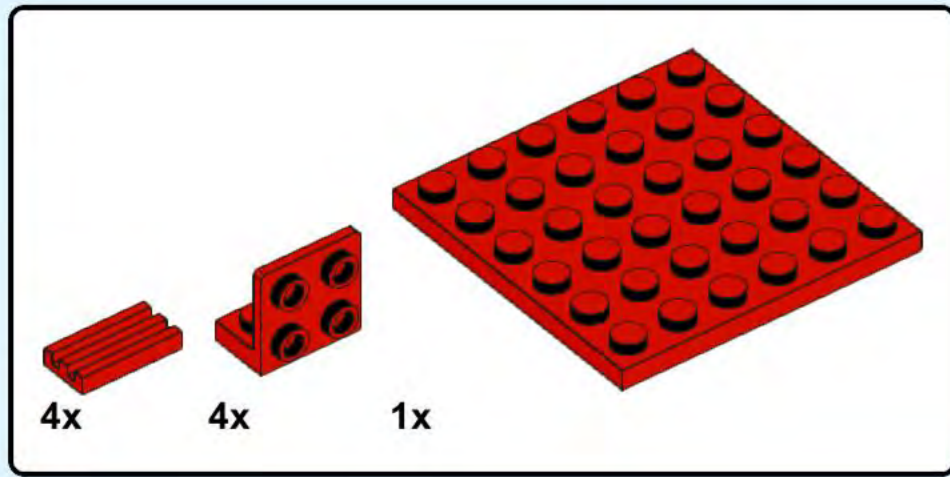


153

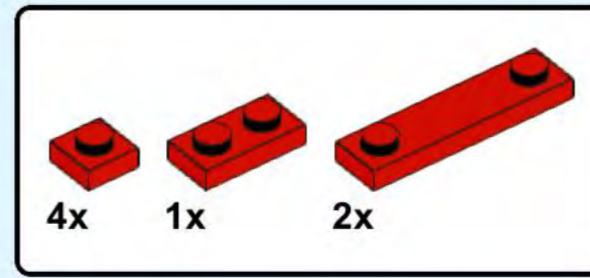




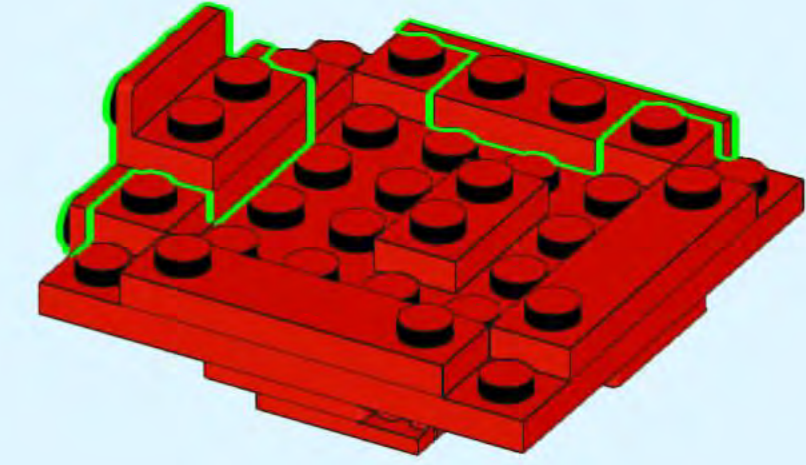
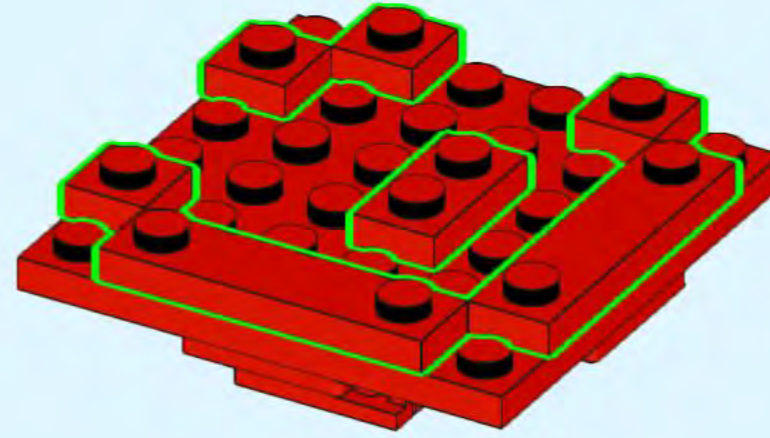
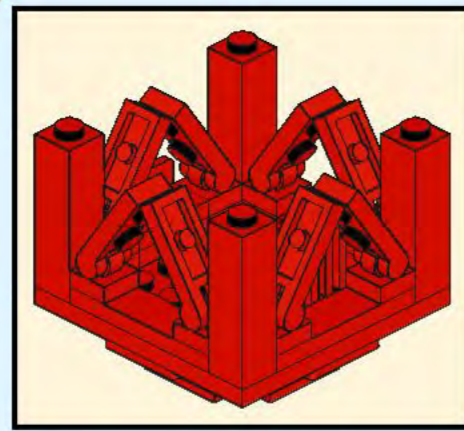
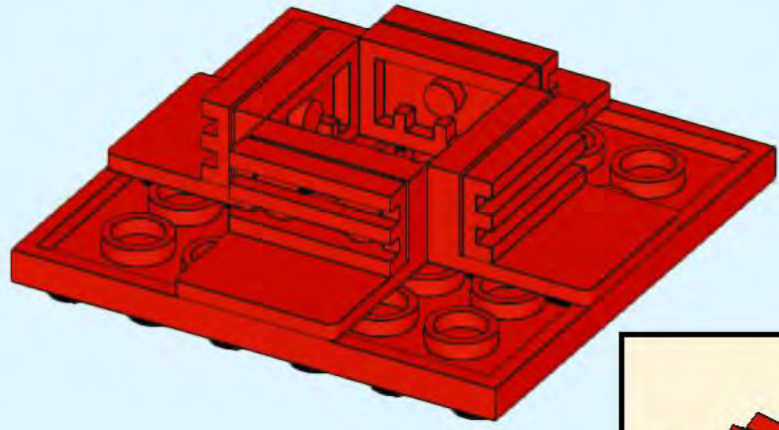
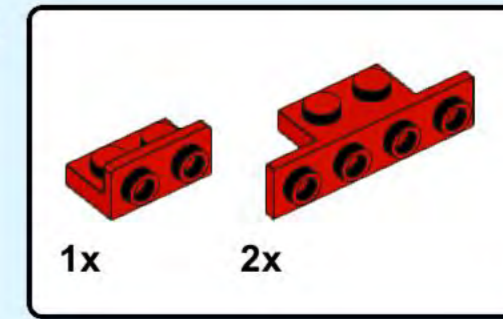
155



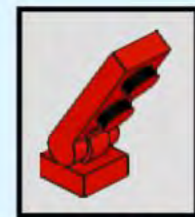
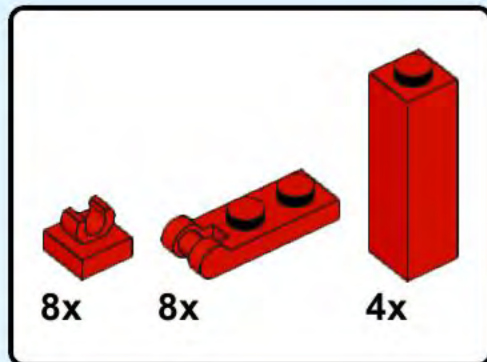
156



157

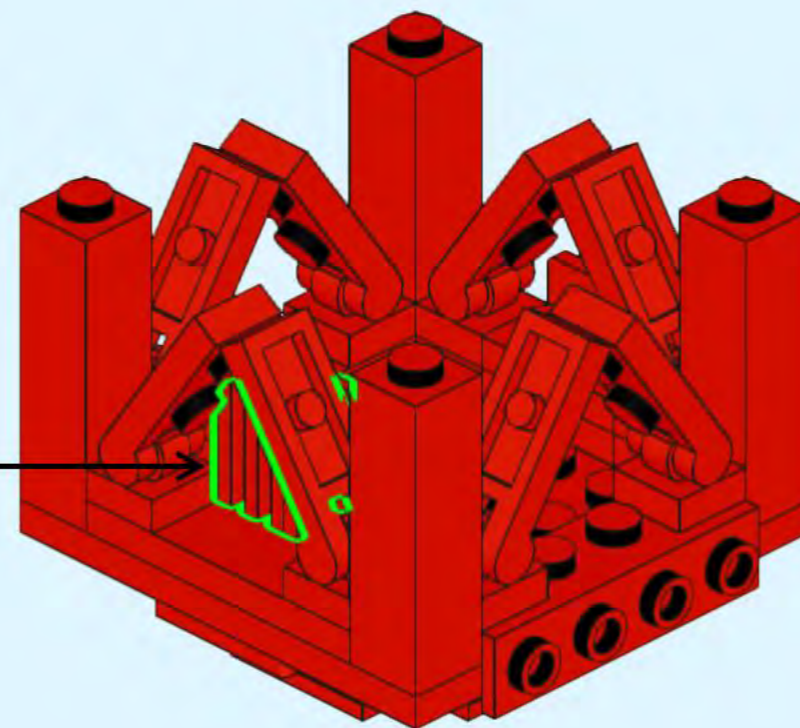
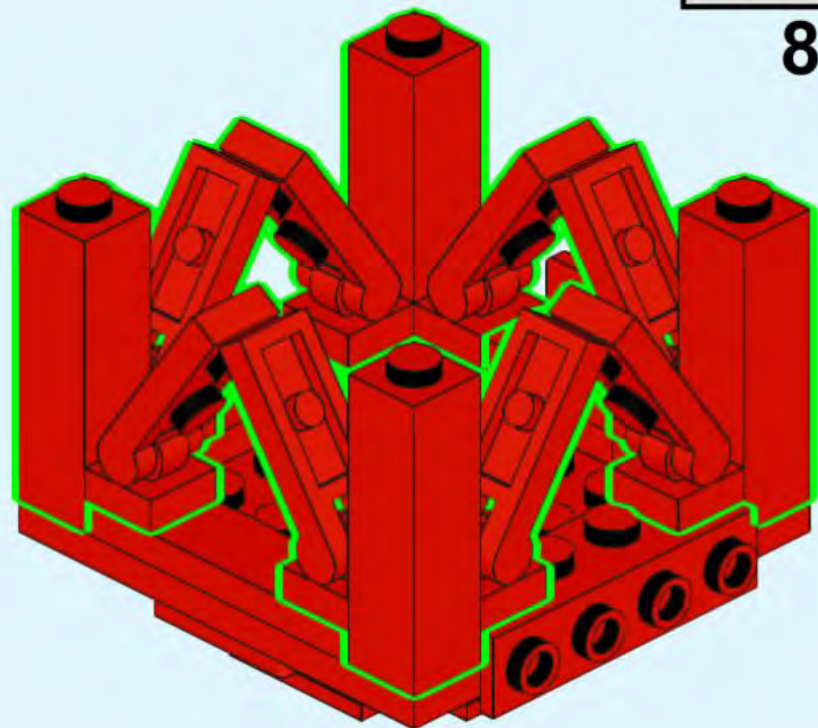
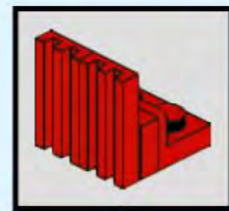
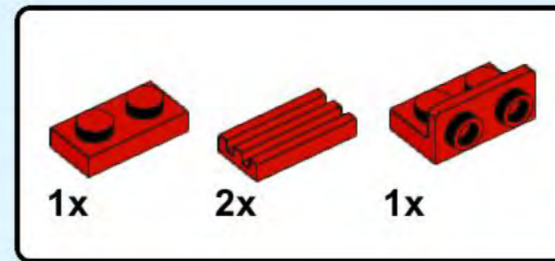


158

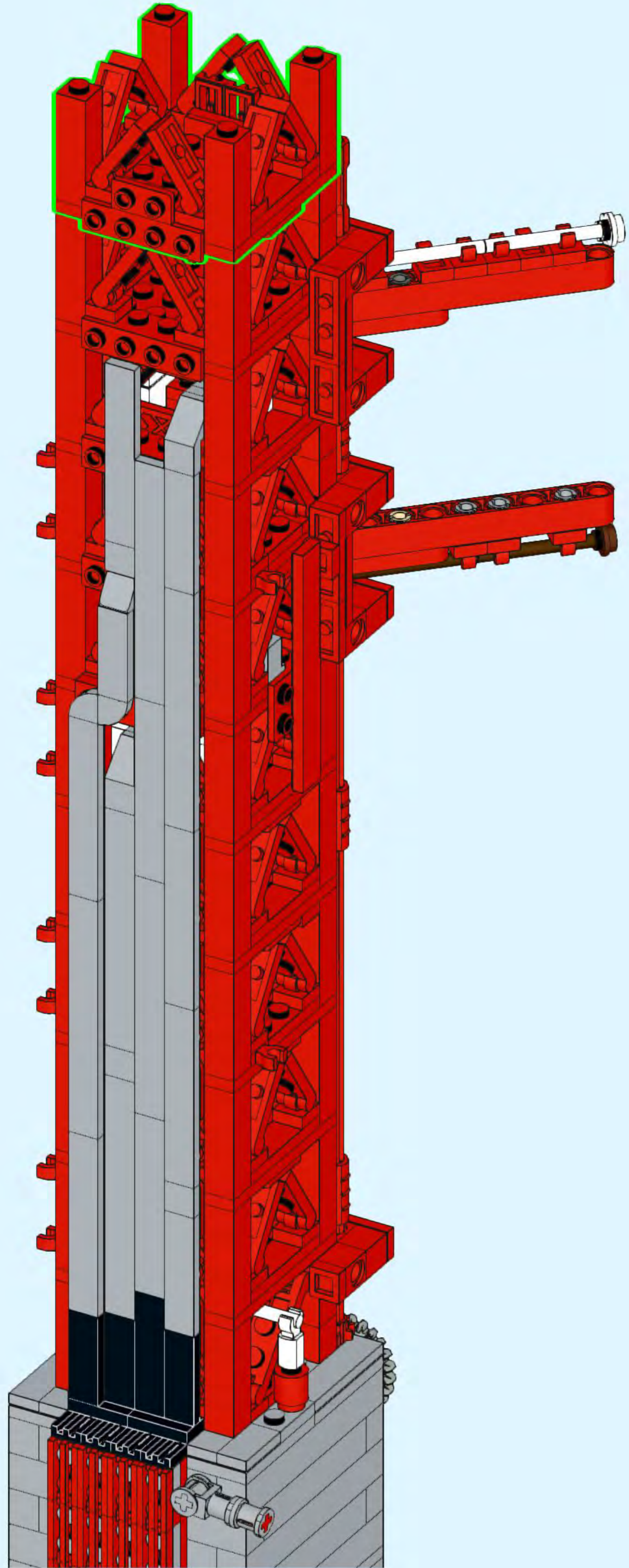


8x

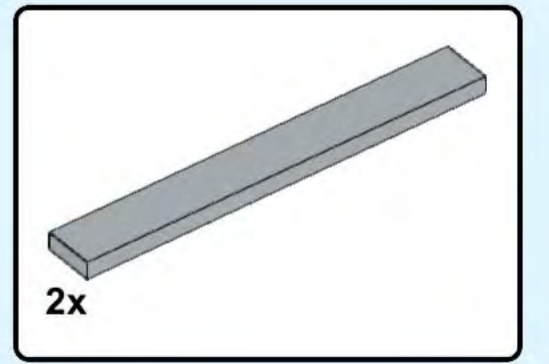
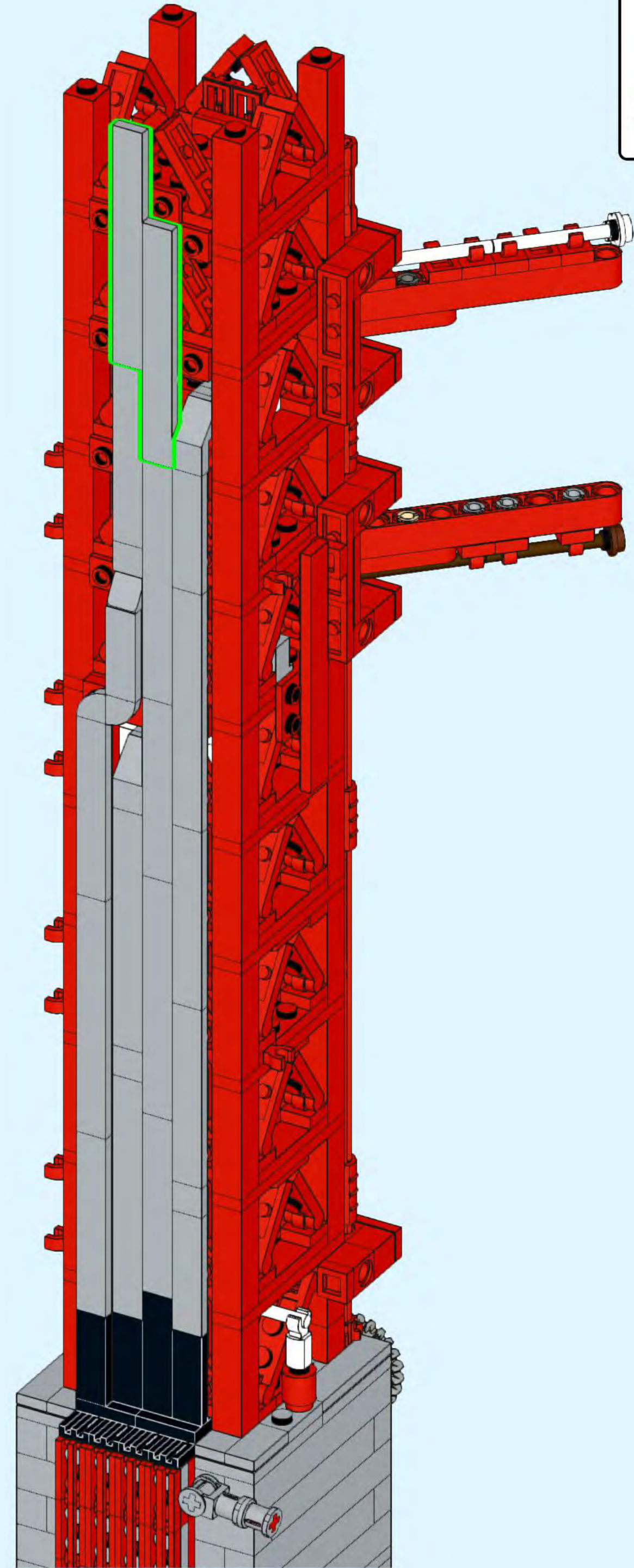
159



160

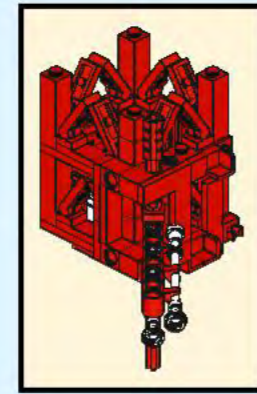
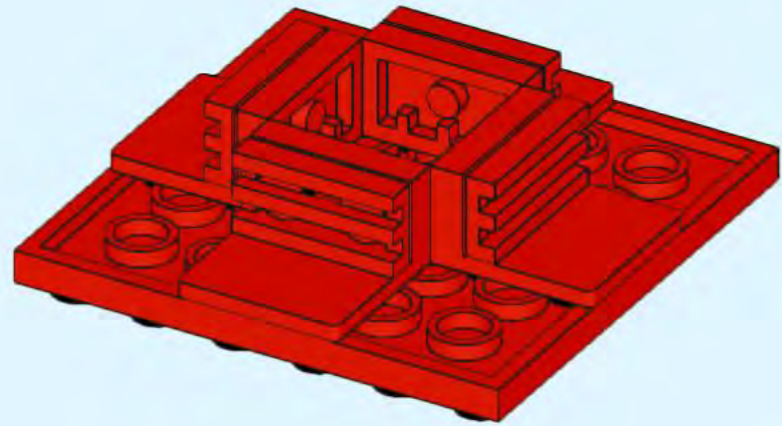
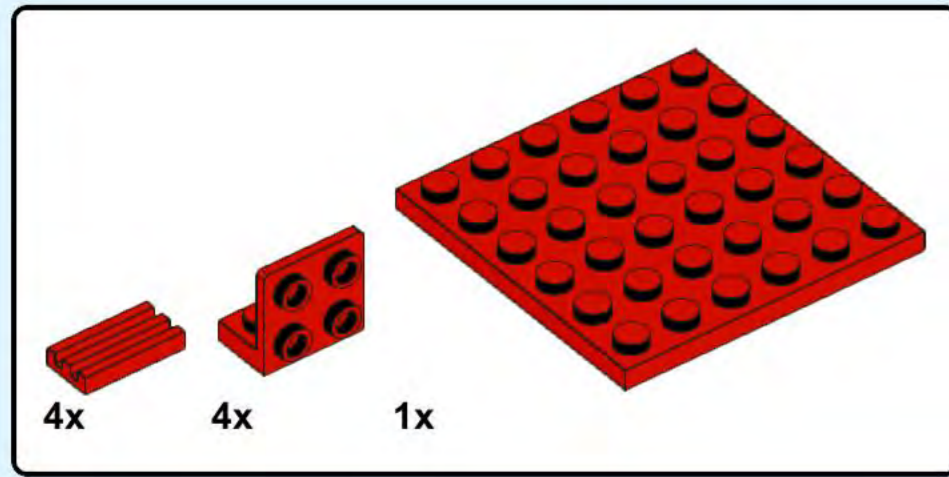


161

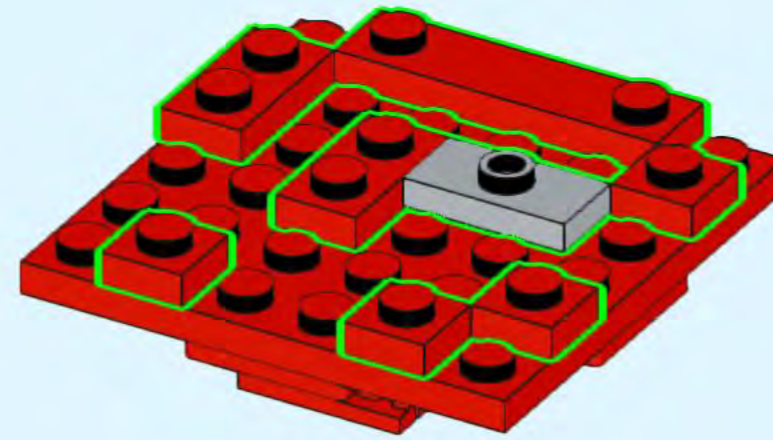
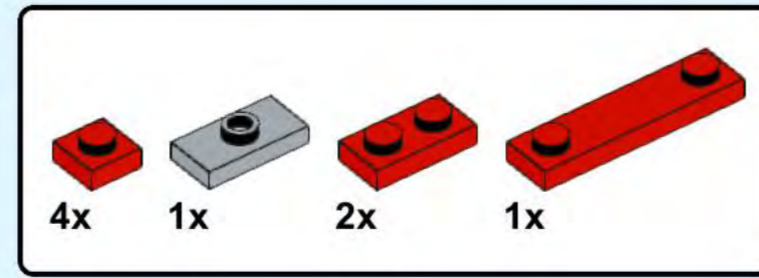




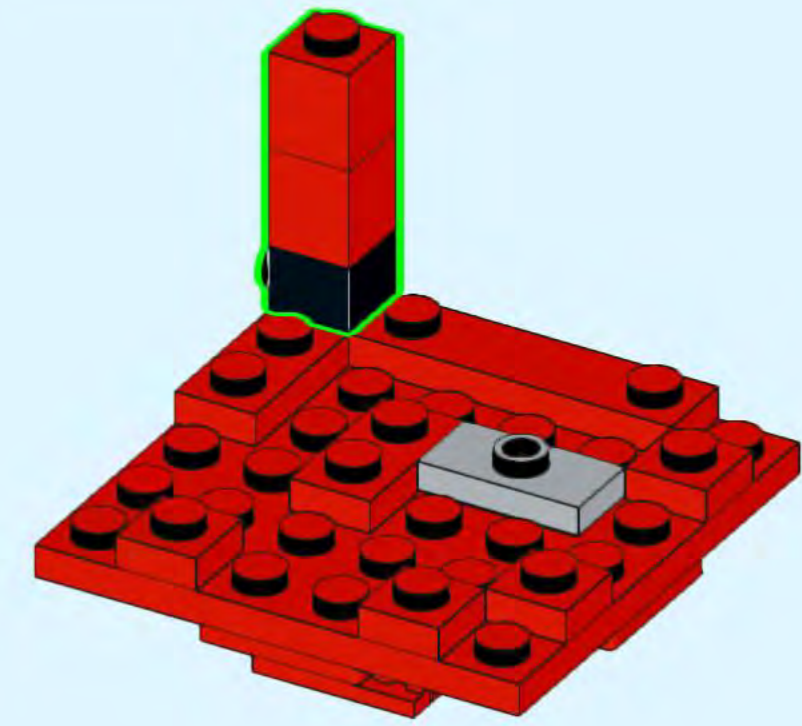
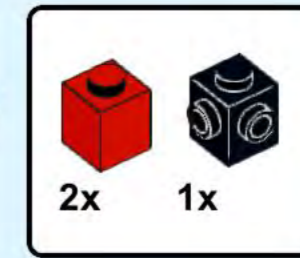
162



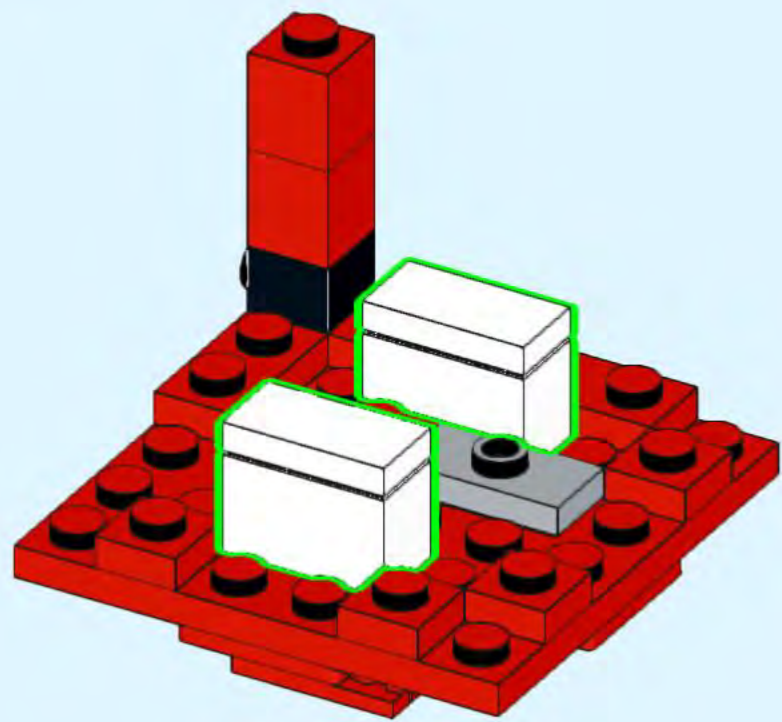
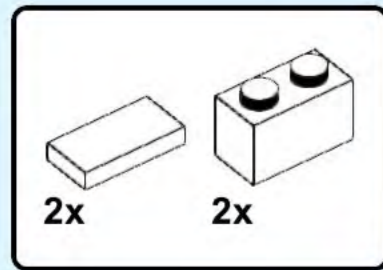
163



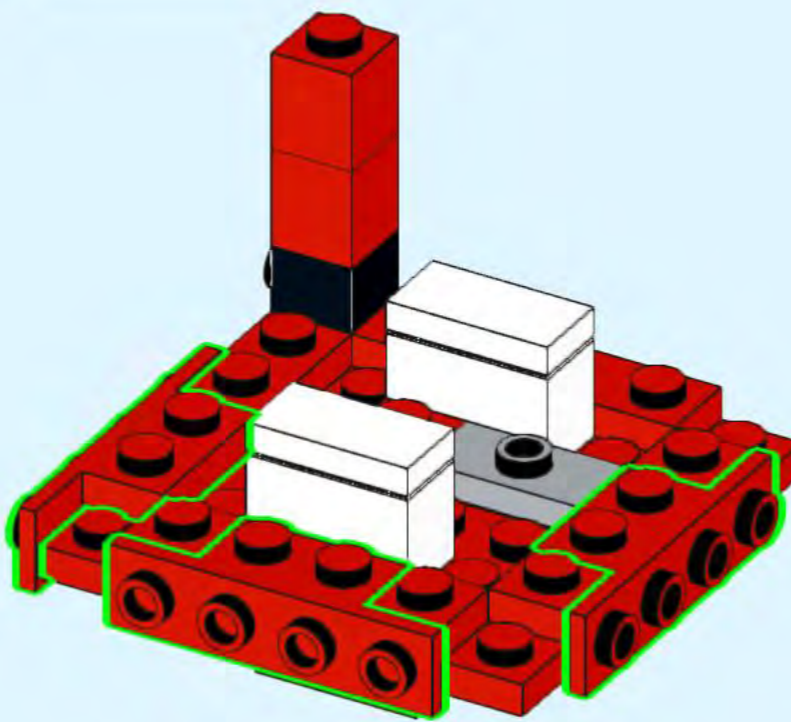
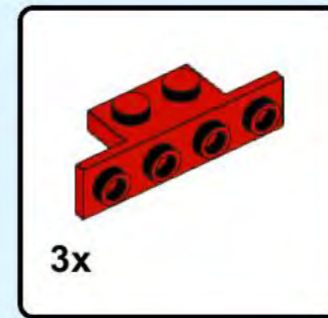
164



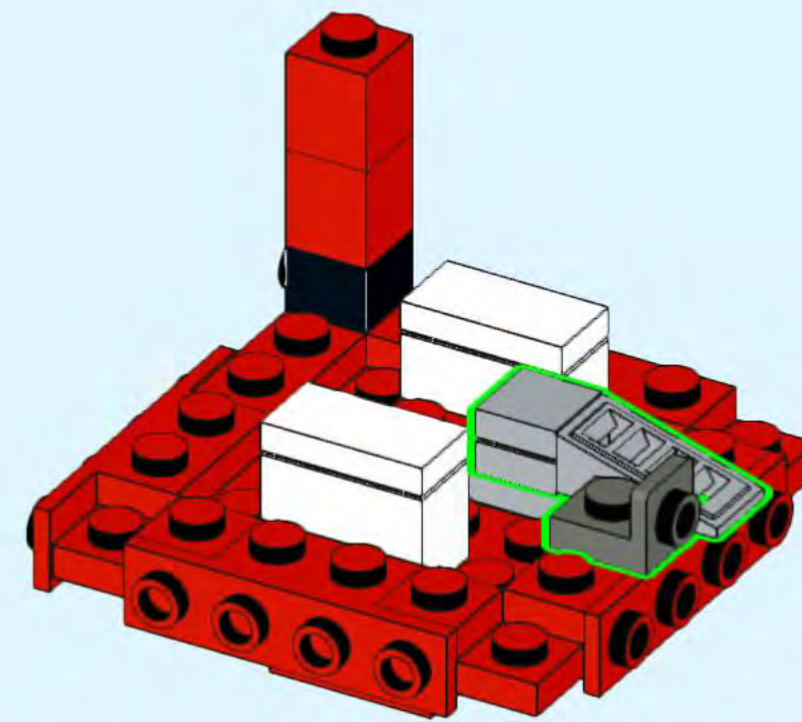
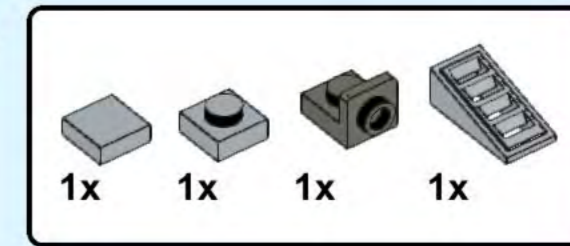
165



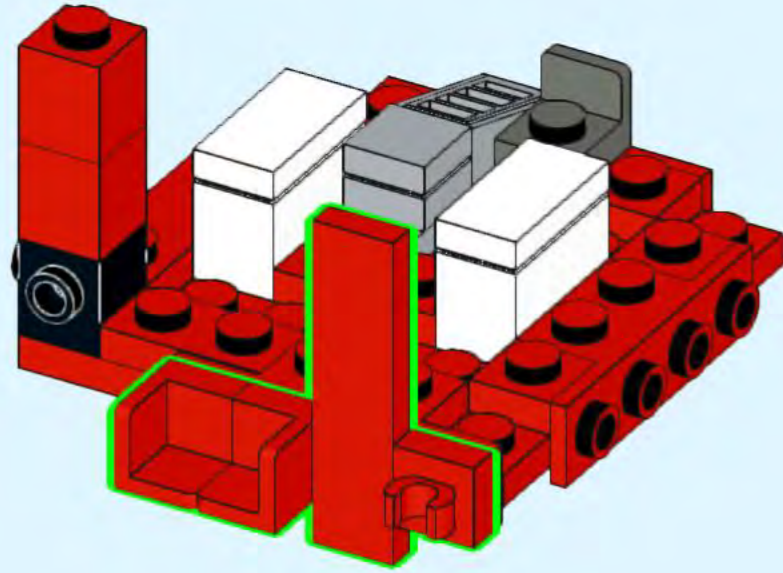
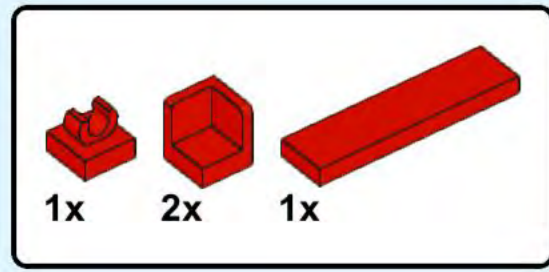
166



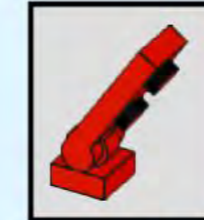
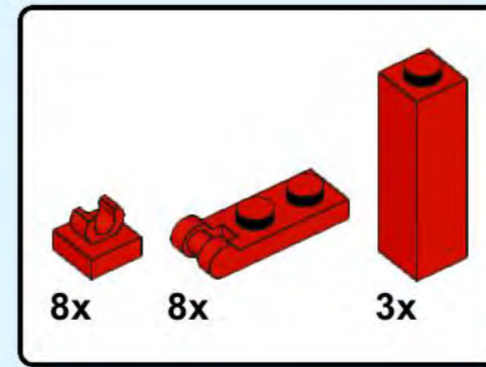
167



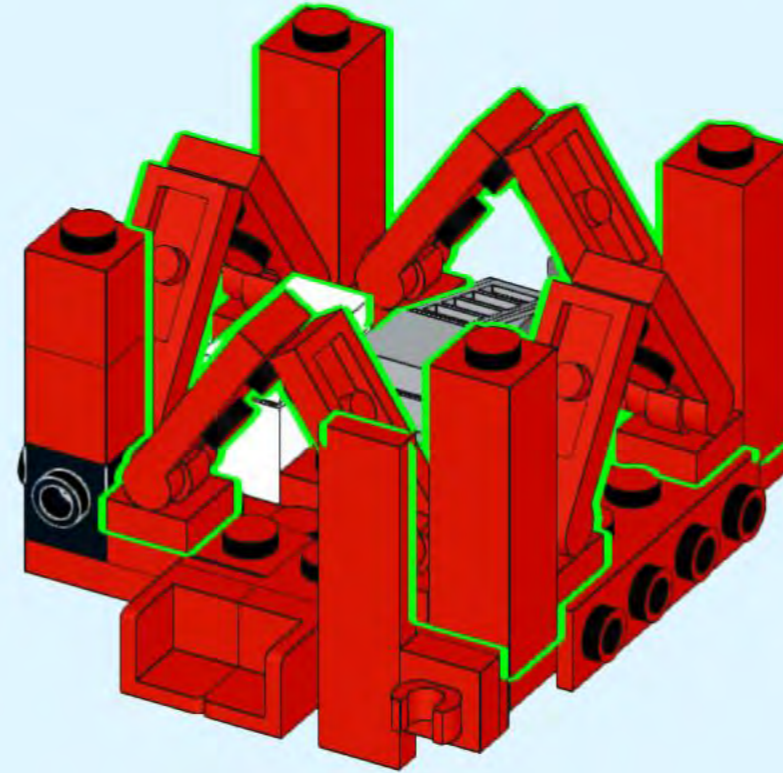
168



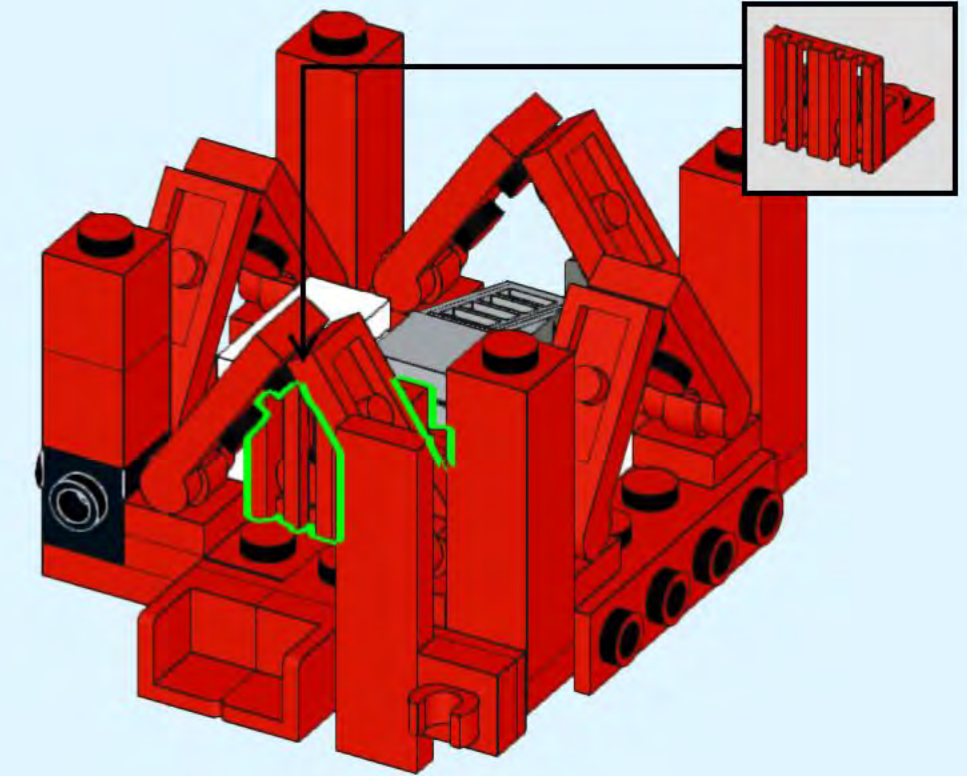
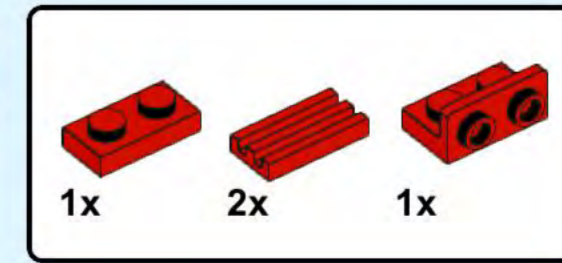
169



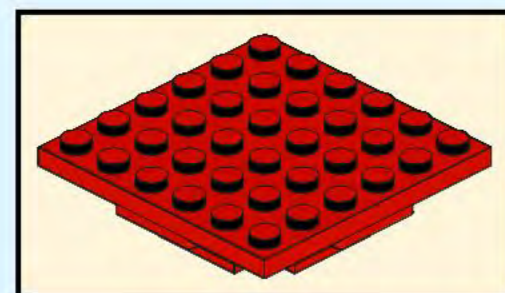
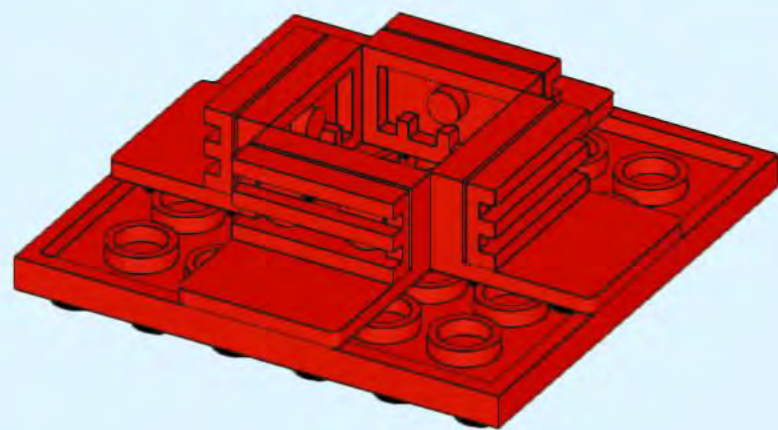
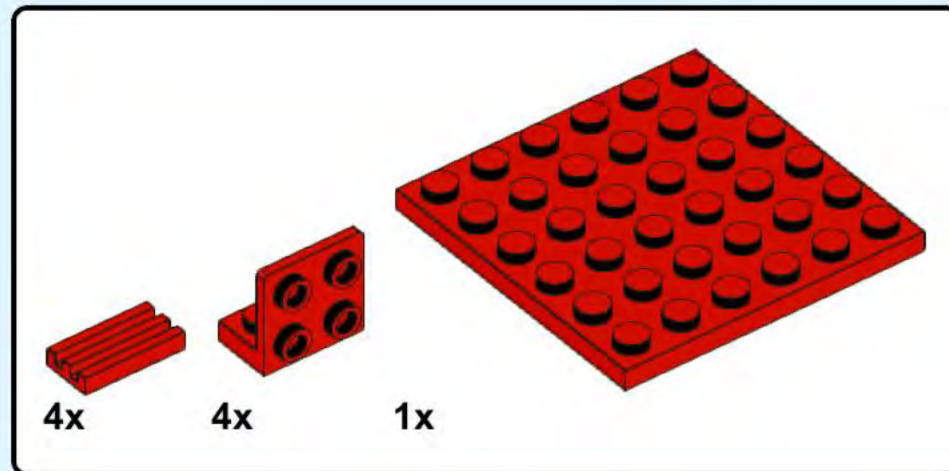
8x



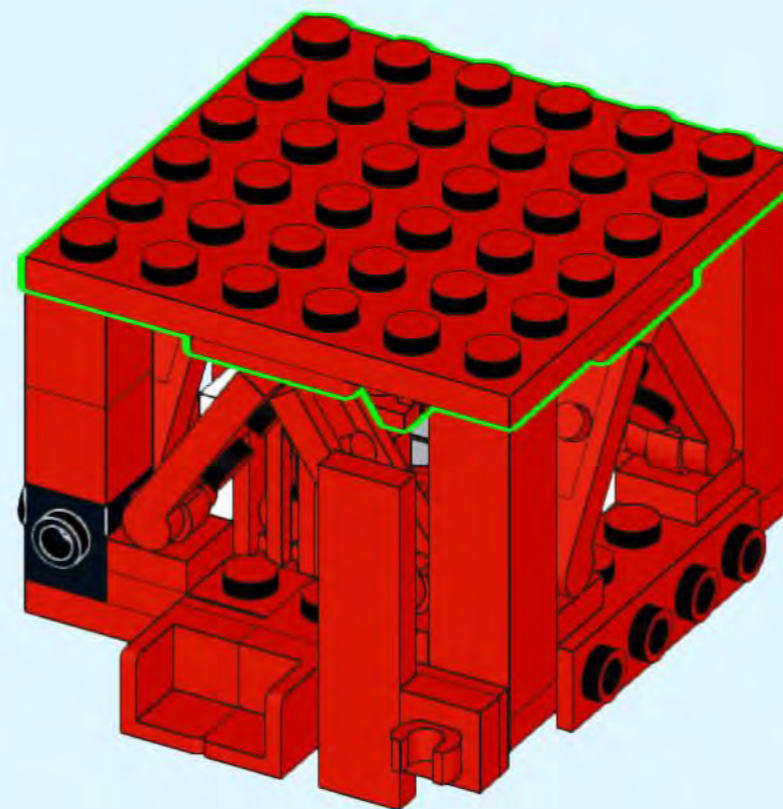
170



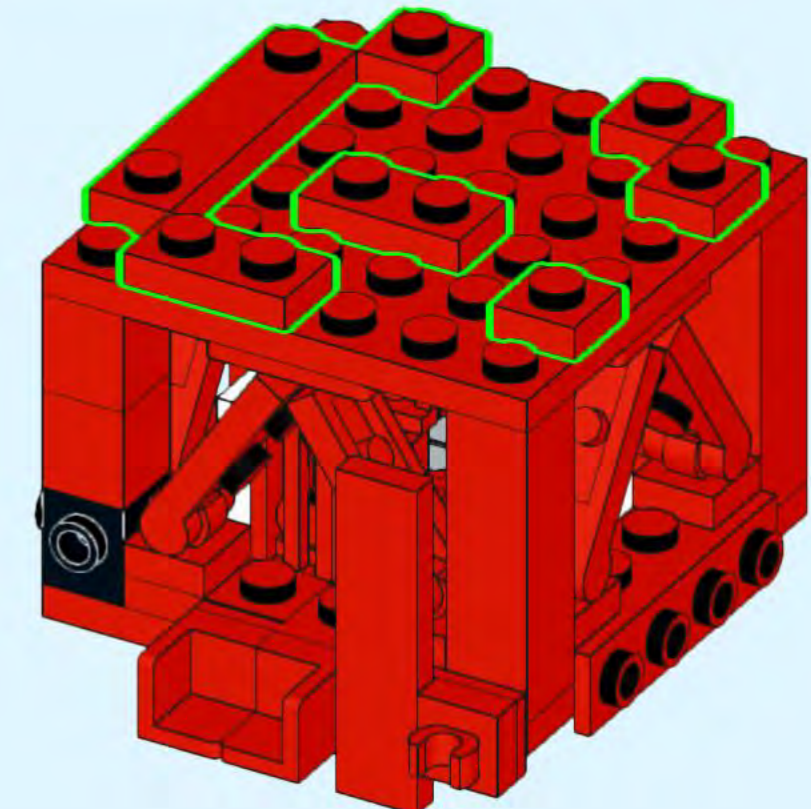
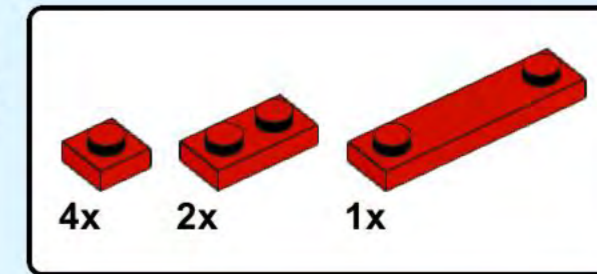
171



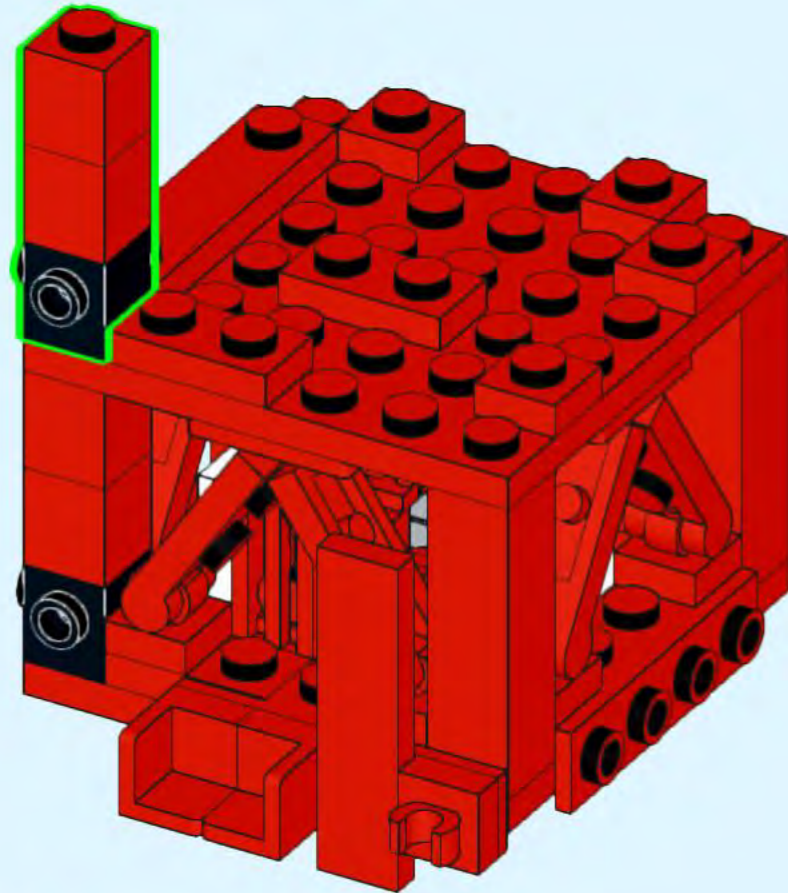
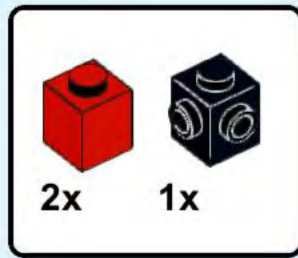
172



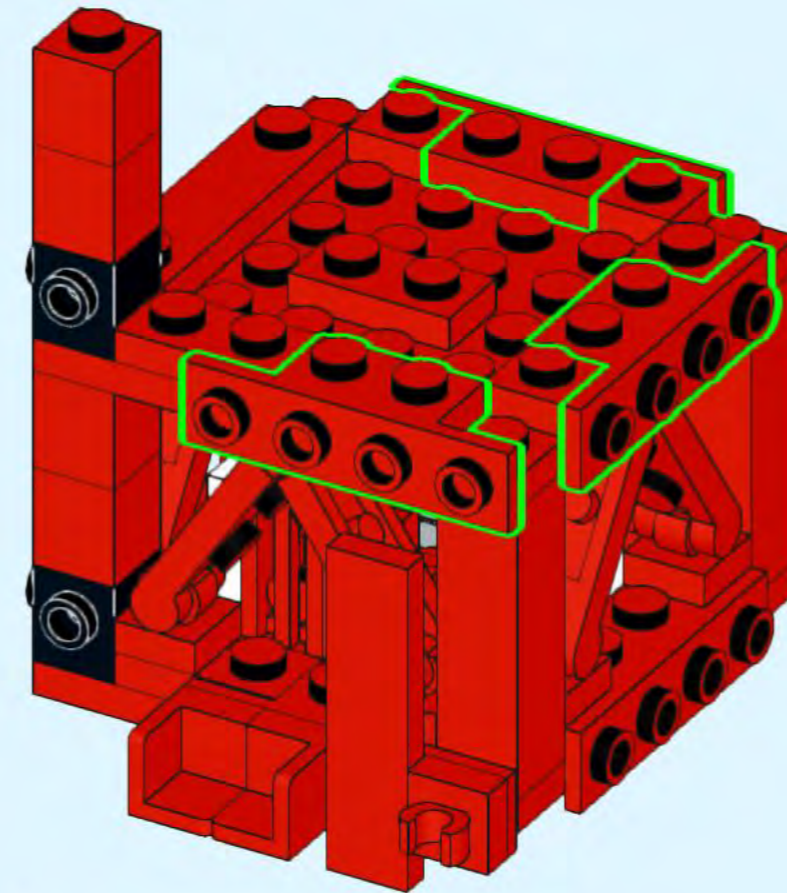
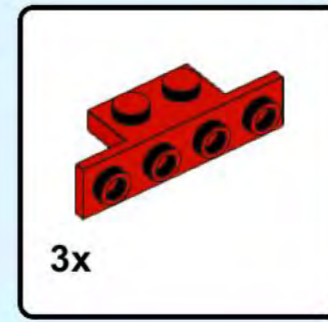
173



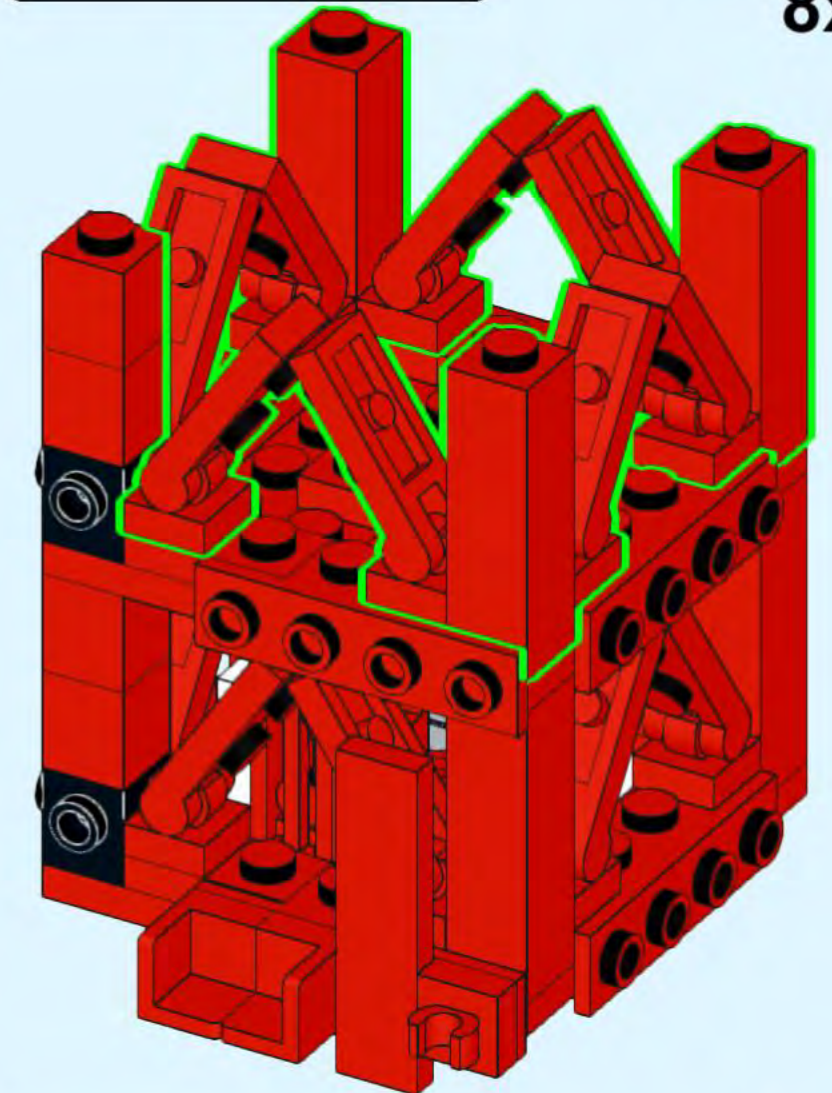
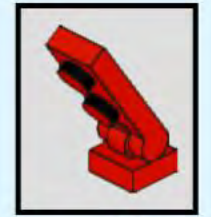
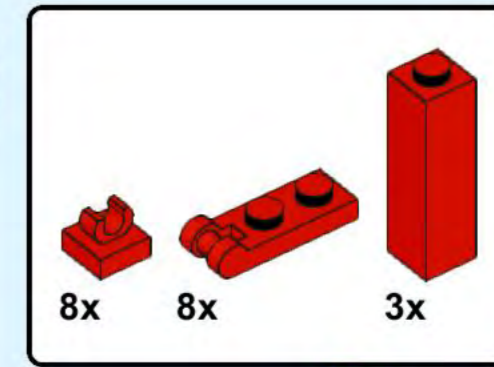
174



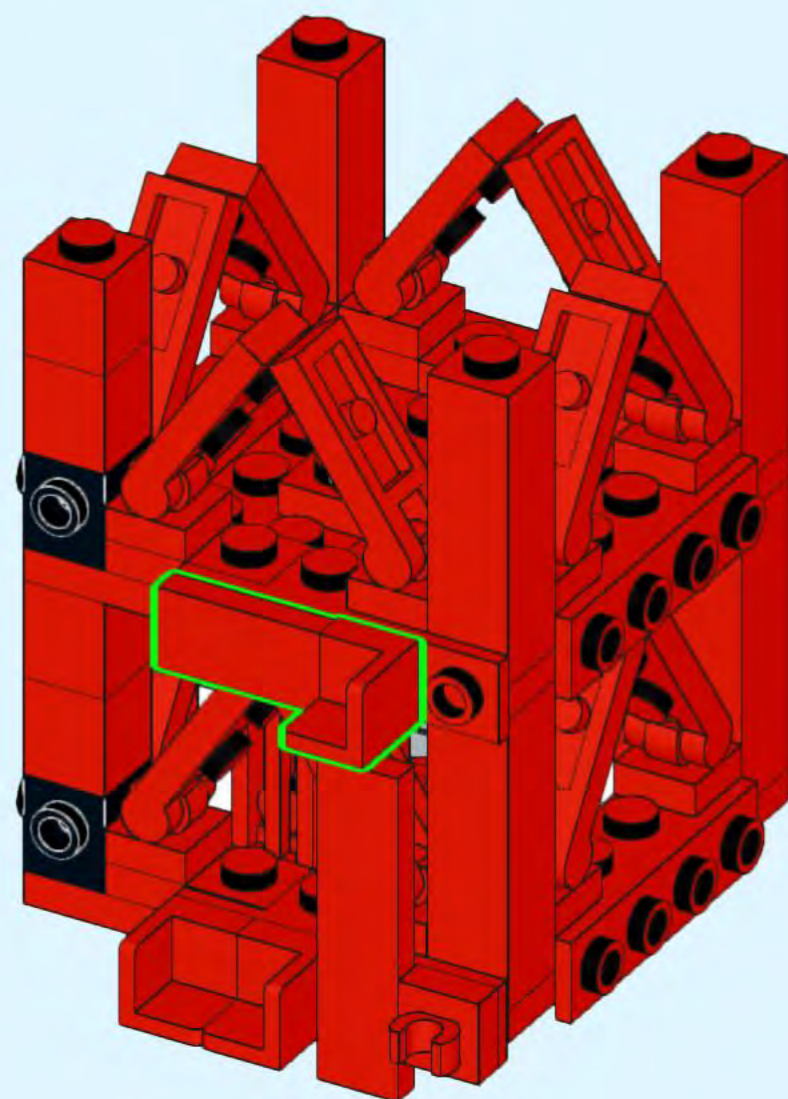
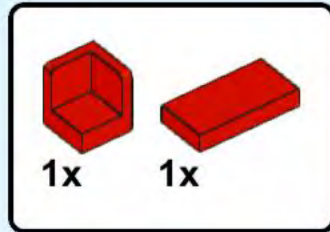
175



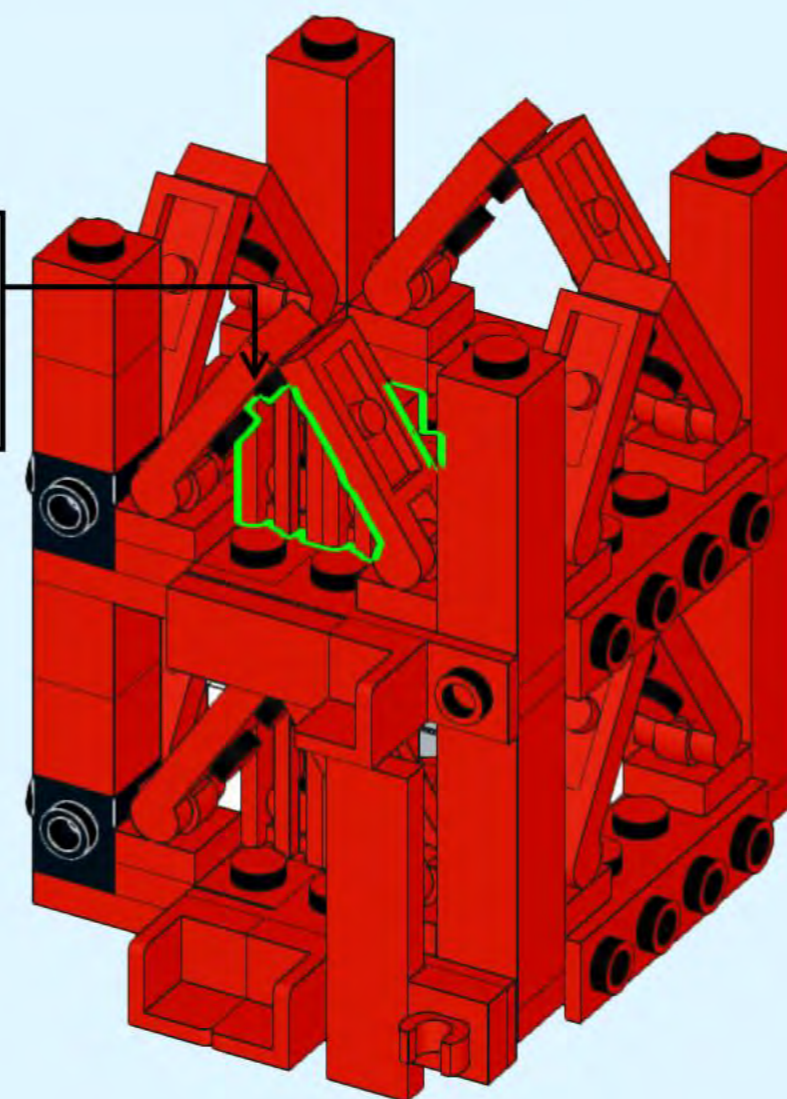
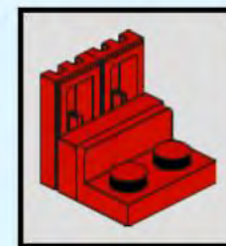
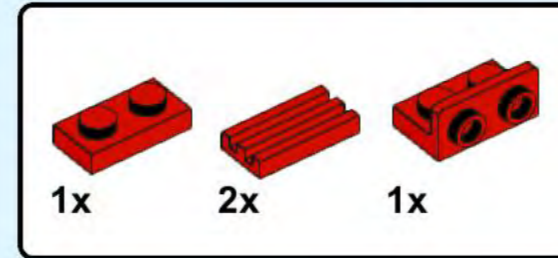
176



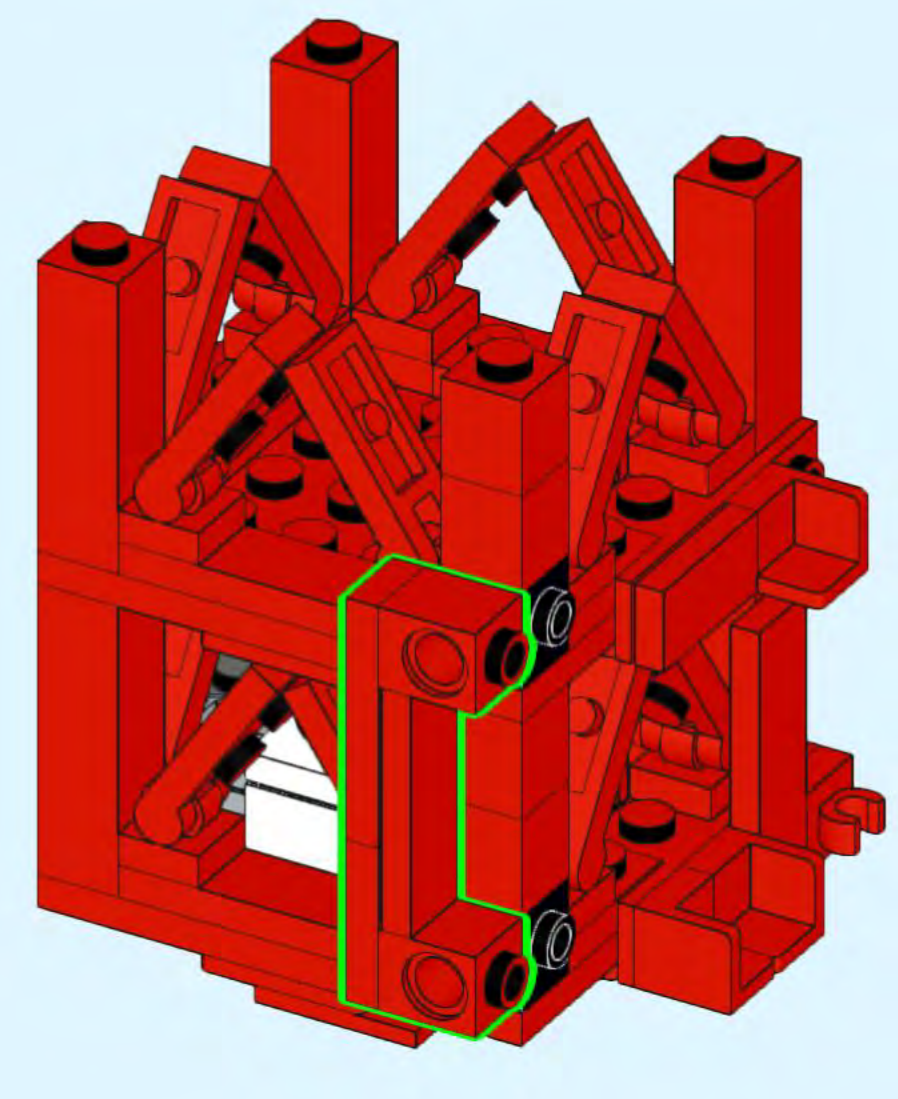
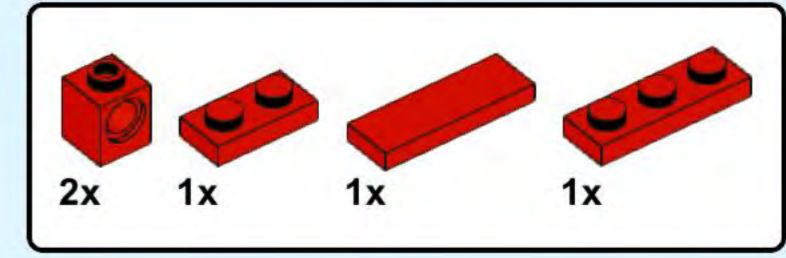
177



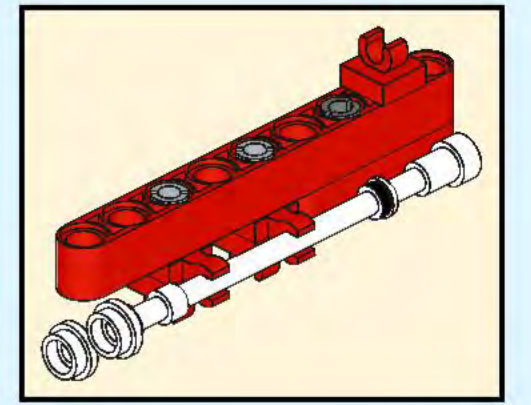
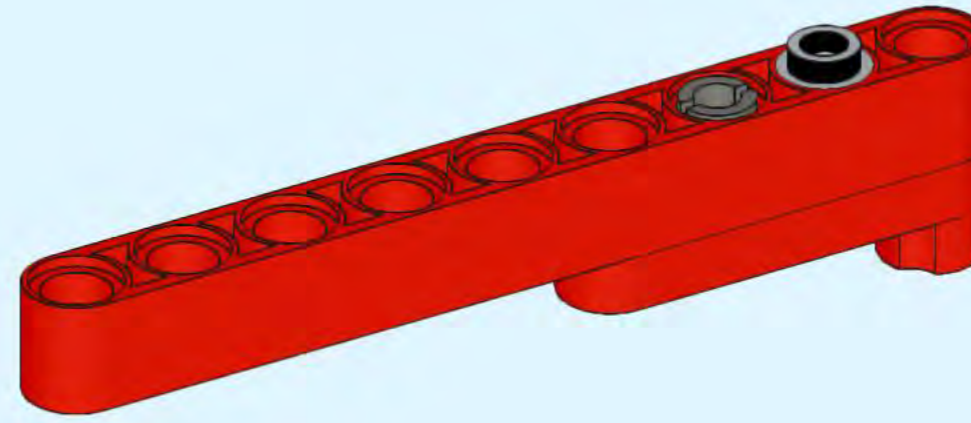
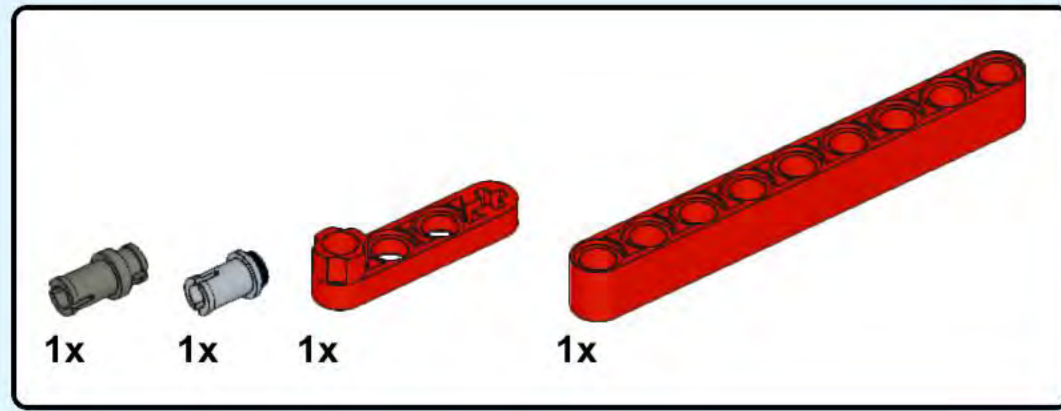
178



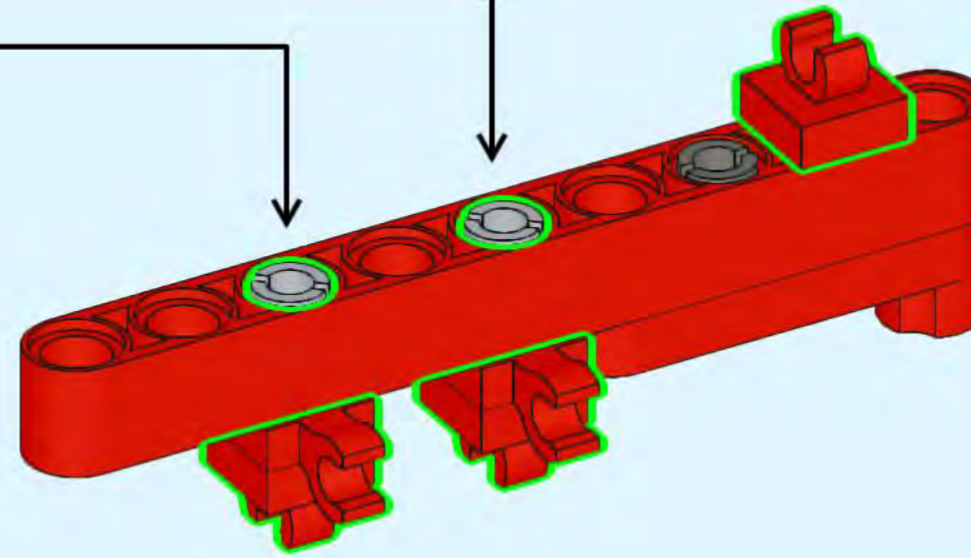
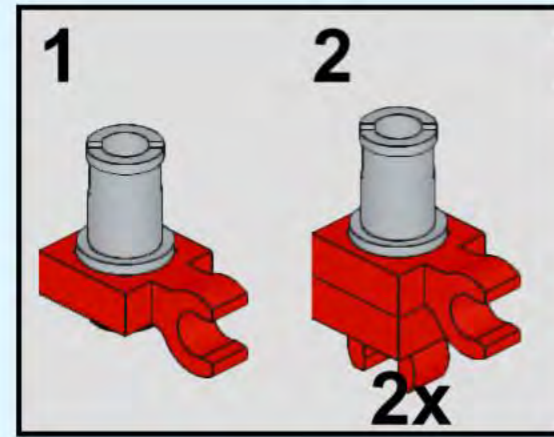
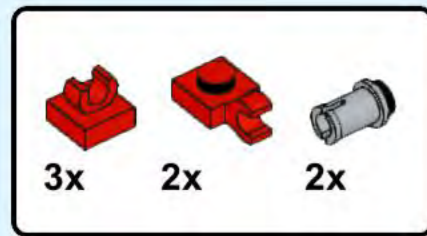
179



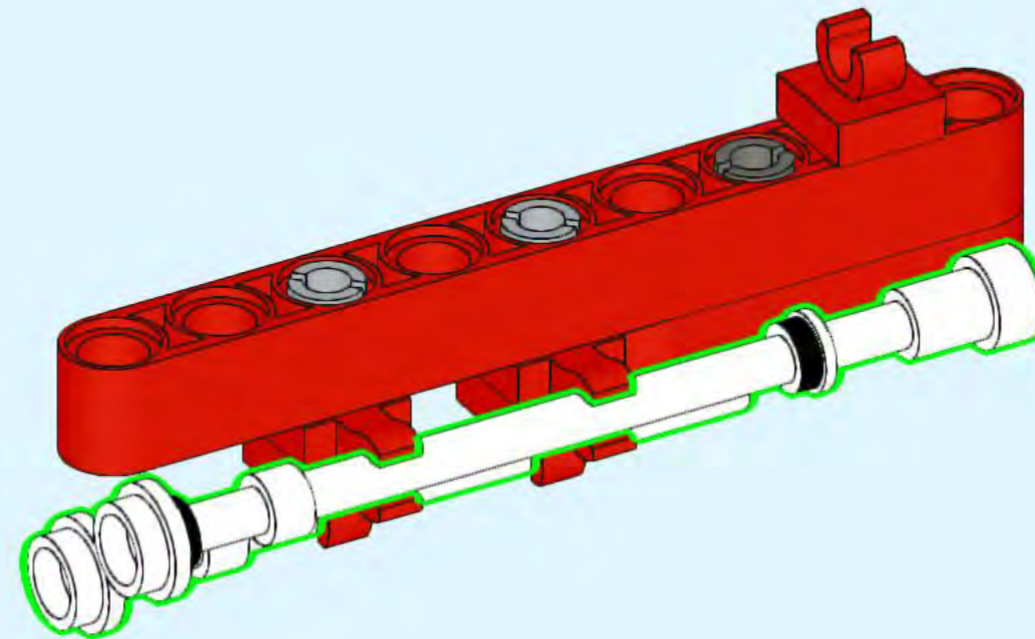
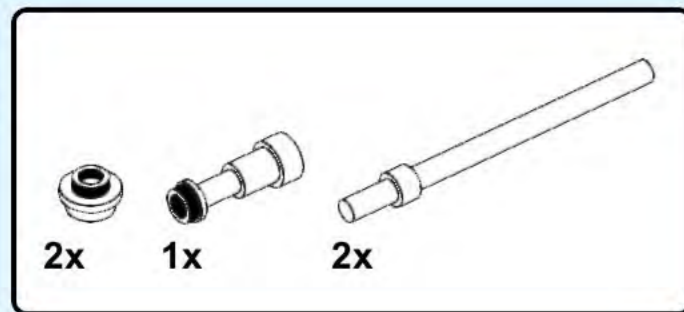
180



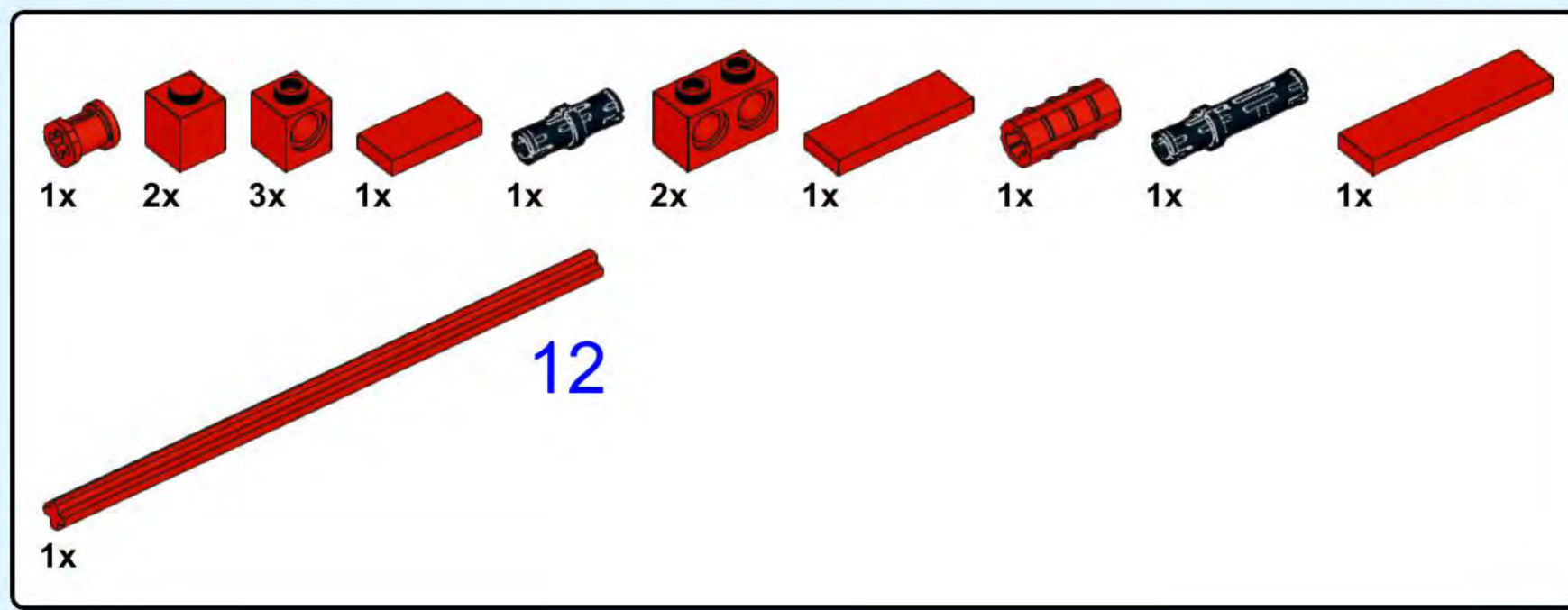
181



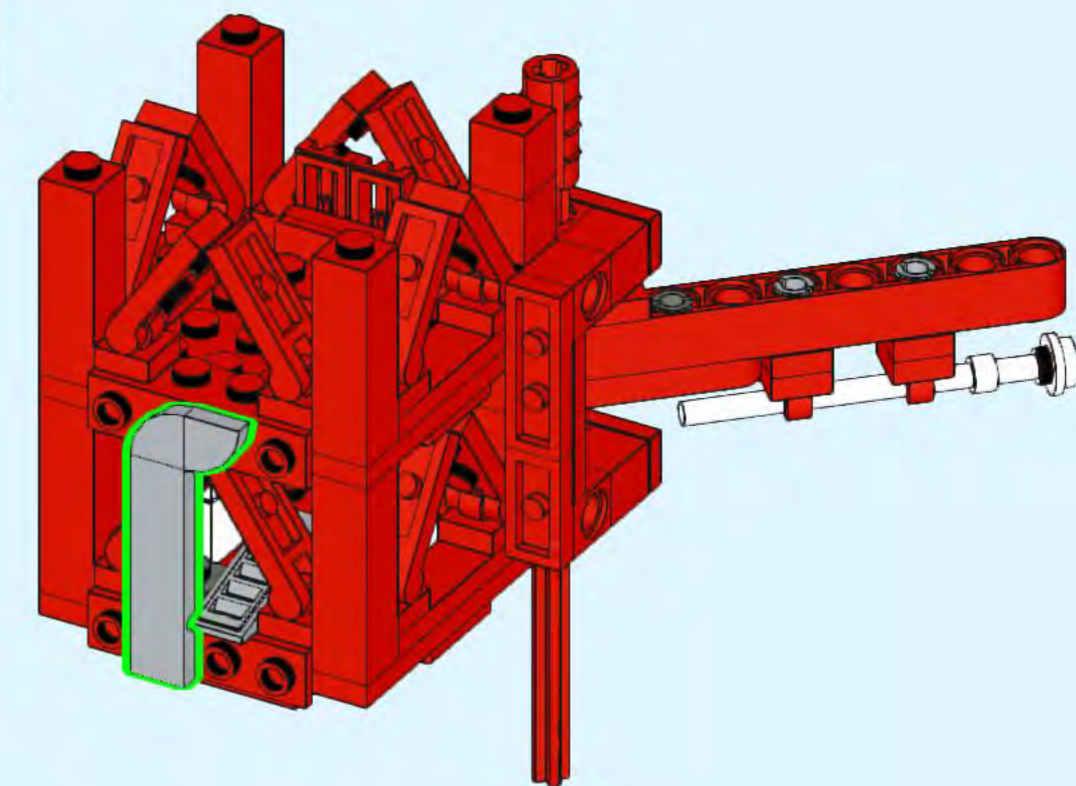
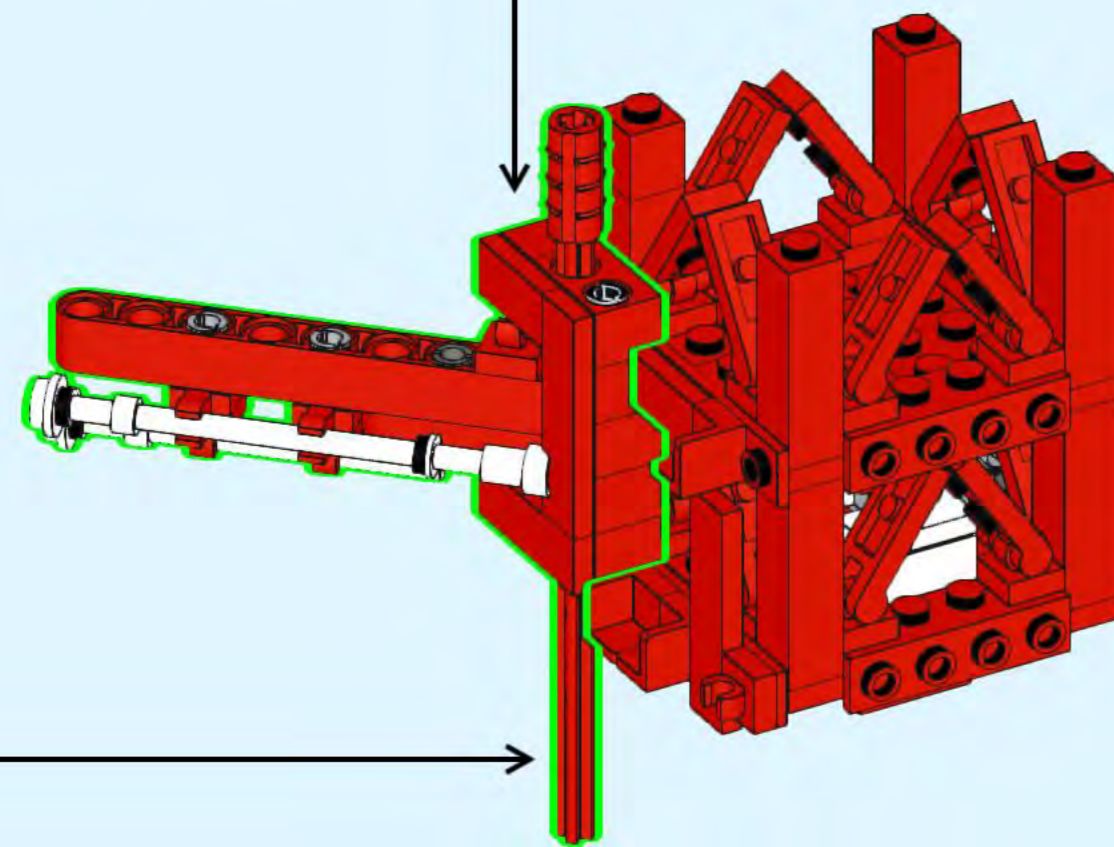
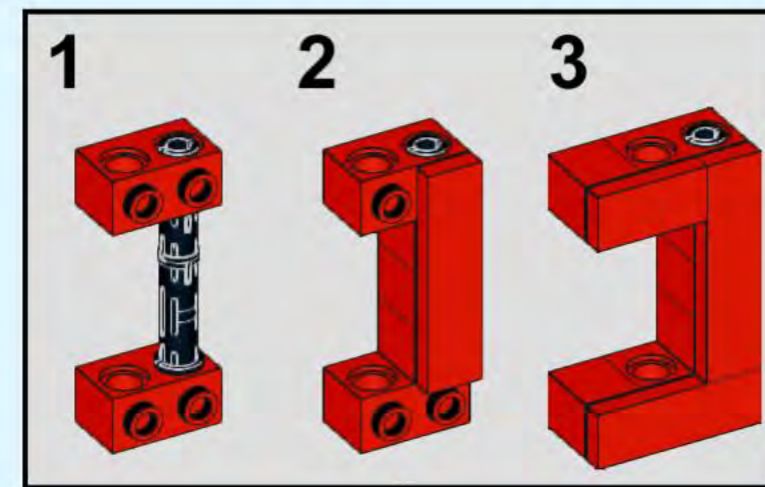
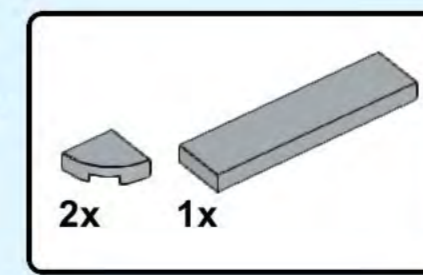
182



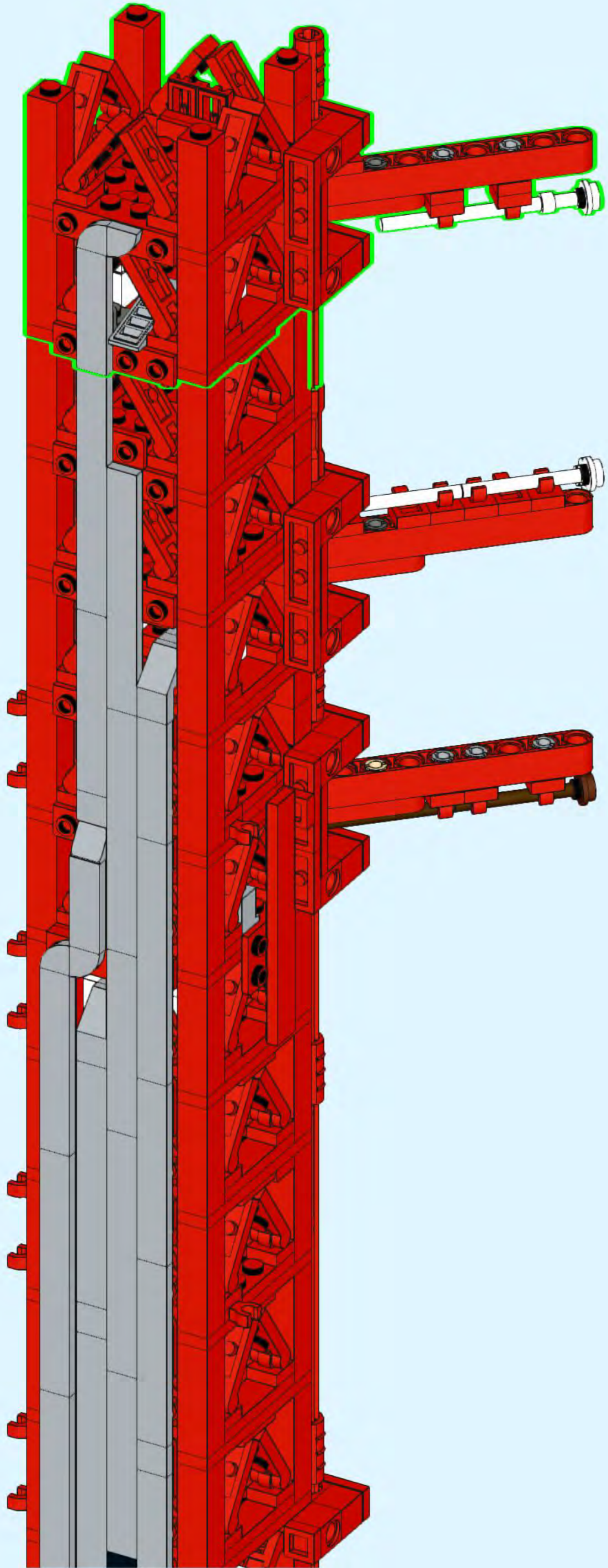
# 183



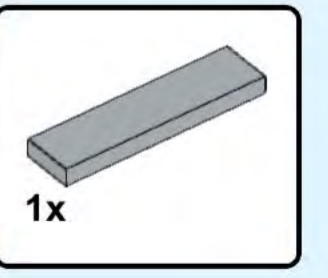
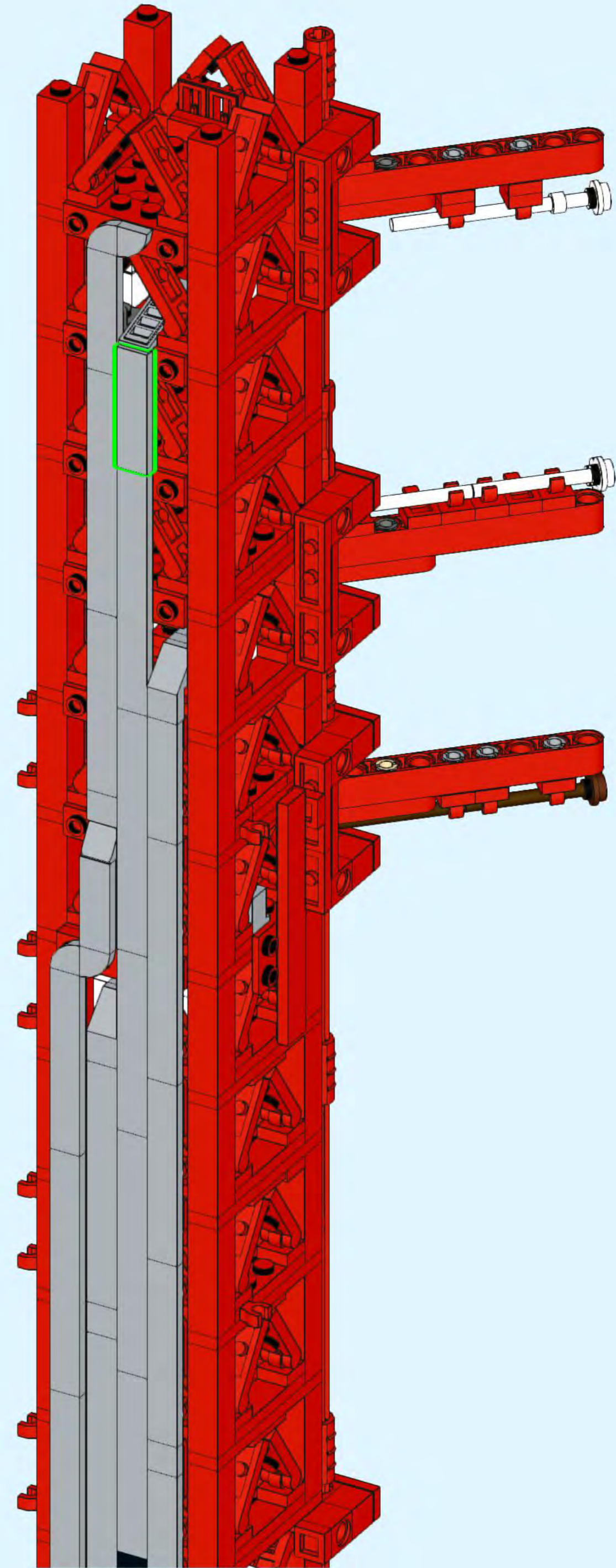
# 184



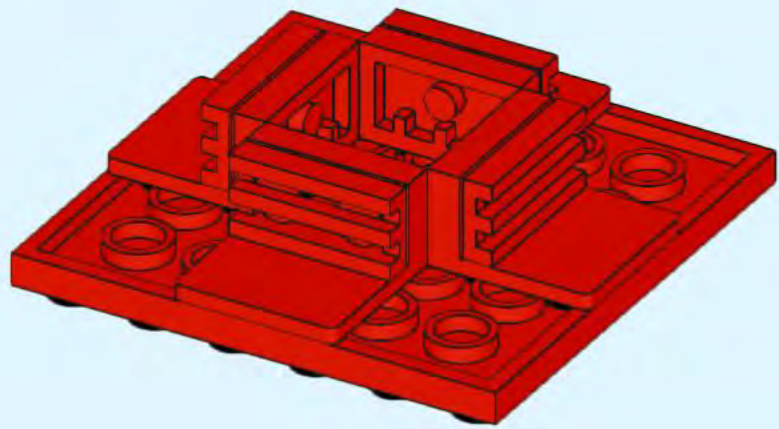
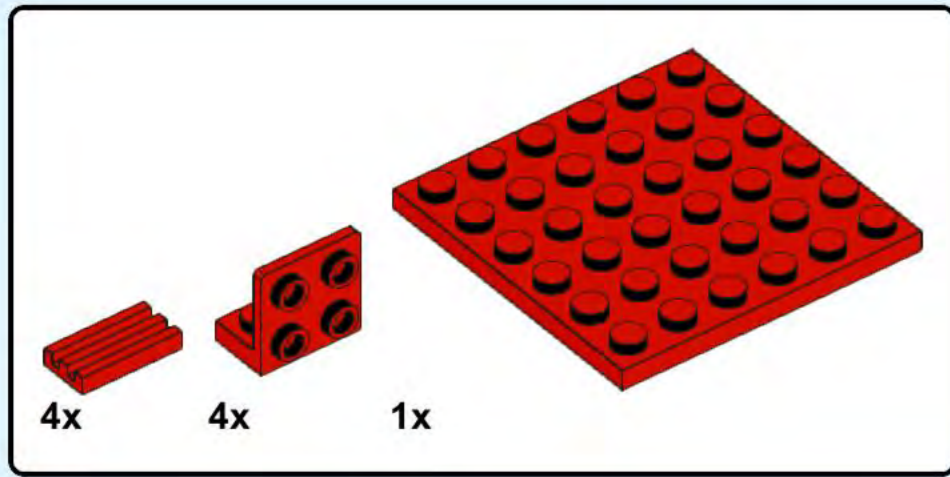
185



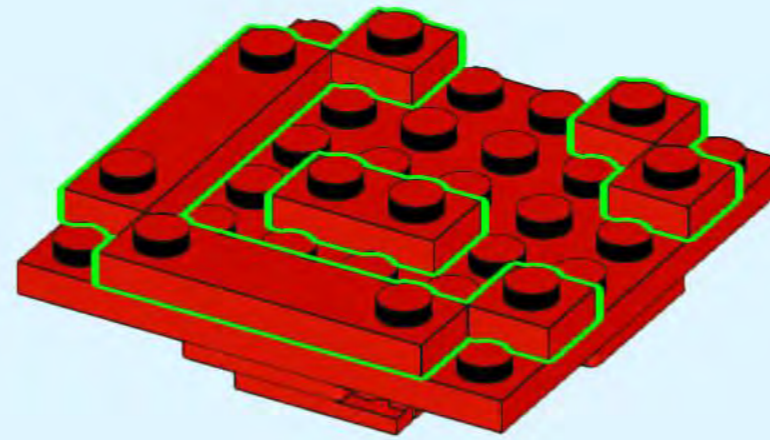
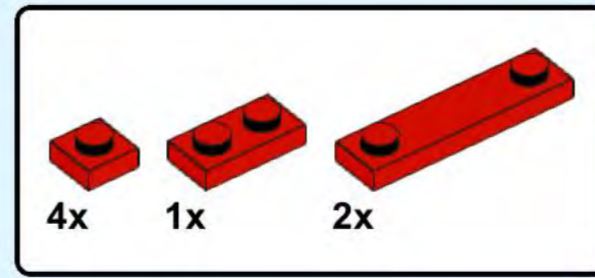
186



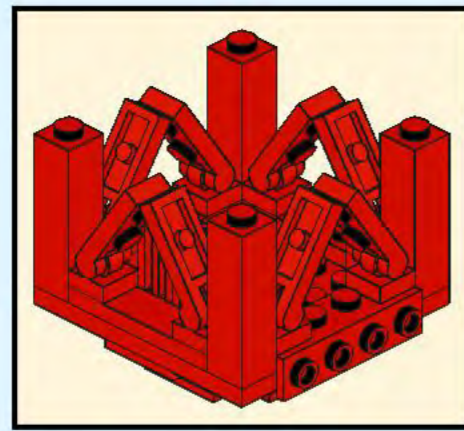
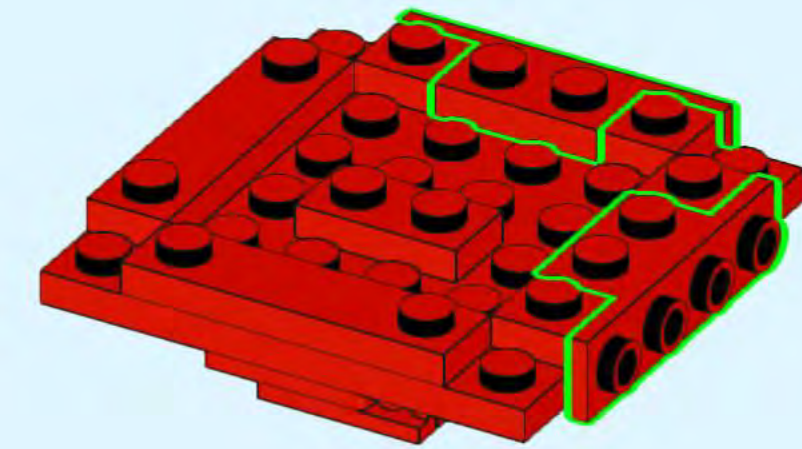
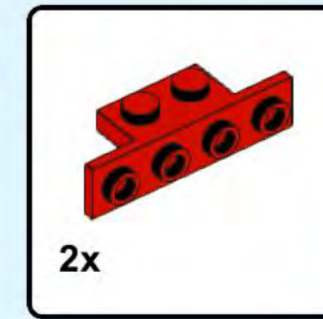
187



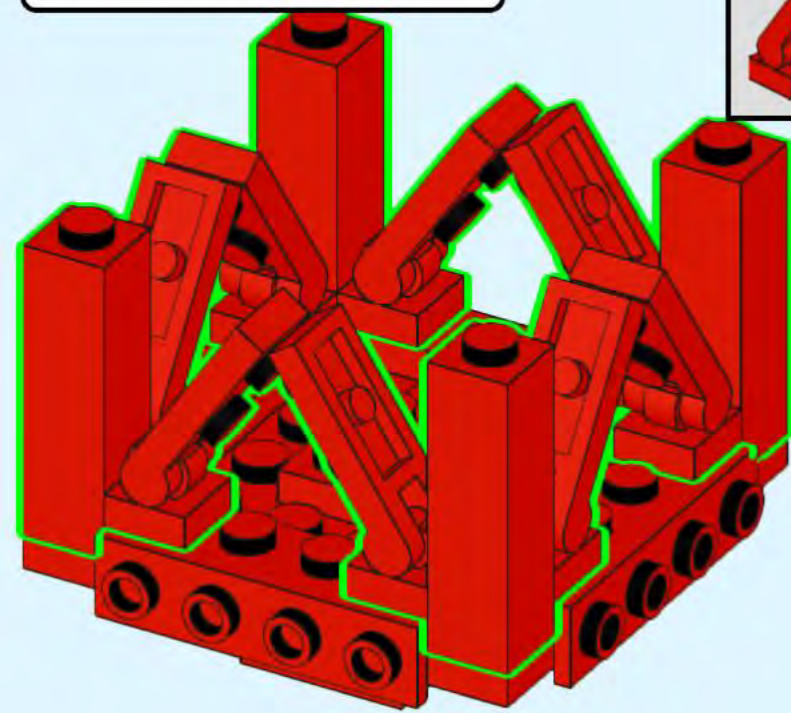
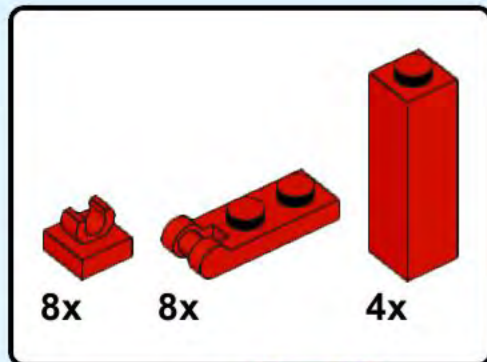
188



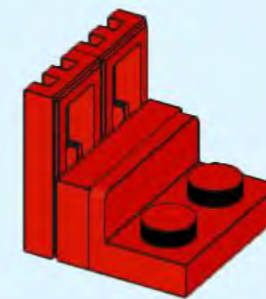
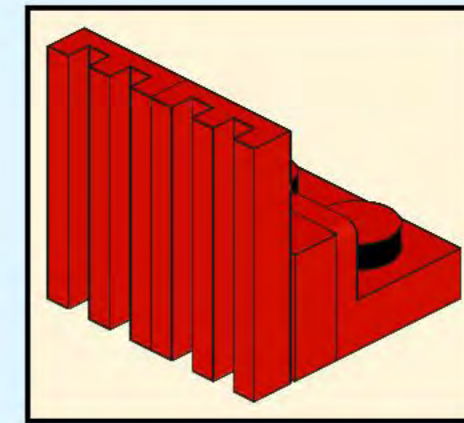
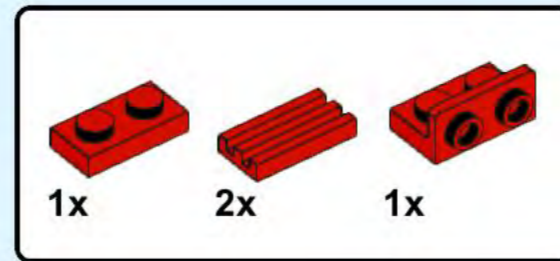
189



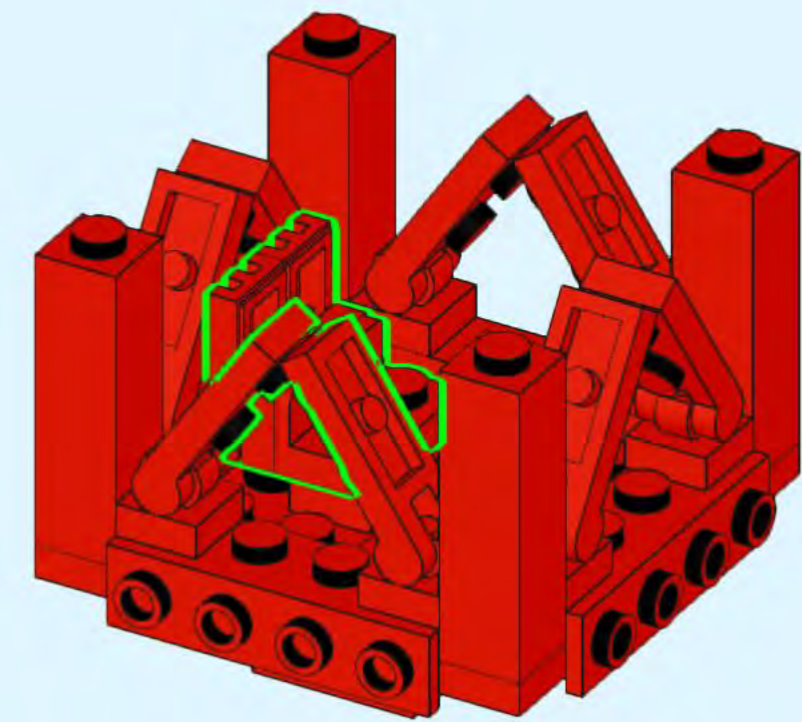
190

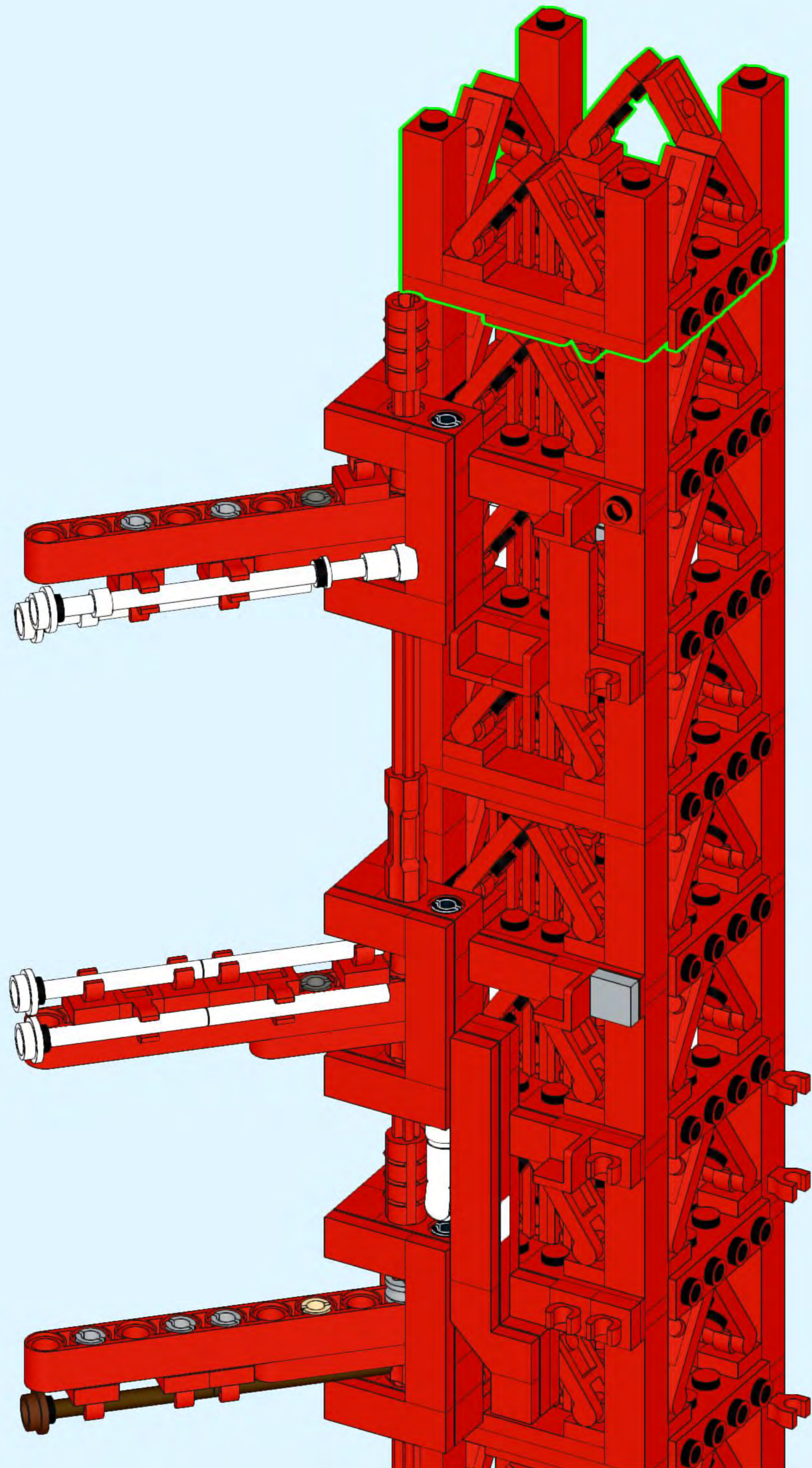


191



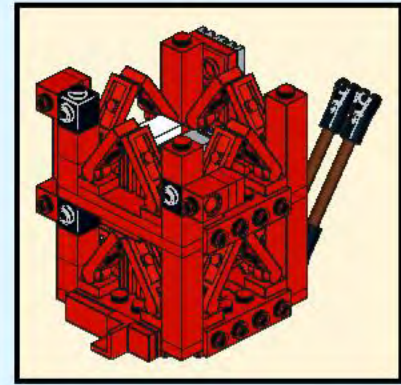
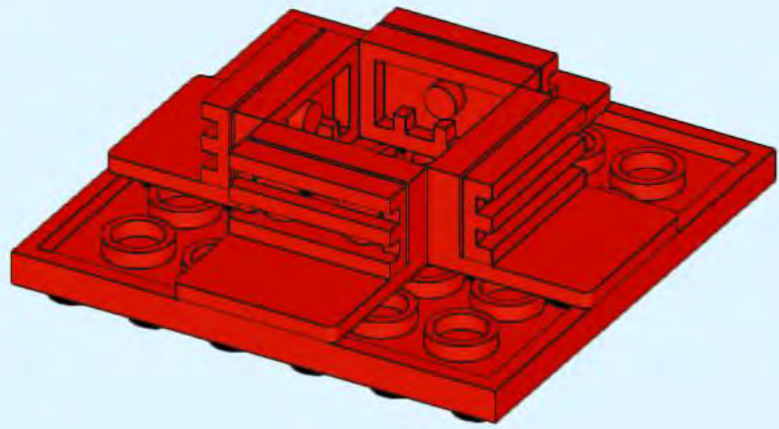
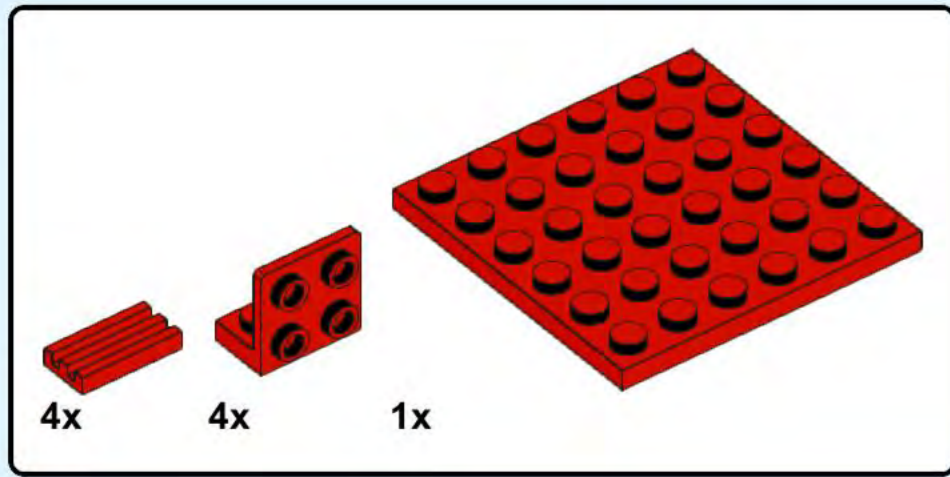
192



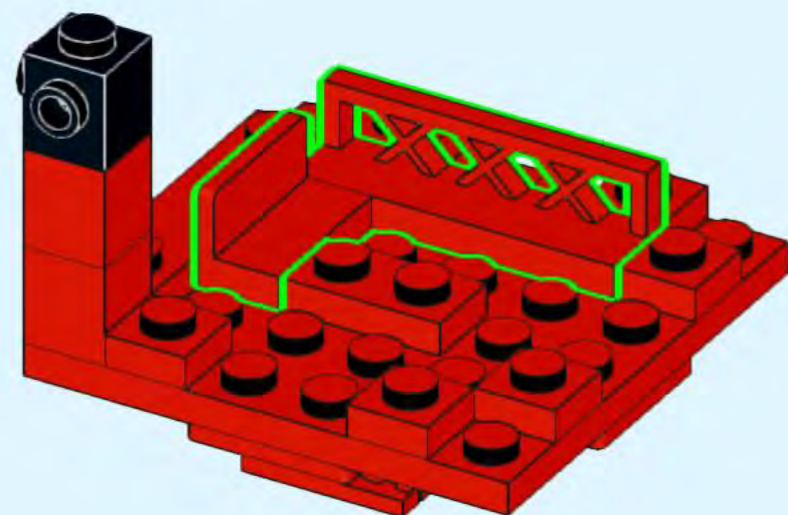
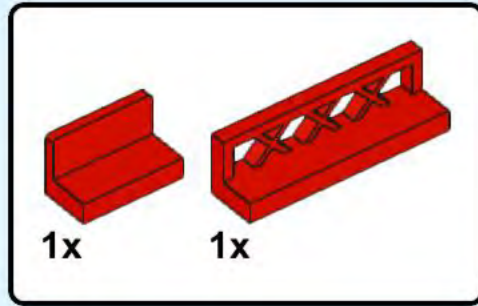




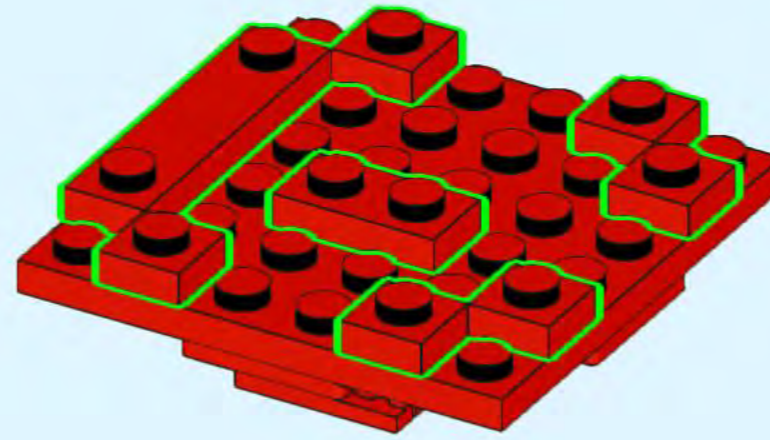
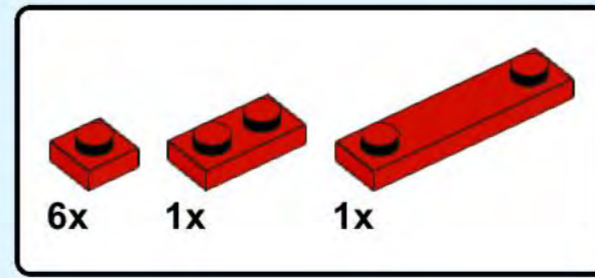
194



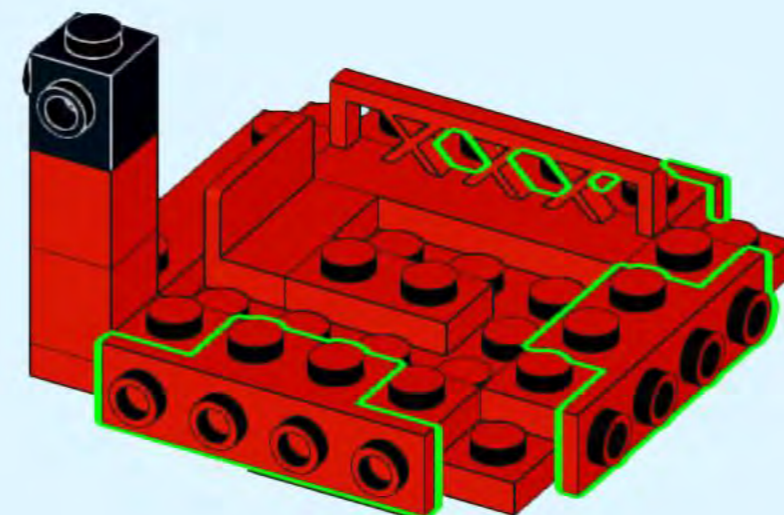
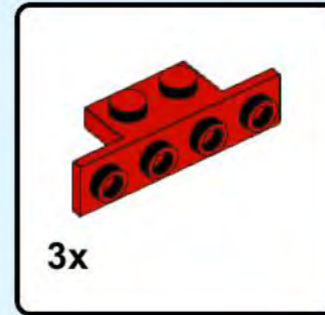
197



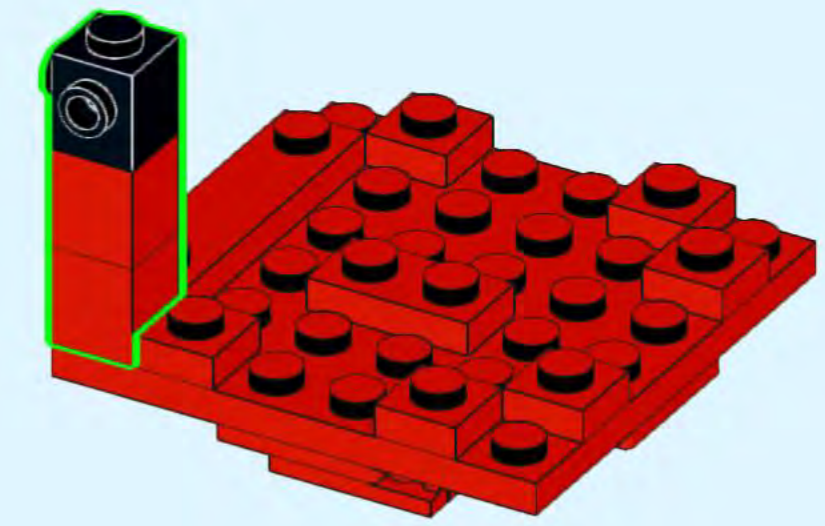
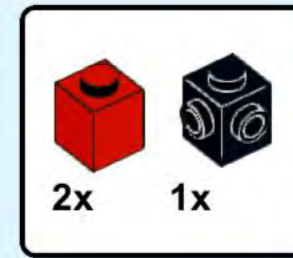
195



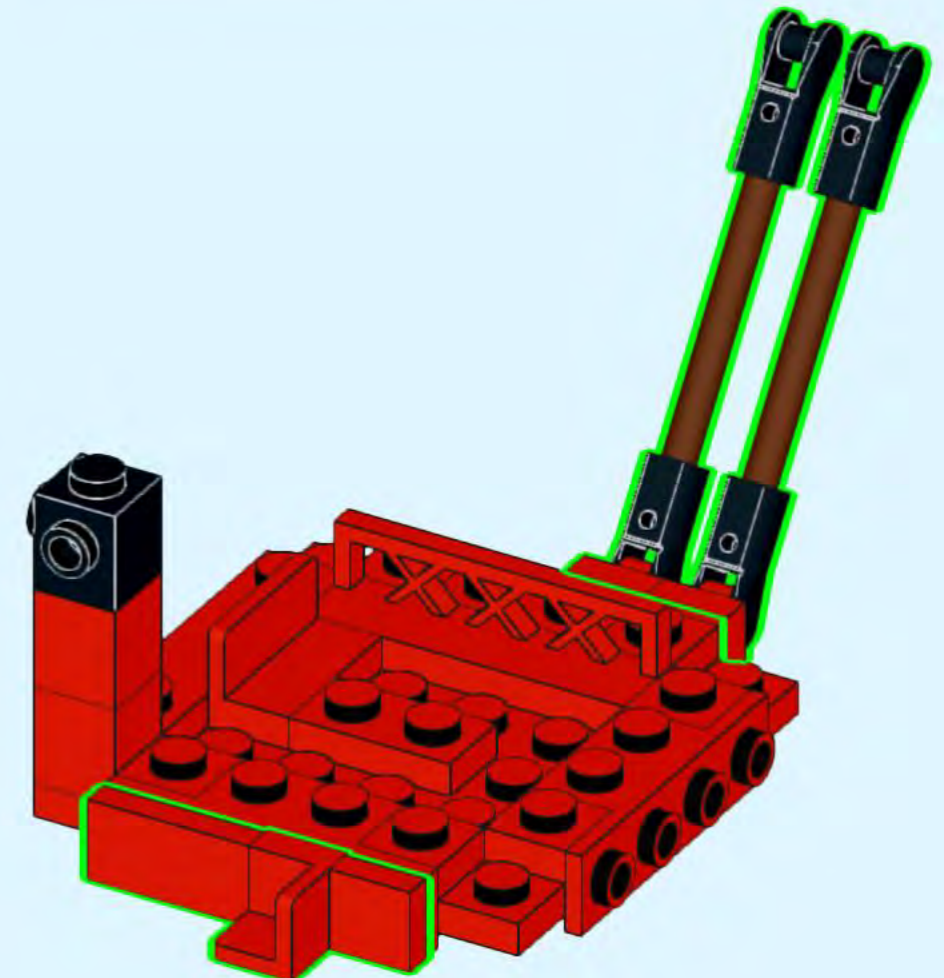
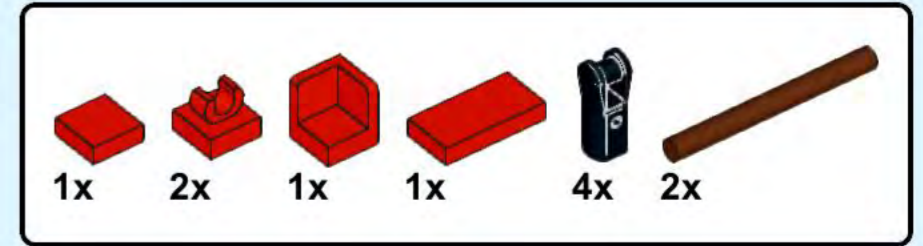
198



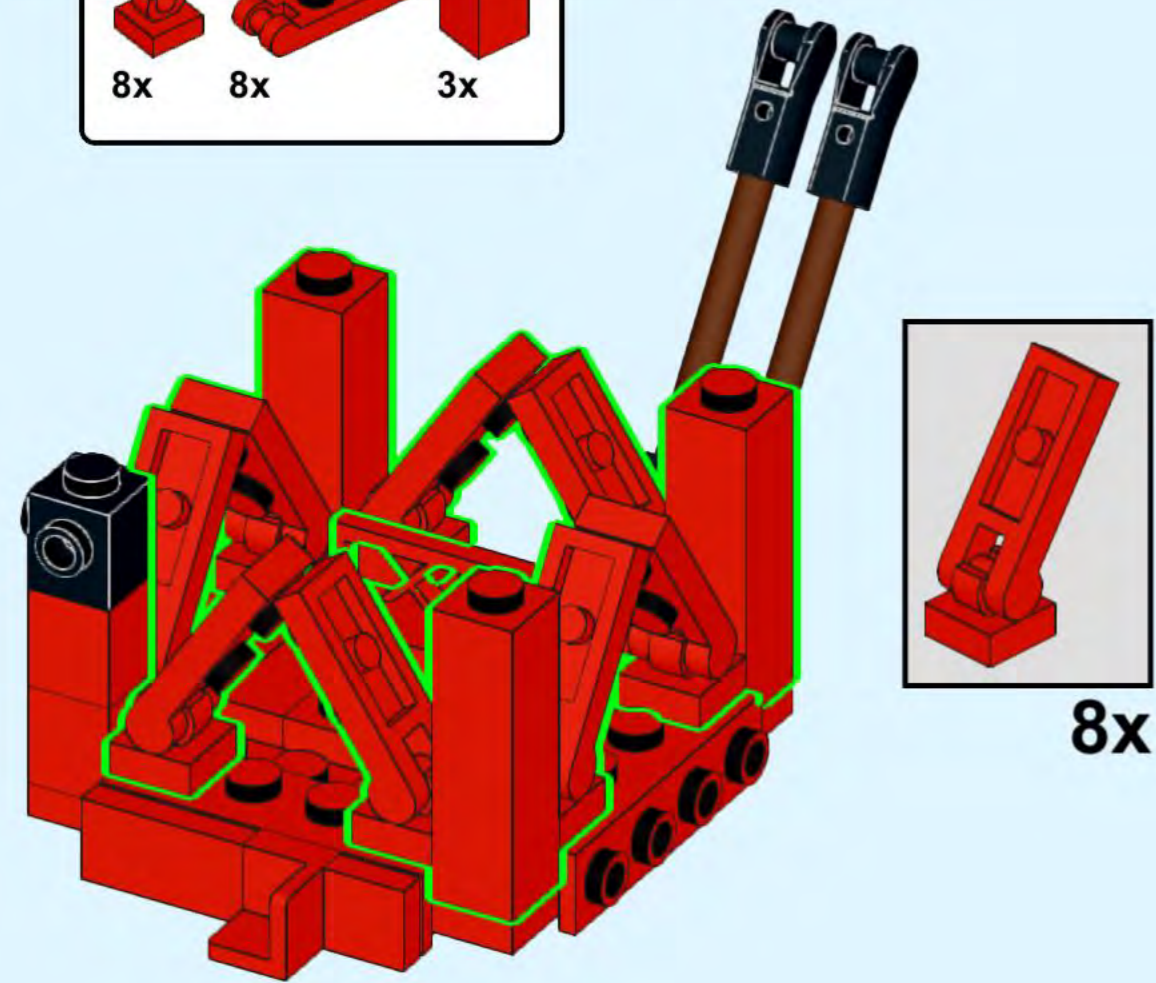
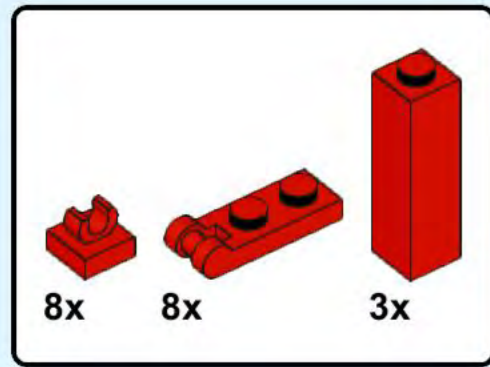
196



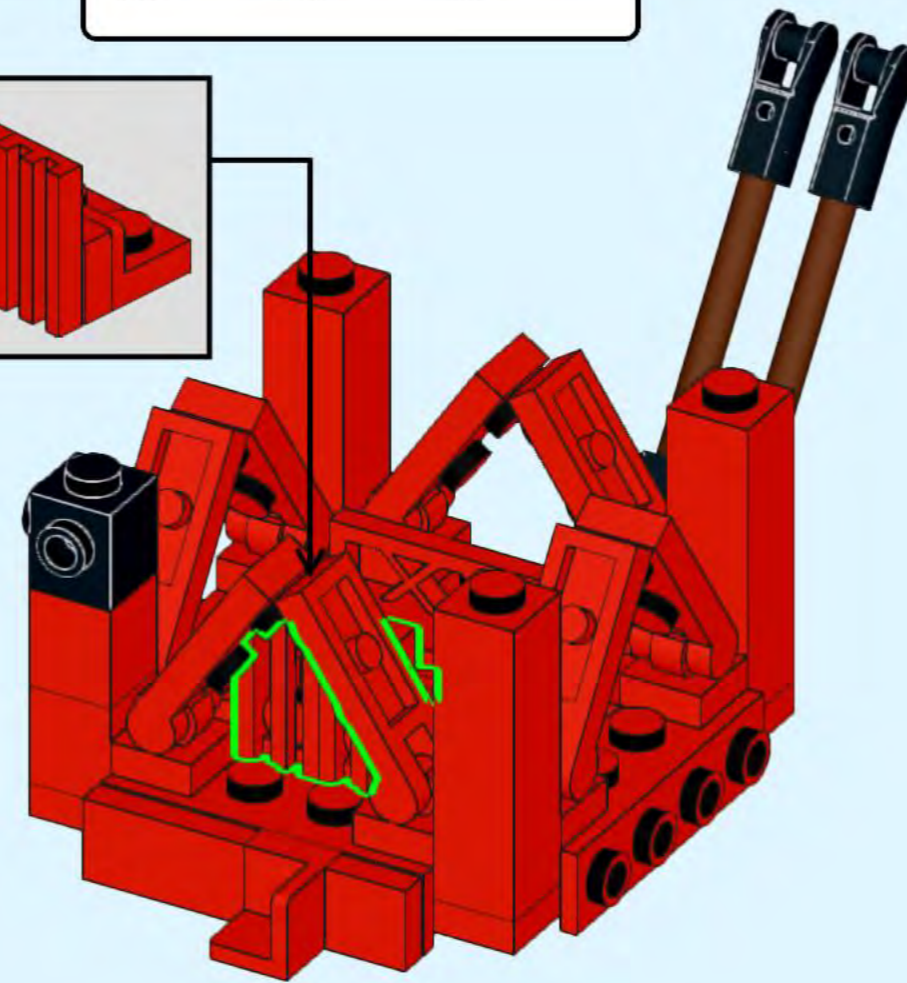
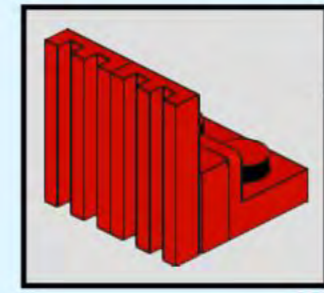
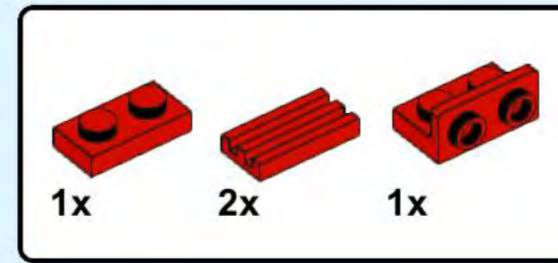
199



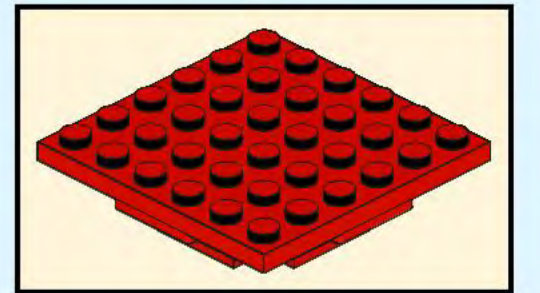
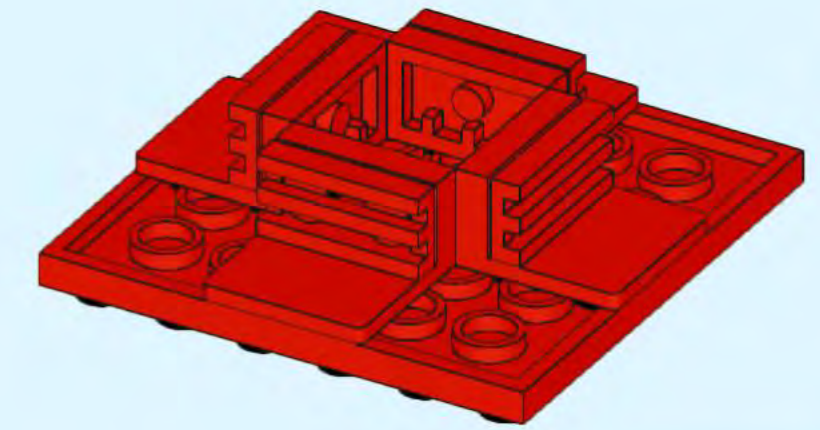
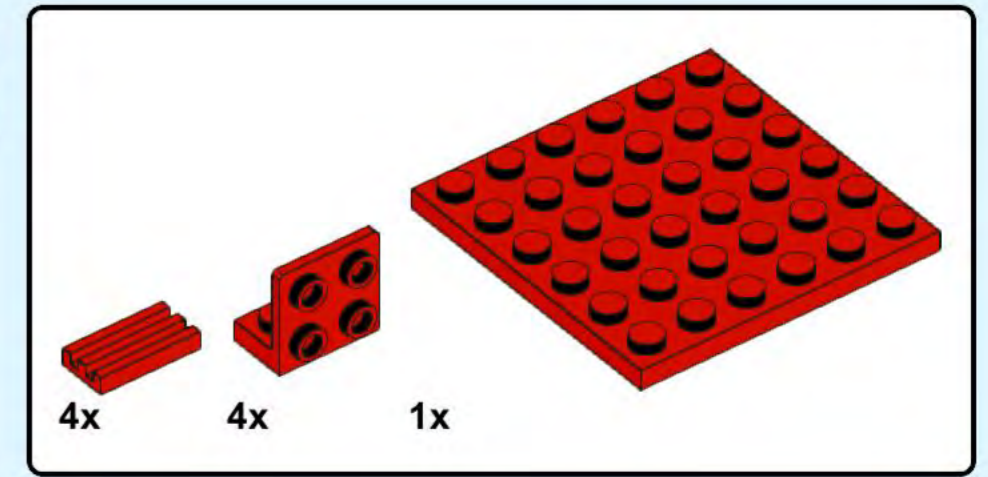
200



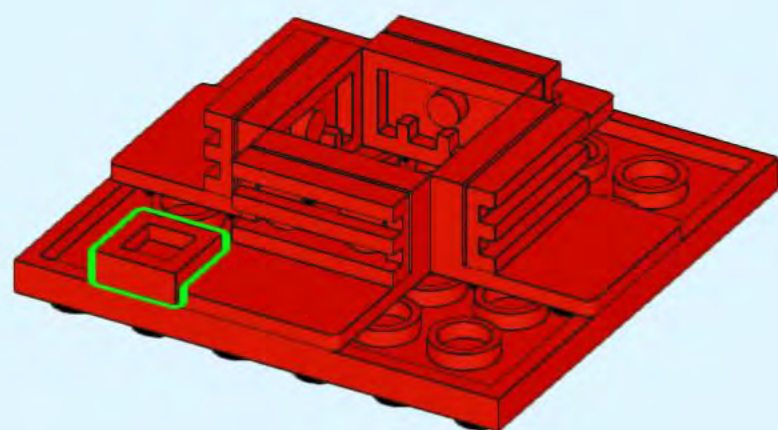
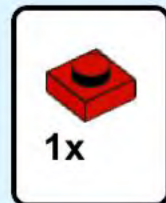
201



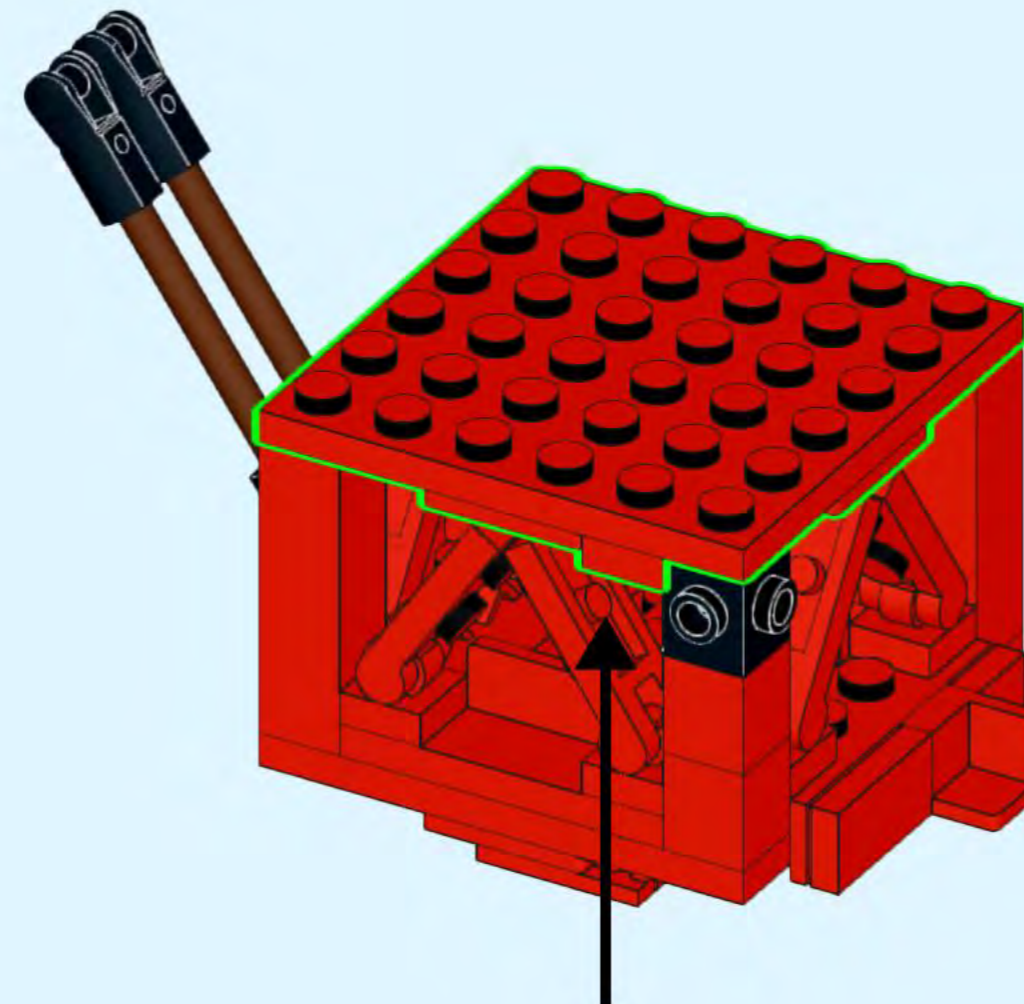
202



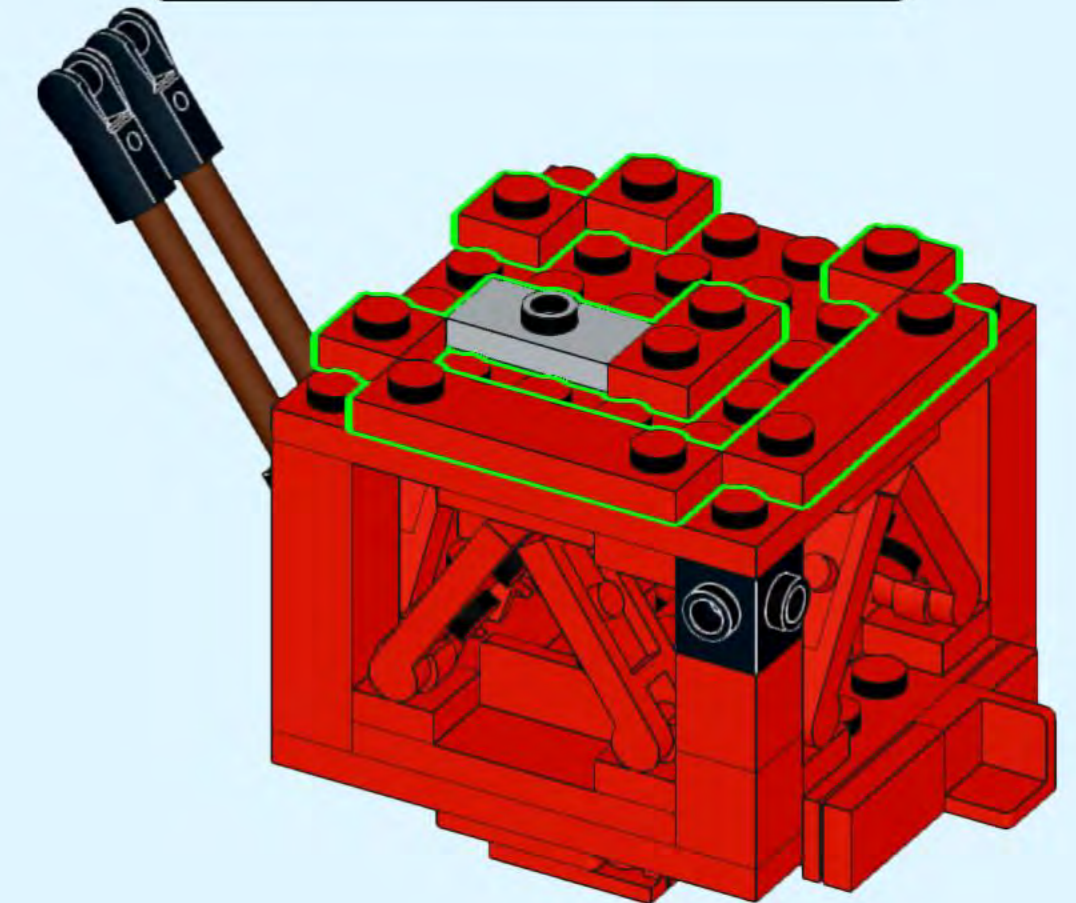
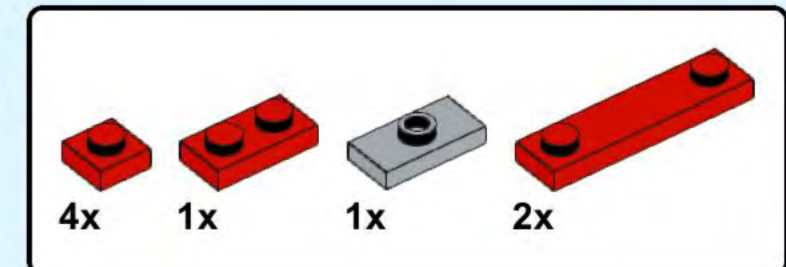
203



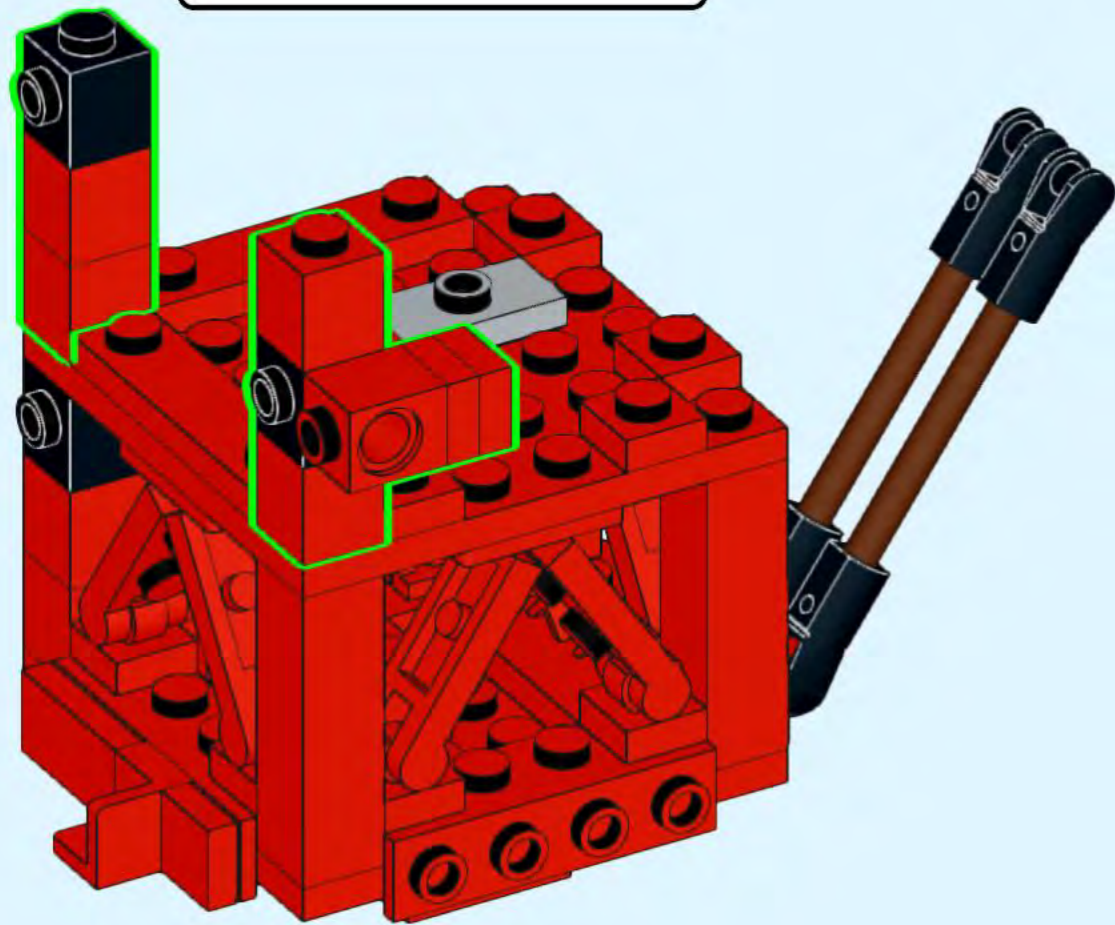
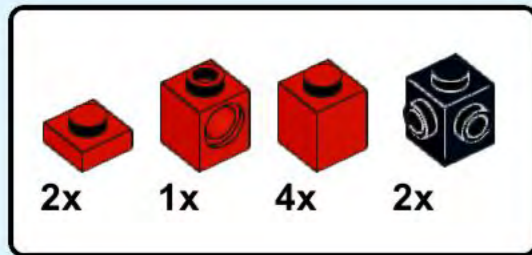
204



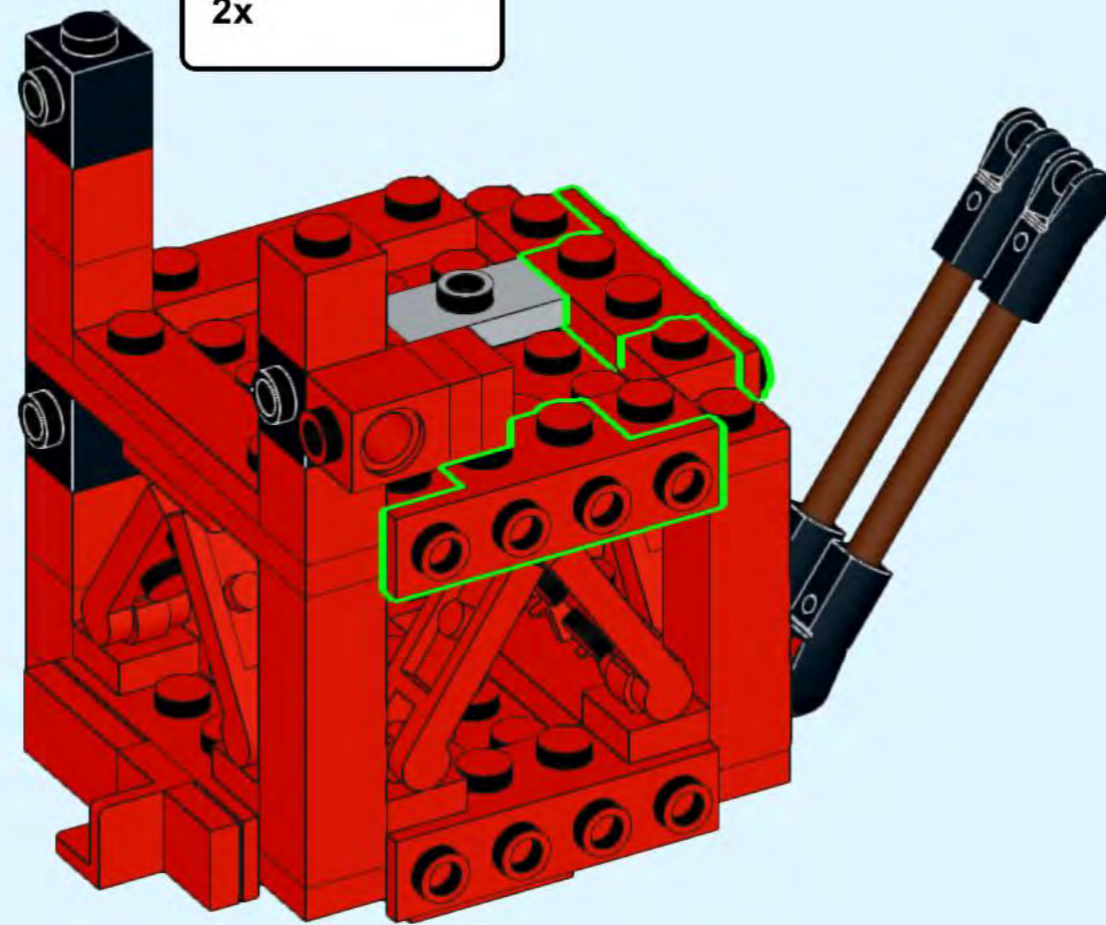
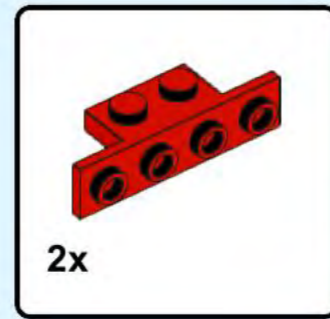
205



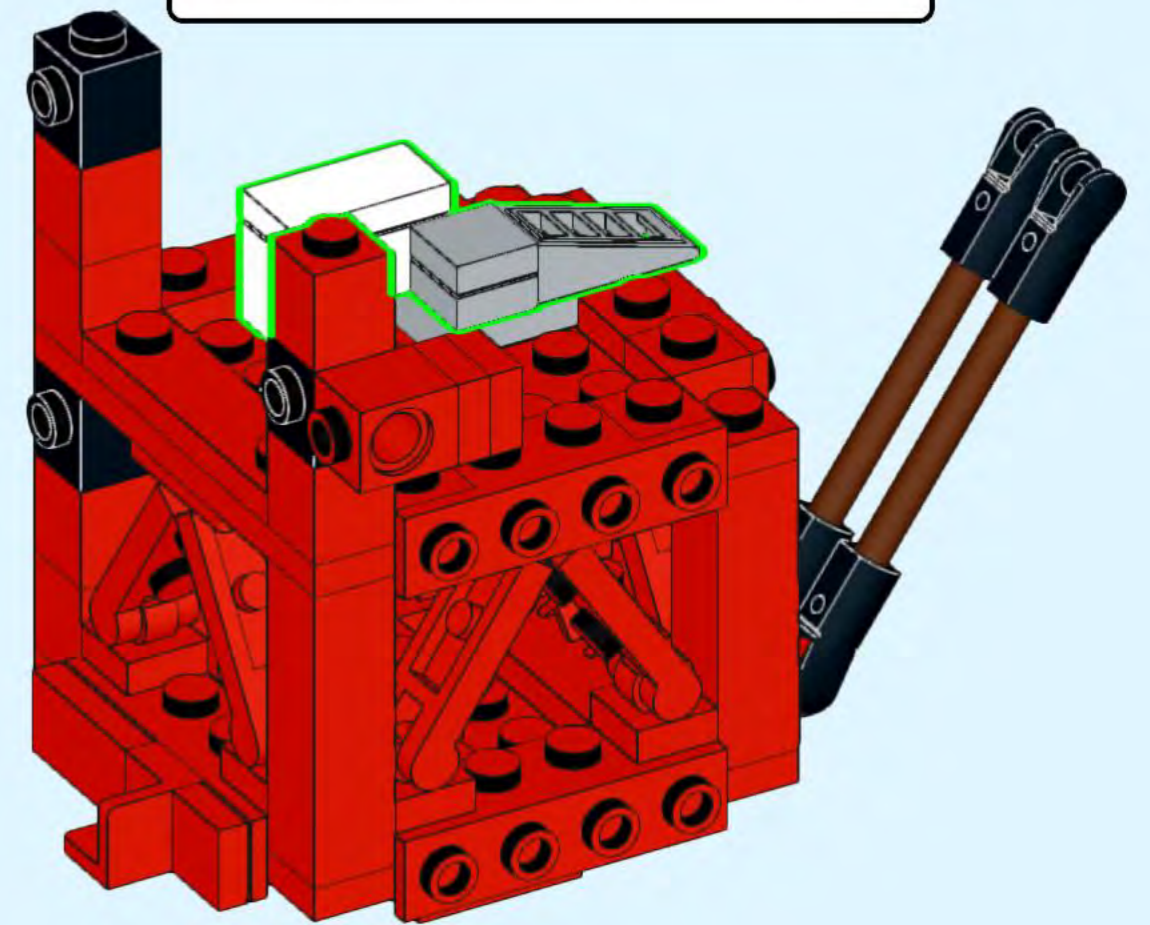
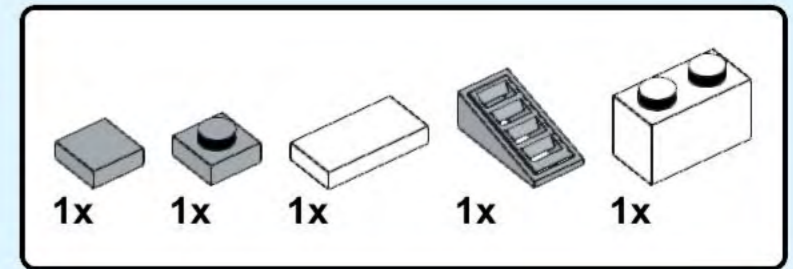
206



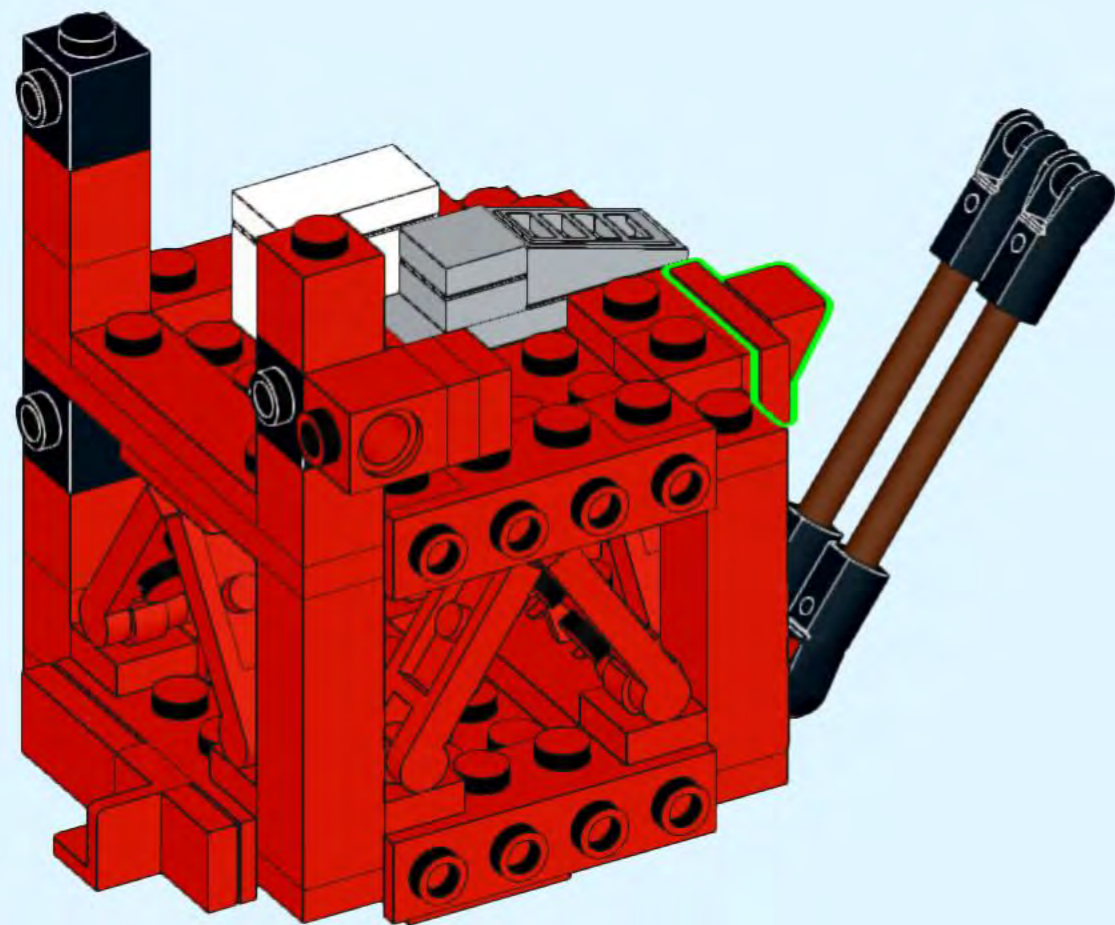
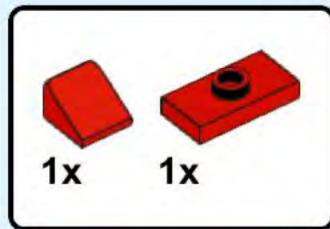
207



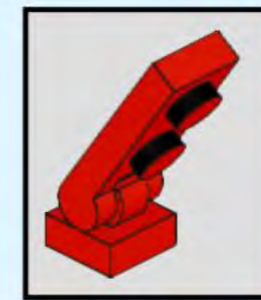
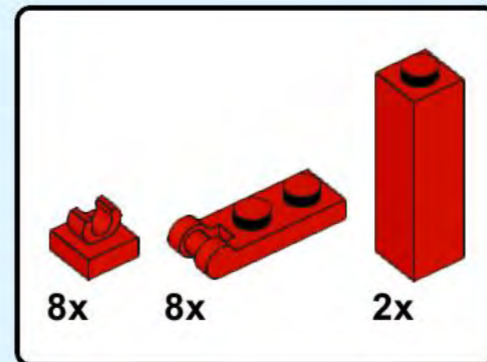
208



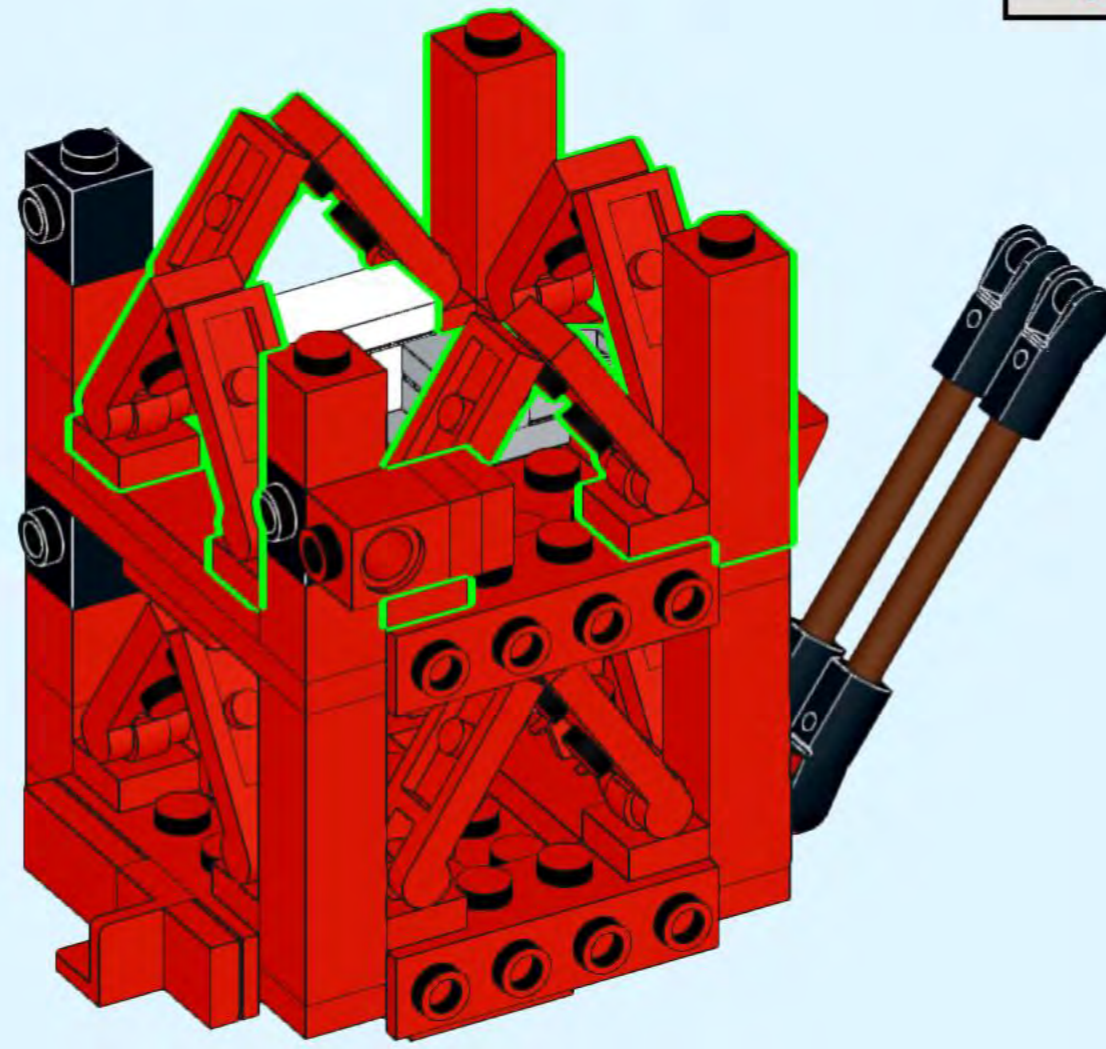
209



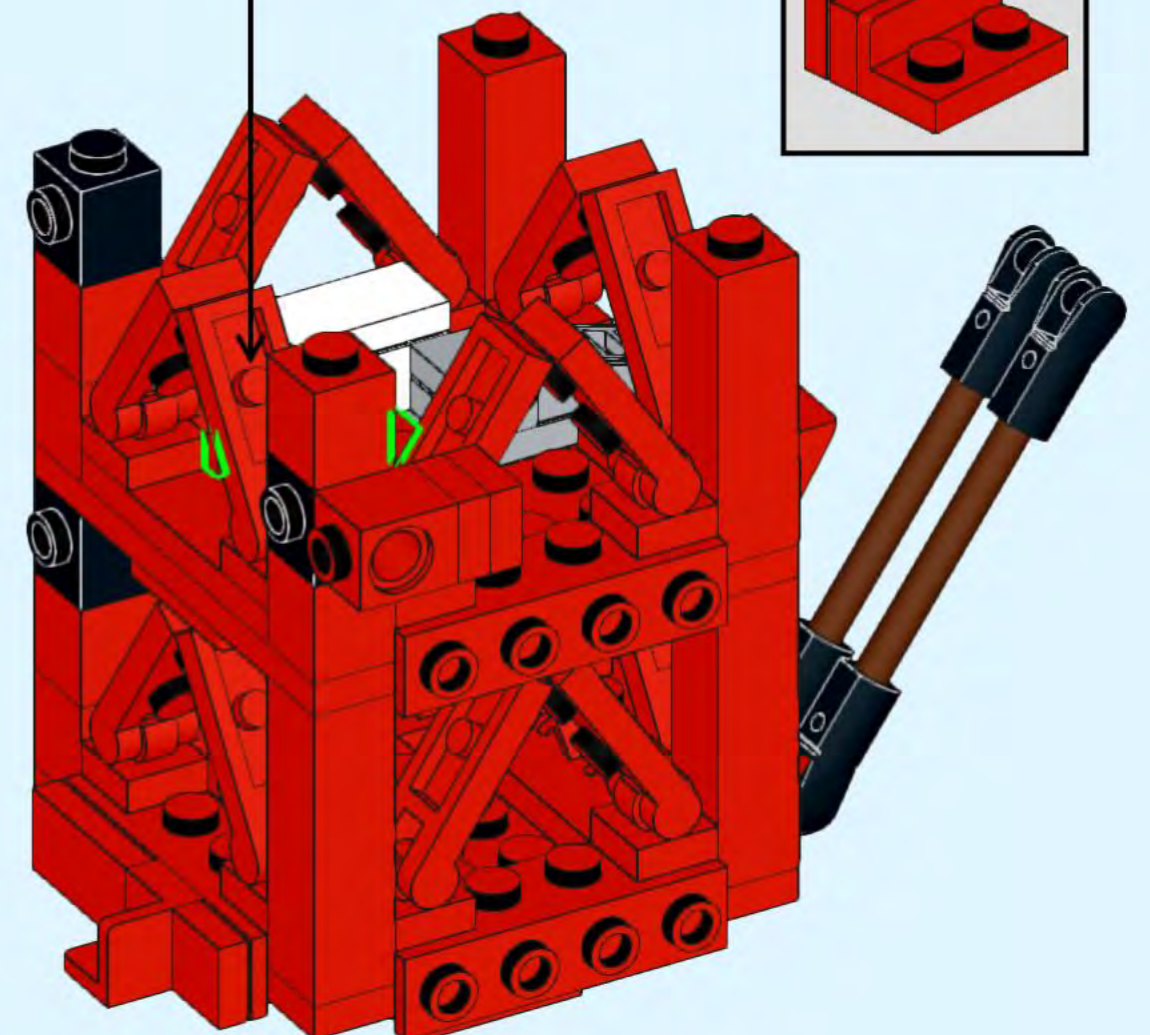
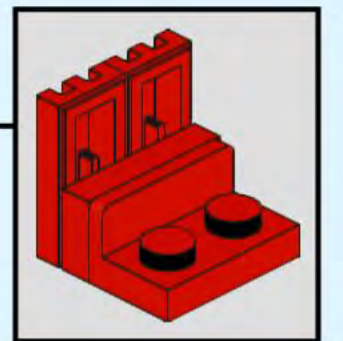
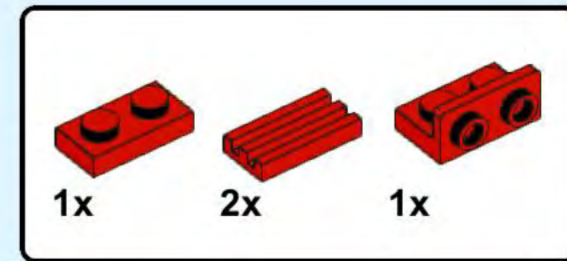
210



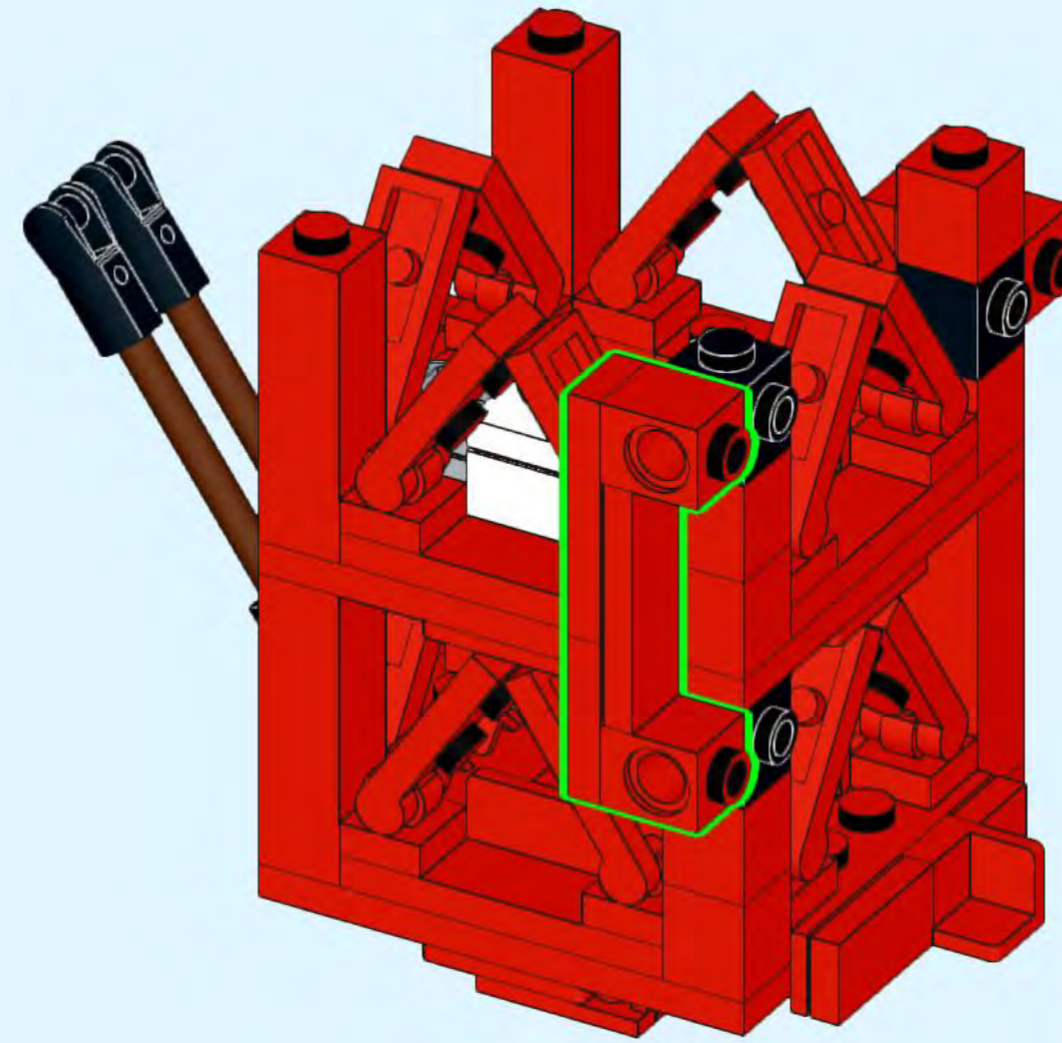
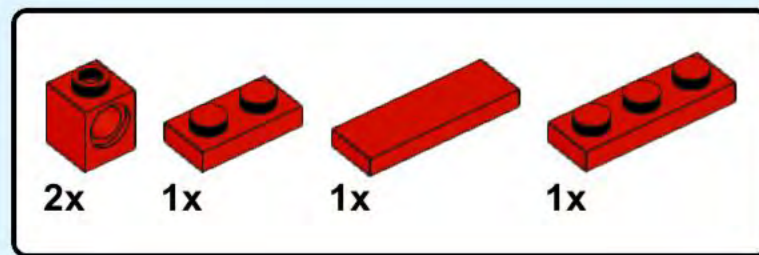
8x



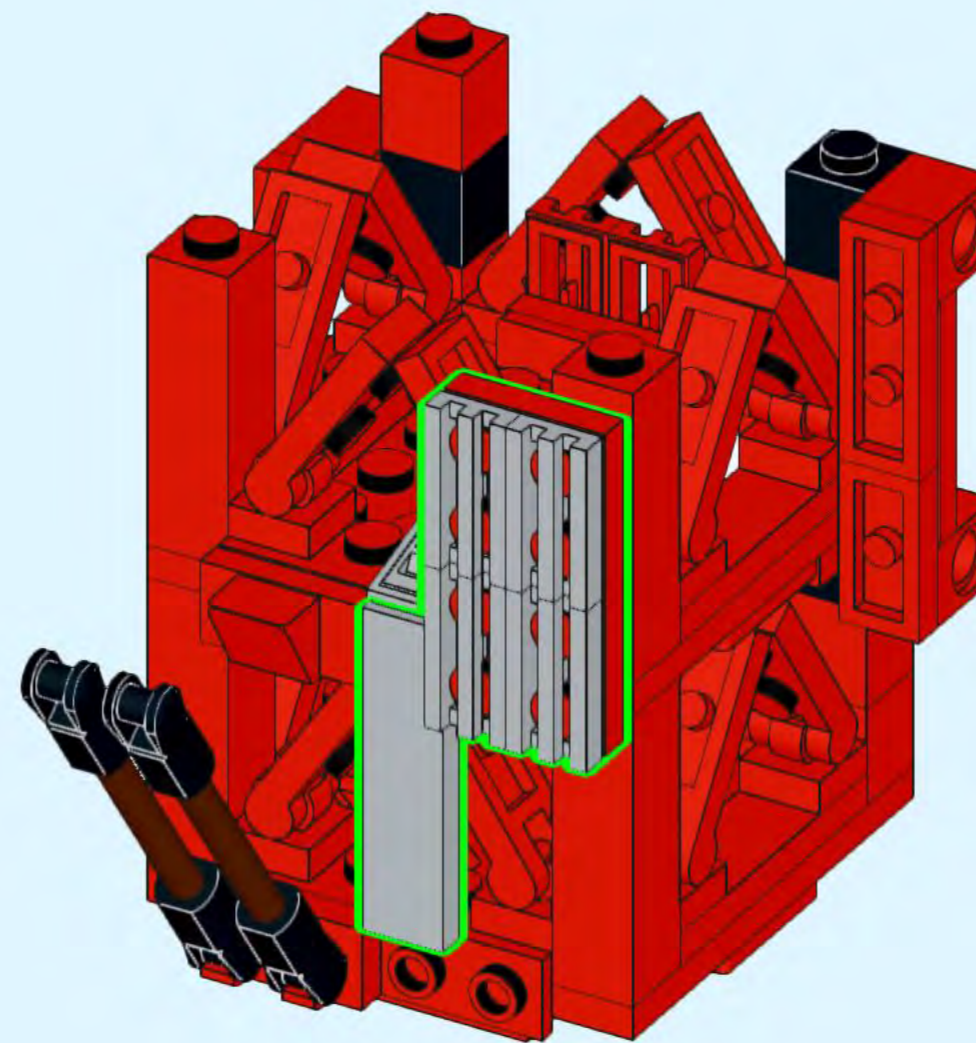
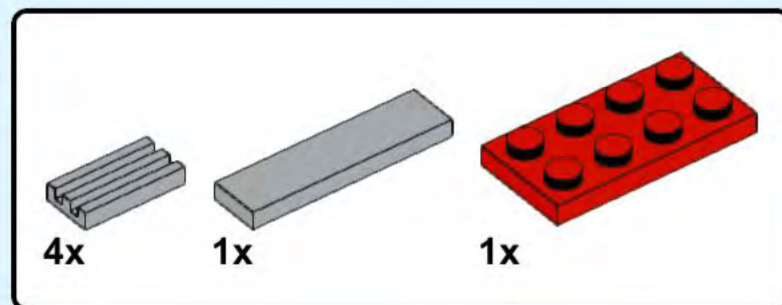
211



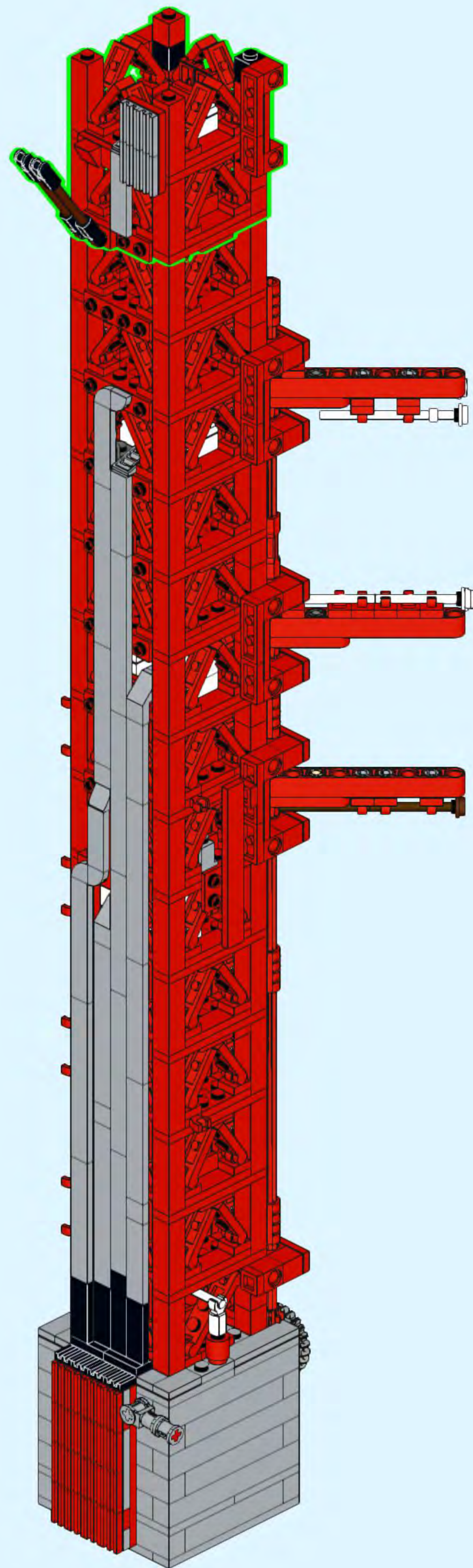
# 212



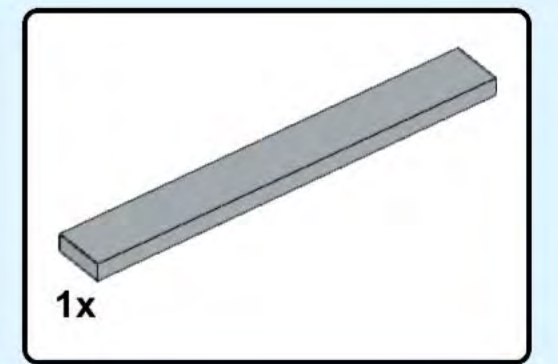
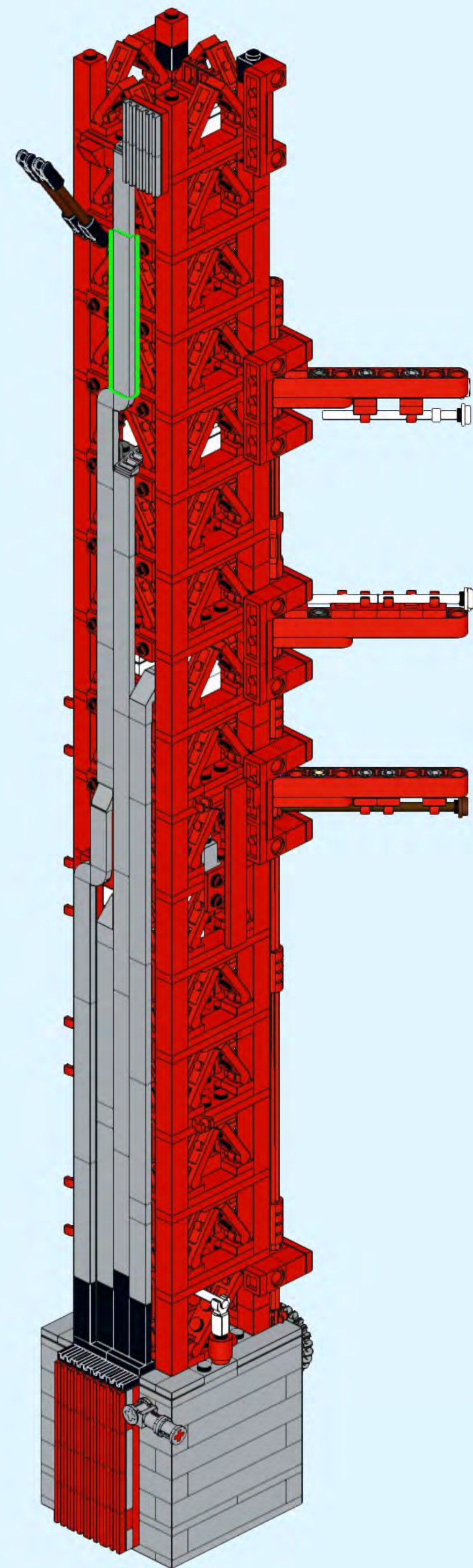
# 213



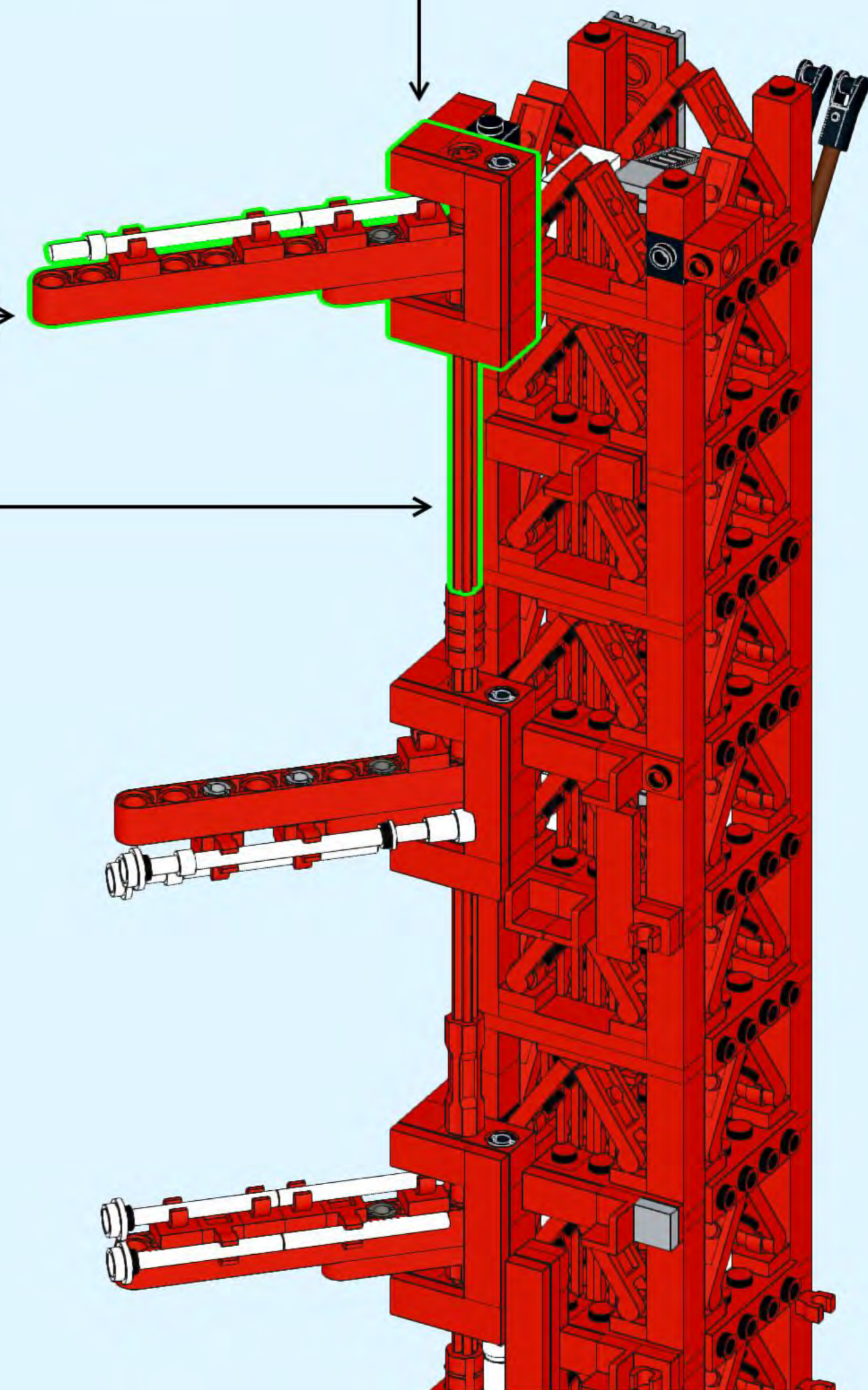
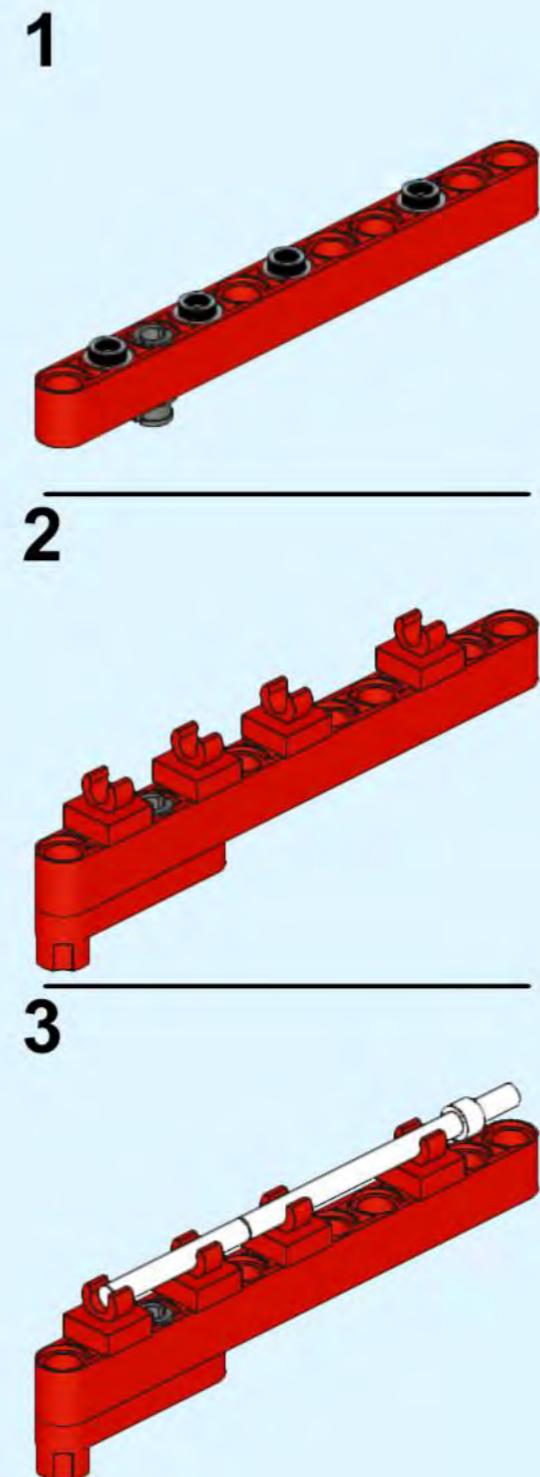
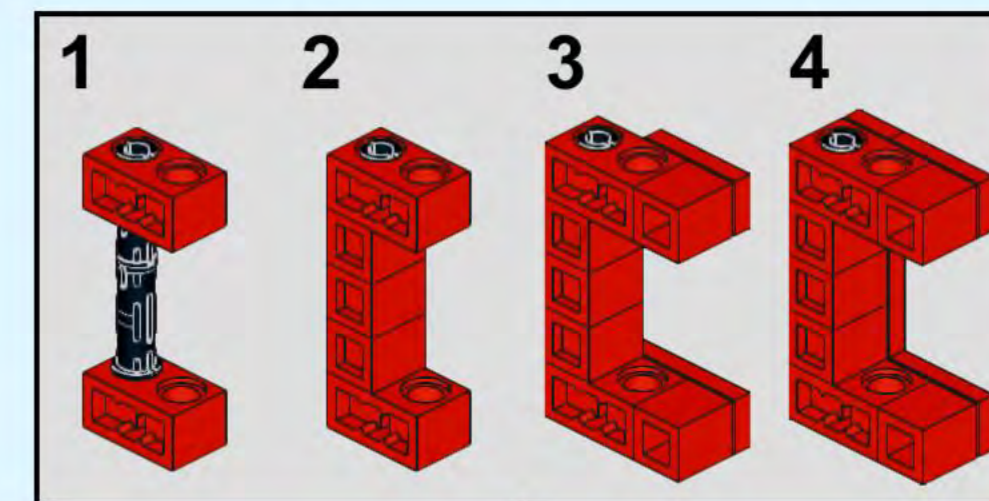
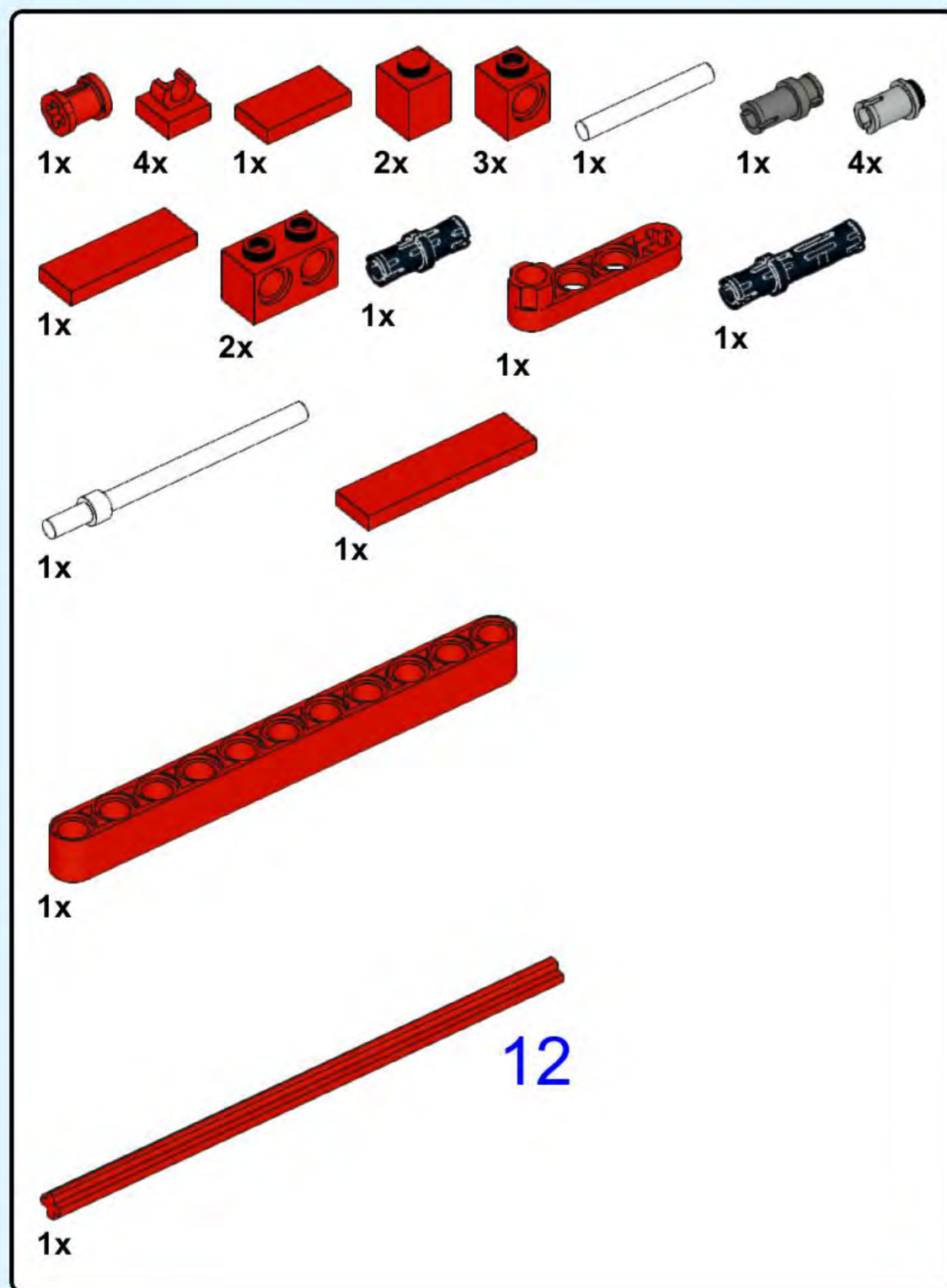
214



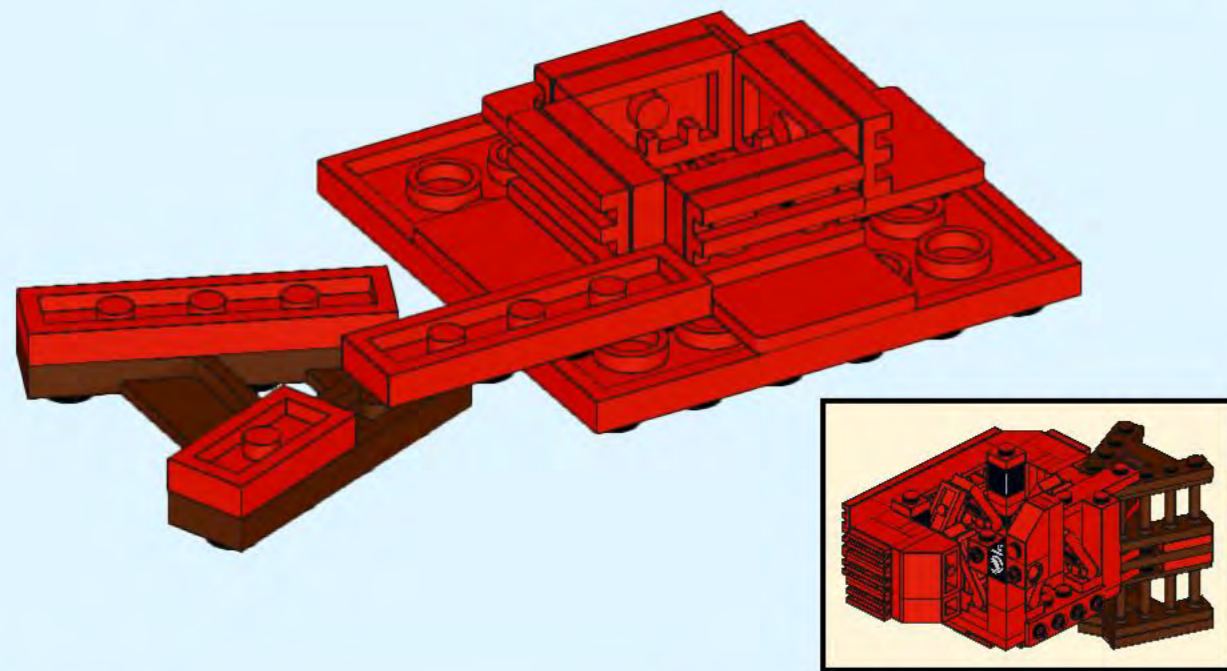
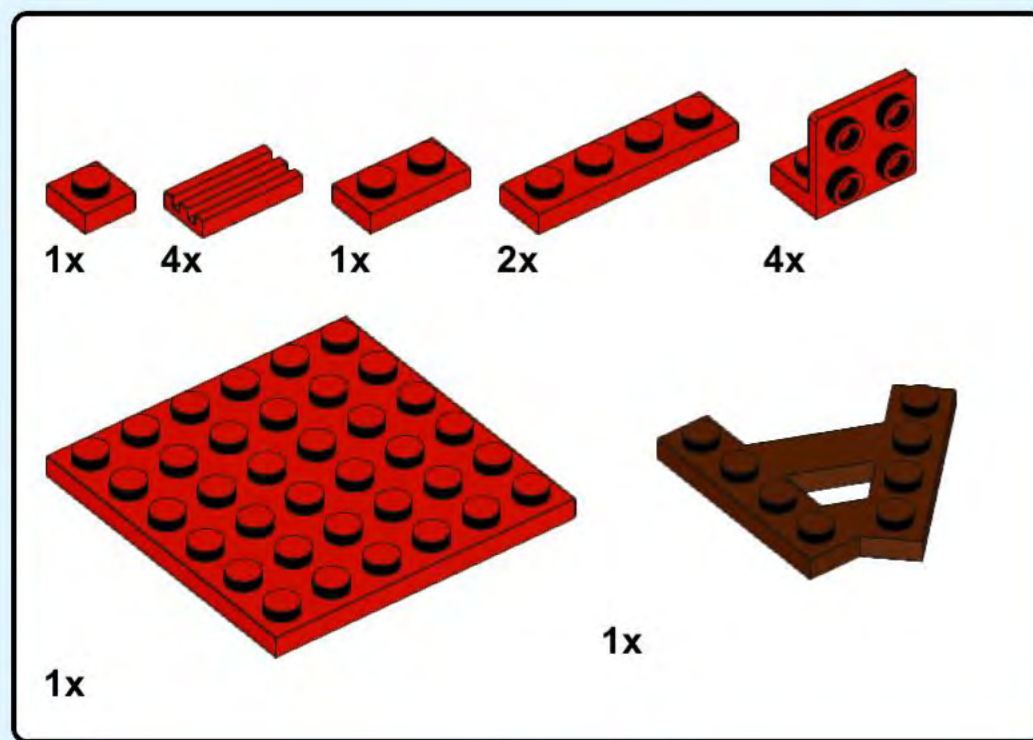
215



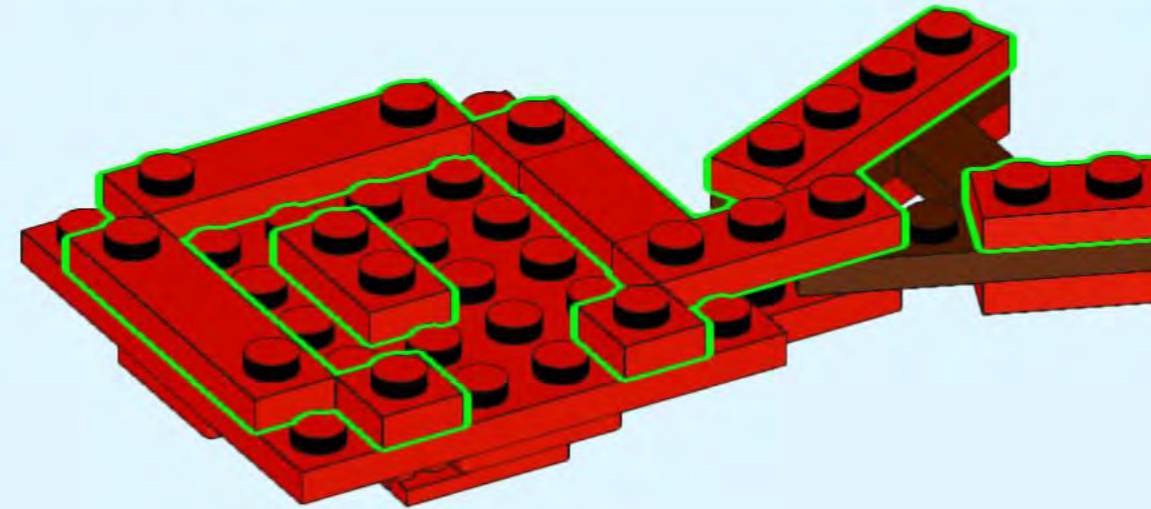
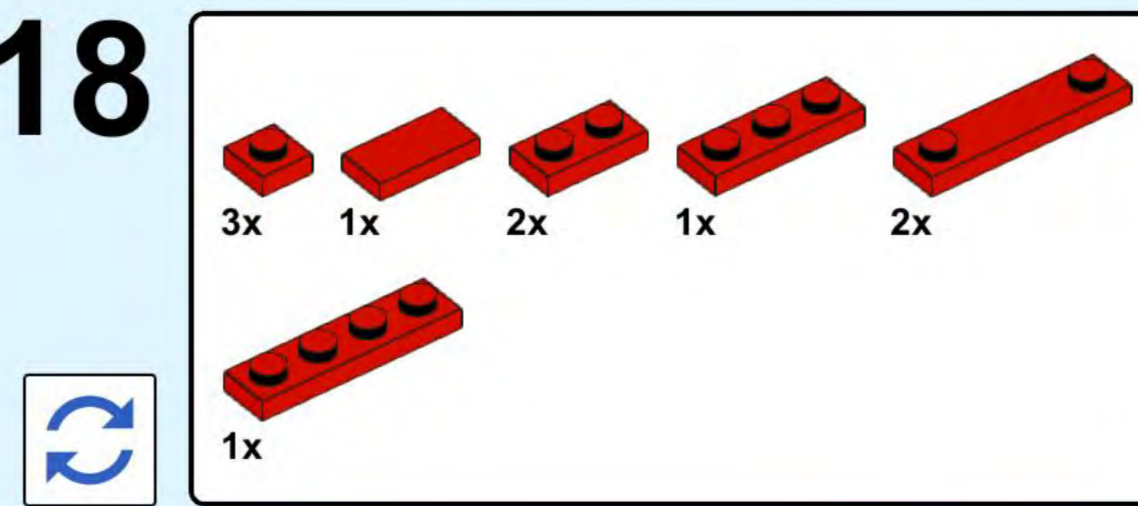
# 216



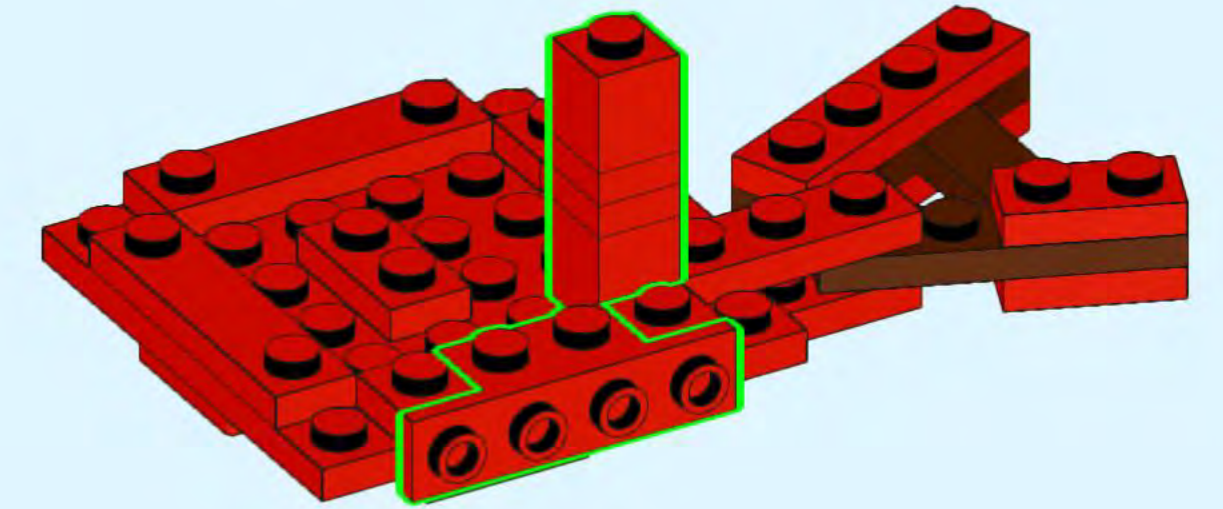
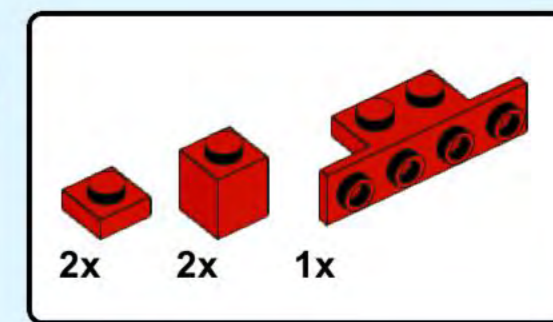
217



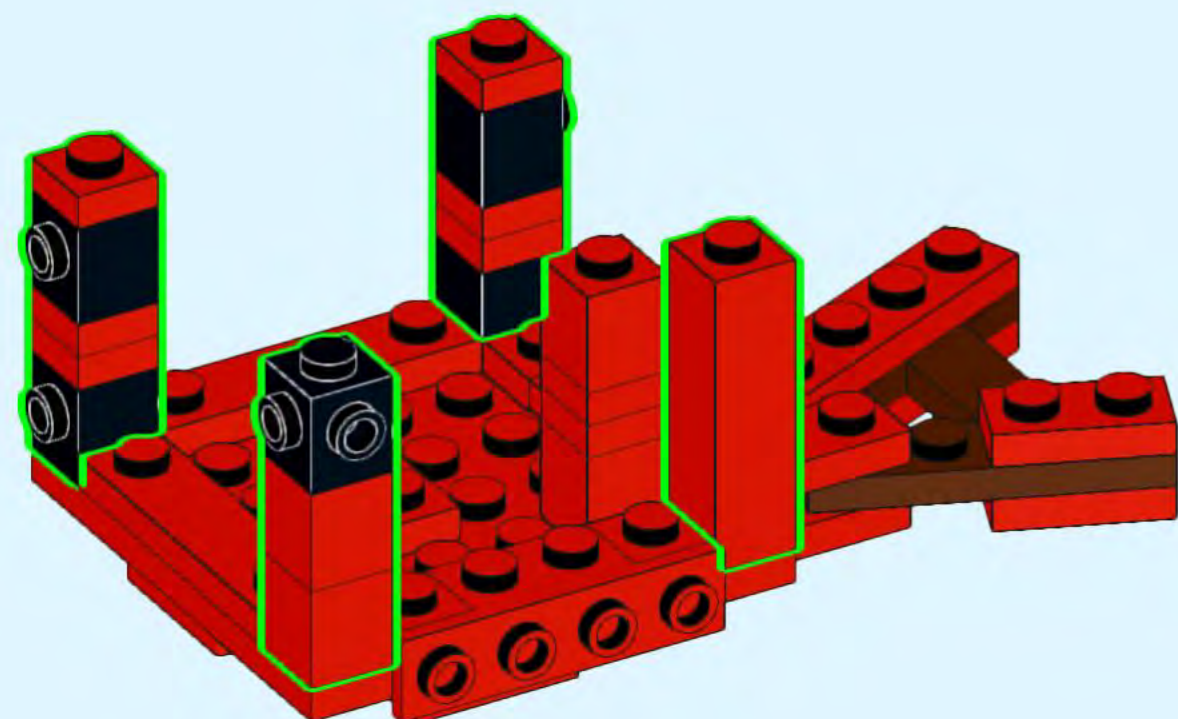
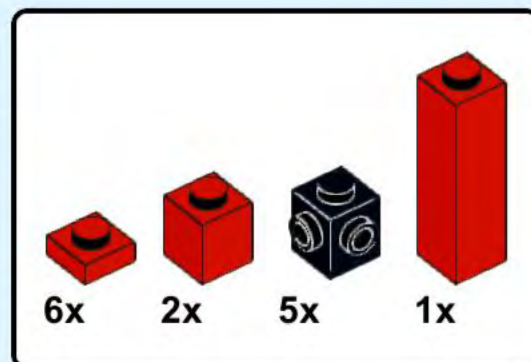
218



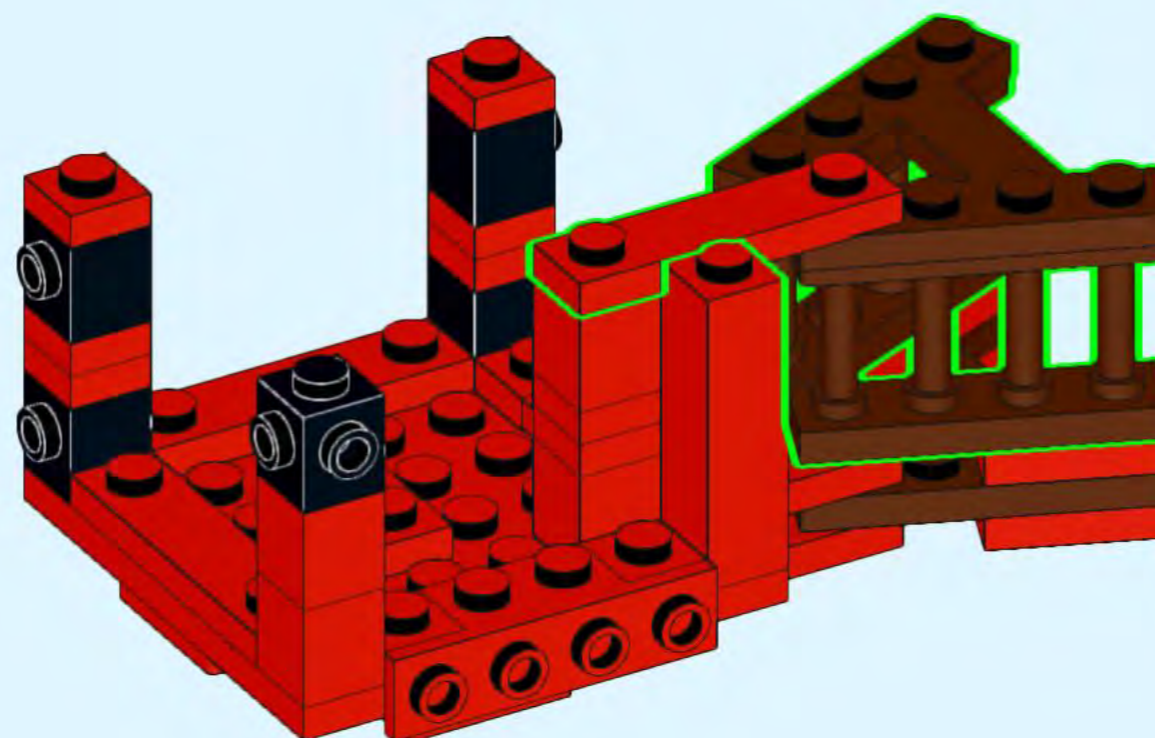
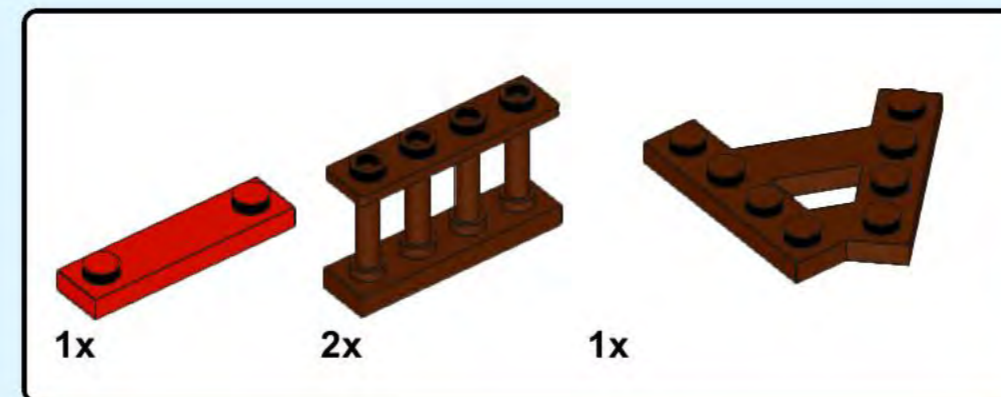
219



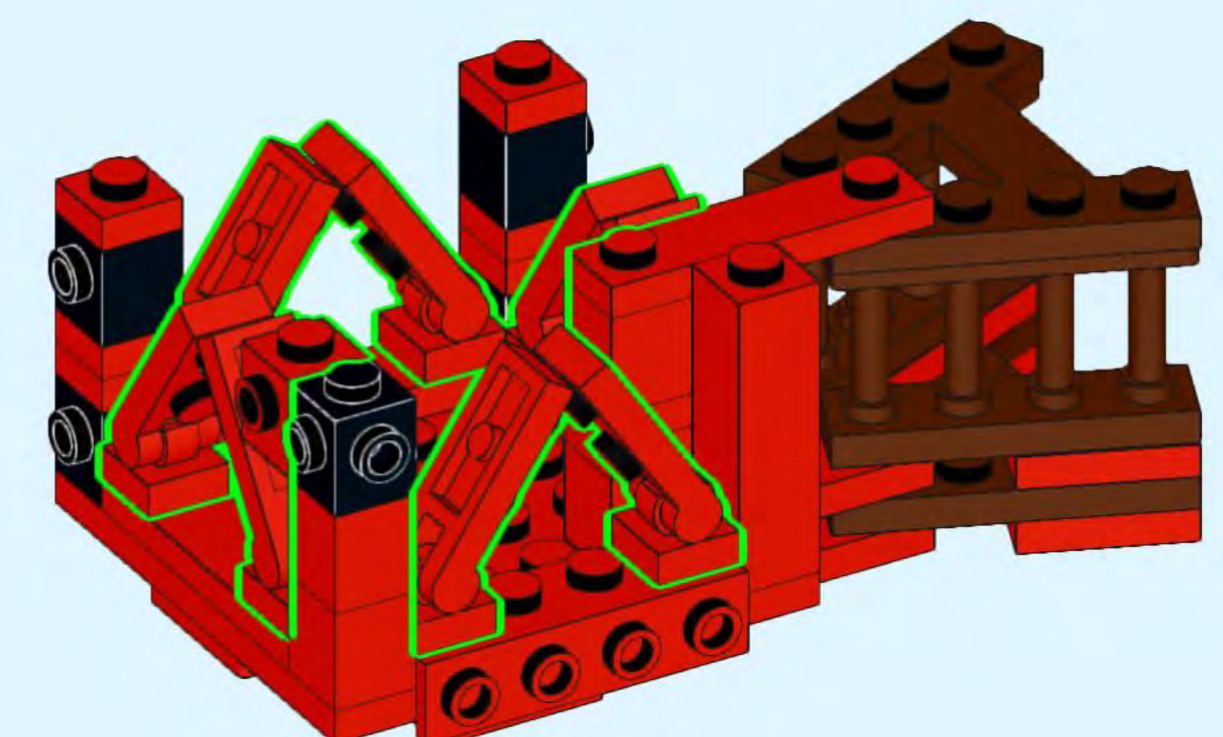
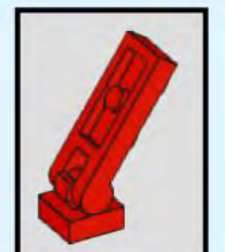
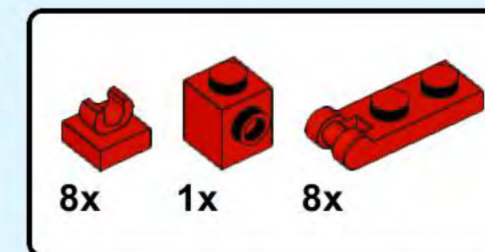
220



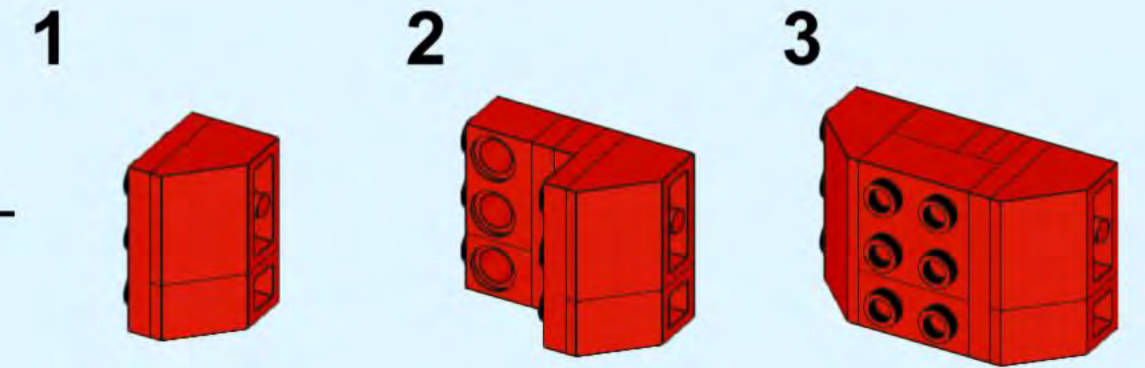
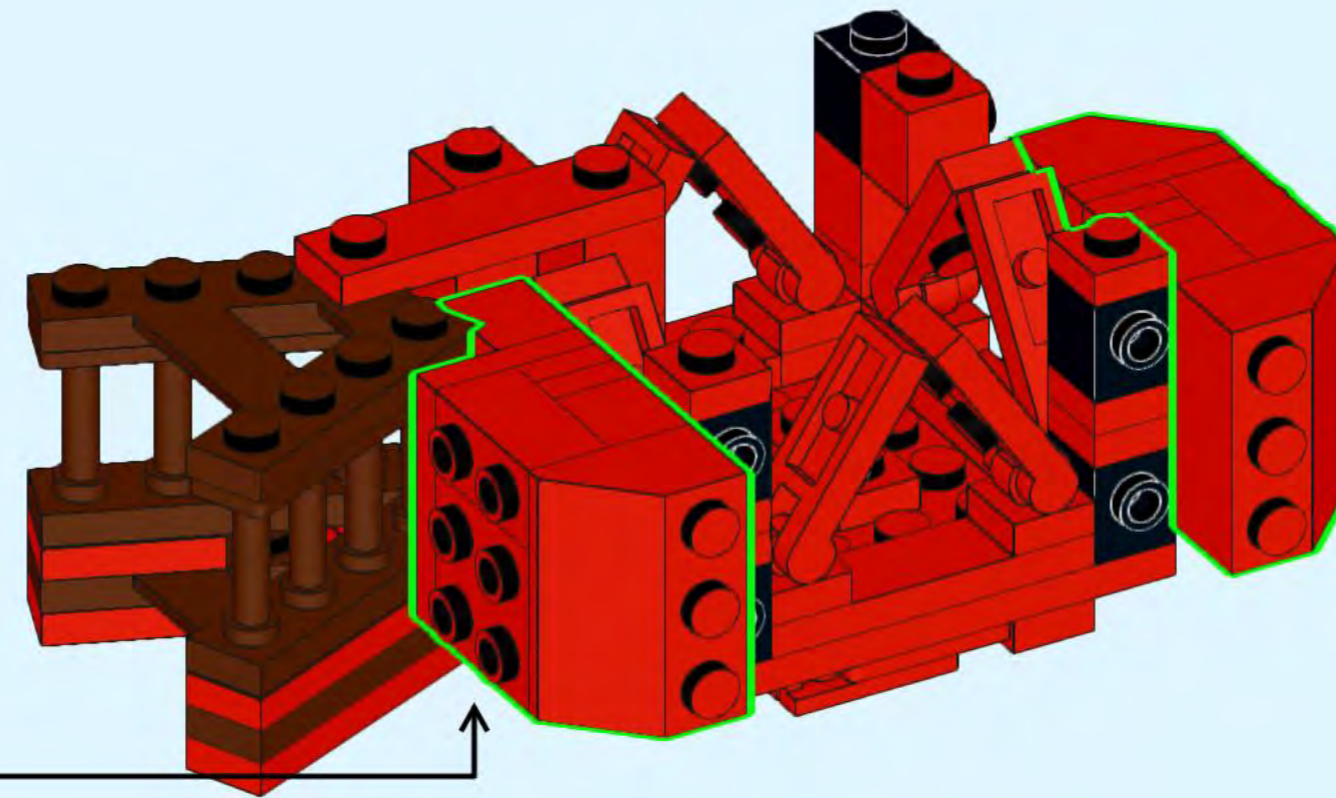
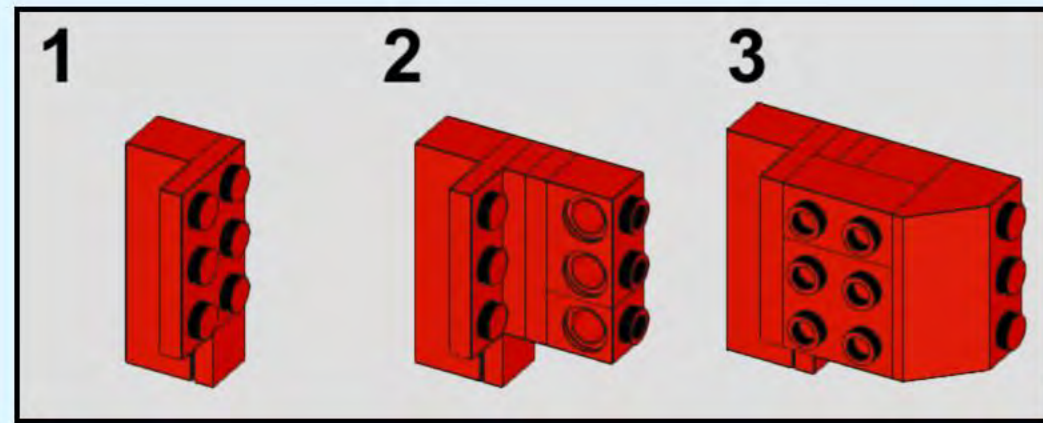
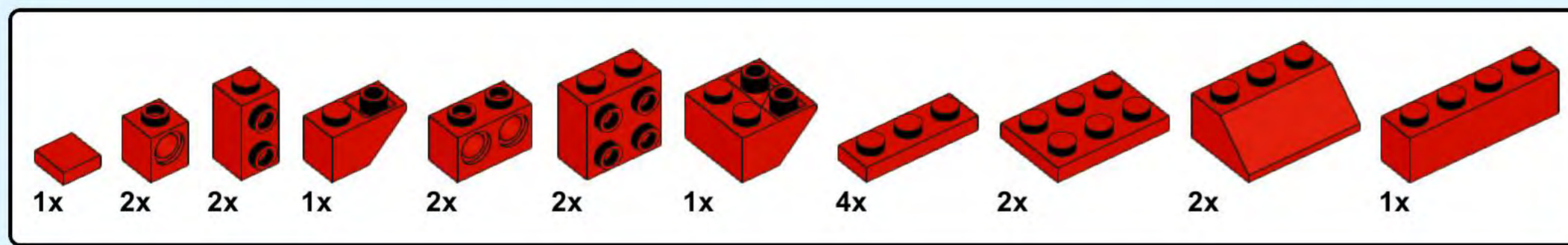
221



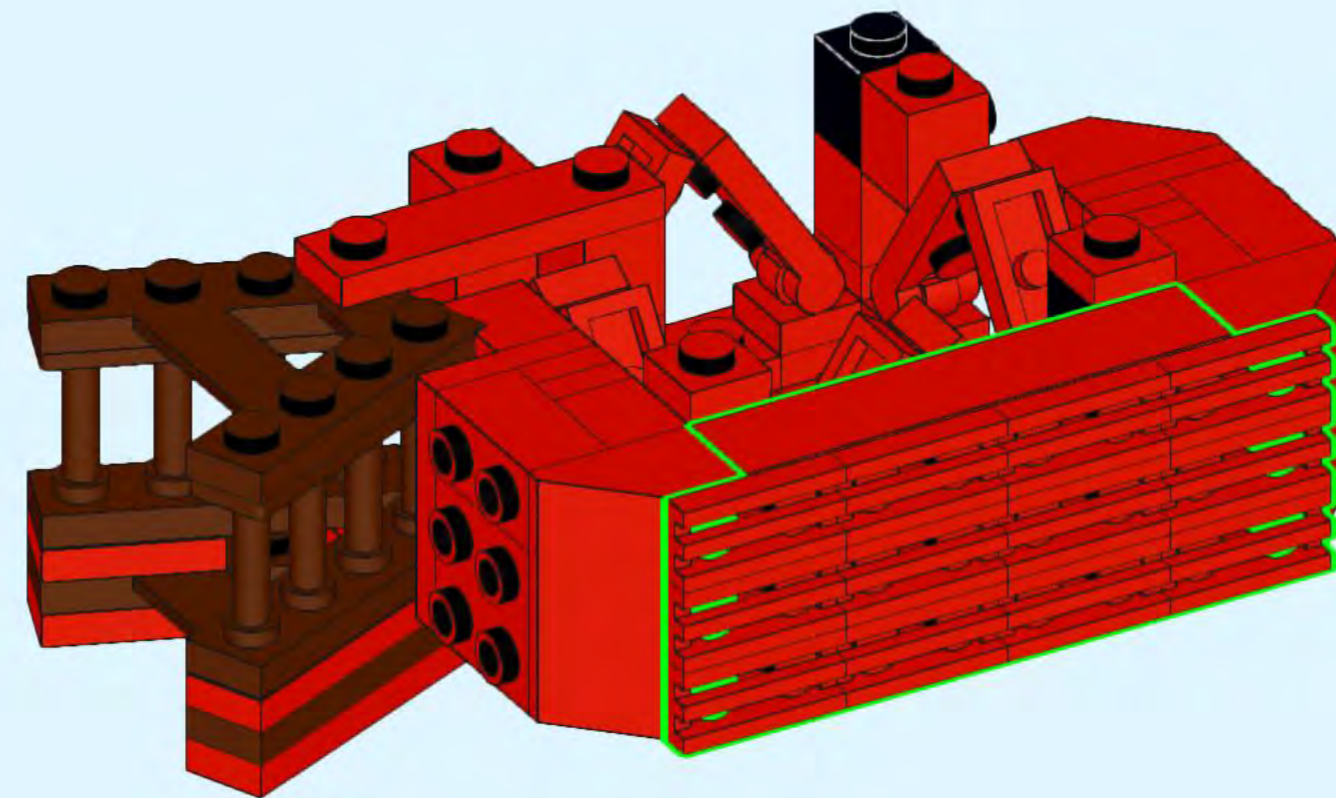
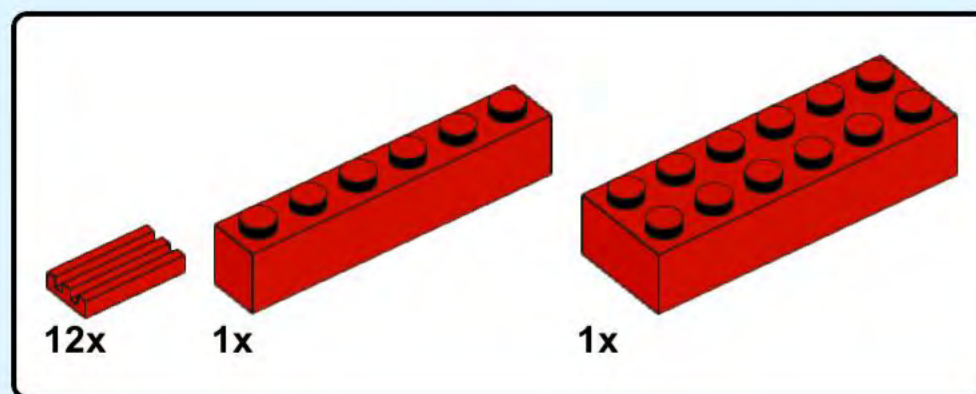
222



# 223

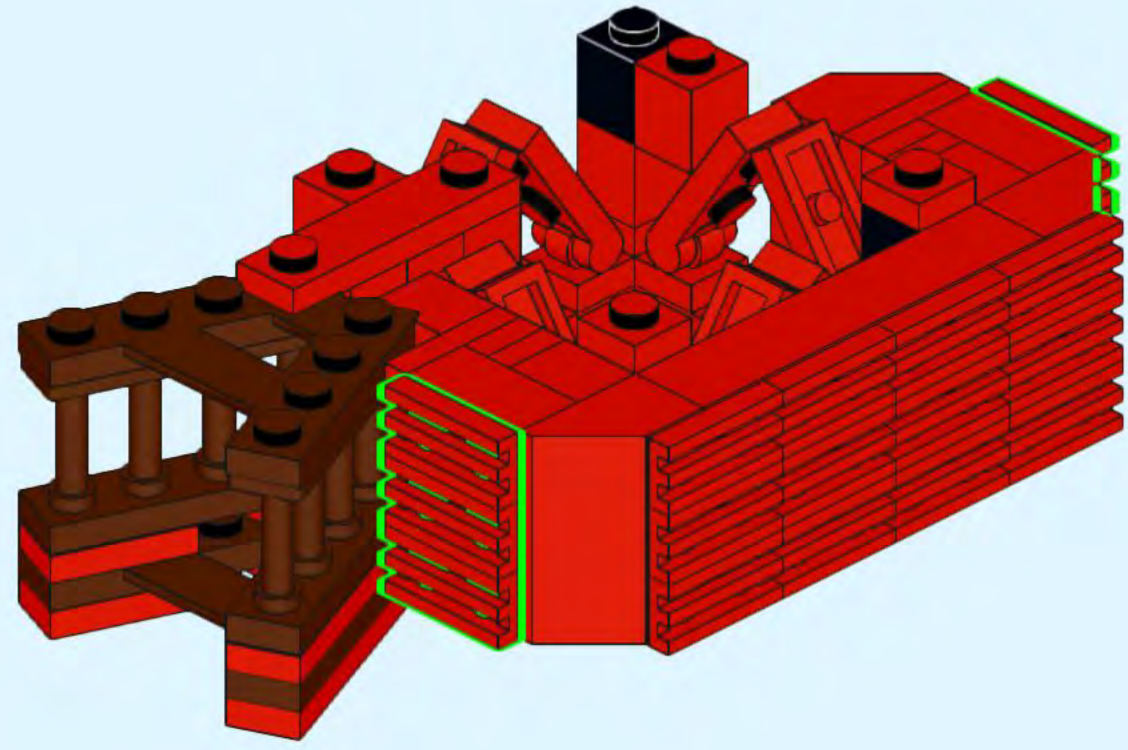


# 224

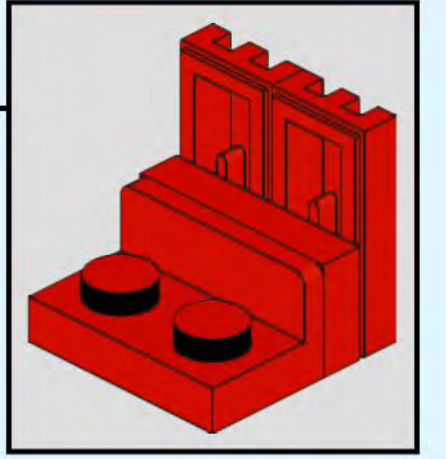
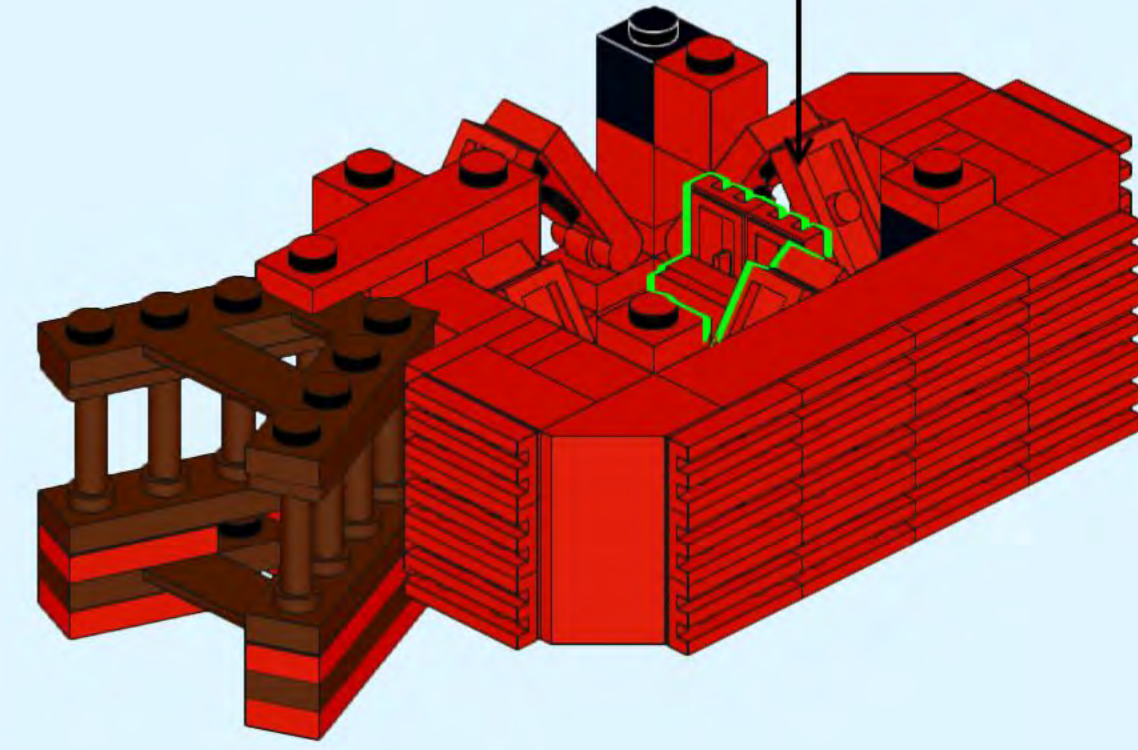
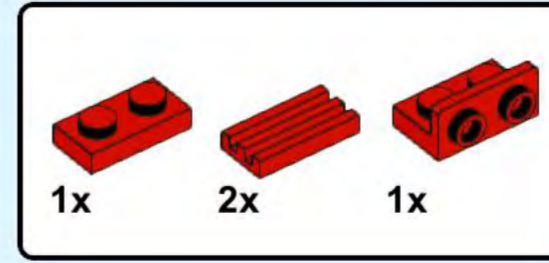




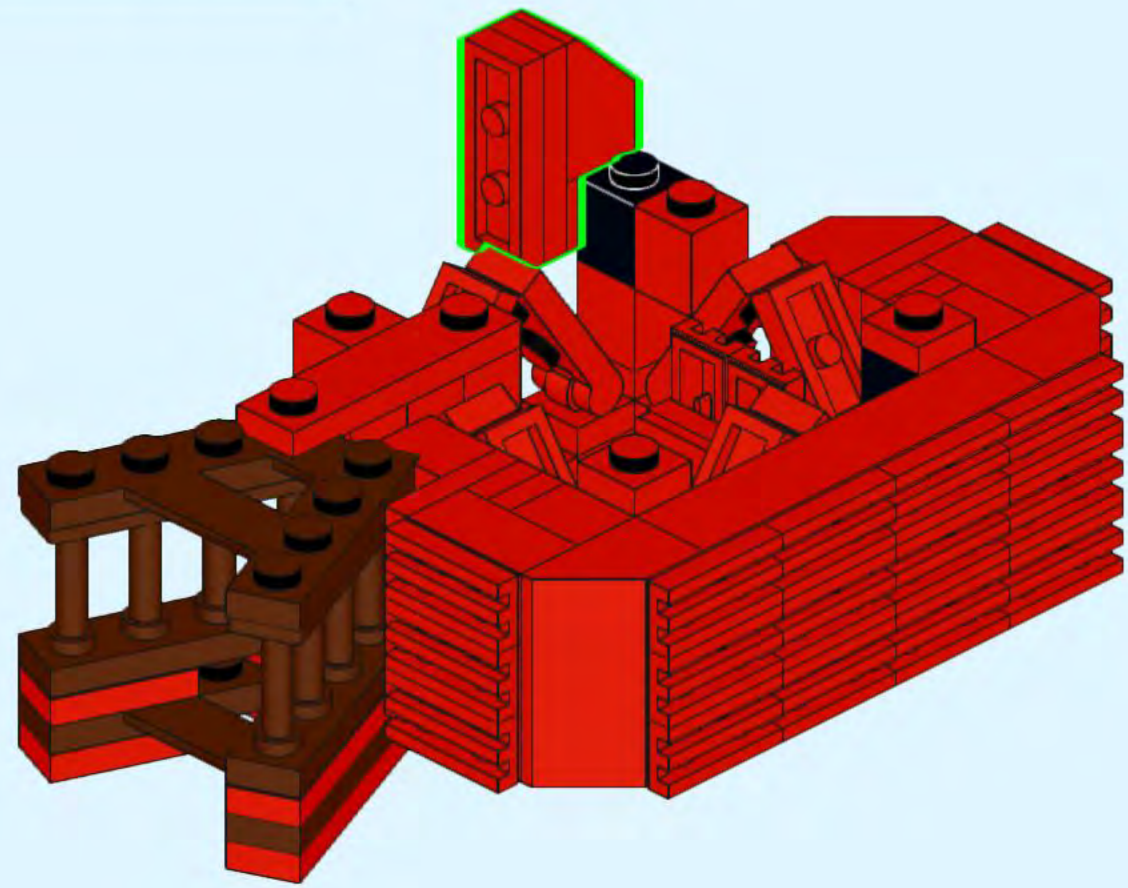
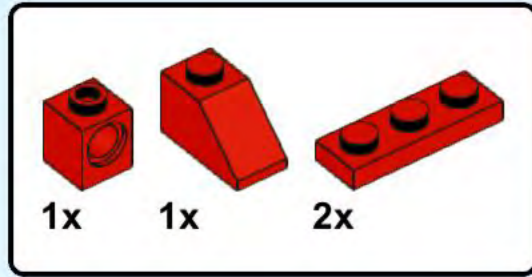
225



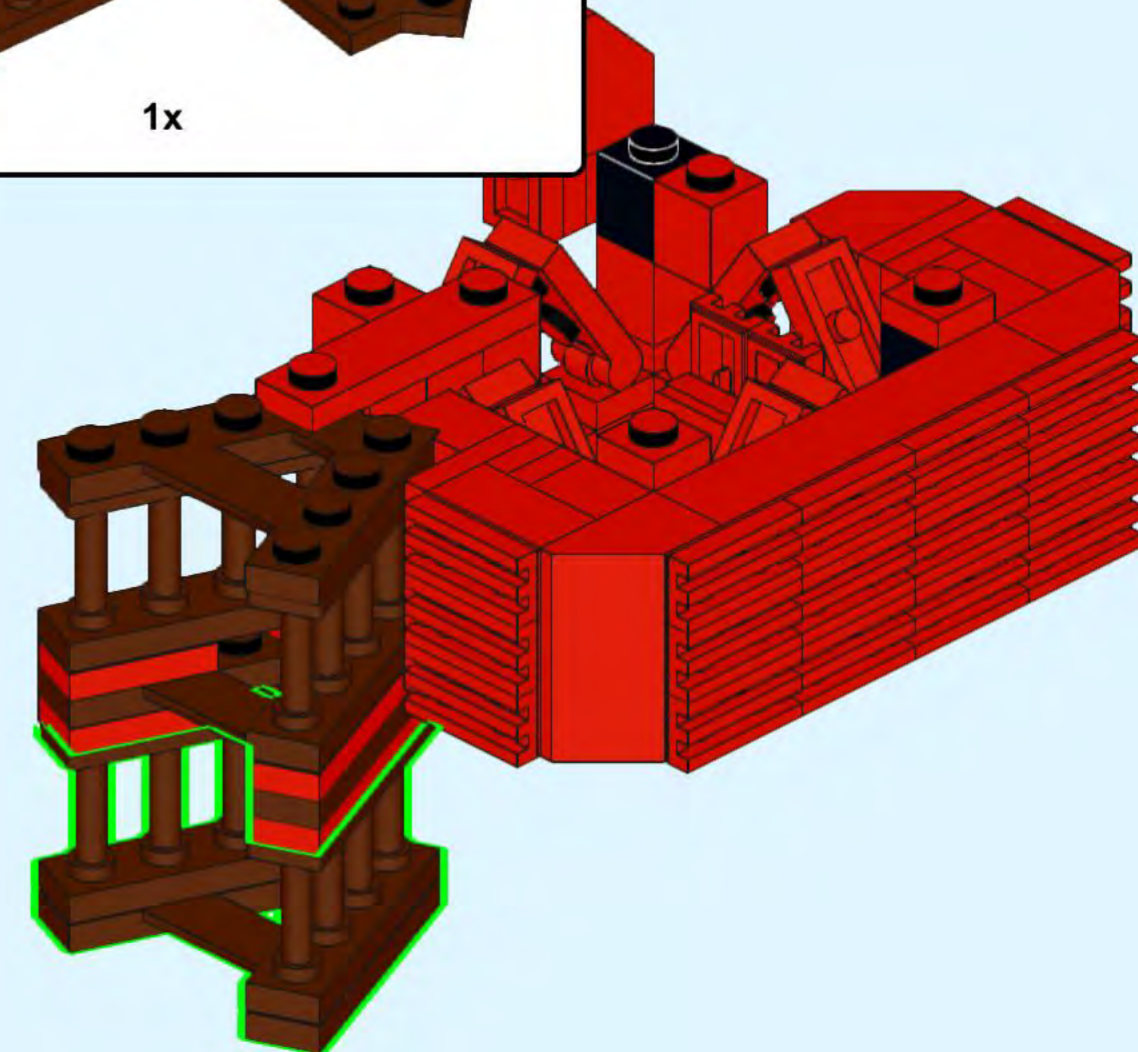
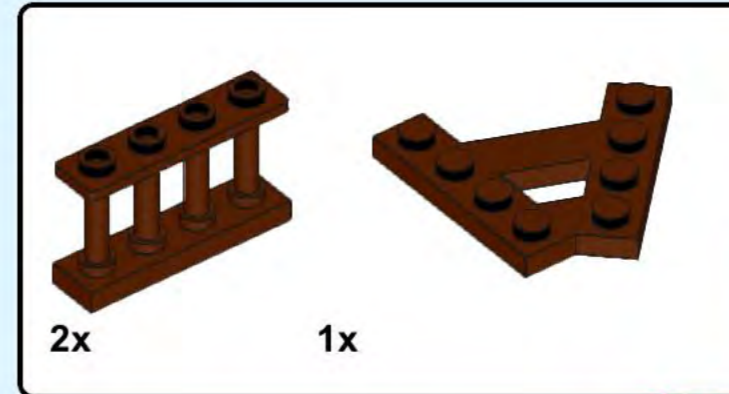
226

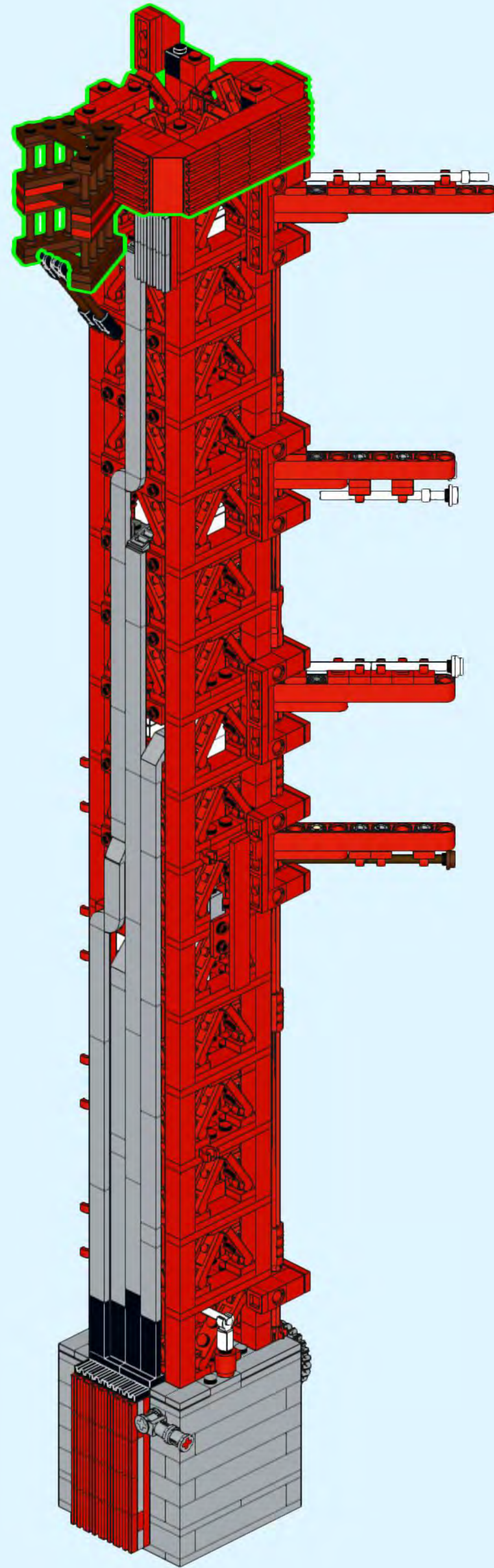


227

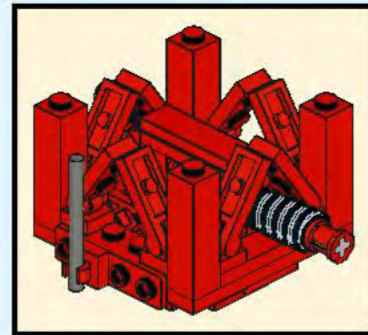
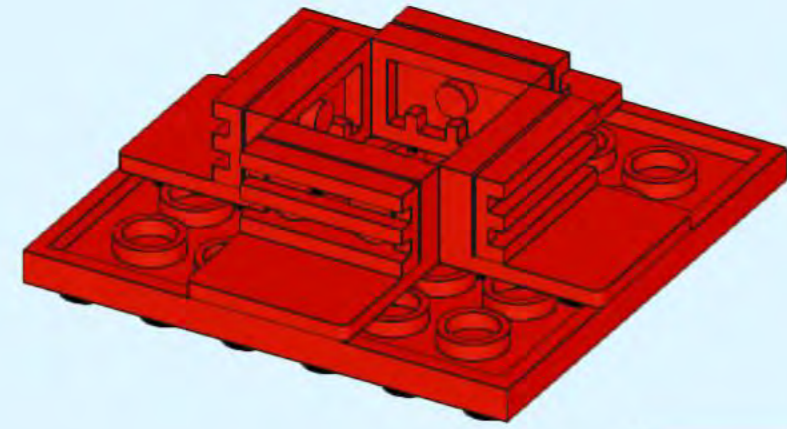
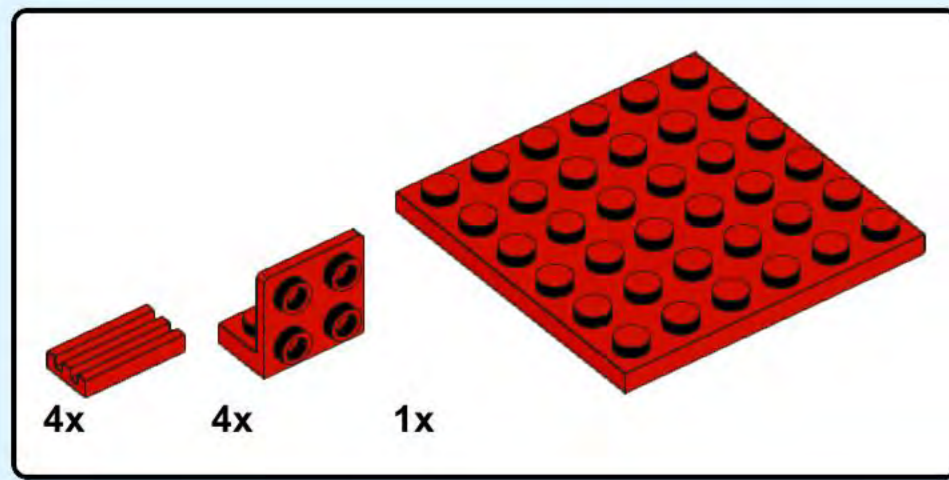


228

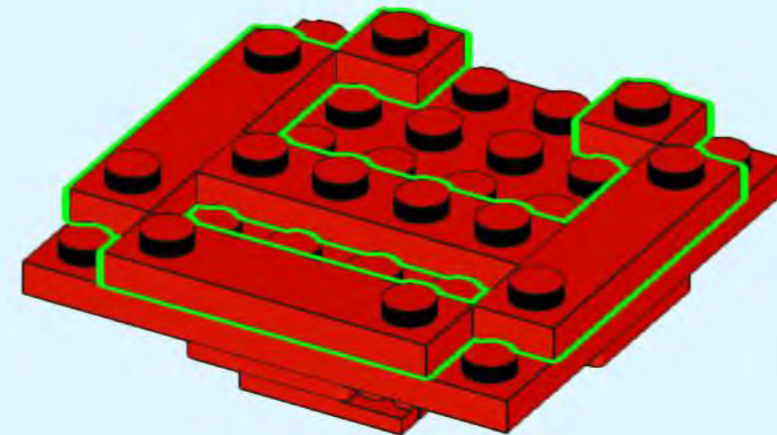
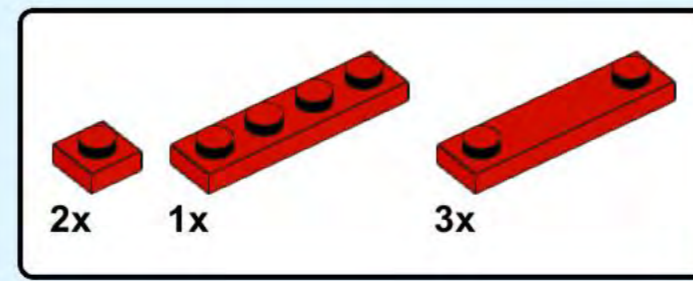




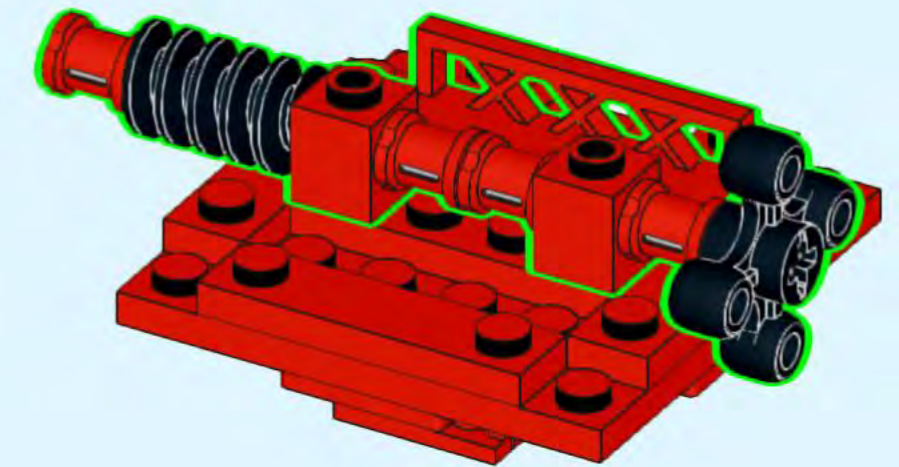
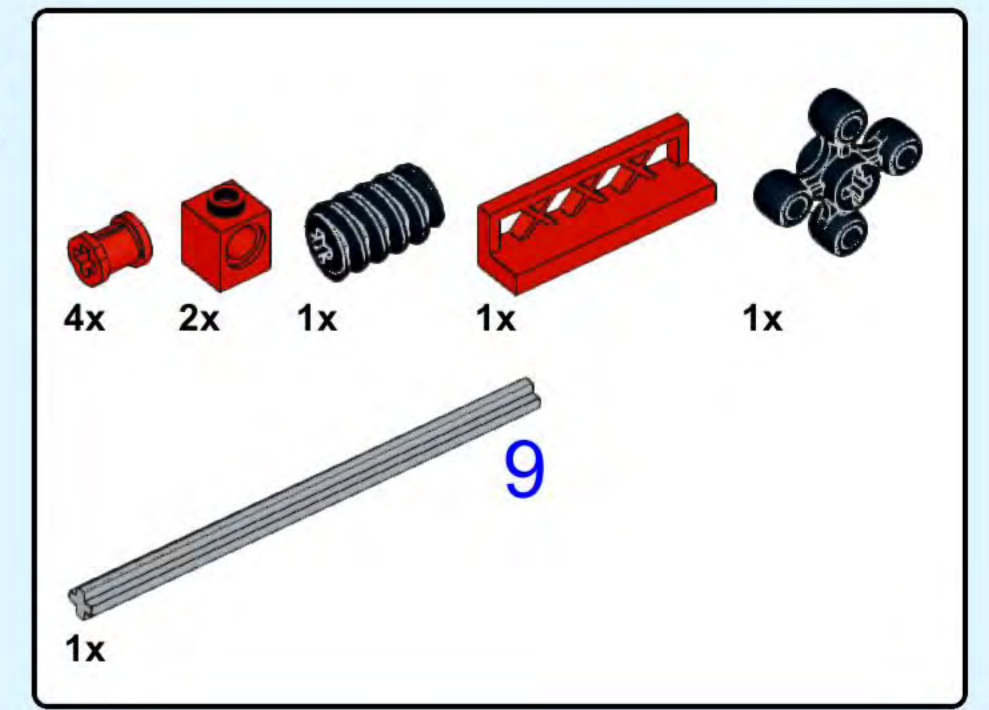
230



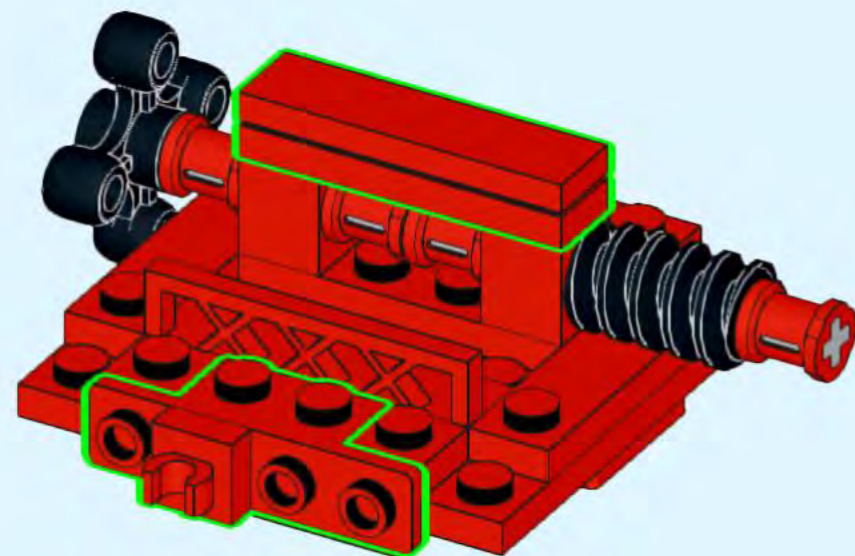
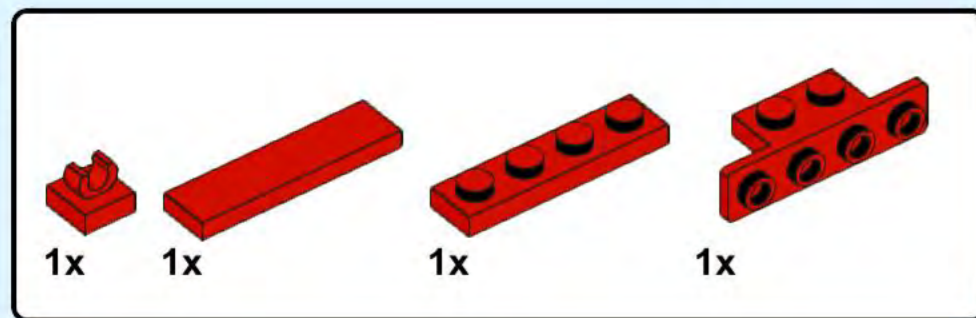
231



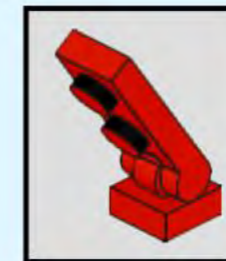
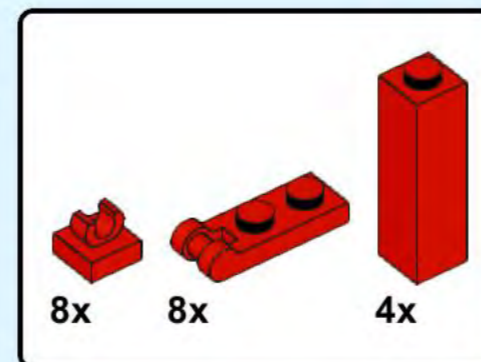
232



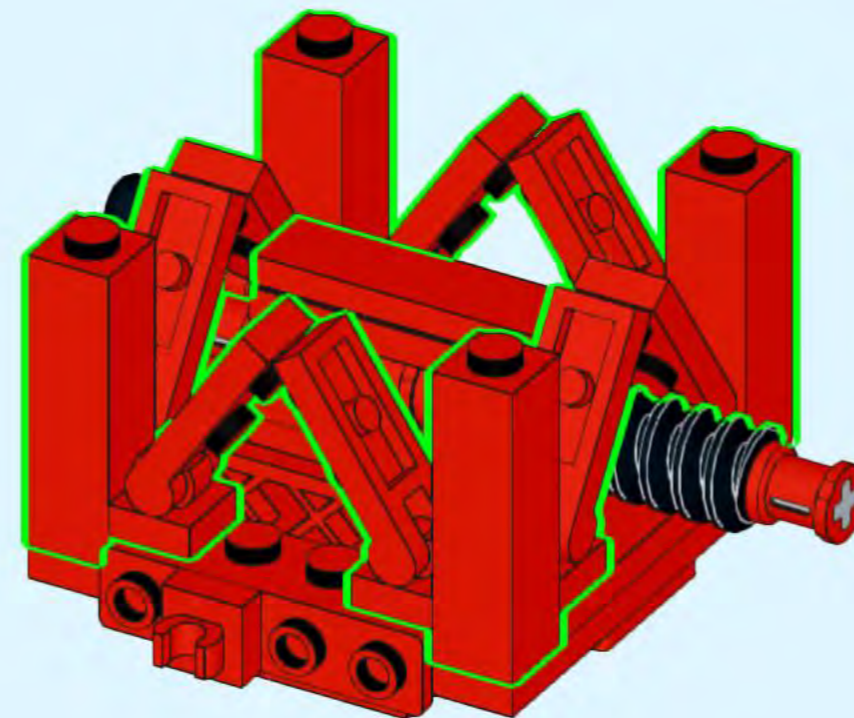
233



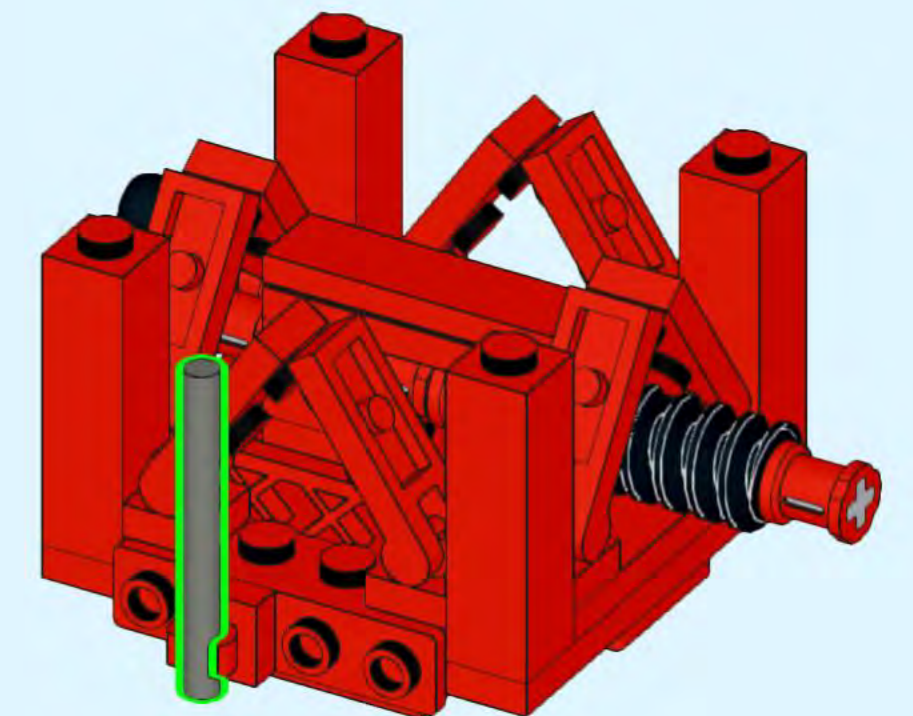
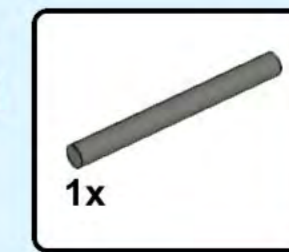
234



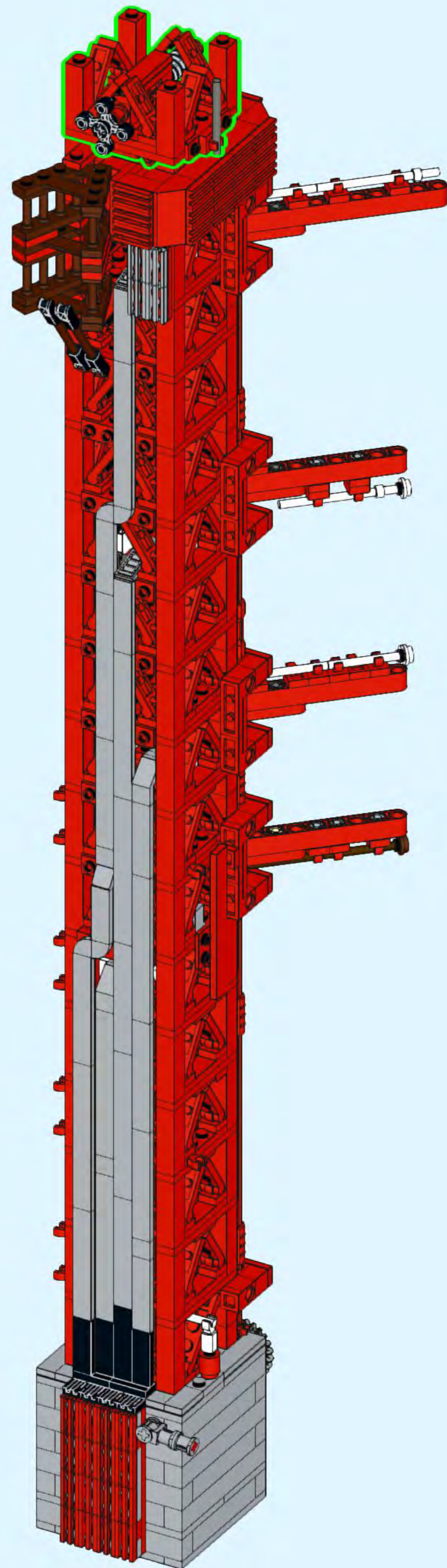
8x



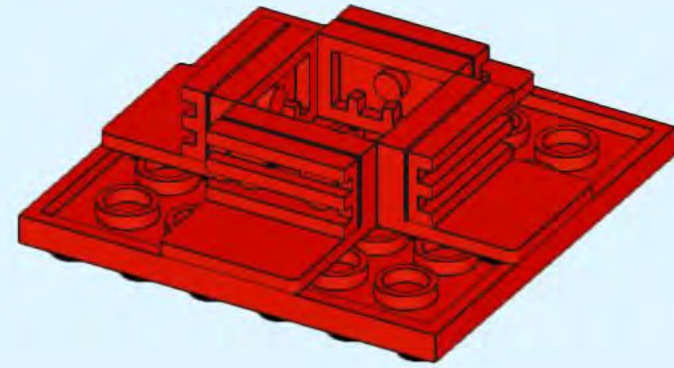
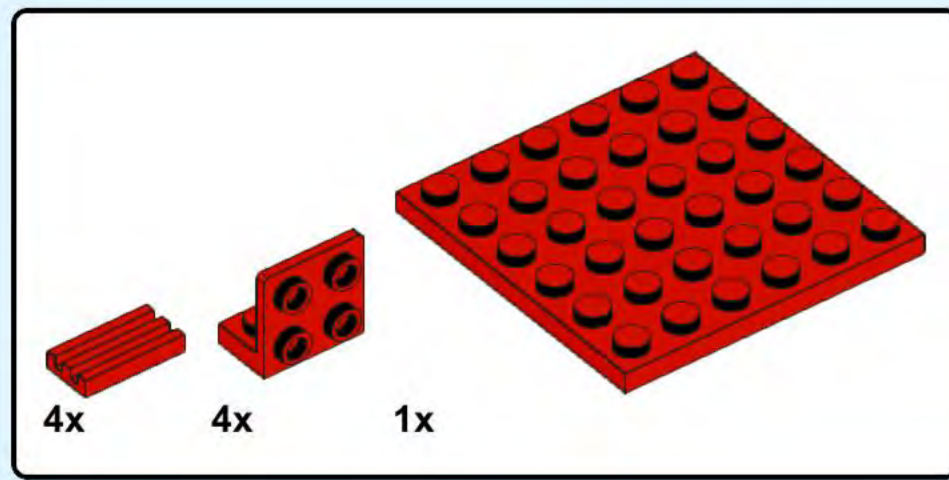
235



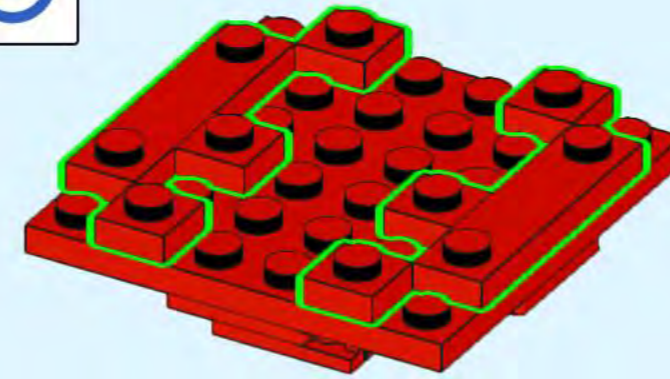
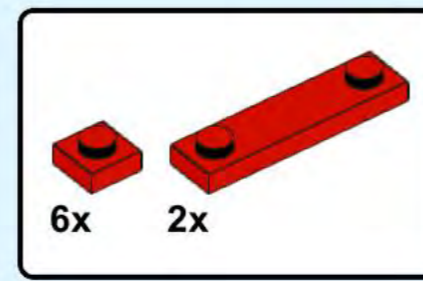
236



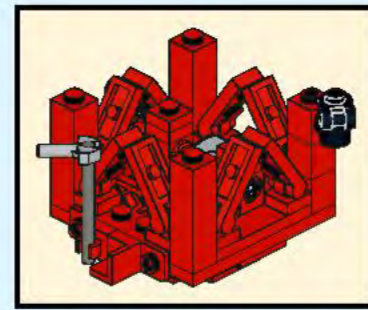
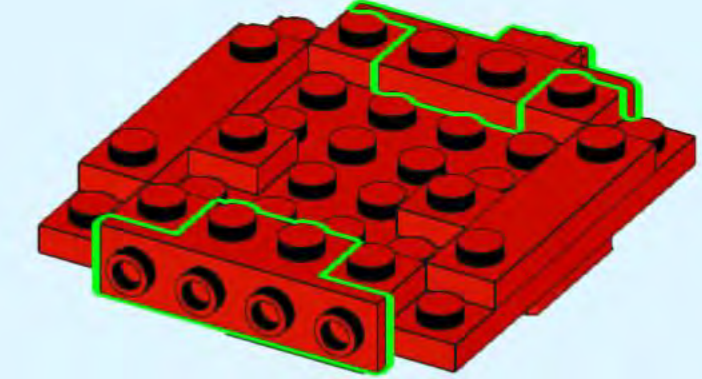
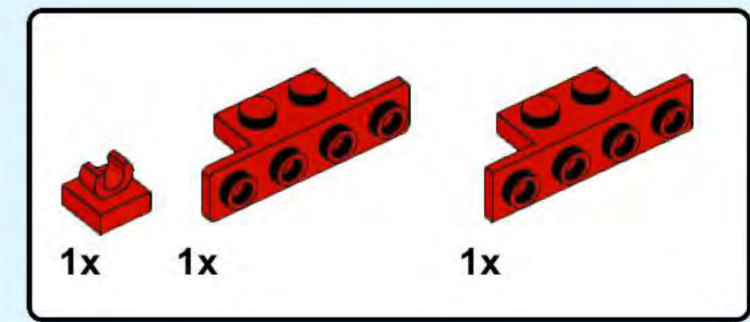
# 237



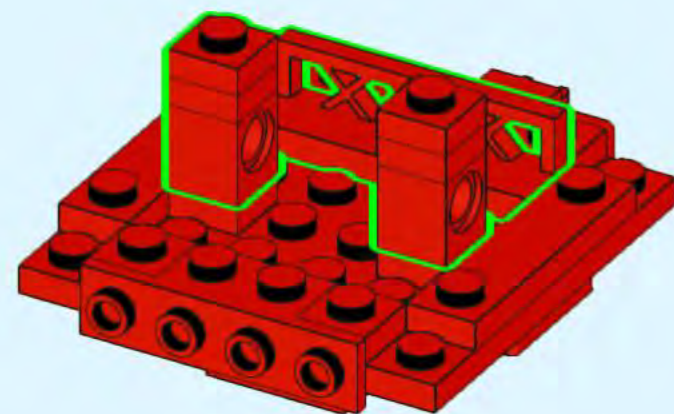
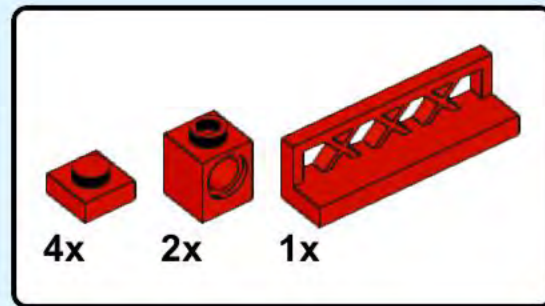
# 238



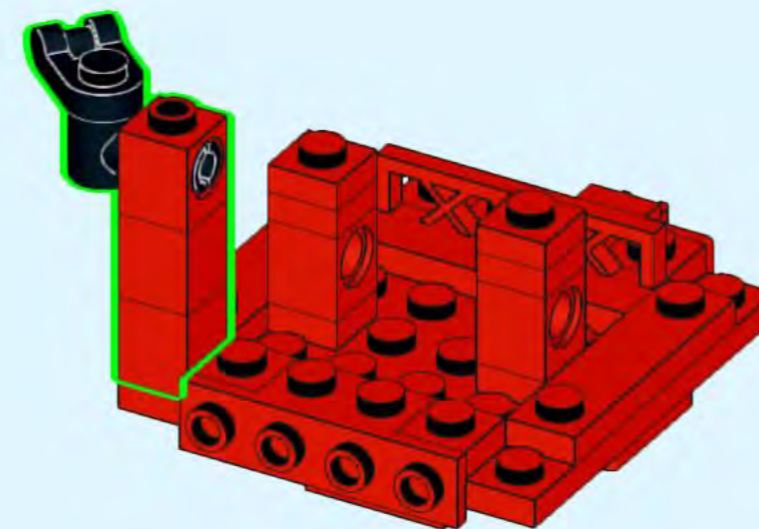
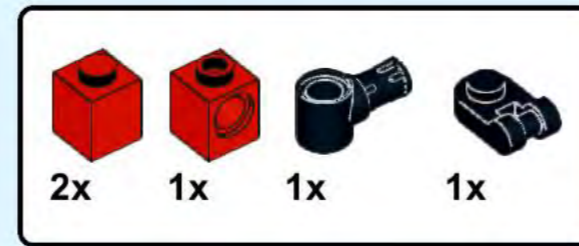
# 239



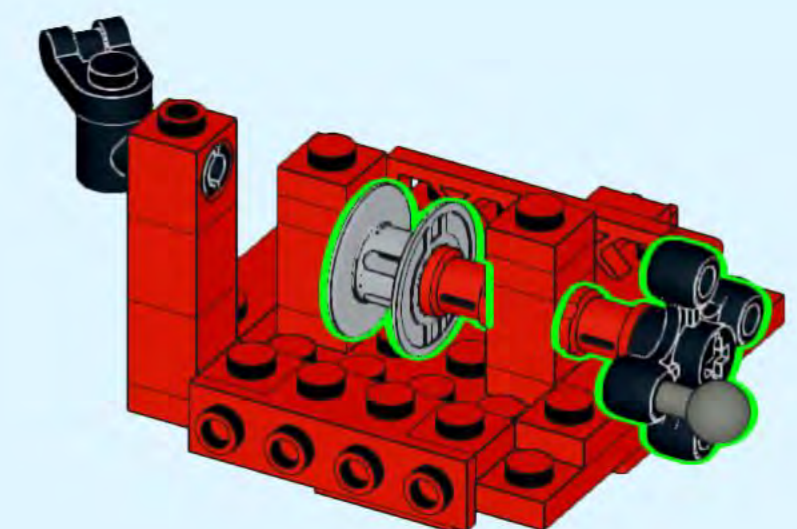
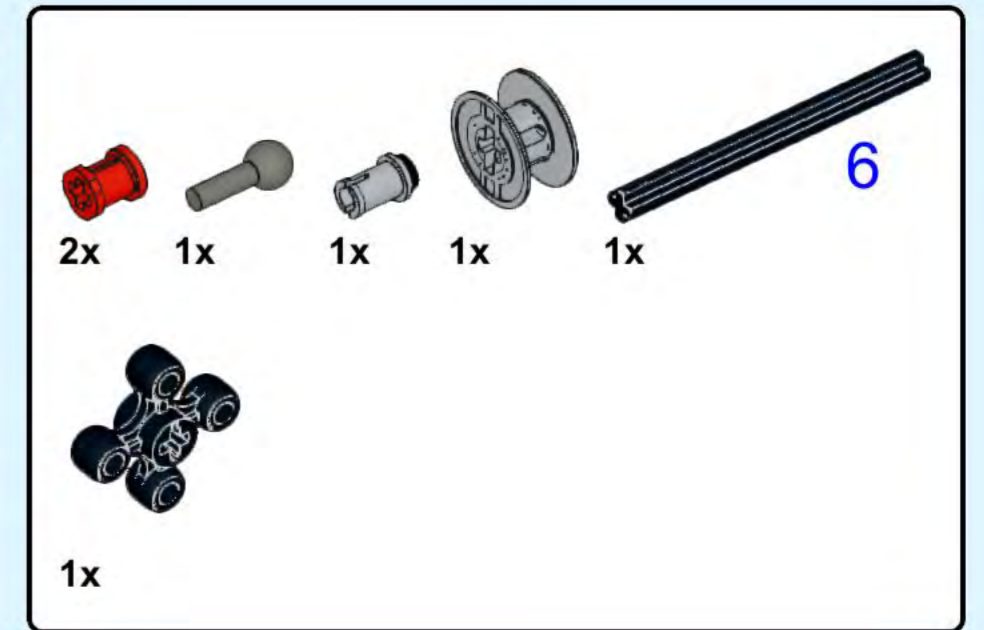
# 240



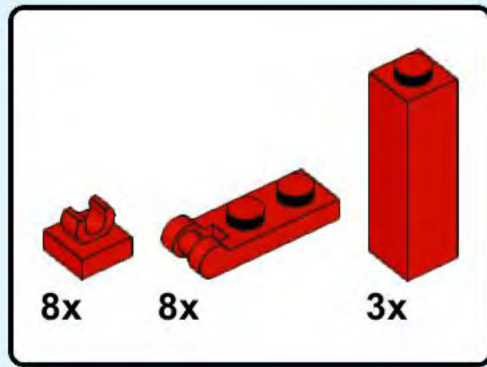
# 241



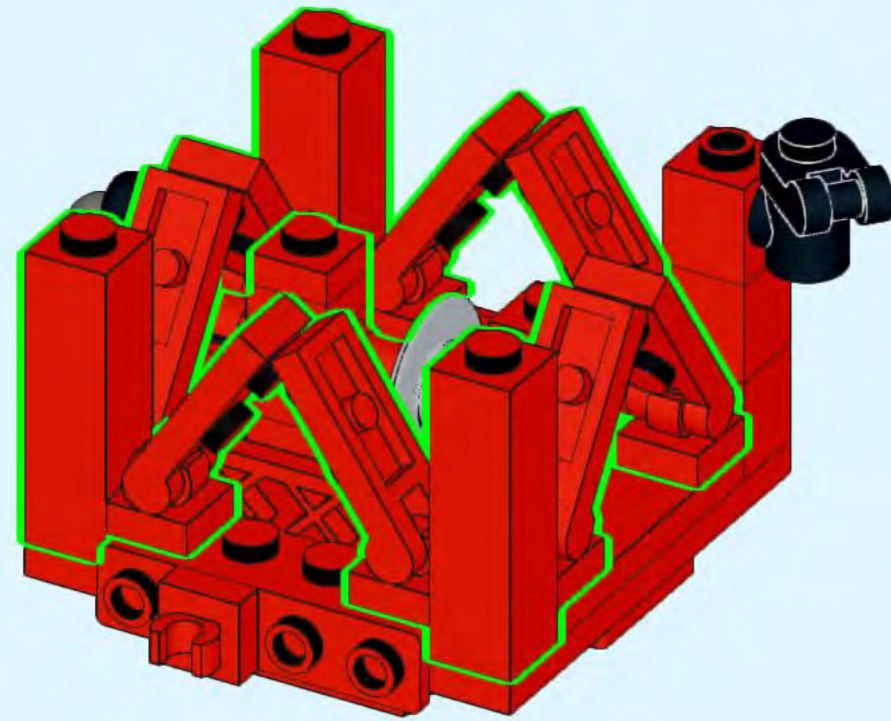
# 242



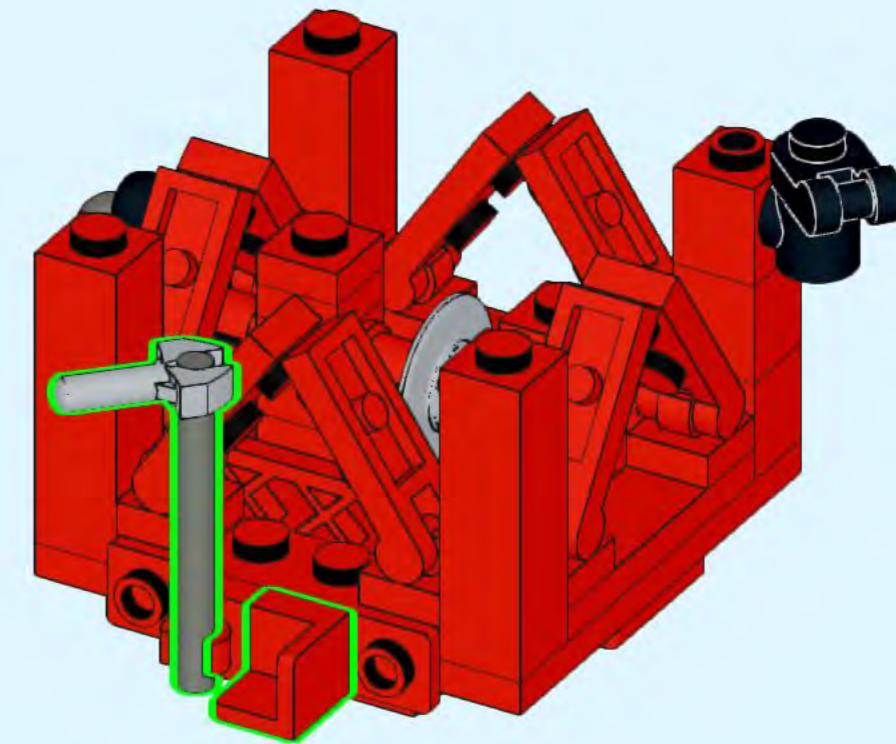
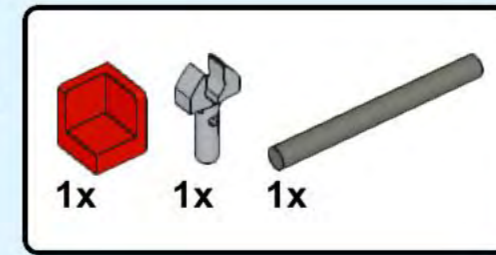
243



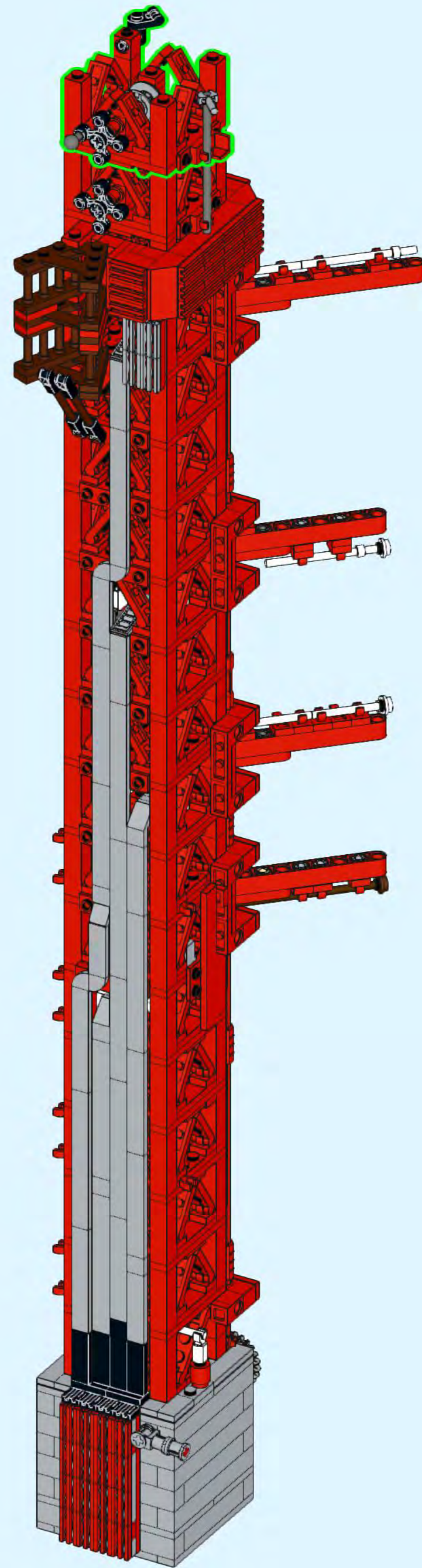
8x



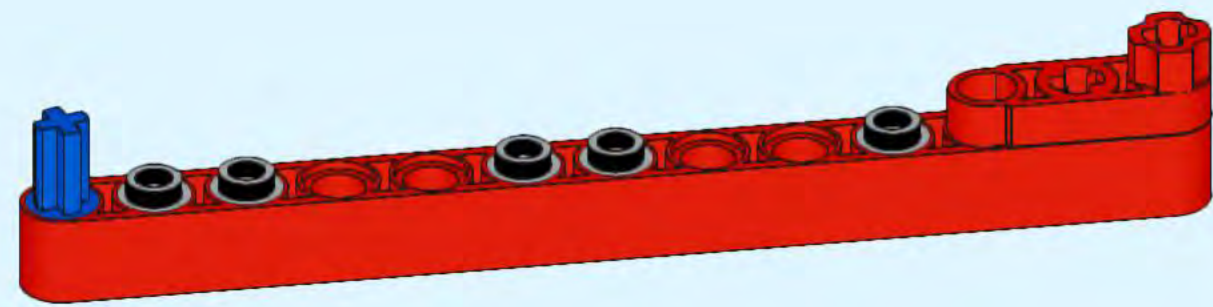
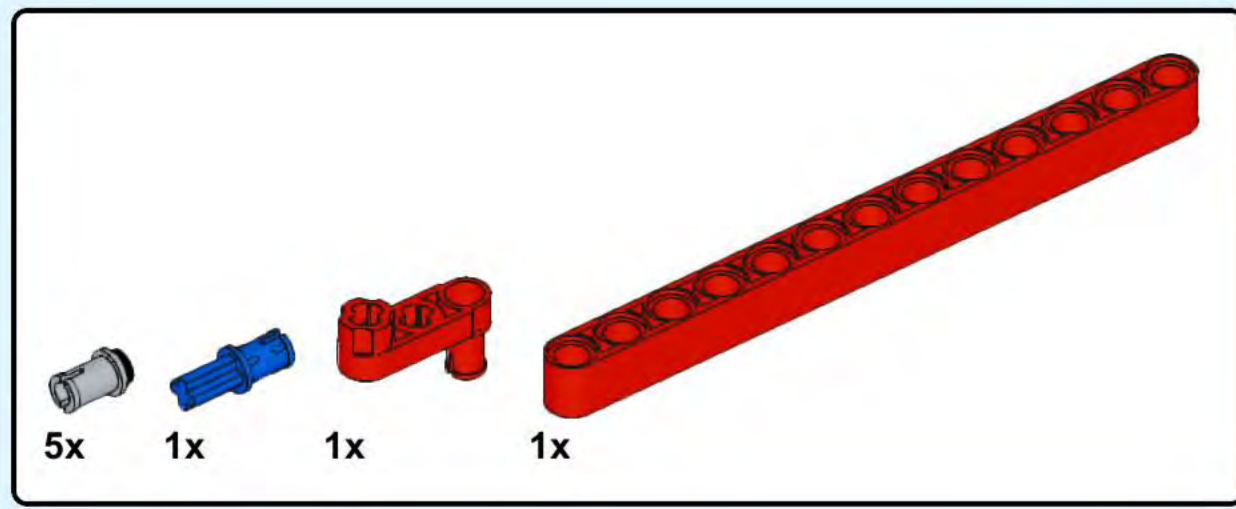
244



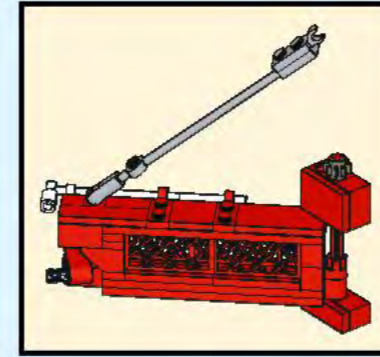
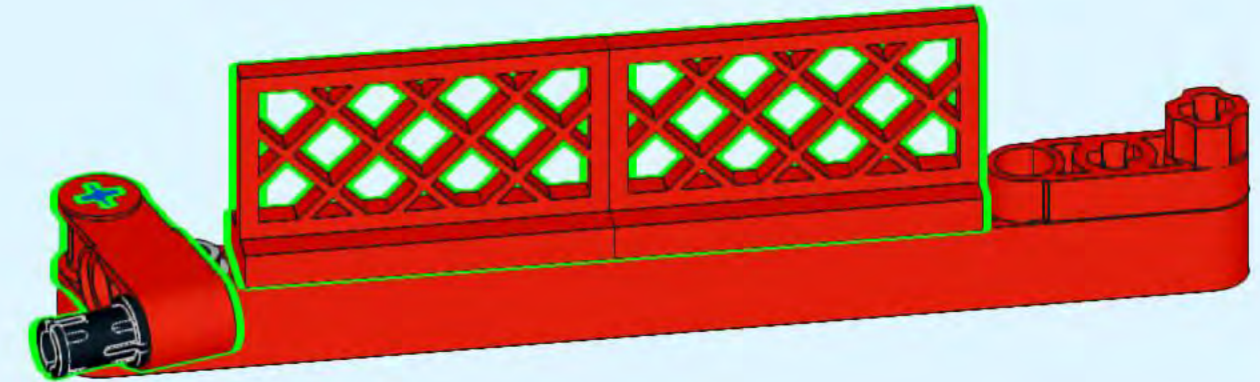
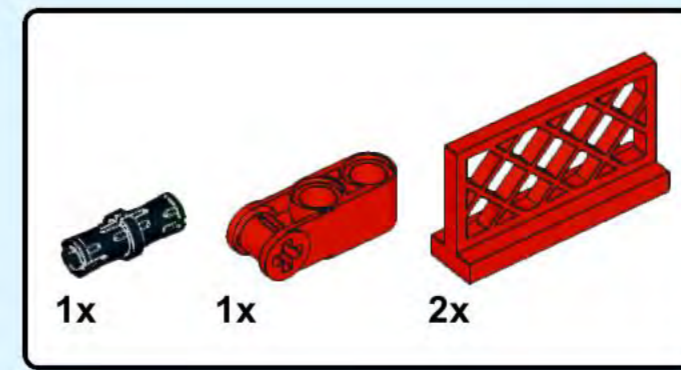
245



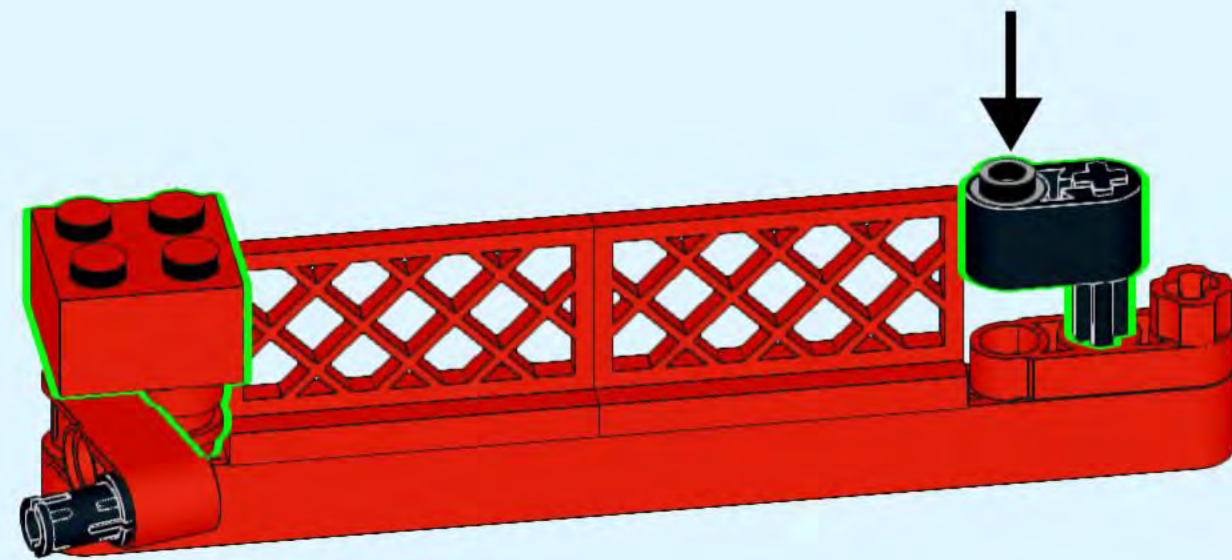
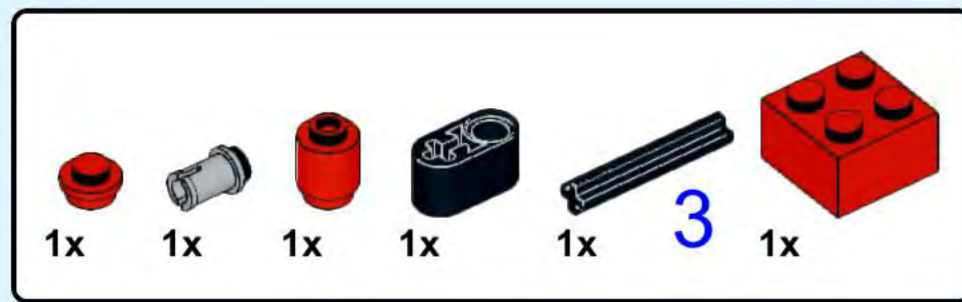
246



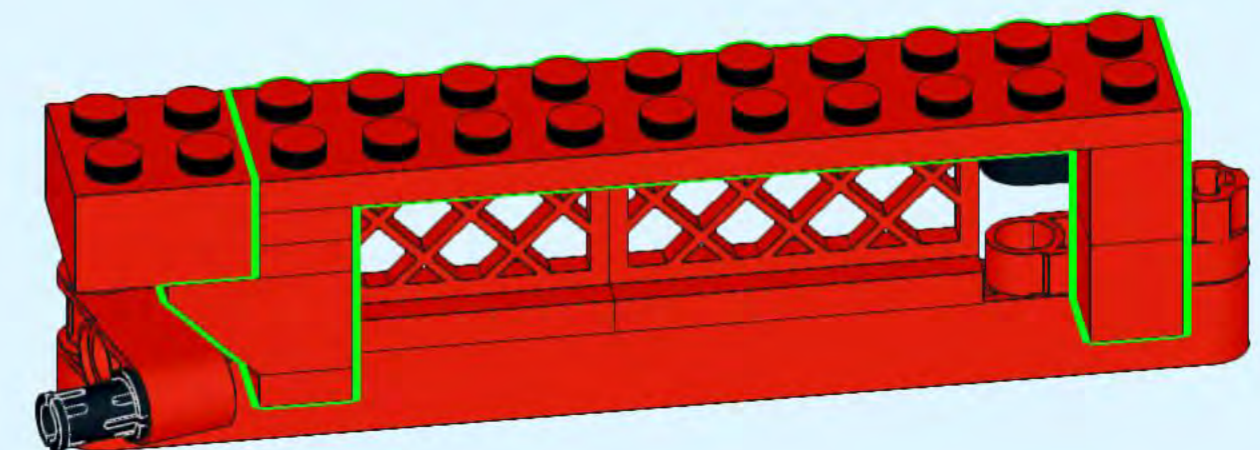
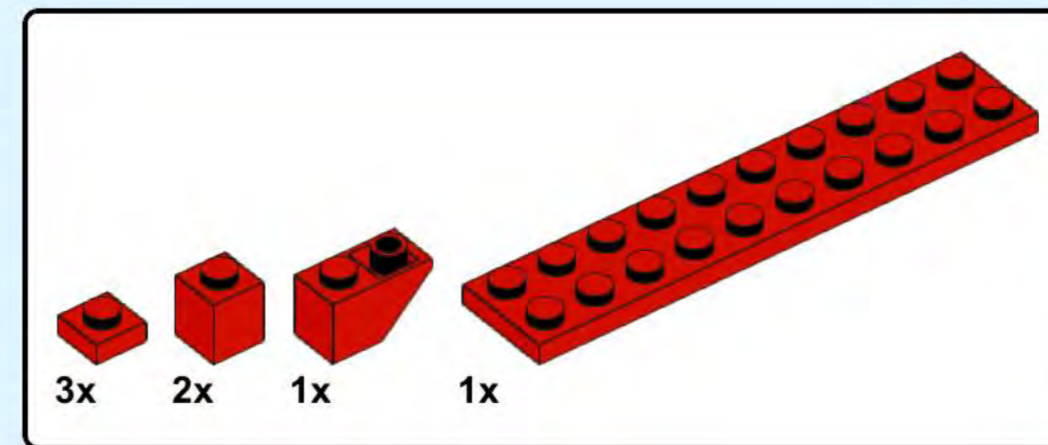
247



248



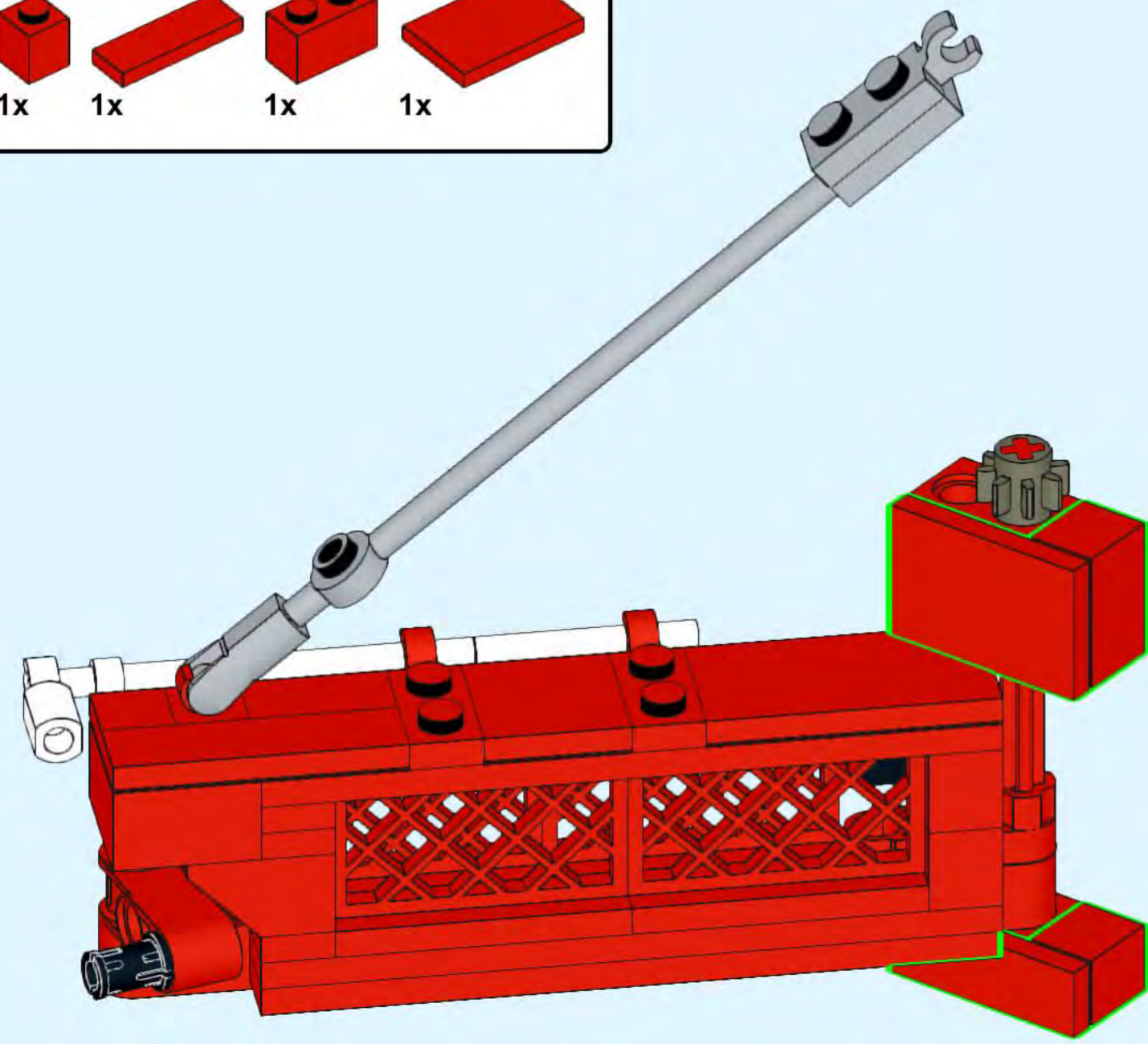
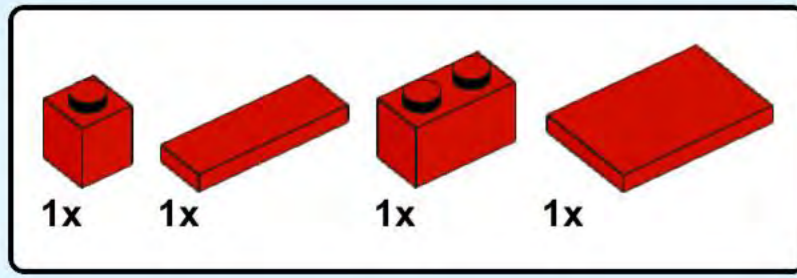
249



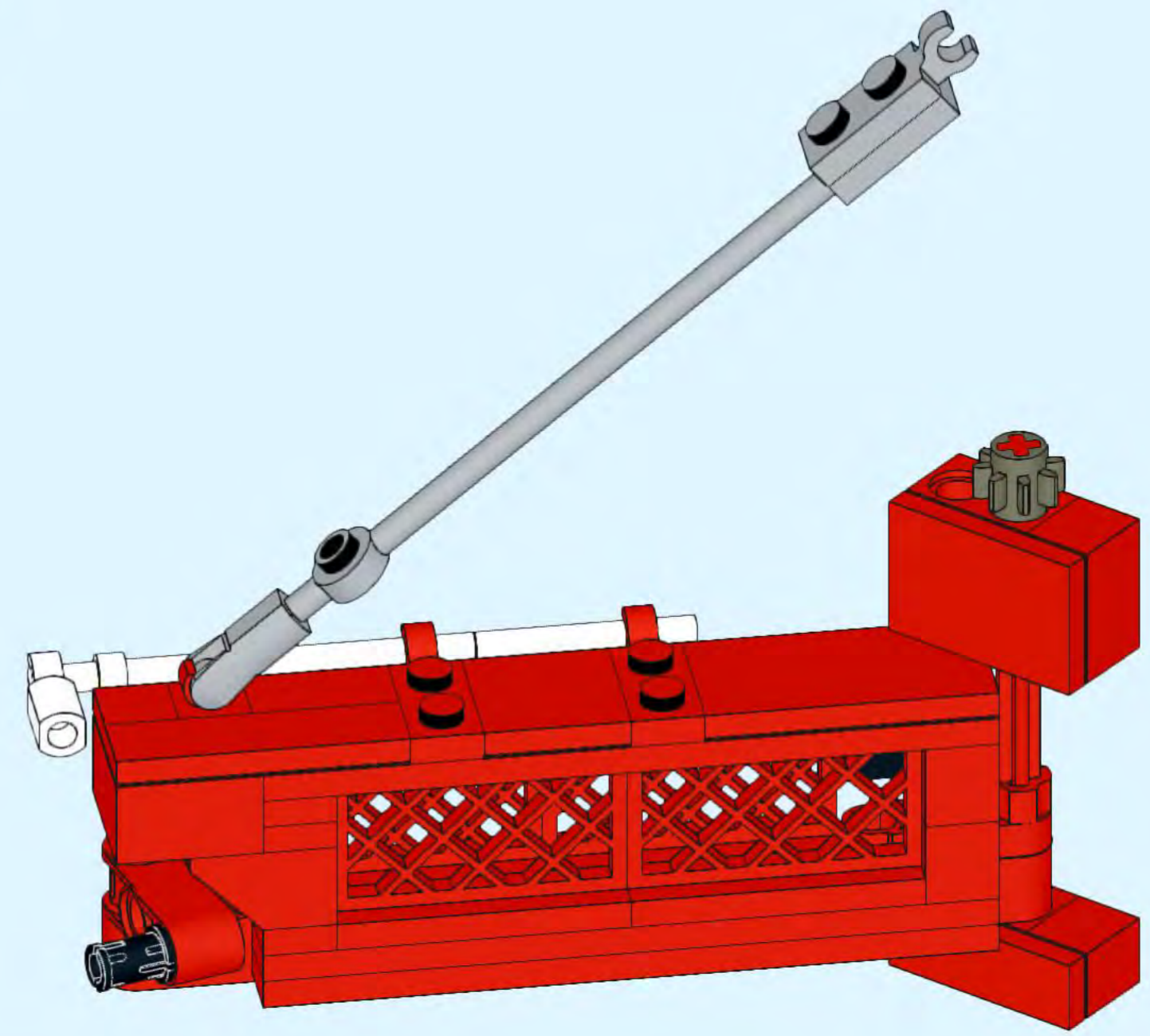




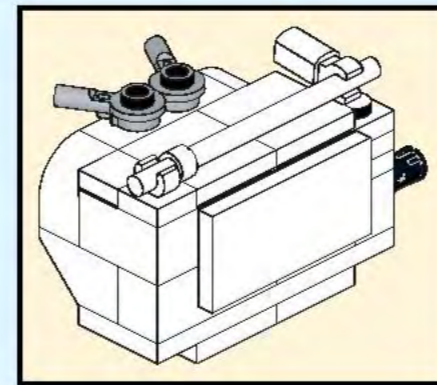
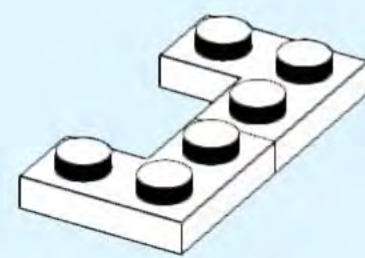
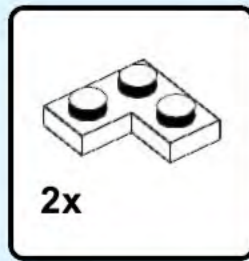
254



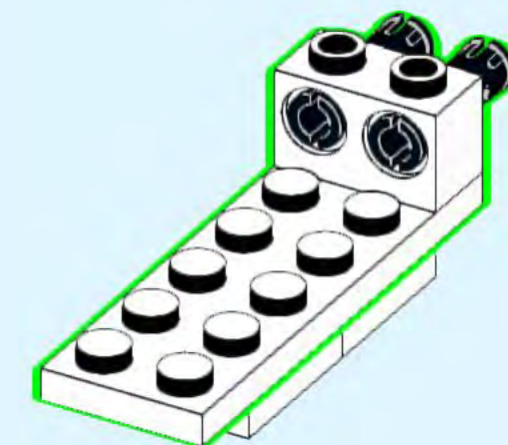
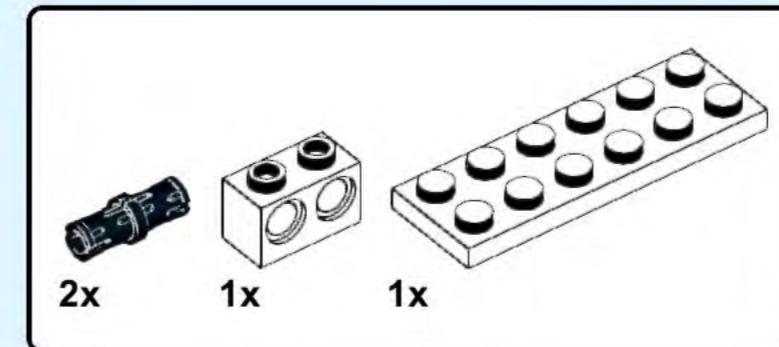
255



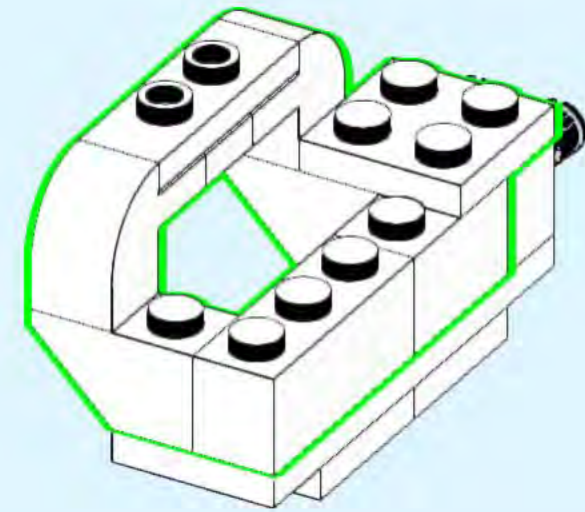
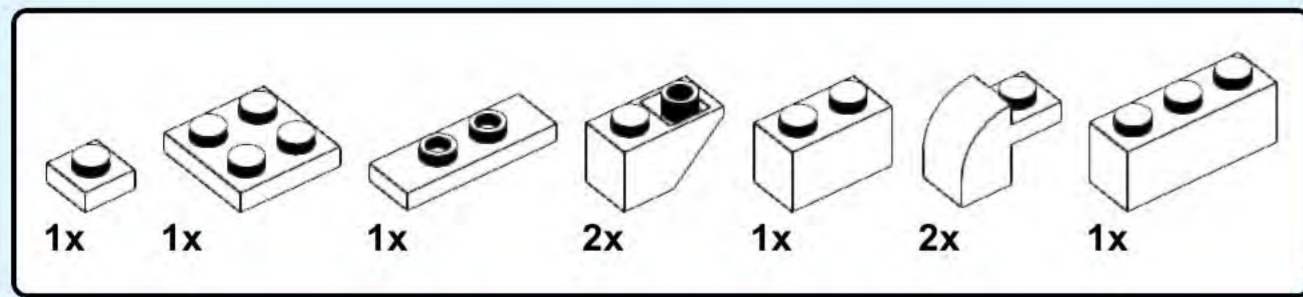
256



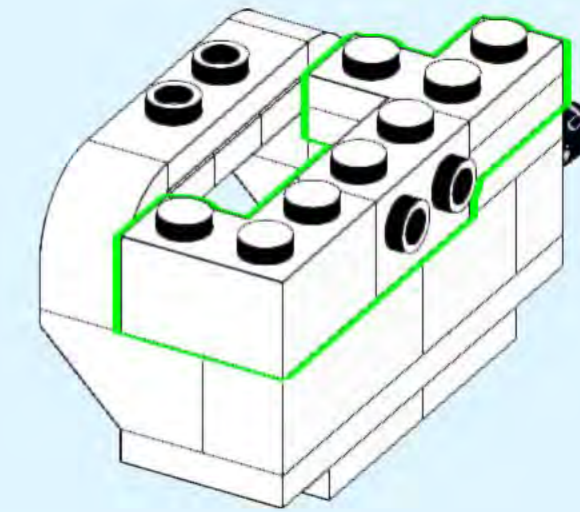
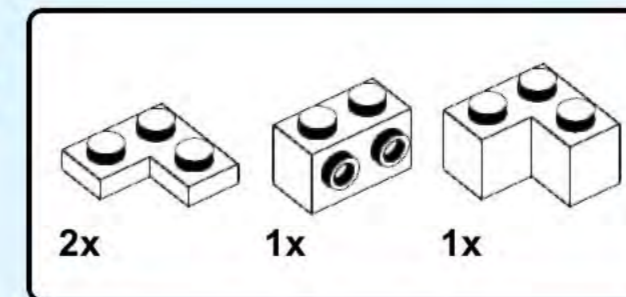
257



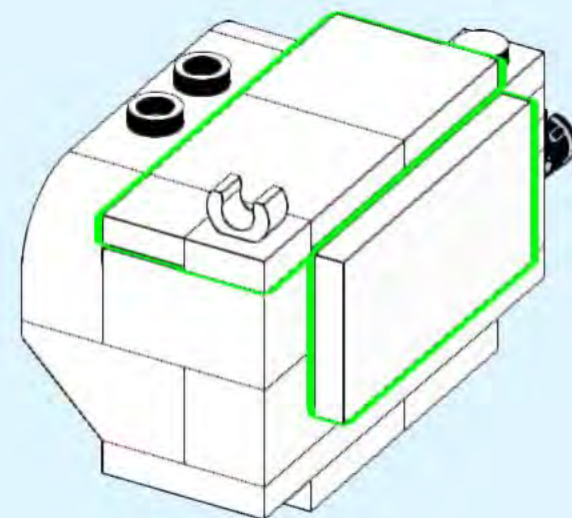
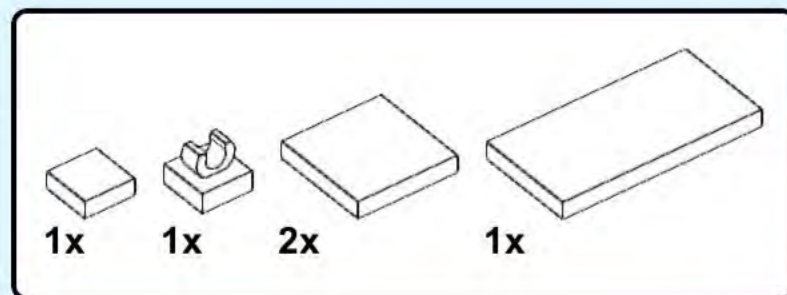
# 258



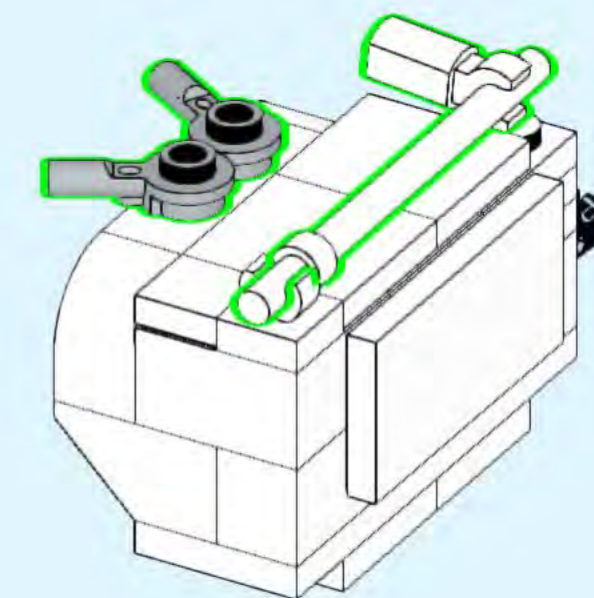
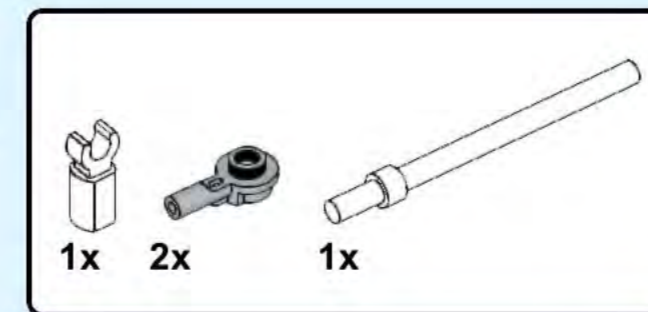
# 259



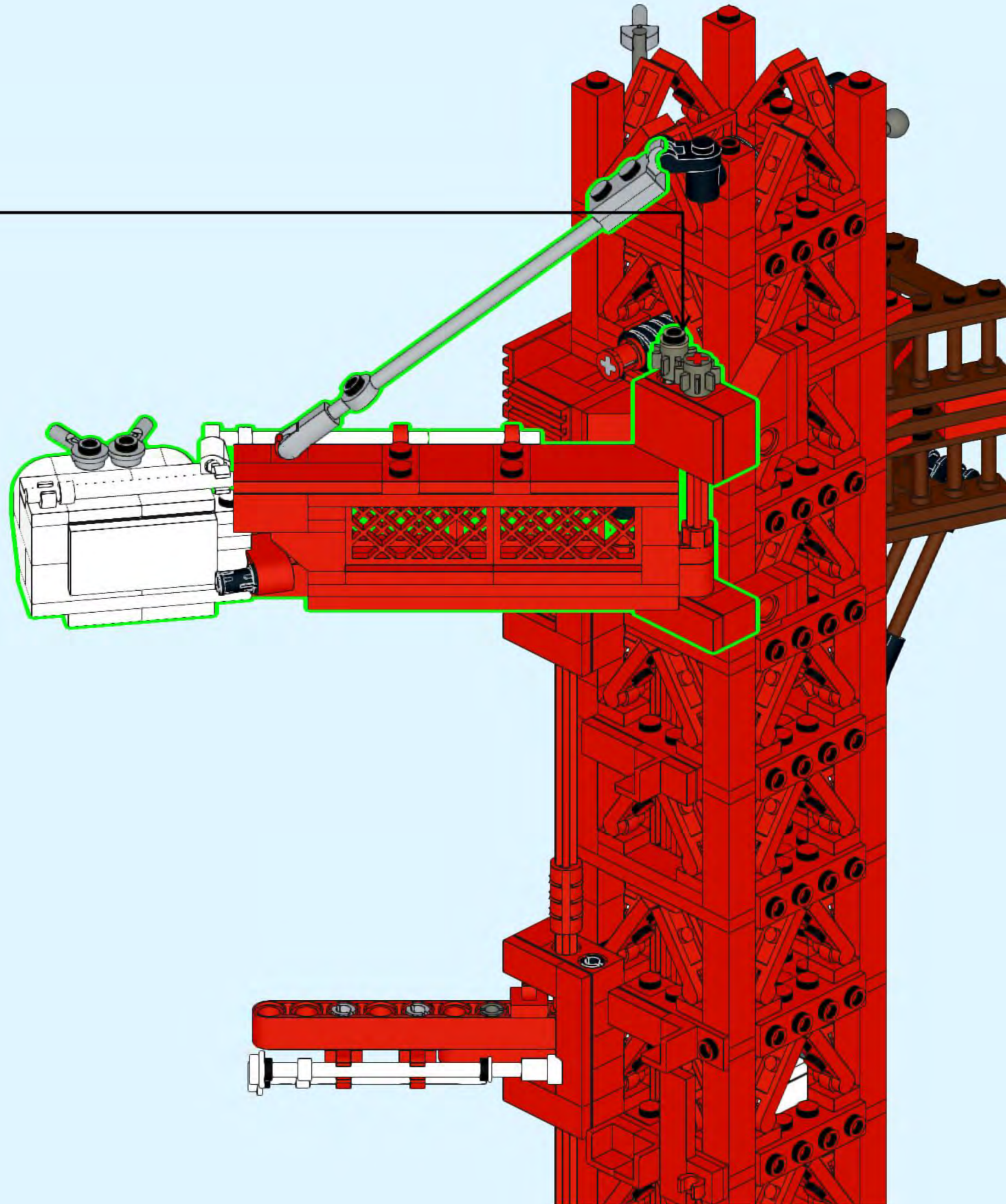
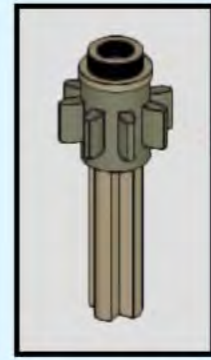
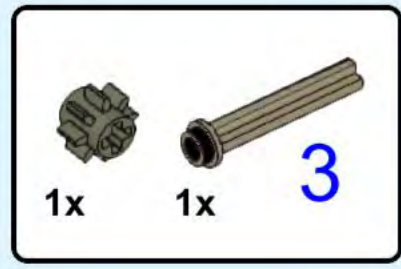
# 260



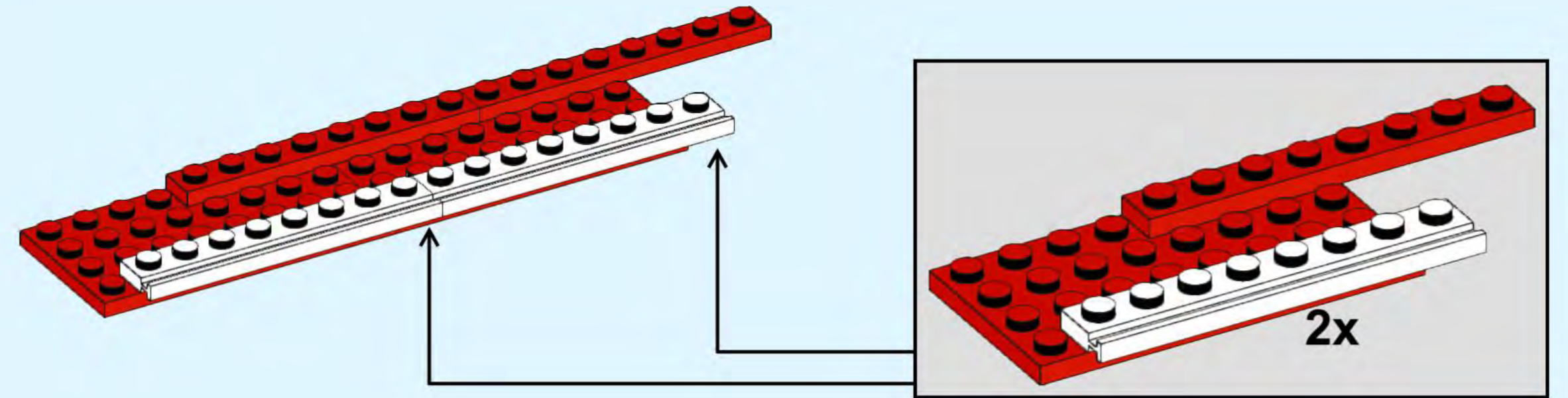
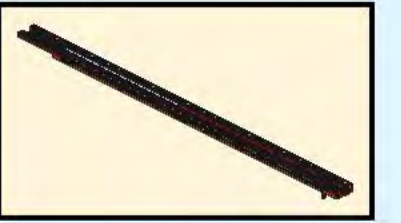
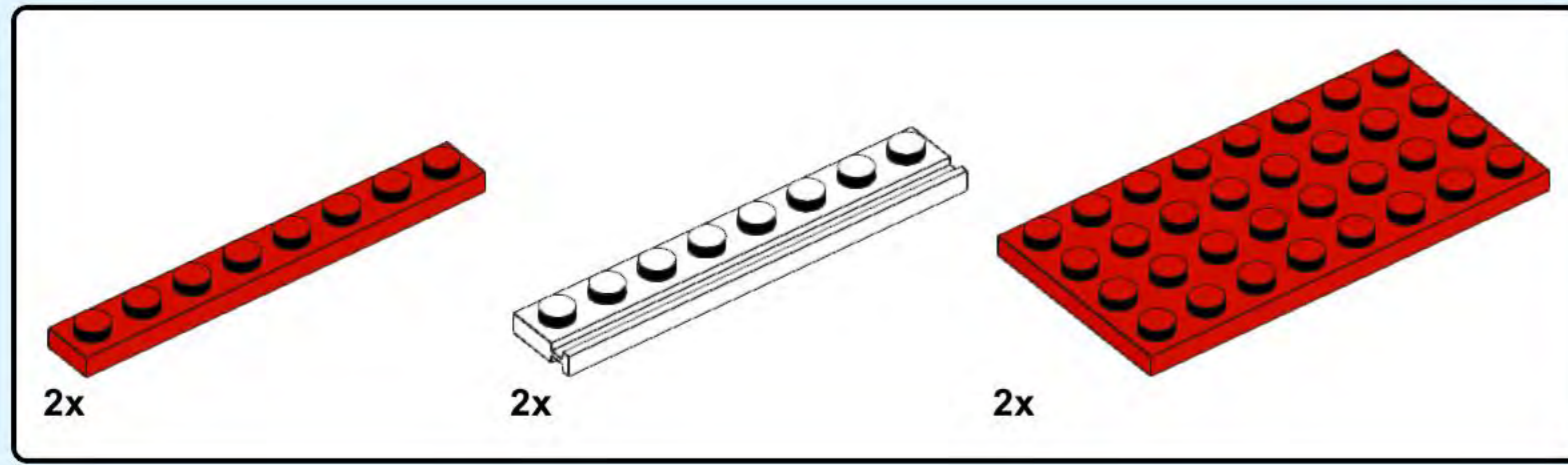
# 261



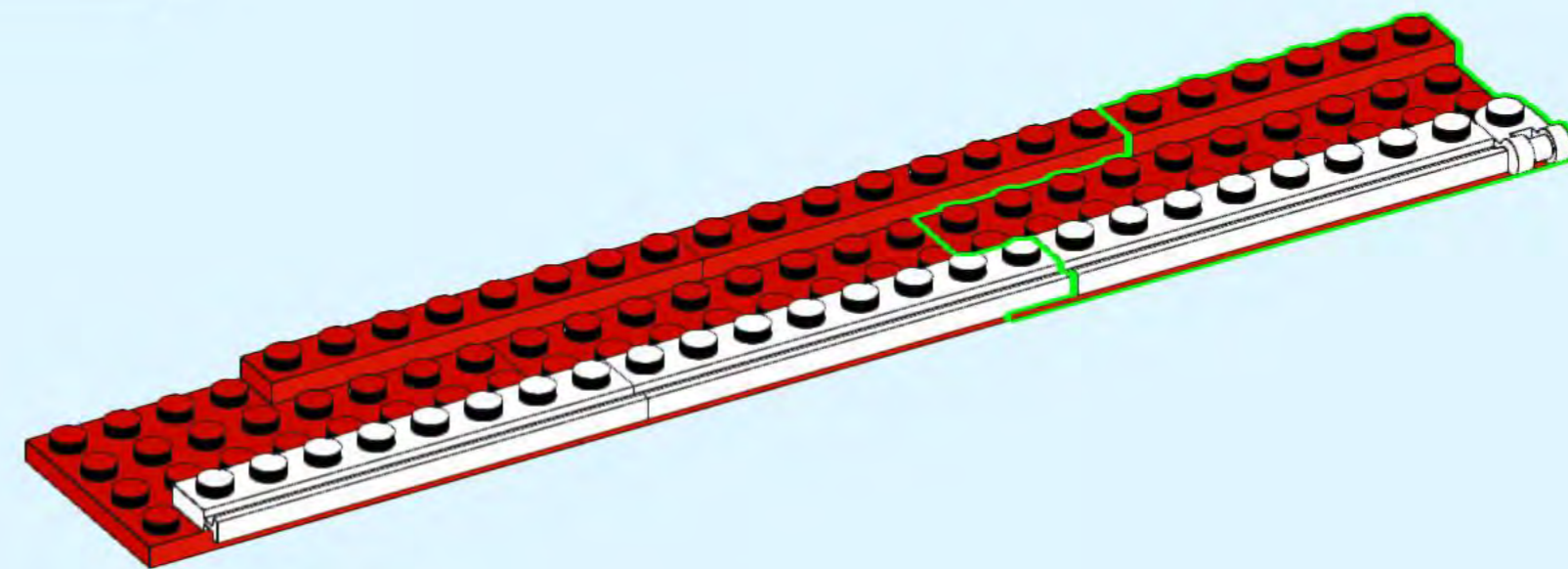
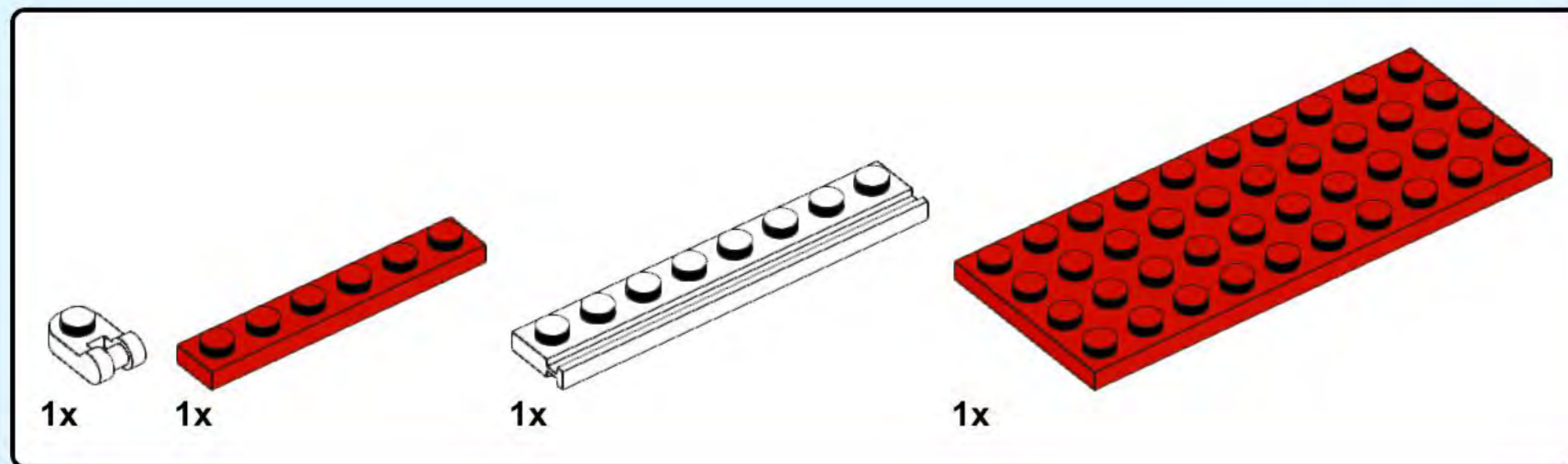
262



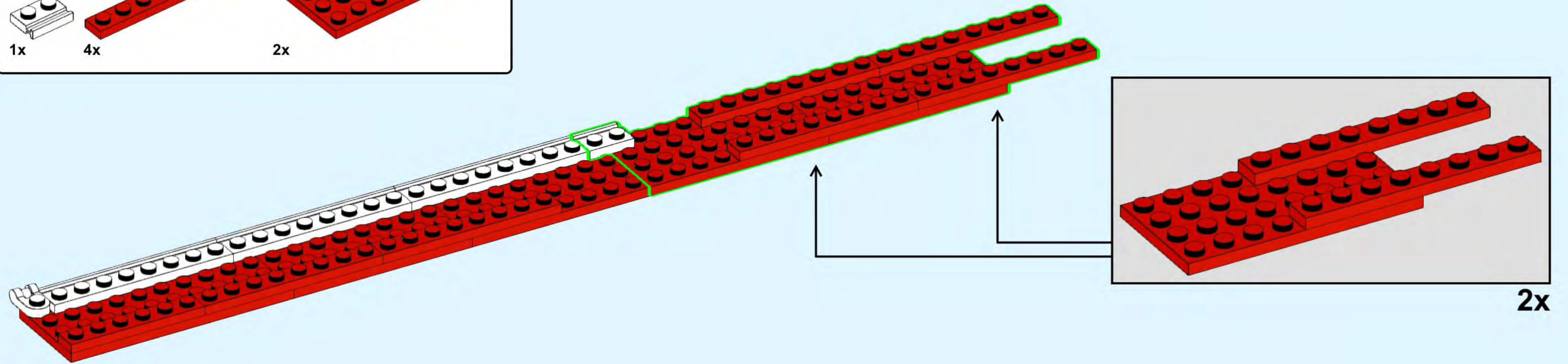
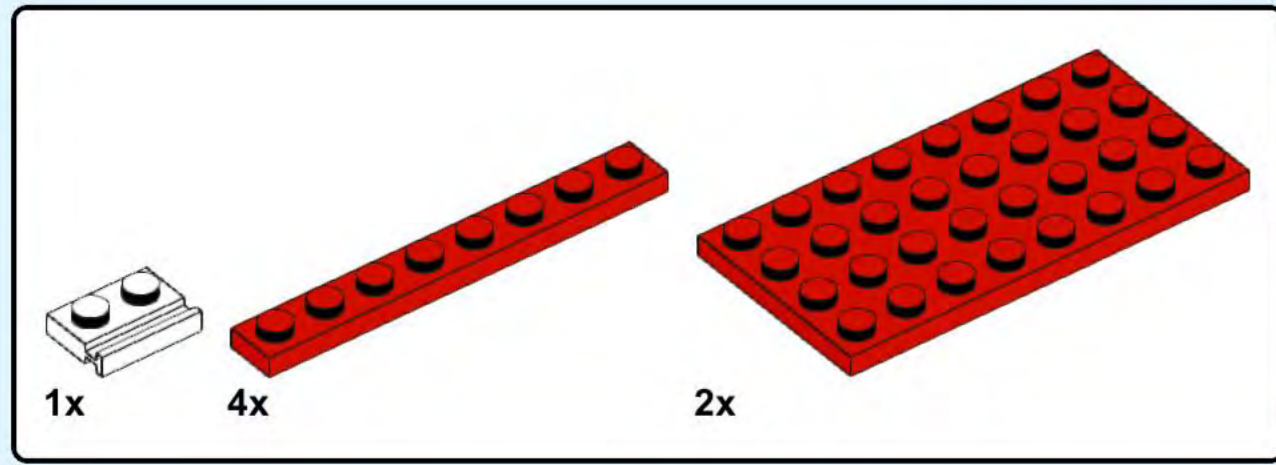
# 263



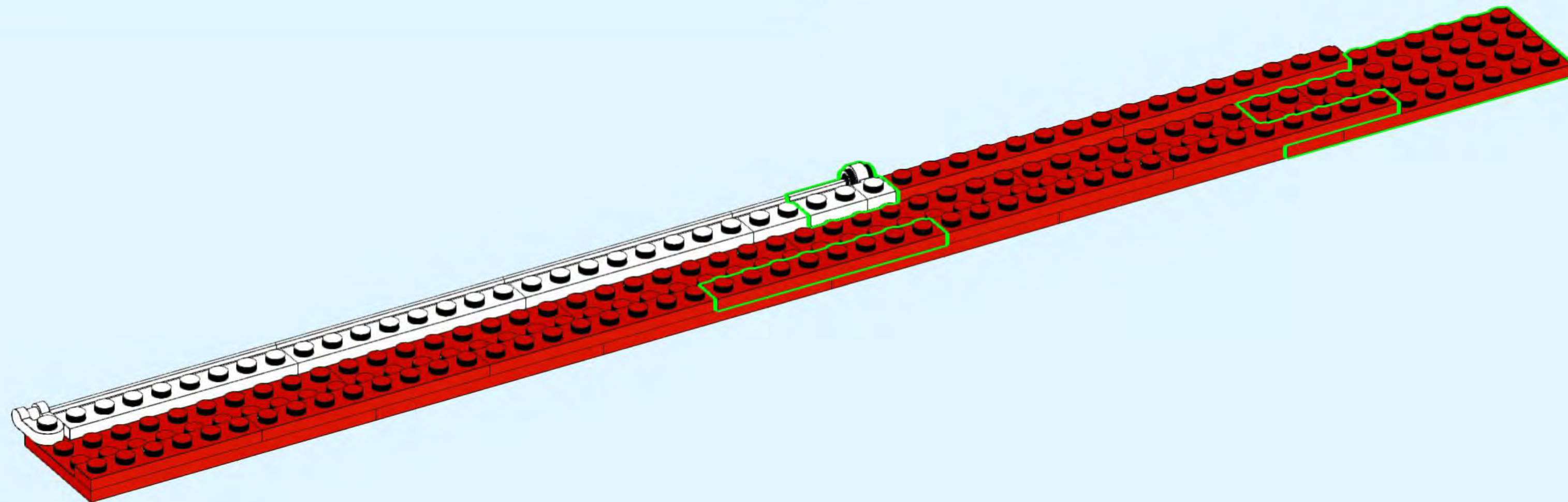
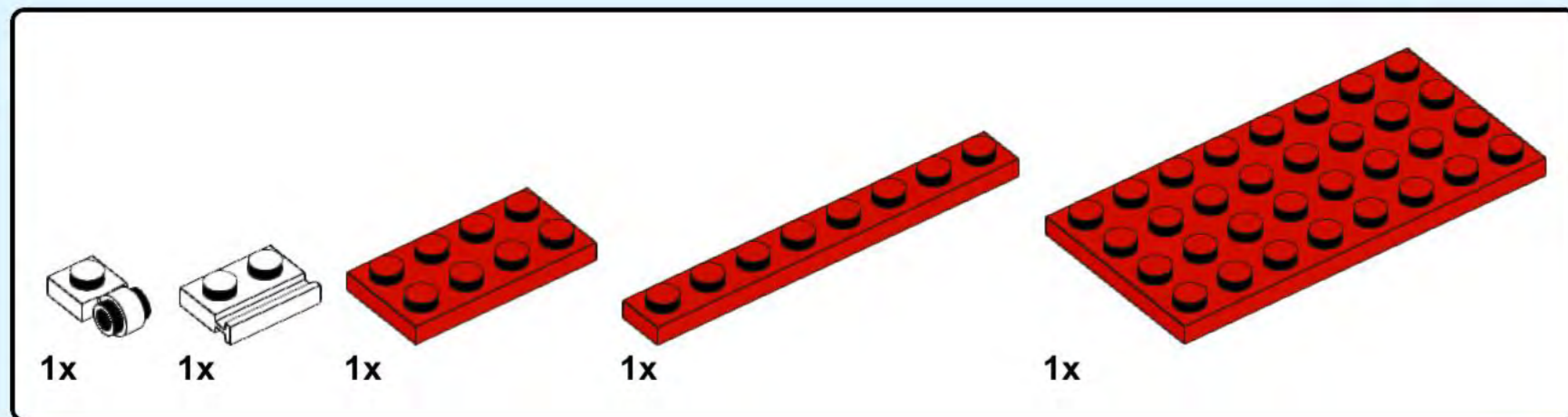
# 264



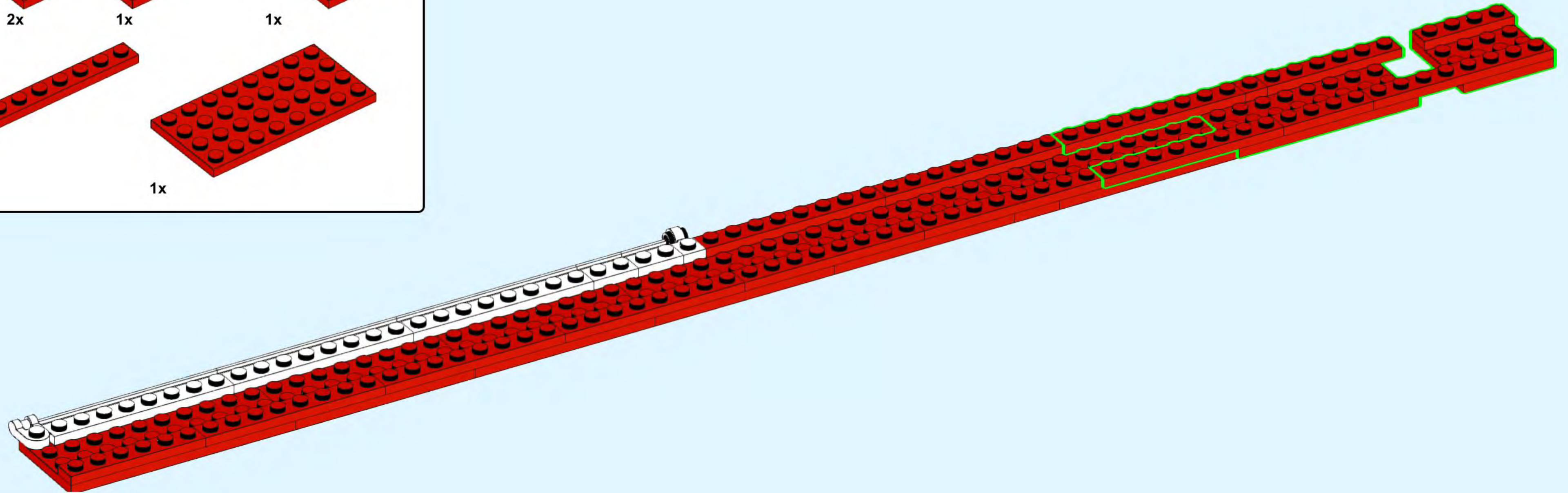
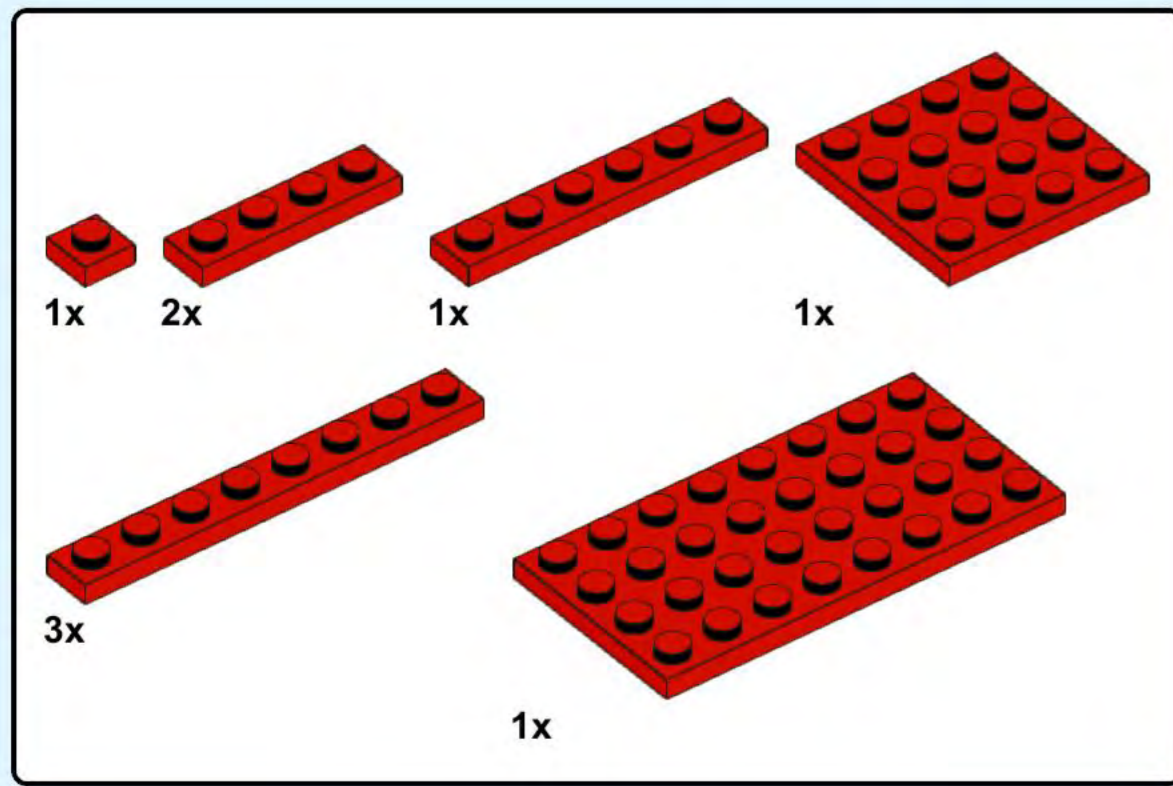
# 265



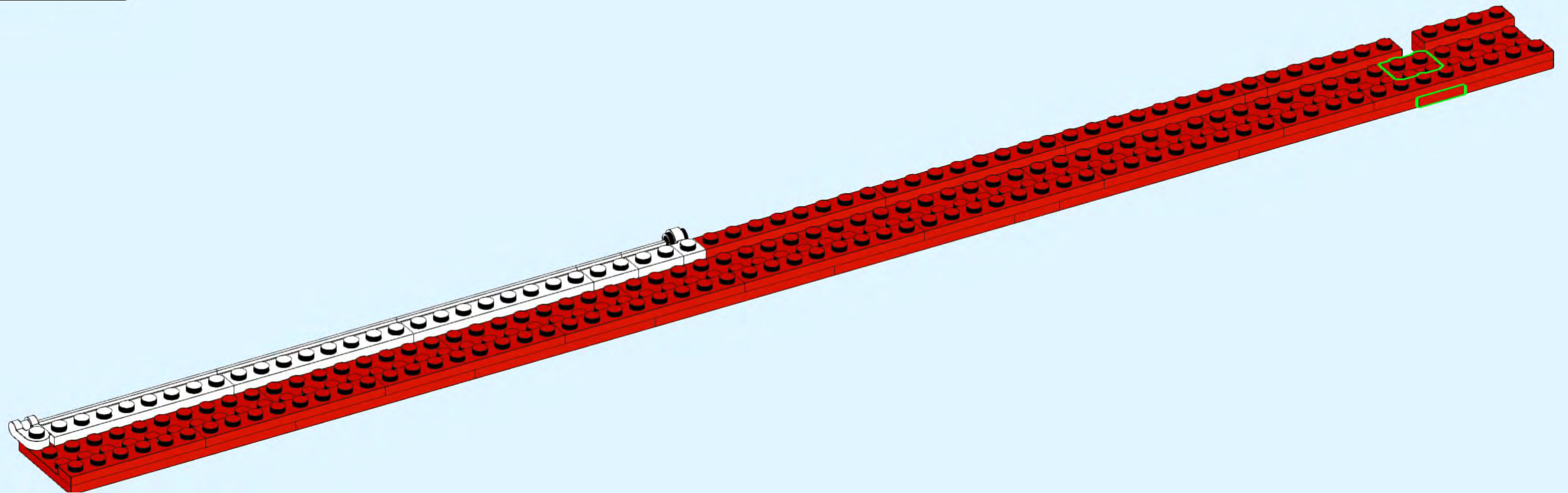
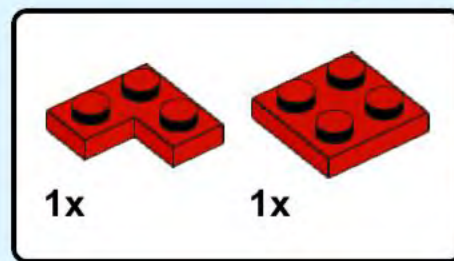
# 266



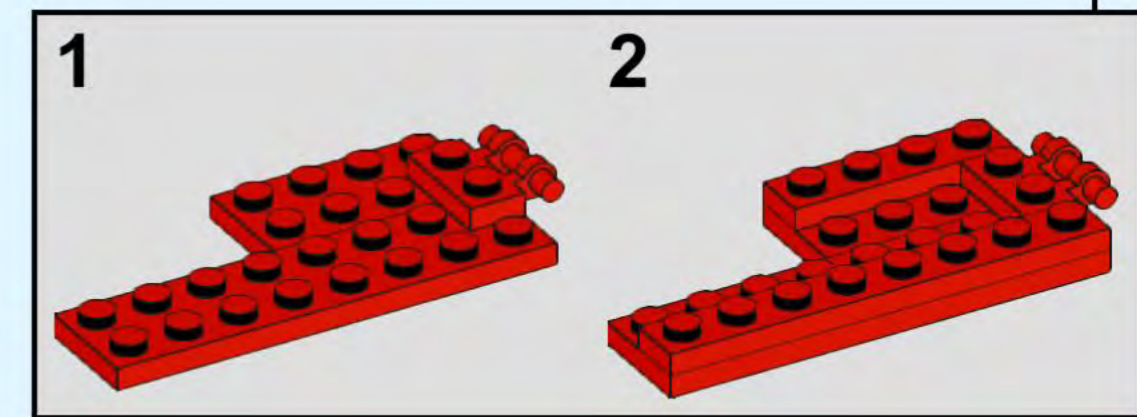
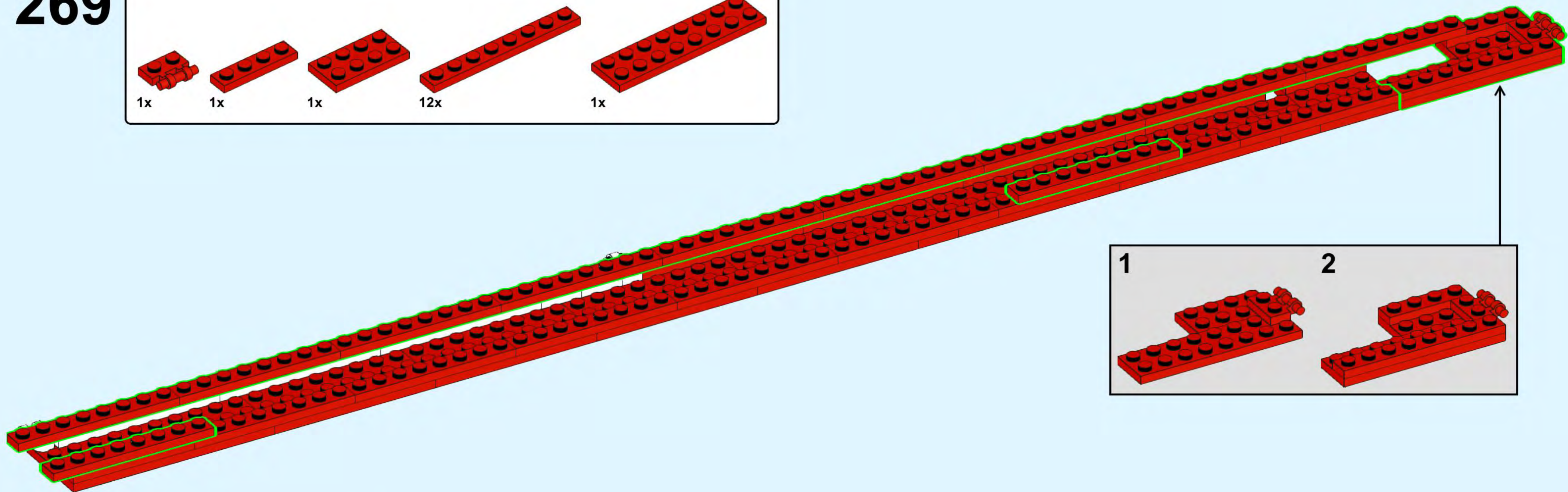
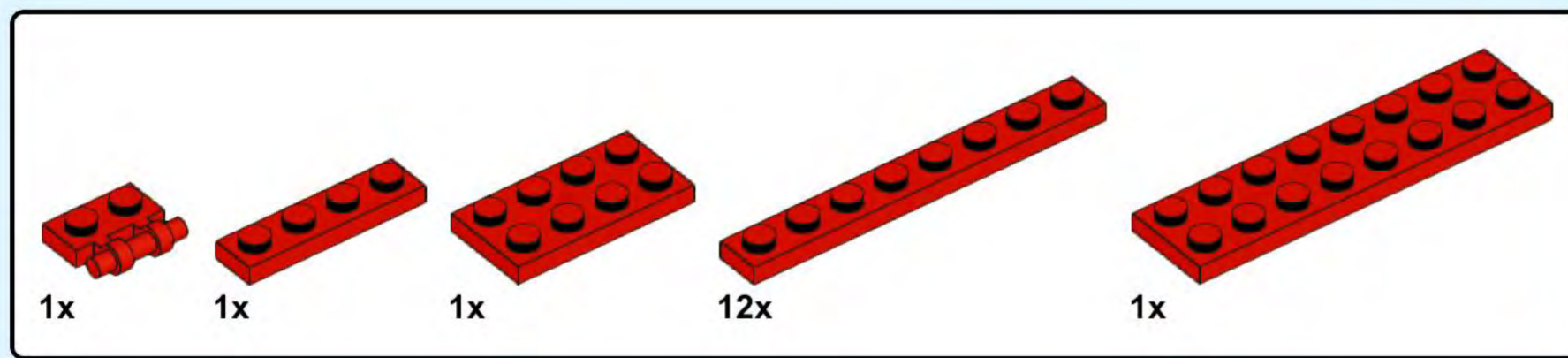
267



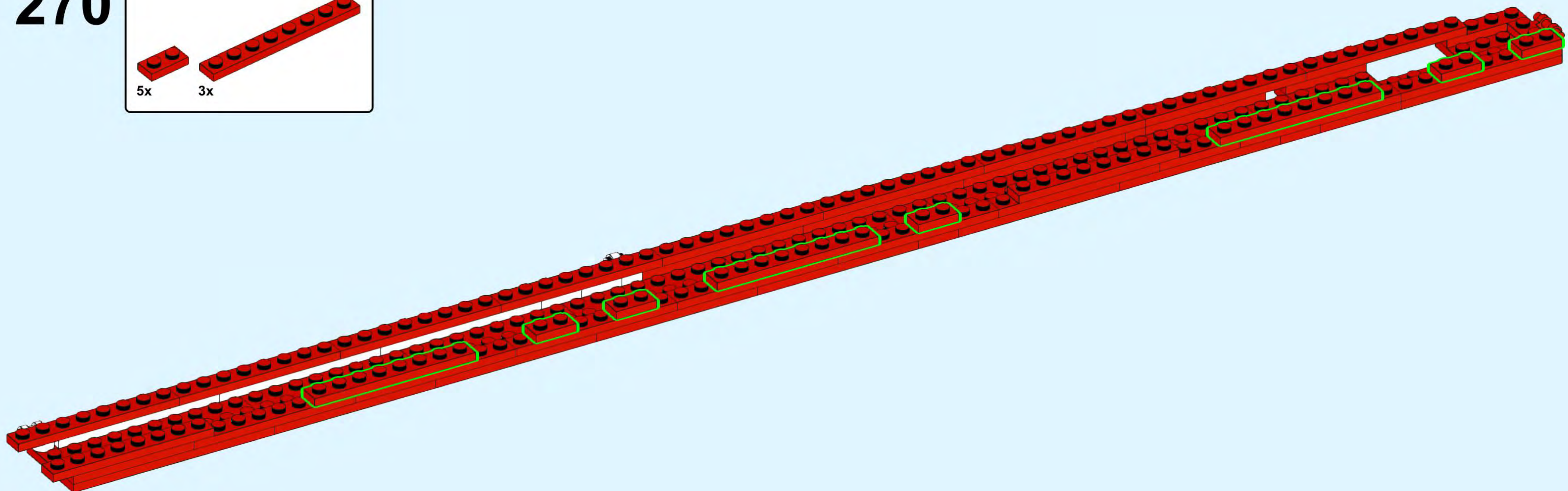
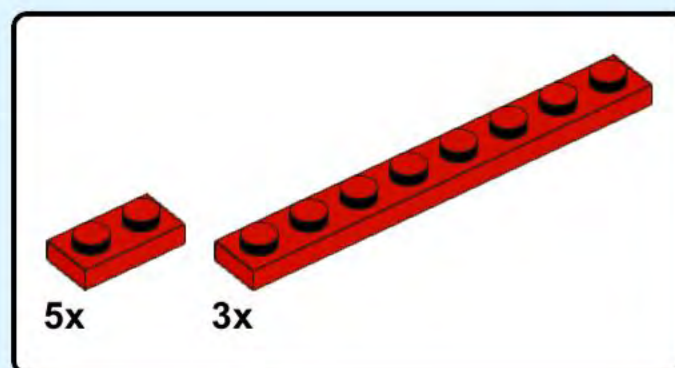
268



# 269

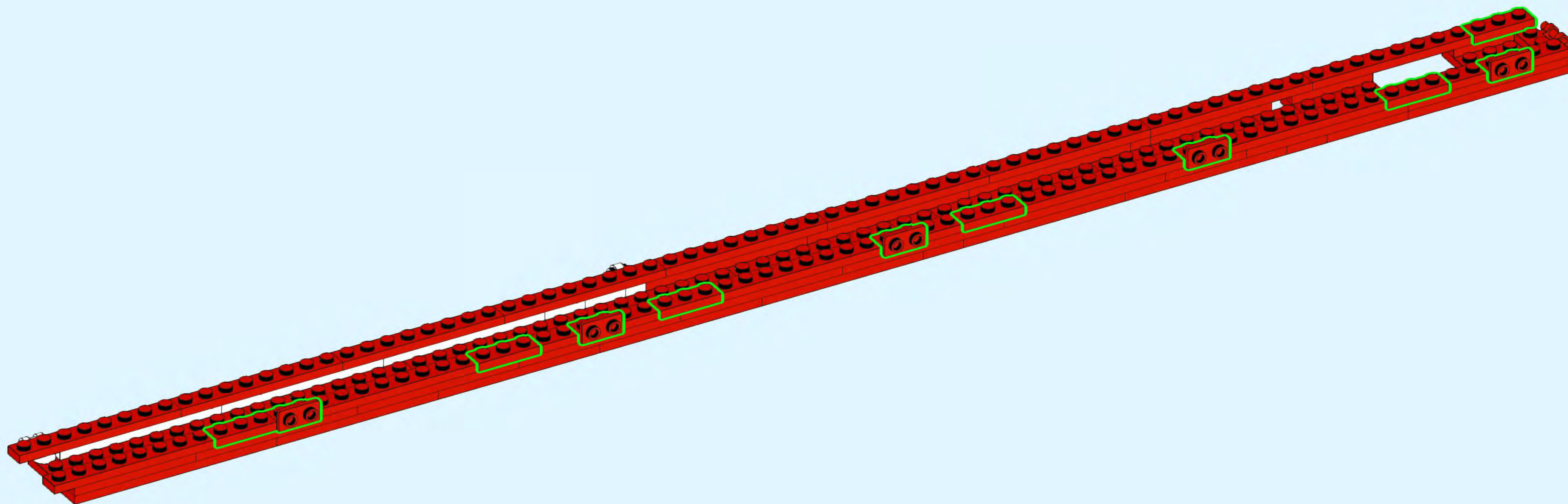
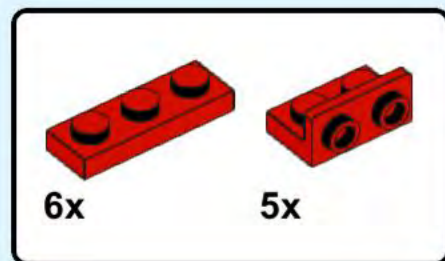


# 270

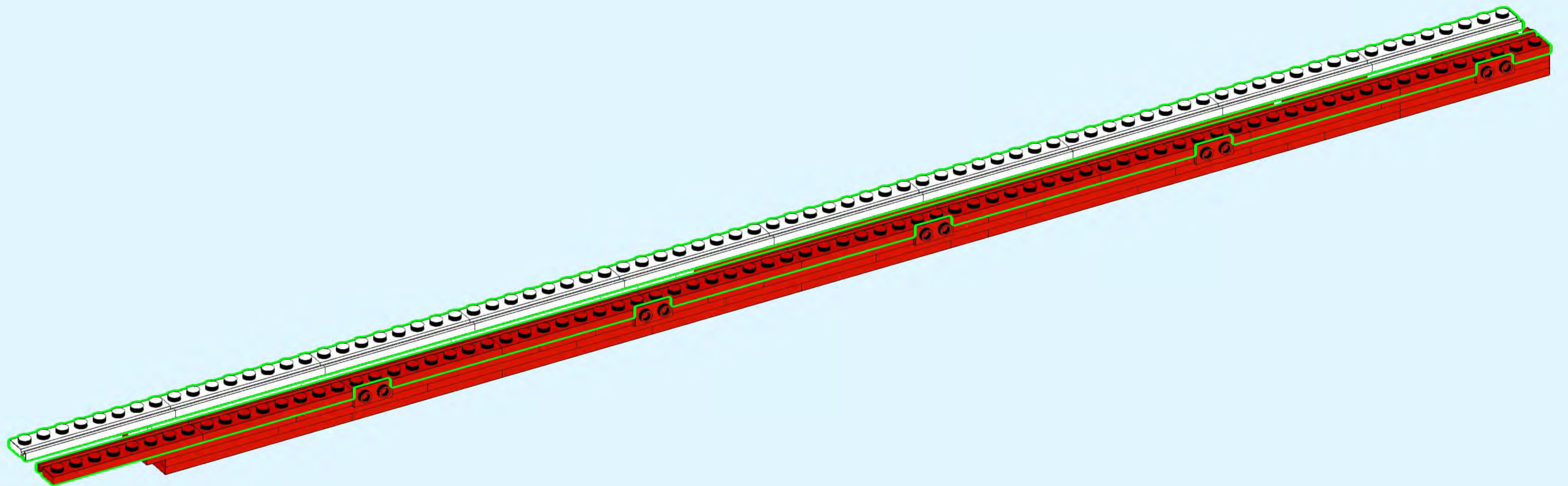
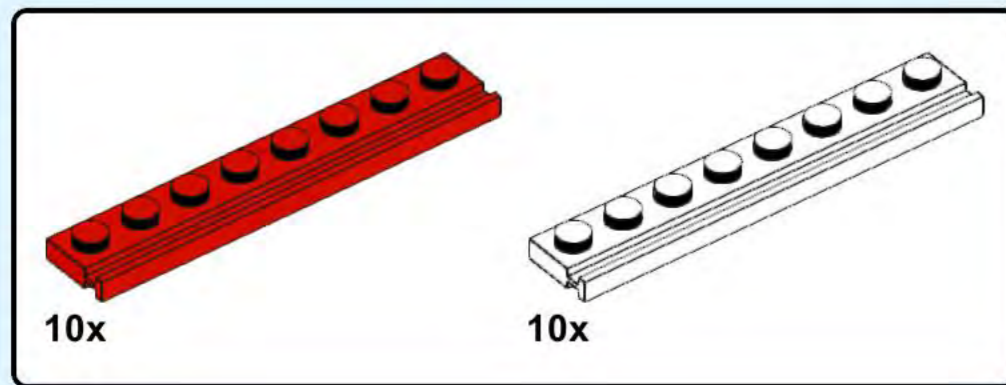




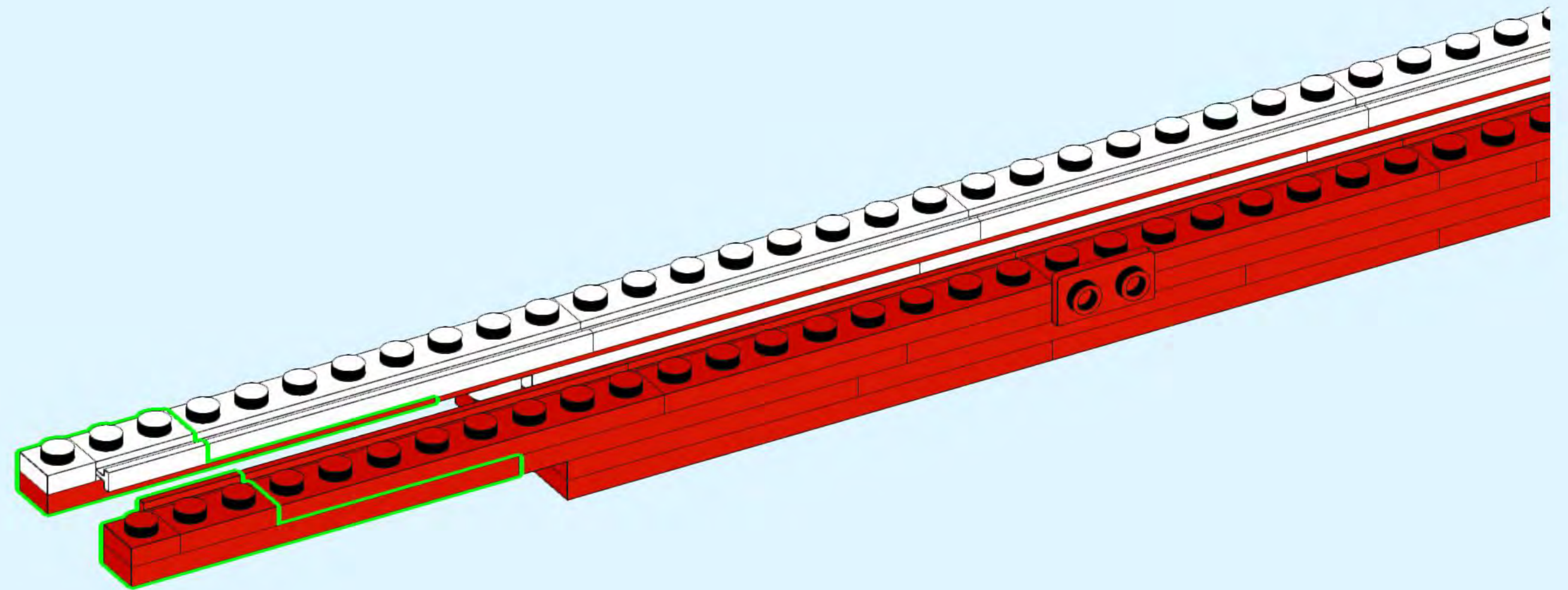
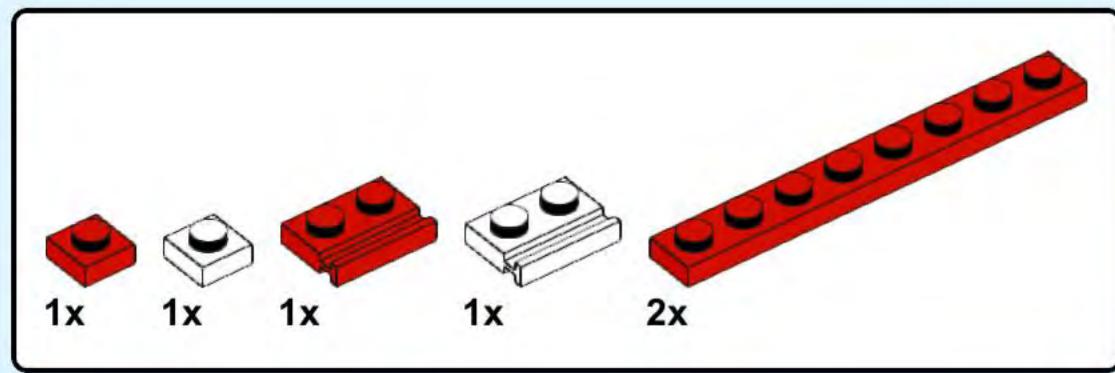
271



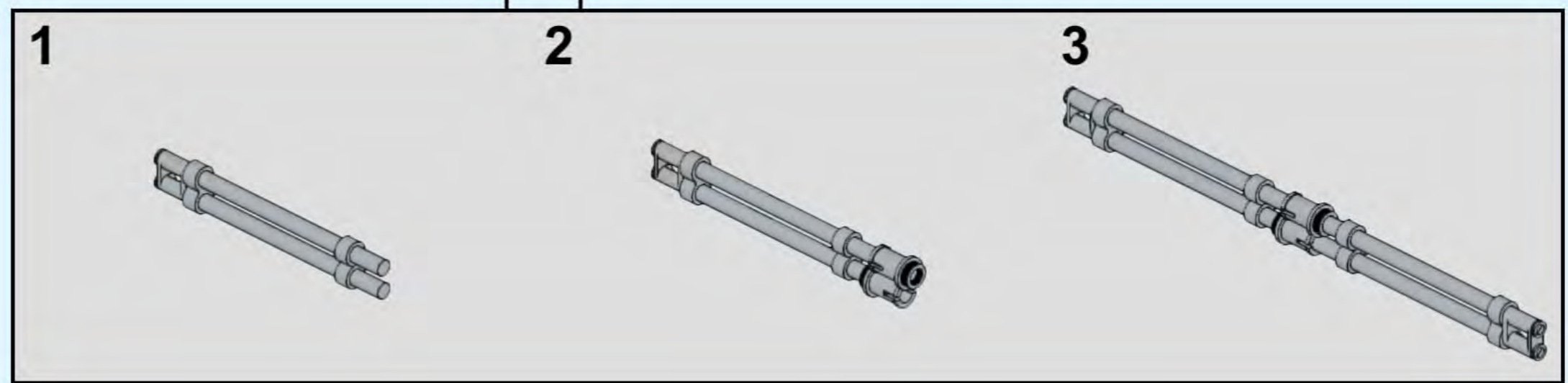
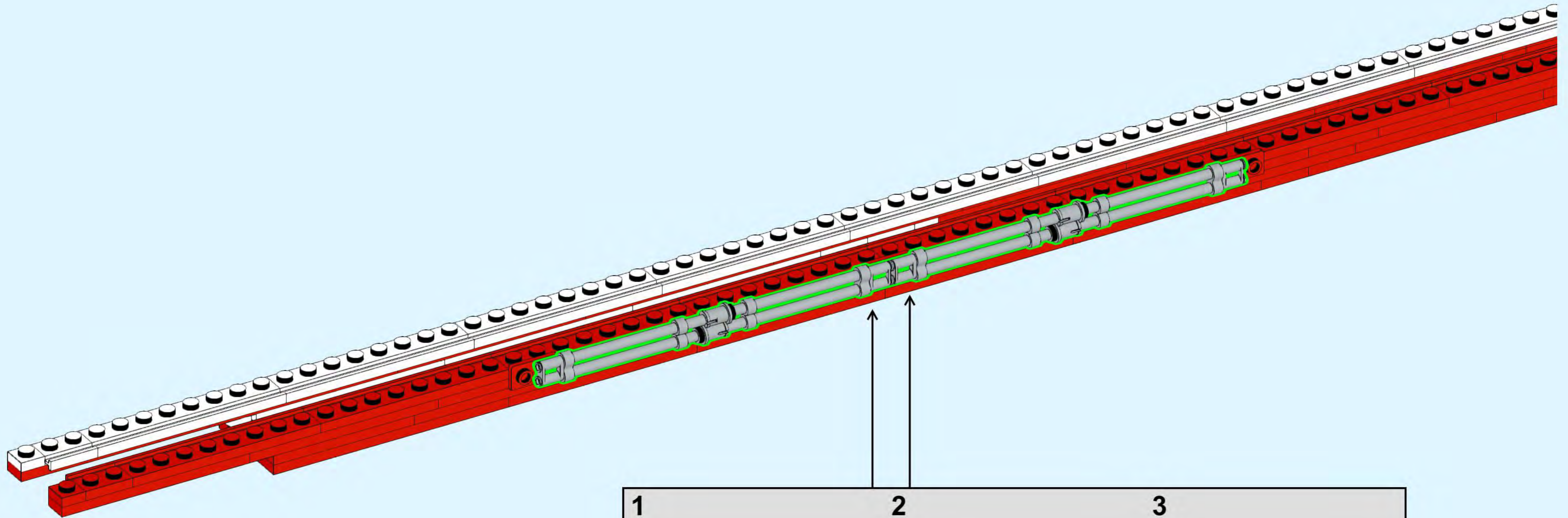
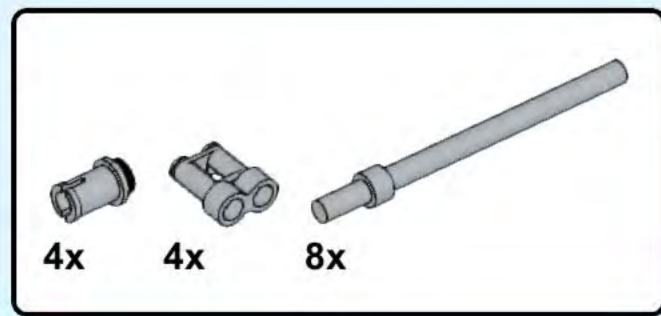
272



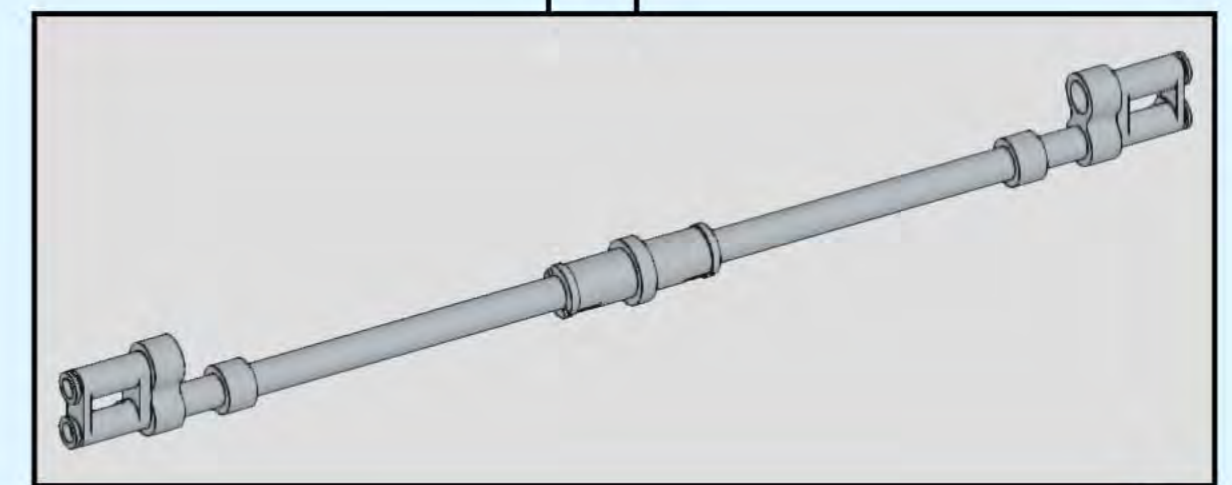
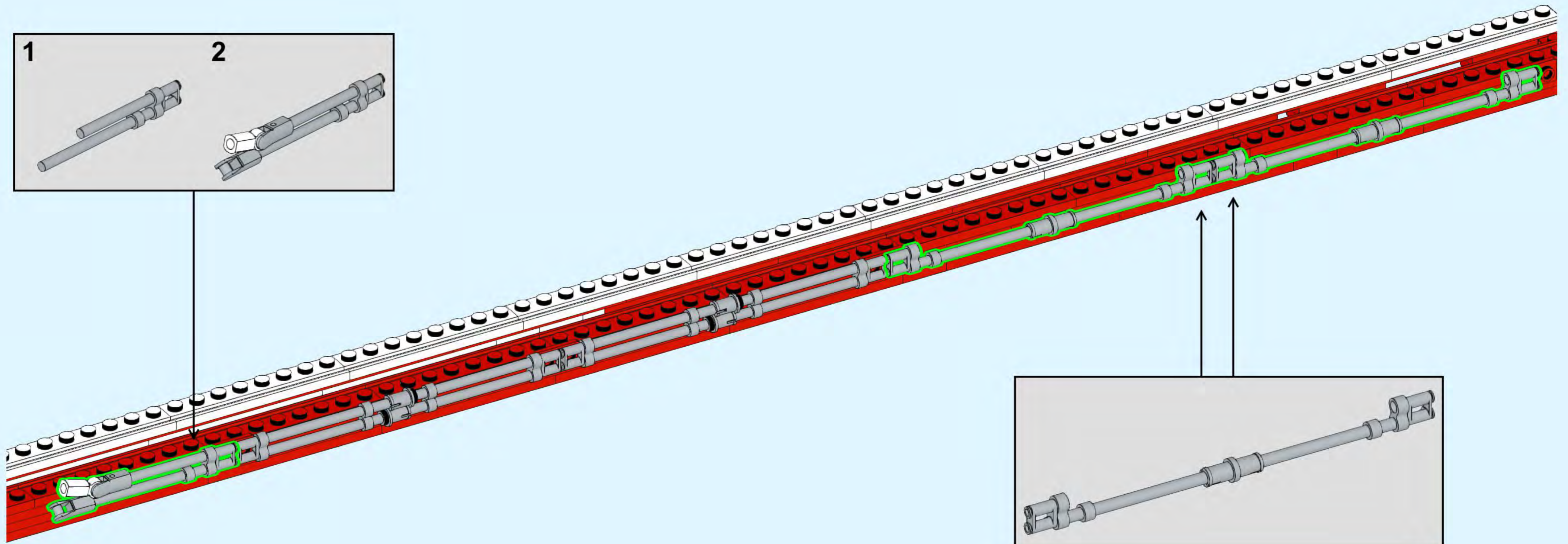
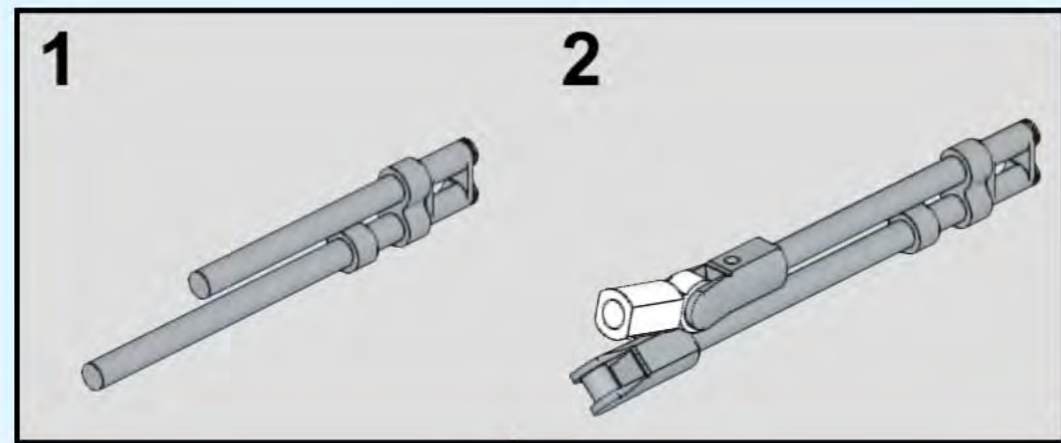
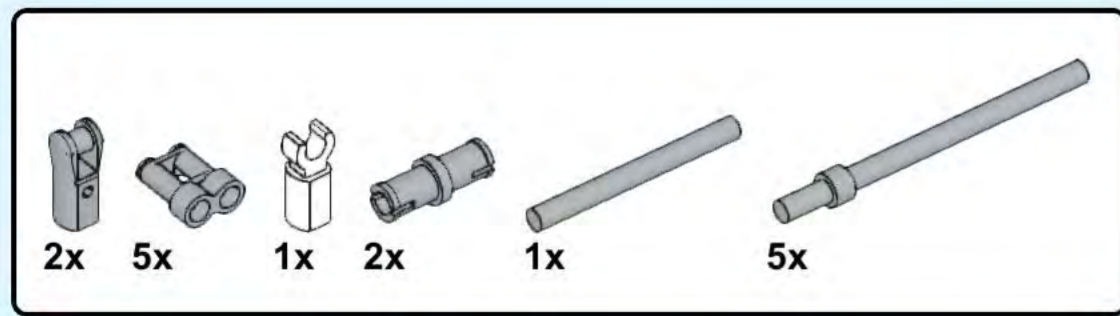
273



274

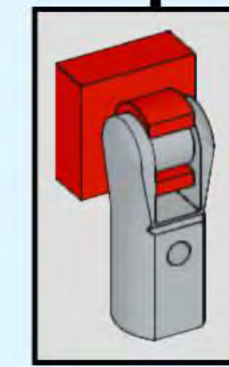
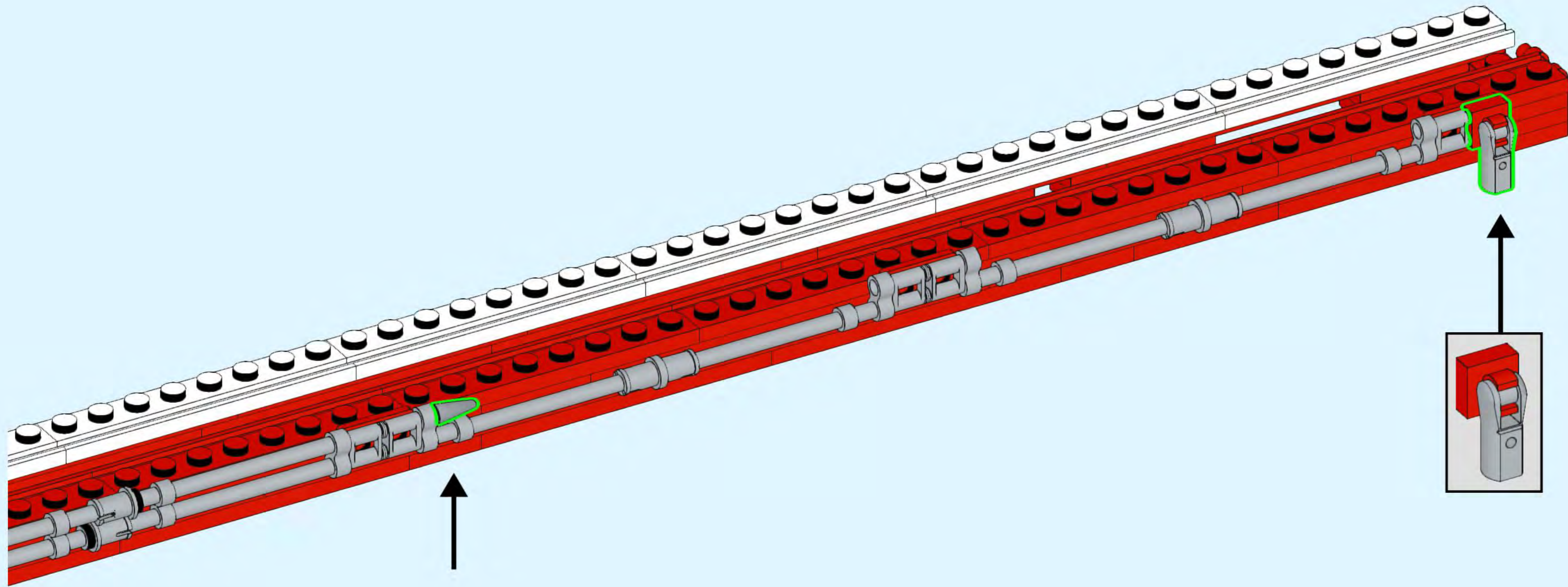
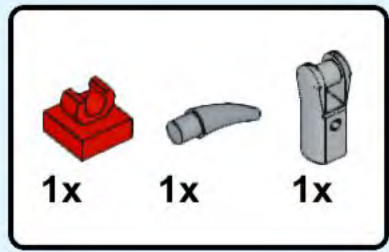


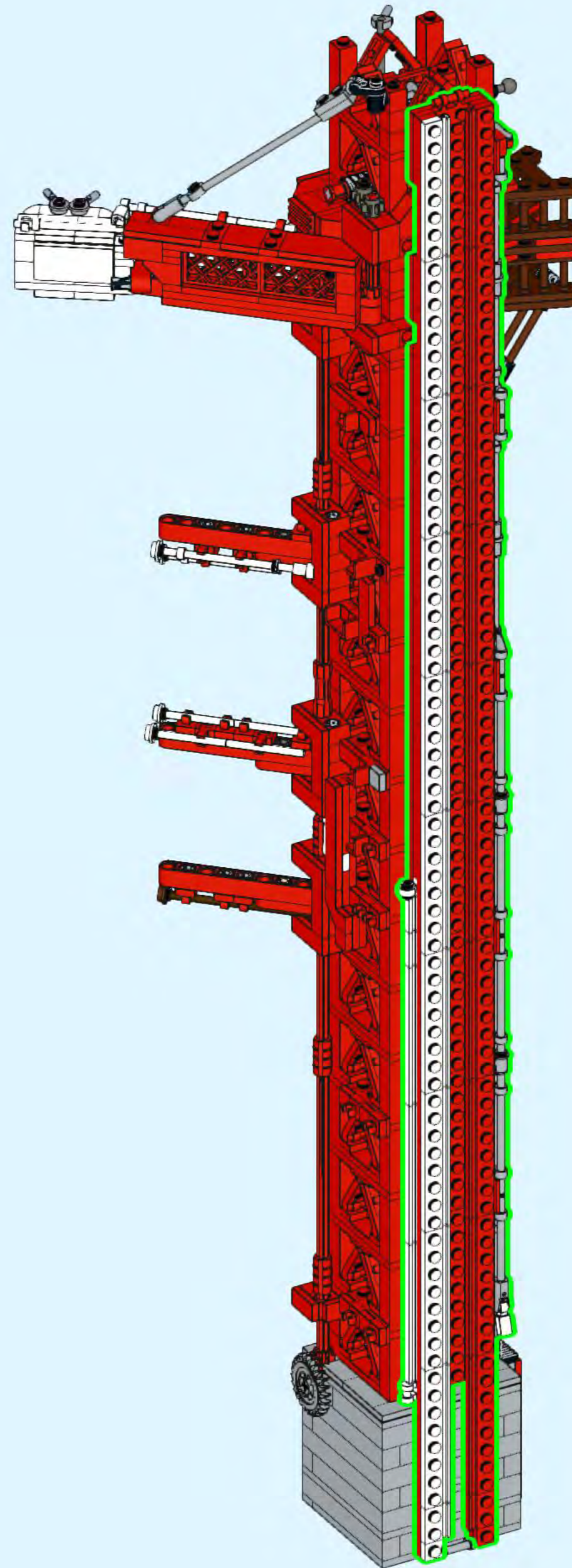
# 275



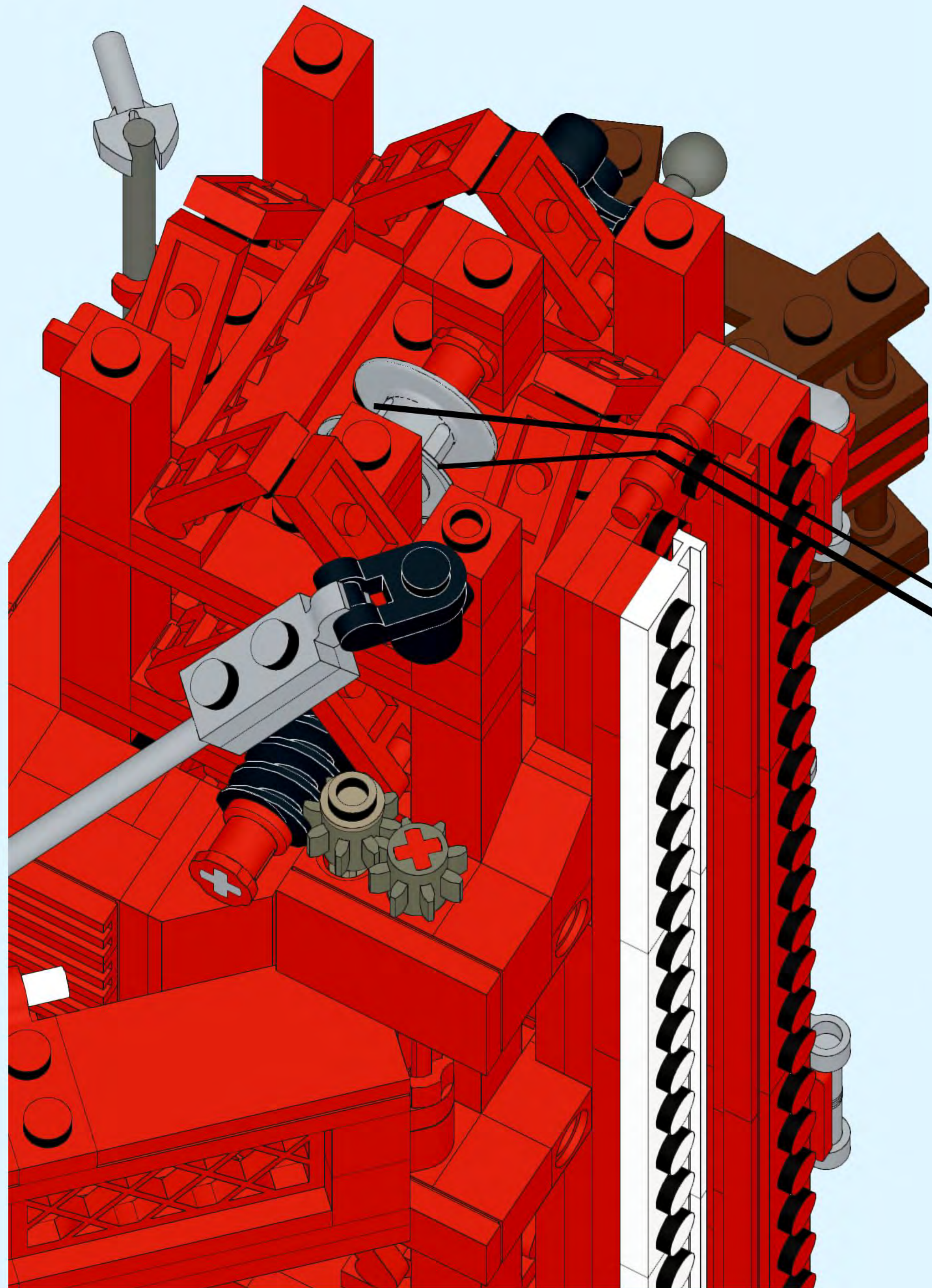
2x

276

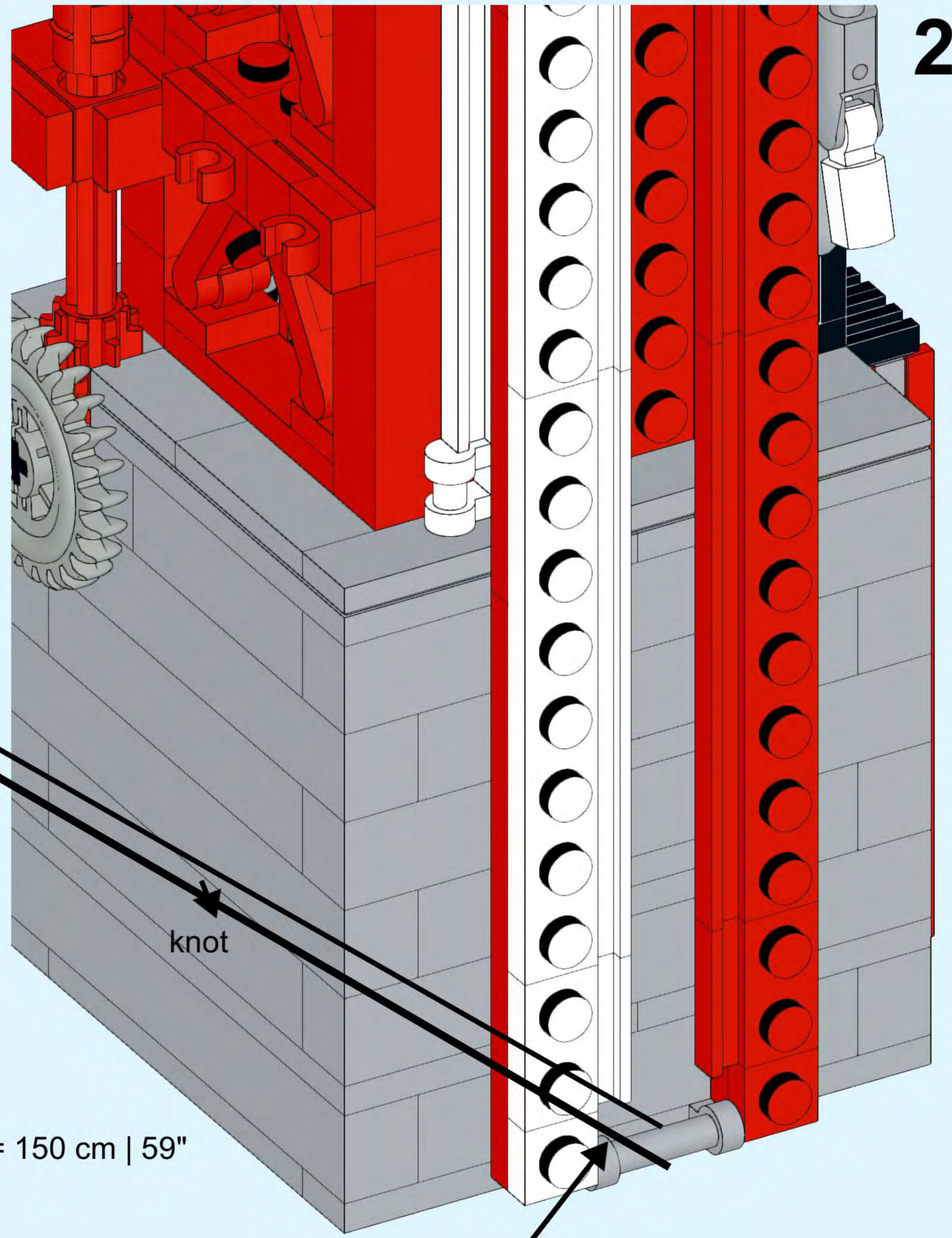




278



279



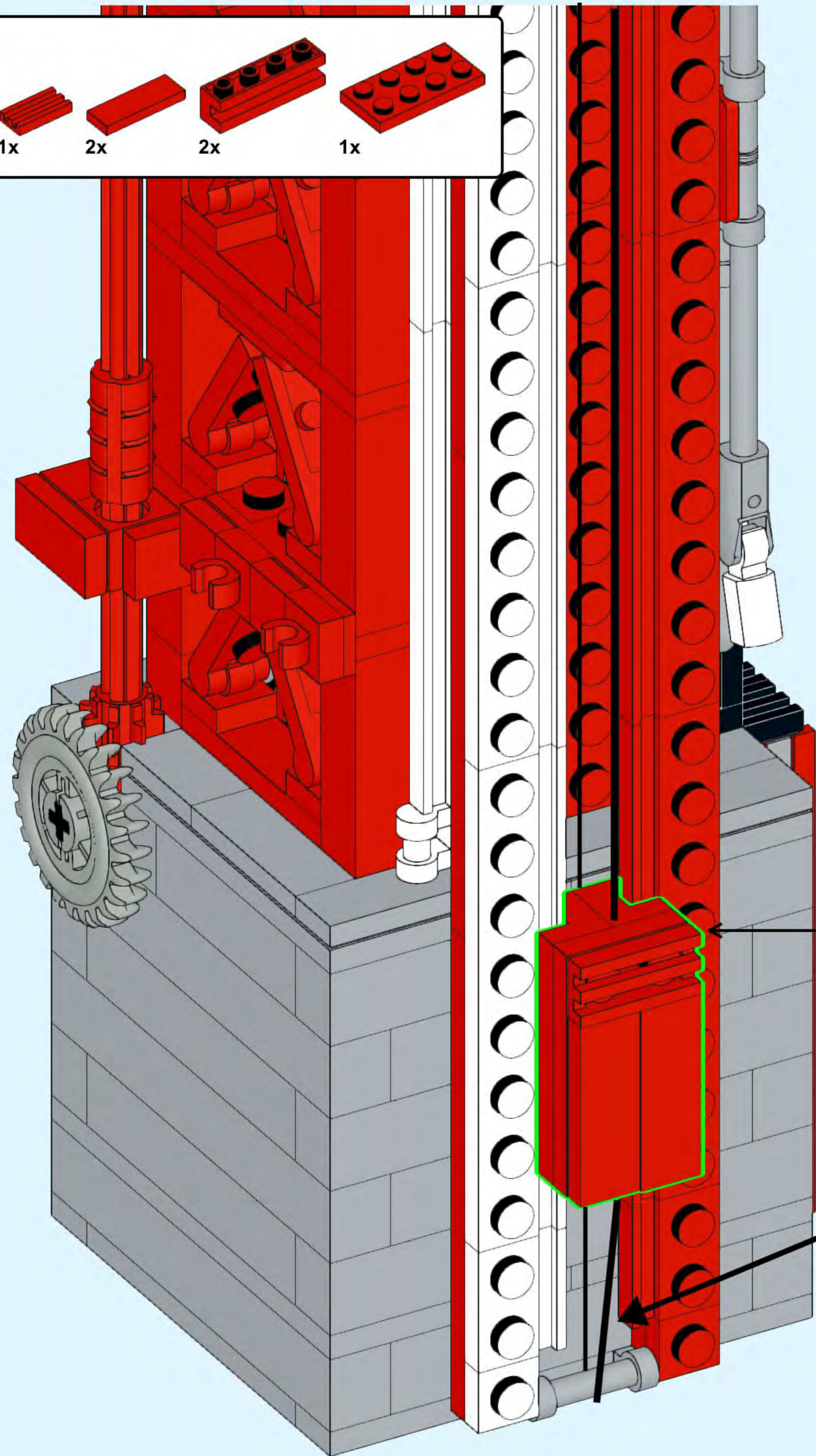
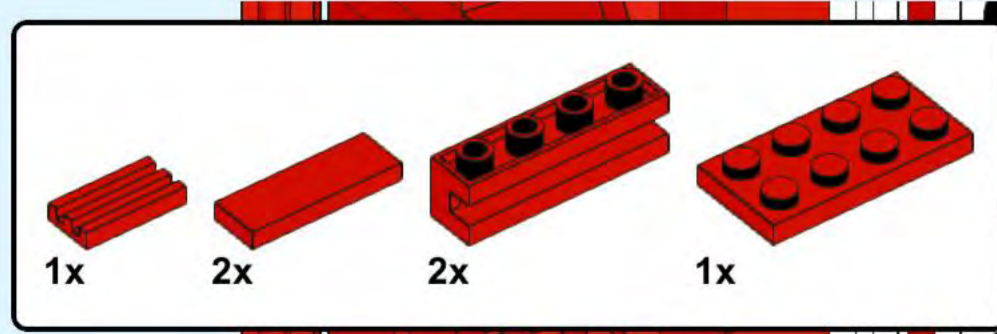
L = 150 cm | 59"

knot

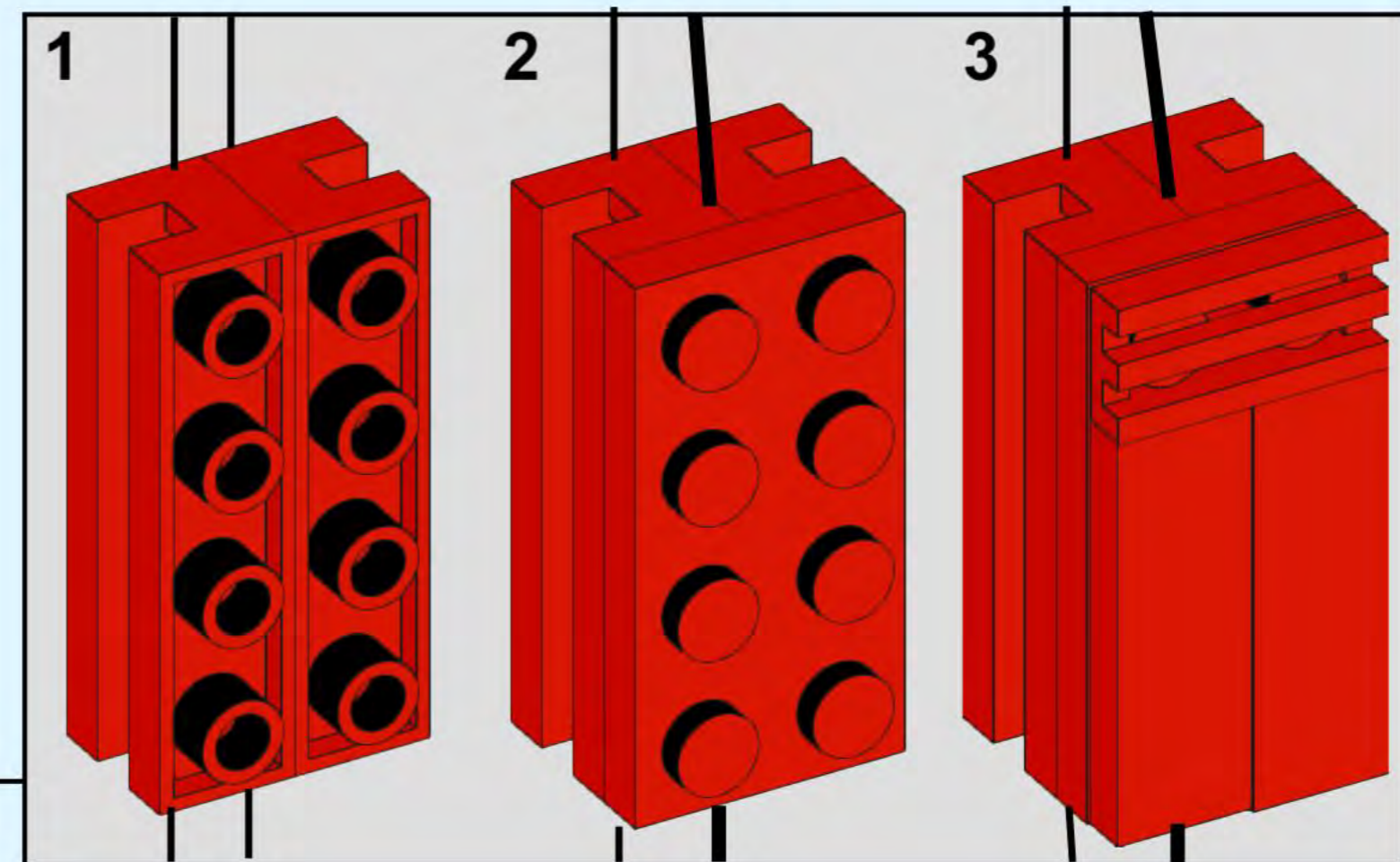
front wire



280

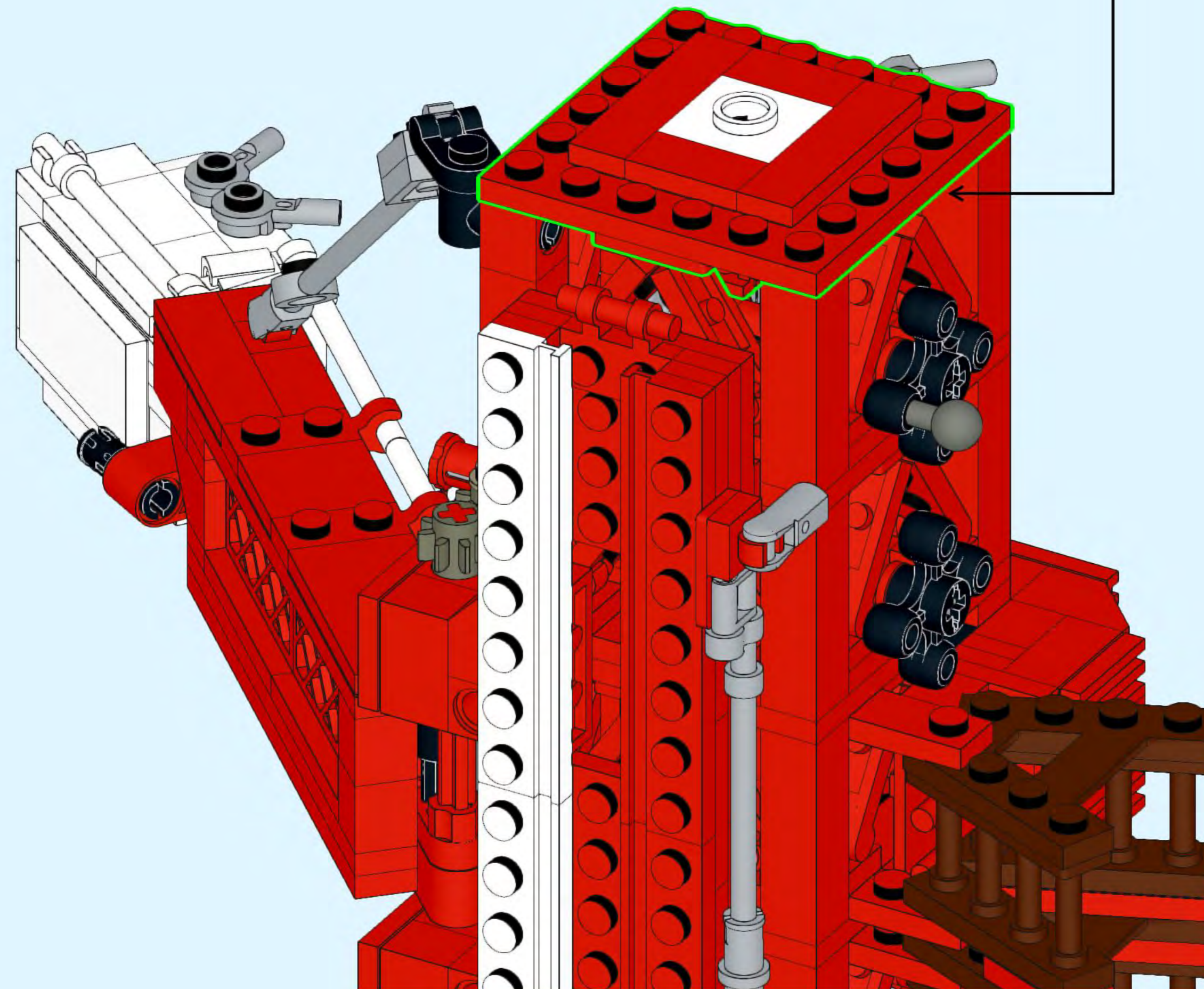
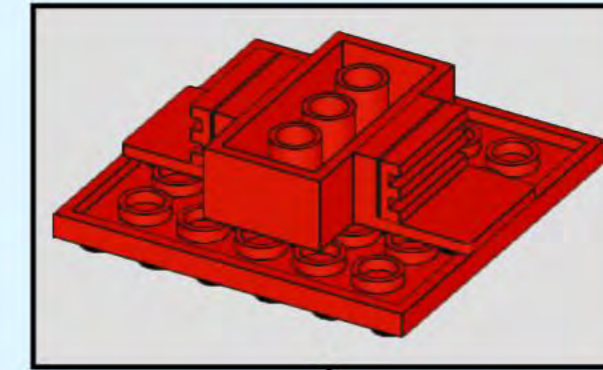
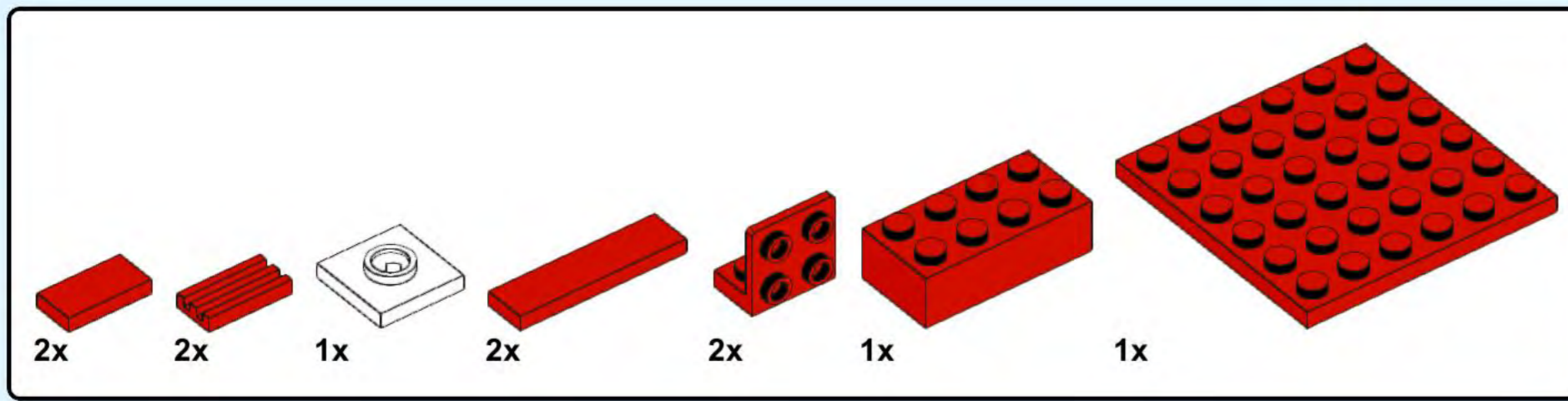


trap the front wire between the bricks

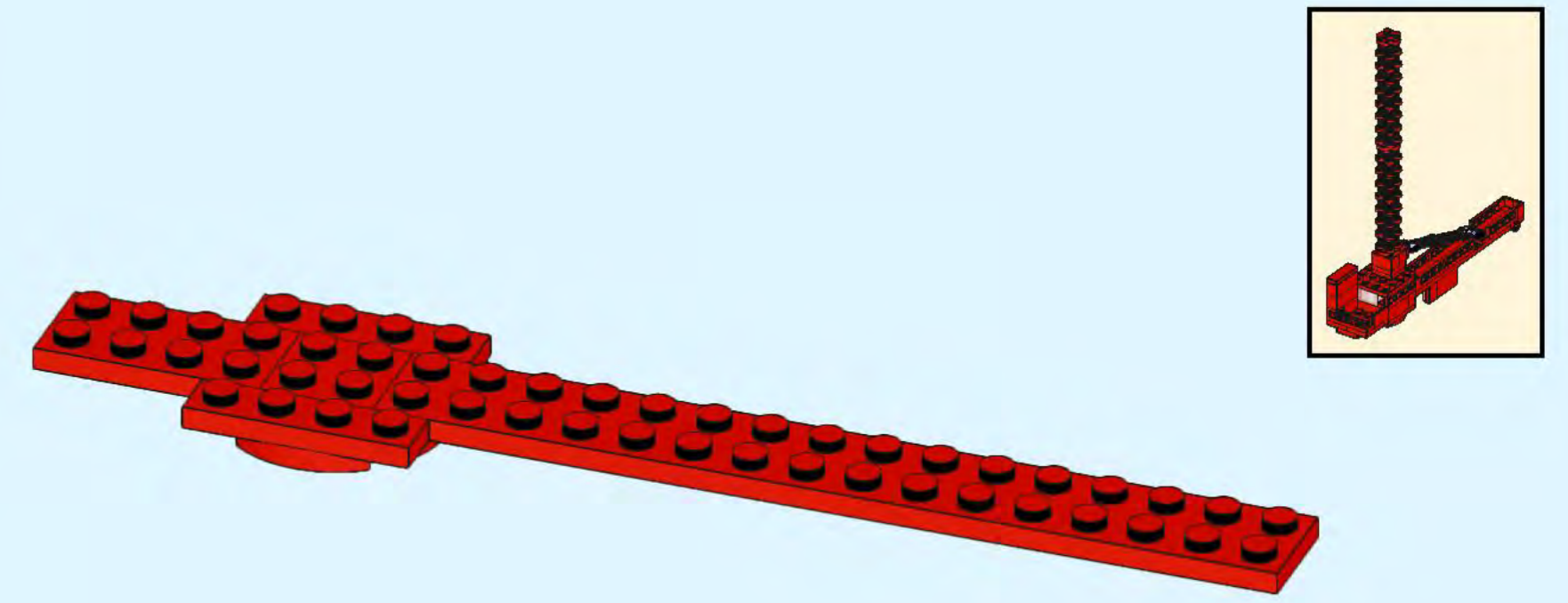
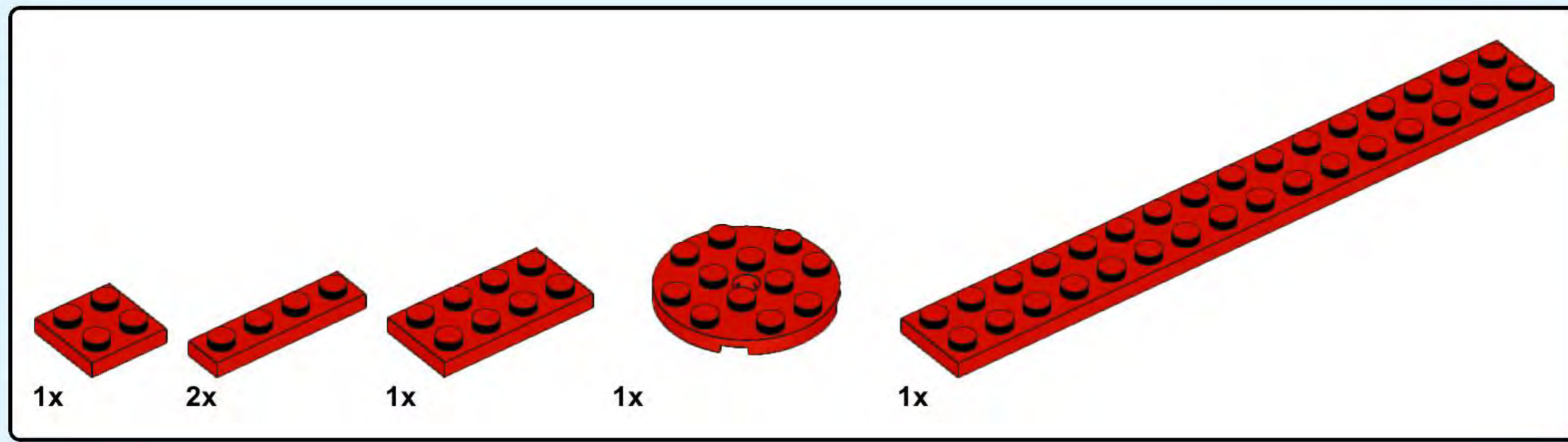


front wire

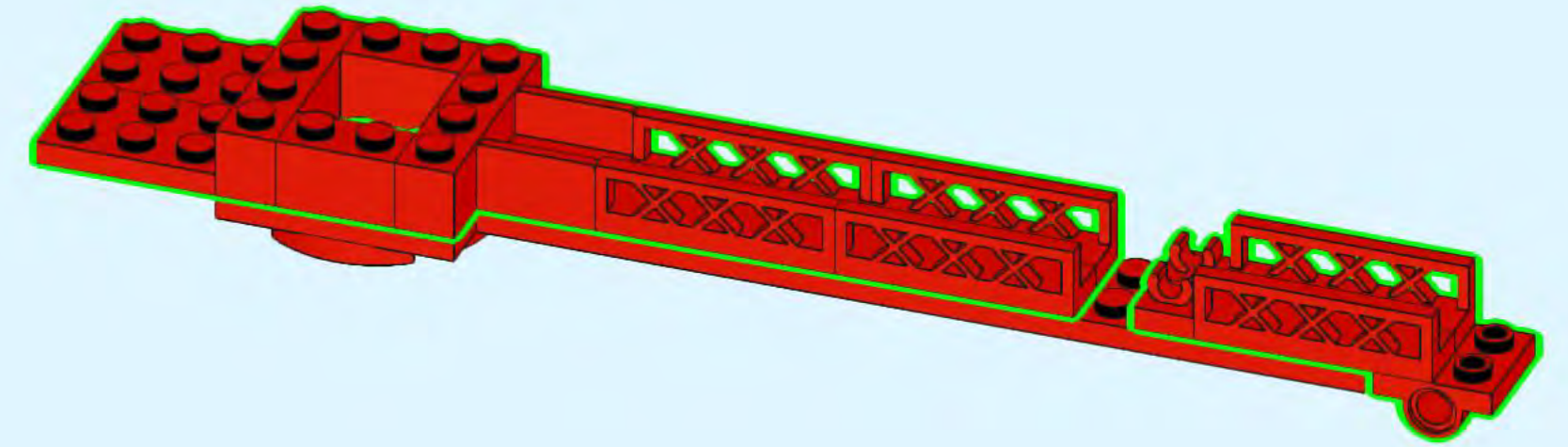
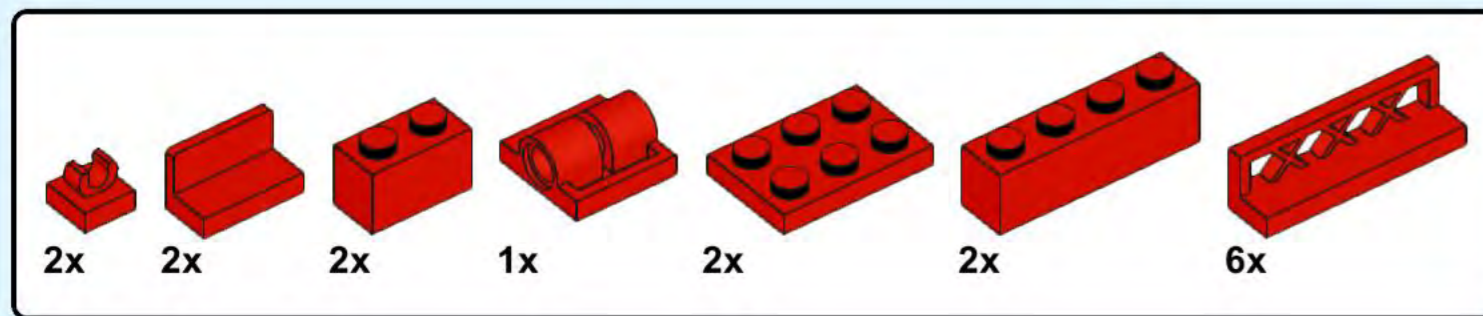
281



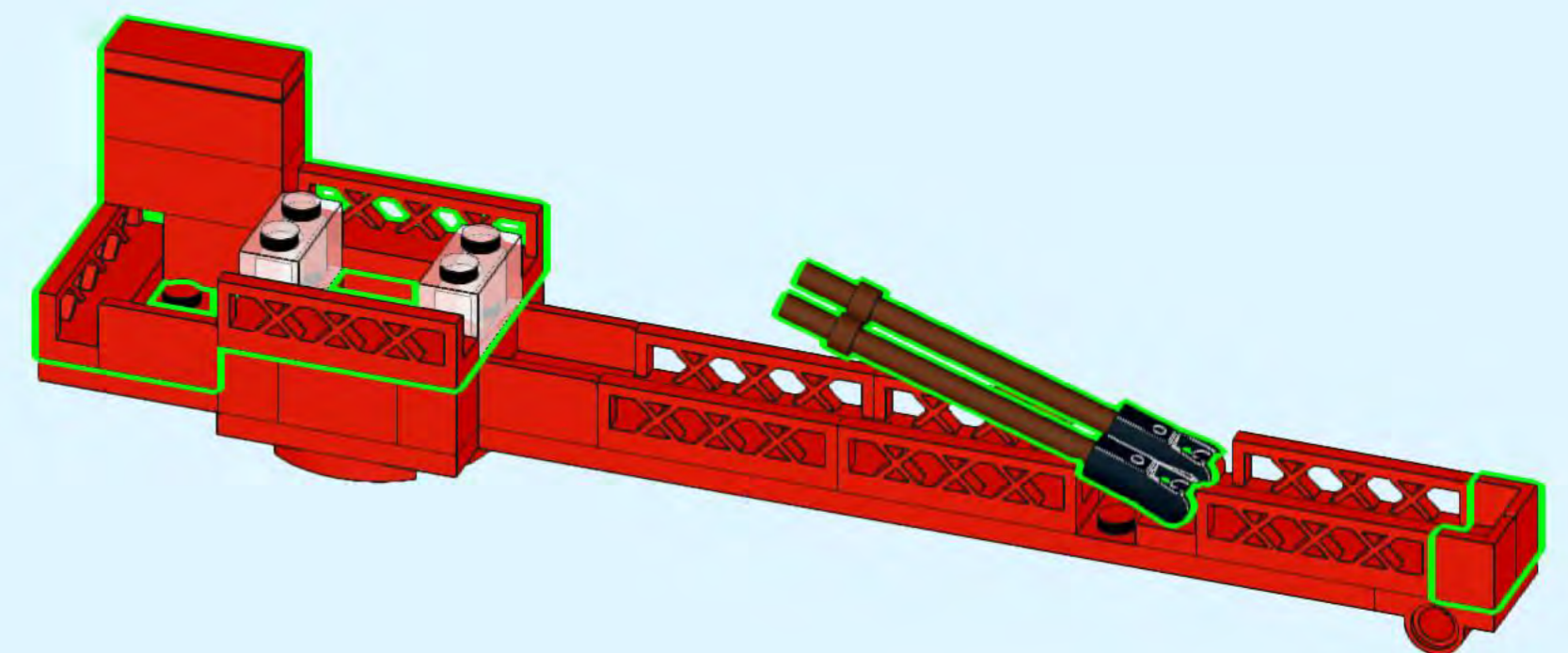
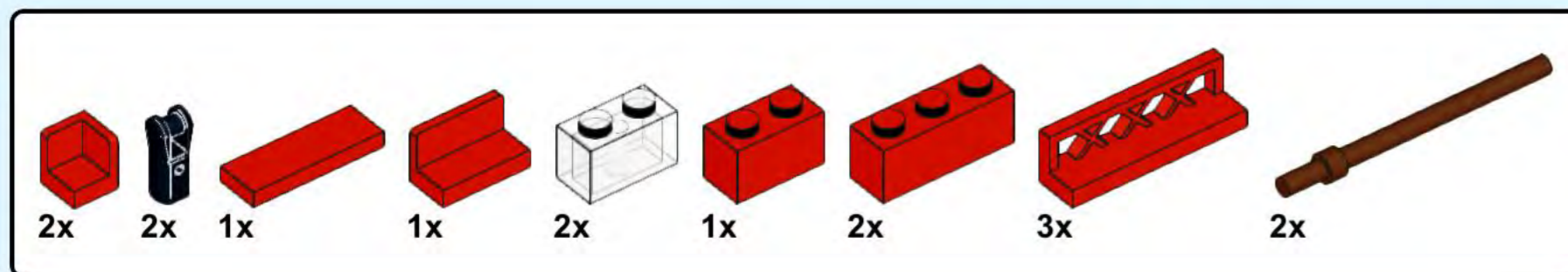
# 282



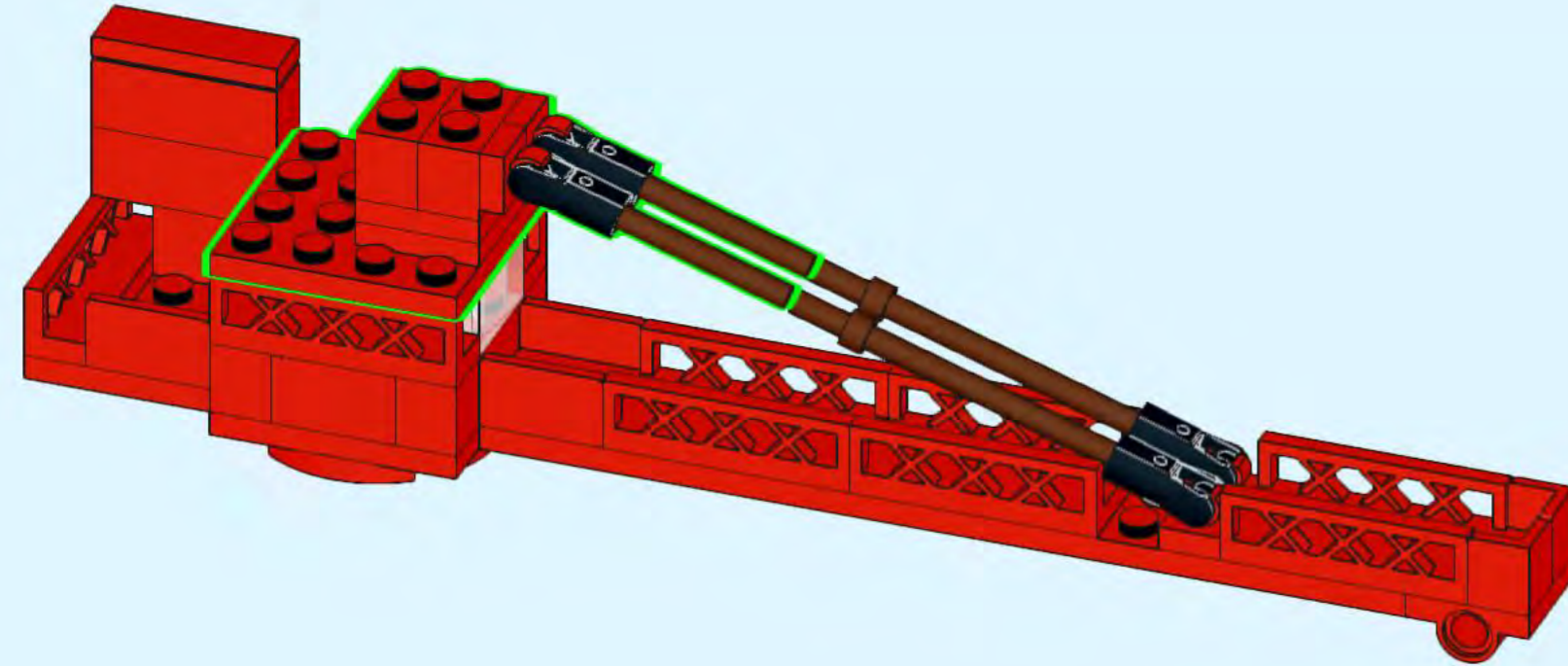
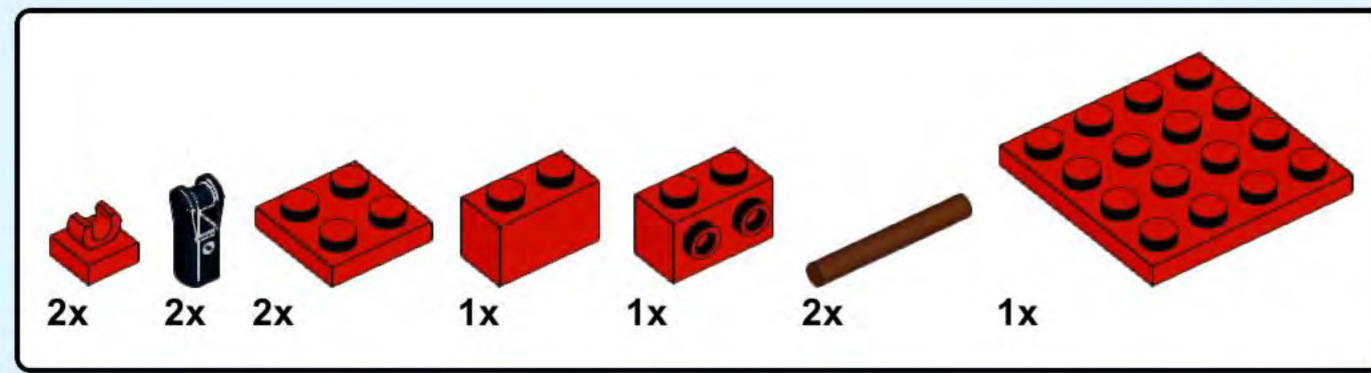
# 283



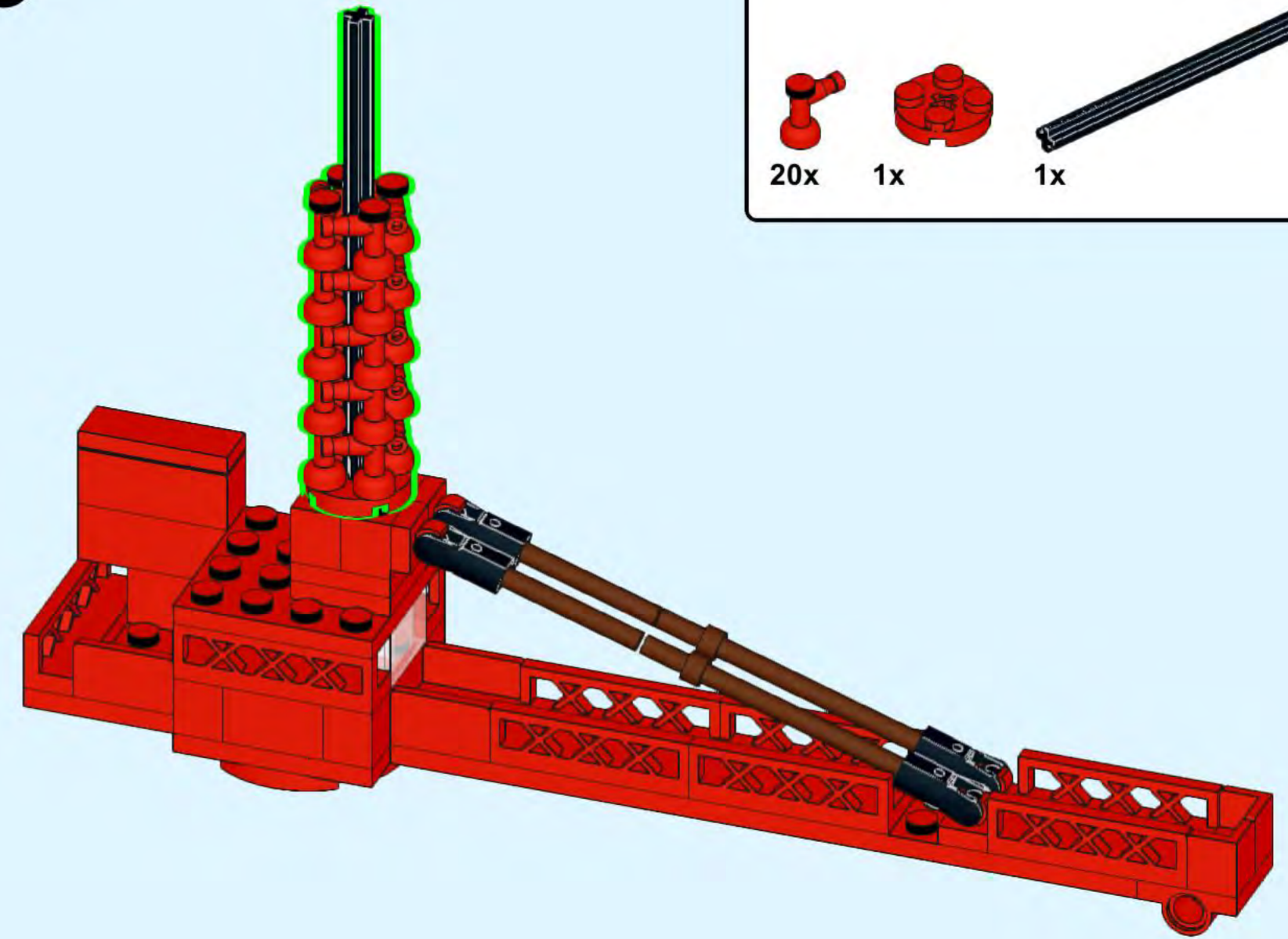
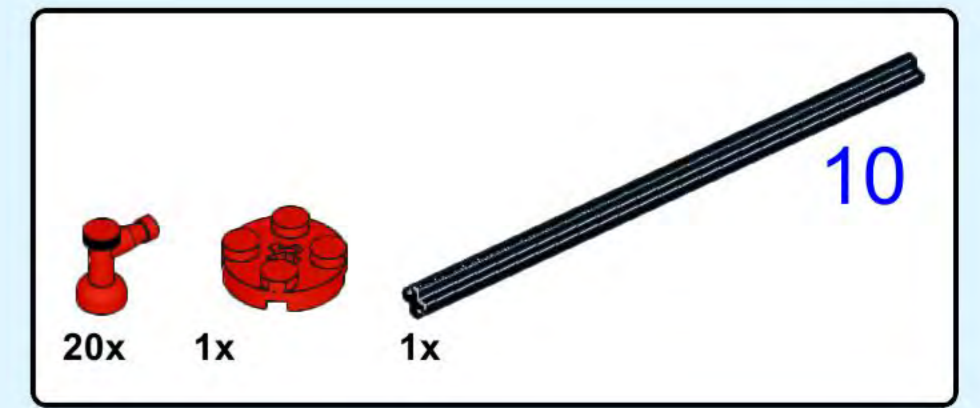
# 284



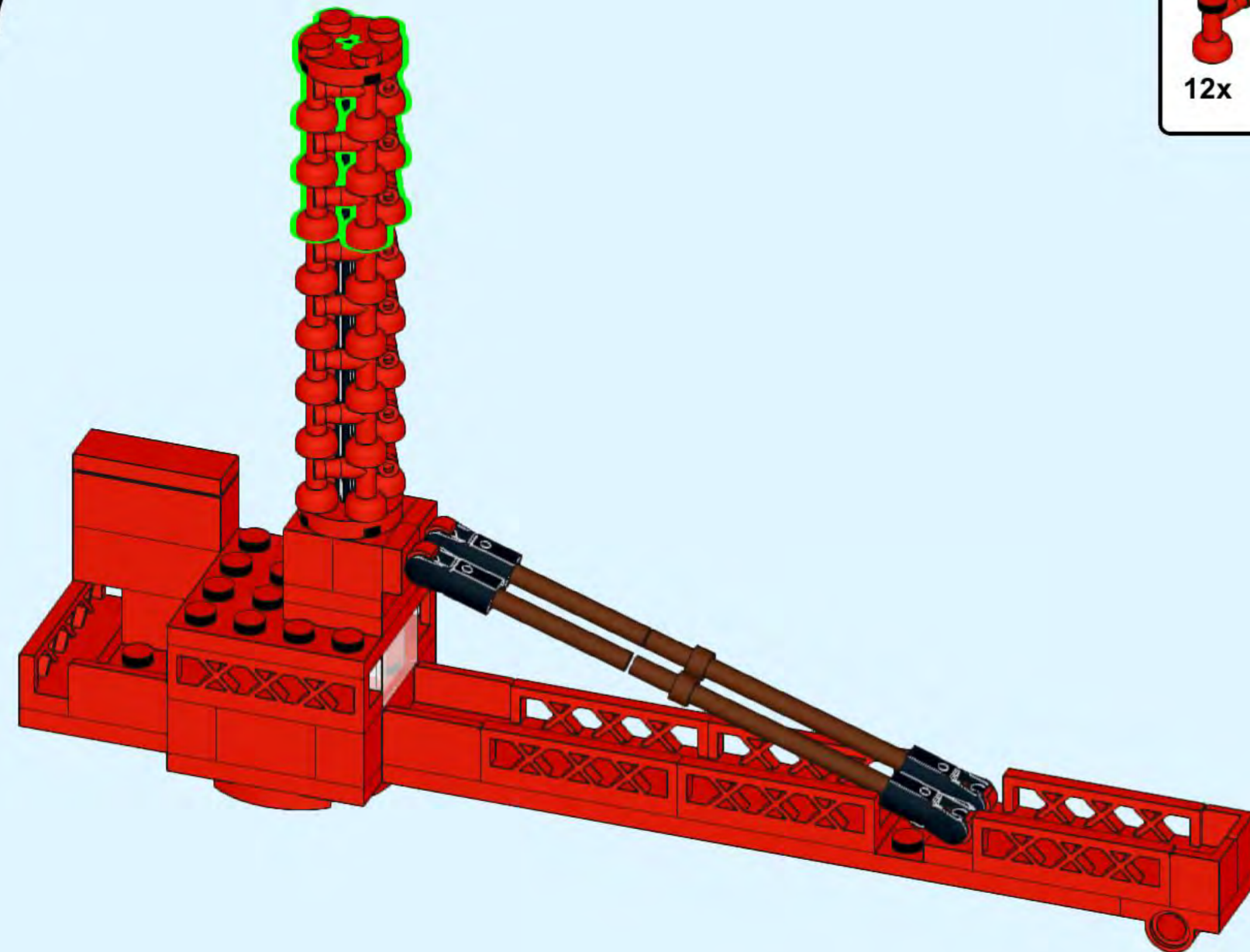
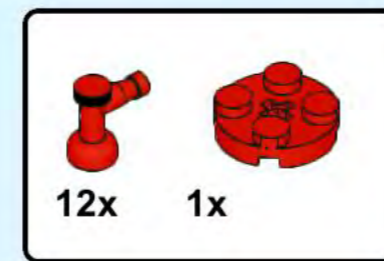
285



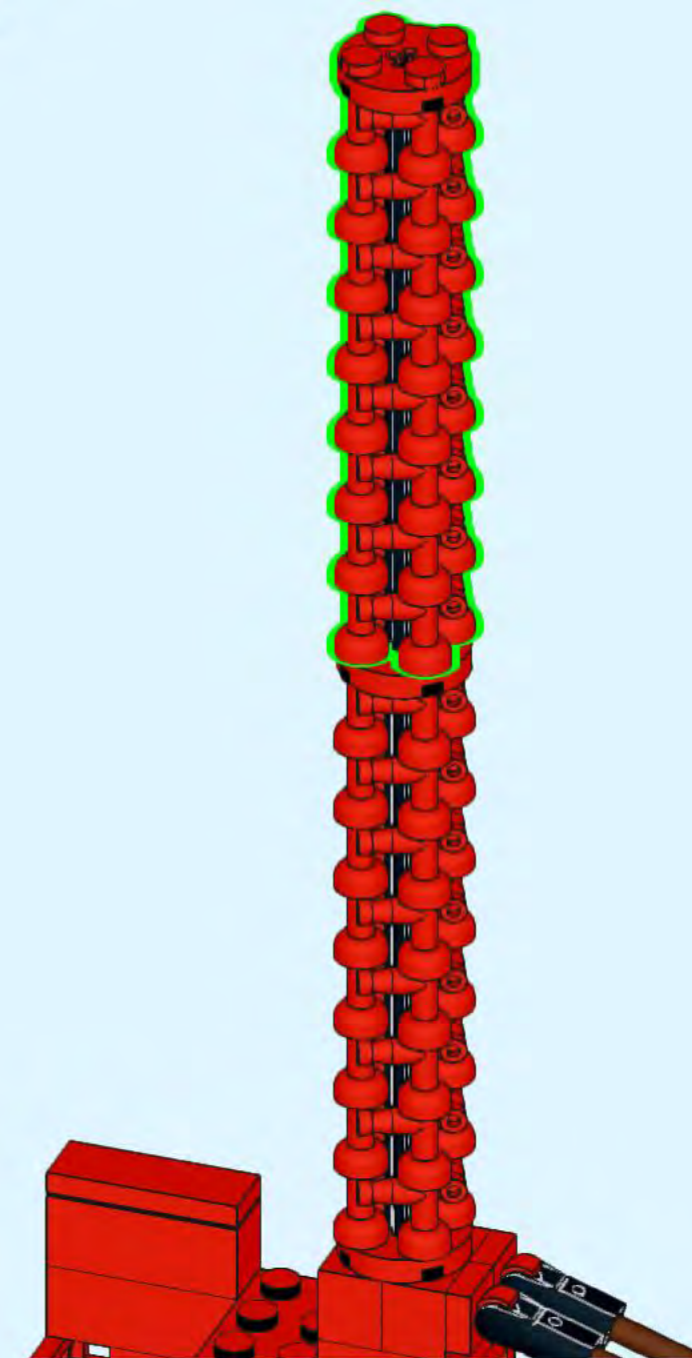
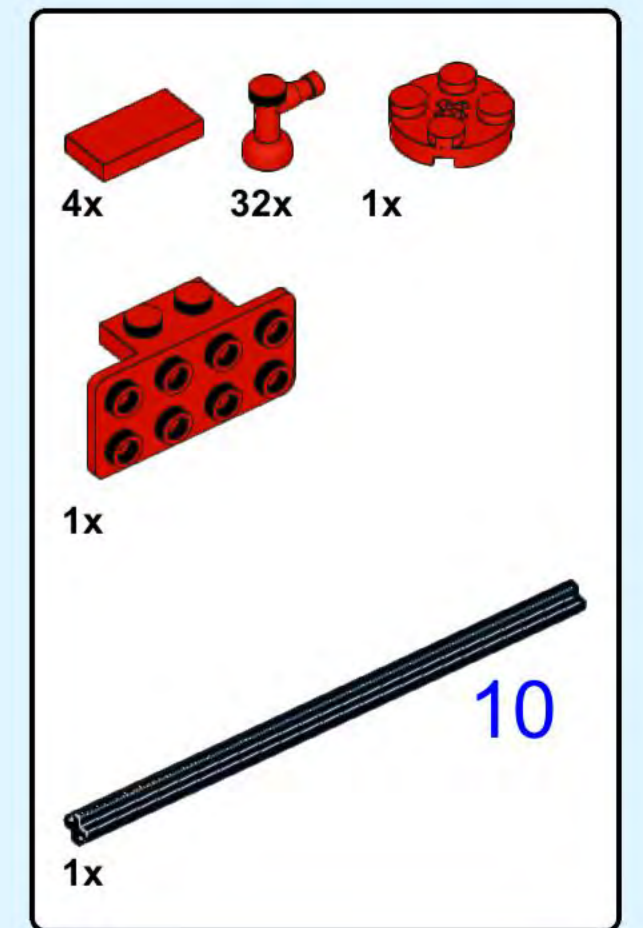
286

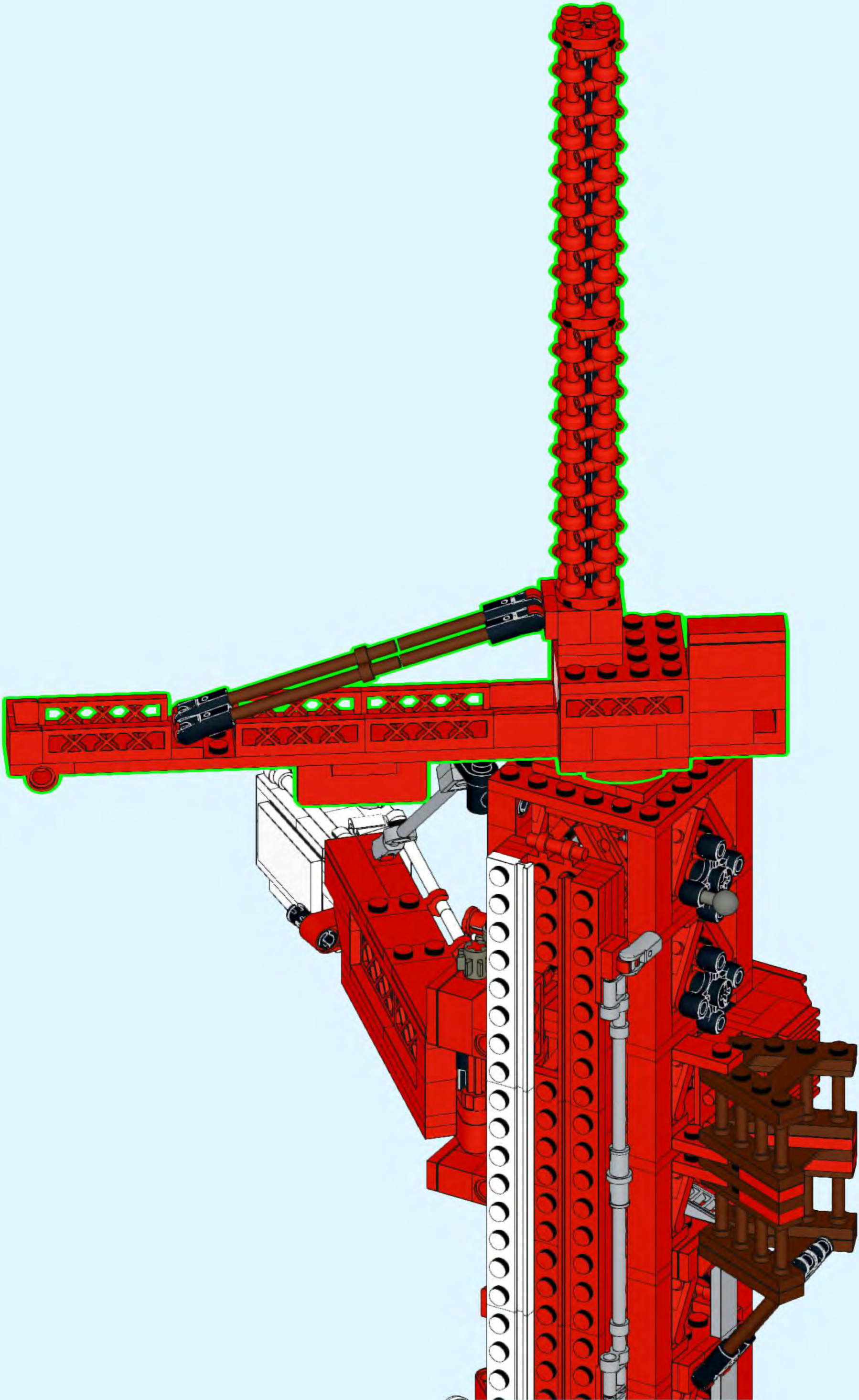


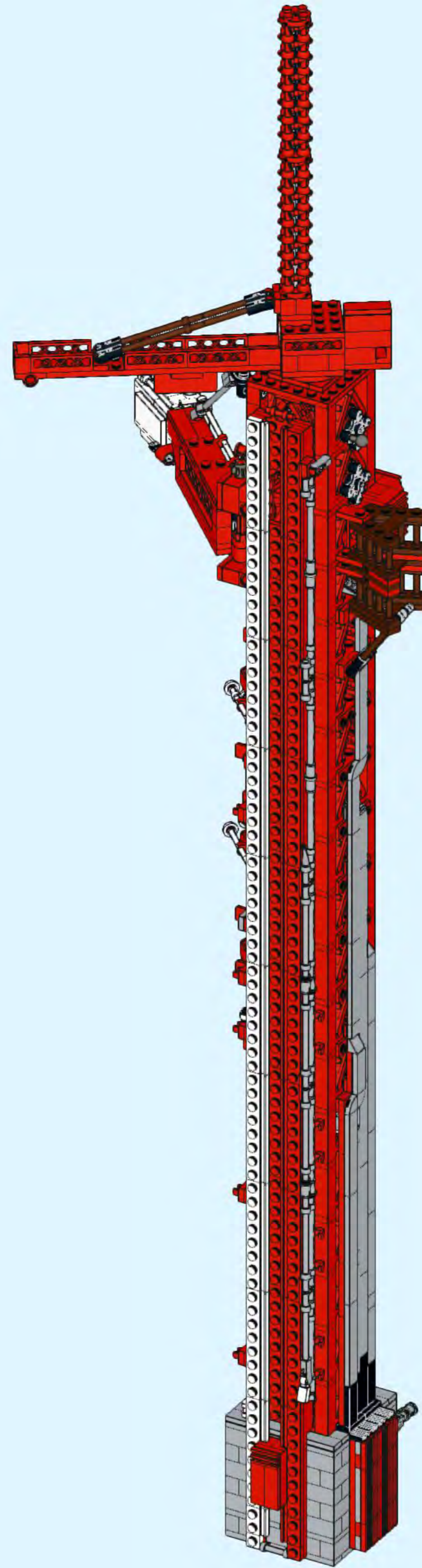
287



288

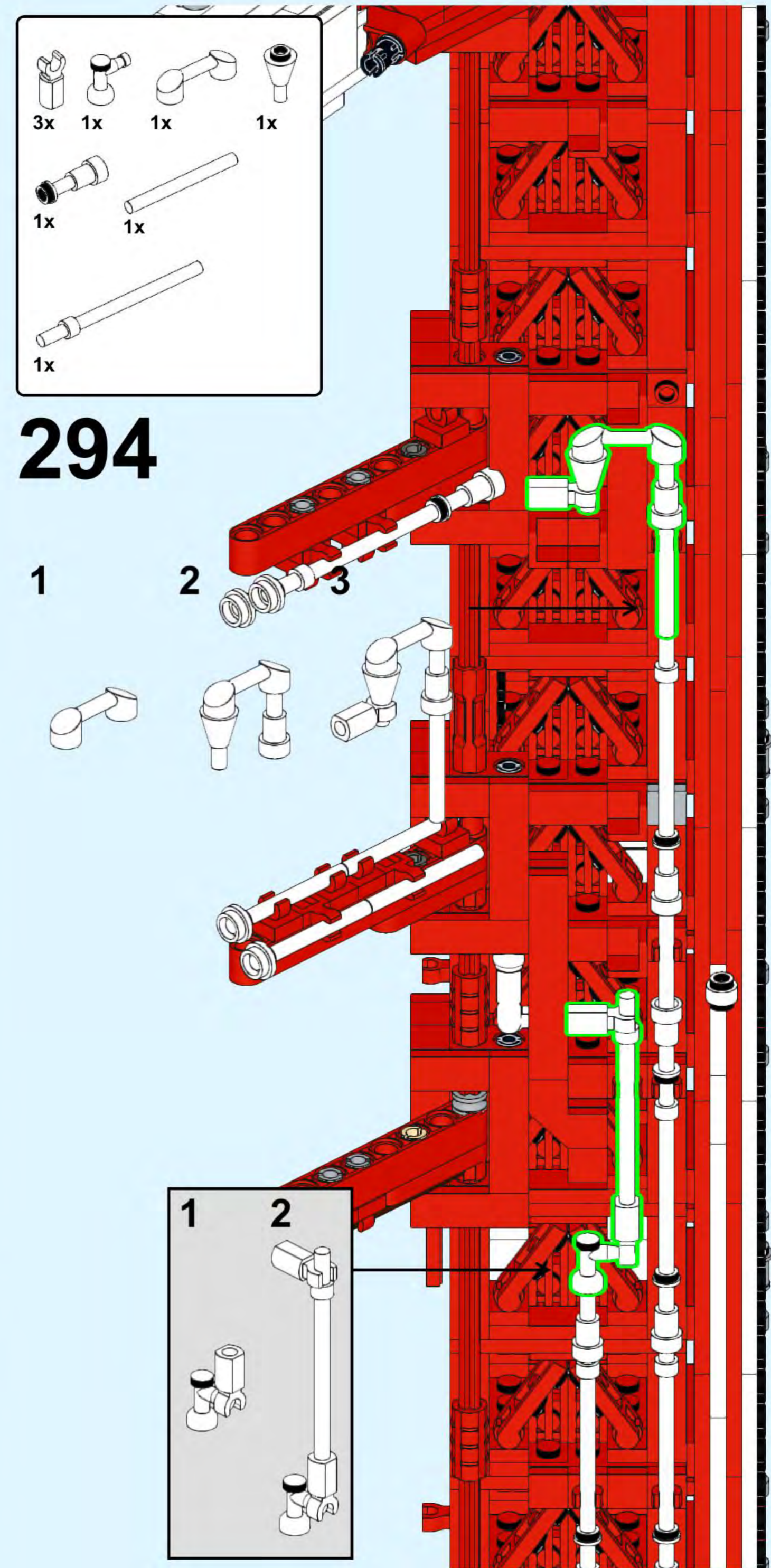
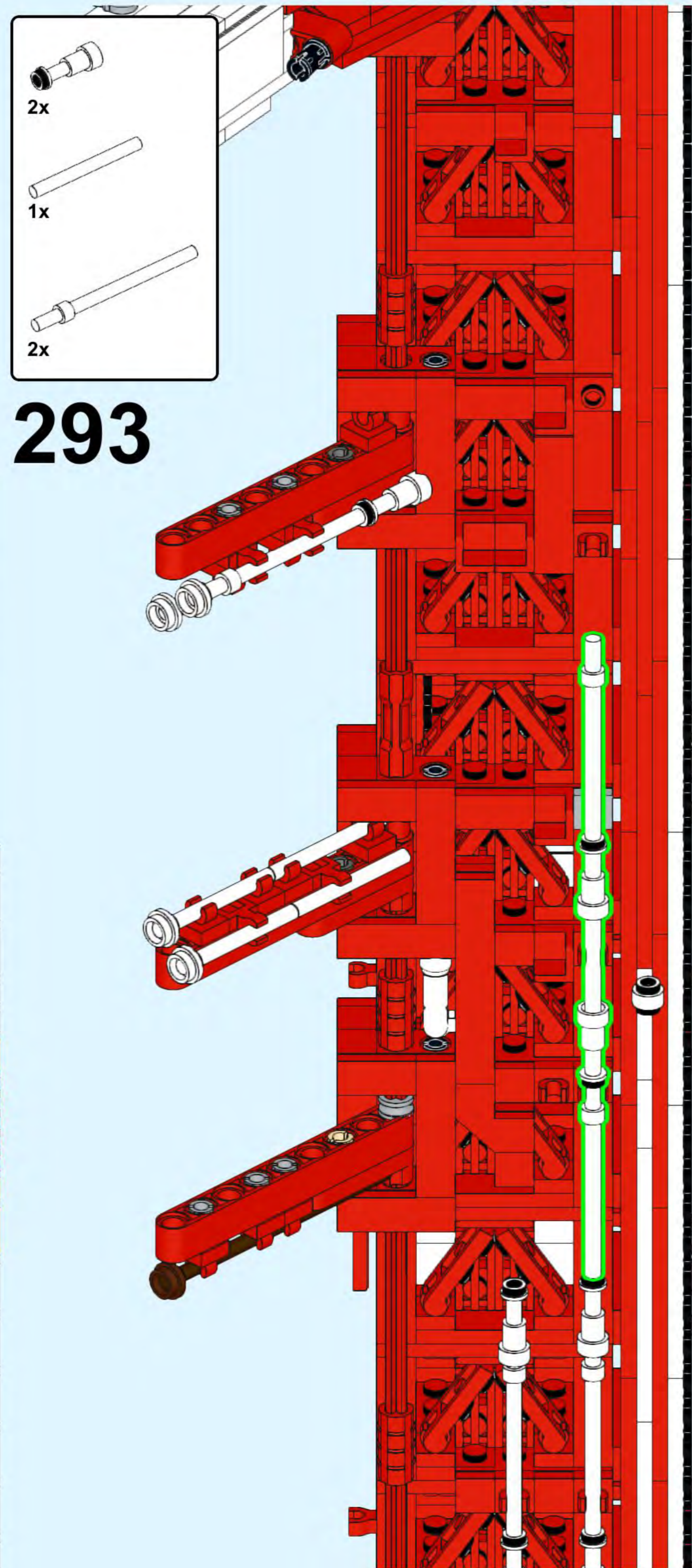
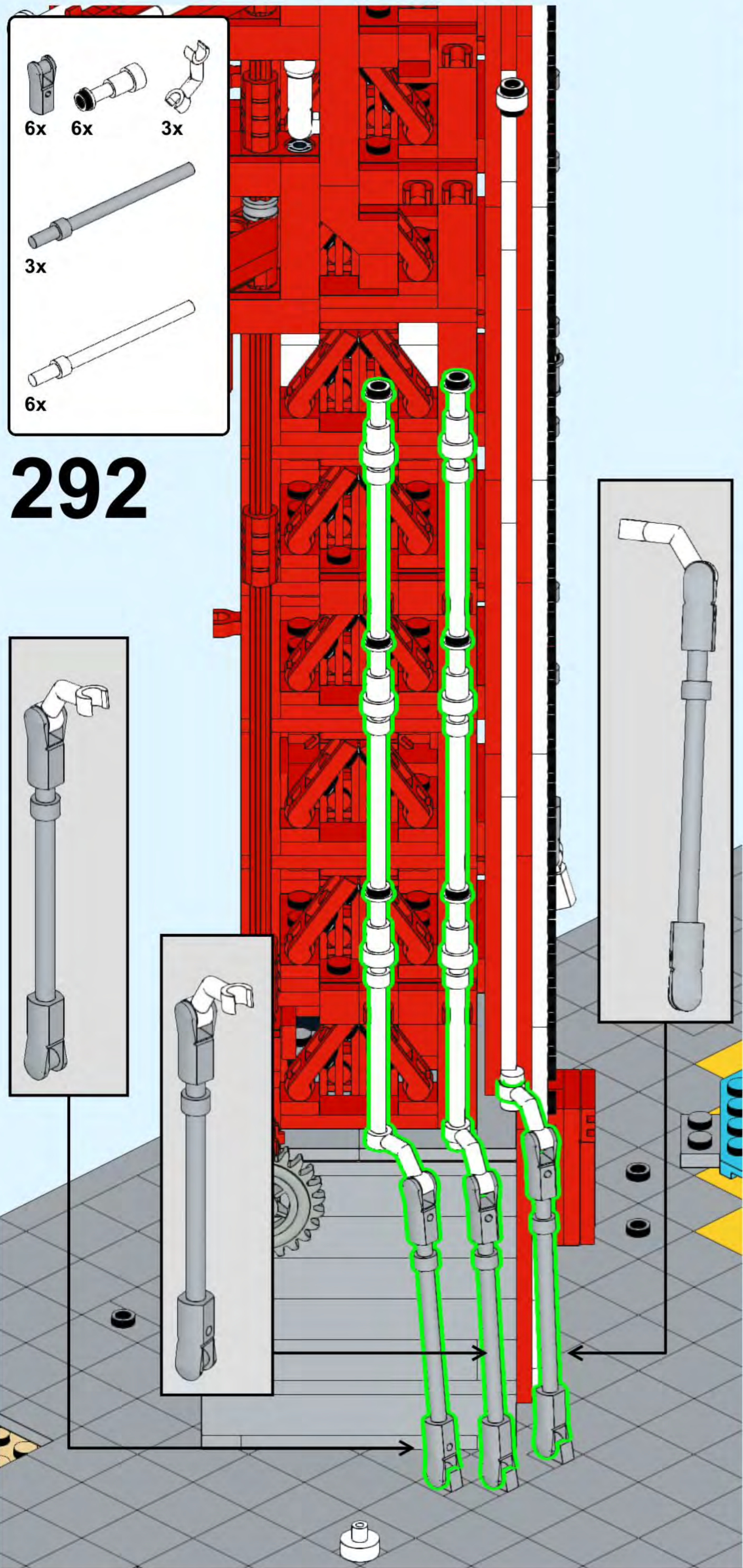






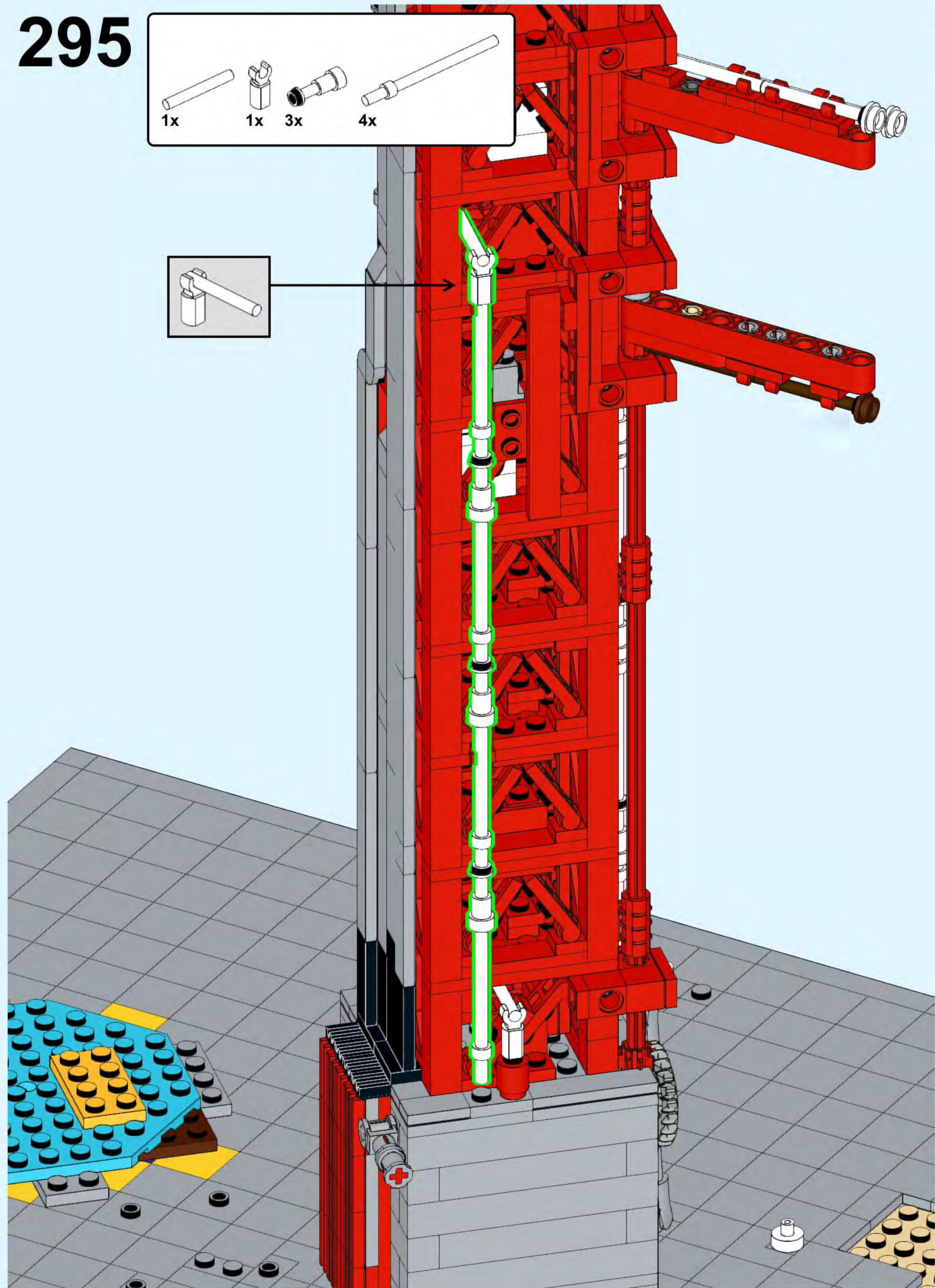
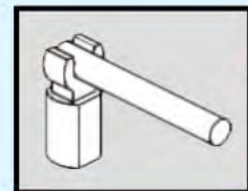
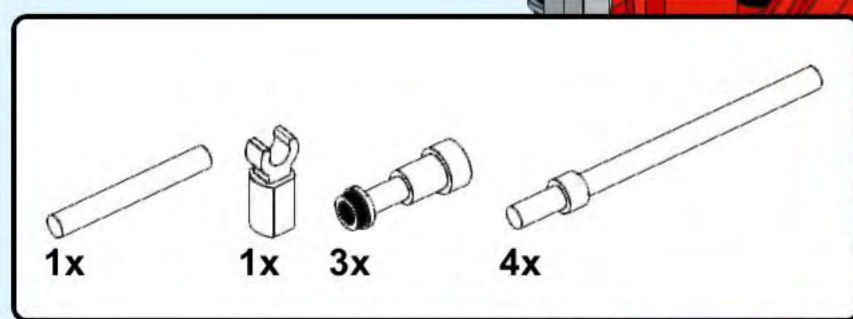
291



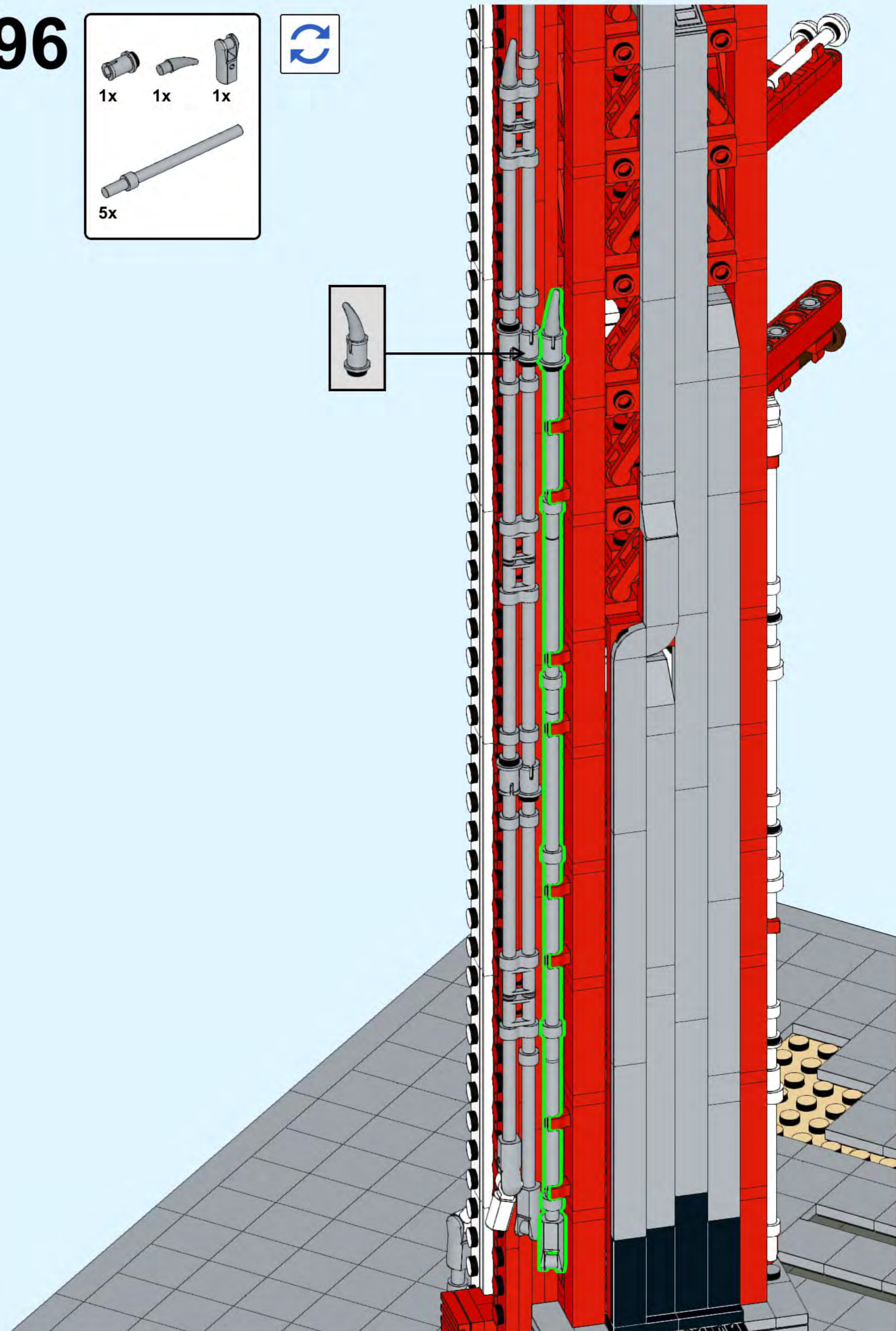
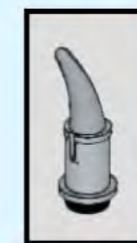
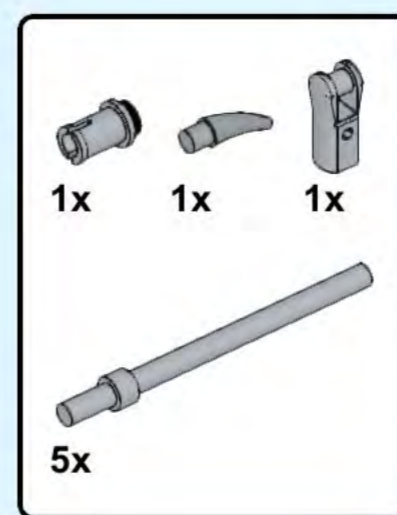




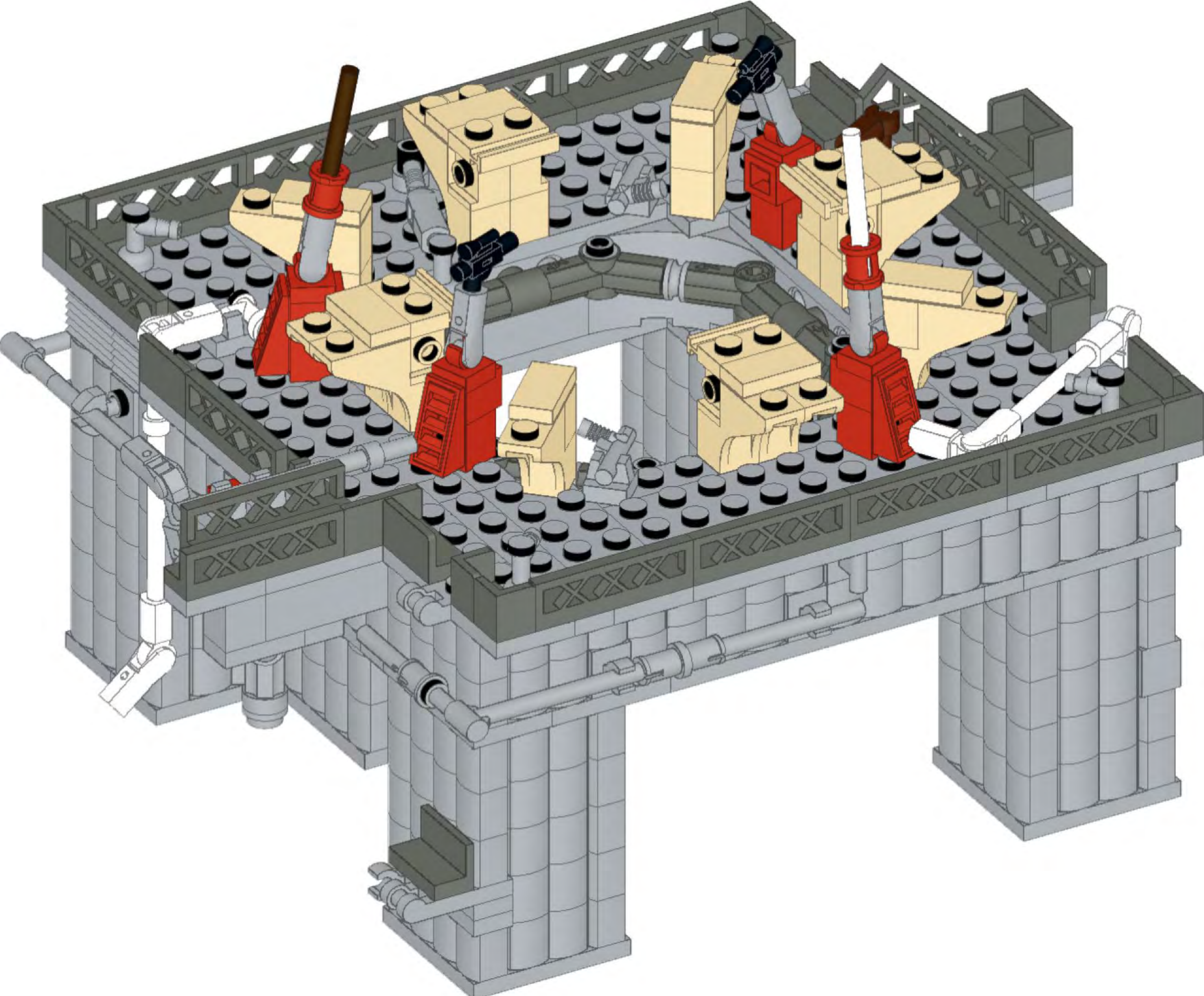
# 295



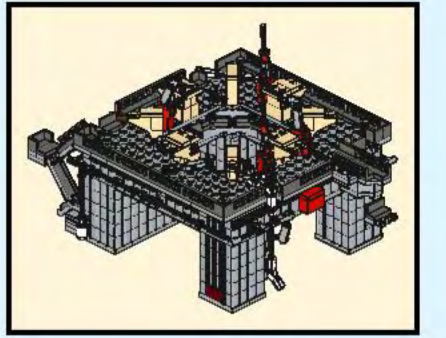
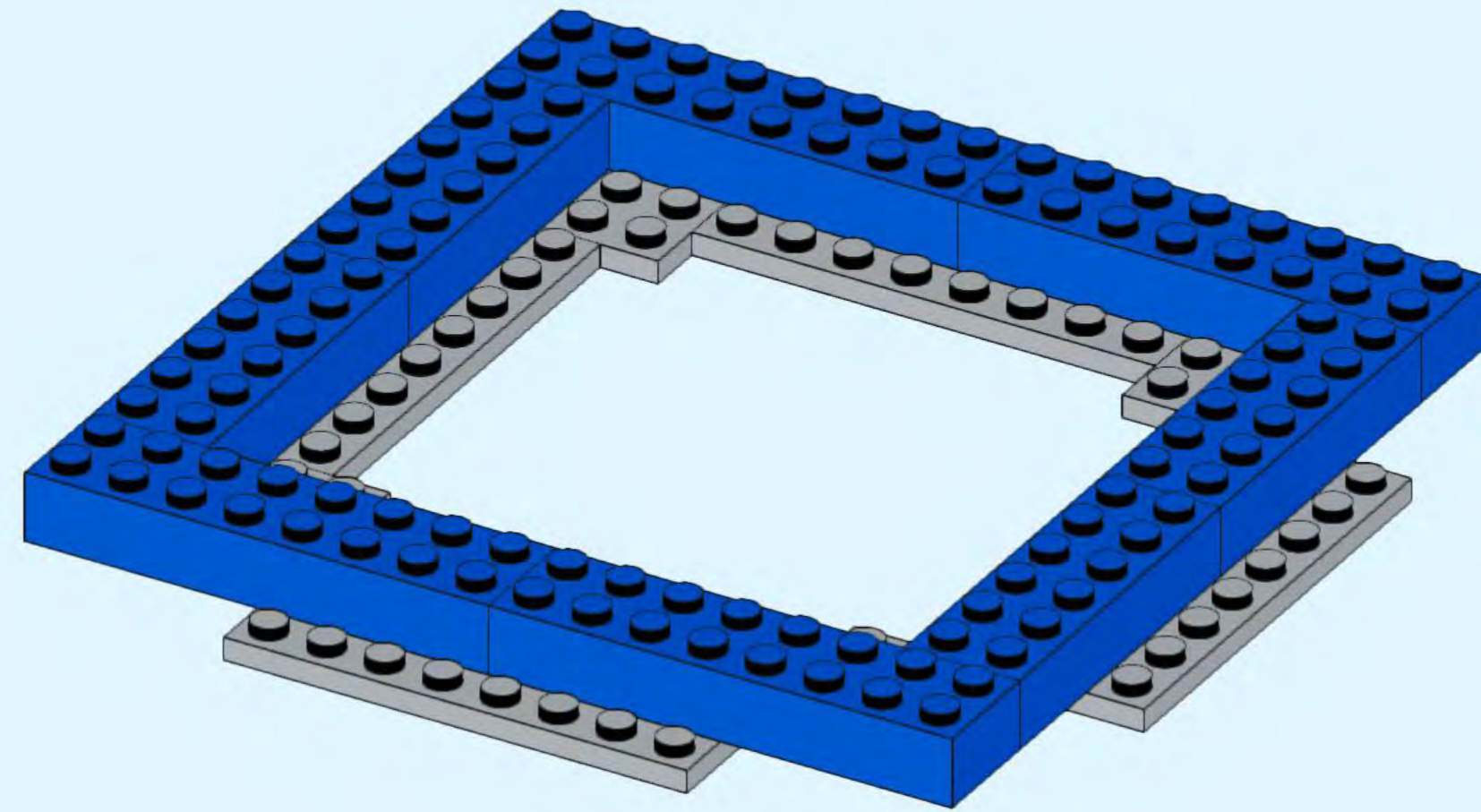
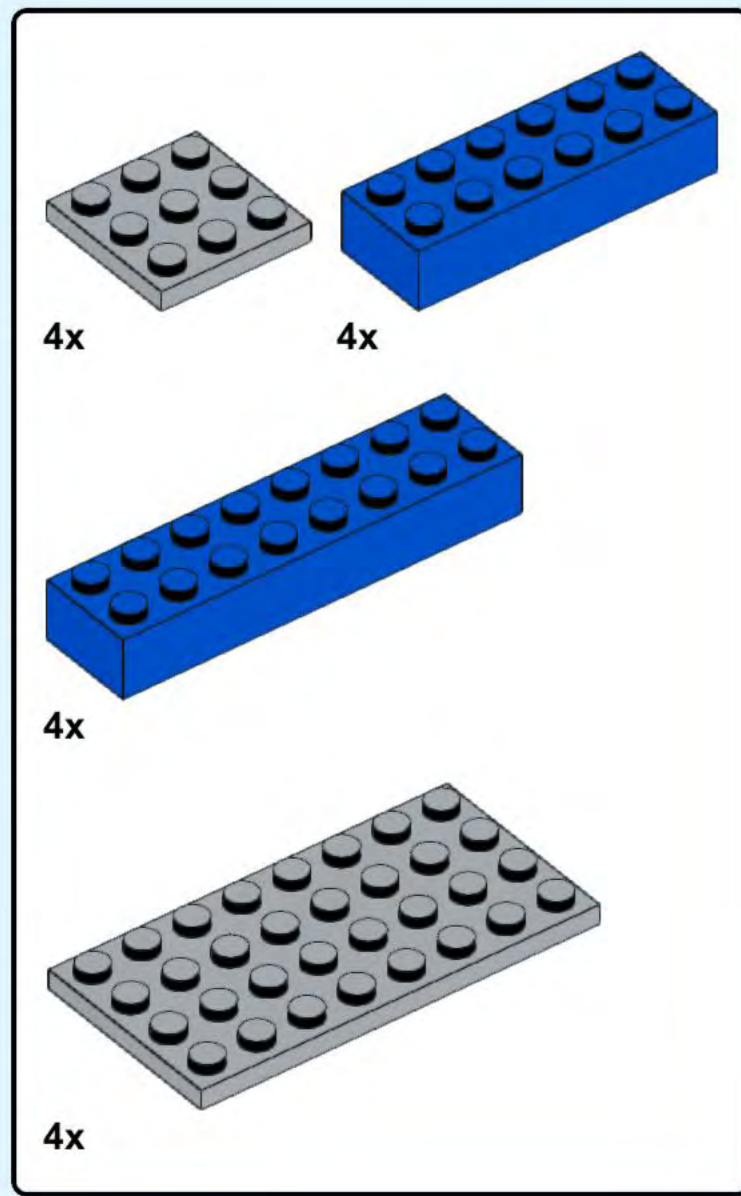
# 296



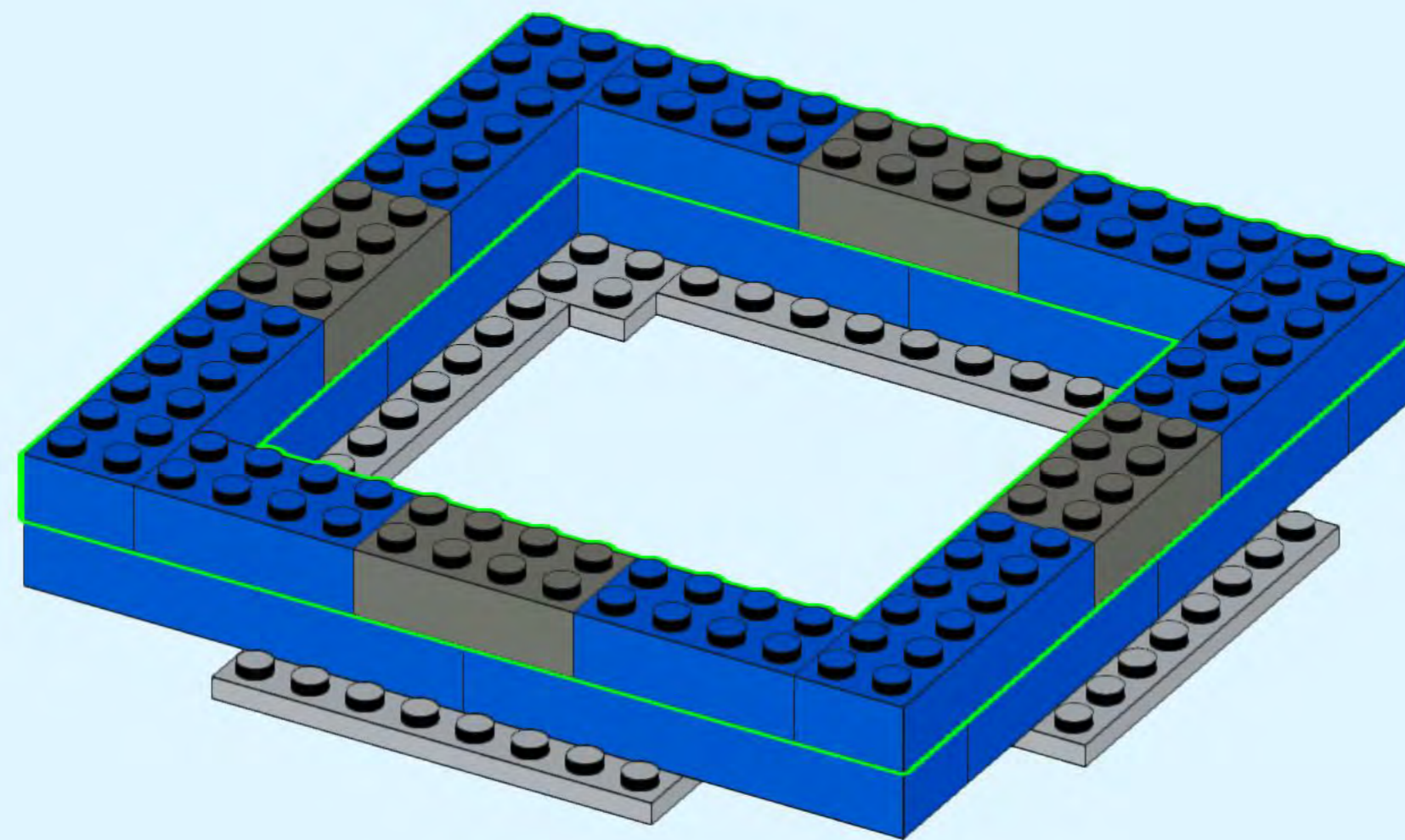
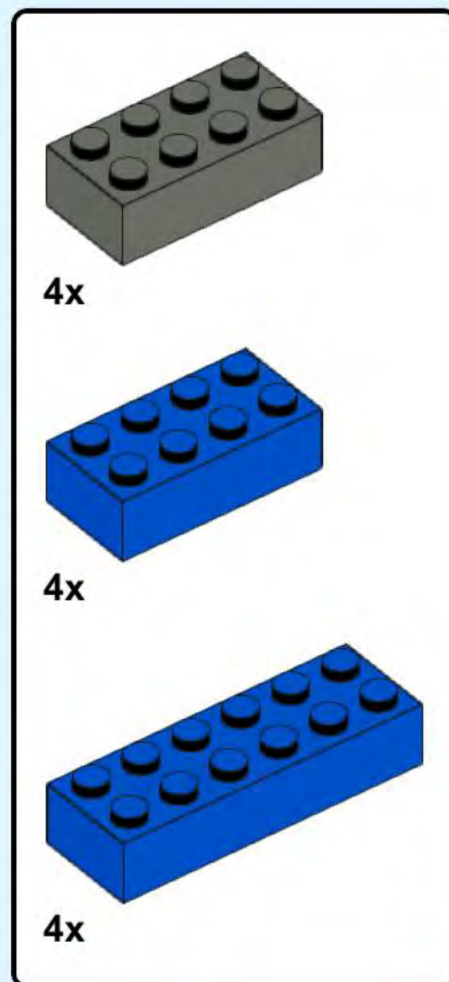
Launch platform



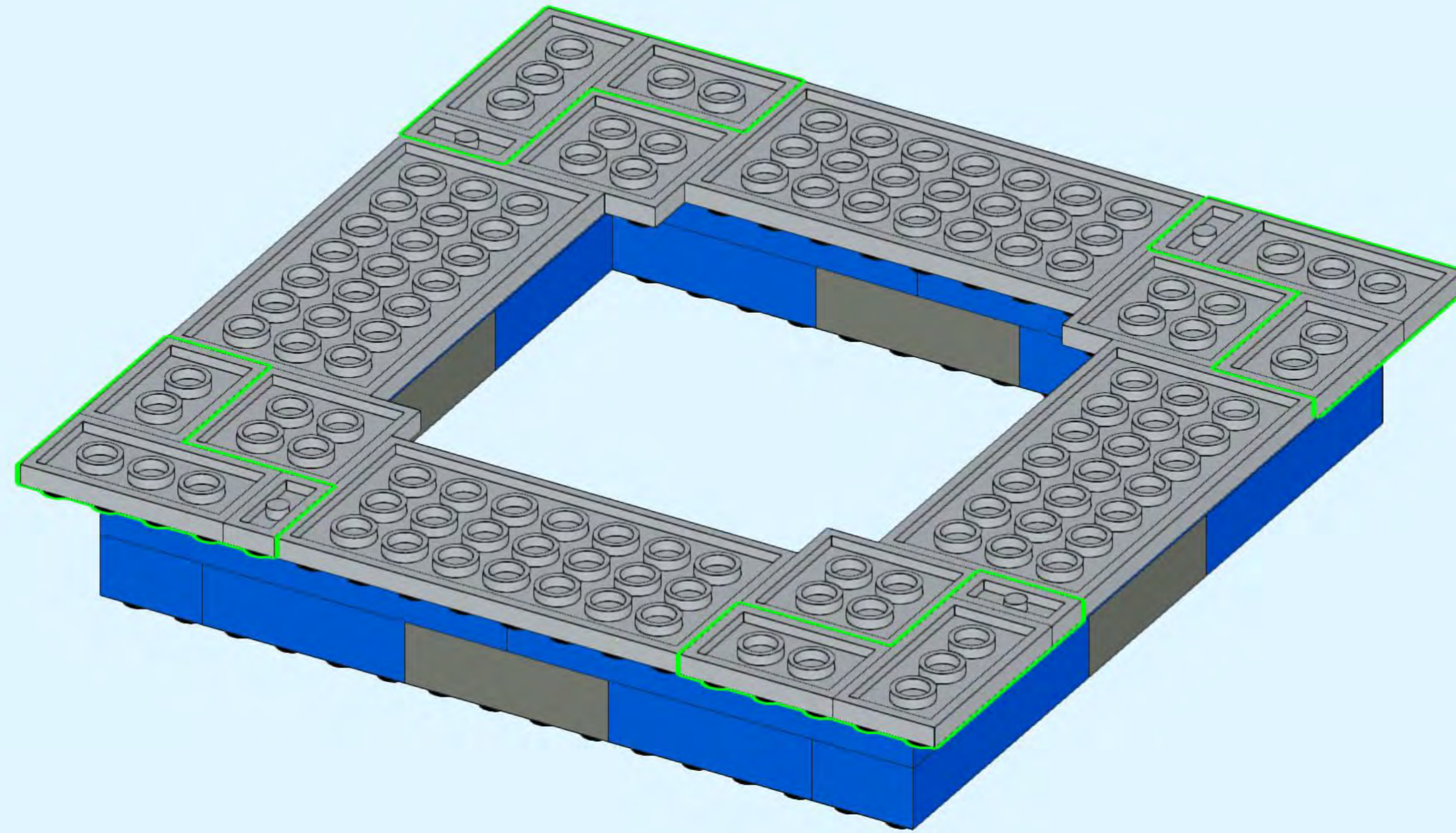
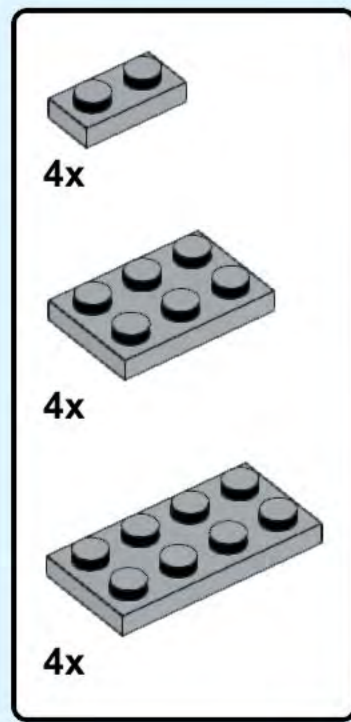
# 297



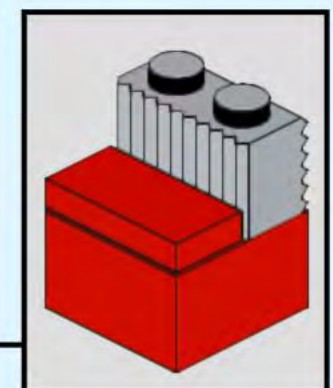
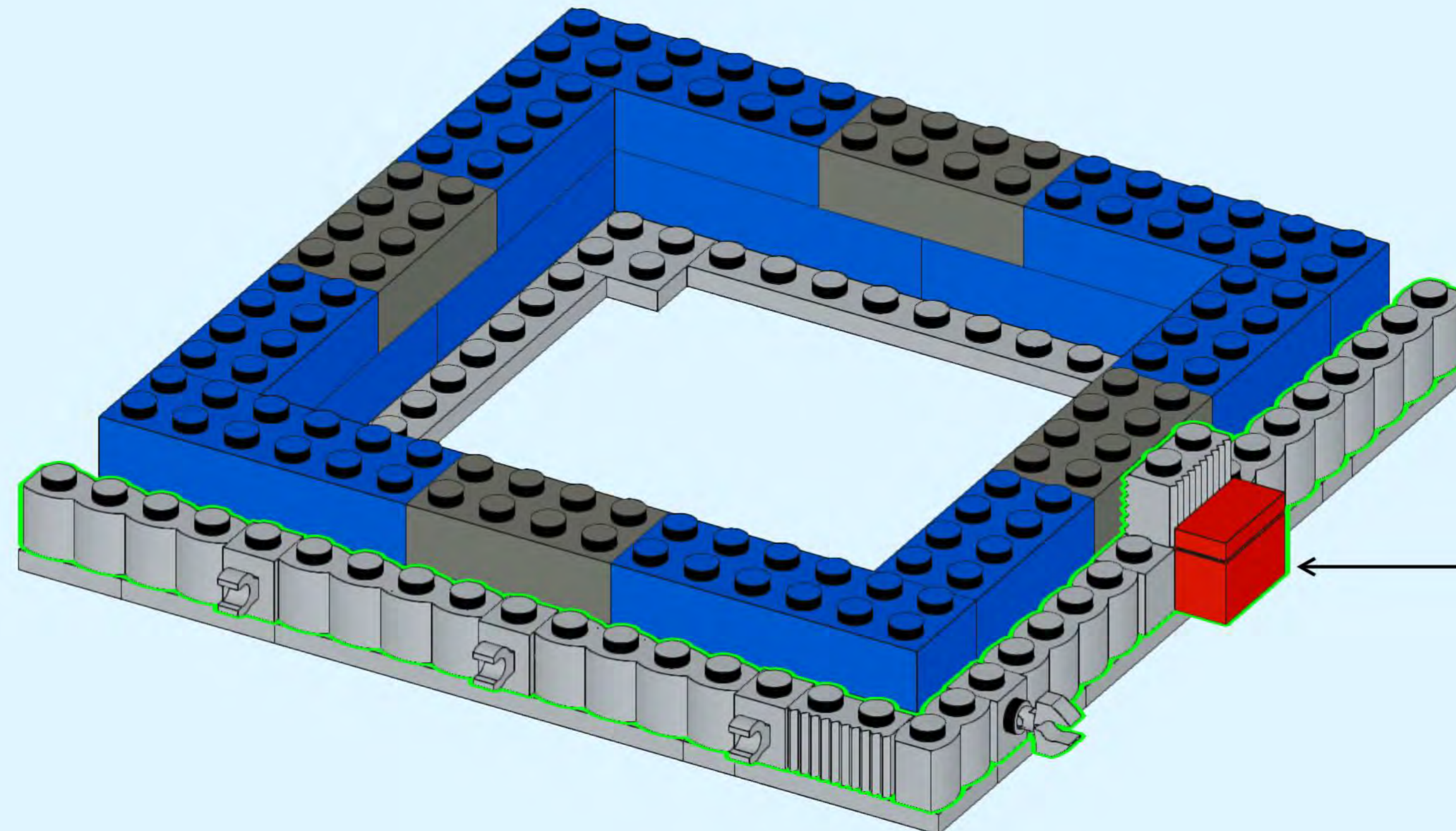
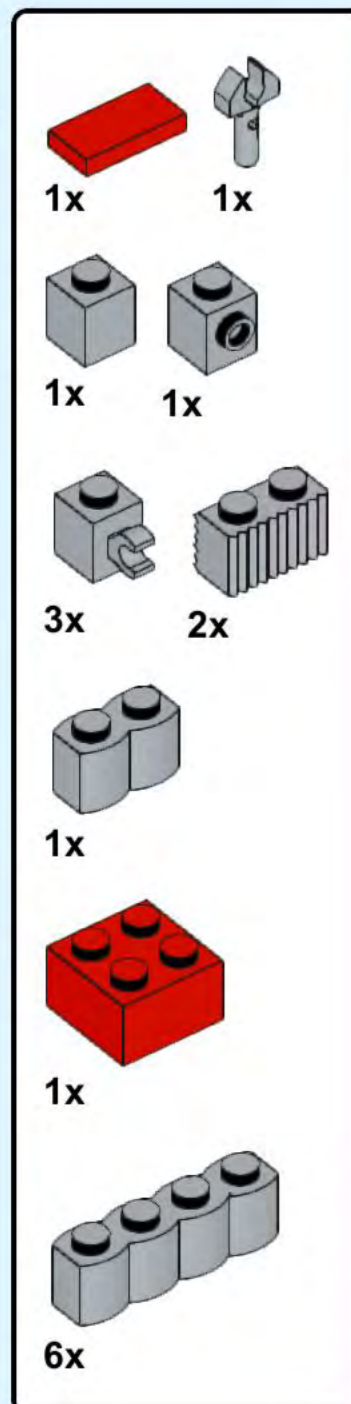
# 298



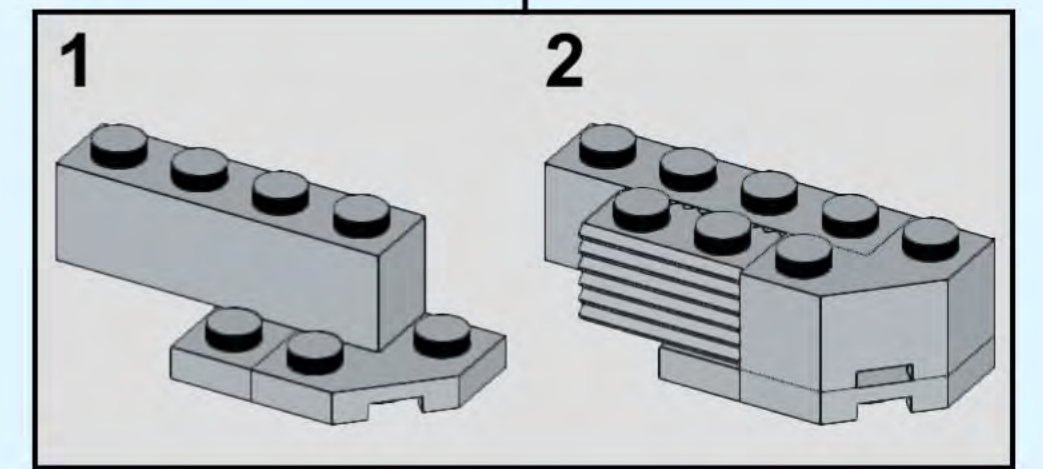
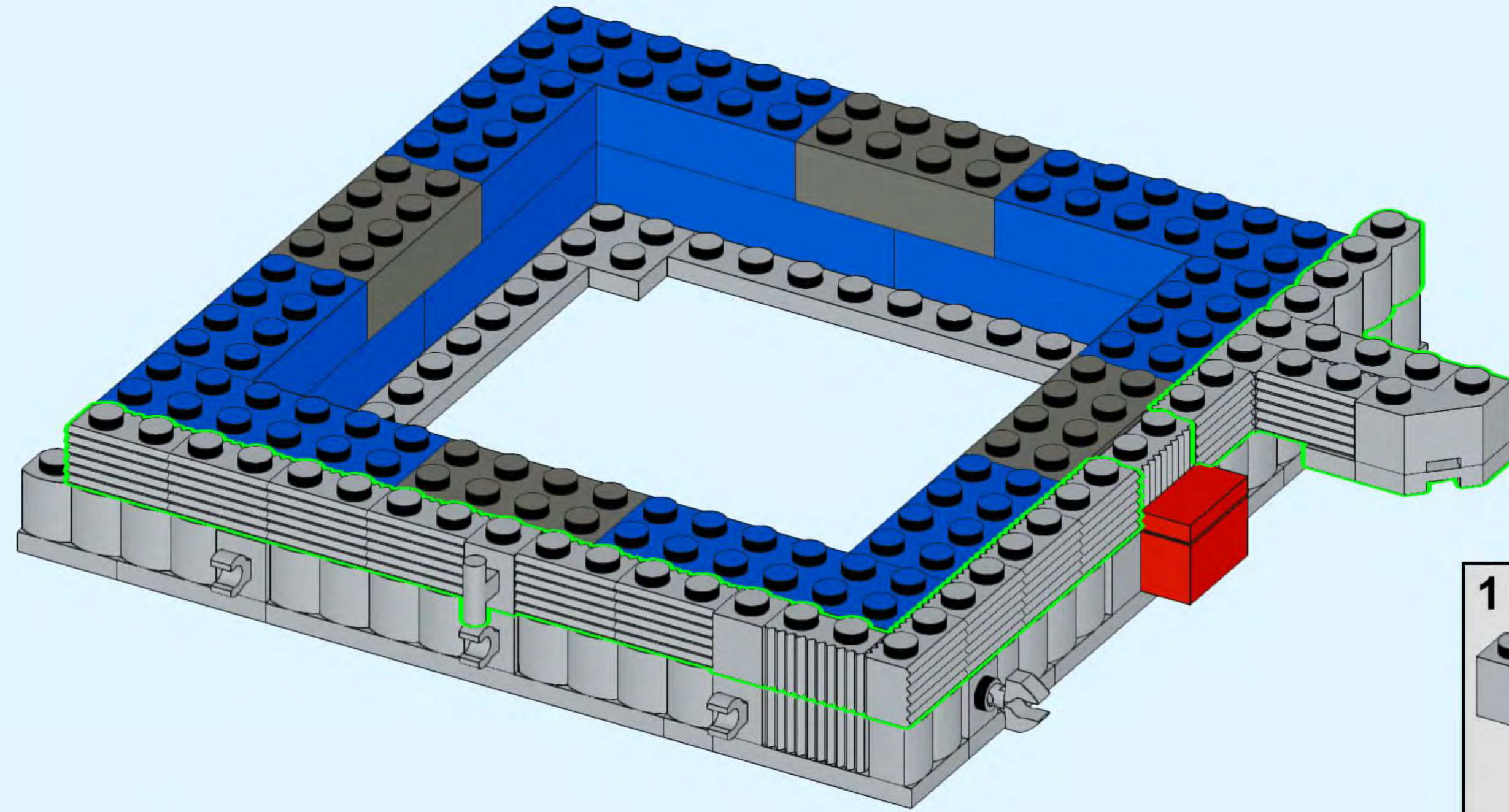
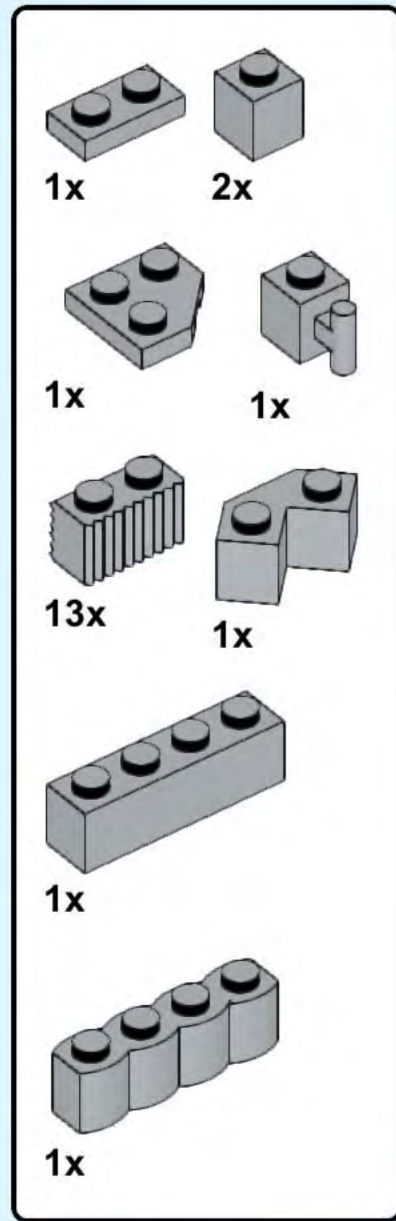
# 299



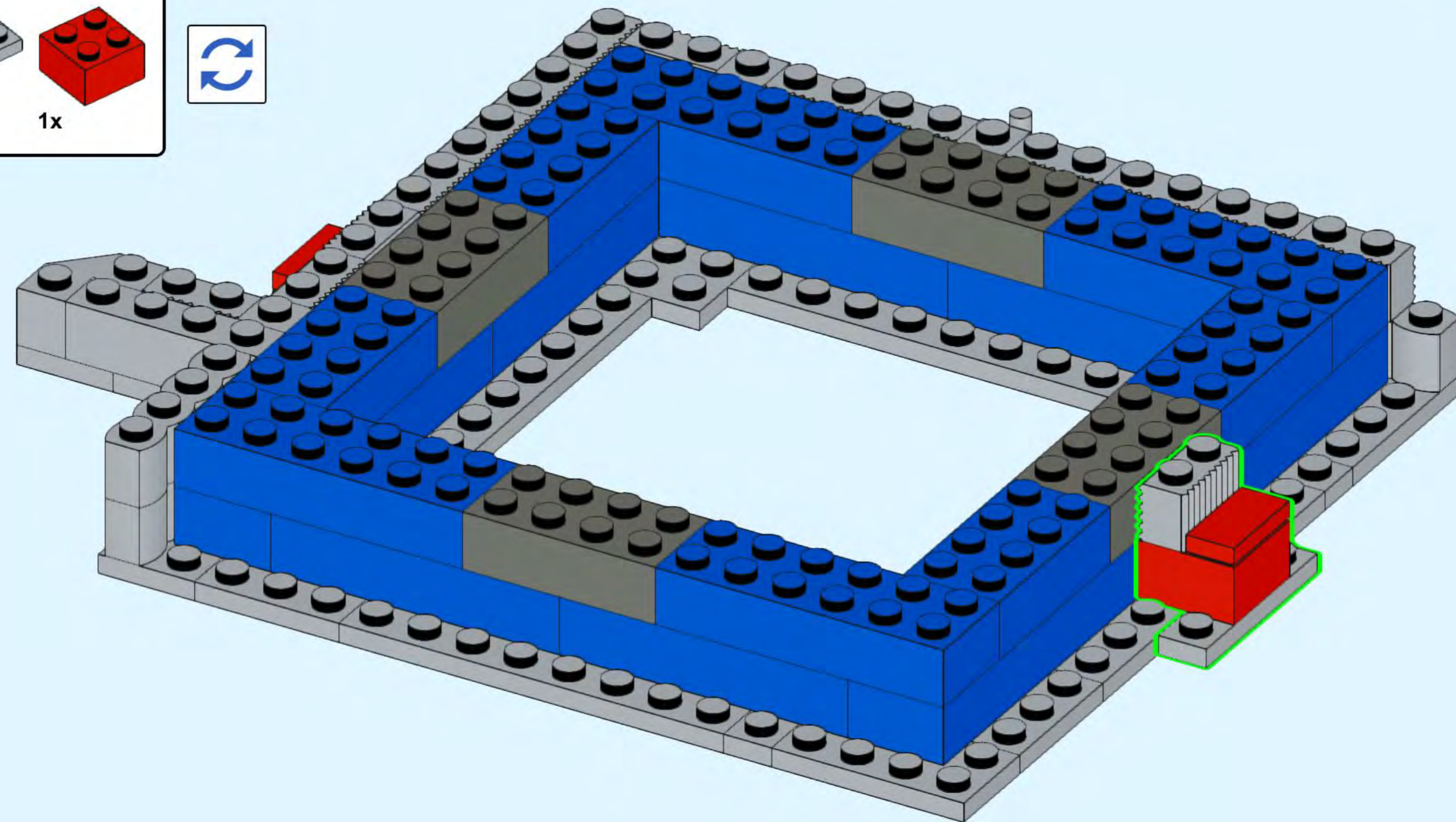
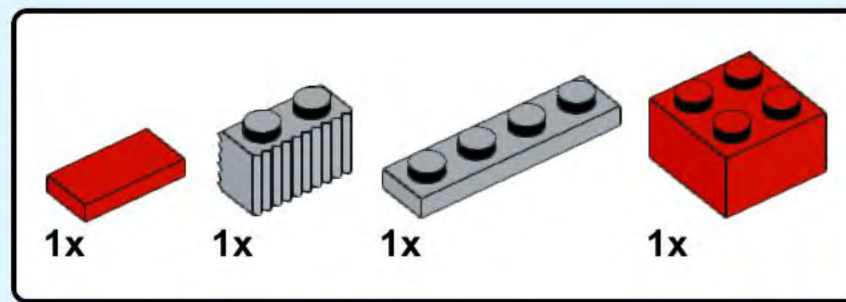
# 300



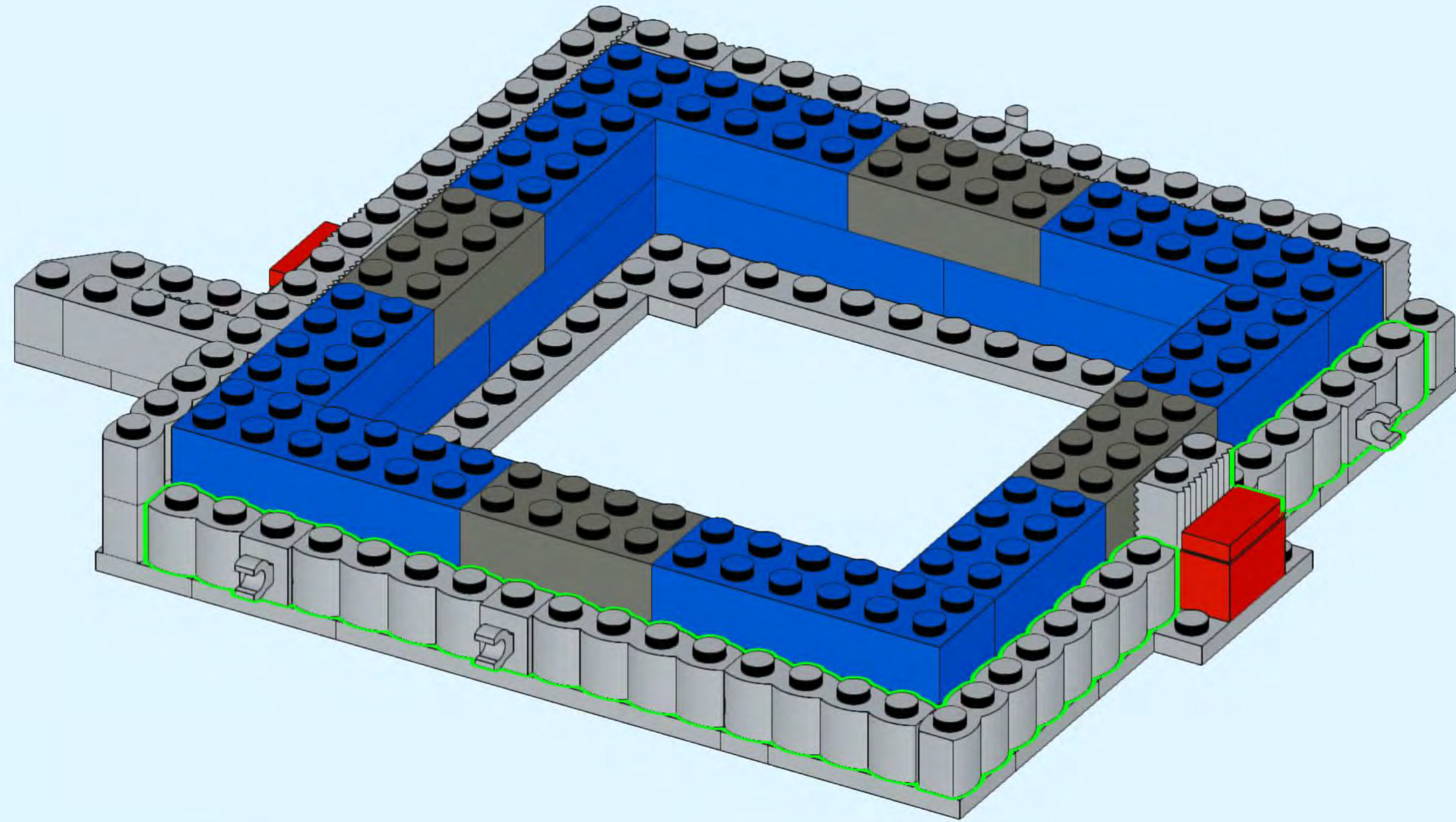
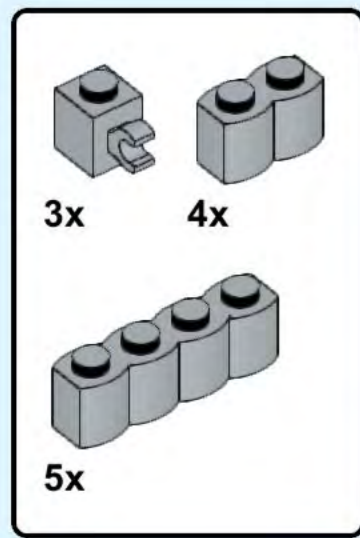
# 301



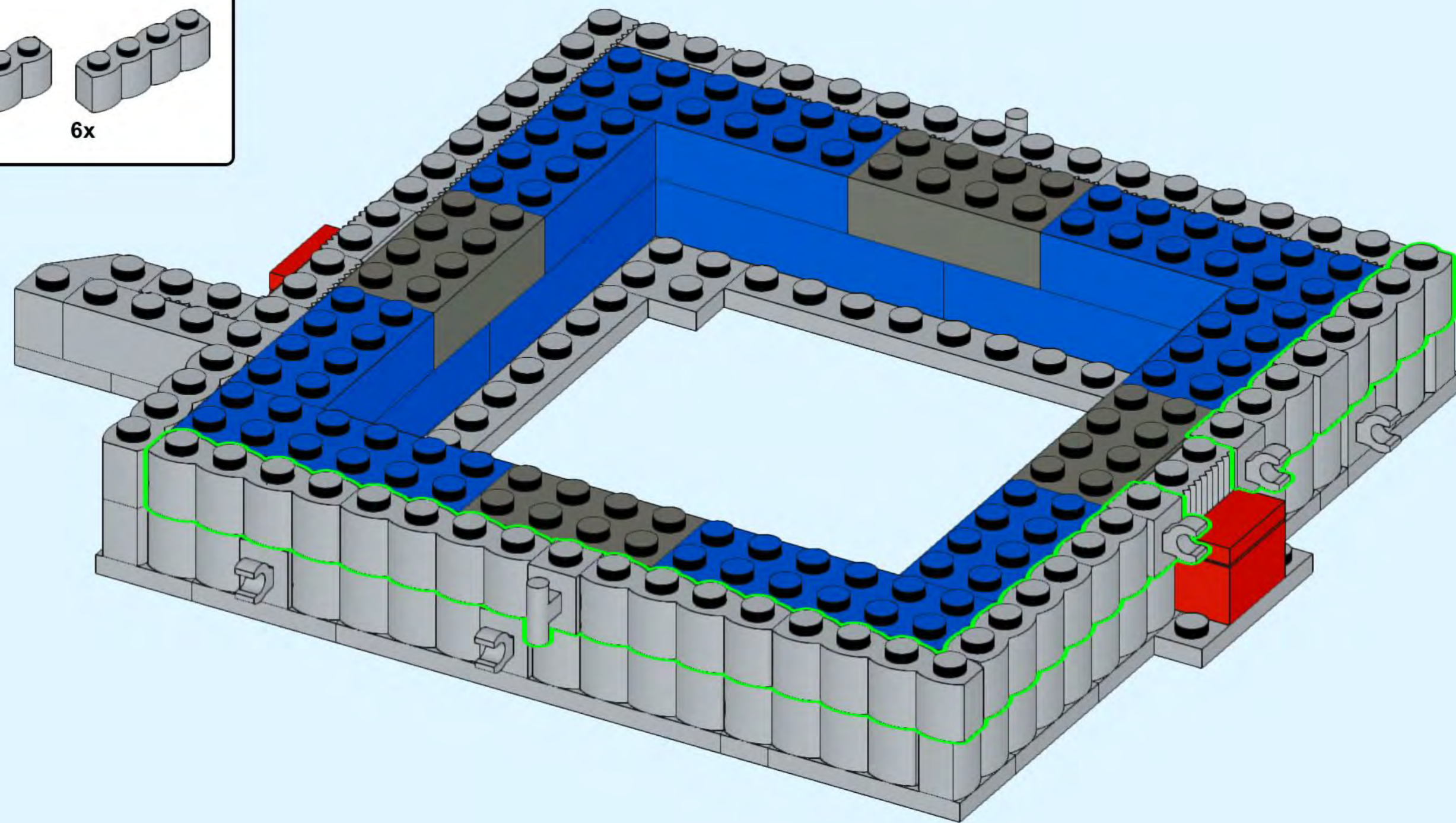
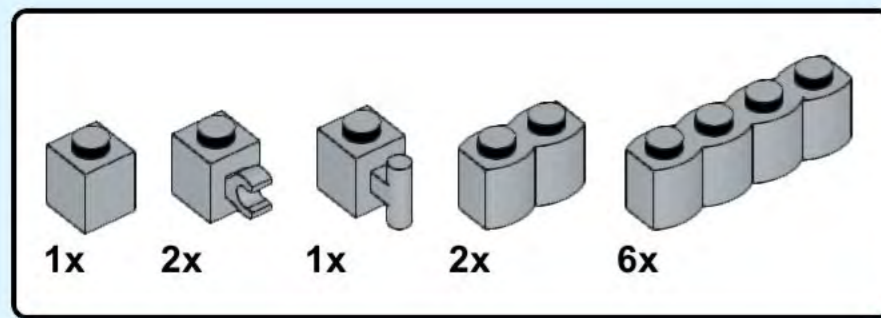
# 302



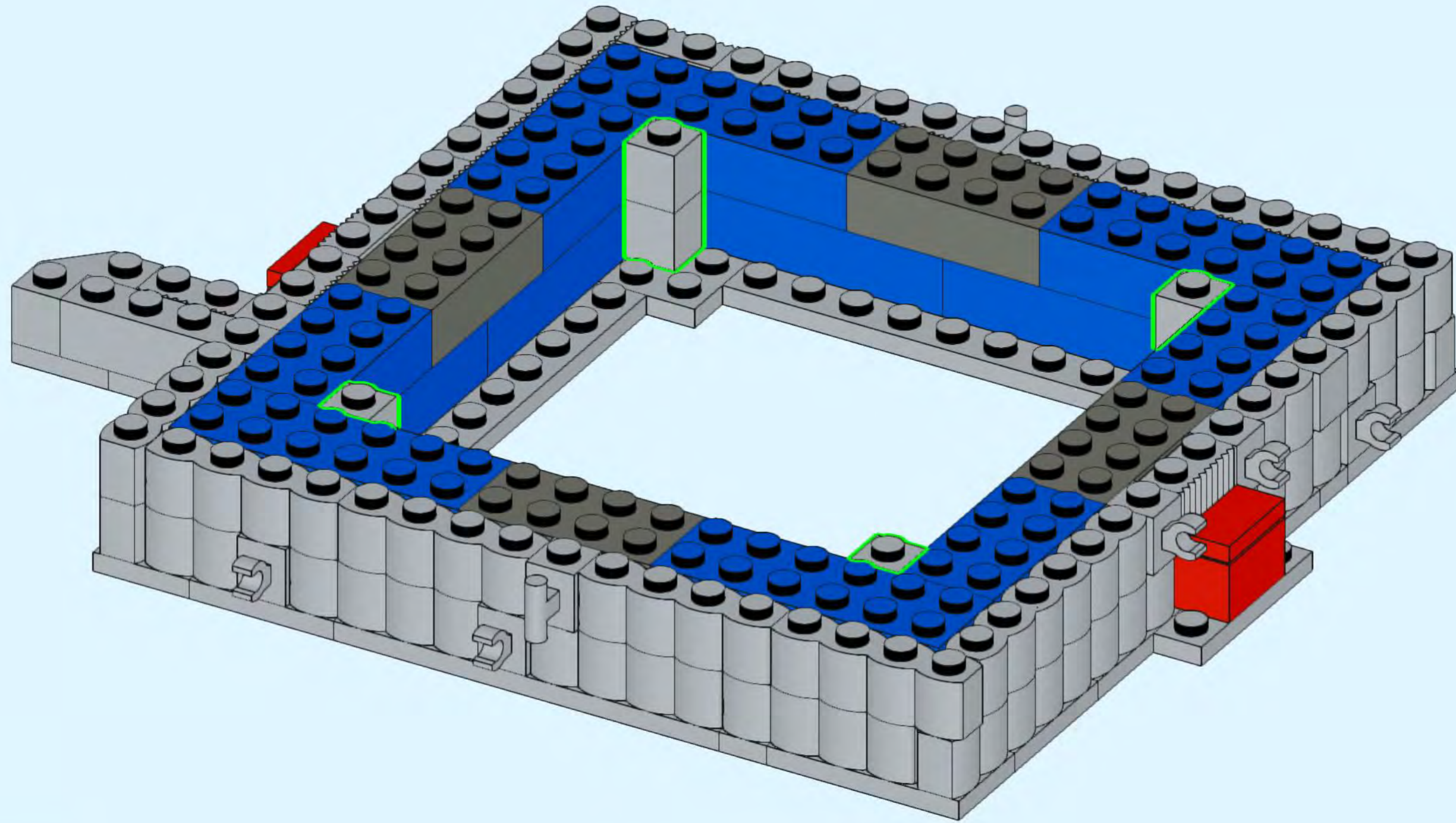
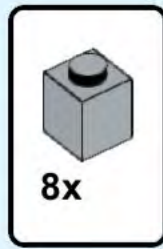
# 303



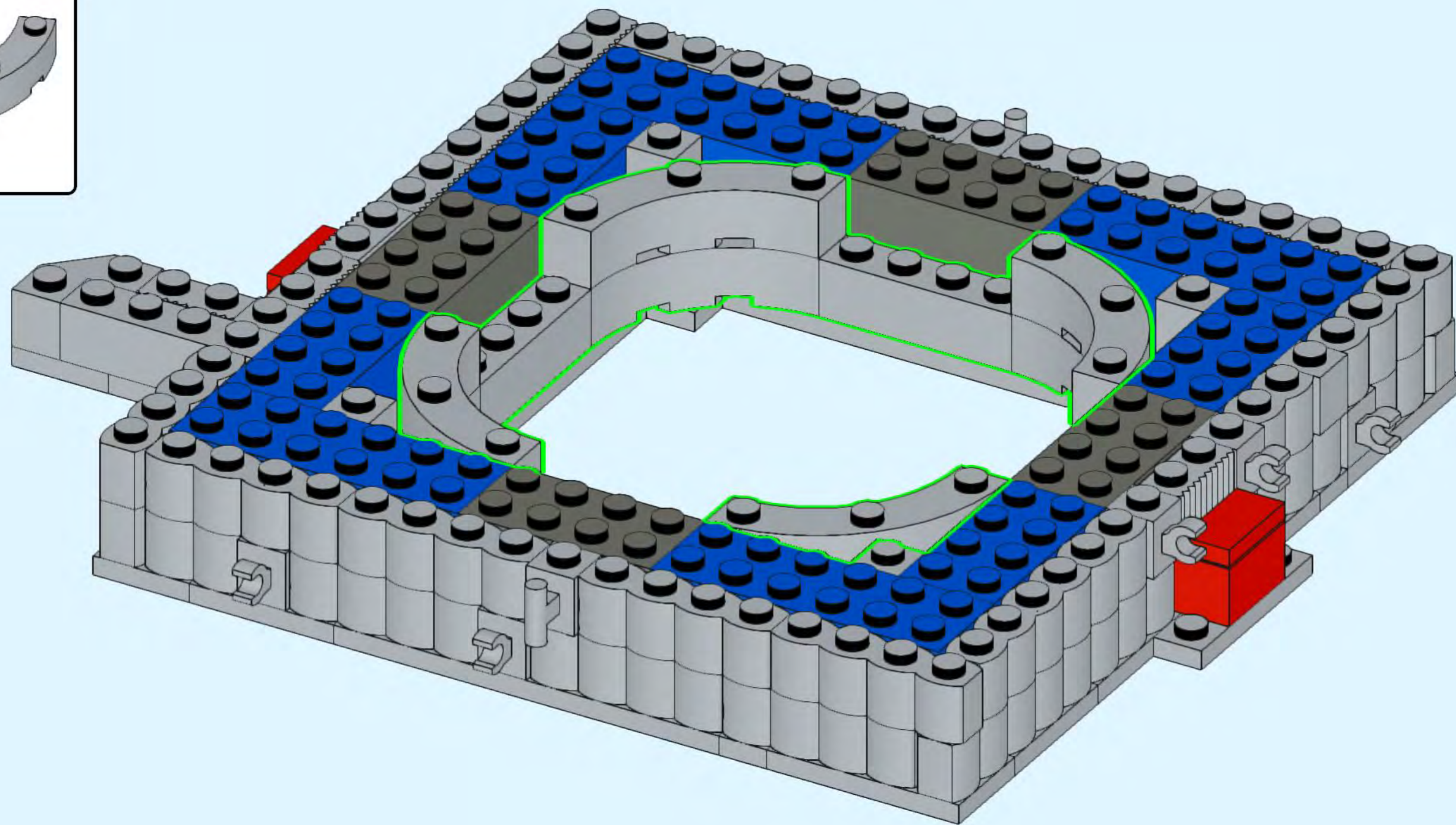
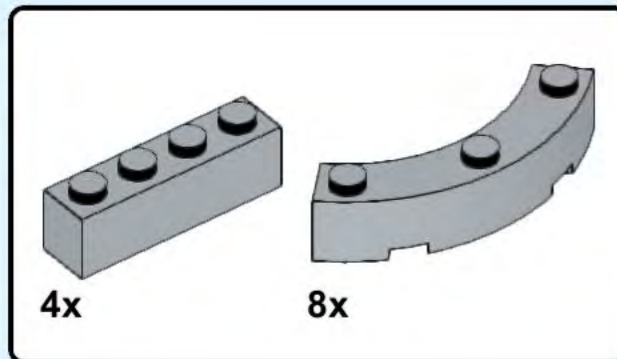
# 304



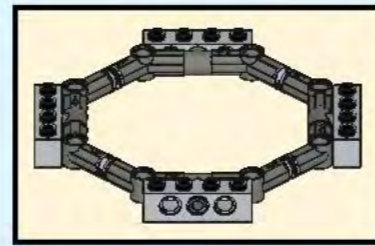
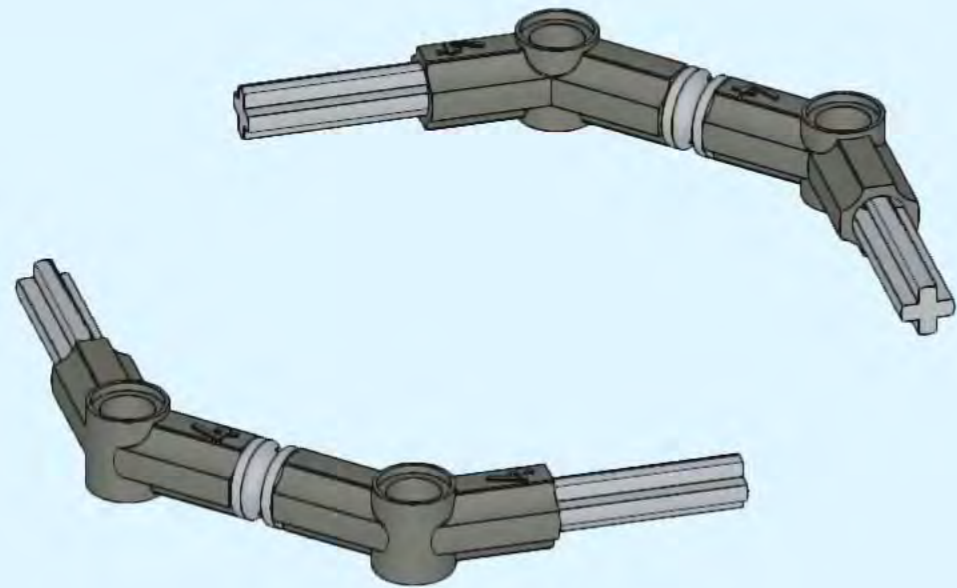
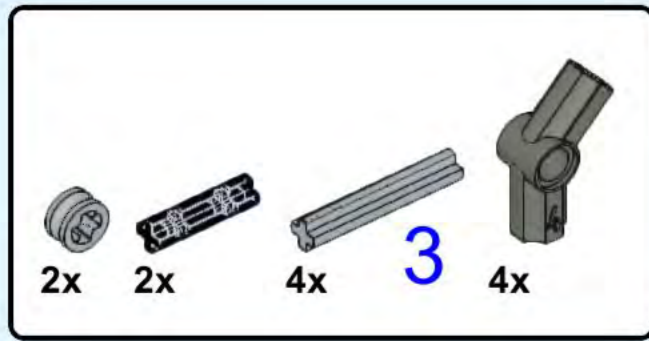
# 305



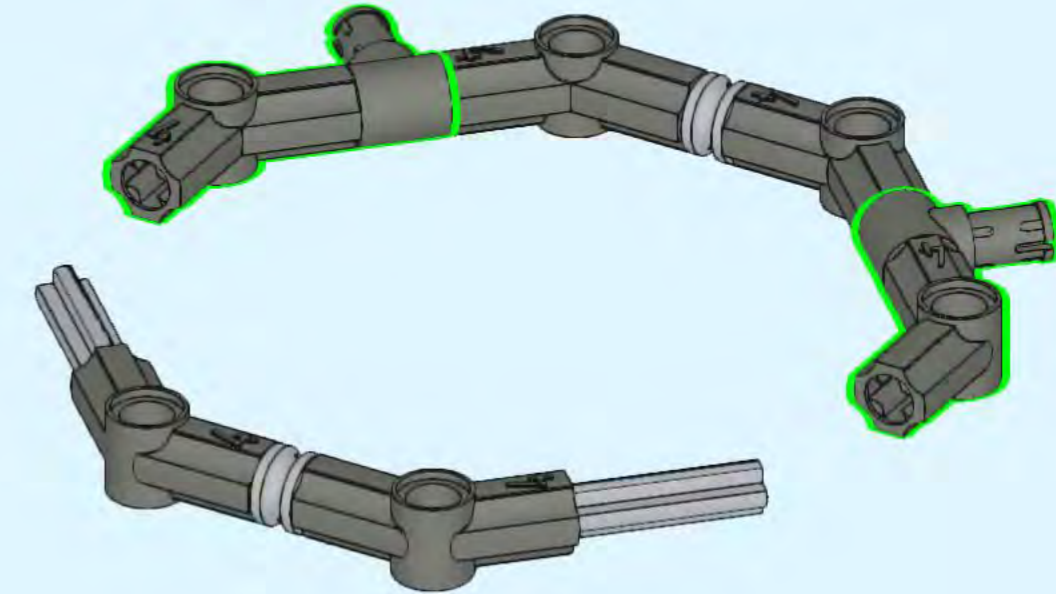
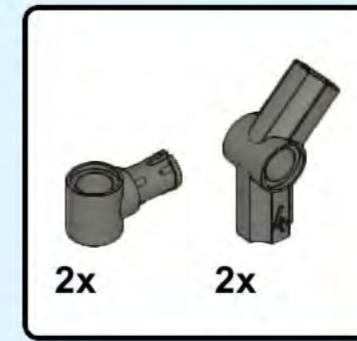
# 306



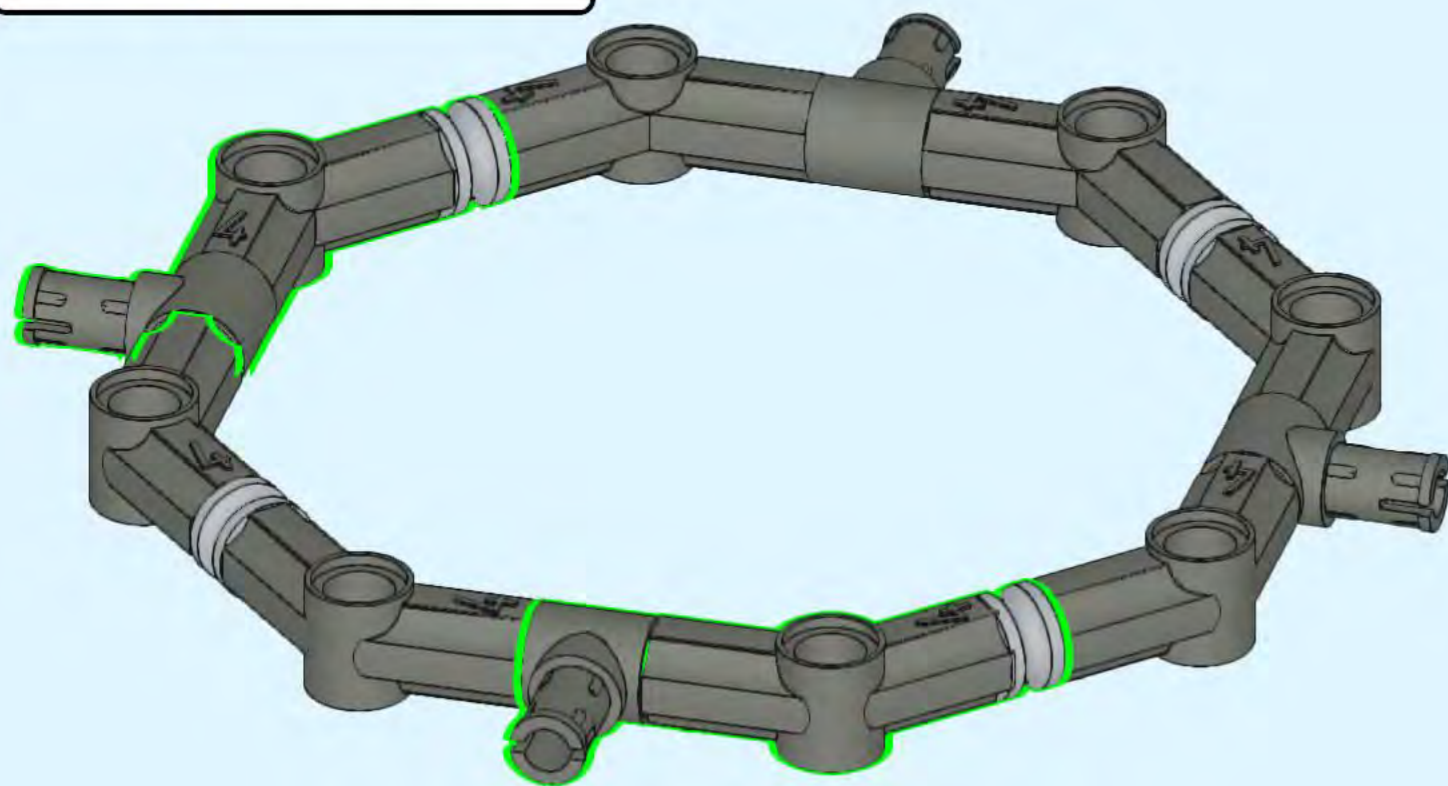
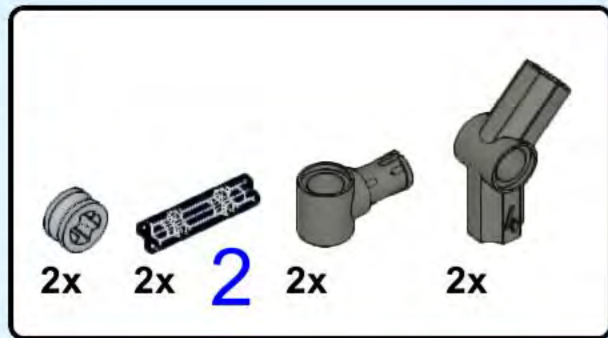
307



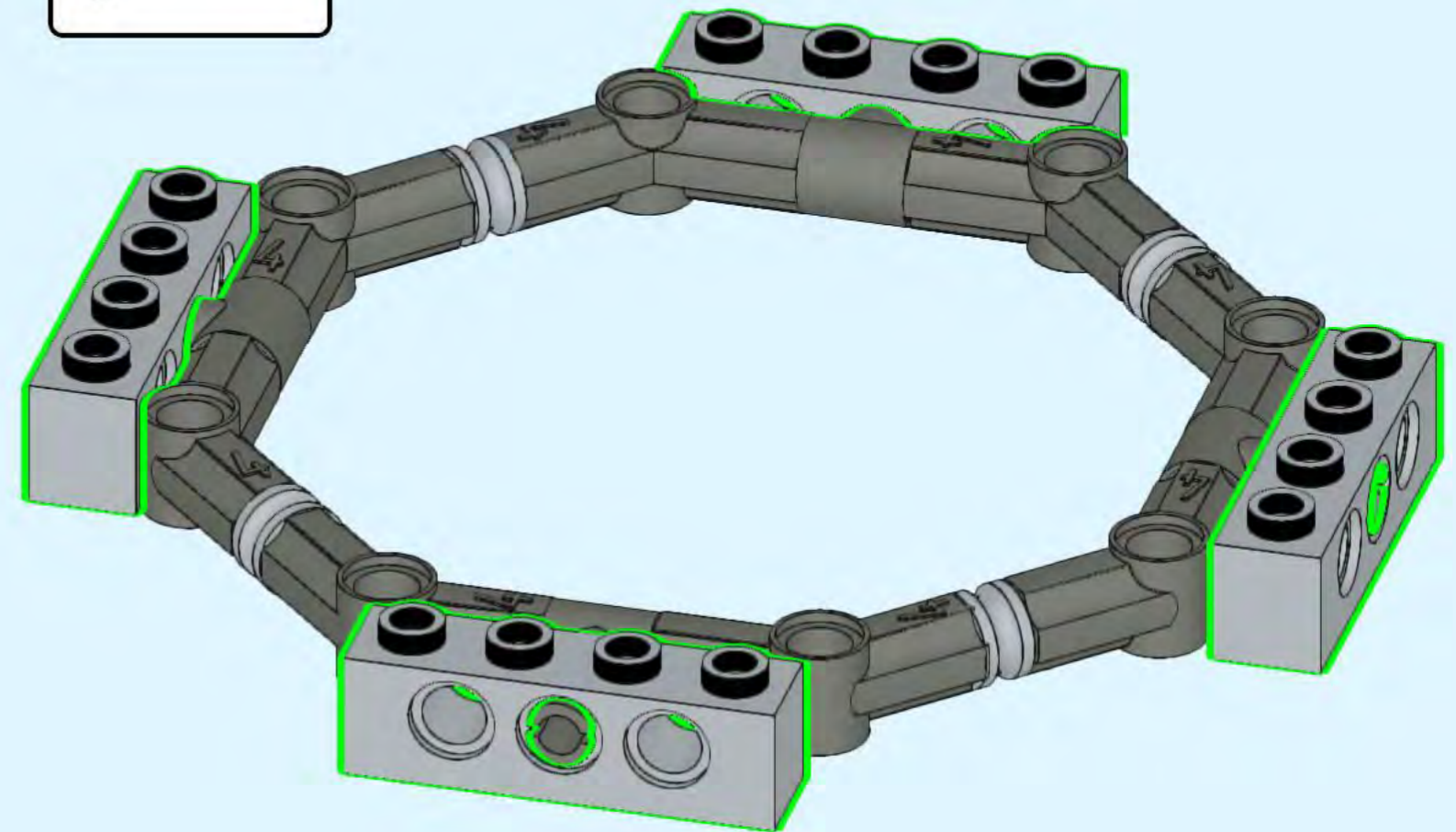
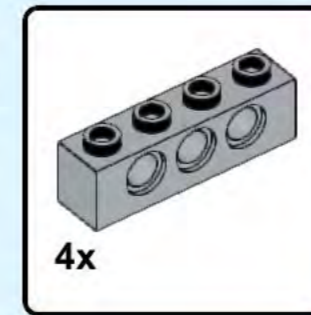
308



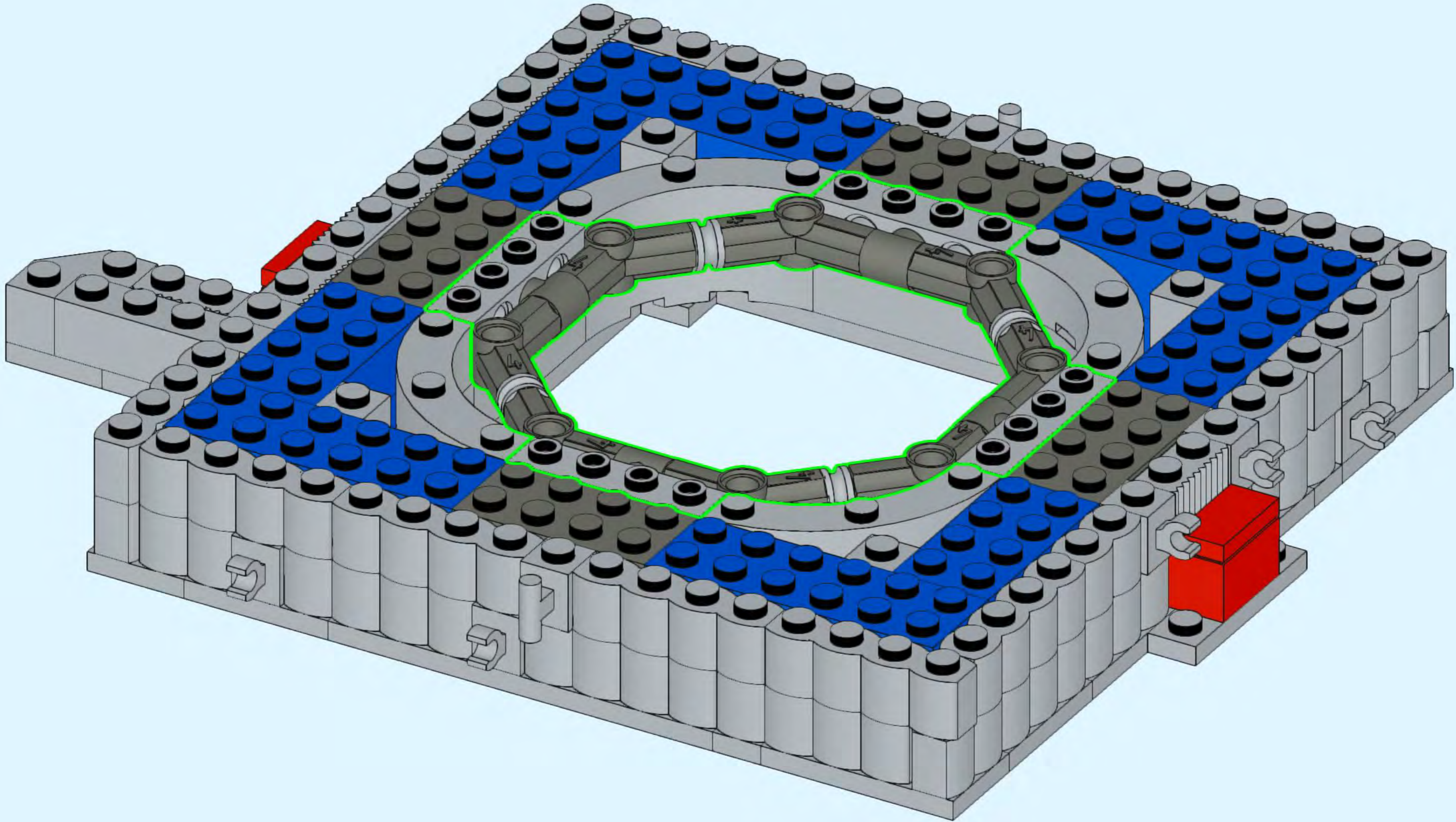
309



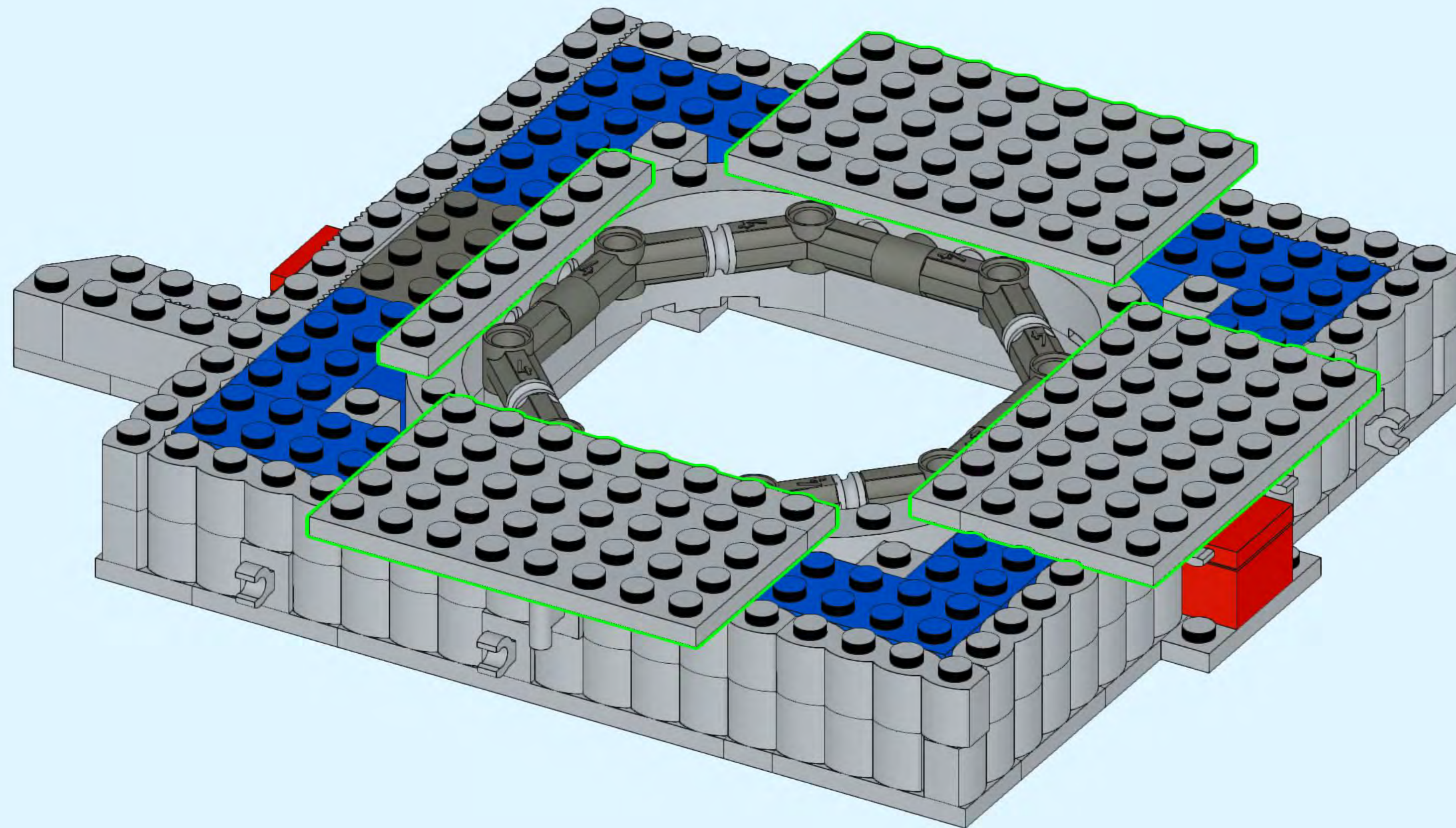
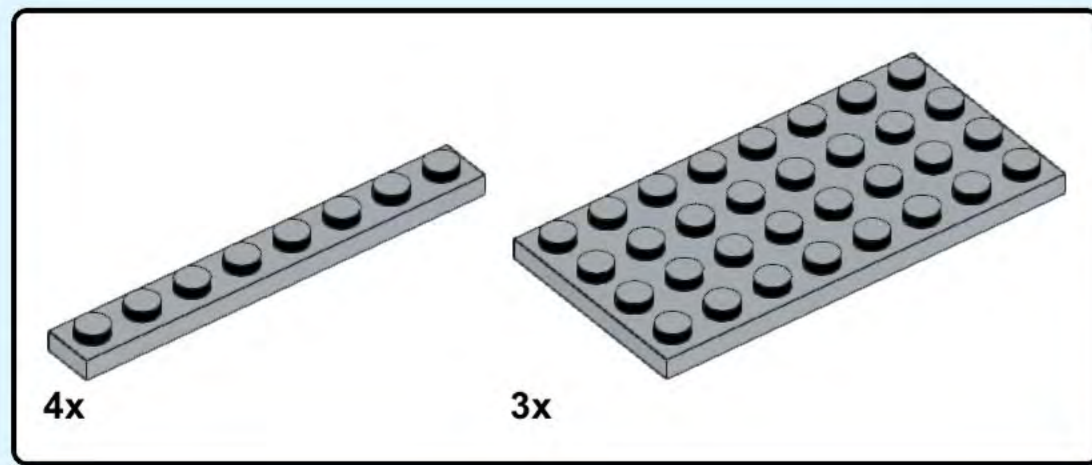
310



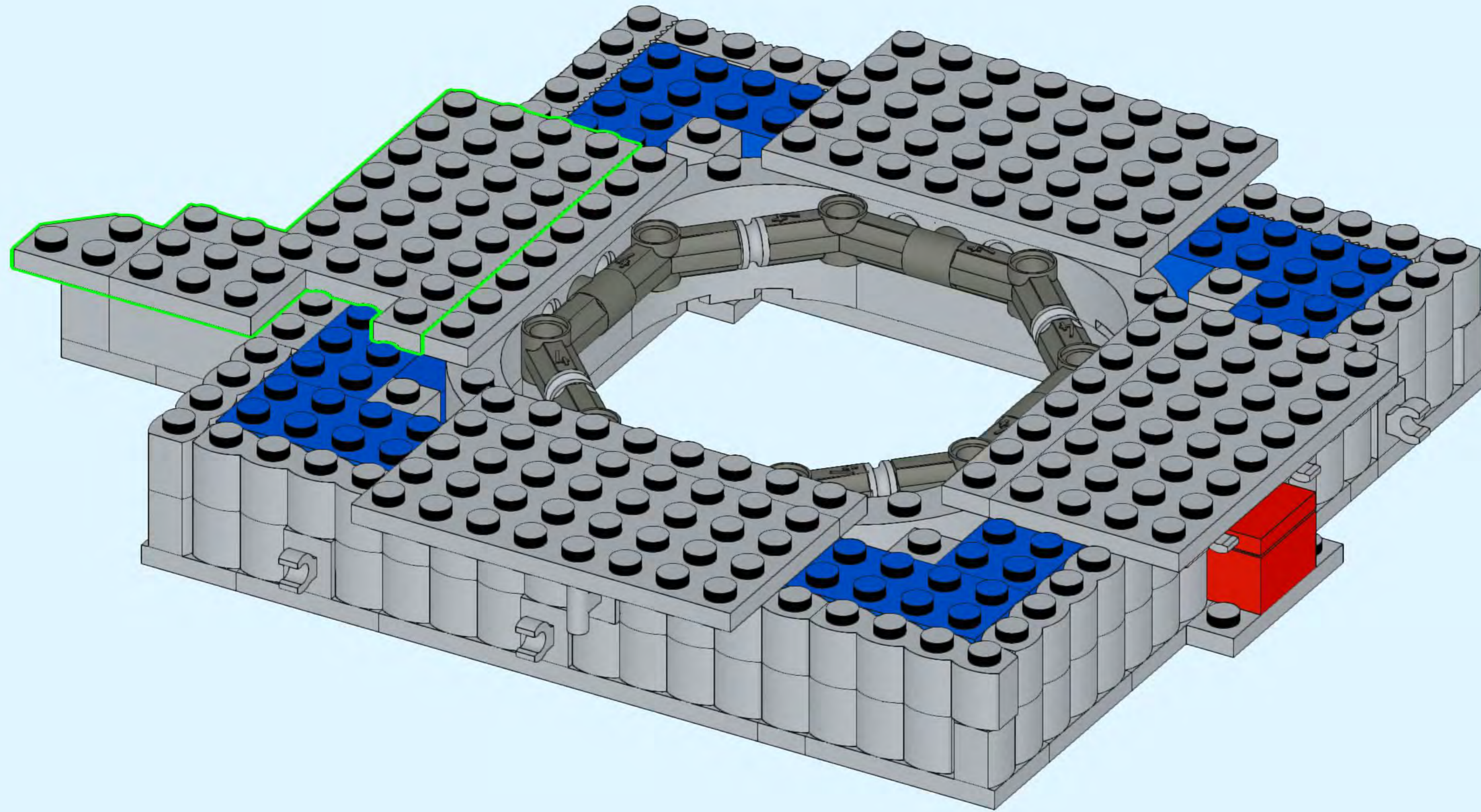
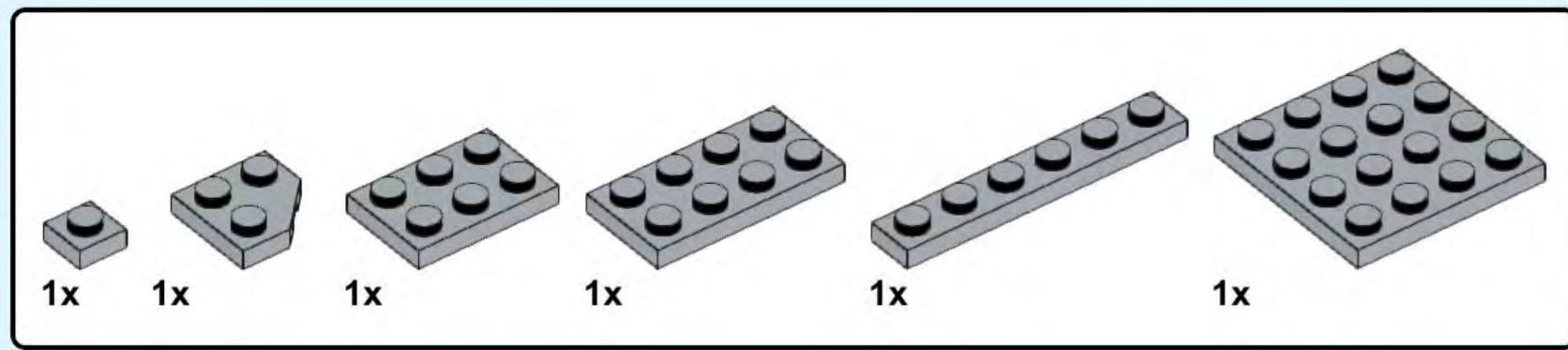




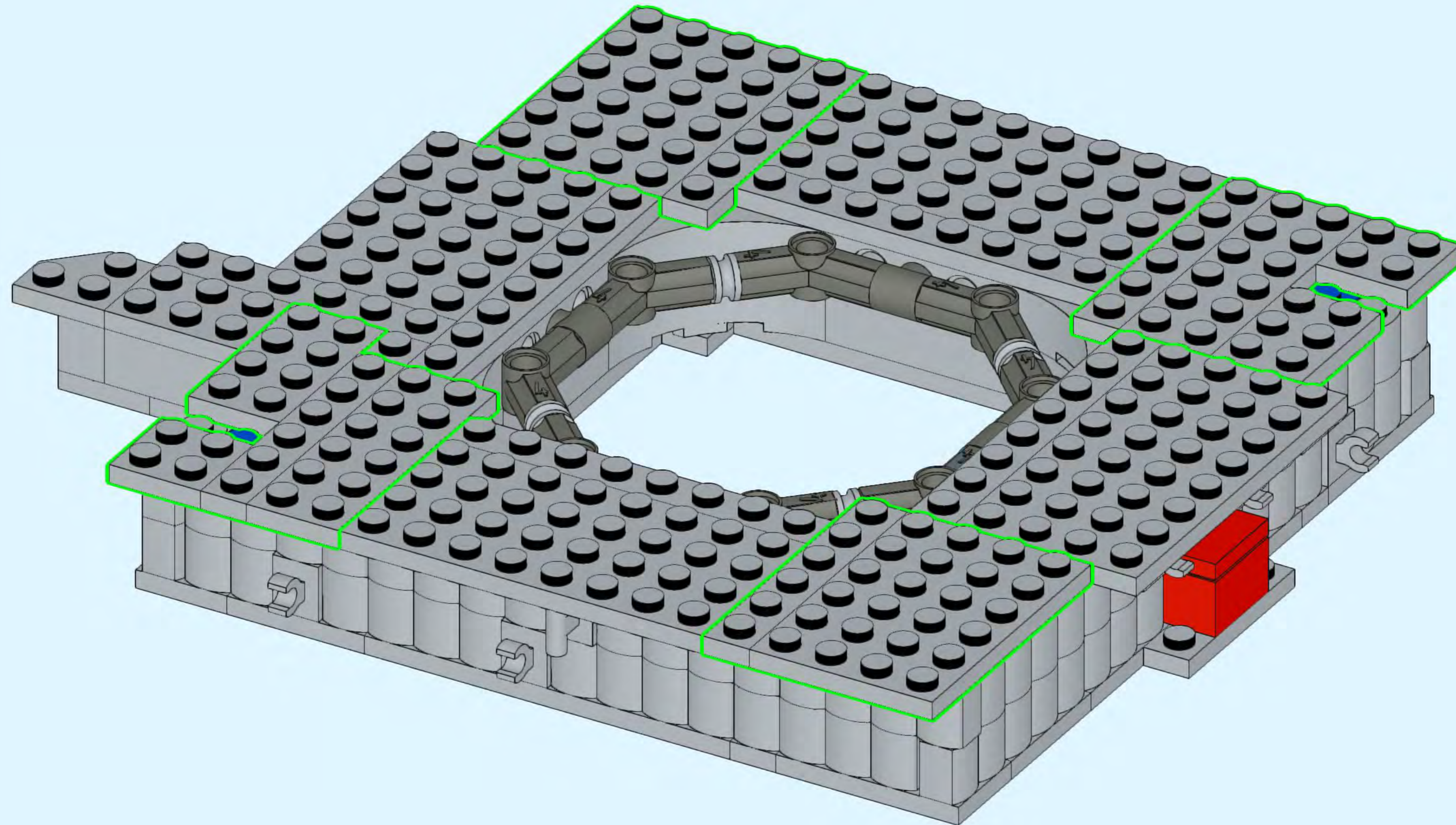
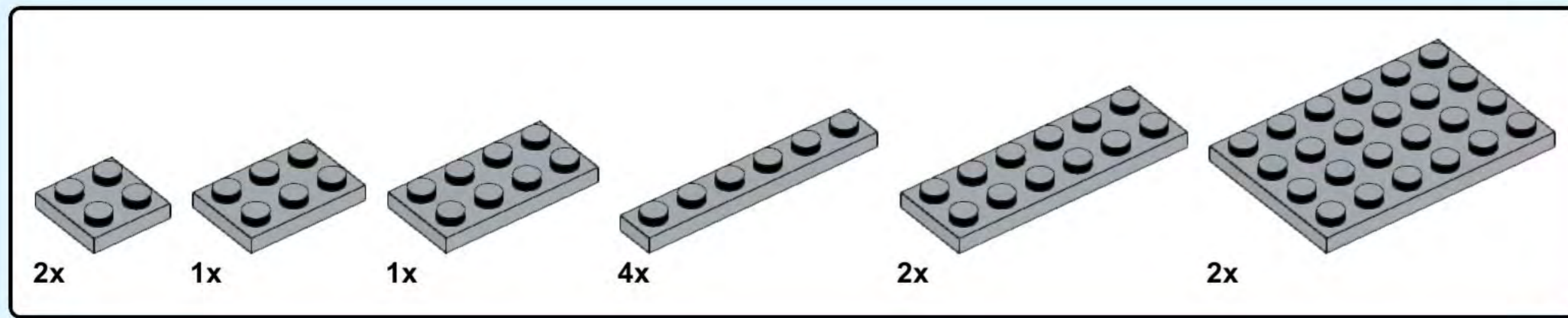
312



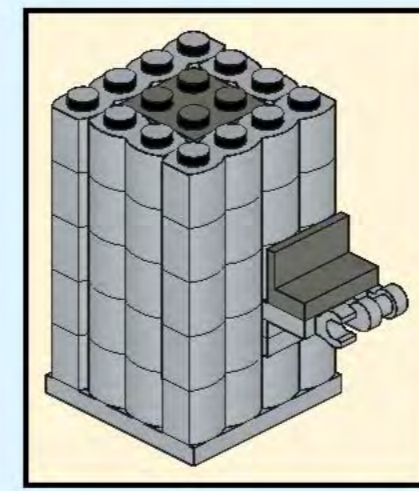
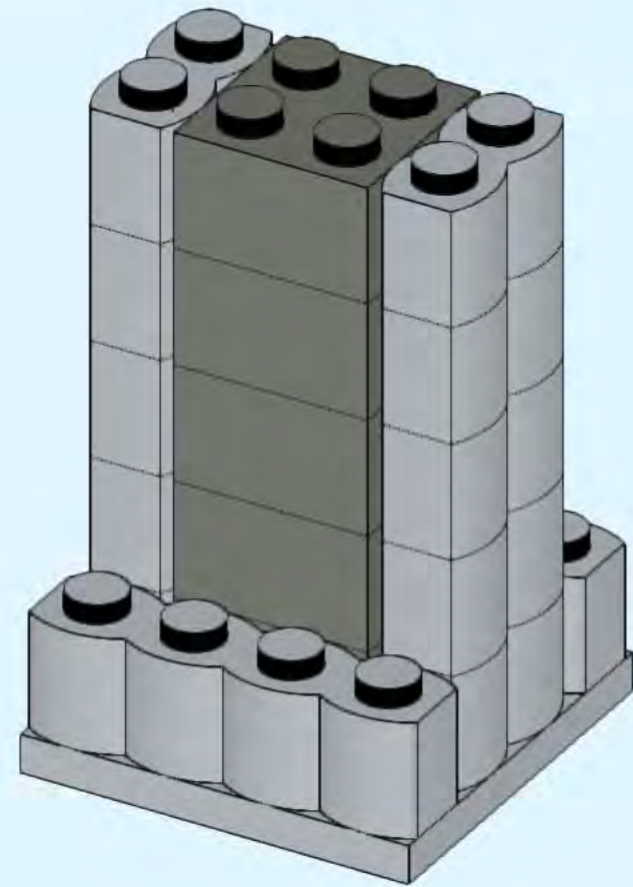
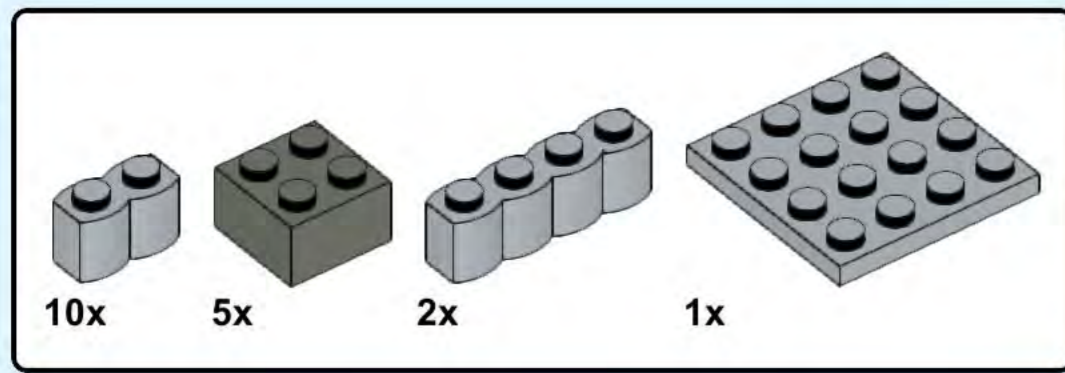
# 313



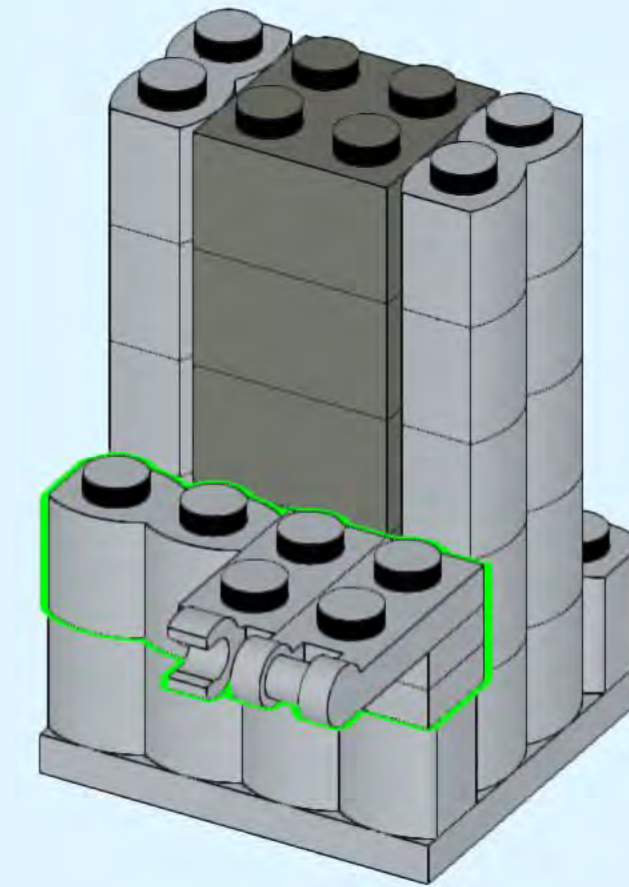
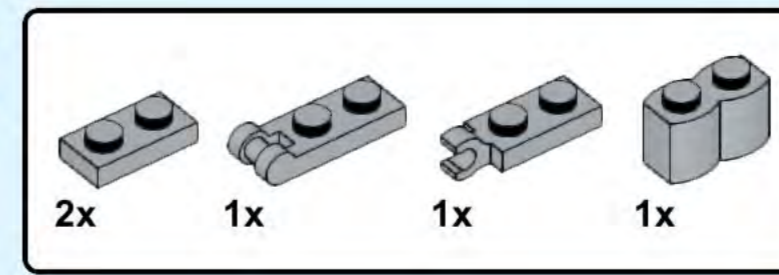
# 314



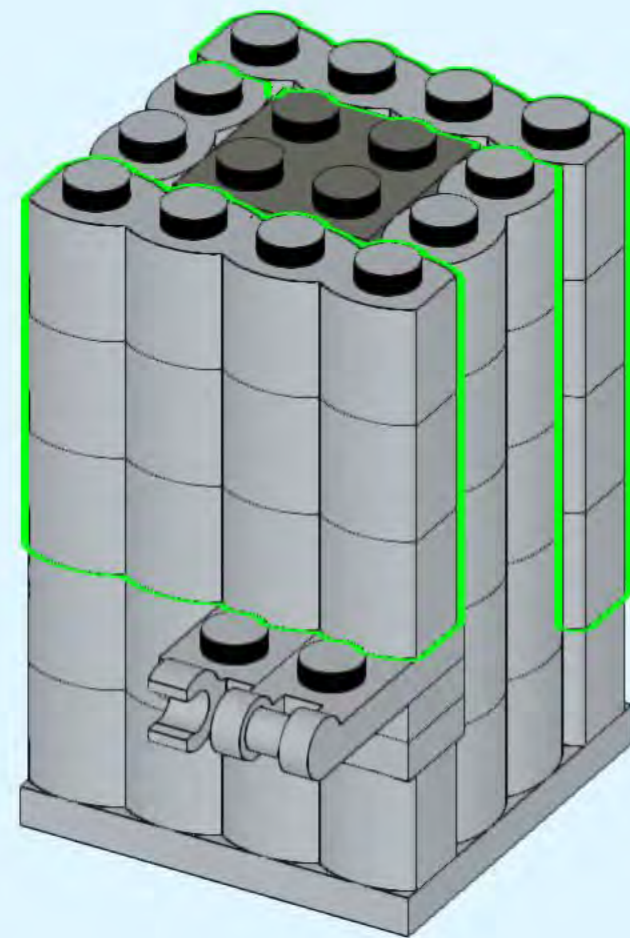
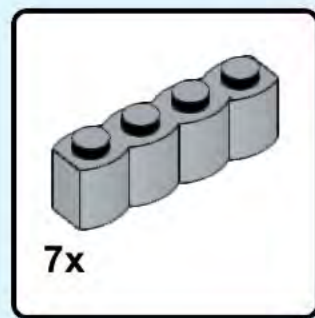
# 315



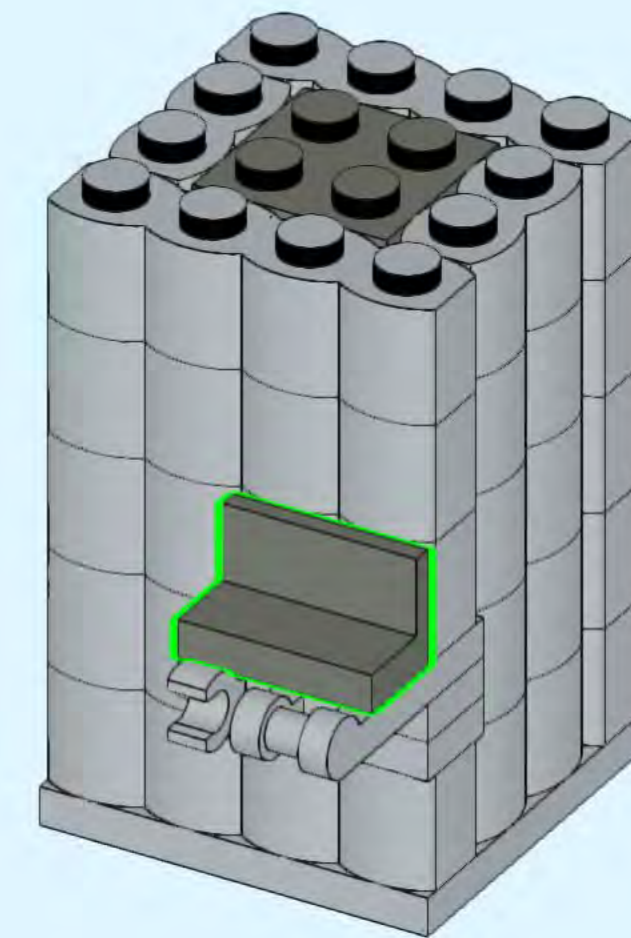
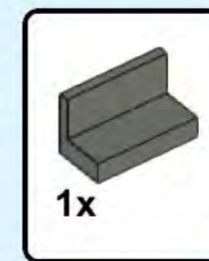
# 316



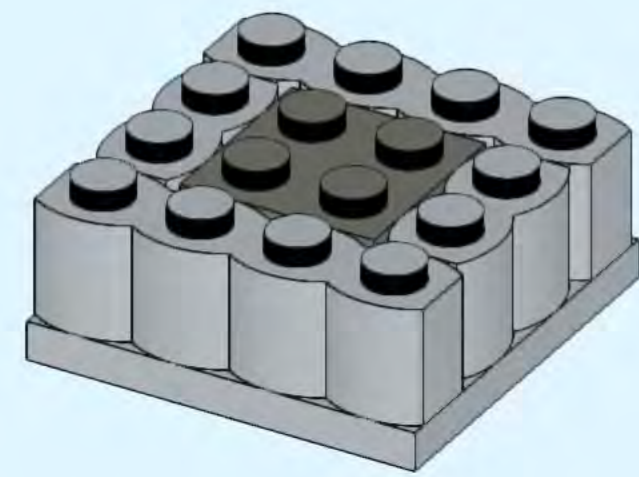
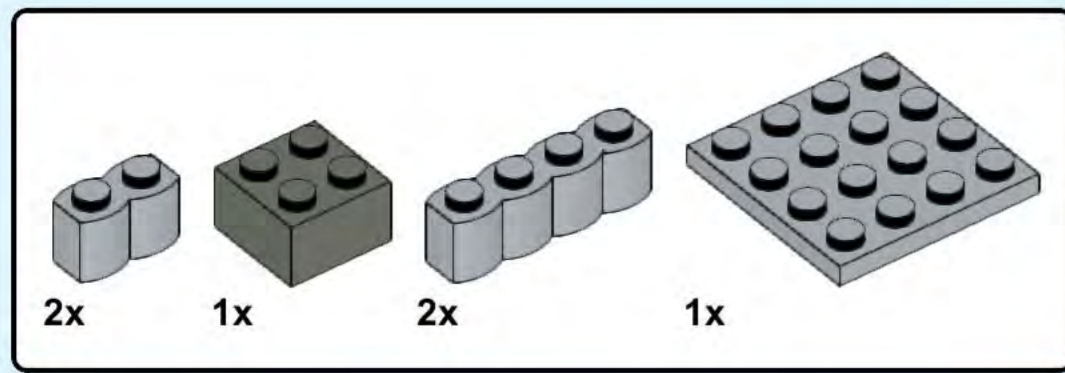
# 317



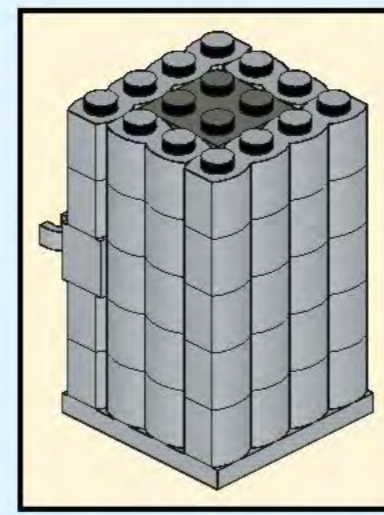
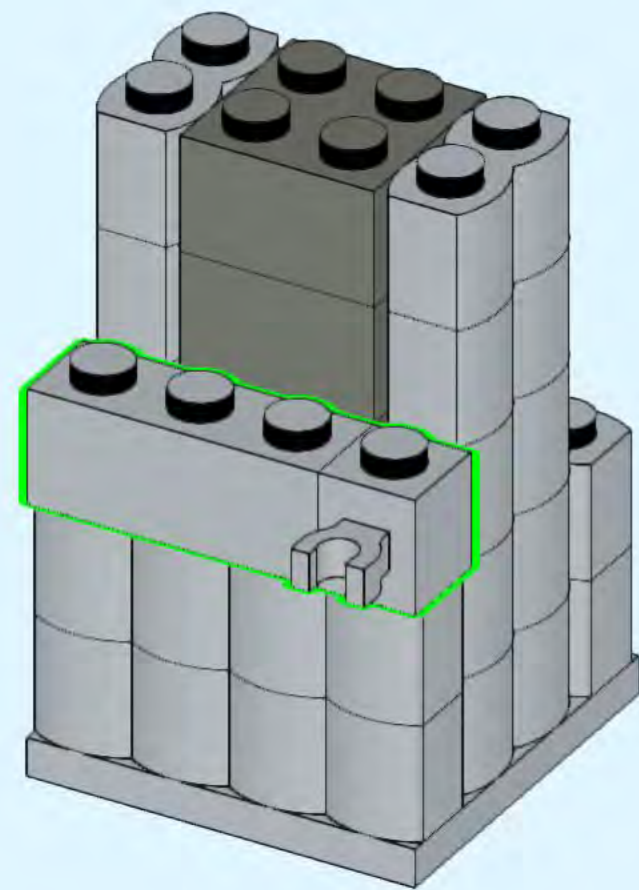
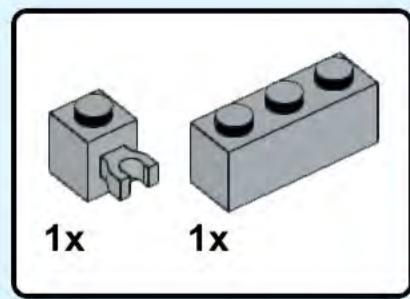
# 318



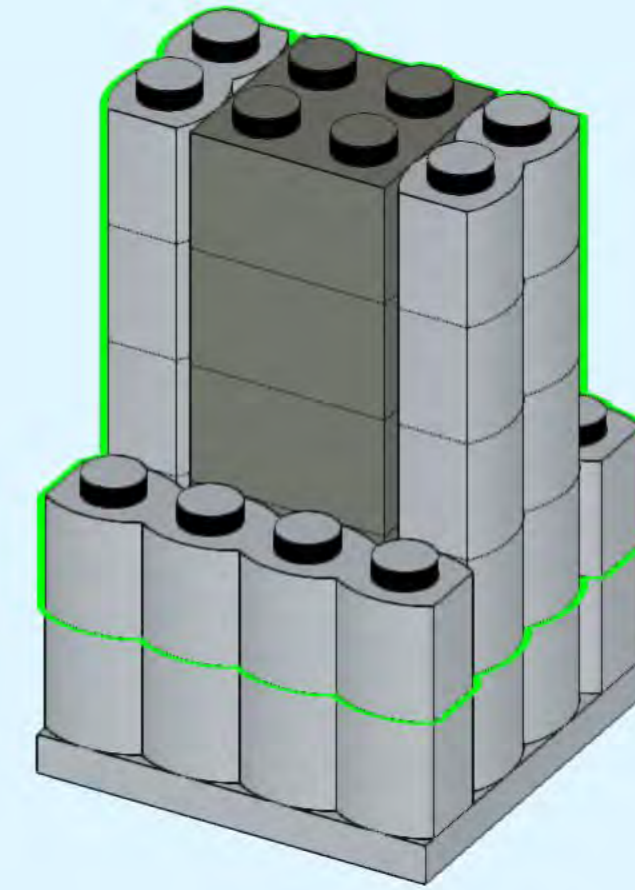
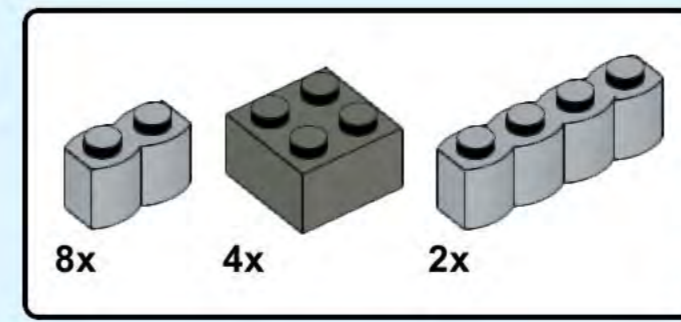
319



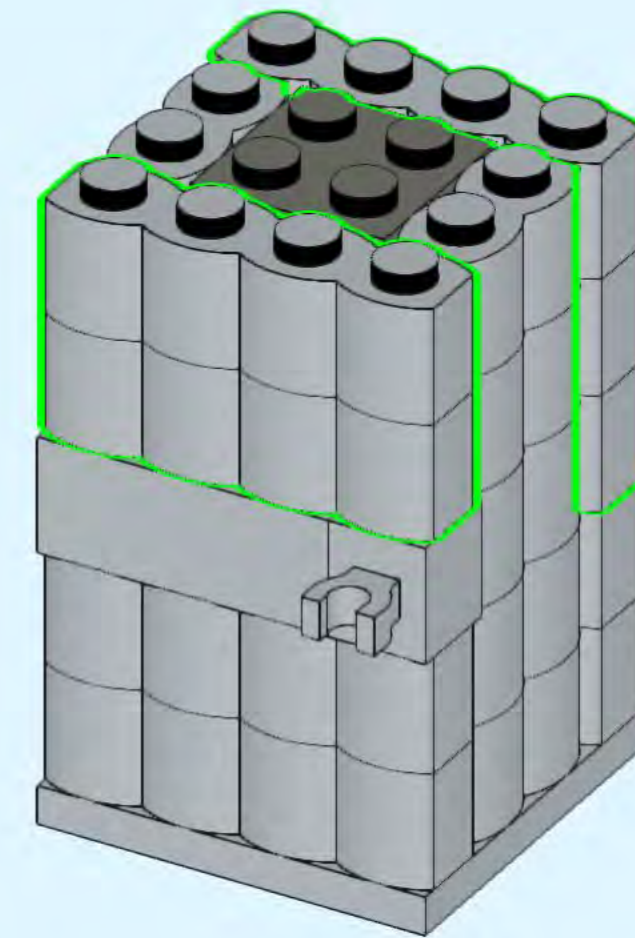
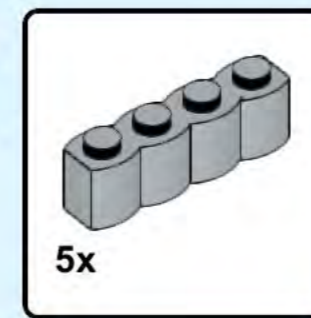
321



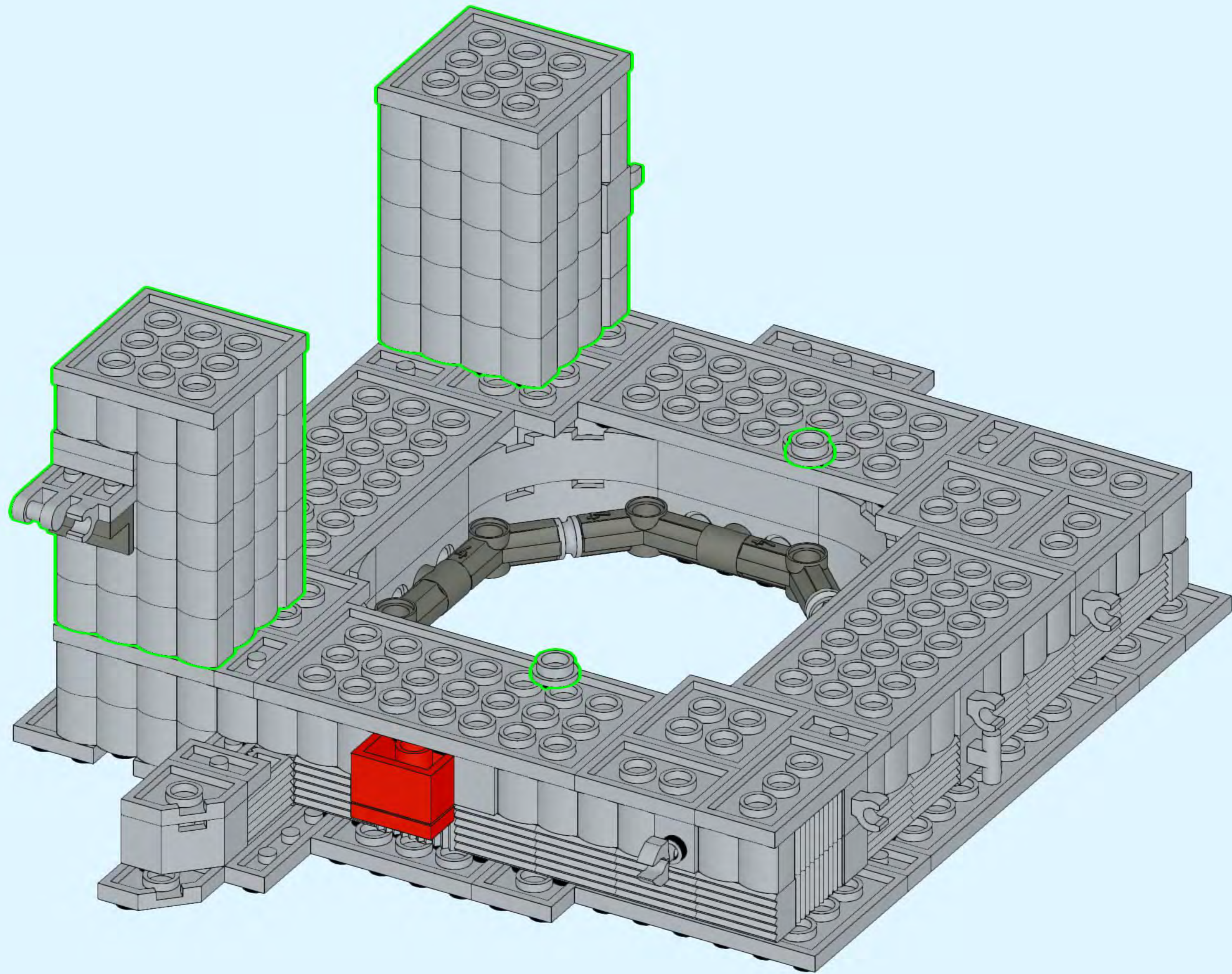
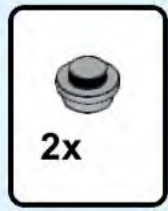
320



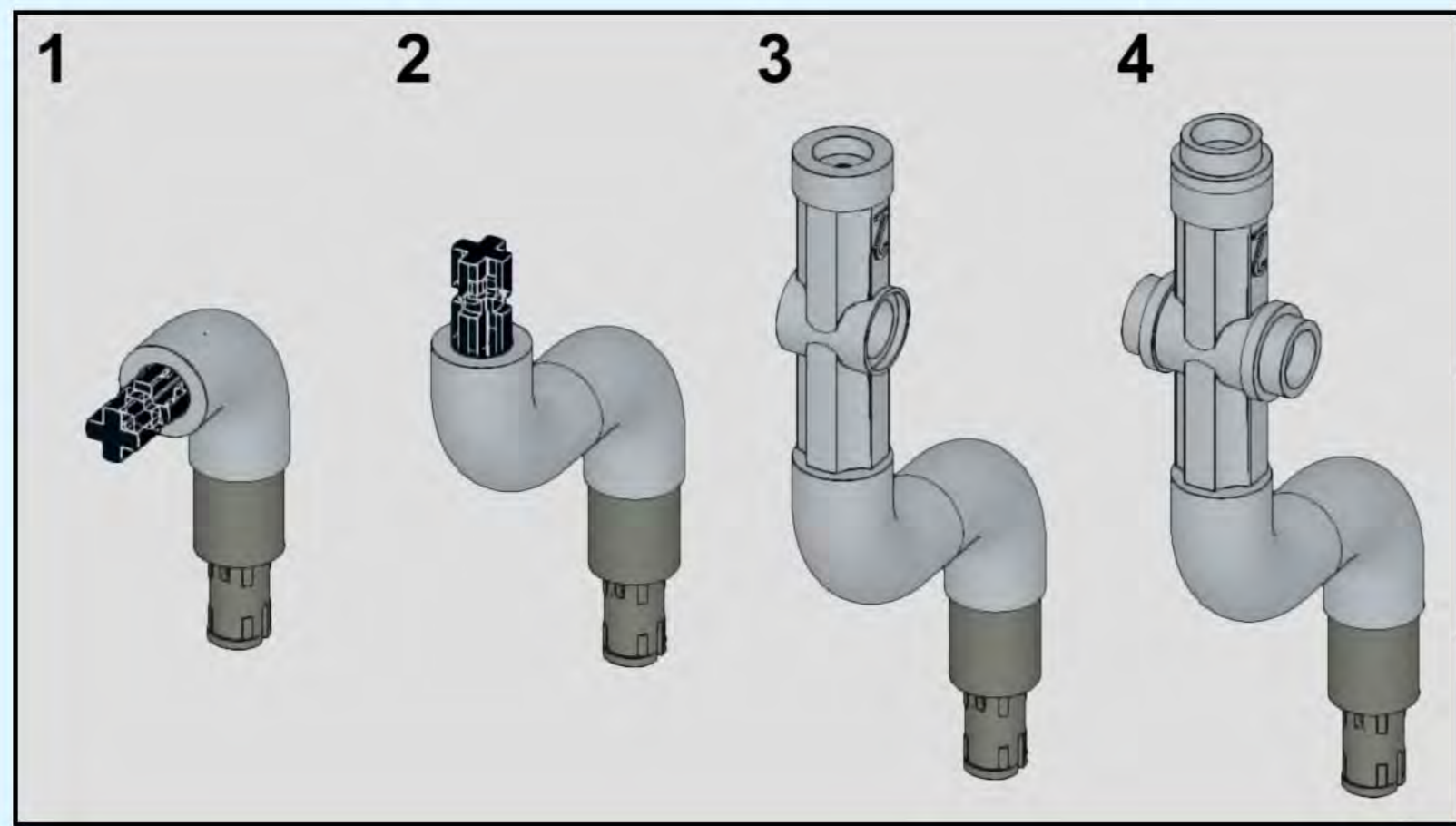
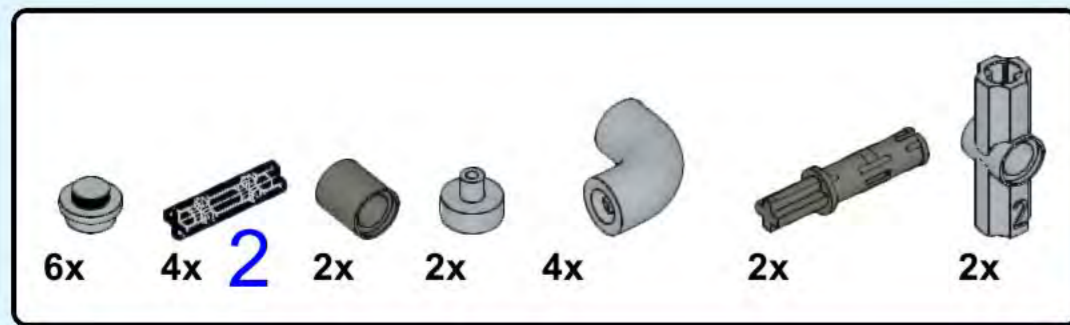
322



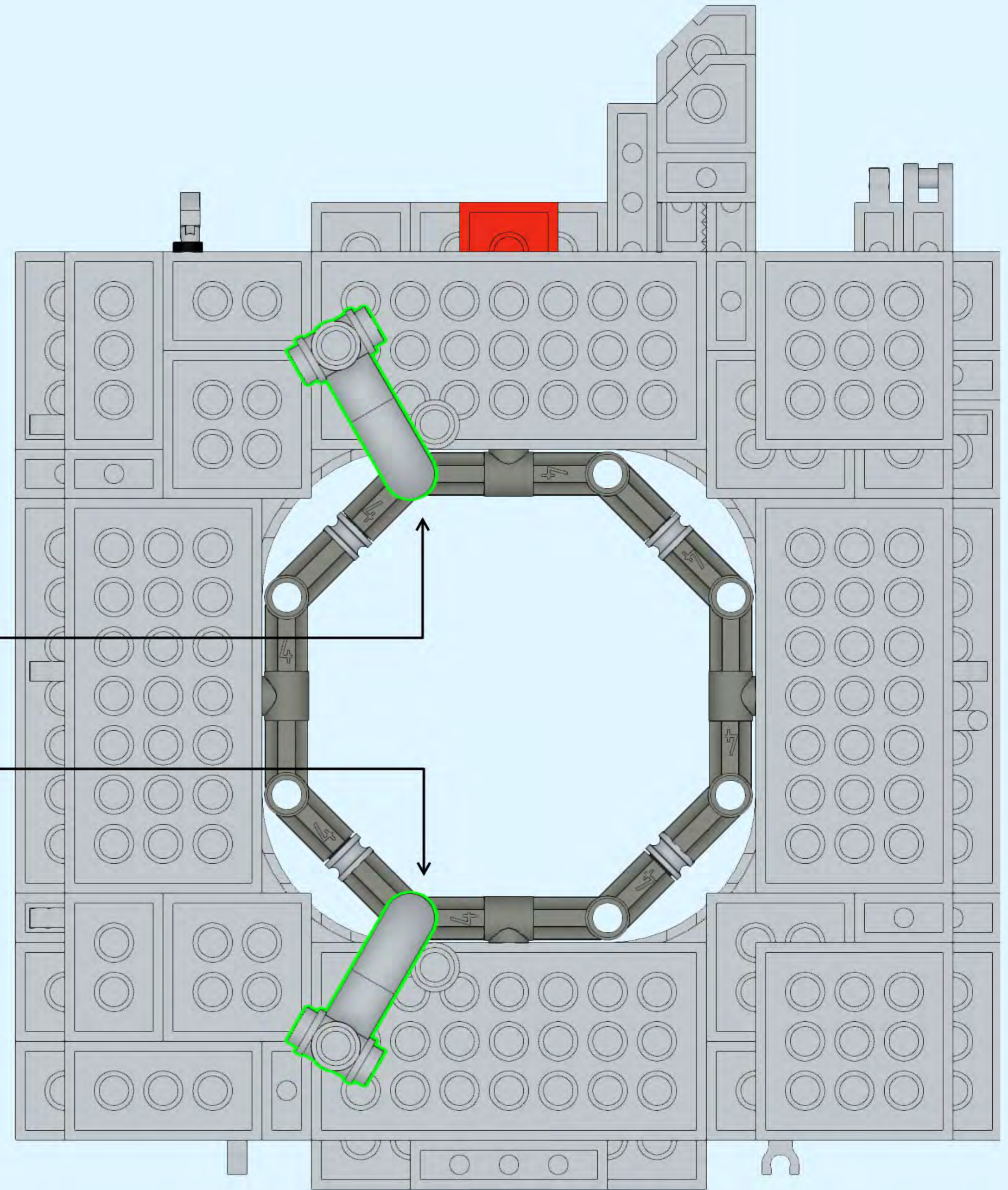
323



# 324

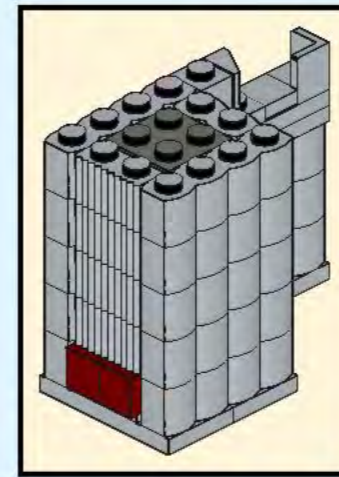
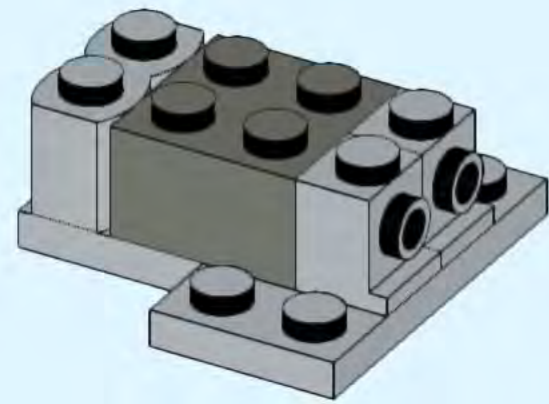
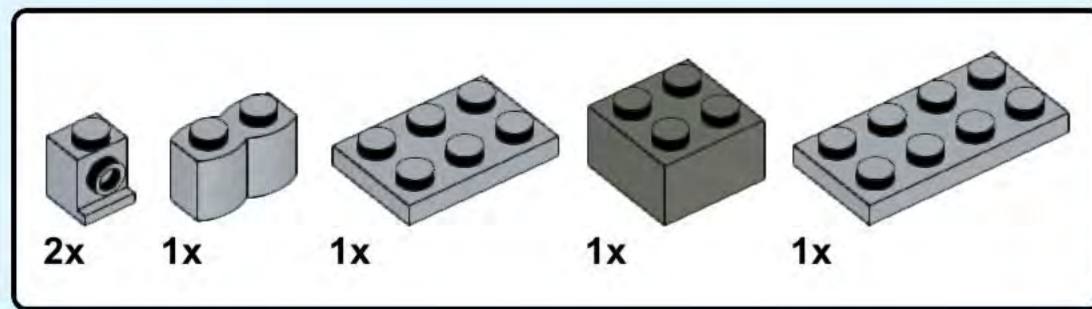


2x

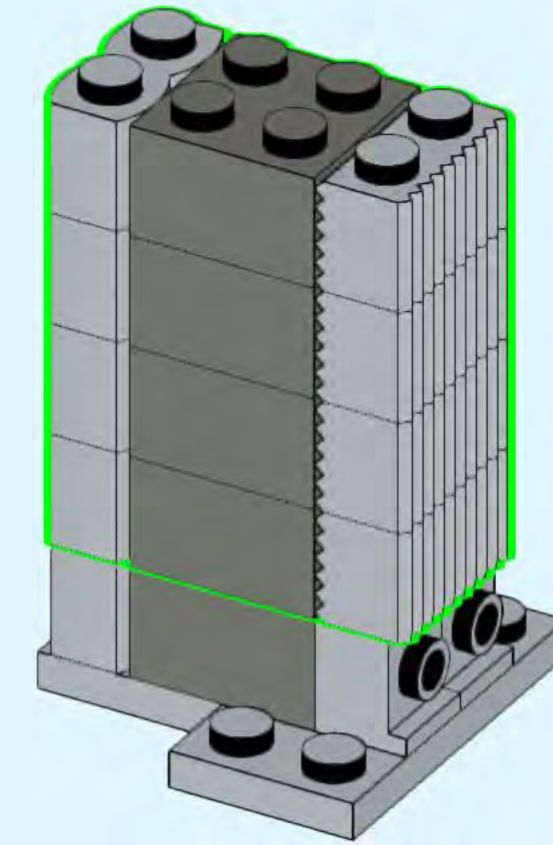
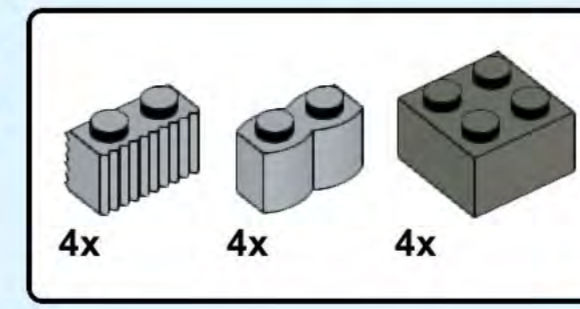




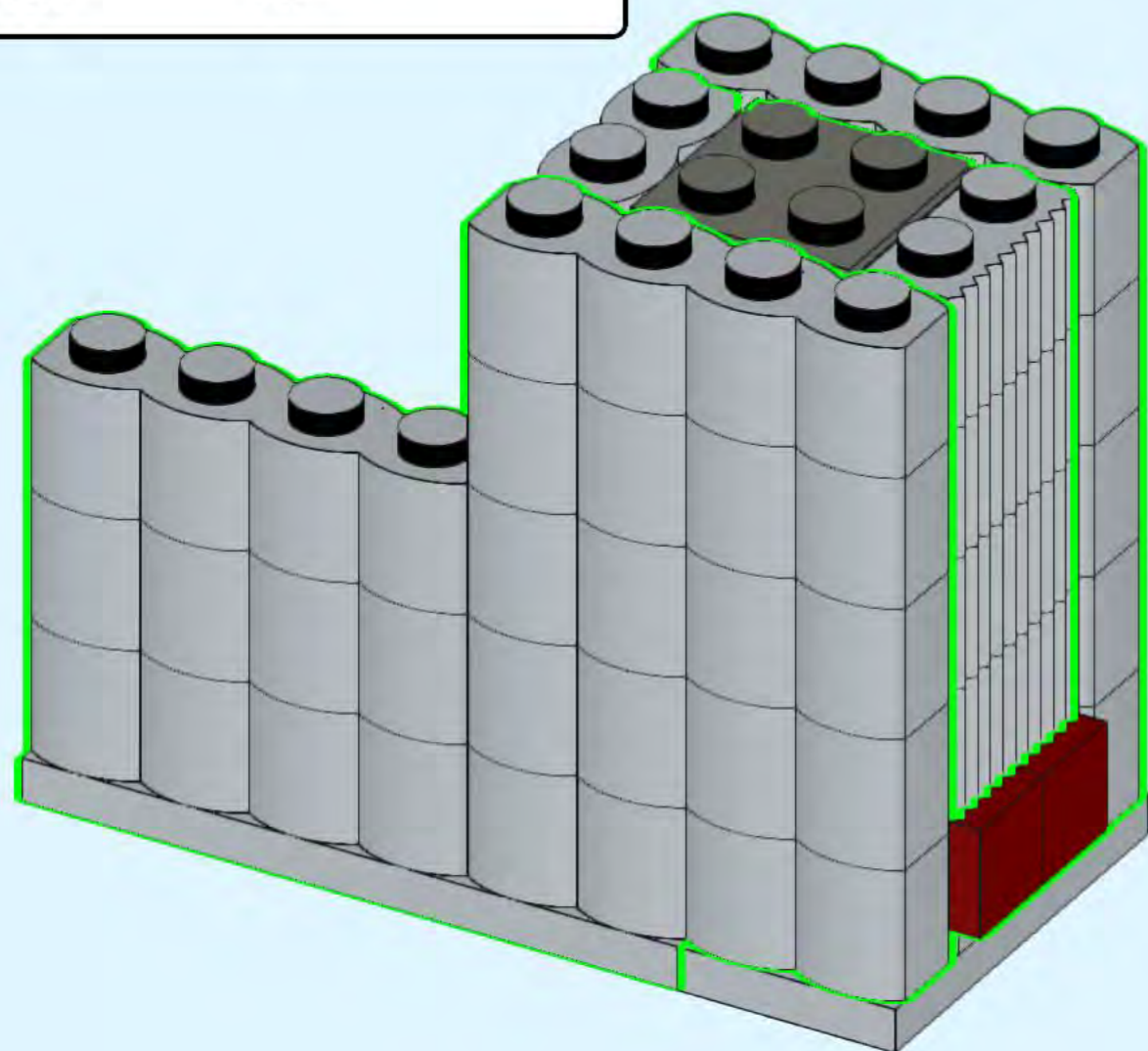
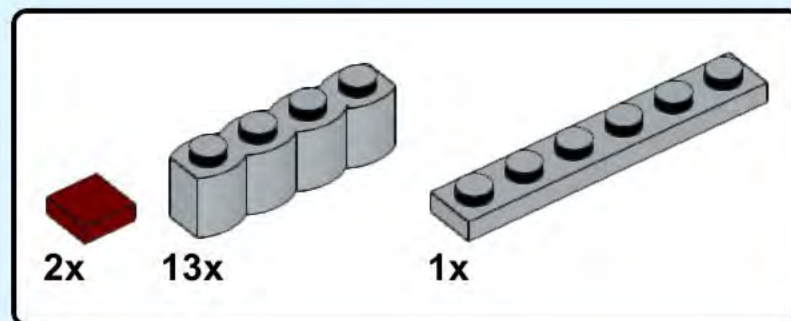
# 325



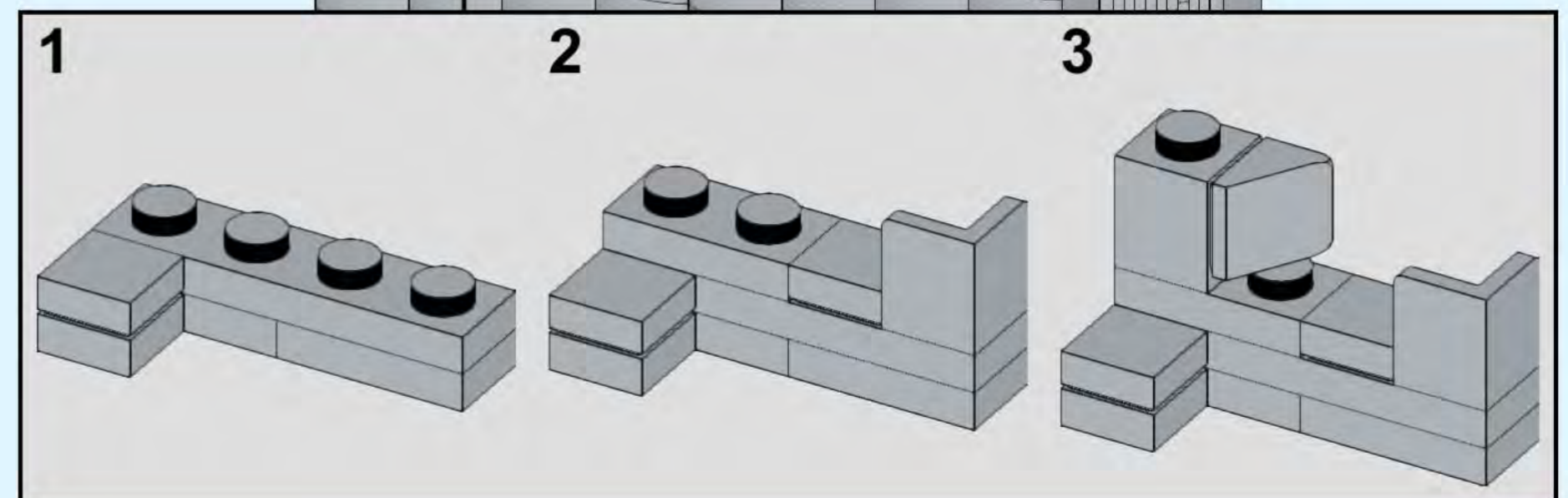
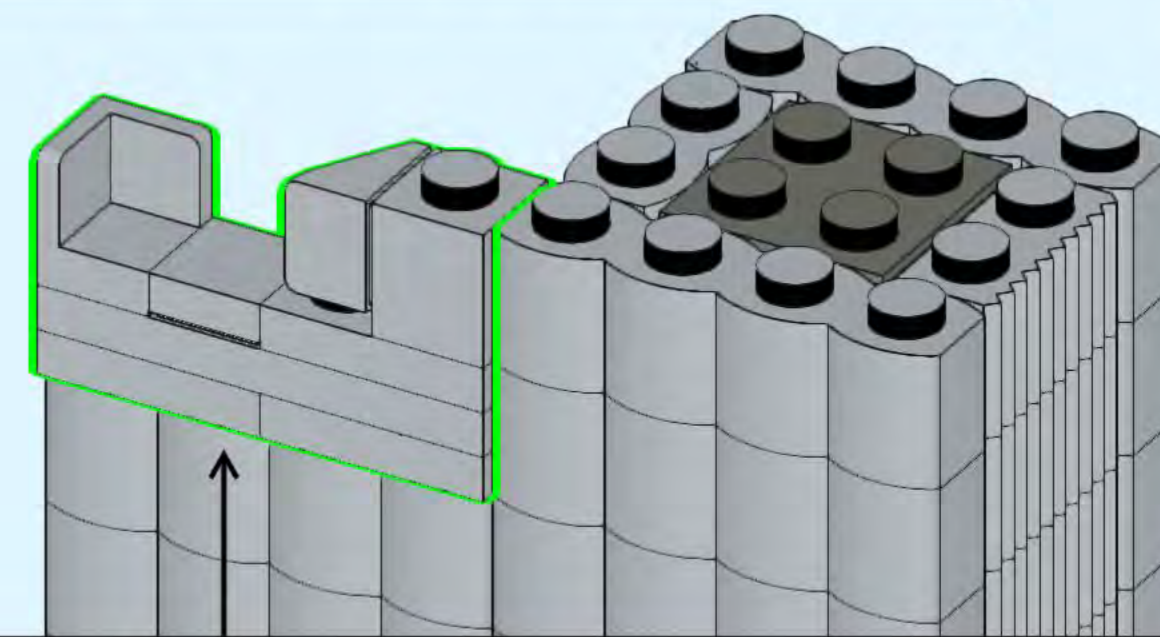
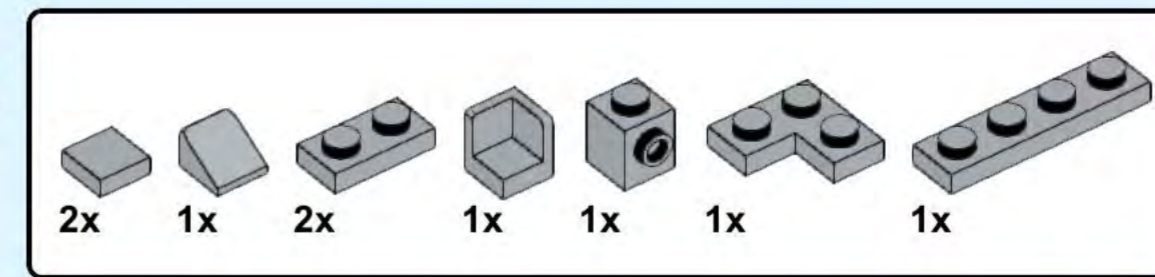
# 326



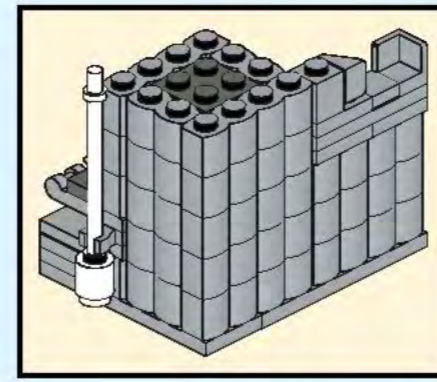
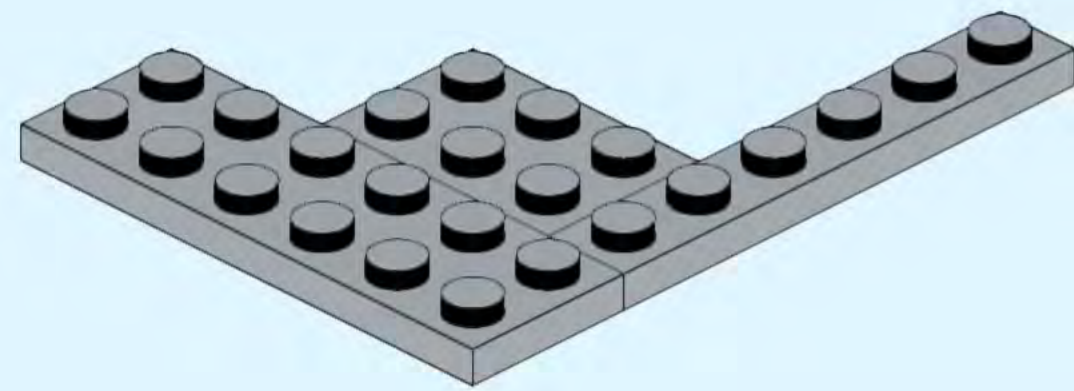
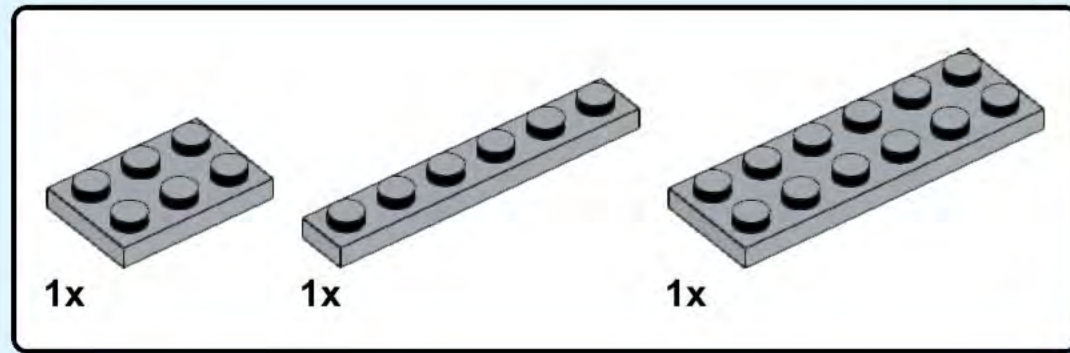
# 327



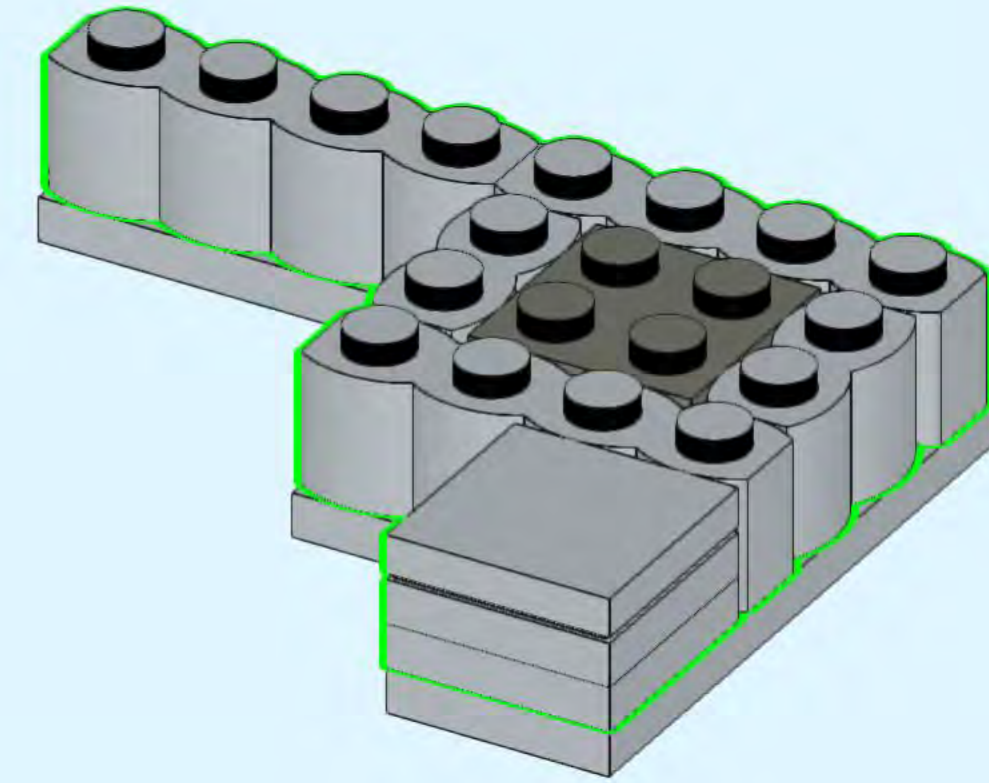
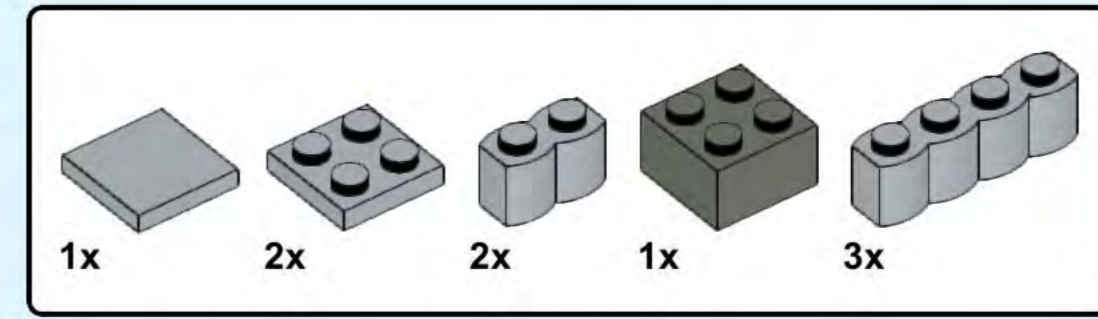
# 328



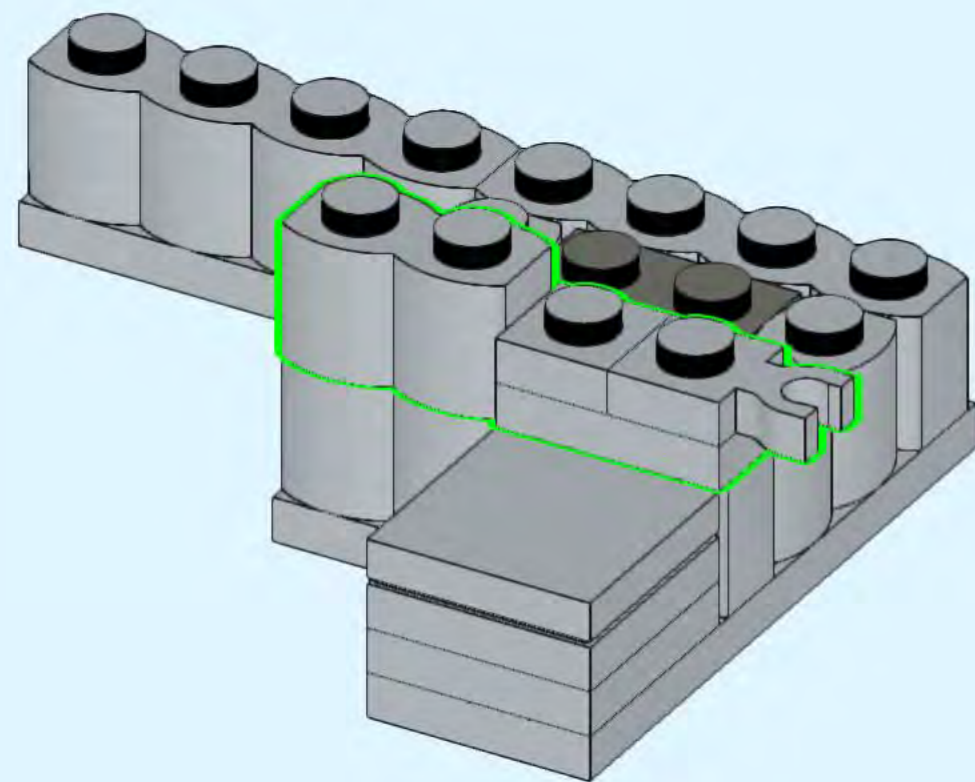
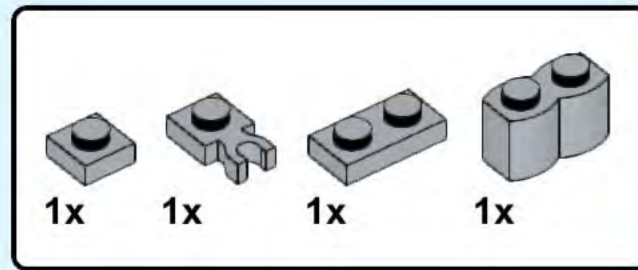
329



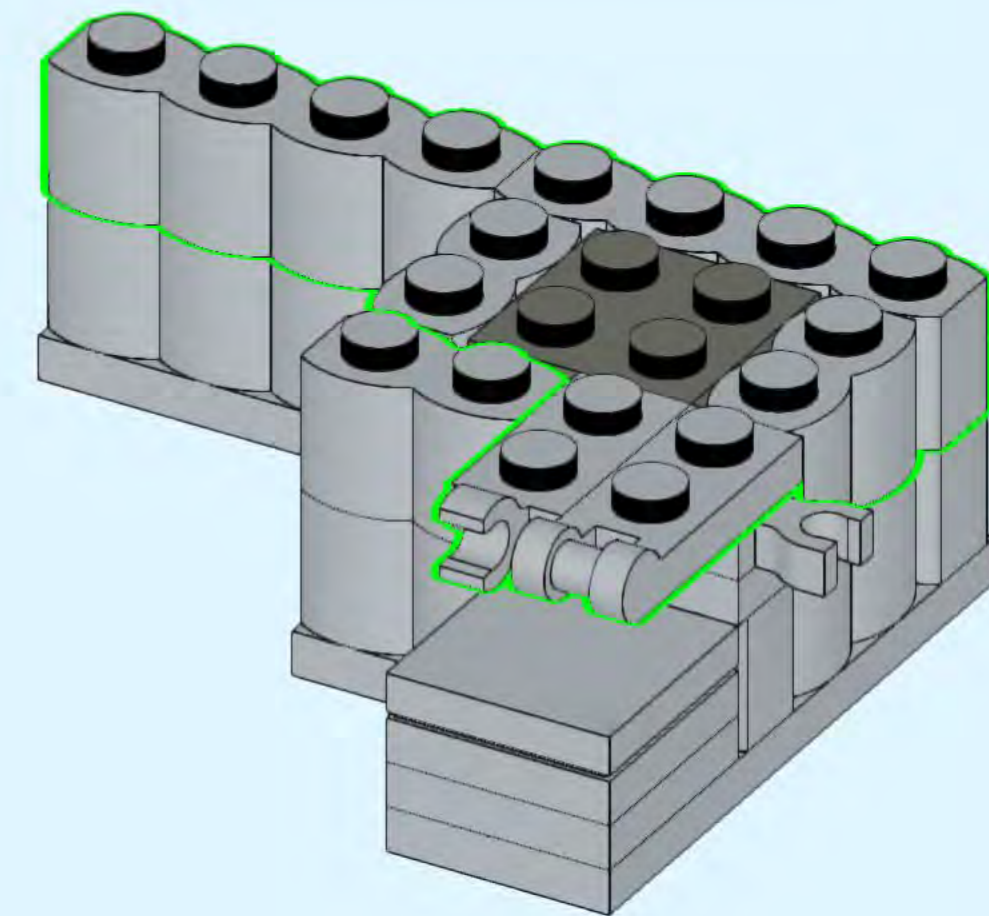
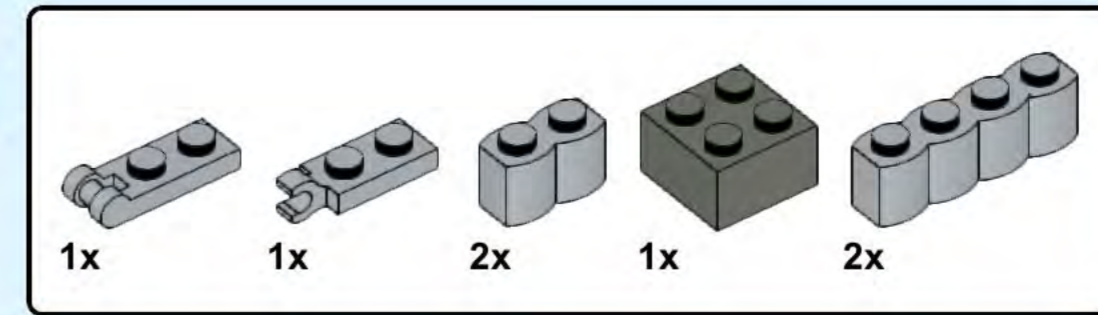
330



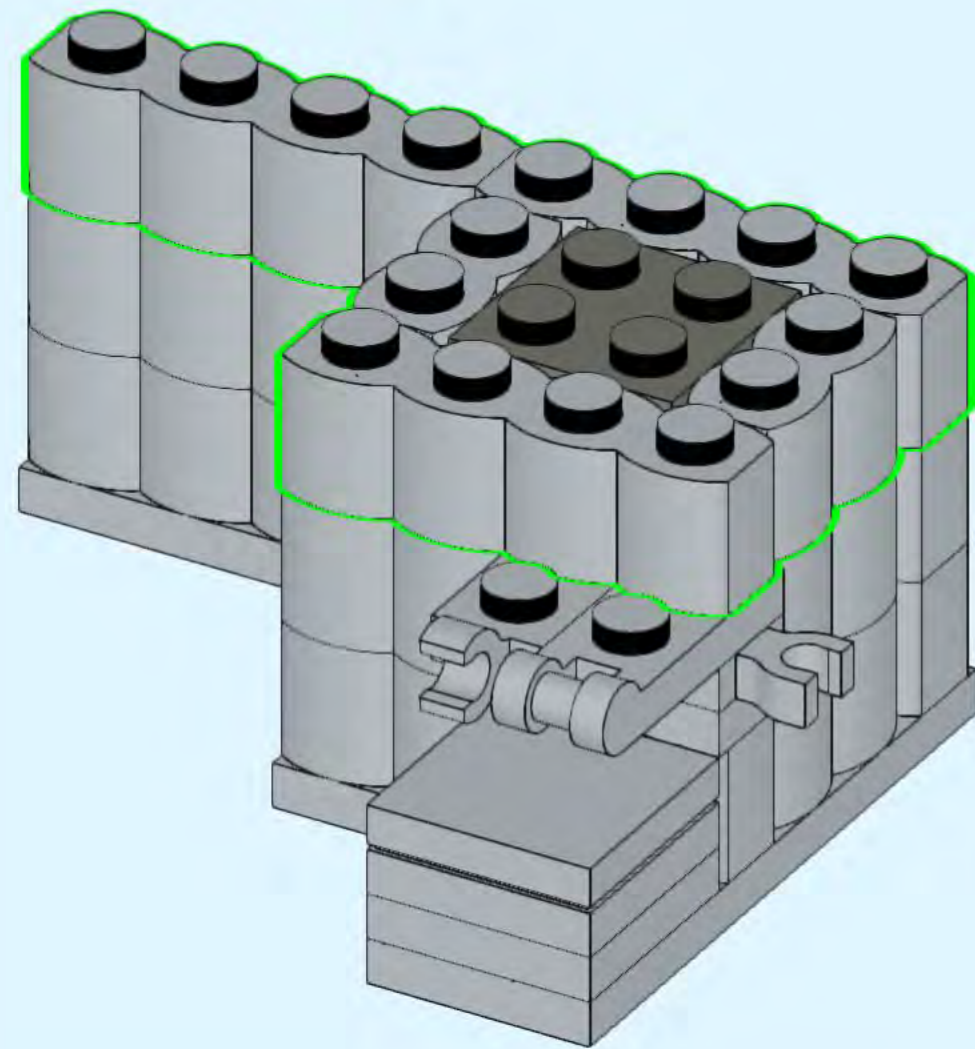
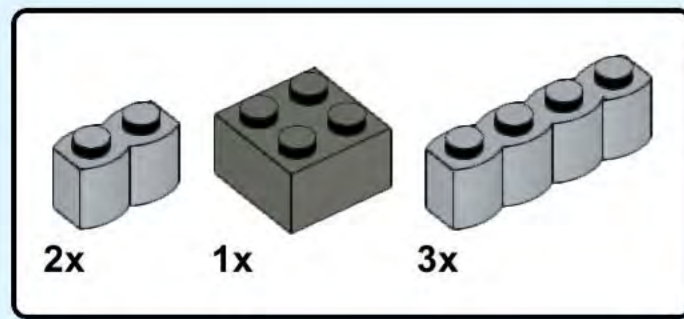
331



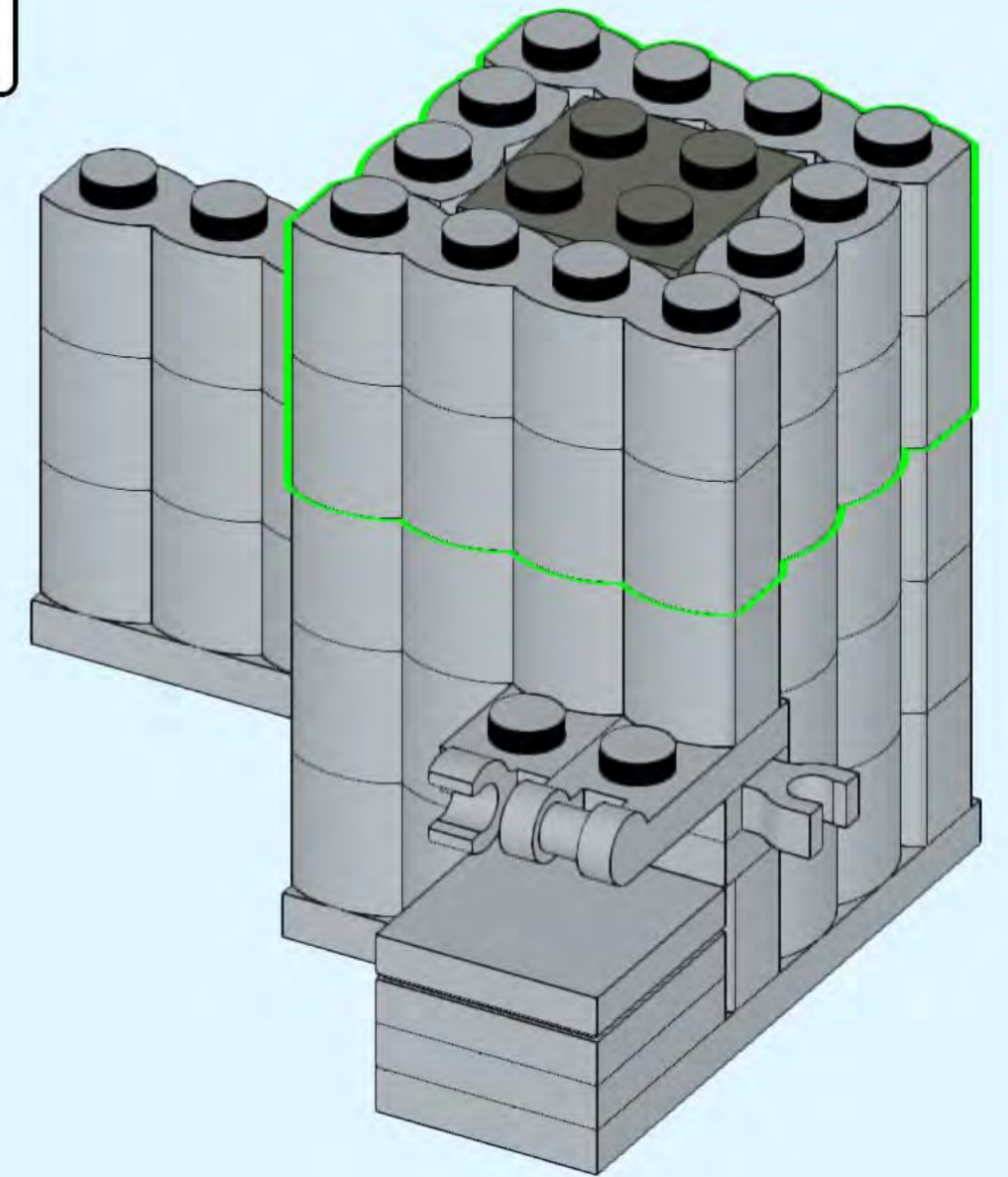
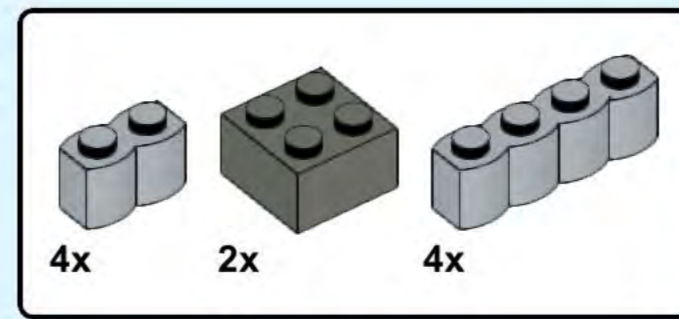
332



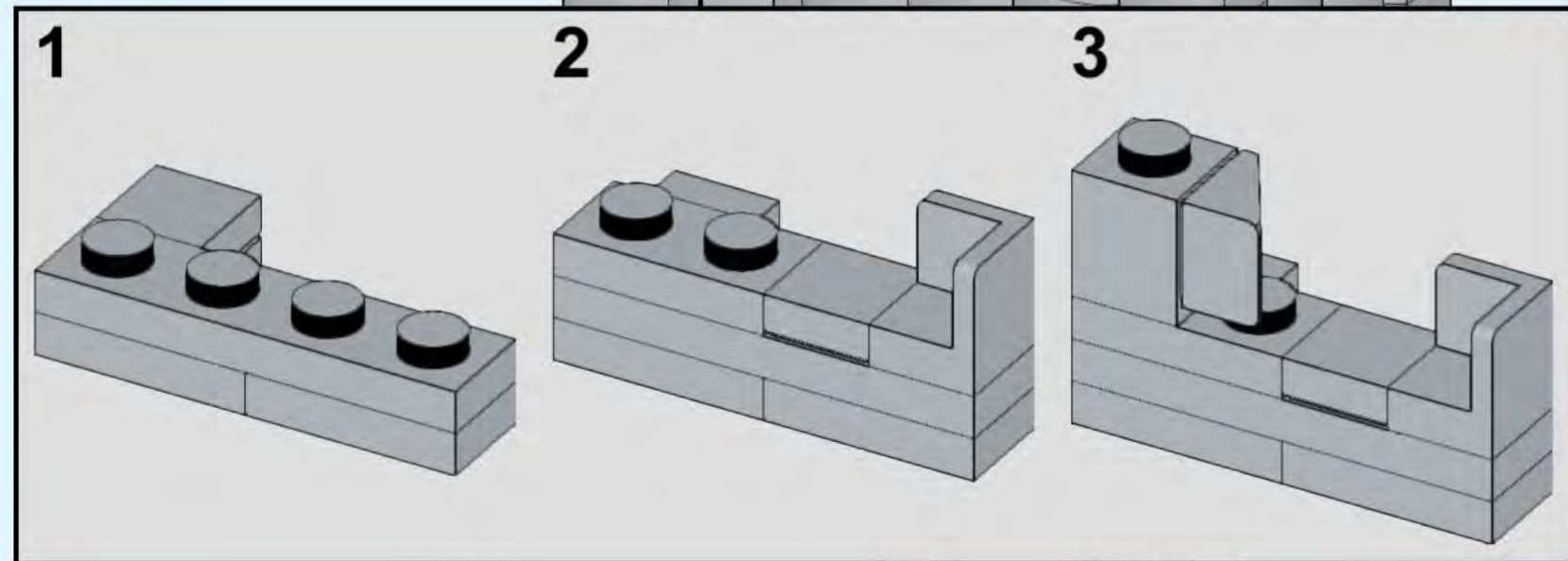
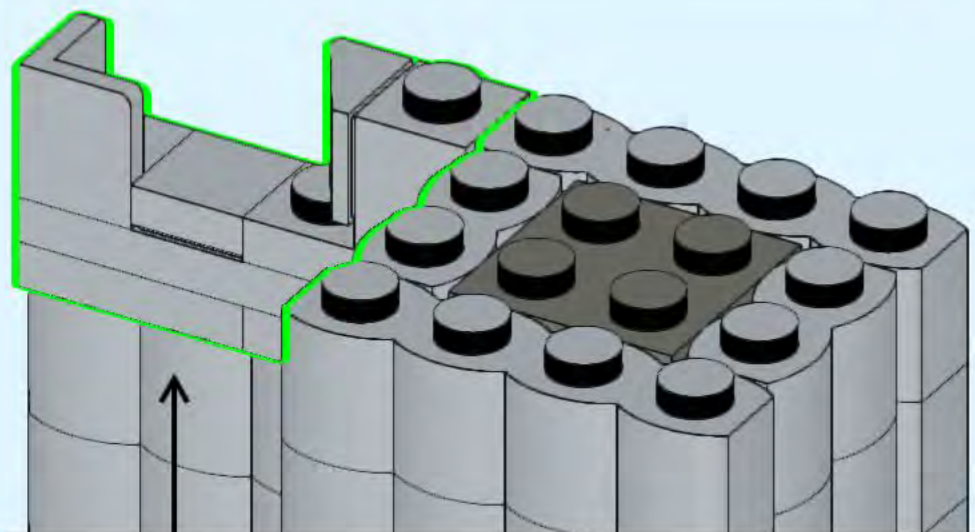
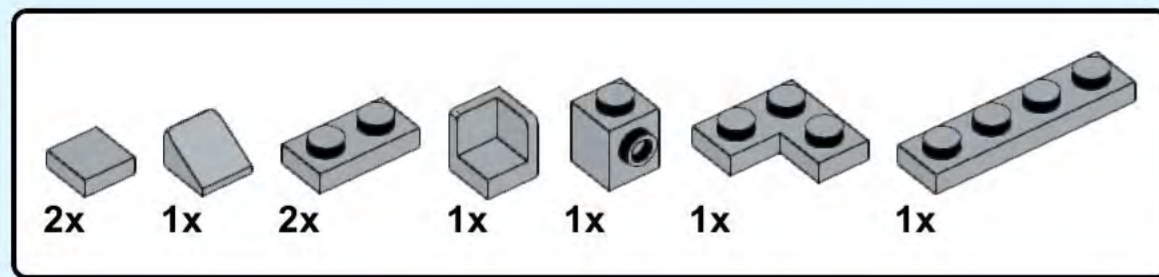
# 333



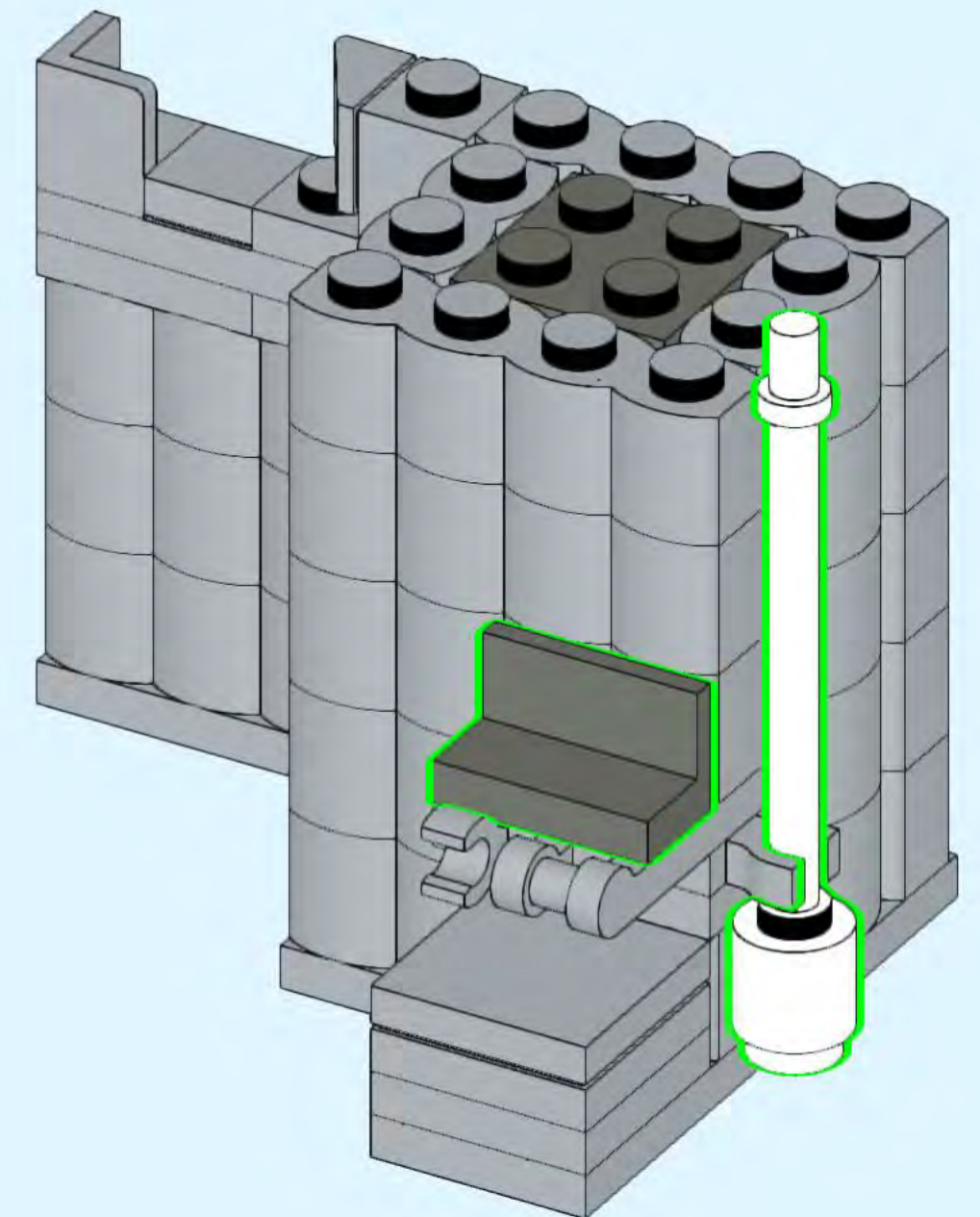
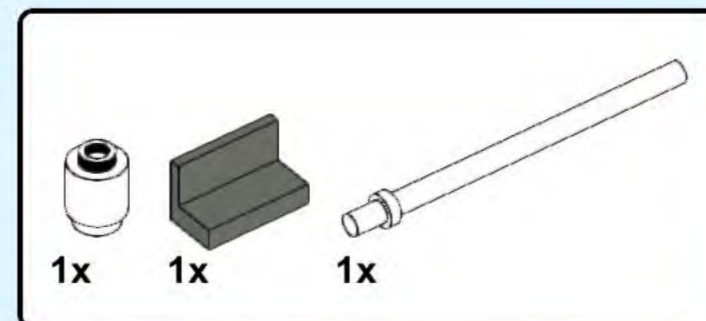
# 334

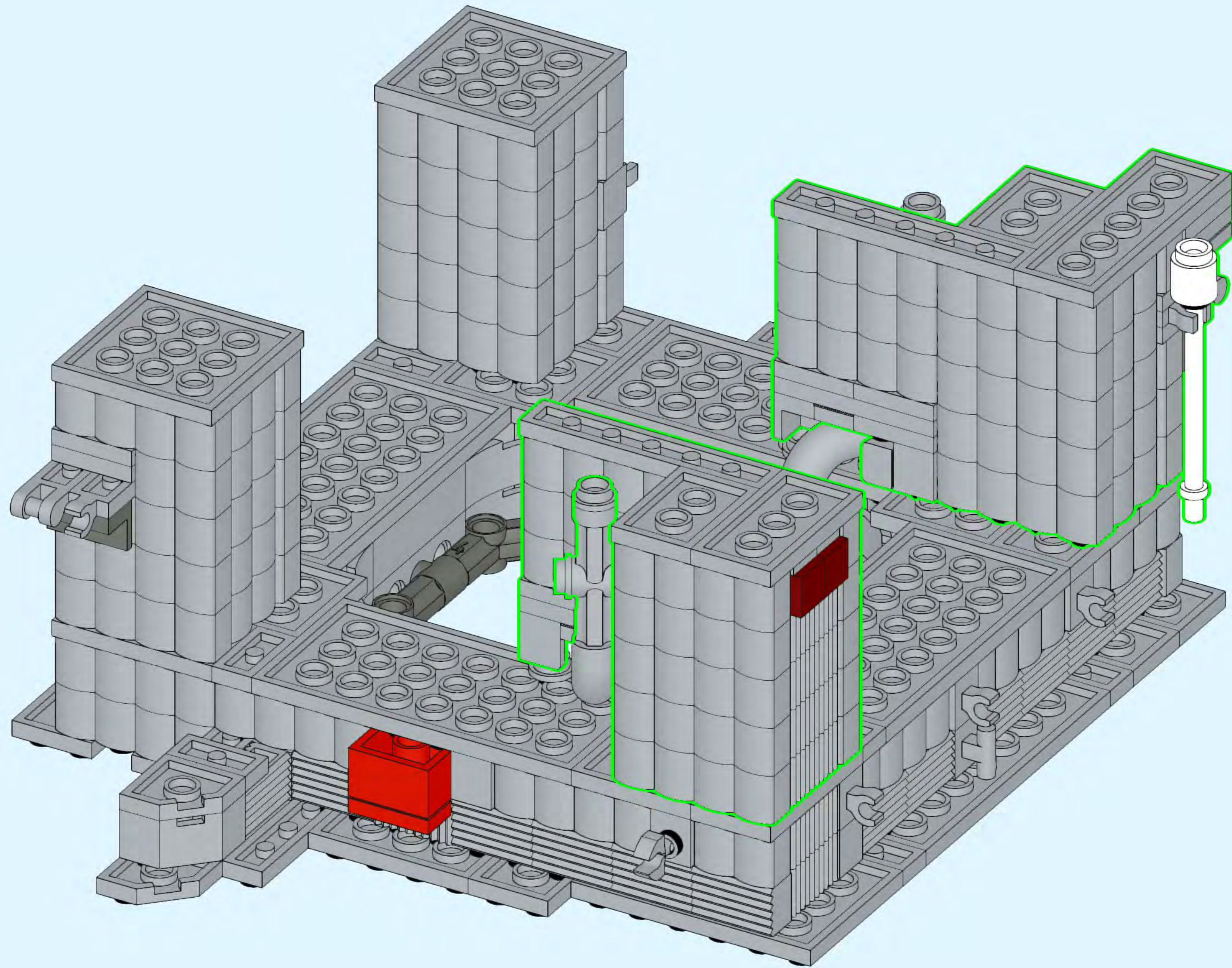


# 335

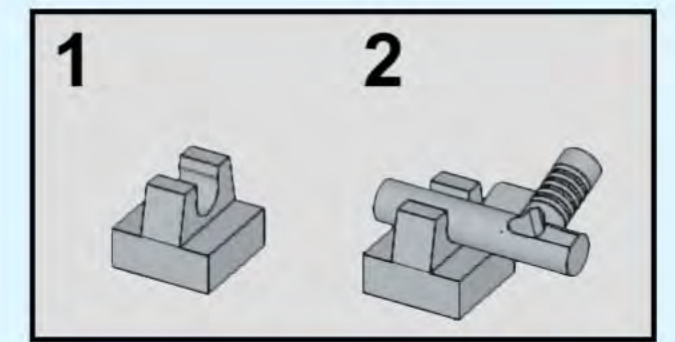
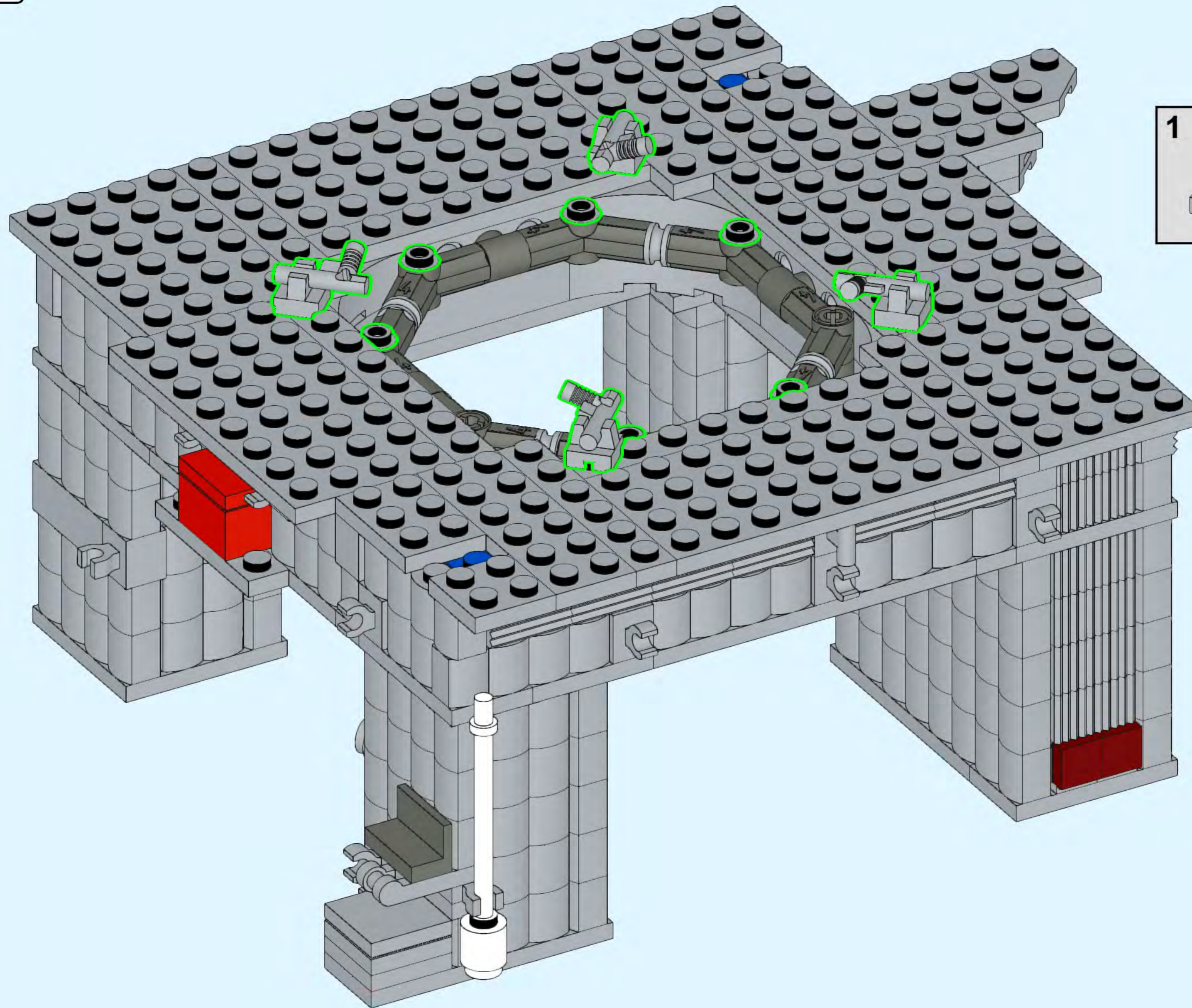
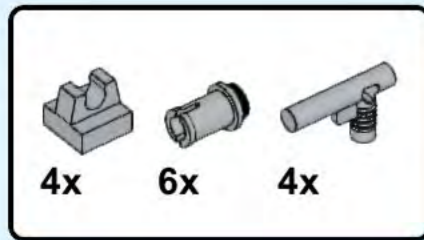


# 336



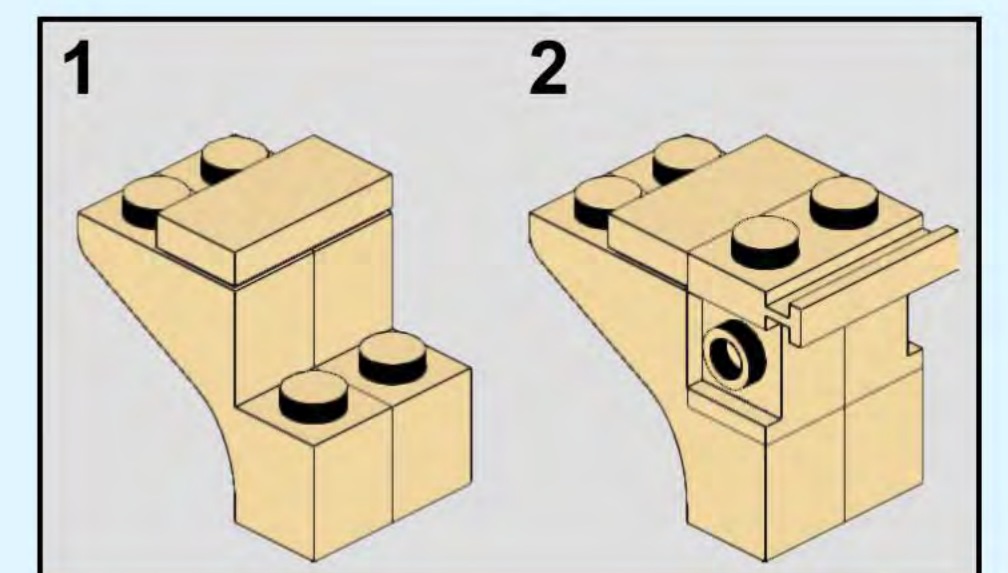
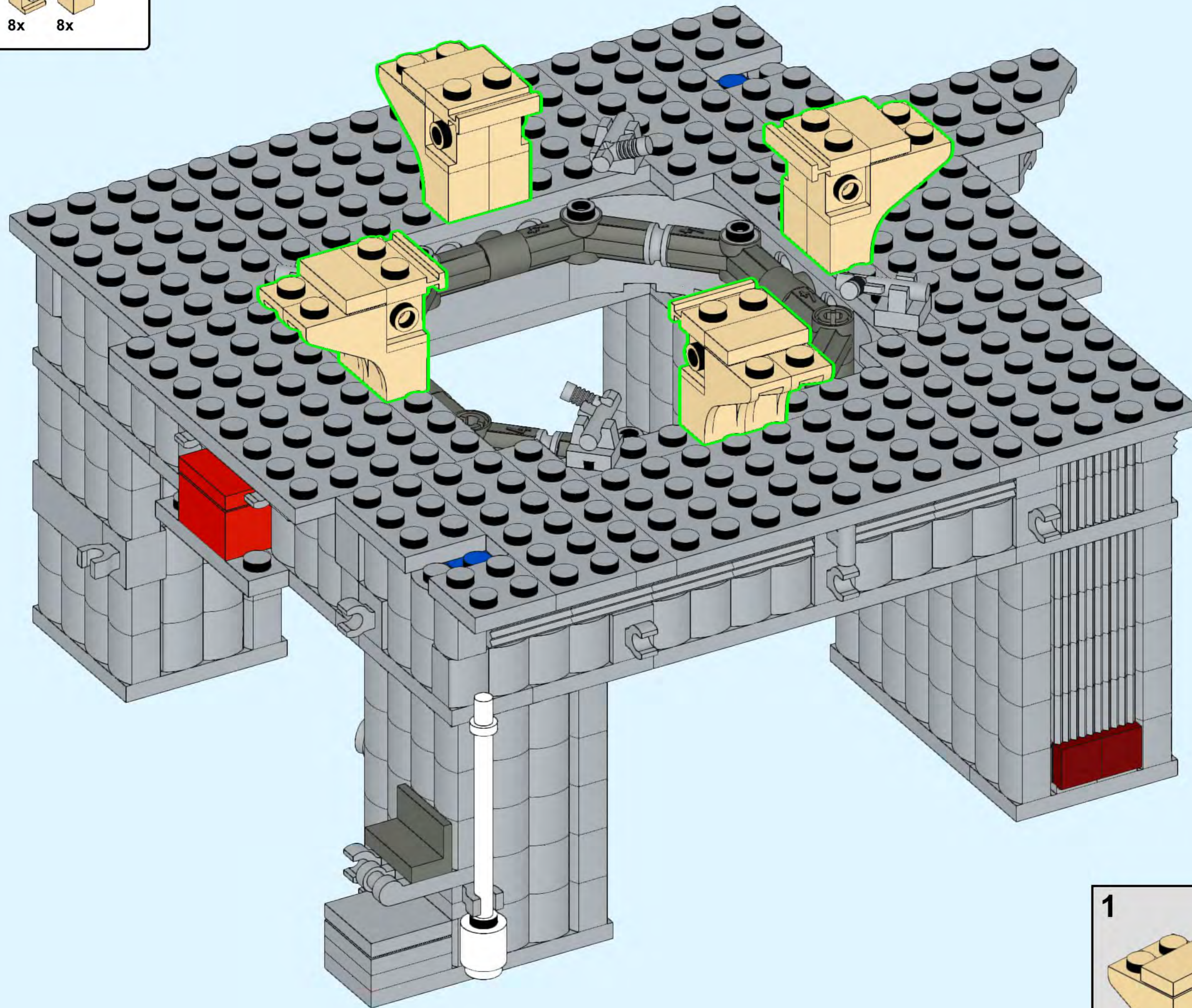
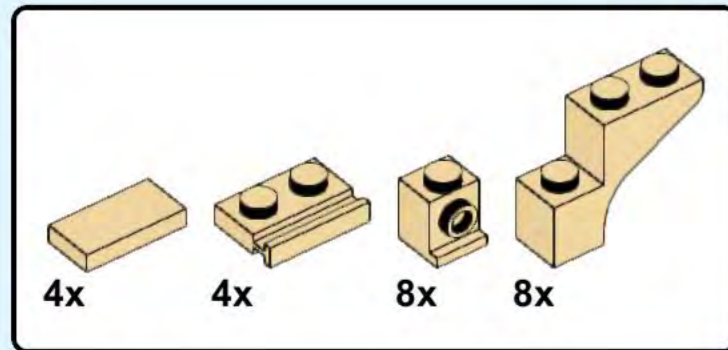


# 338



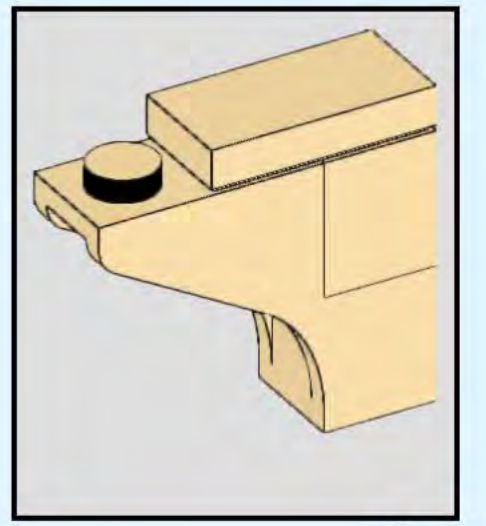
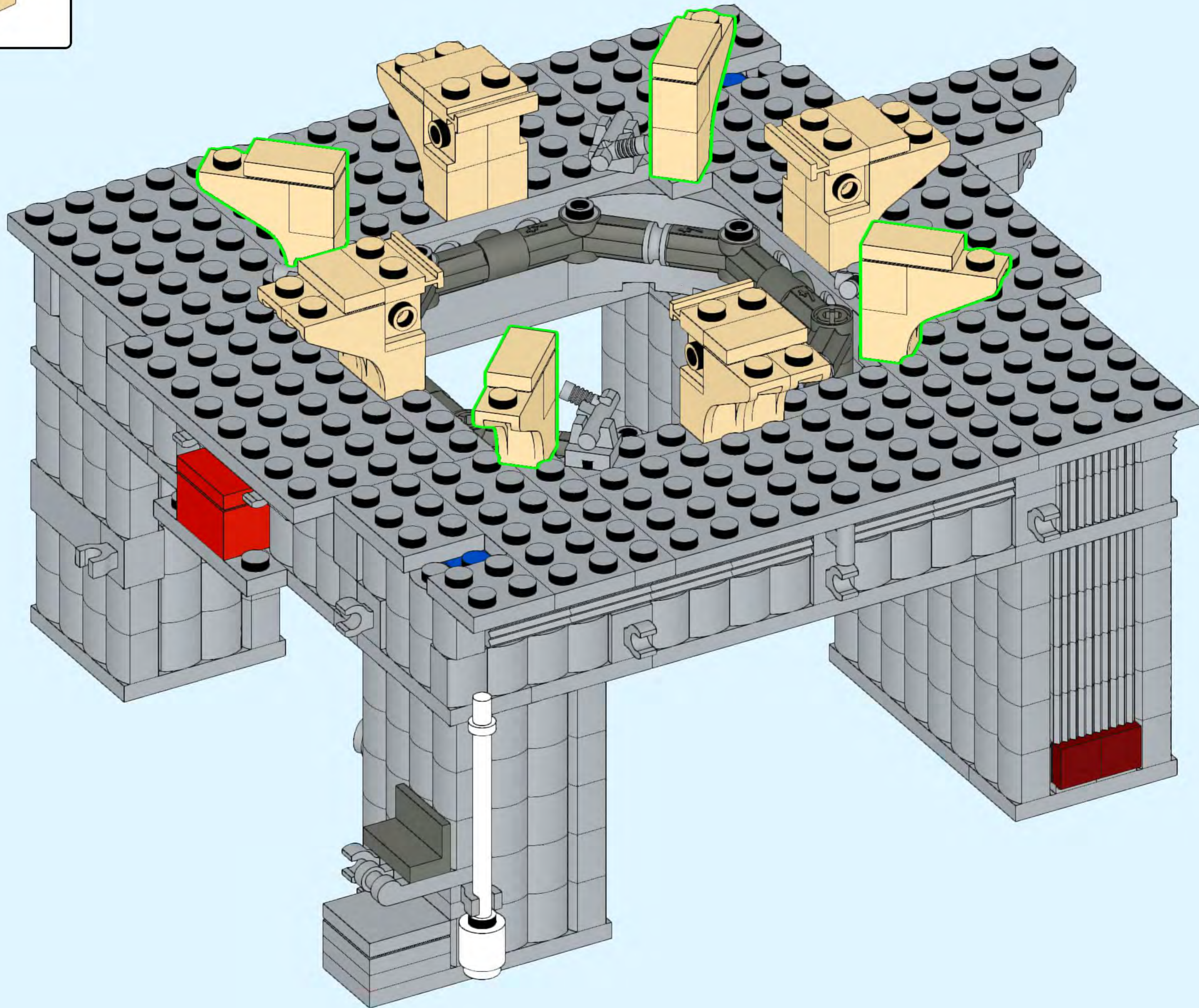
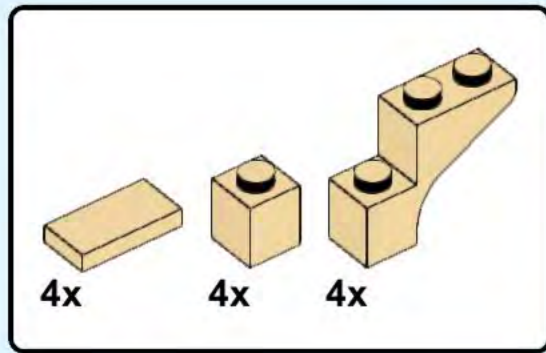
4x

# 339



4x

340

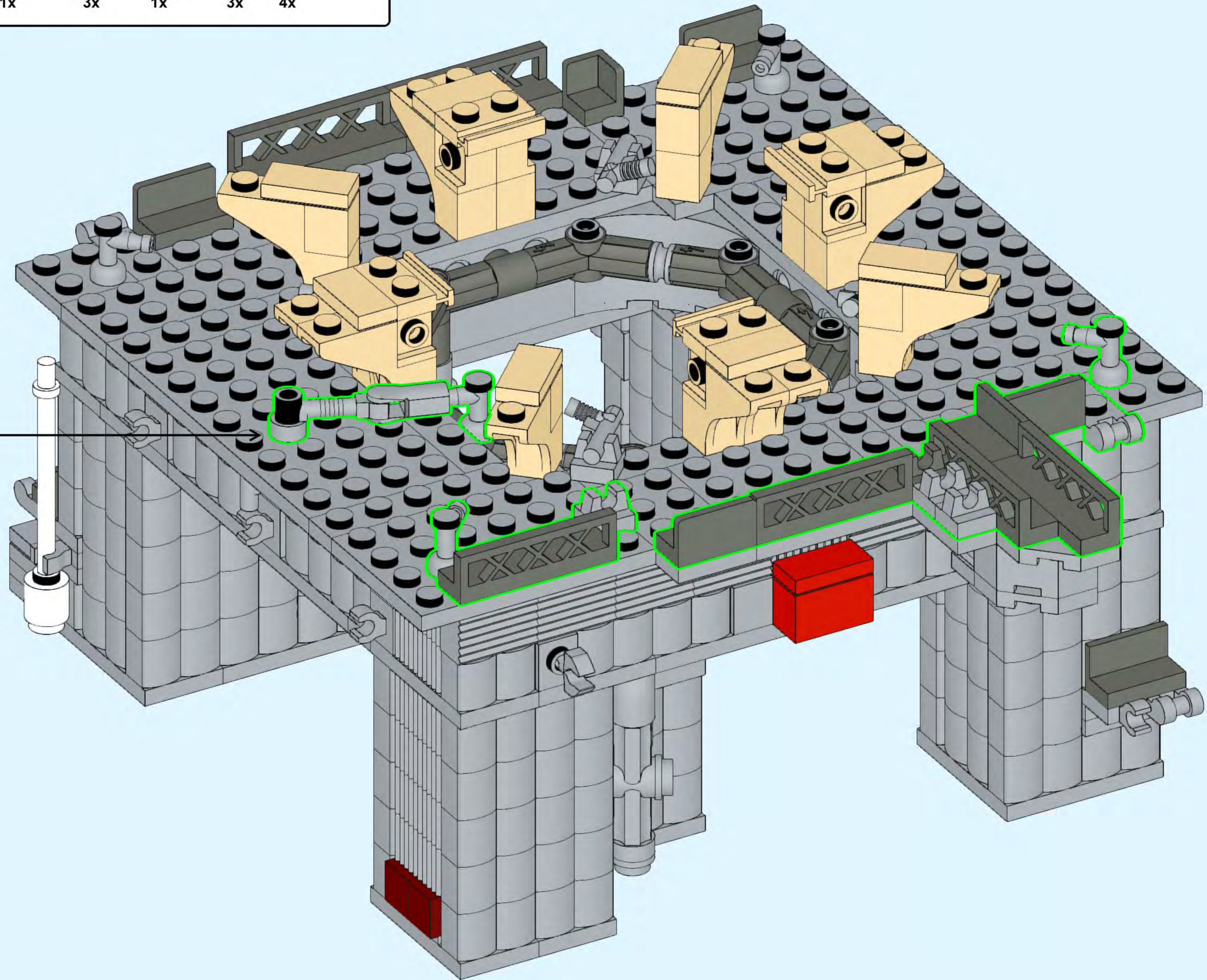
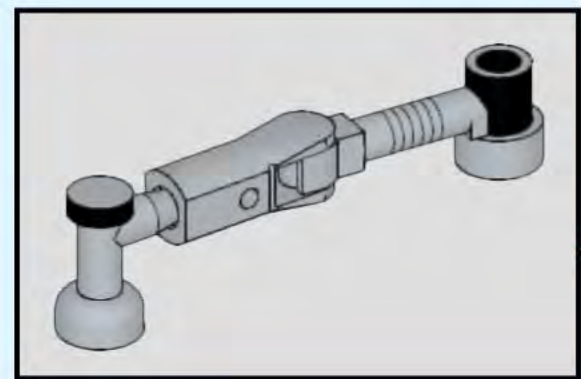
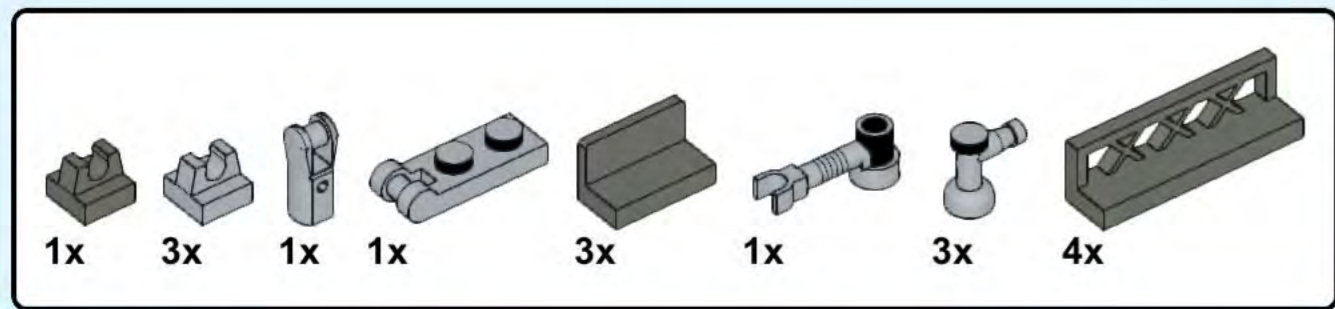


4x

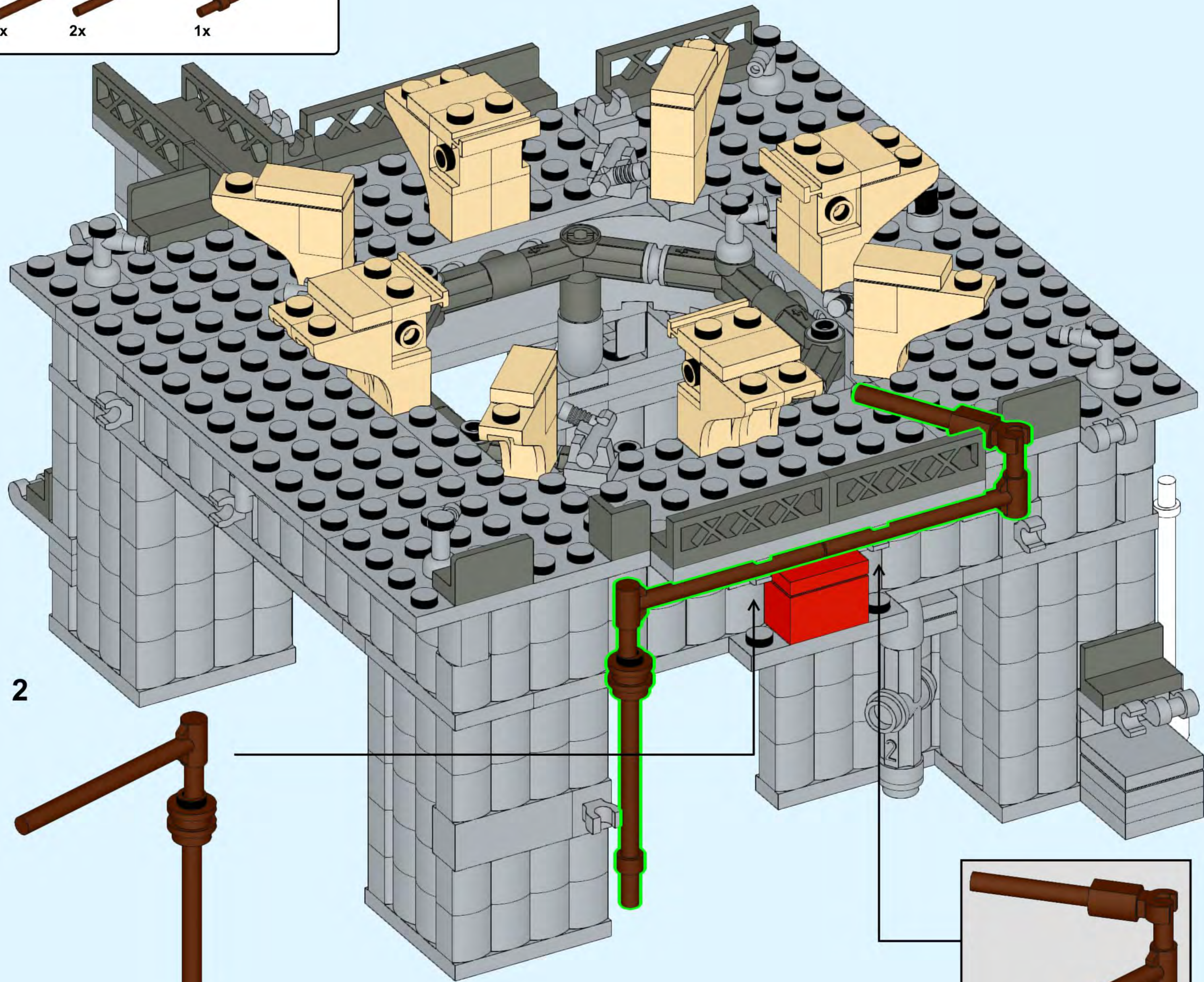
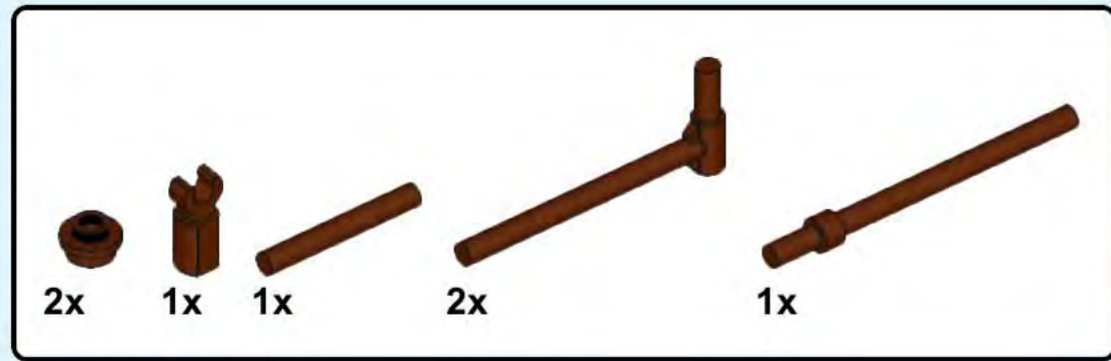




# 342

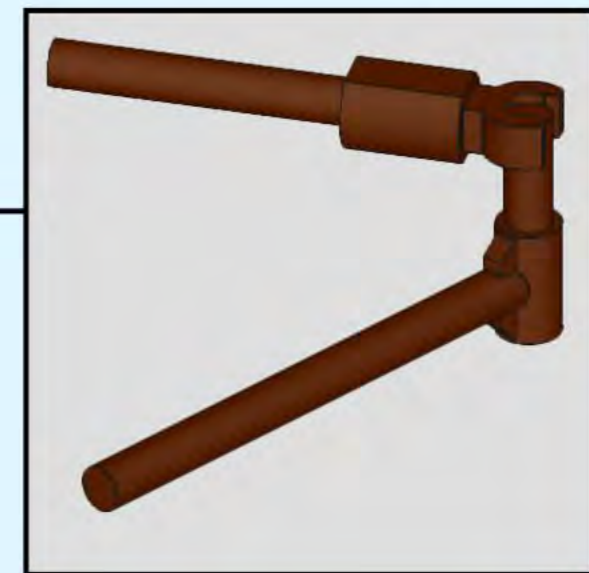


# 343

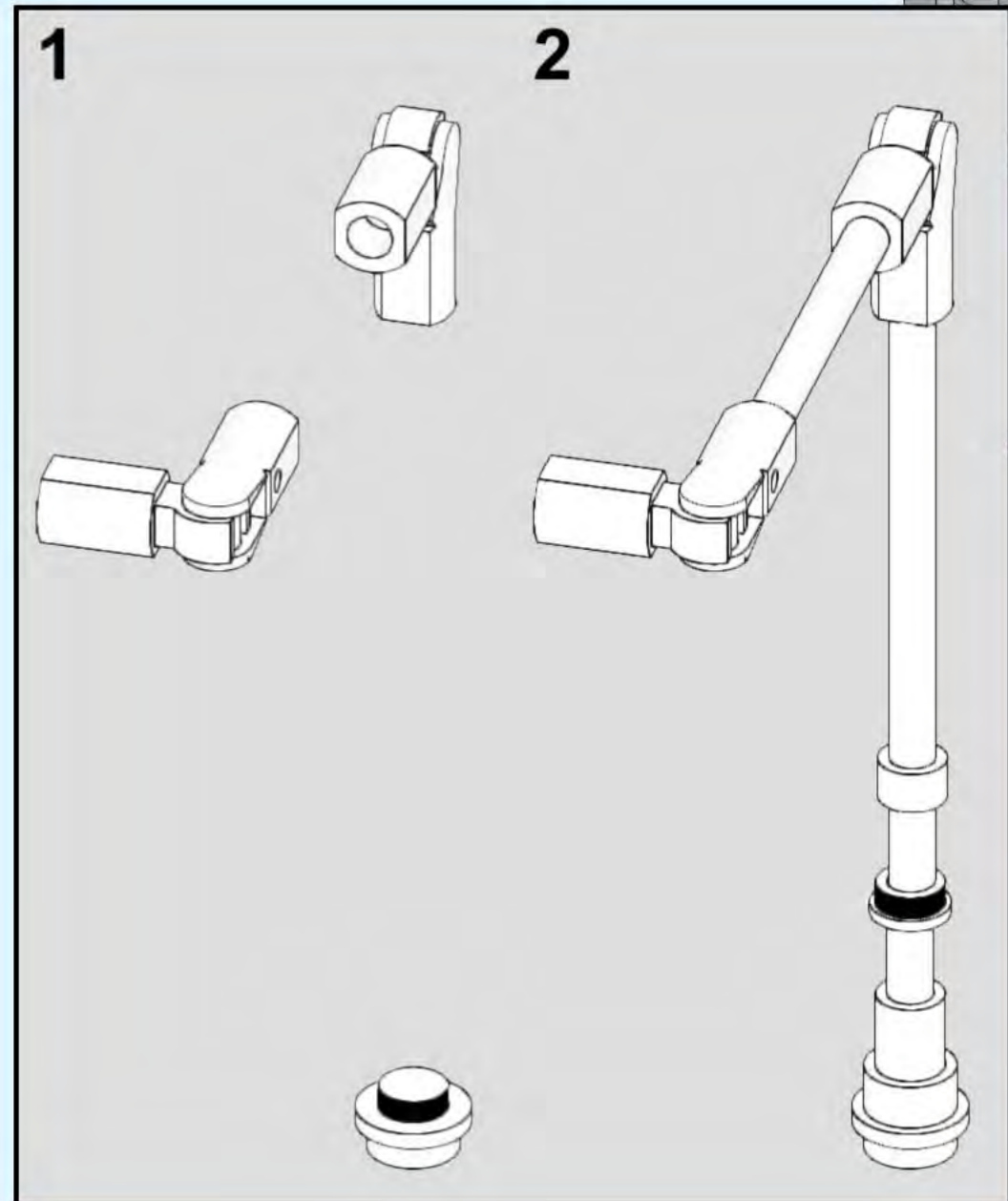
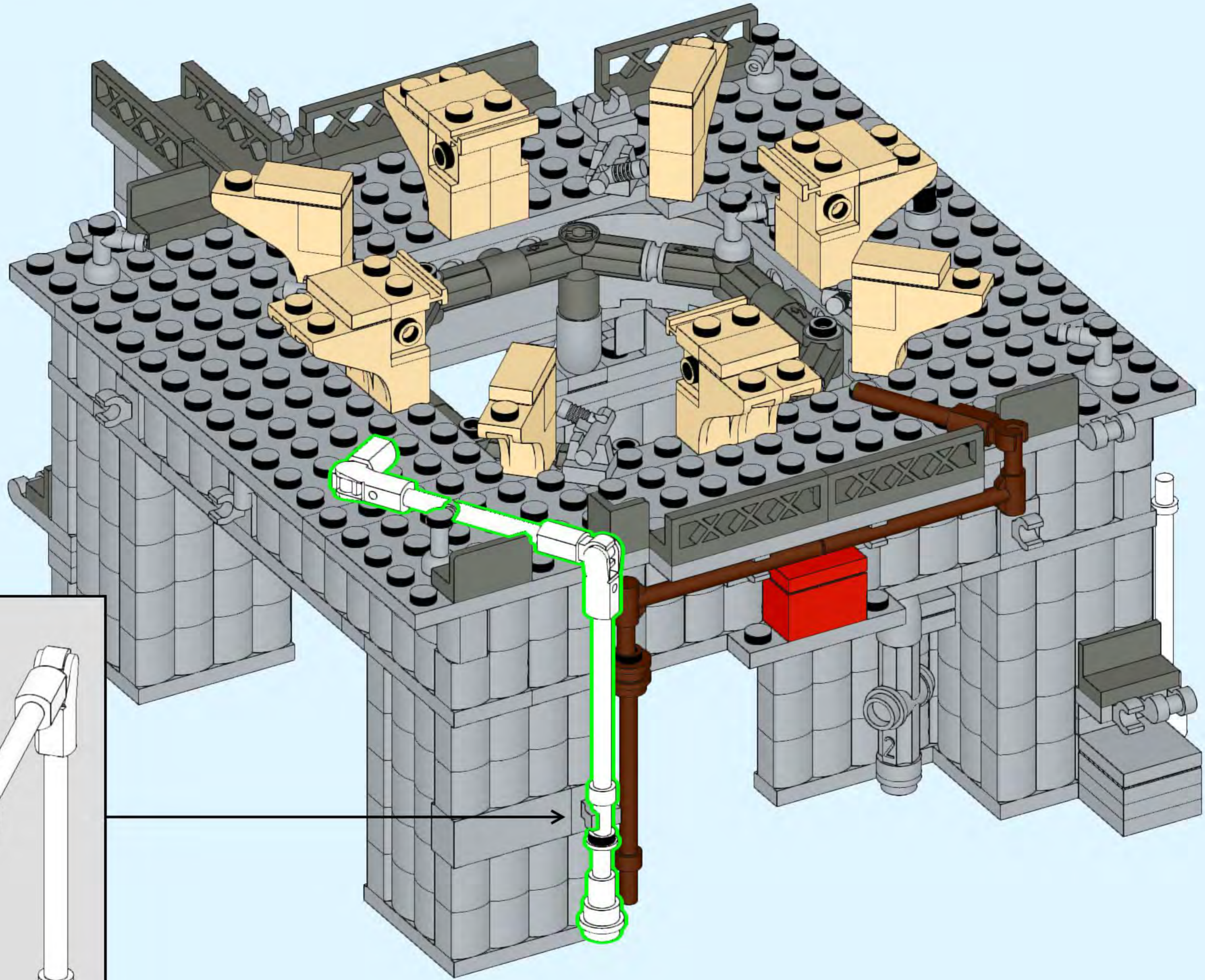
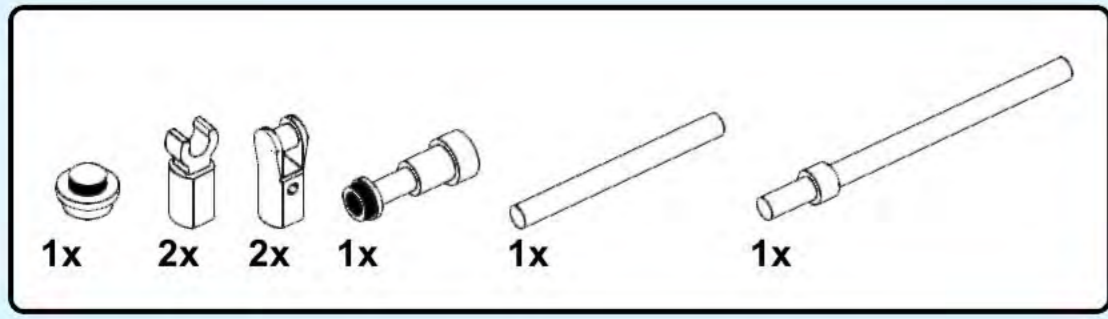


1

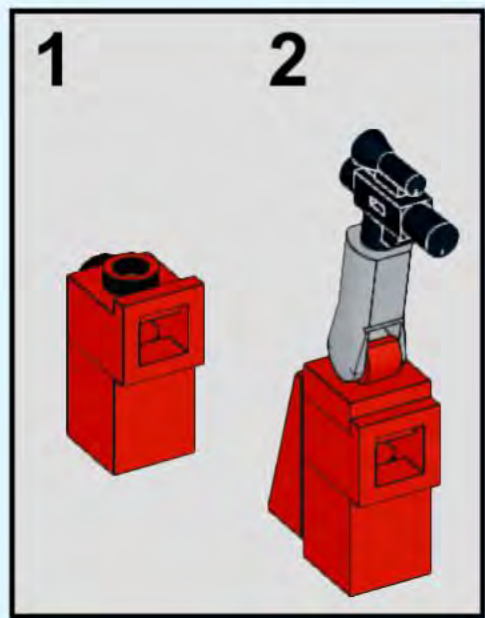
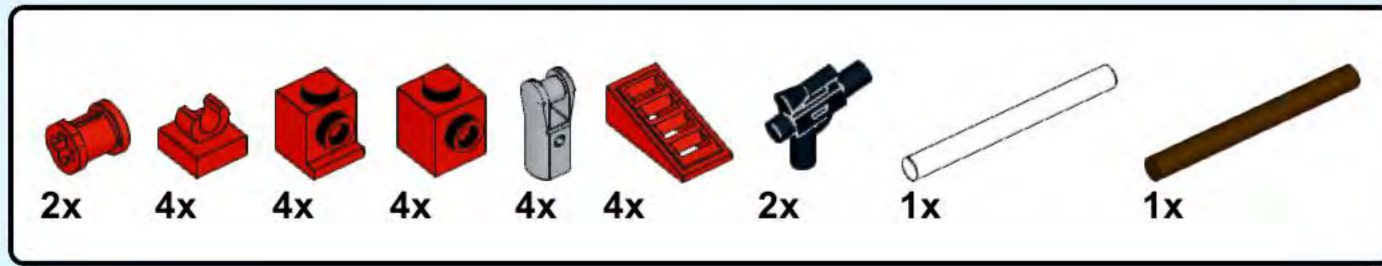
2



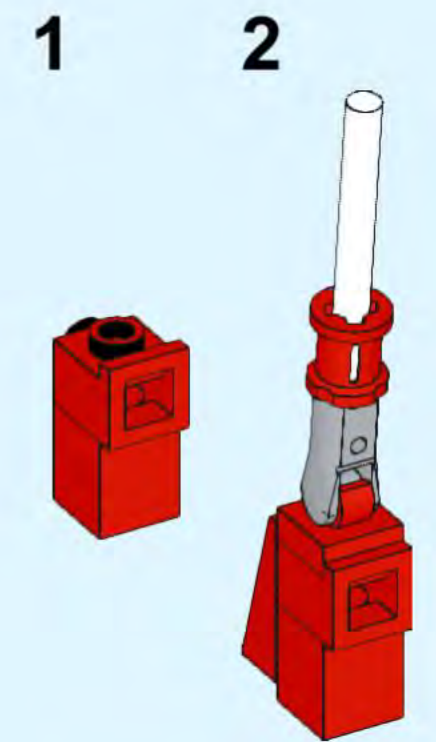
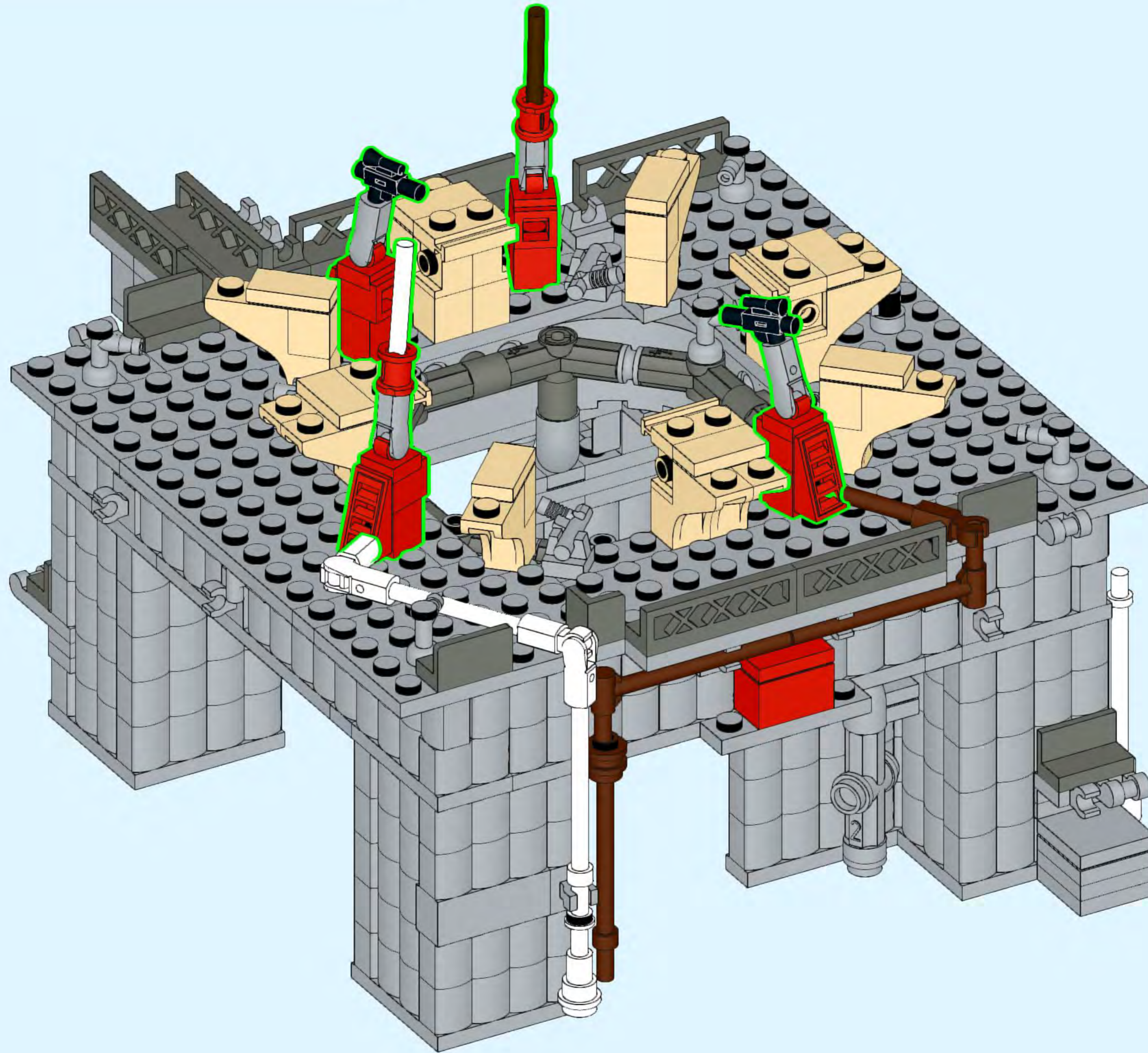
# 344



# 345

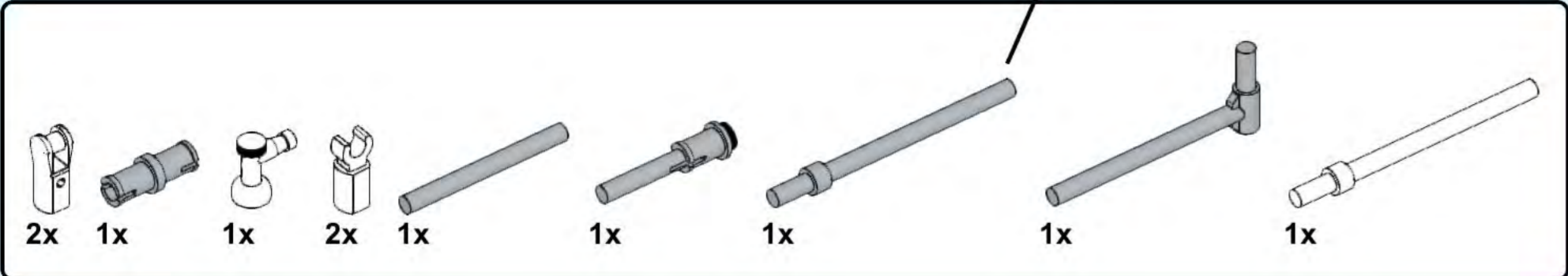
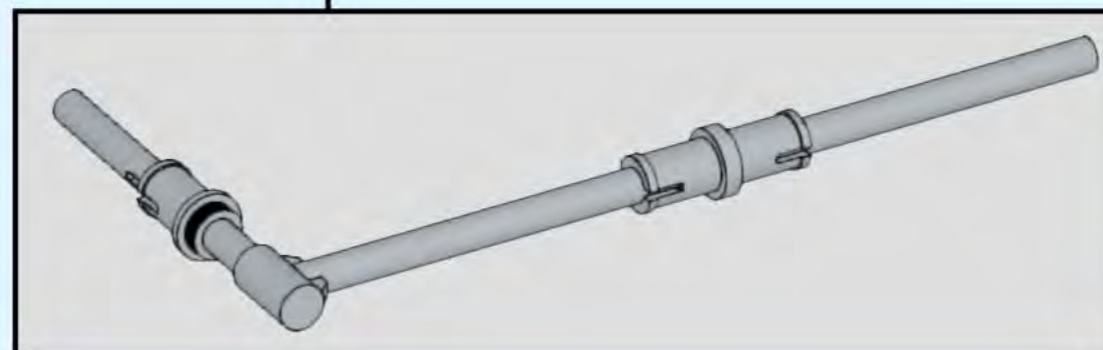
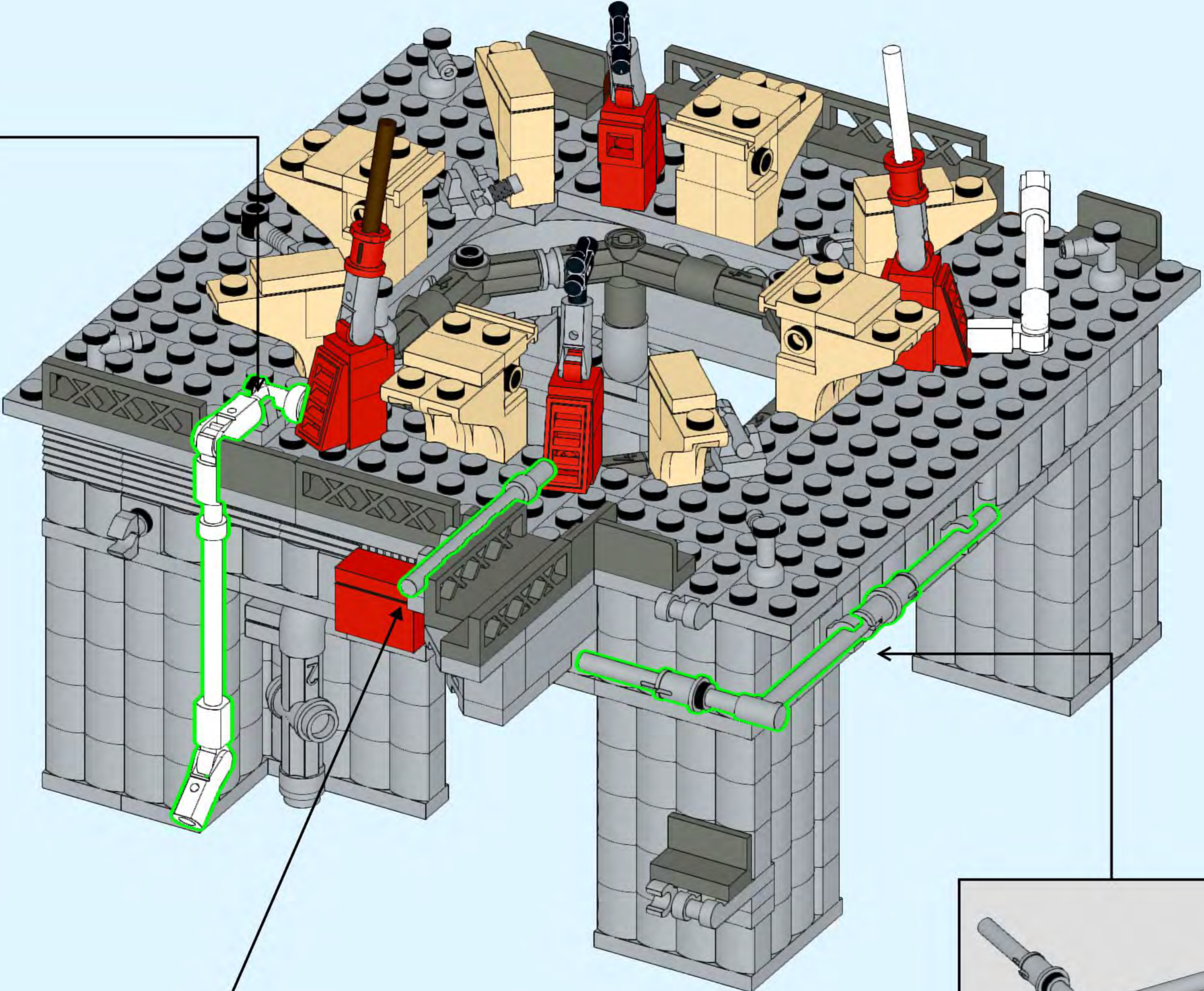
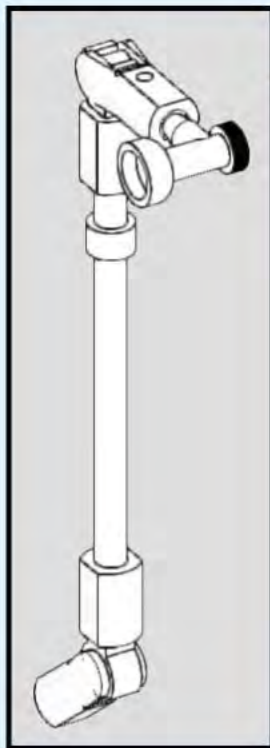


2x

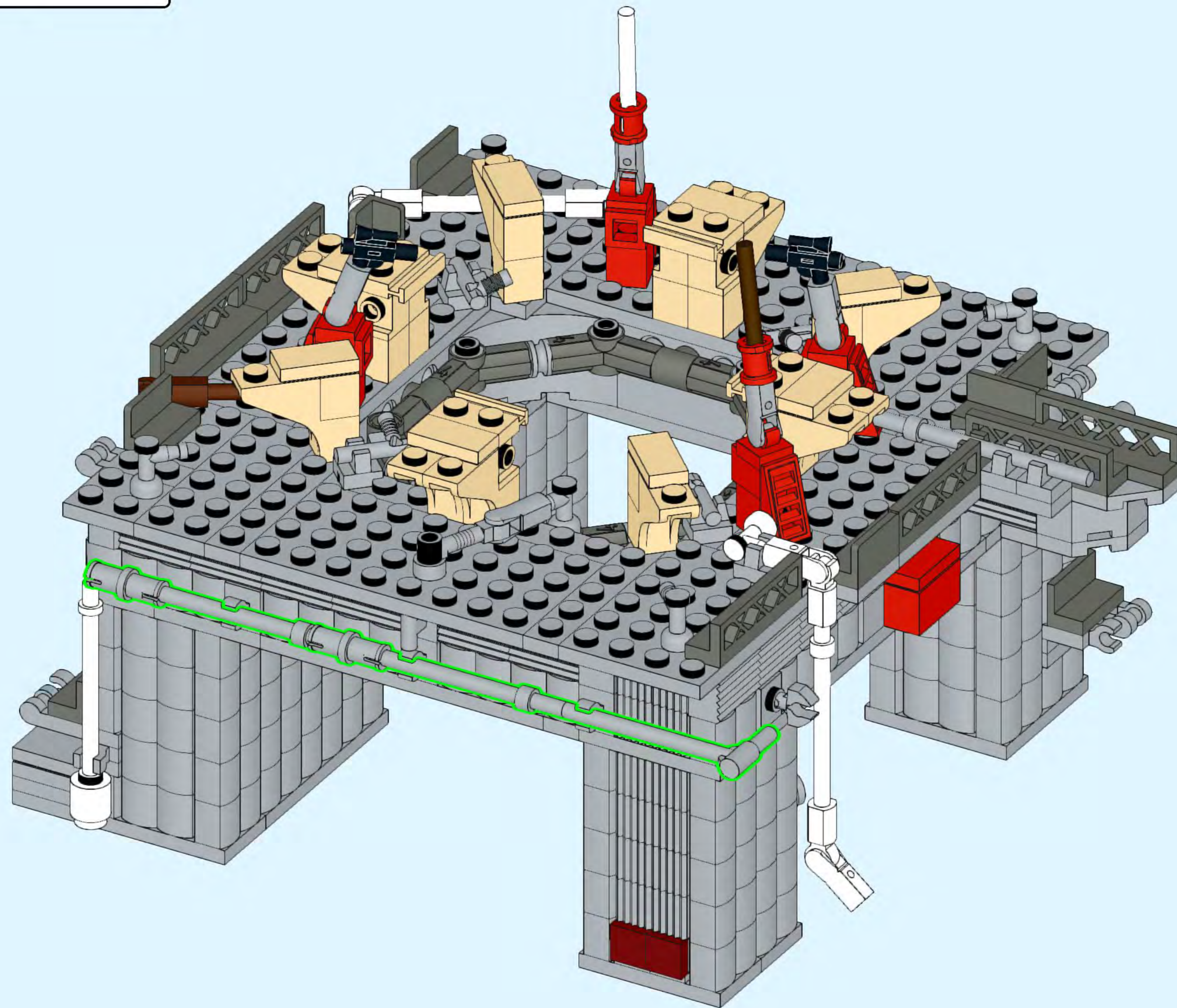
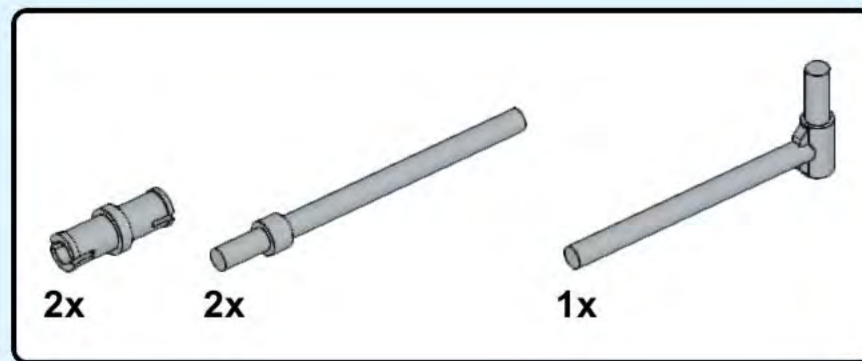


2x

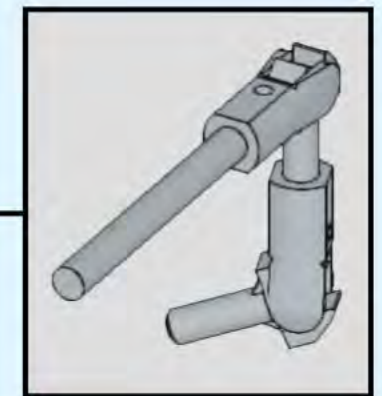
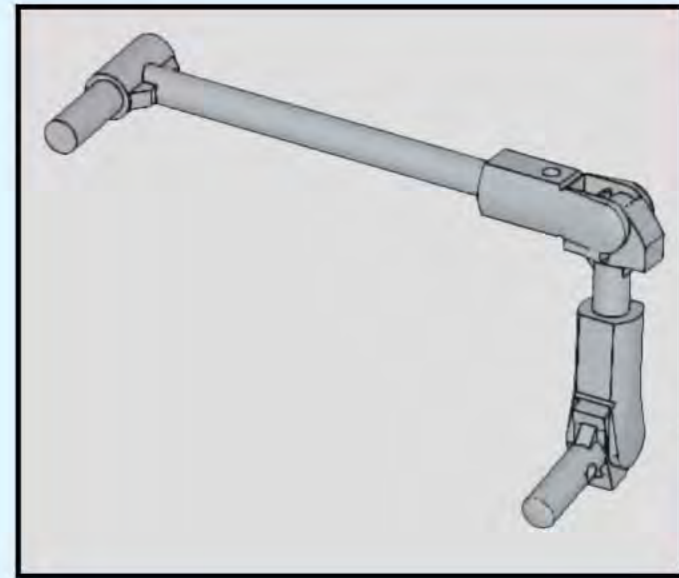
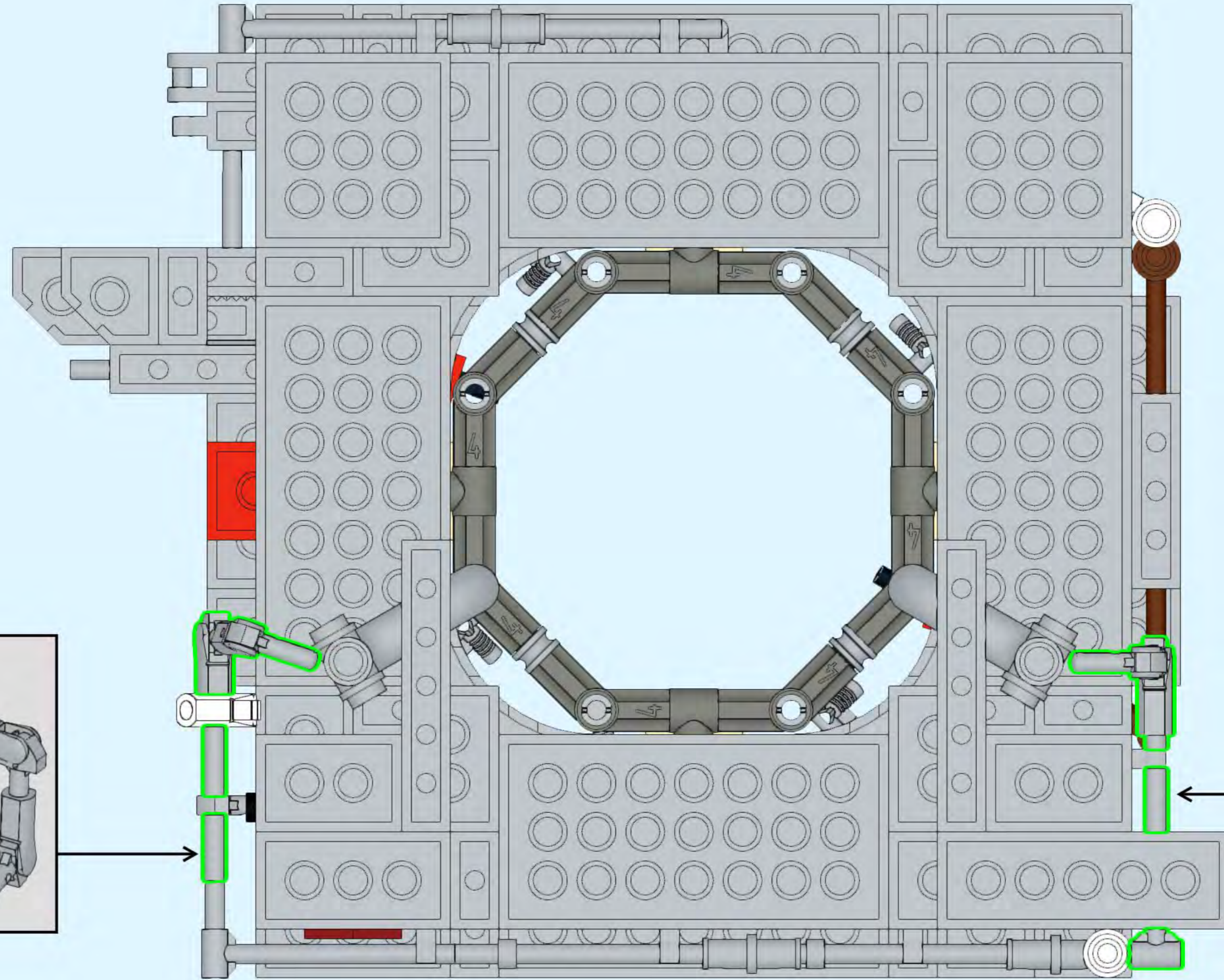
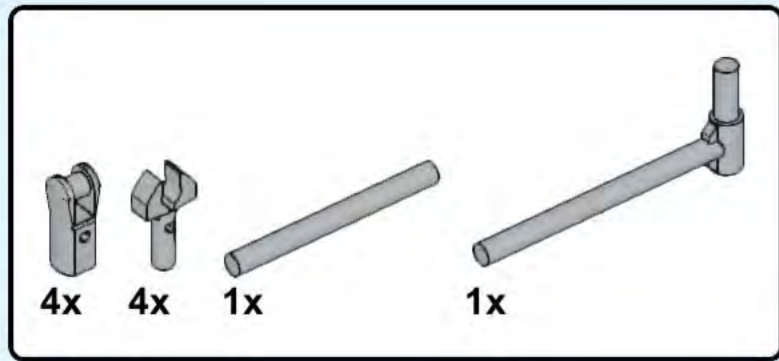




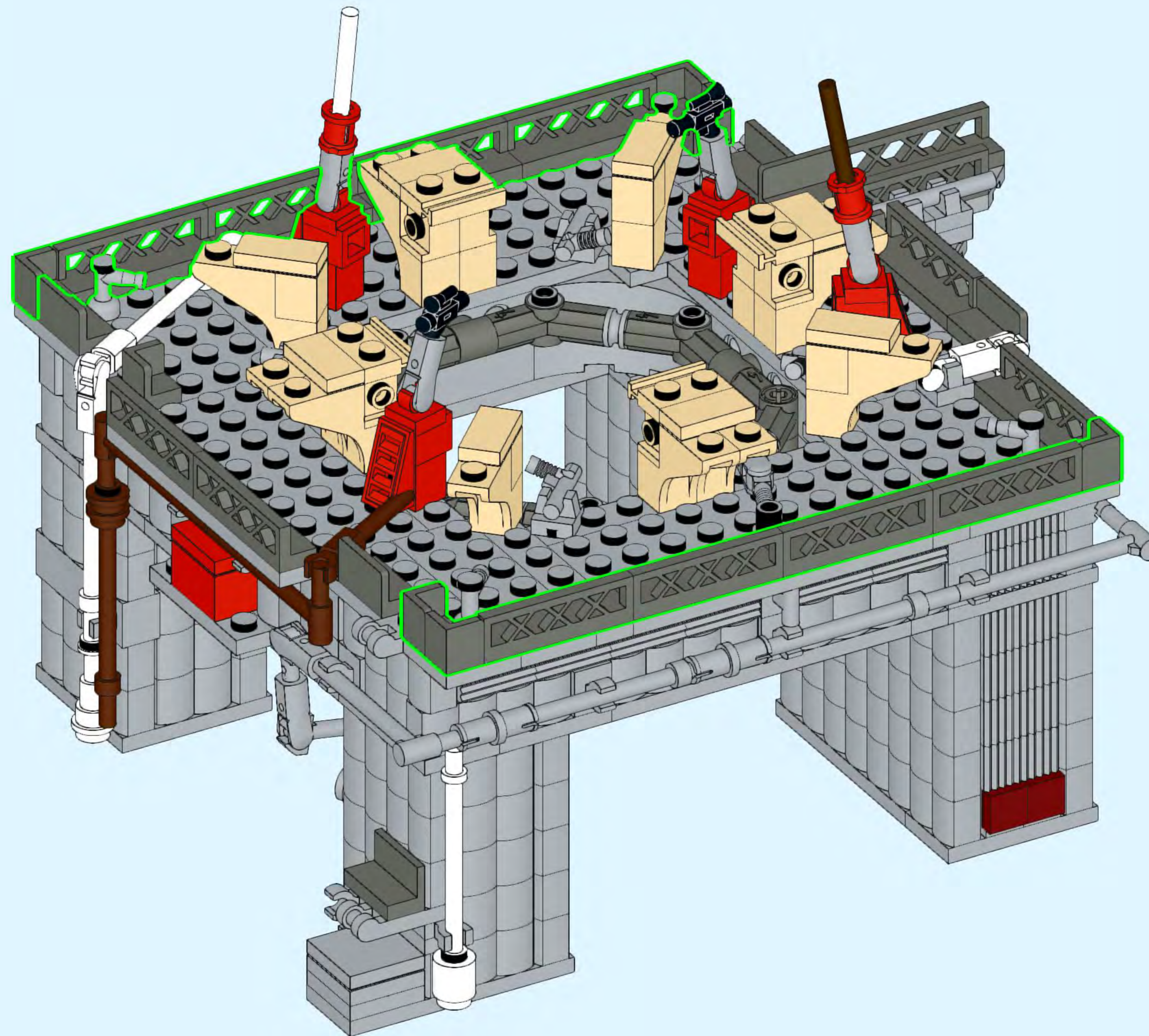
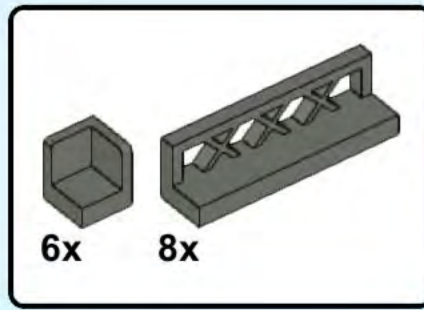
# 347



# 348

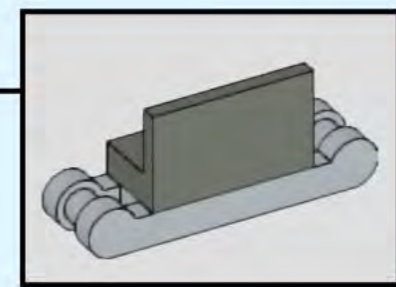
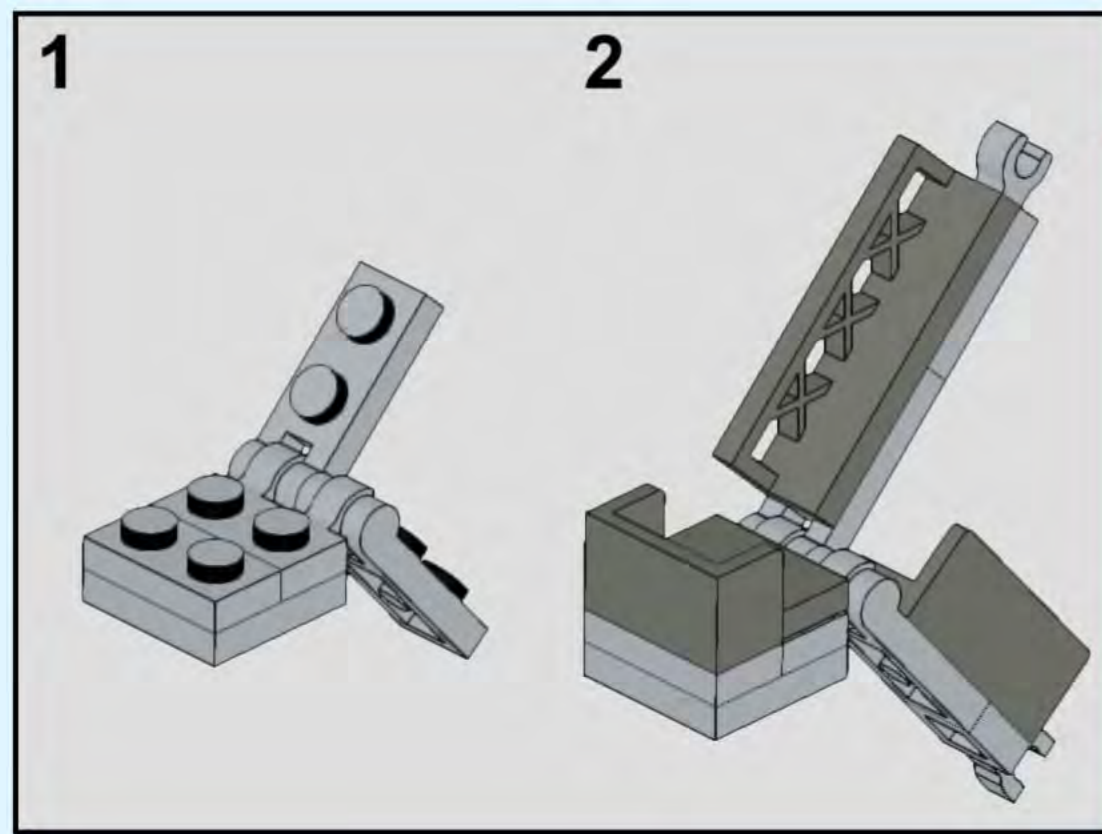
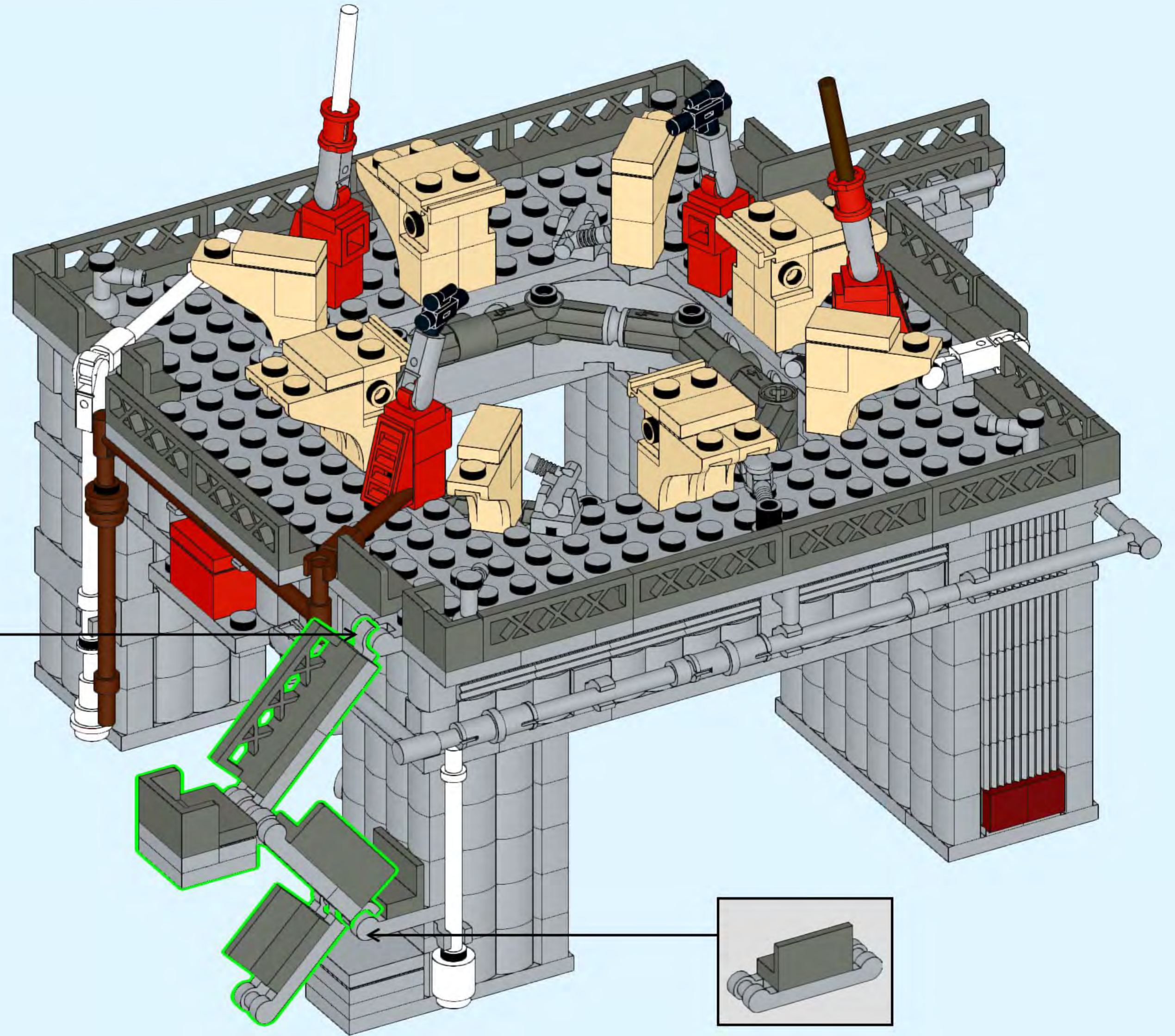
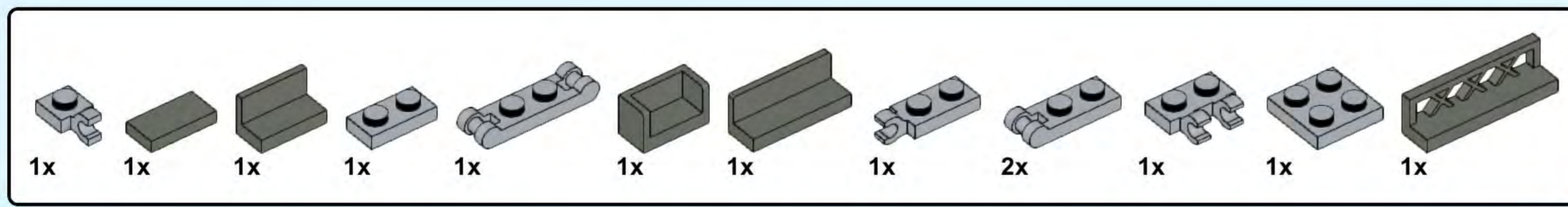


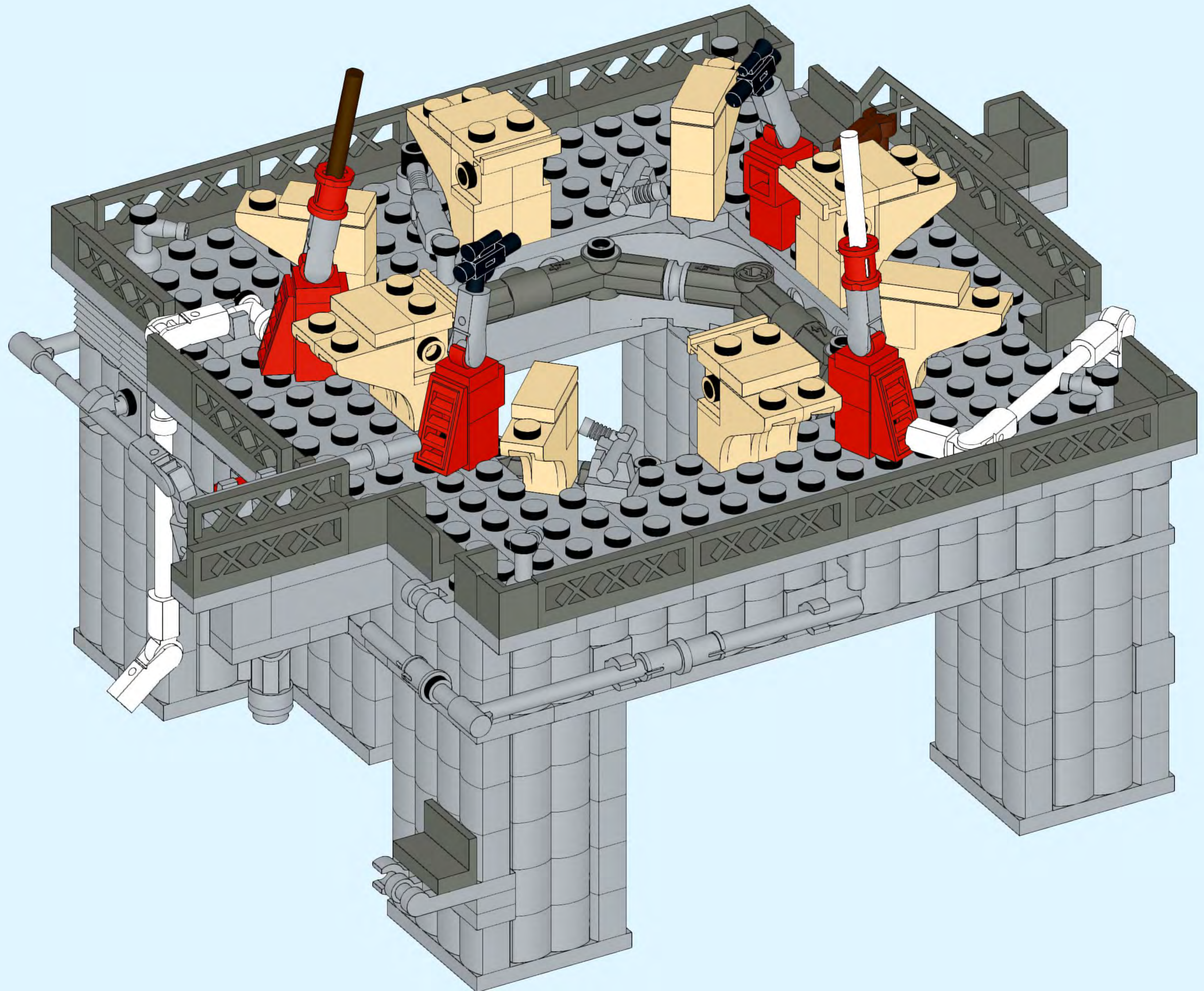
349

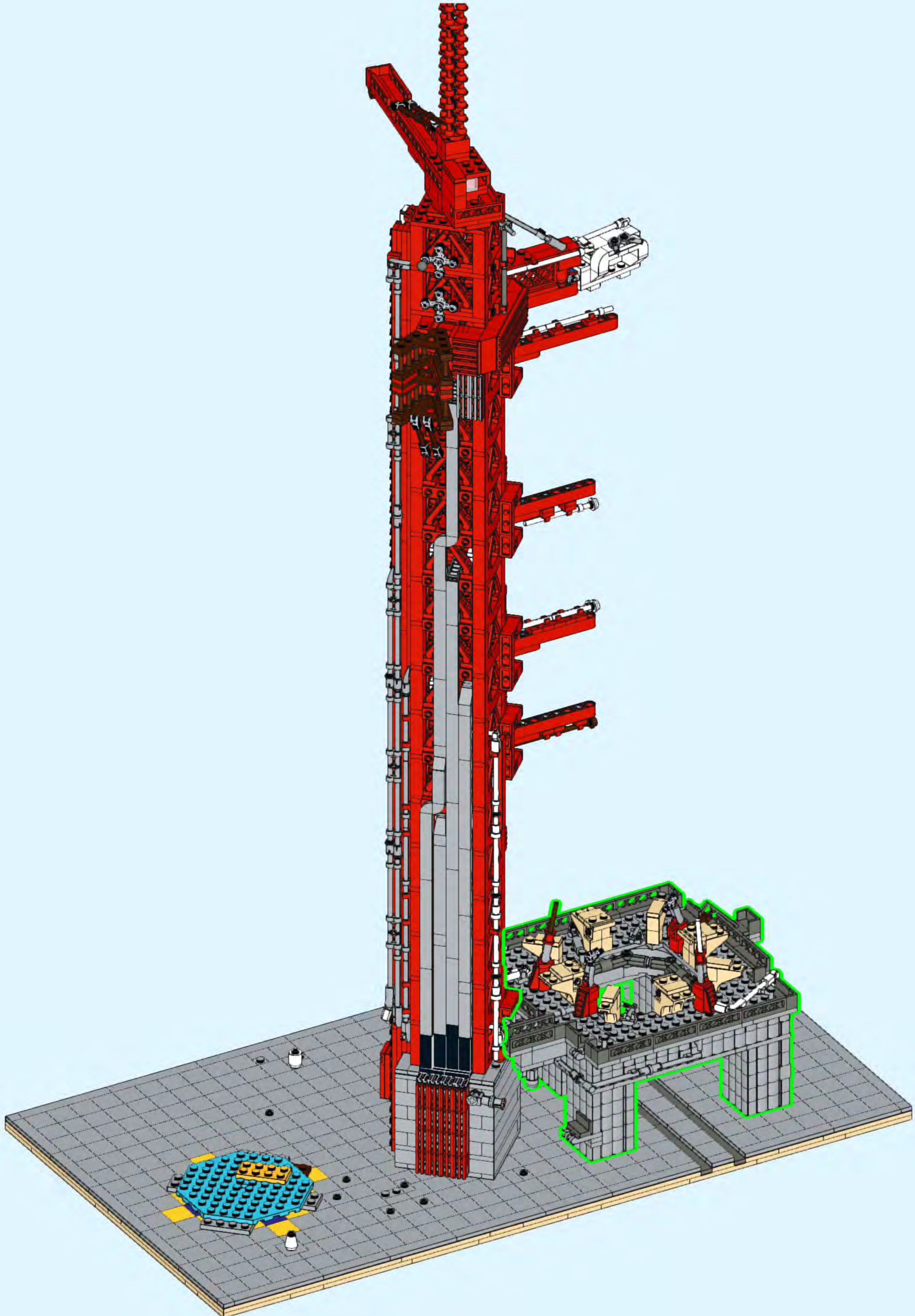




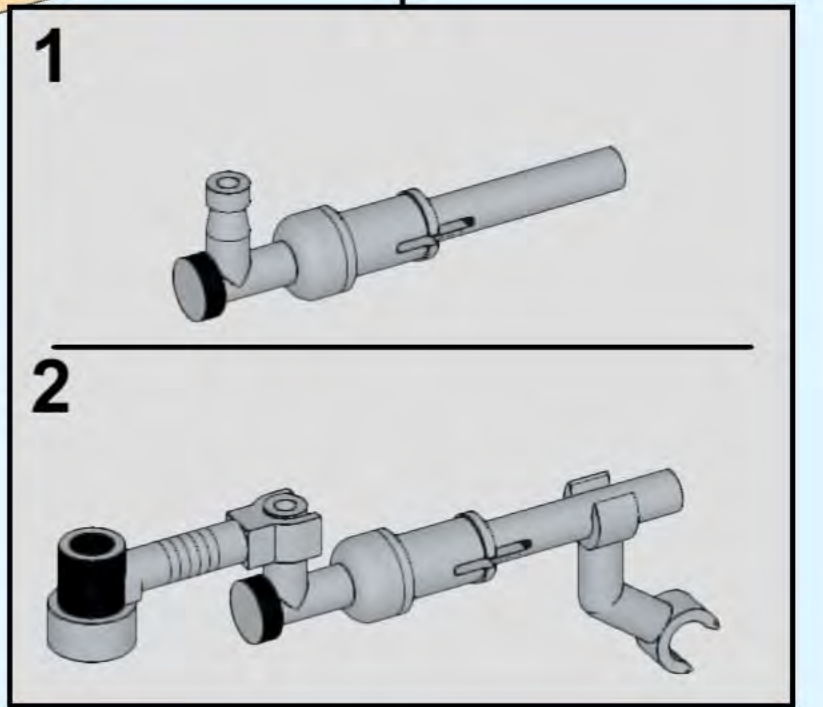
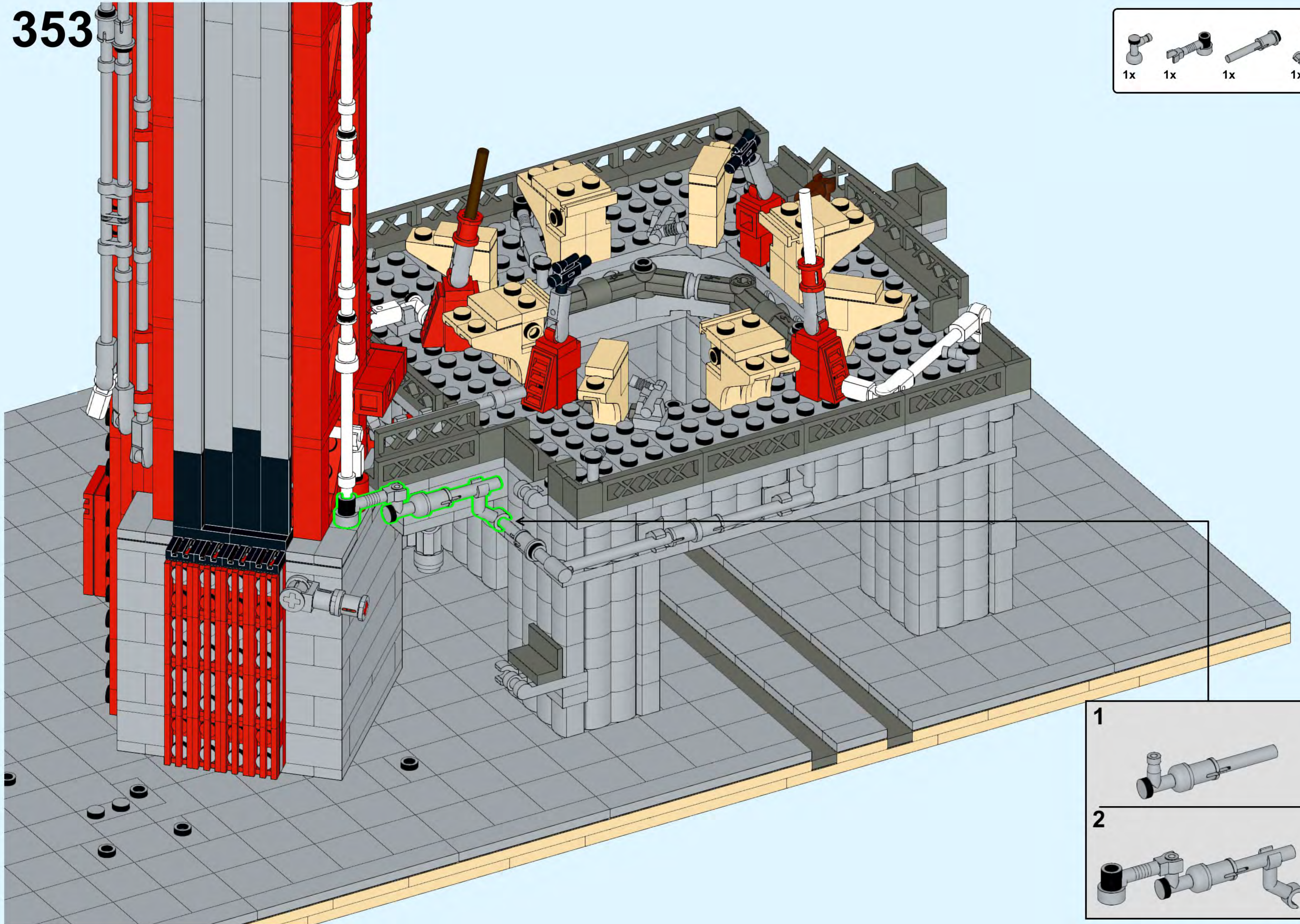
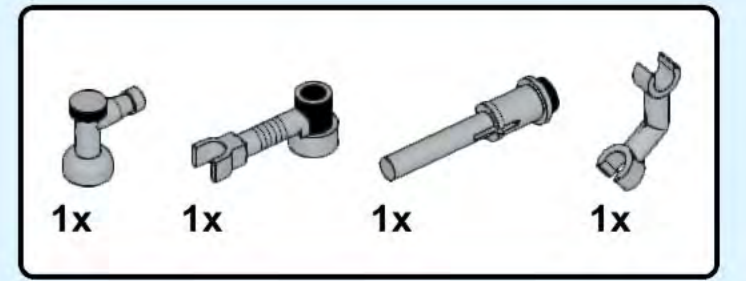
# 350



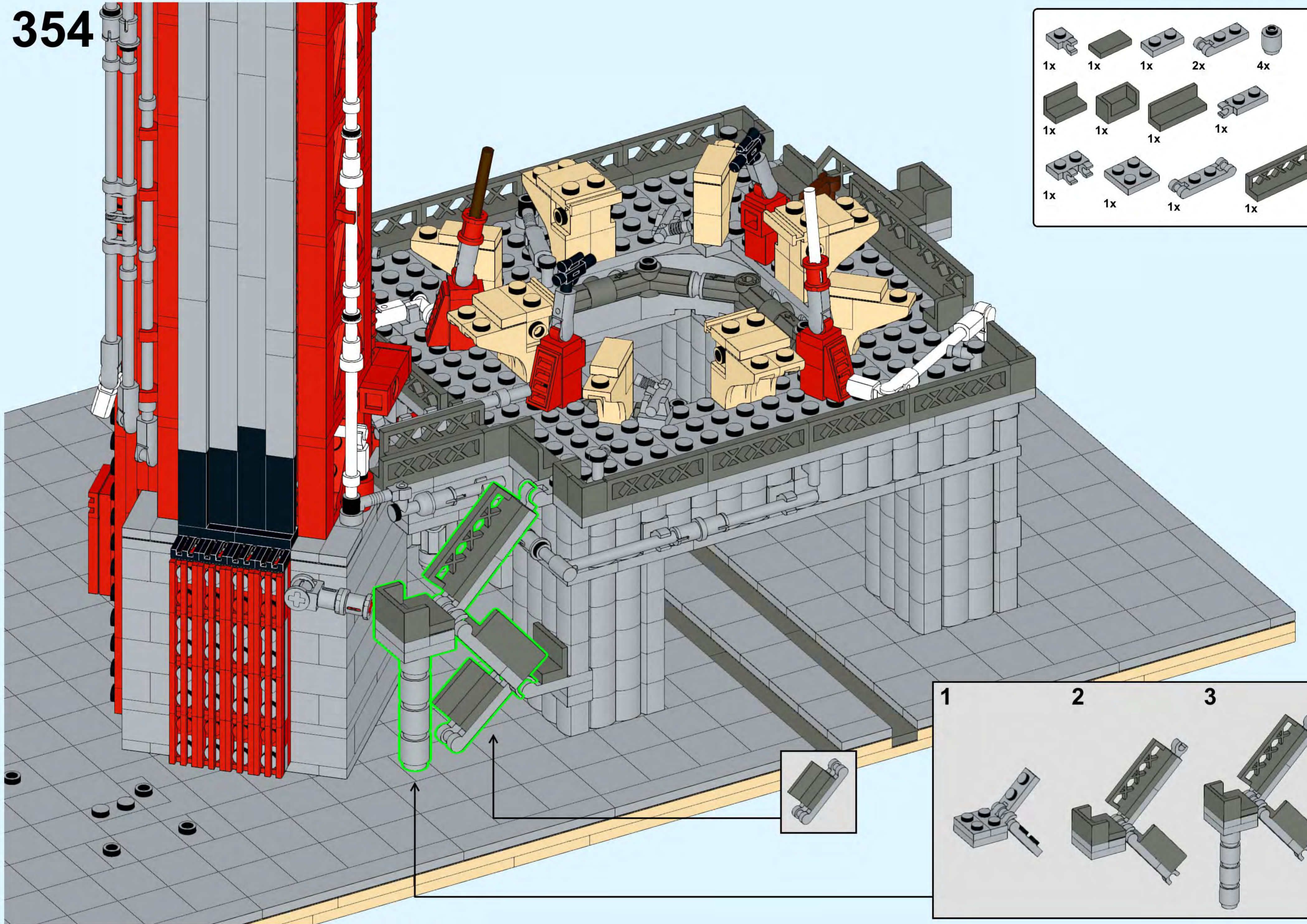




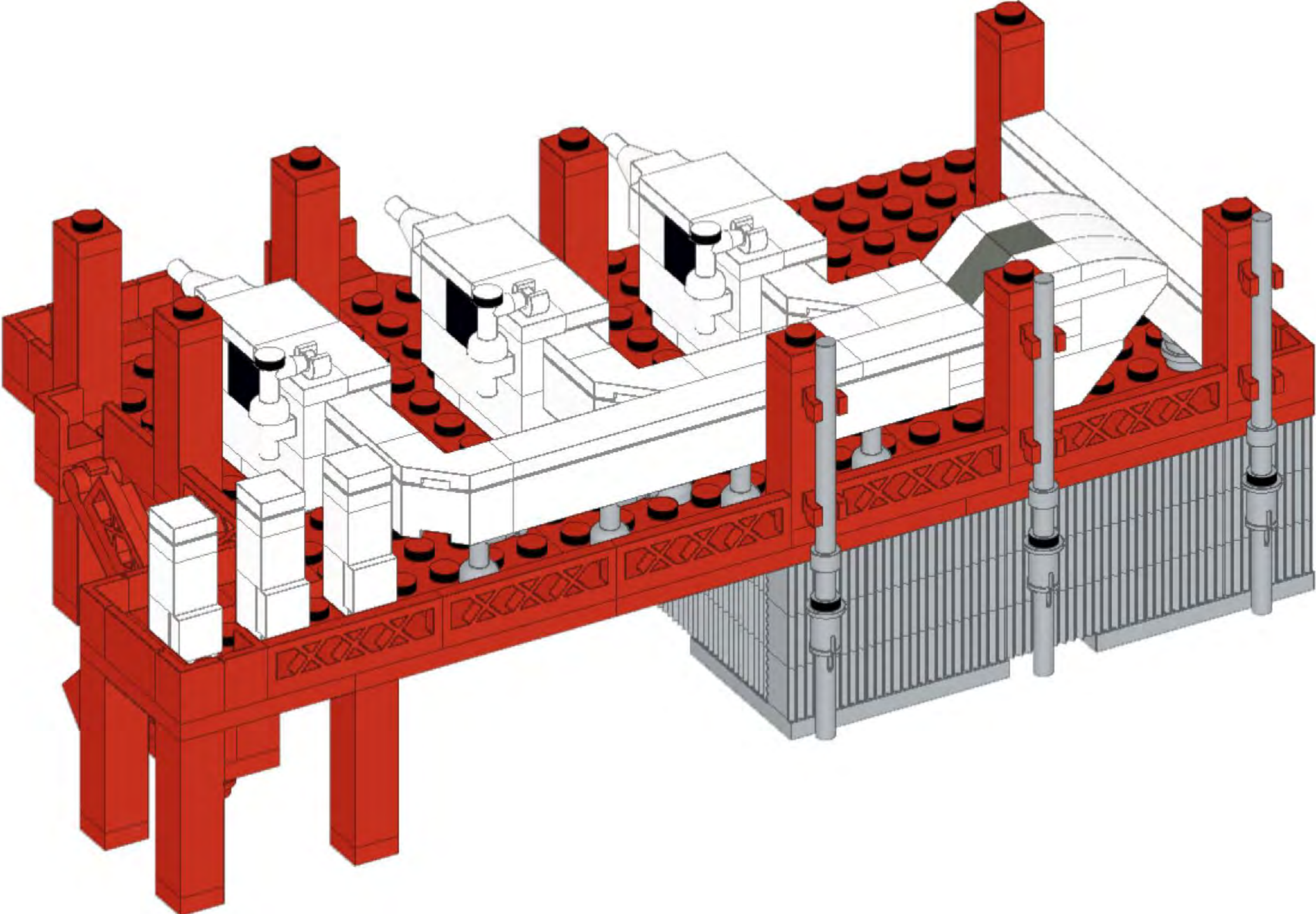
353



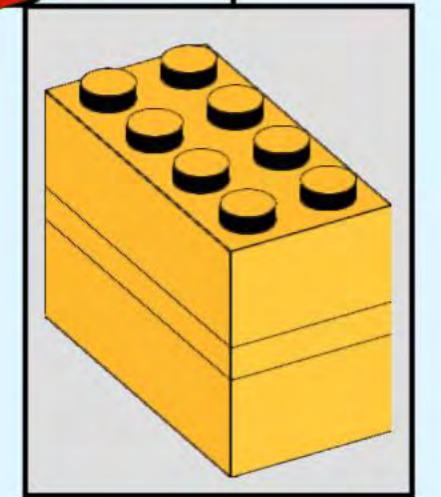
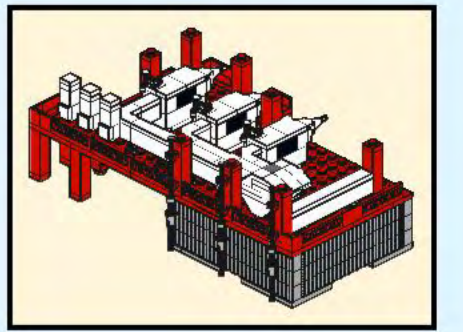
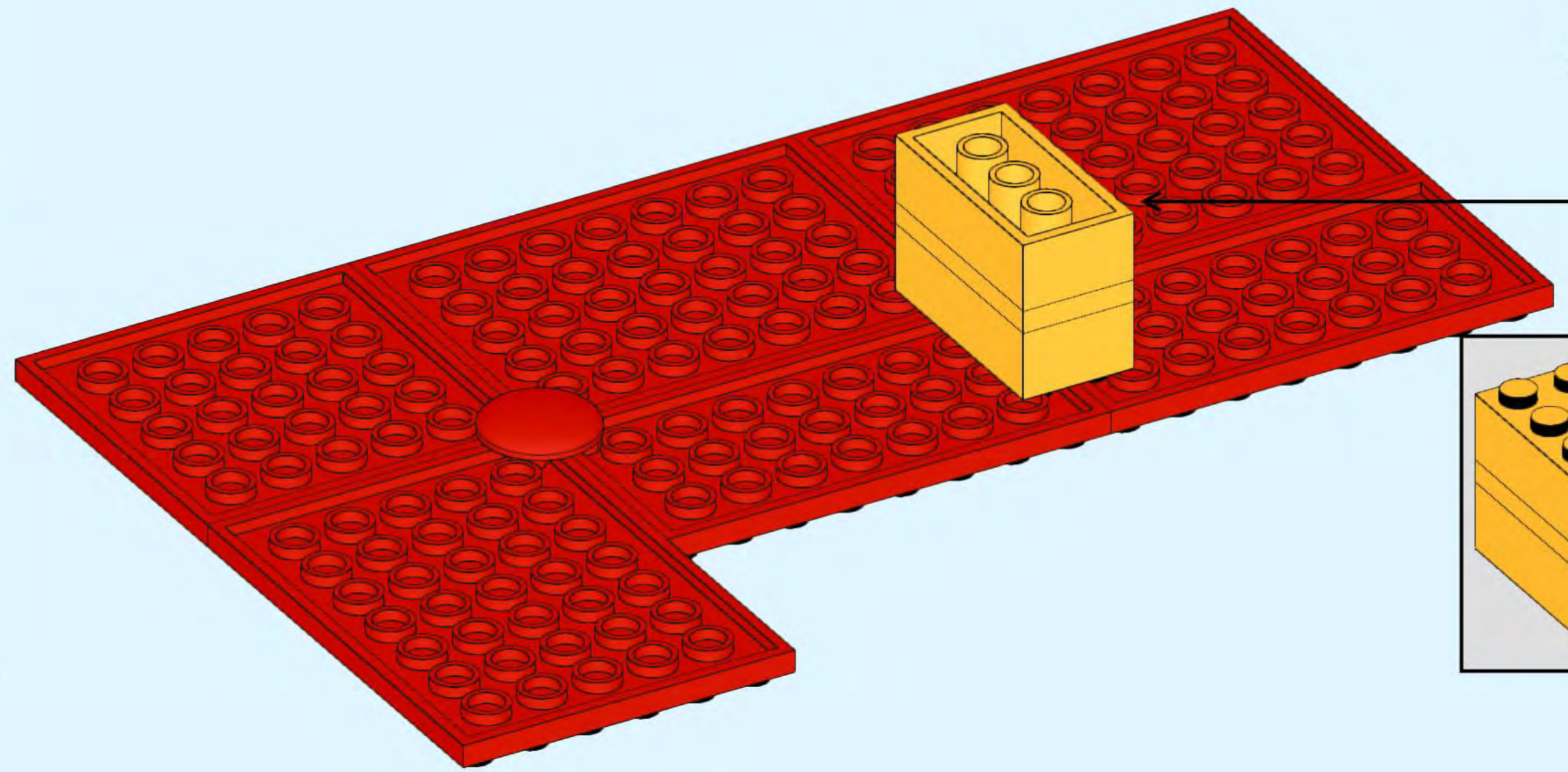
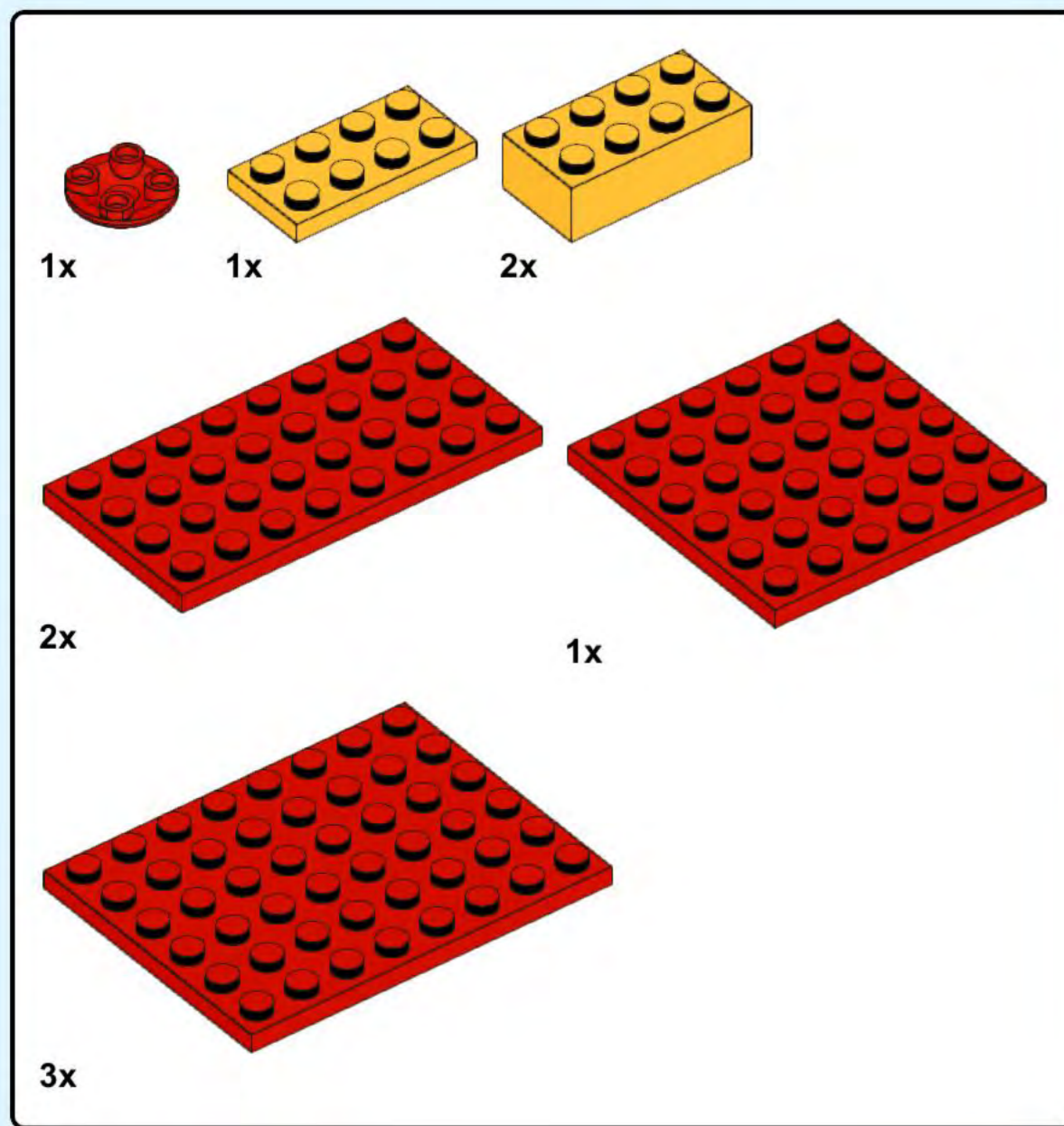
354



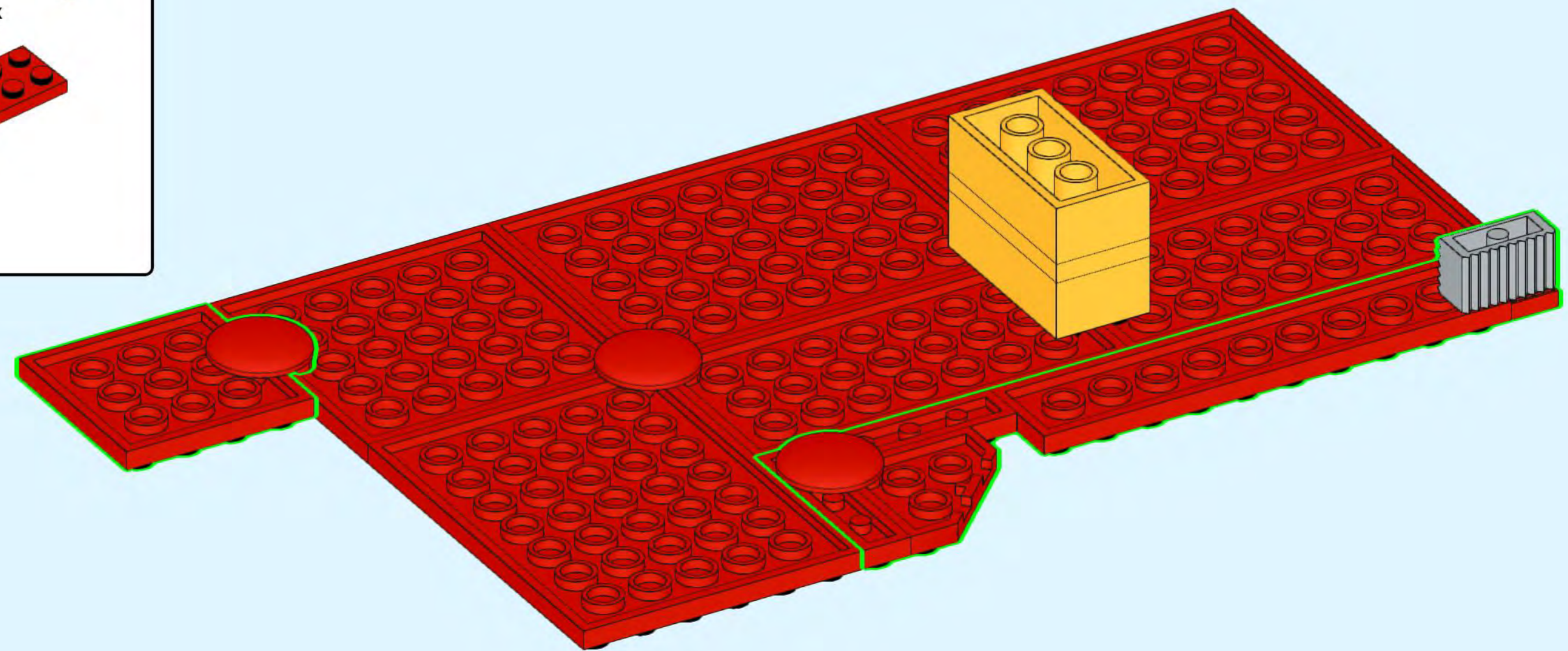
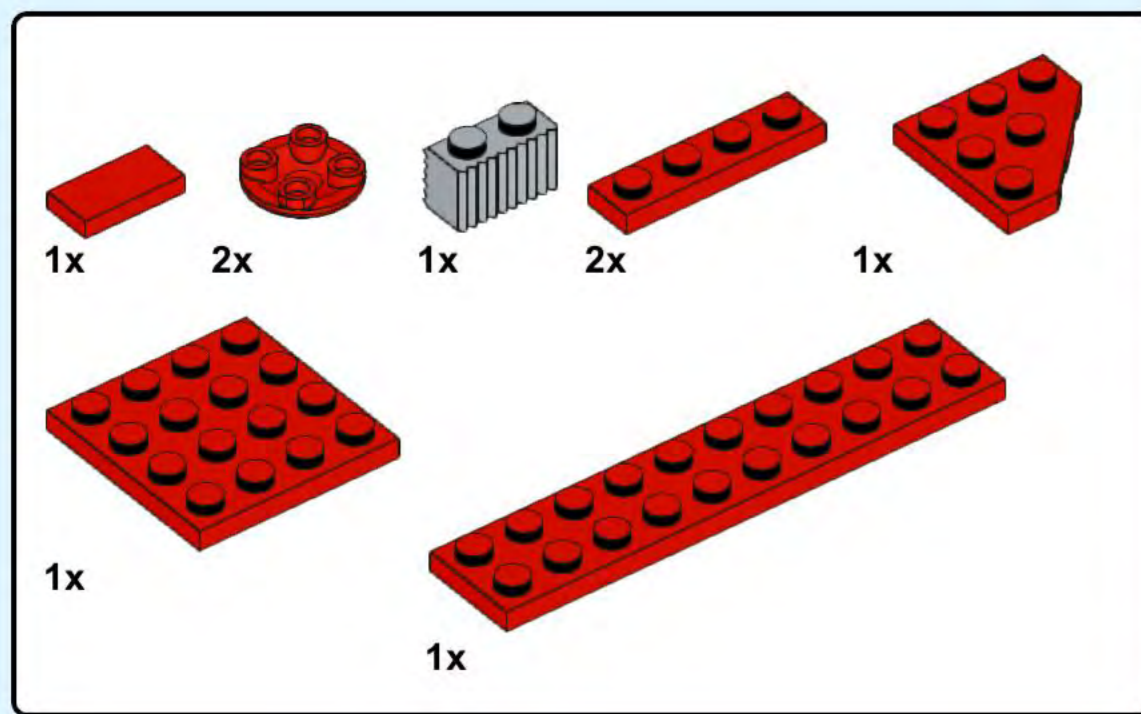
Environmental Control System (ECS) building



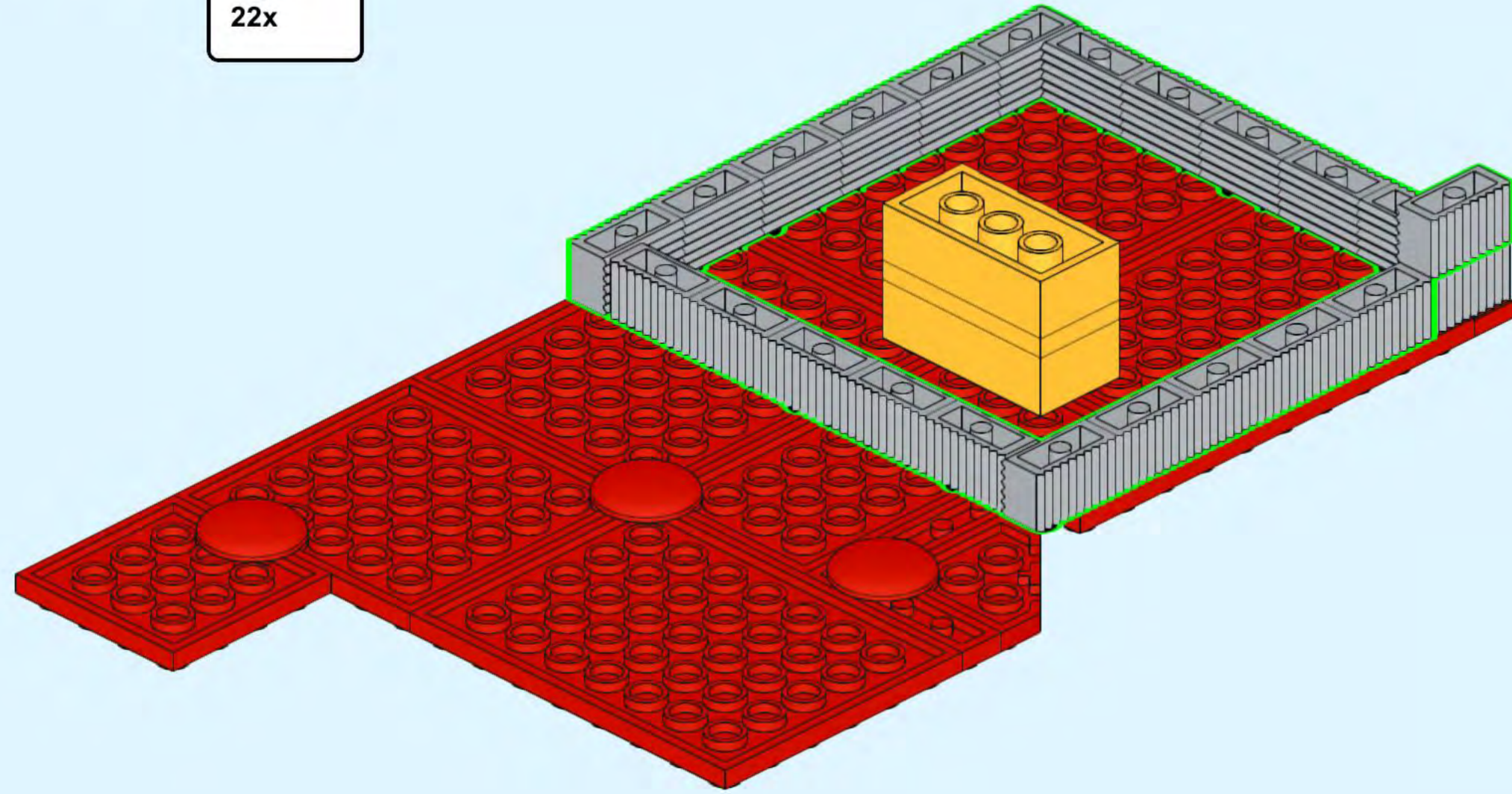
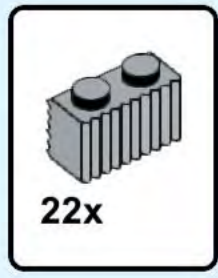
# 355



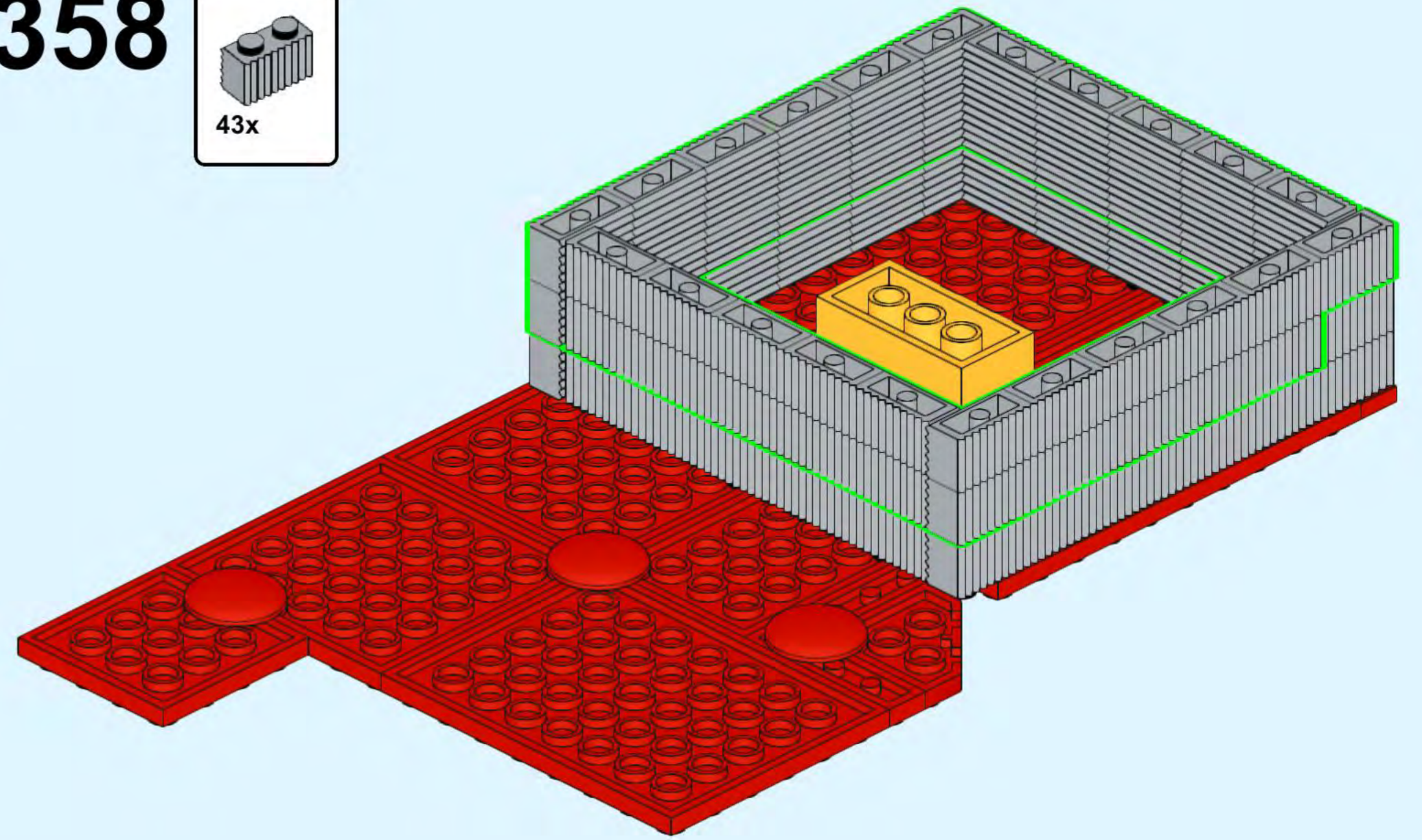
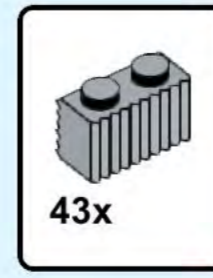
# 356



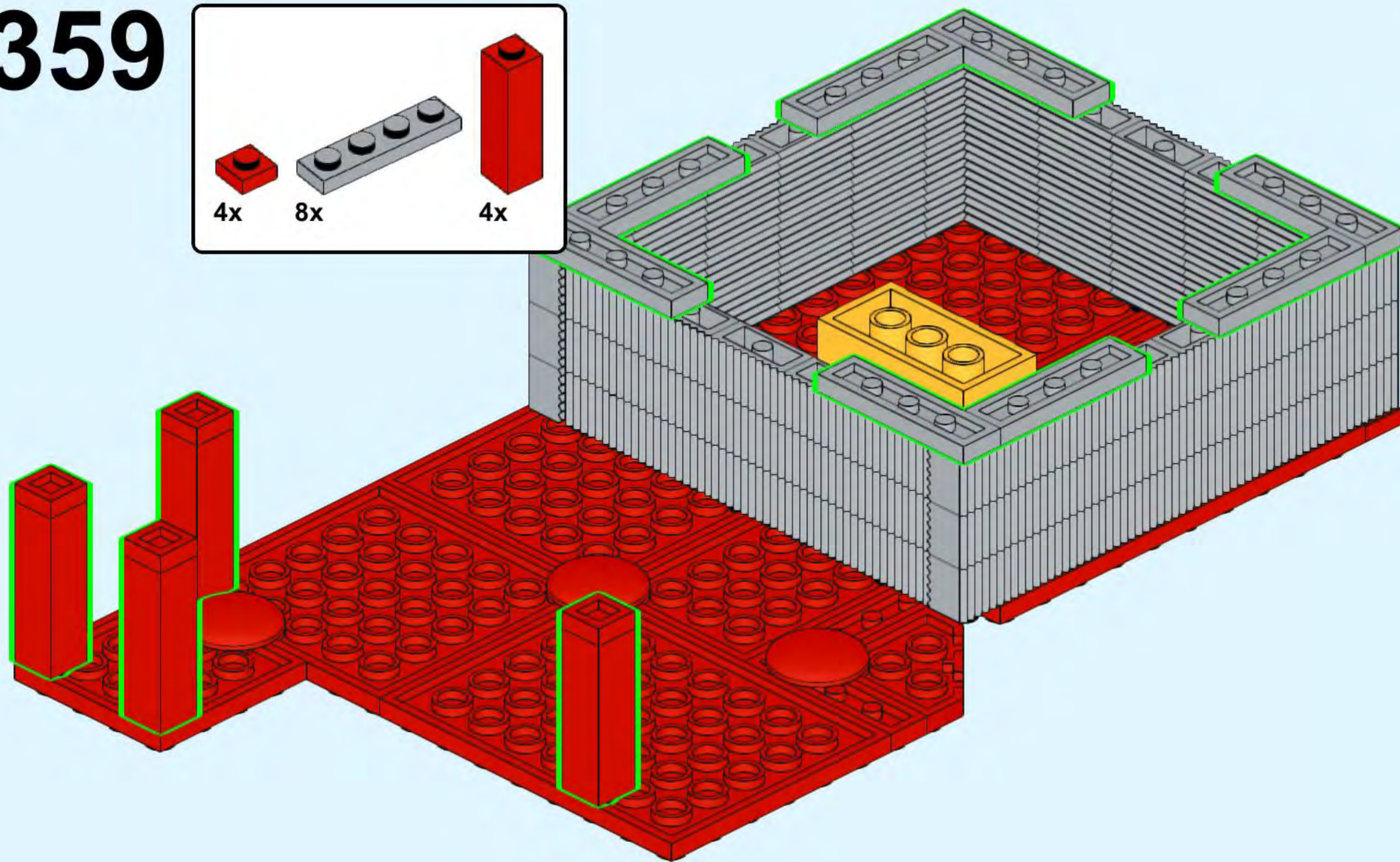
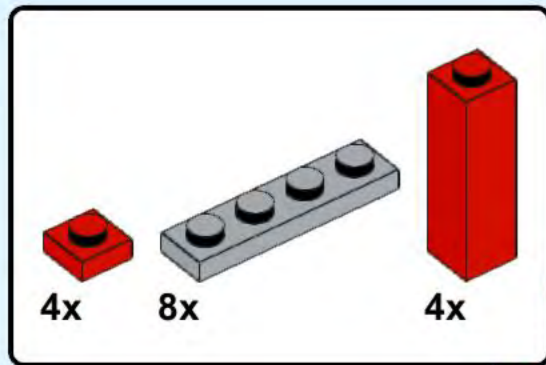
357



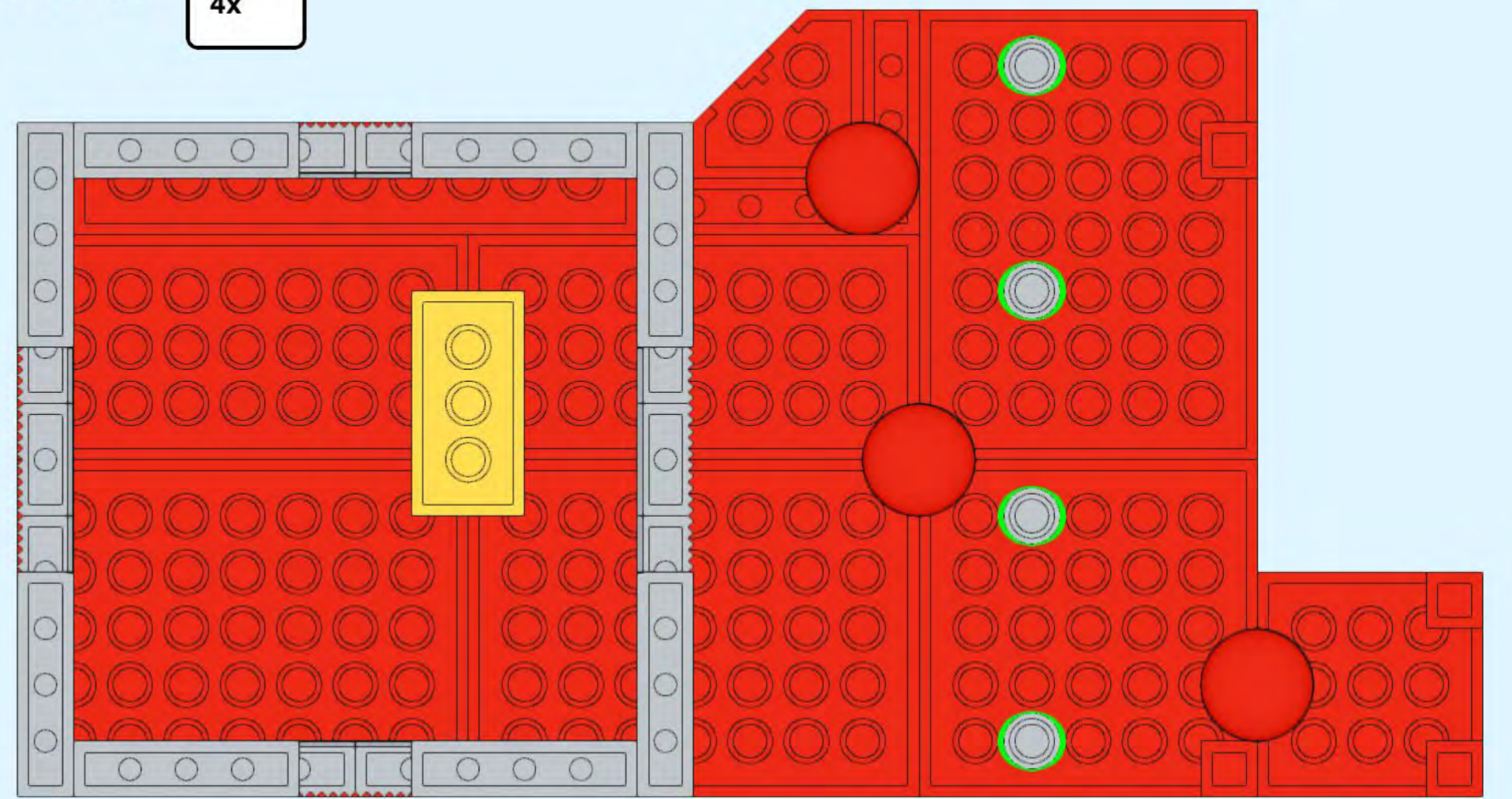
358



359

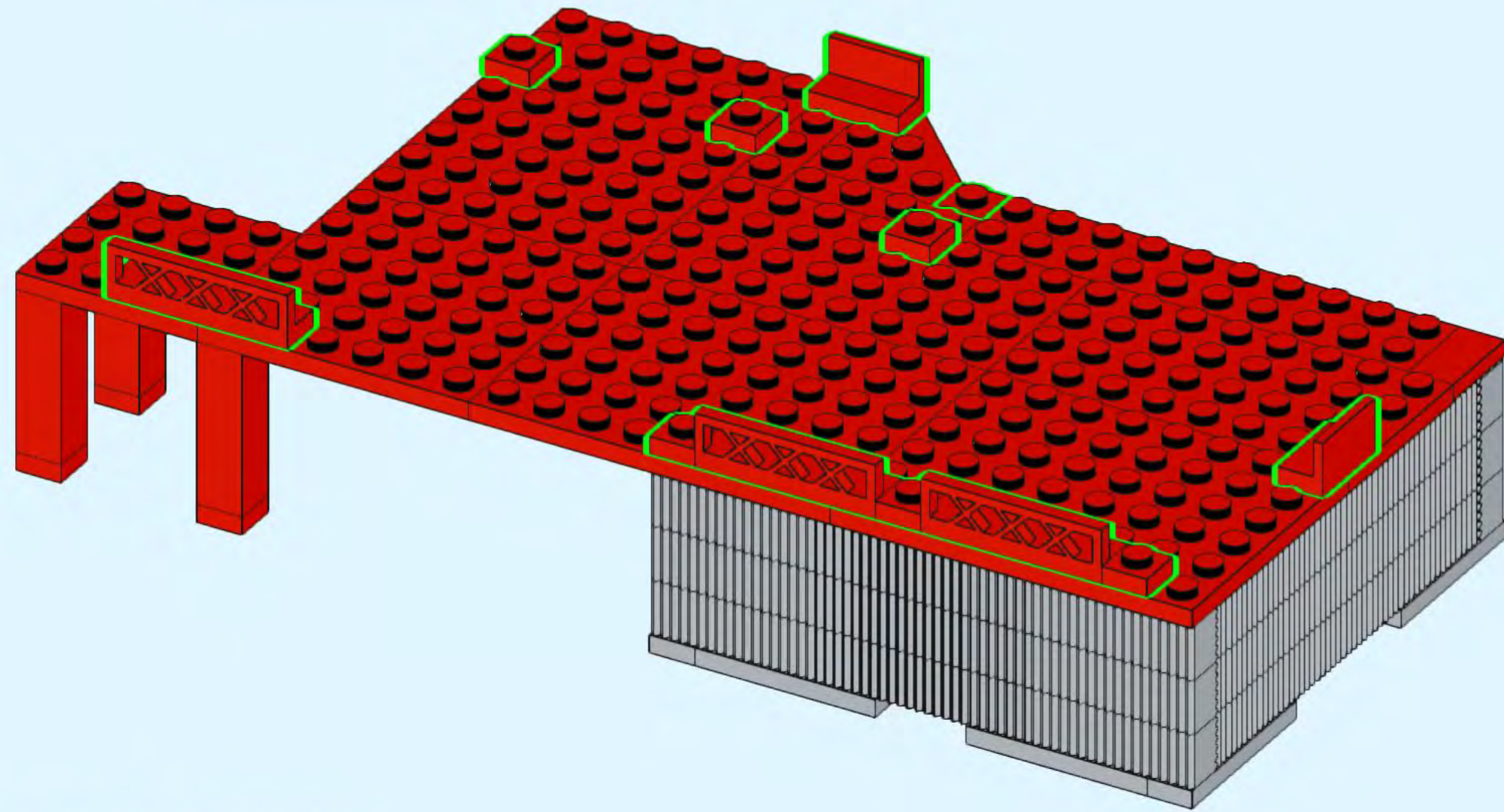
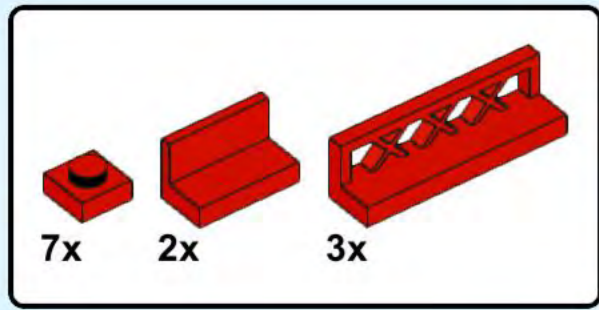


360

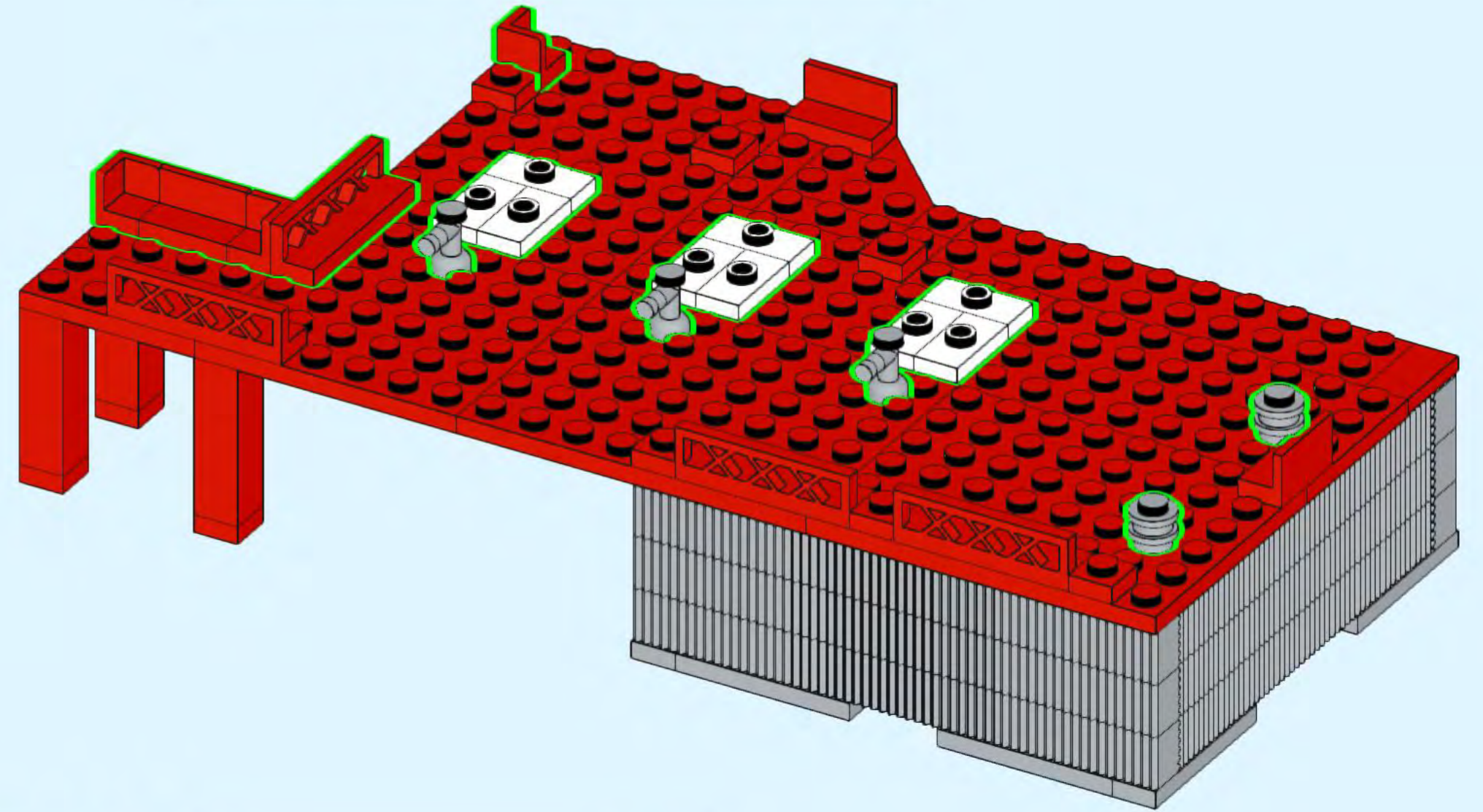
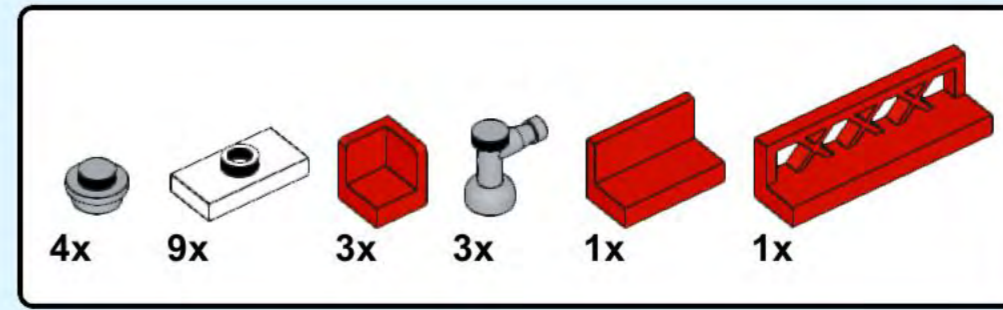




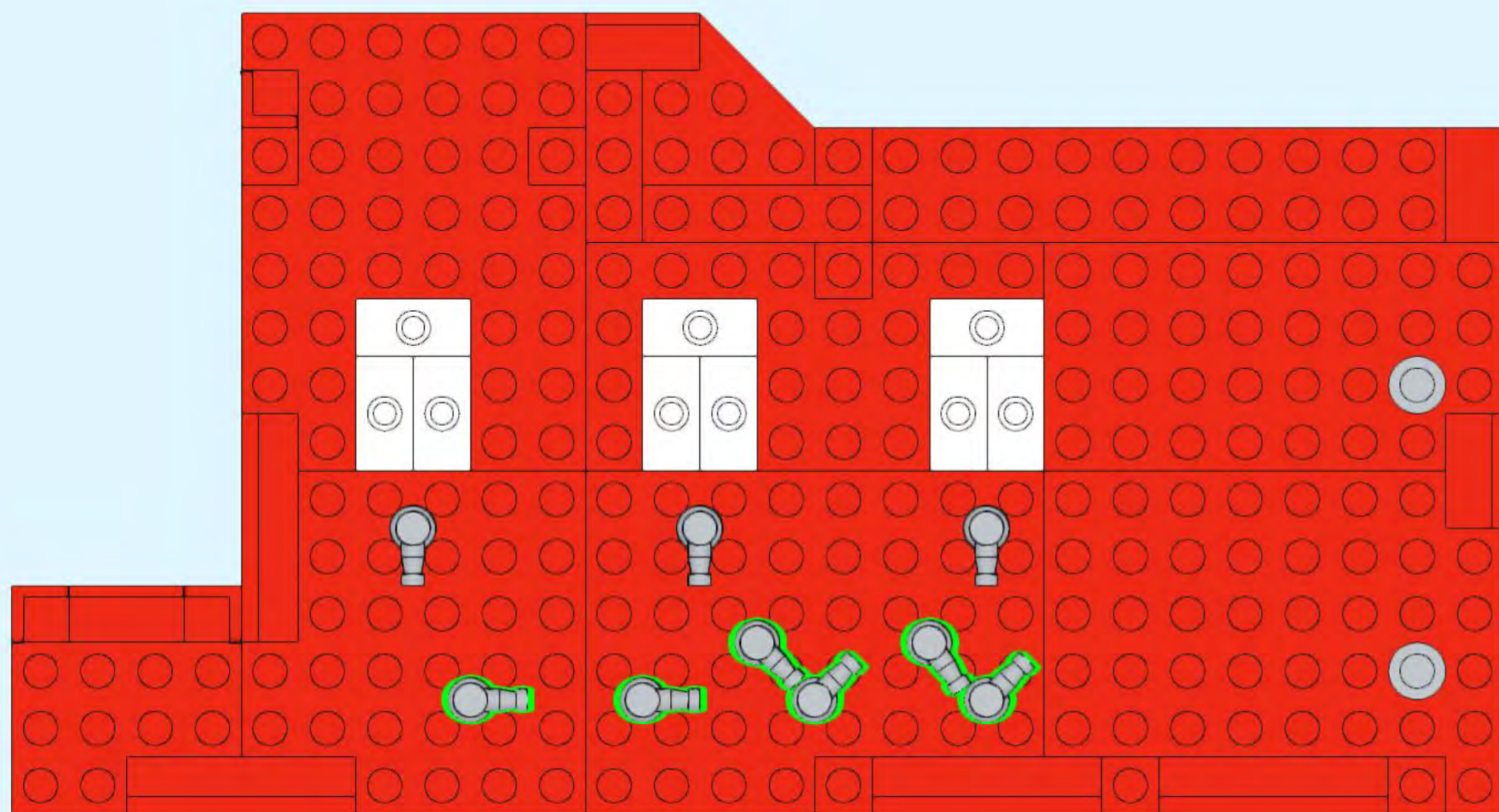
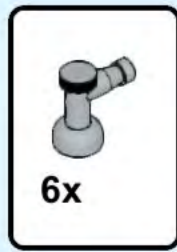
# 361



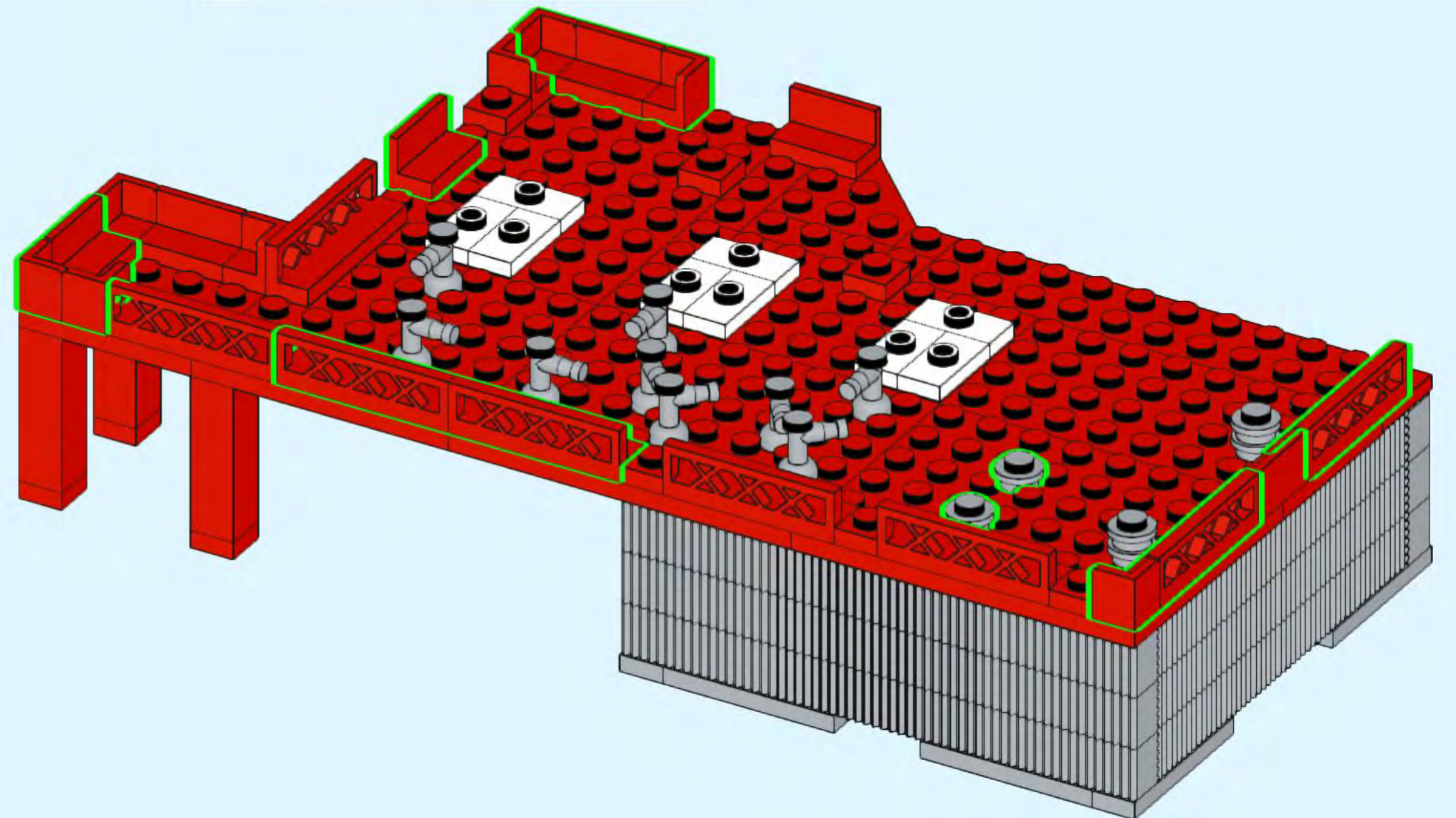
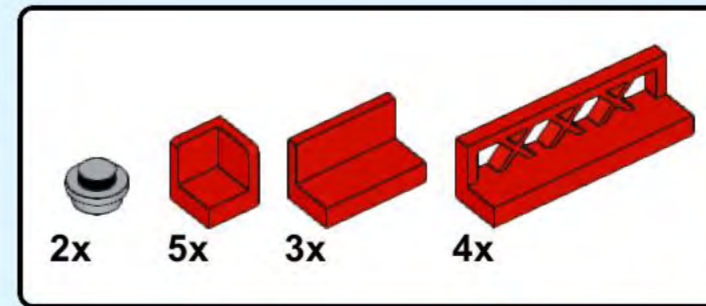
# 362



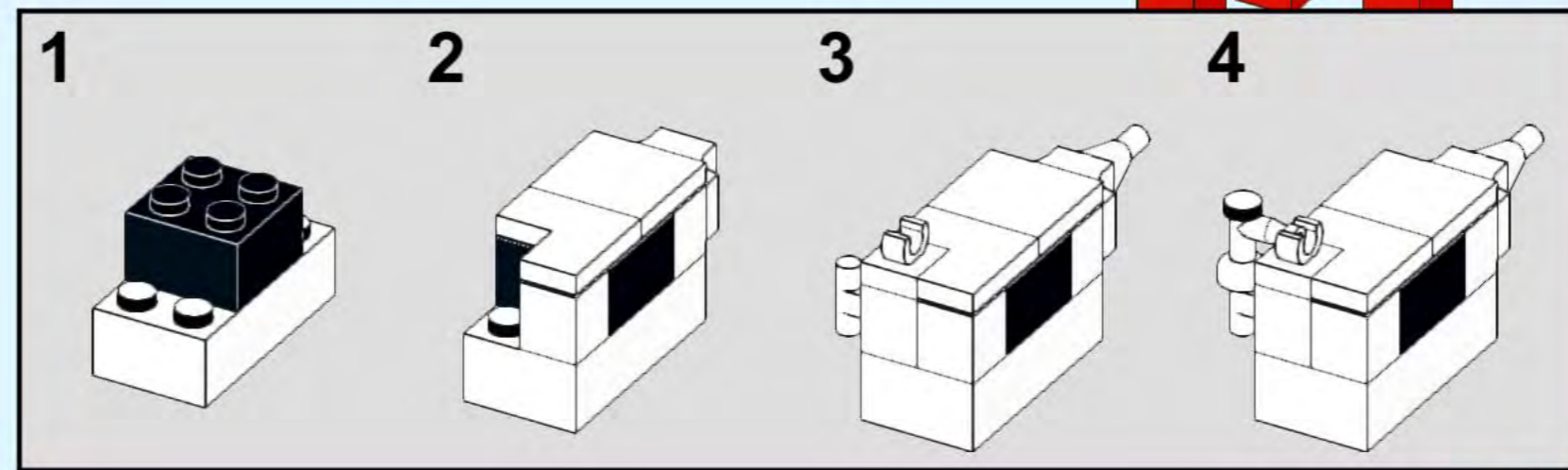
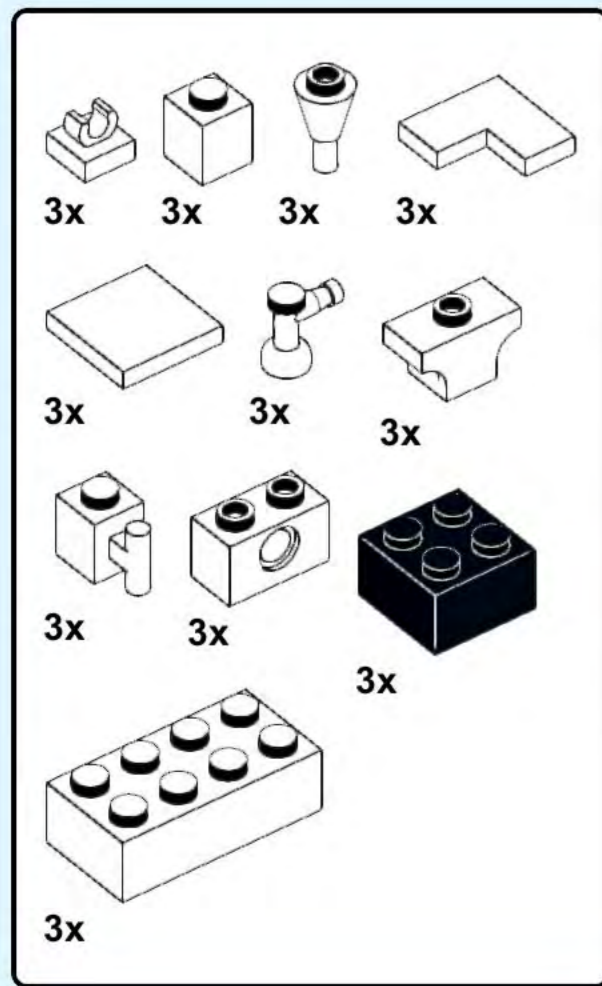
# 363



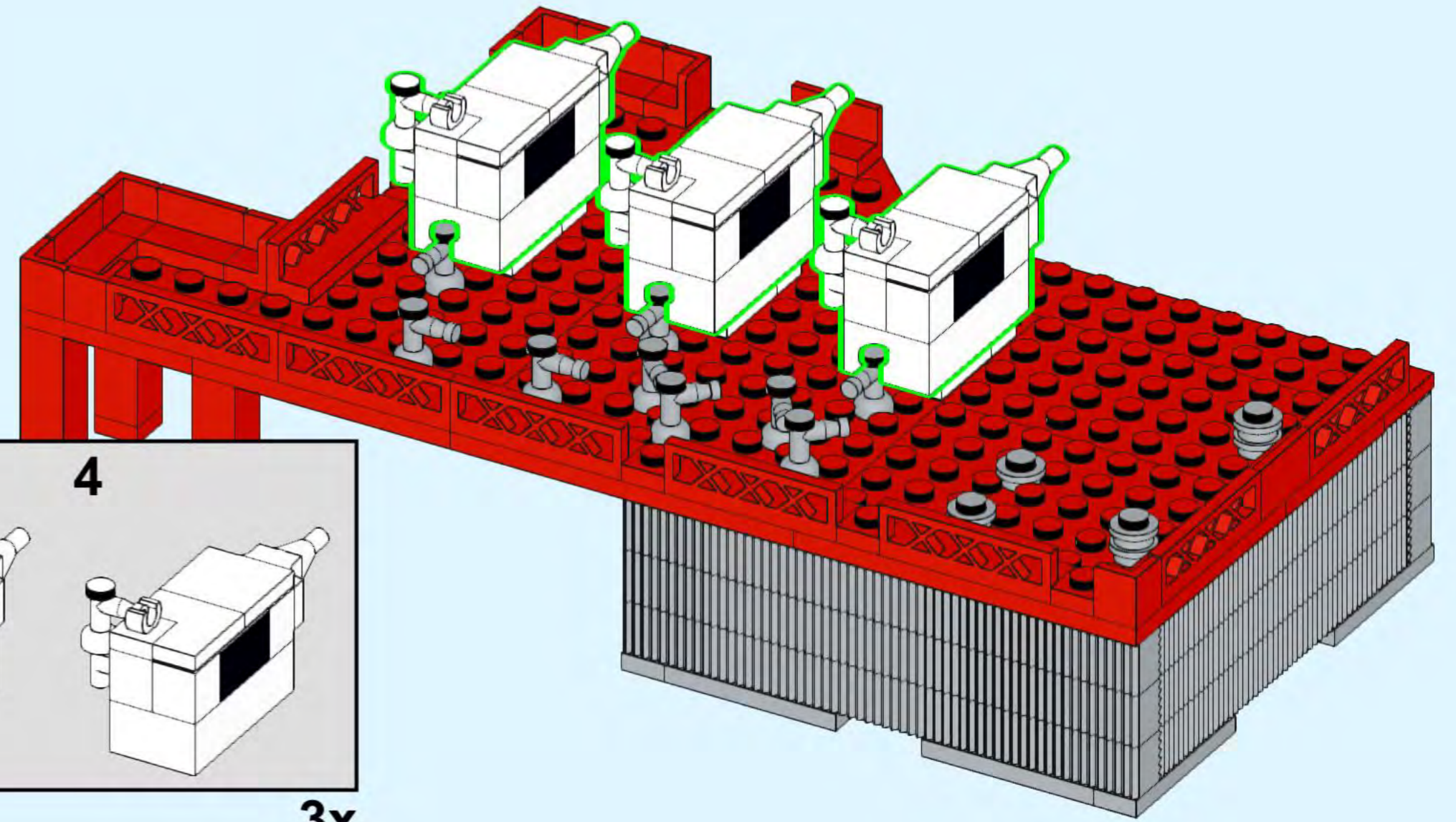
# 364



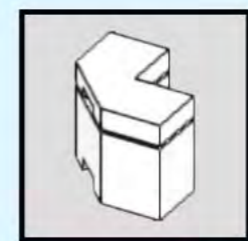
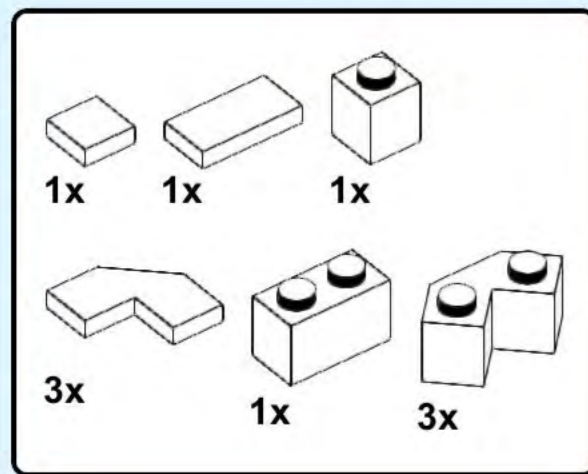
# 365



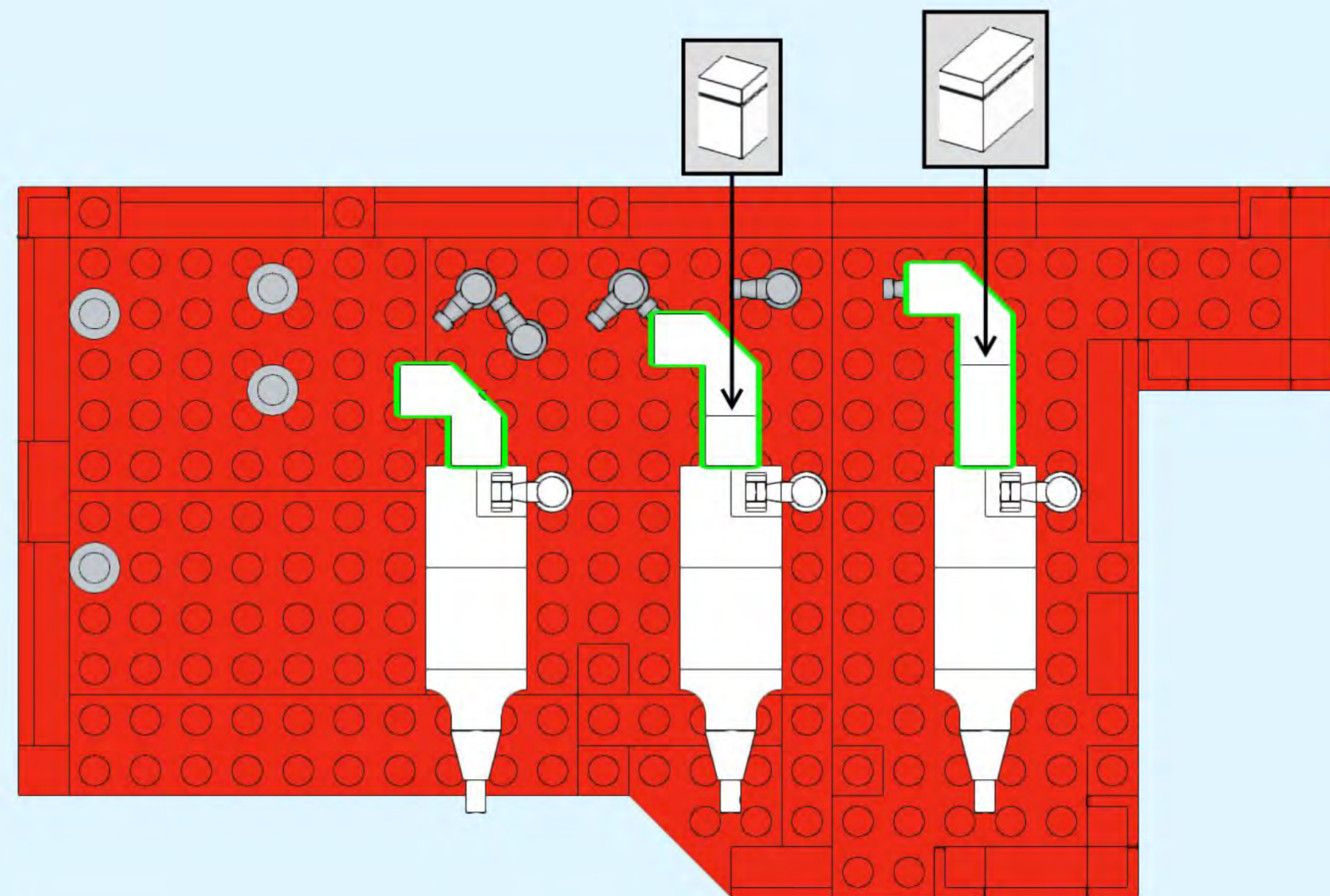
3x

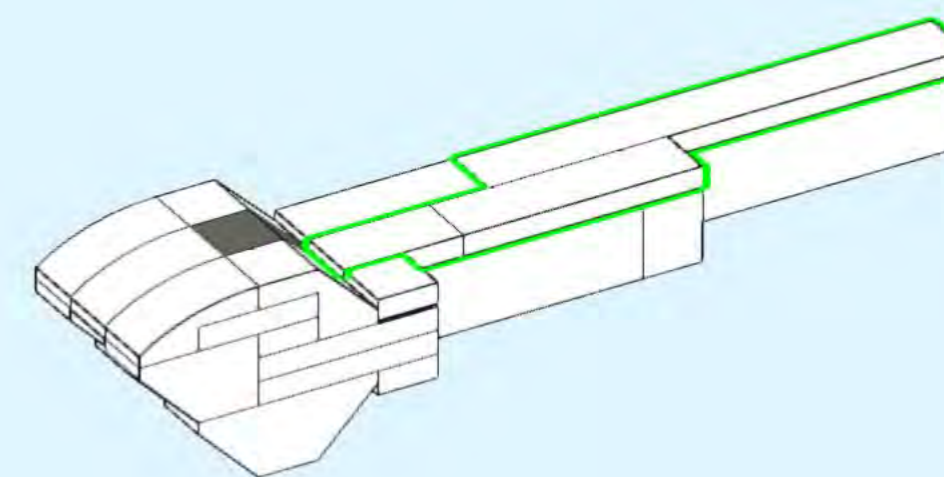
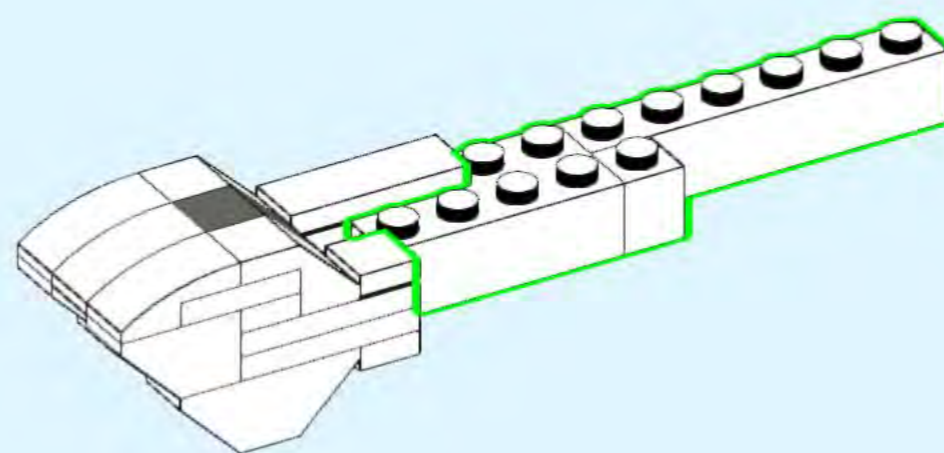
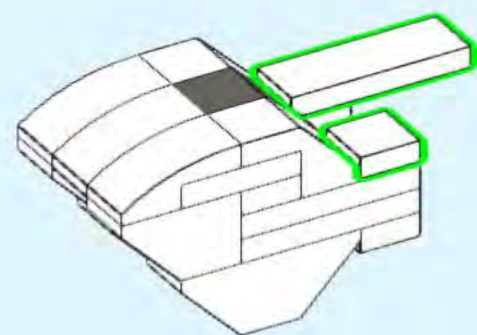
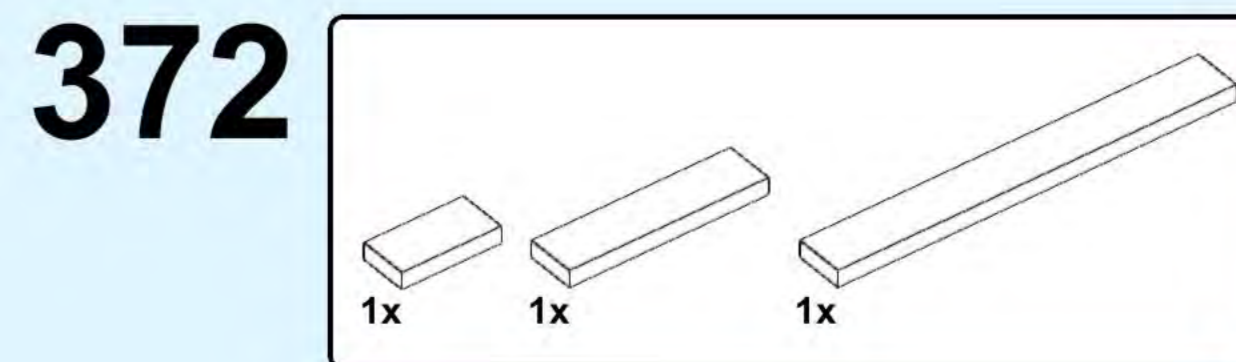
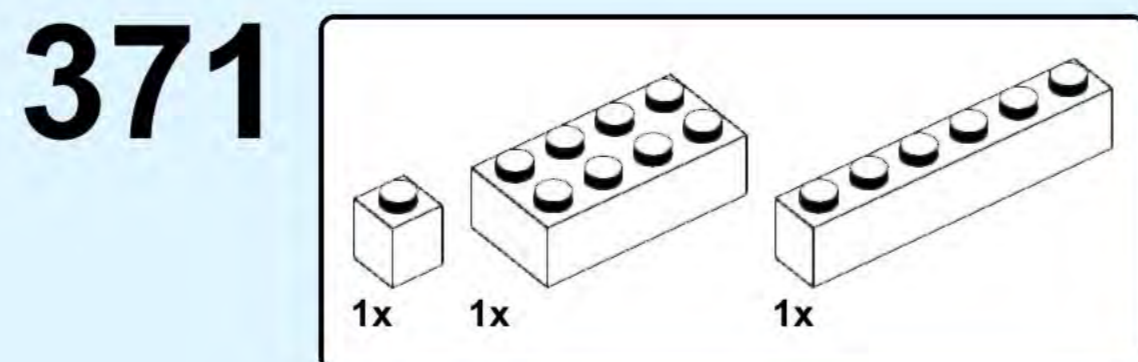
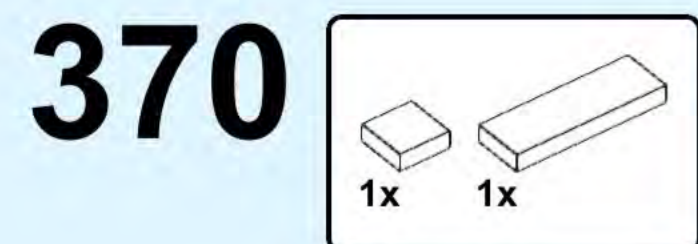
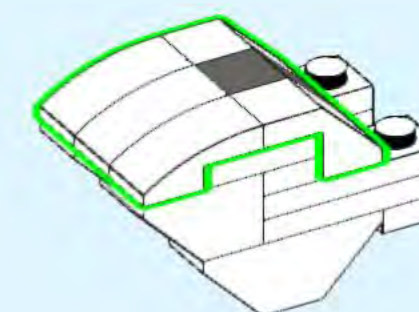
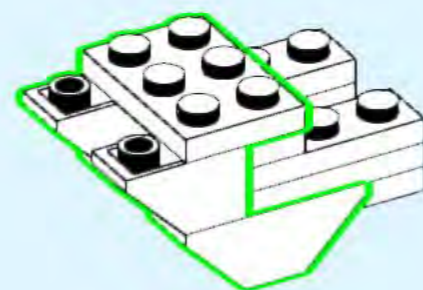
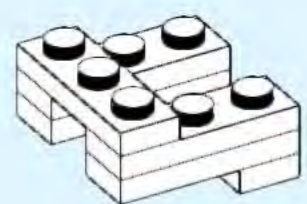
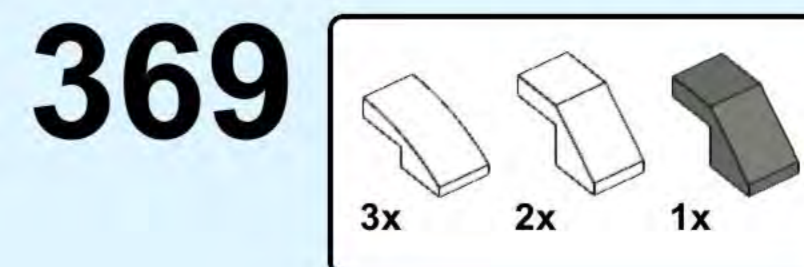
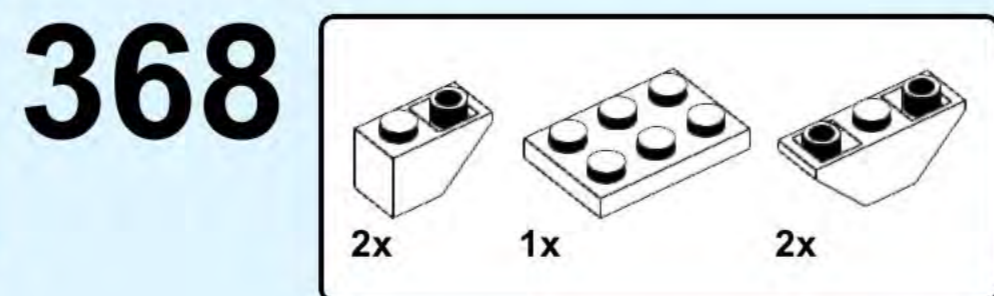
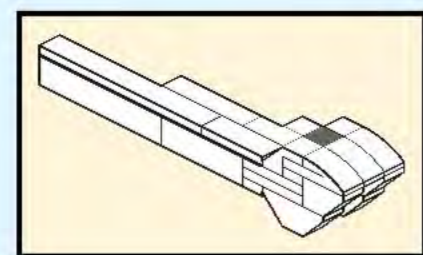


# 366

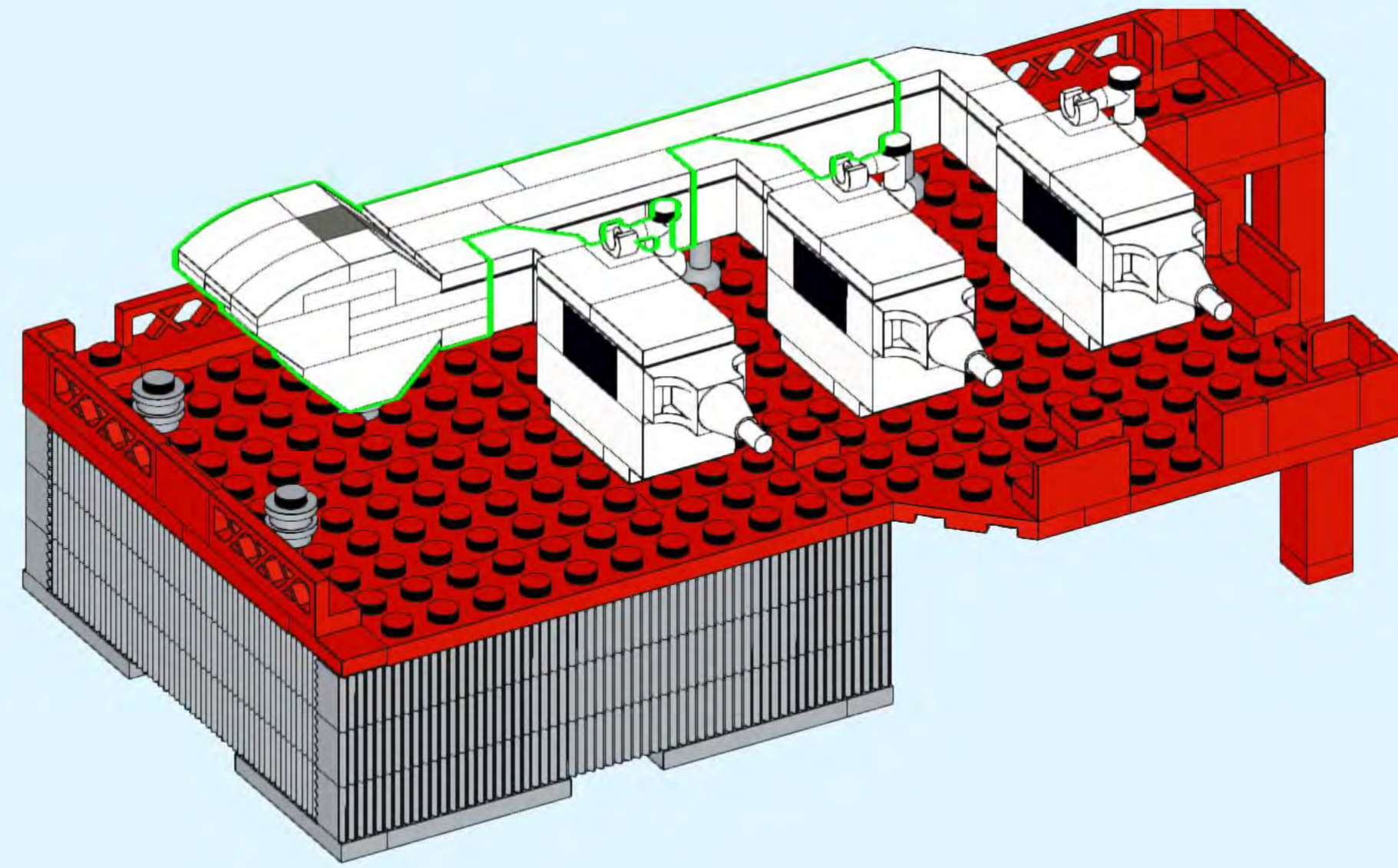


3x

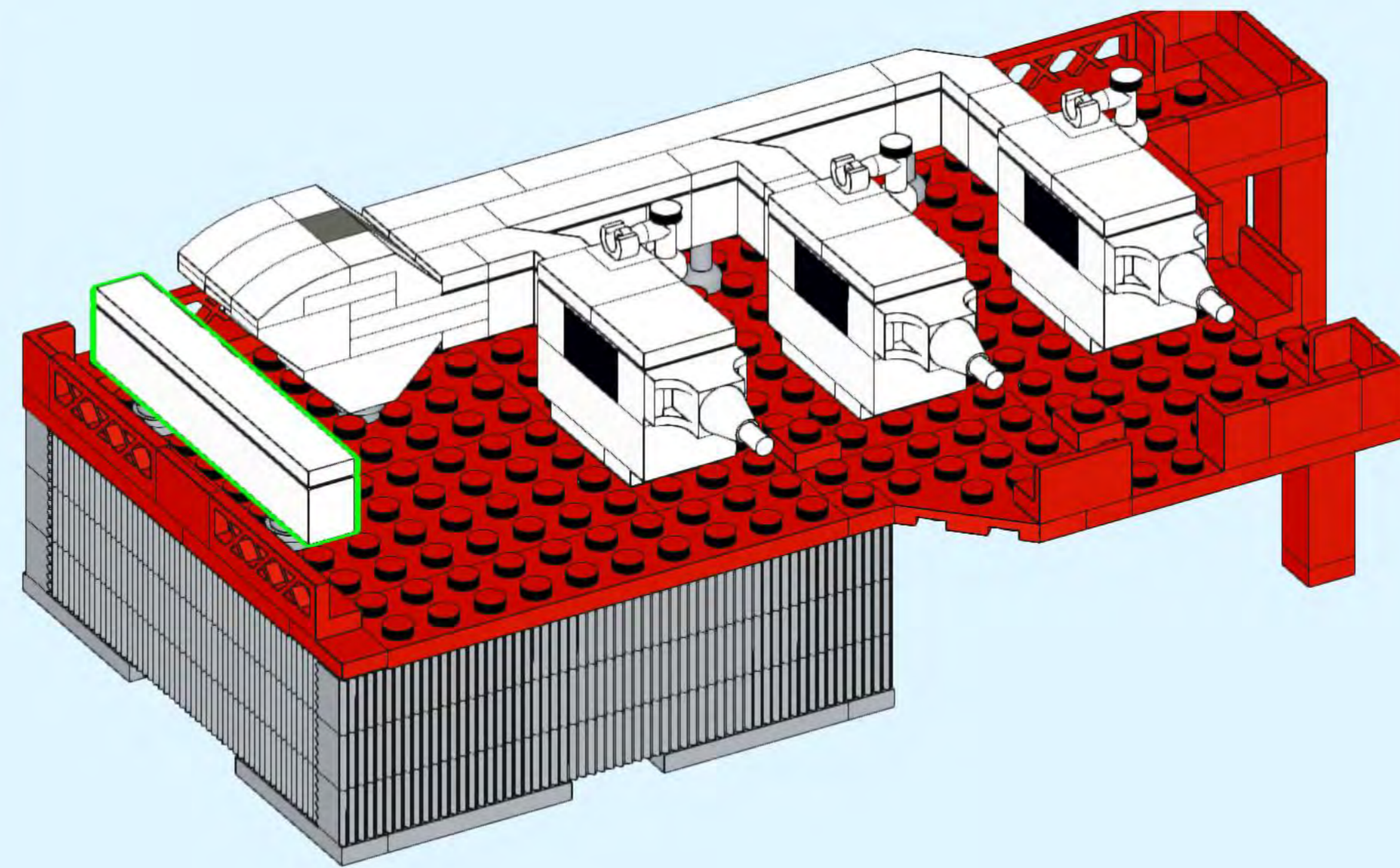
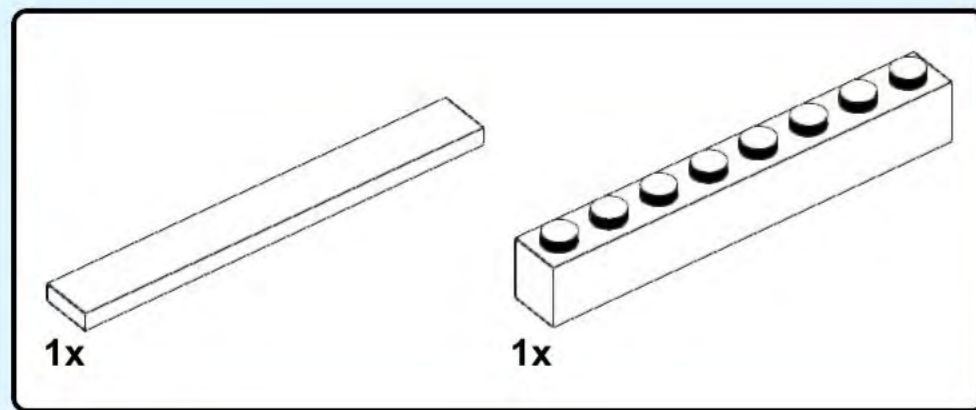




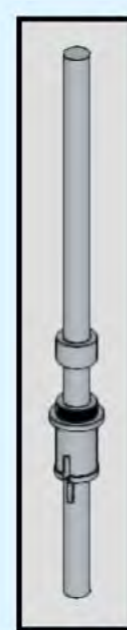
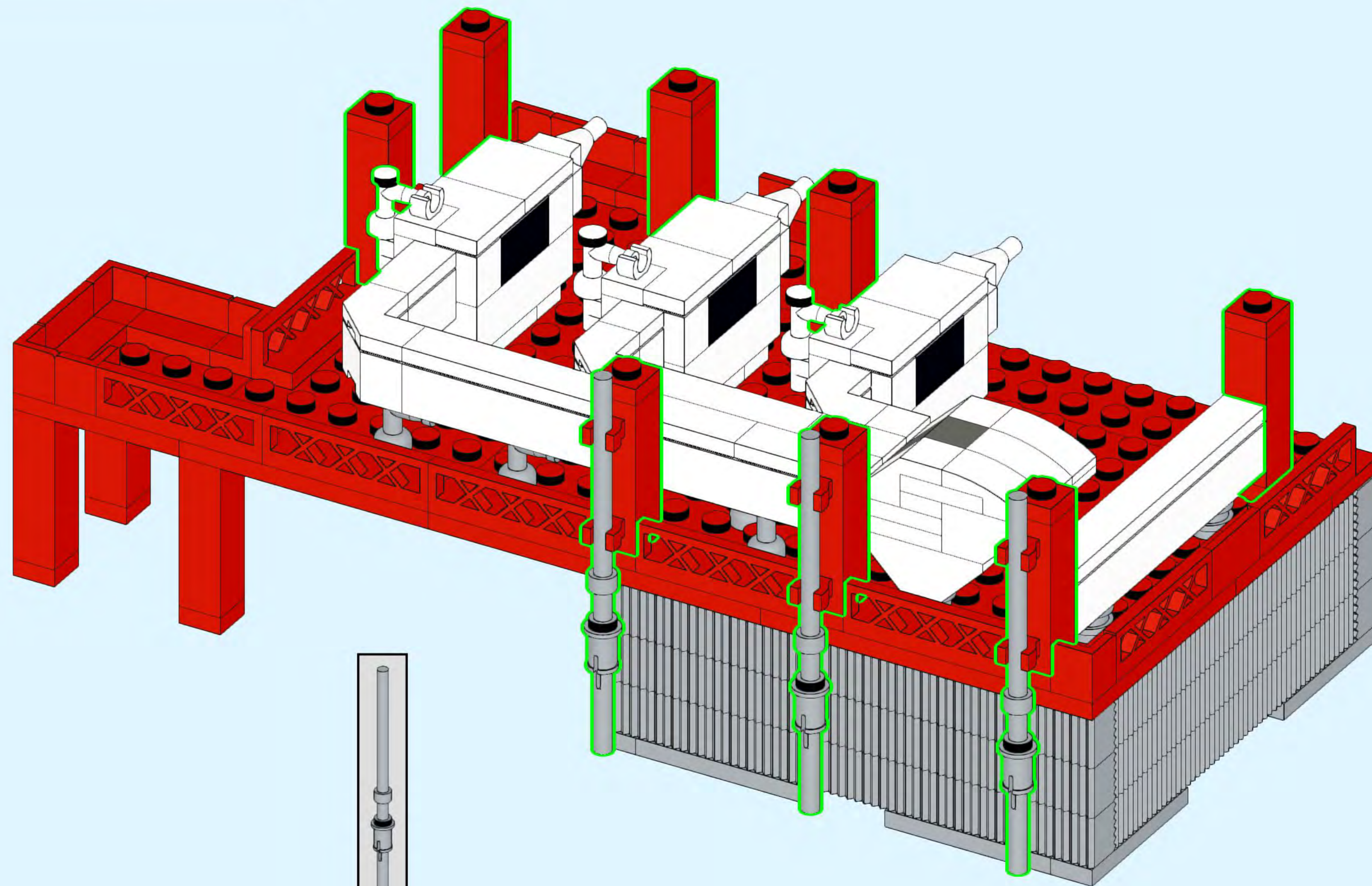
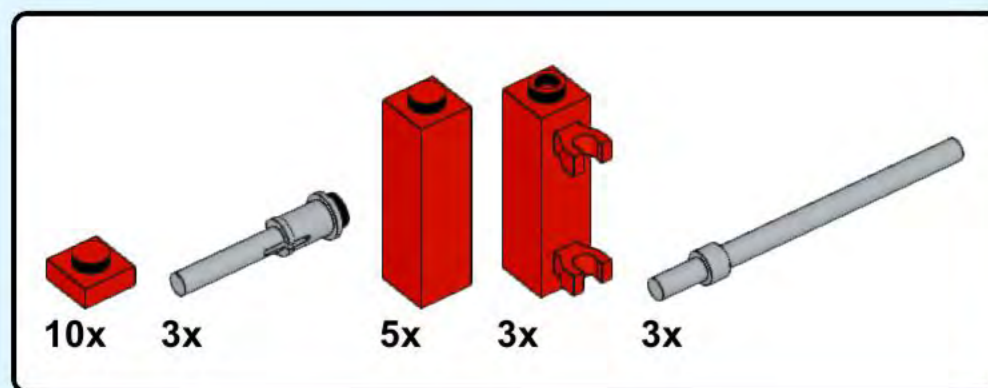
373



374

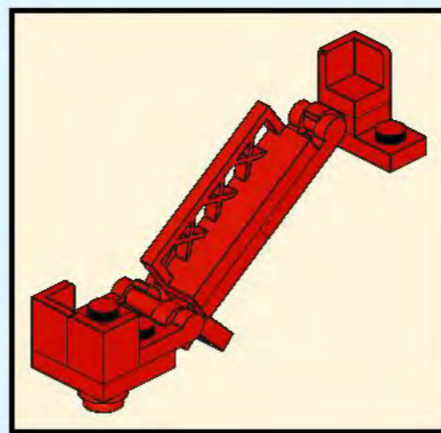
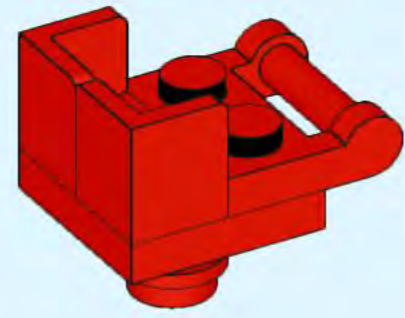
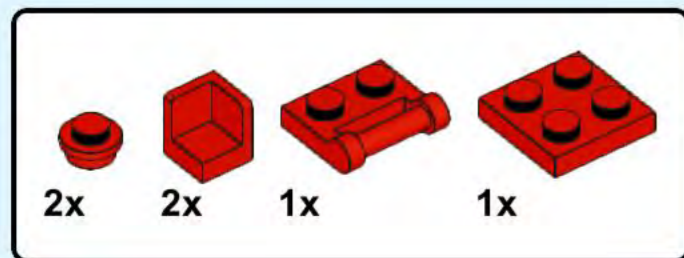


# 375

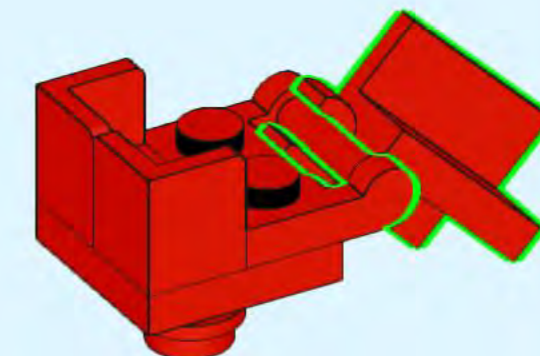
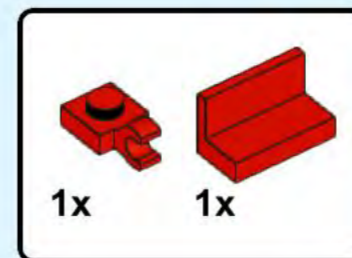


3x

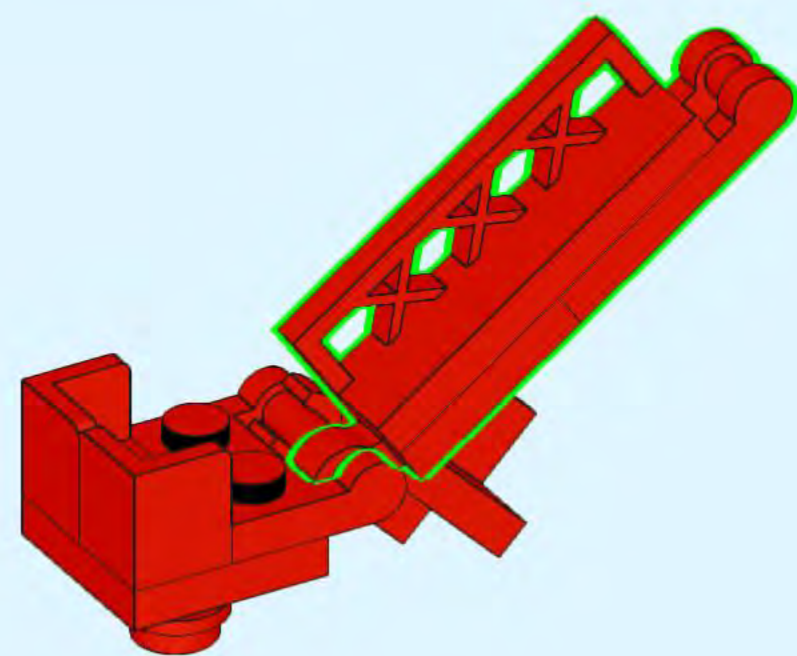
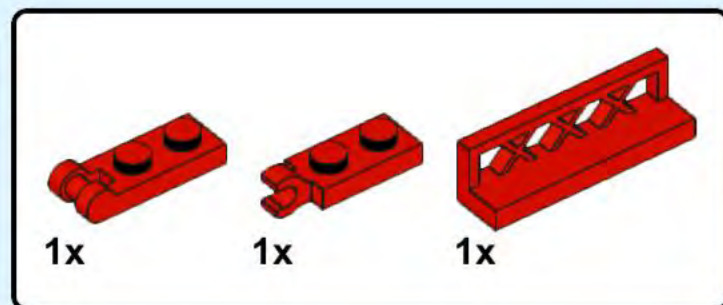
376



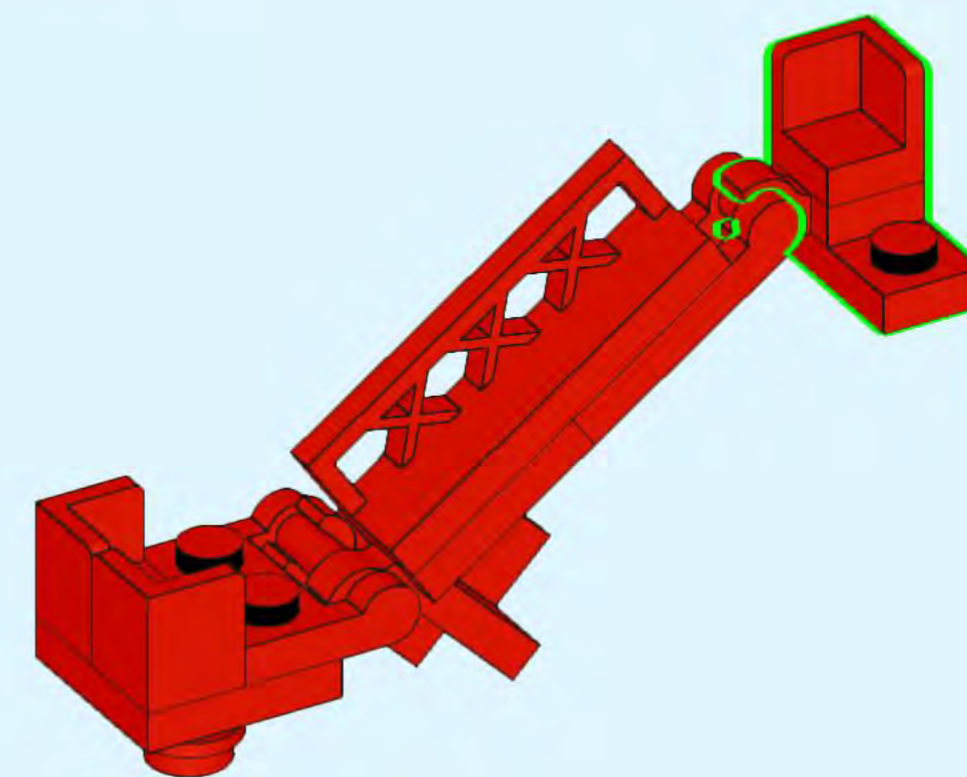
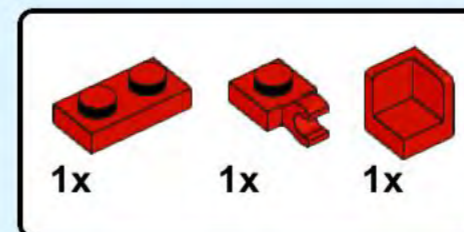
377

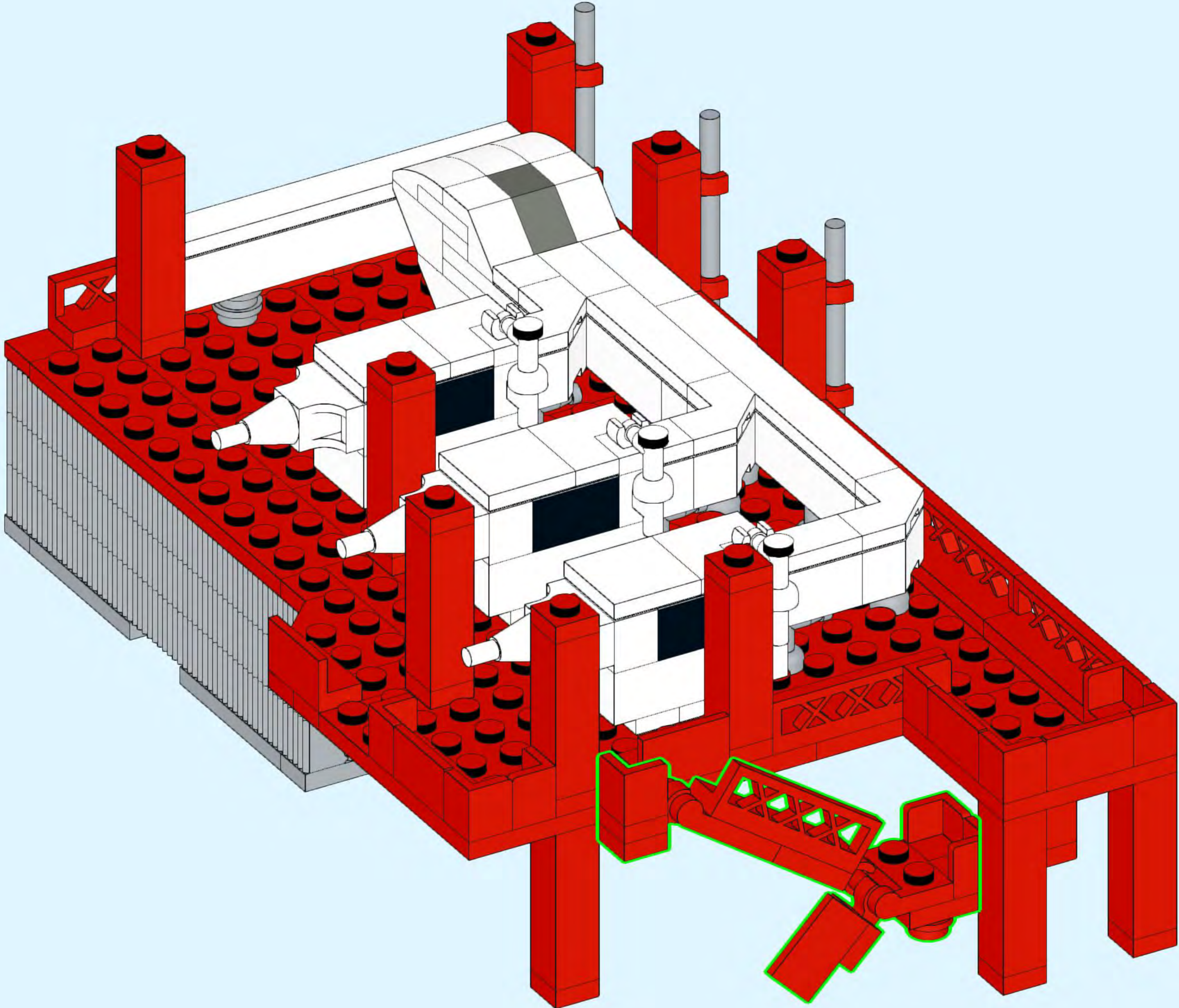


378

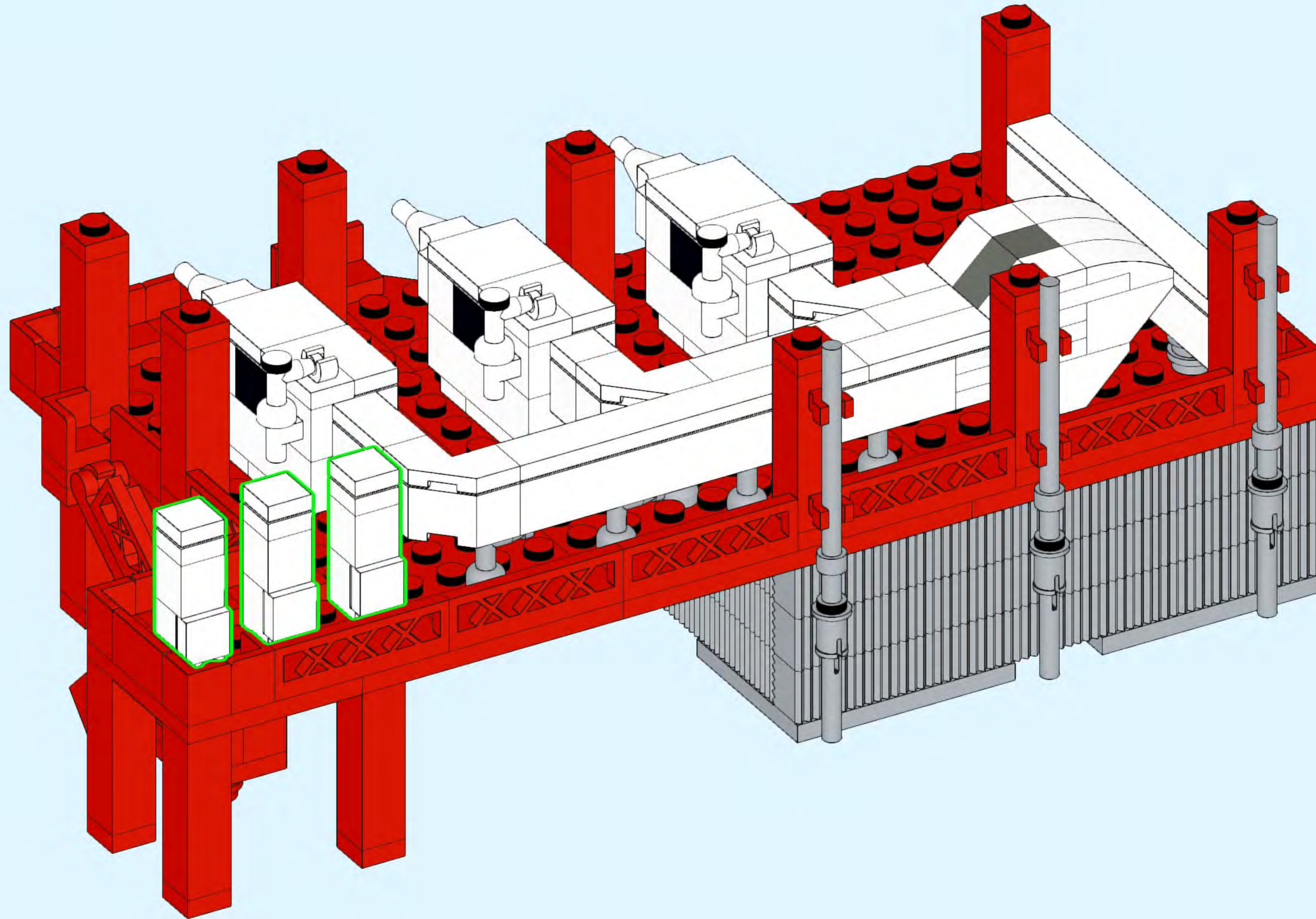
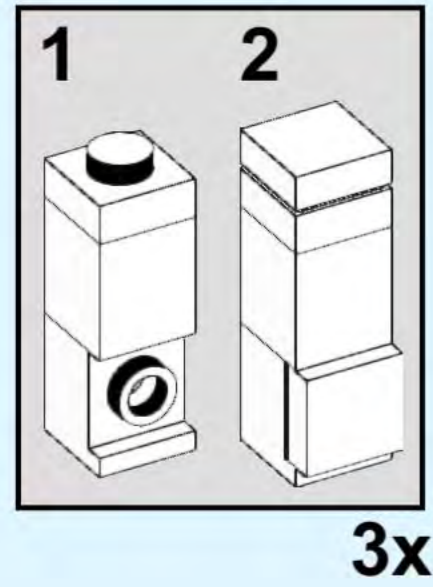
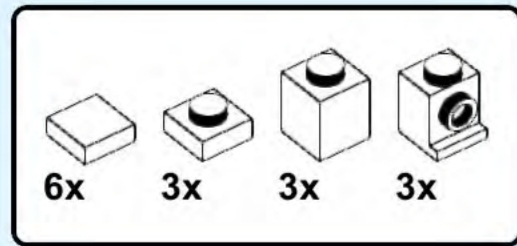


379

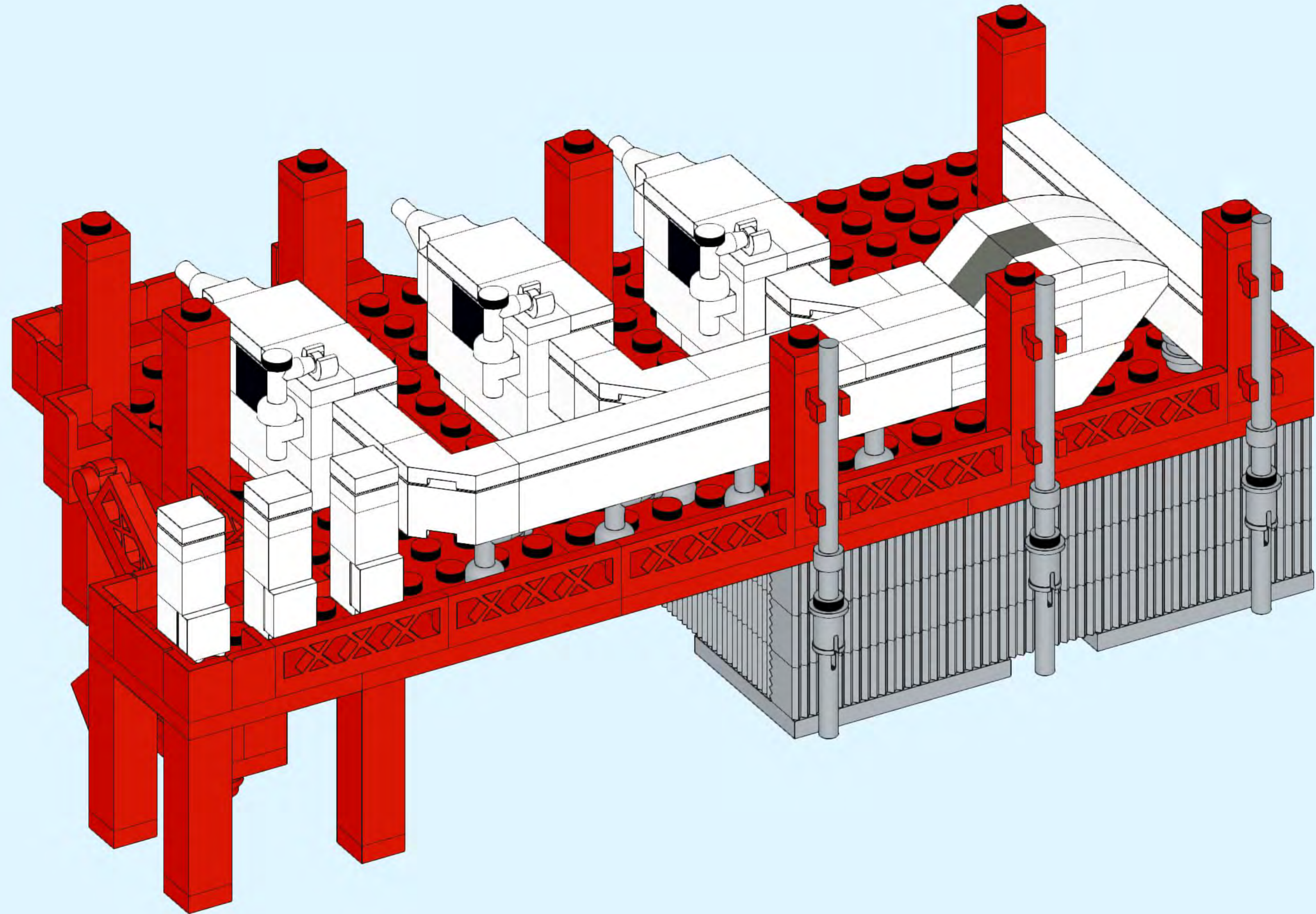




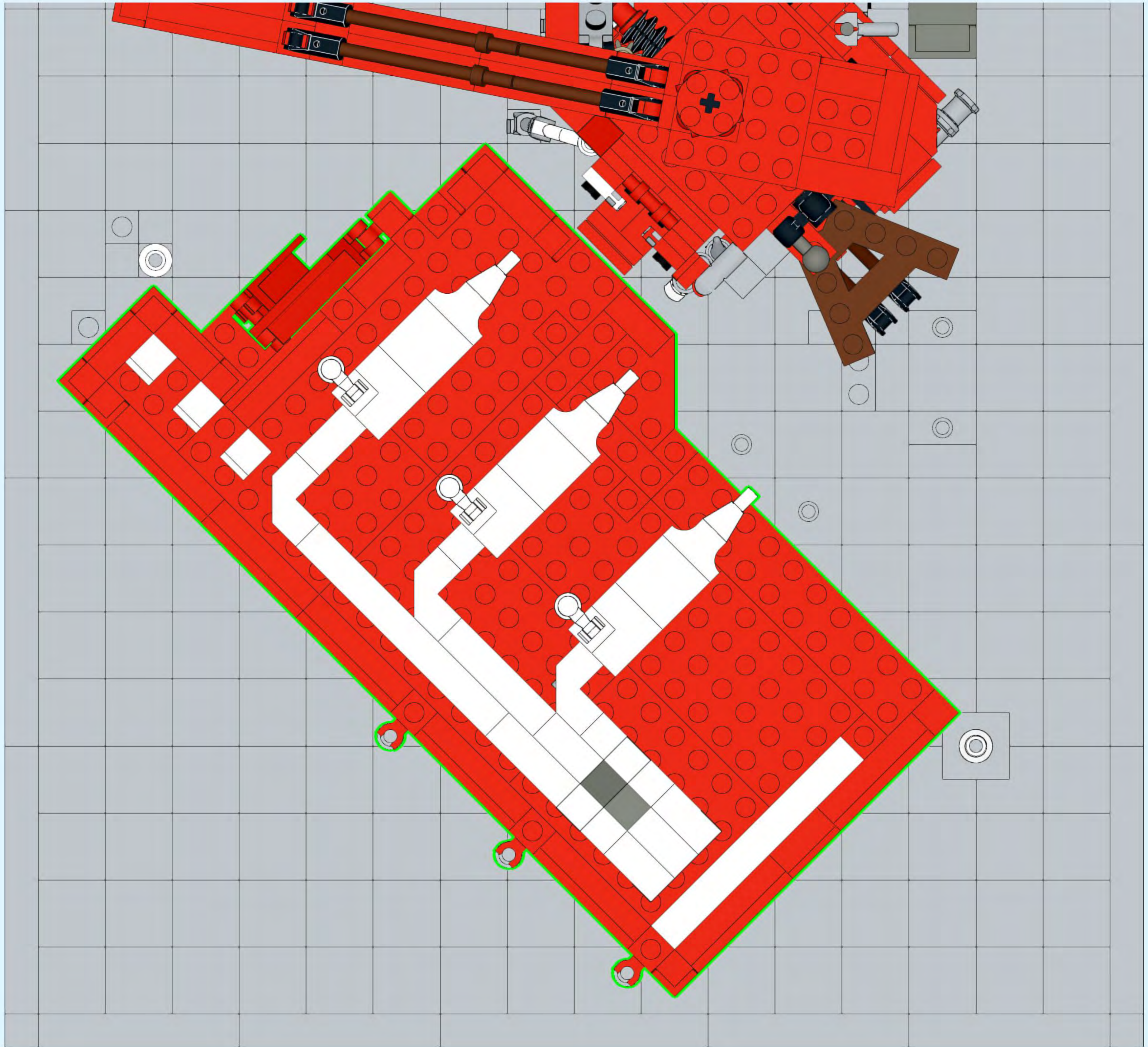
# 381



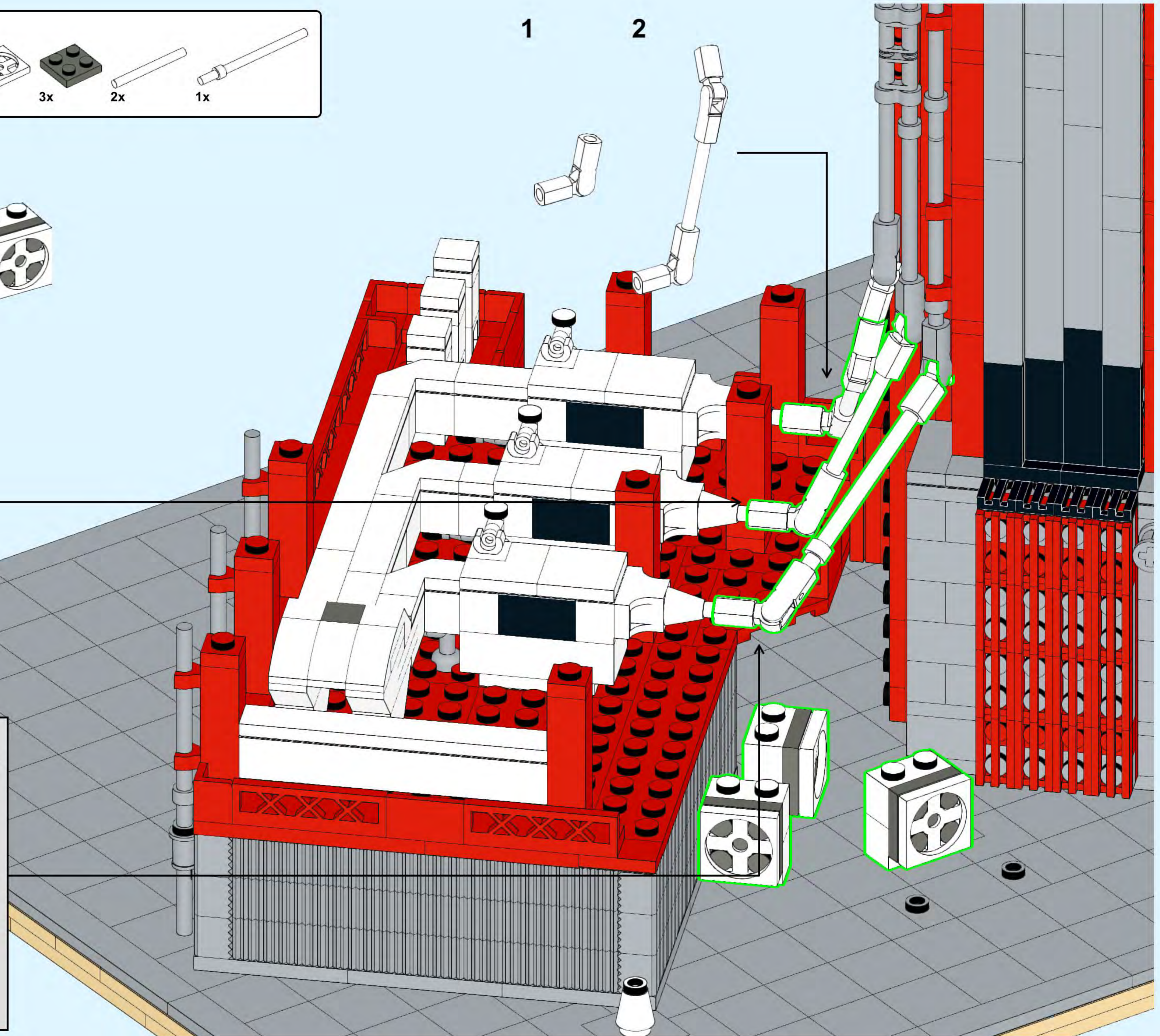
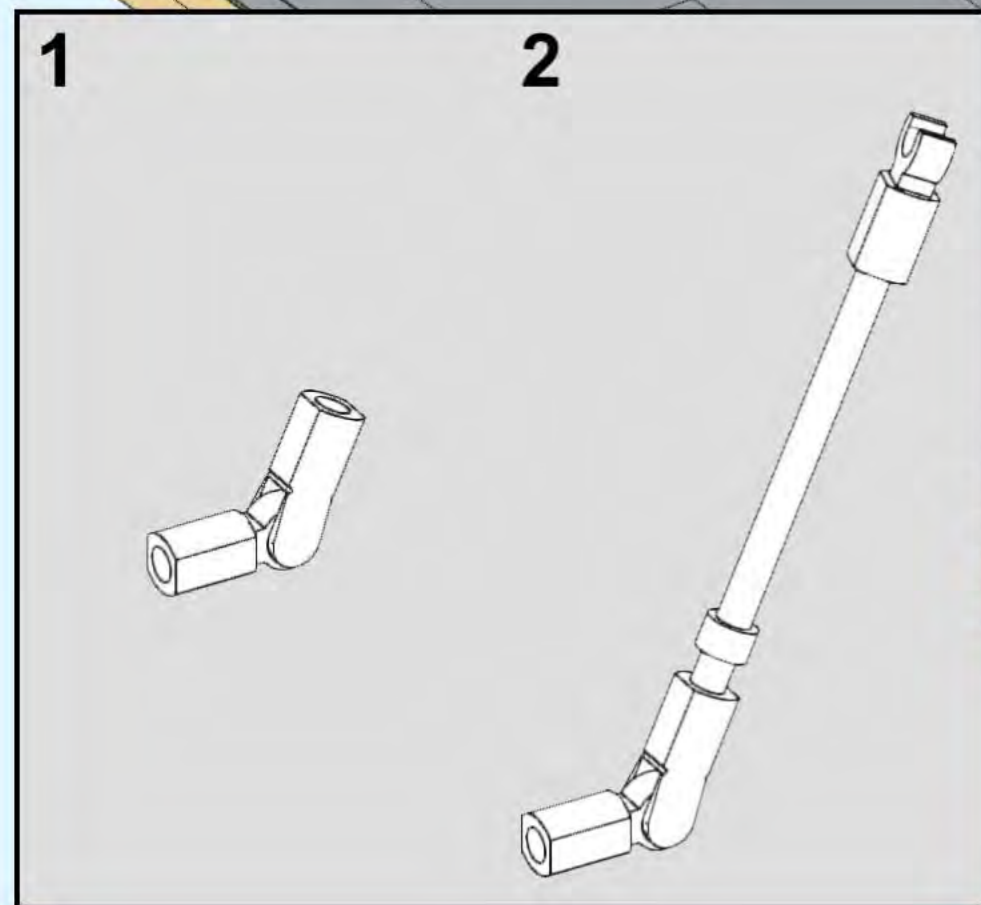
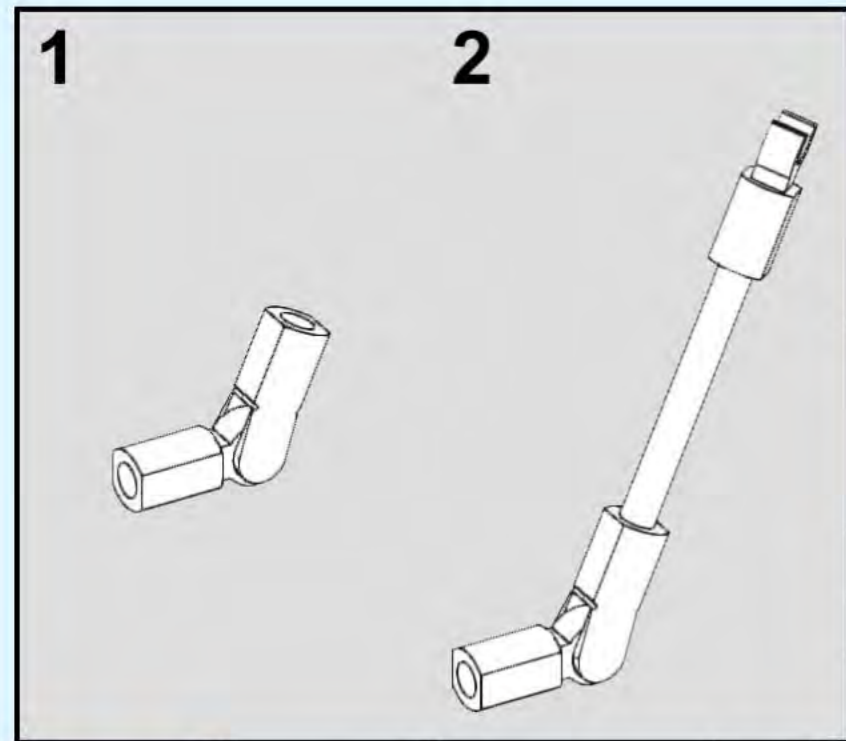
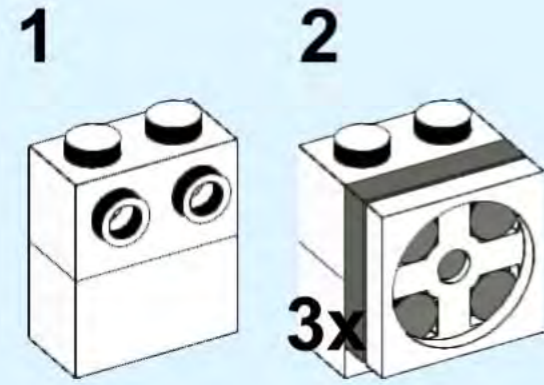
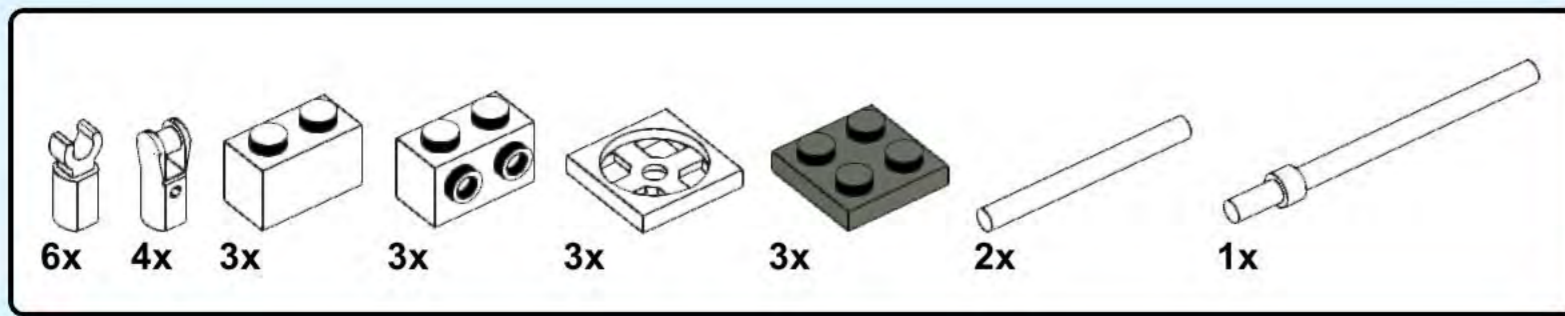




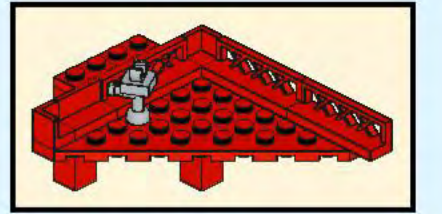
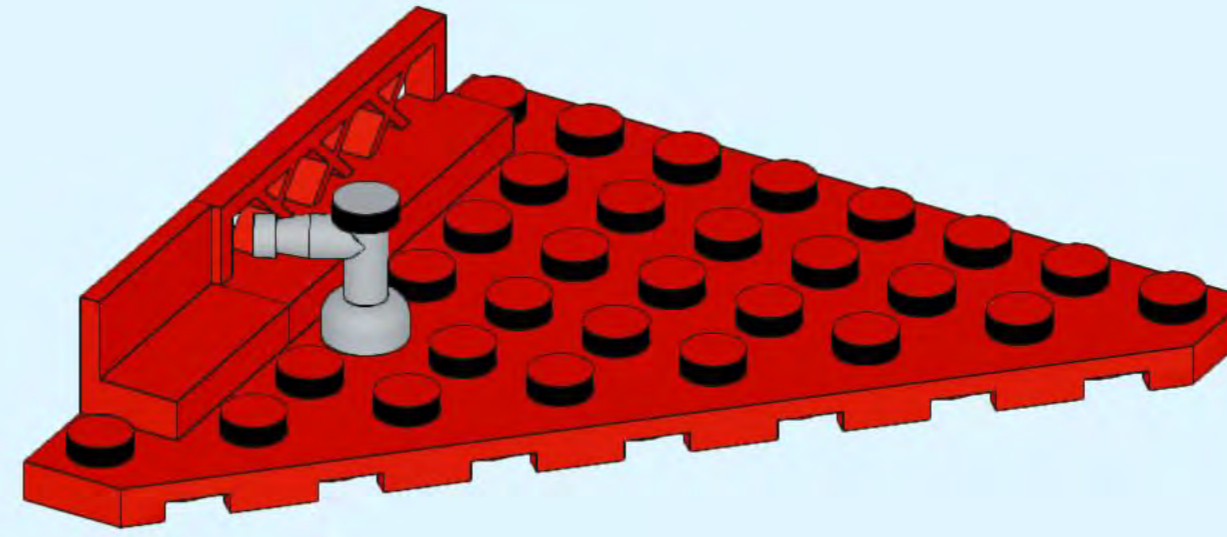
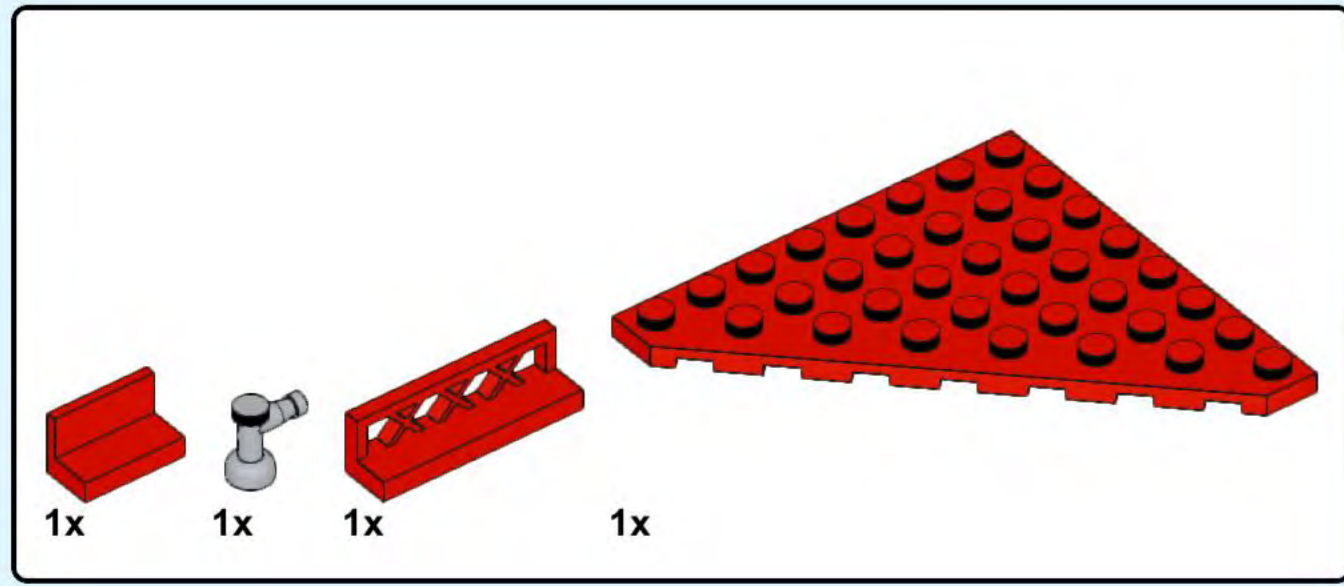
383



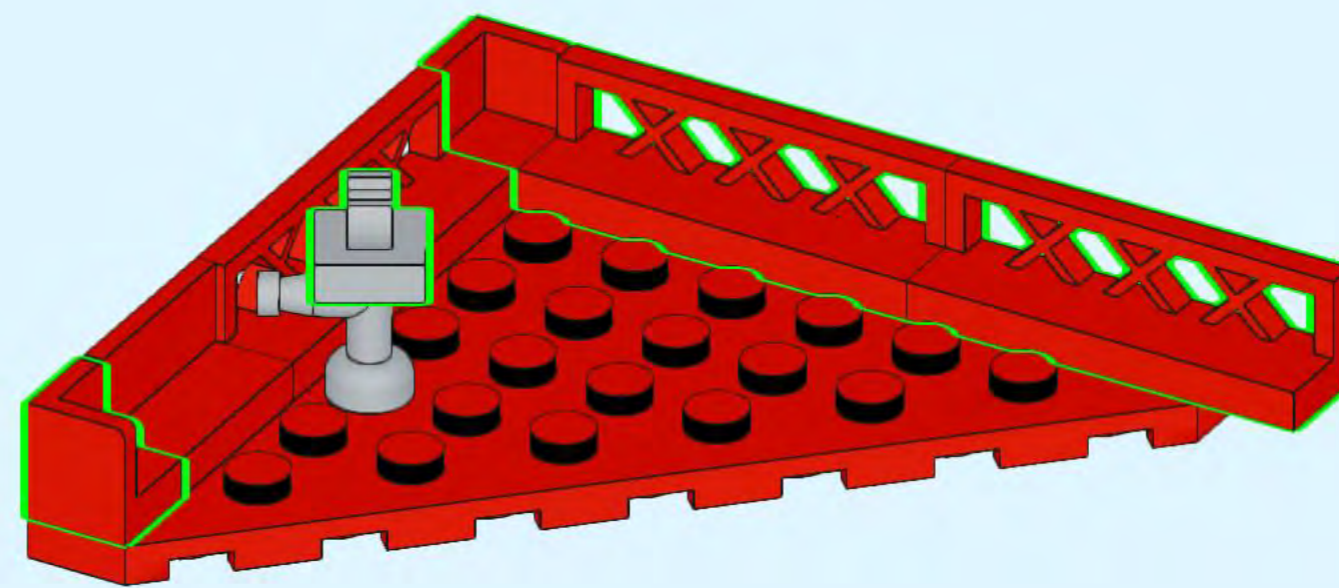
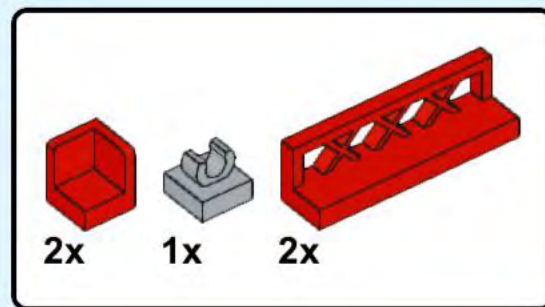
# 384



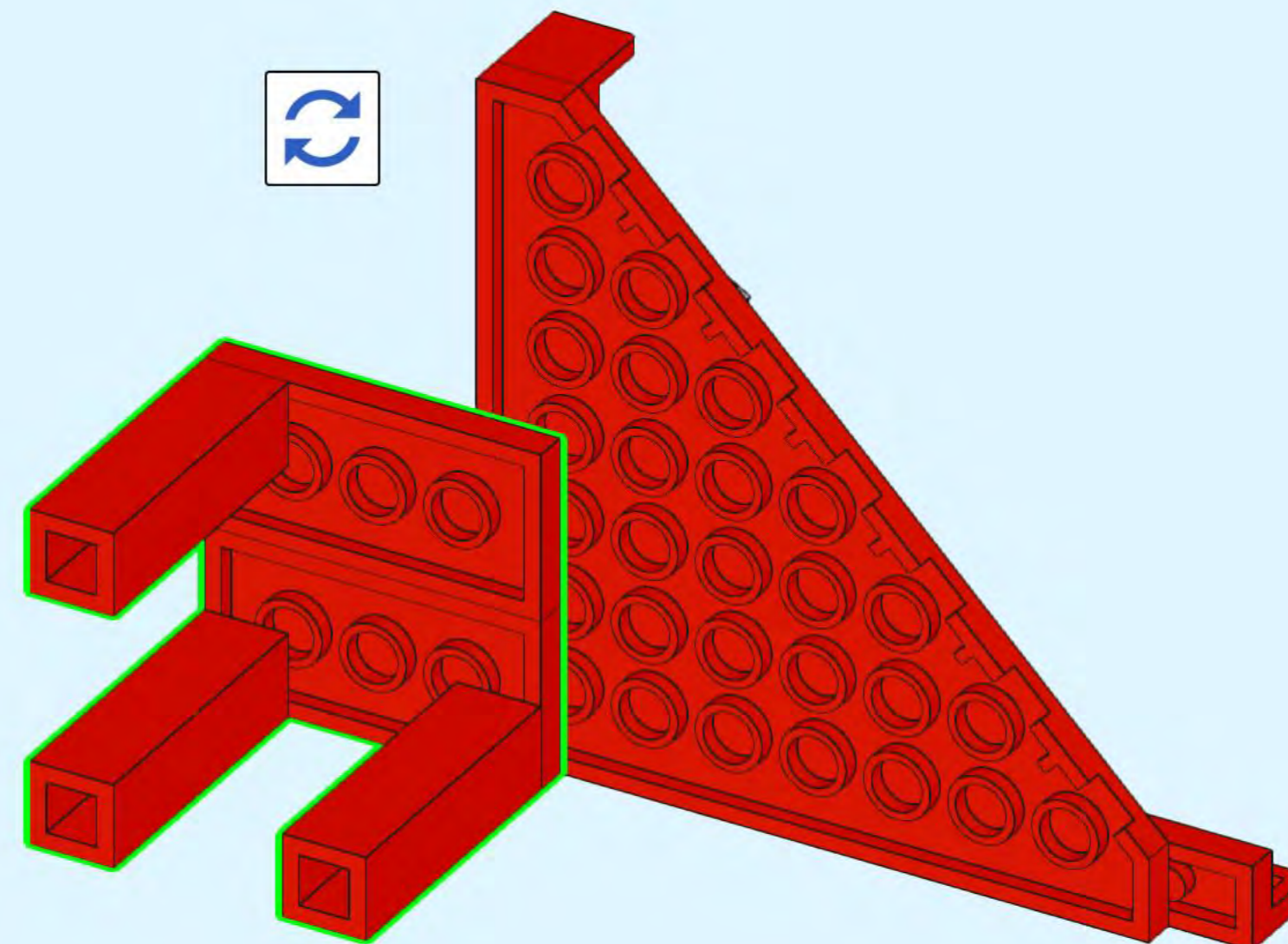
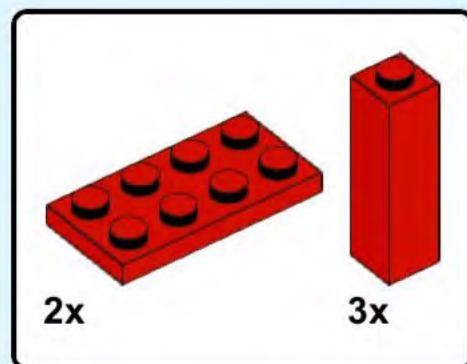
# 385



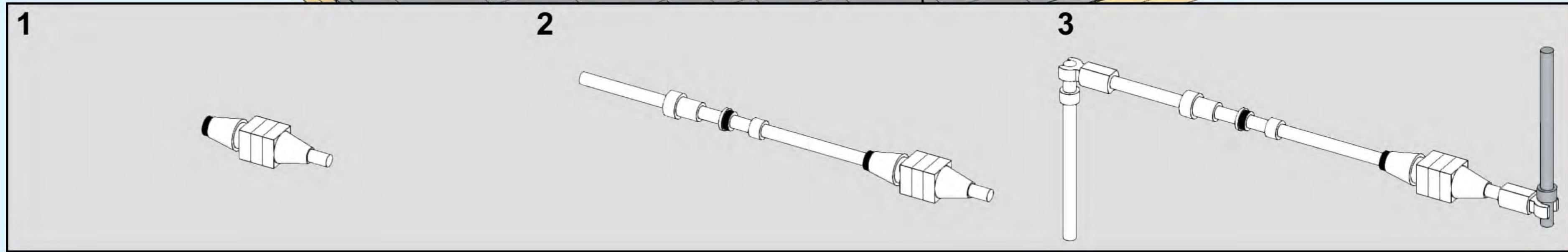
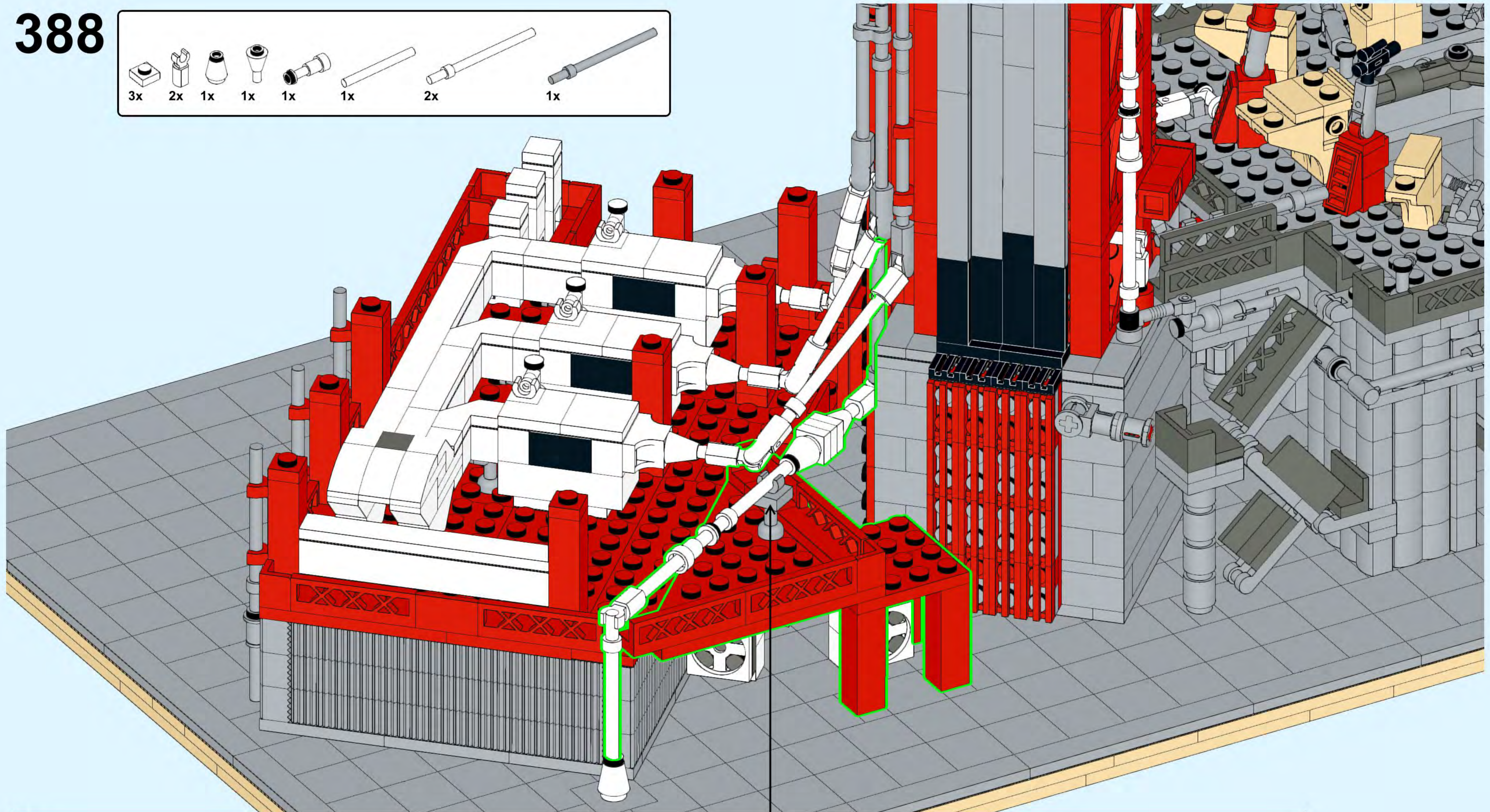
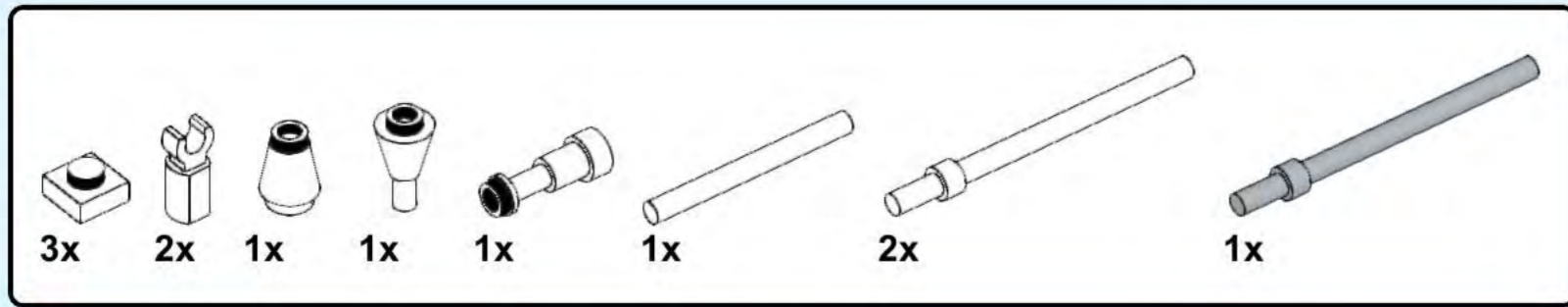
# 386



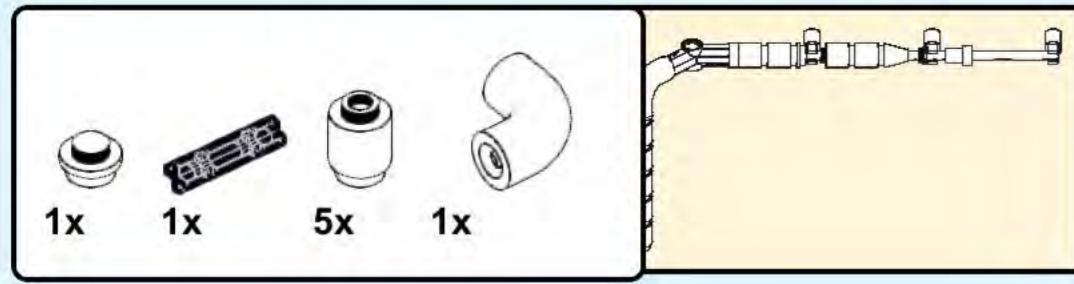
# 387



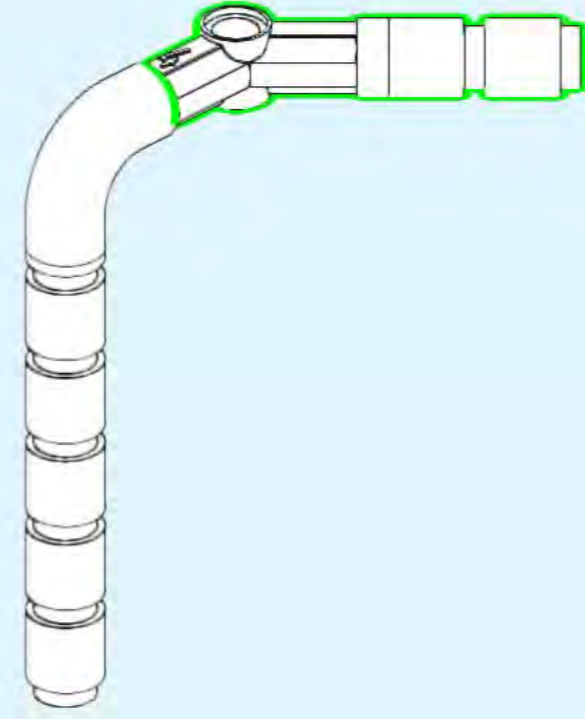
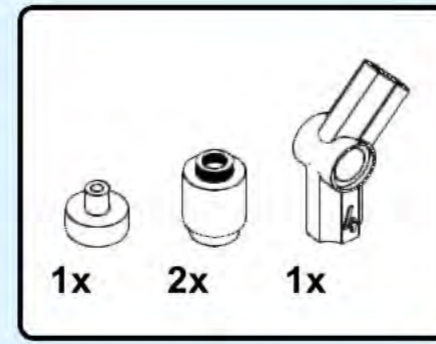
388



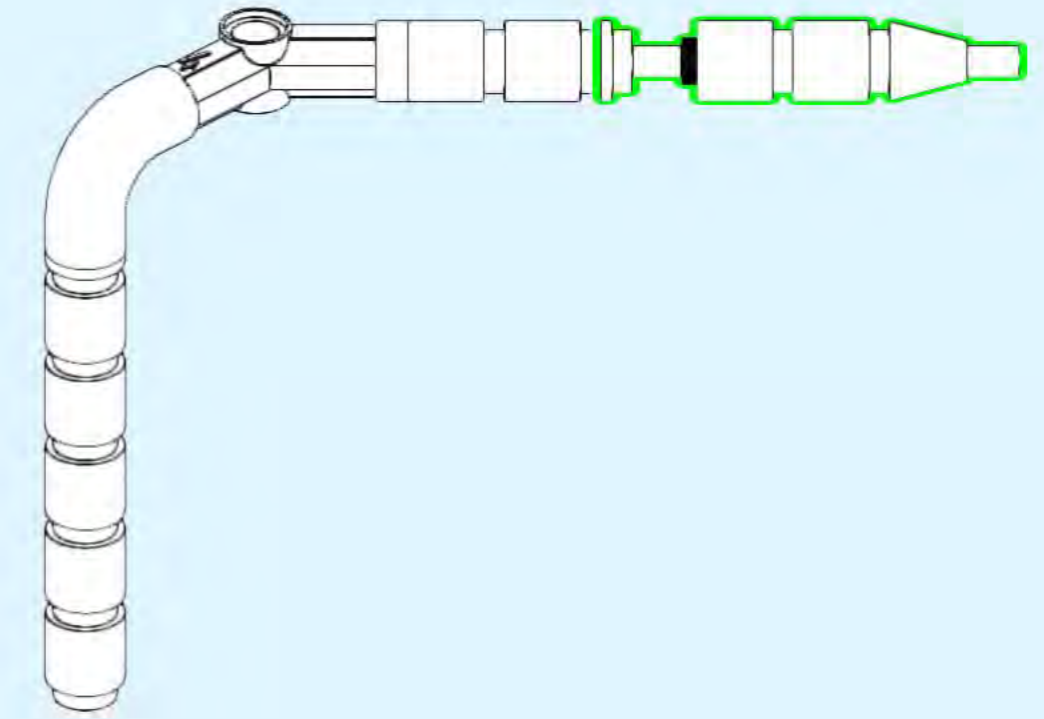
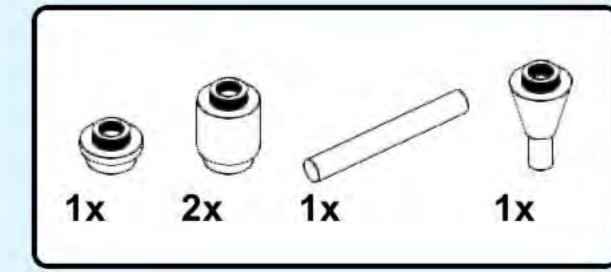
**389**



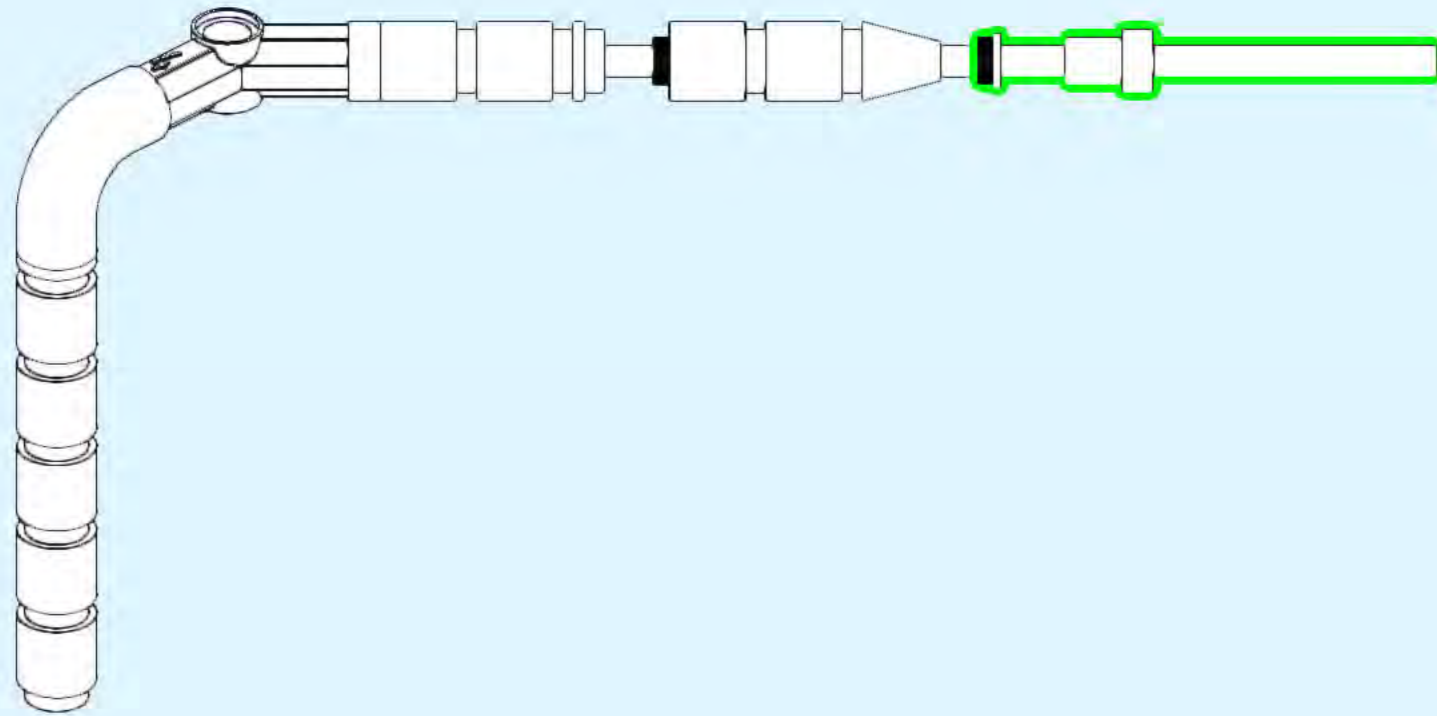
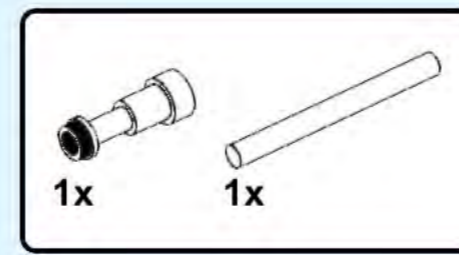
**390**



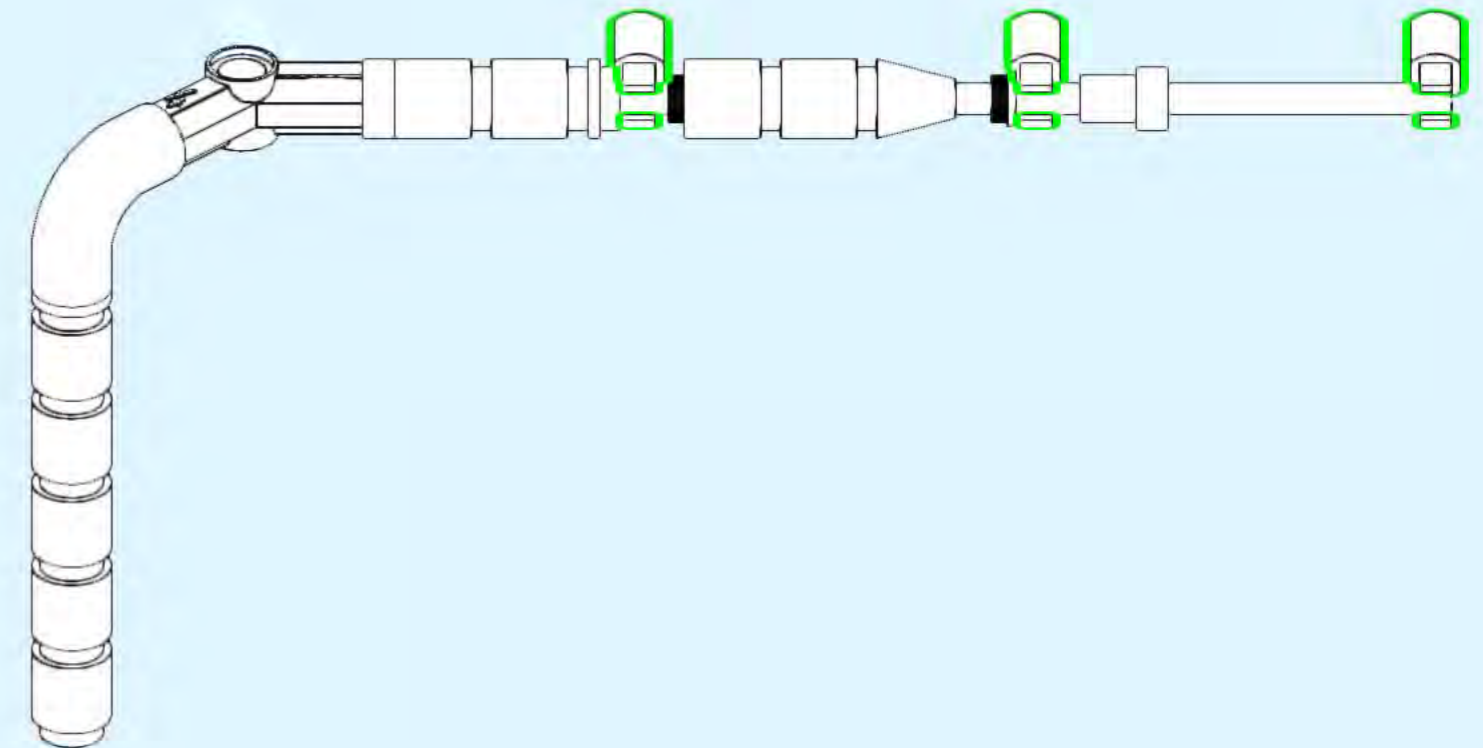
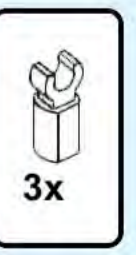
**391**



**392**

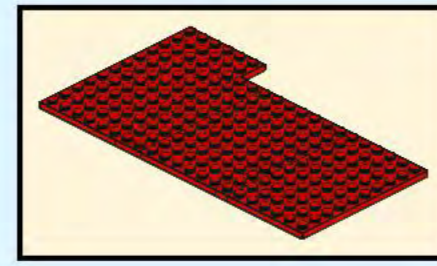
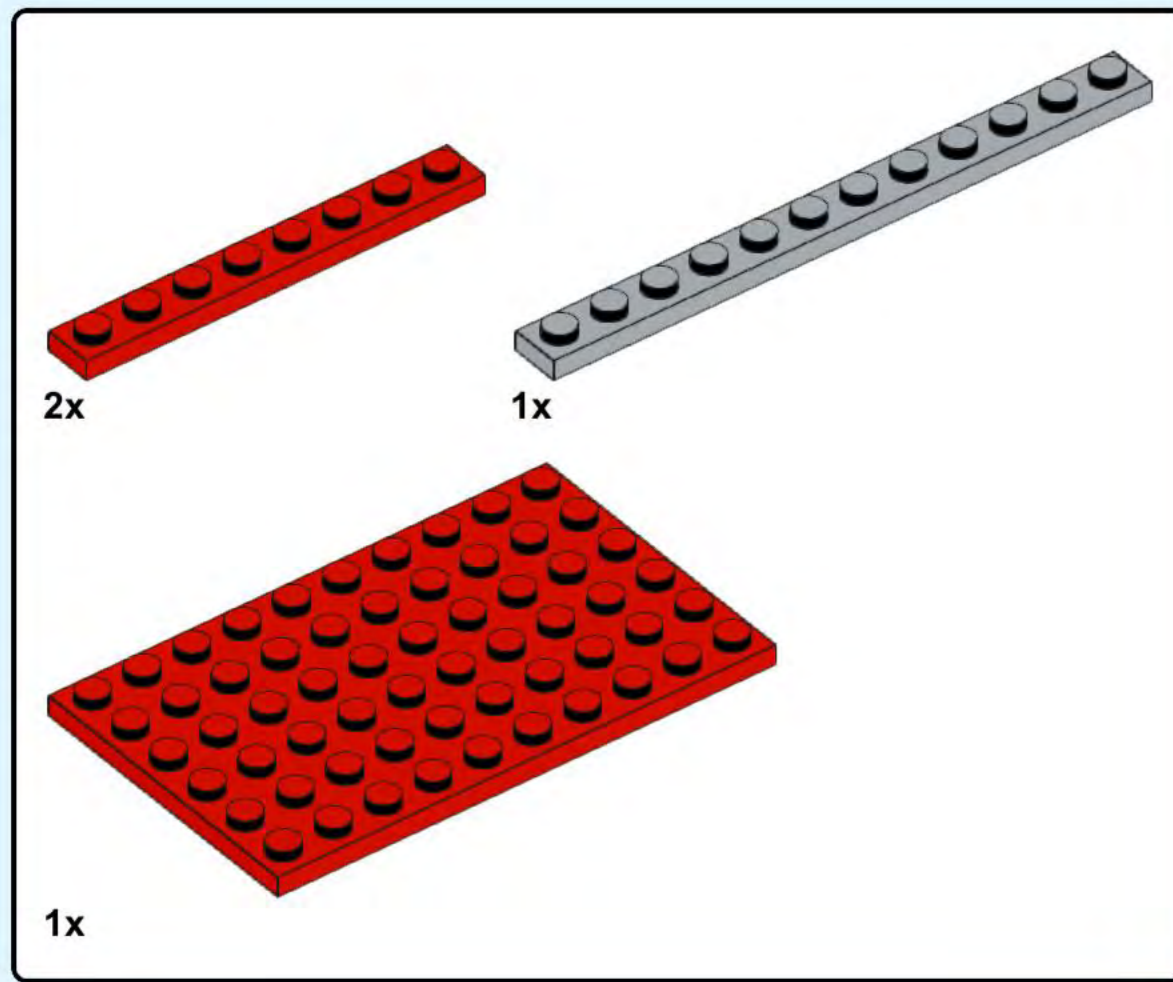


**393**

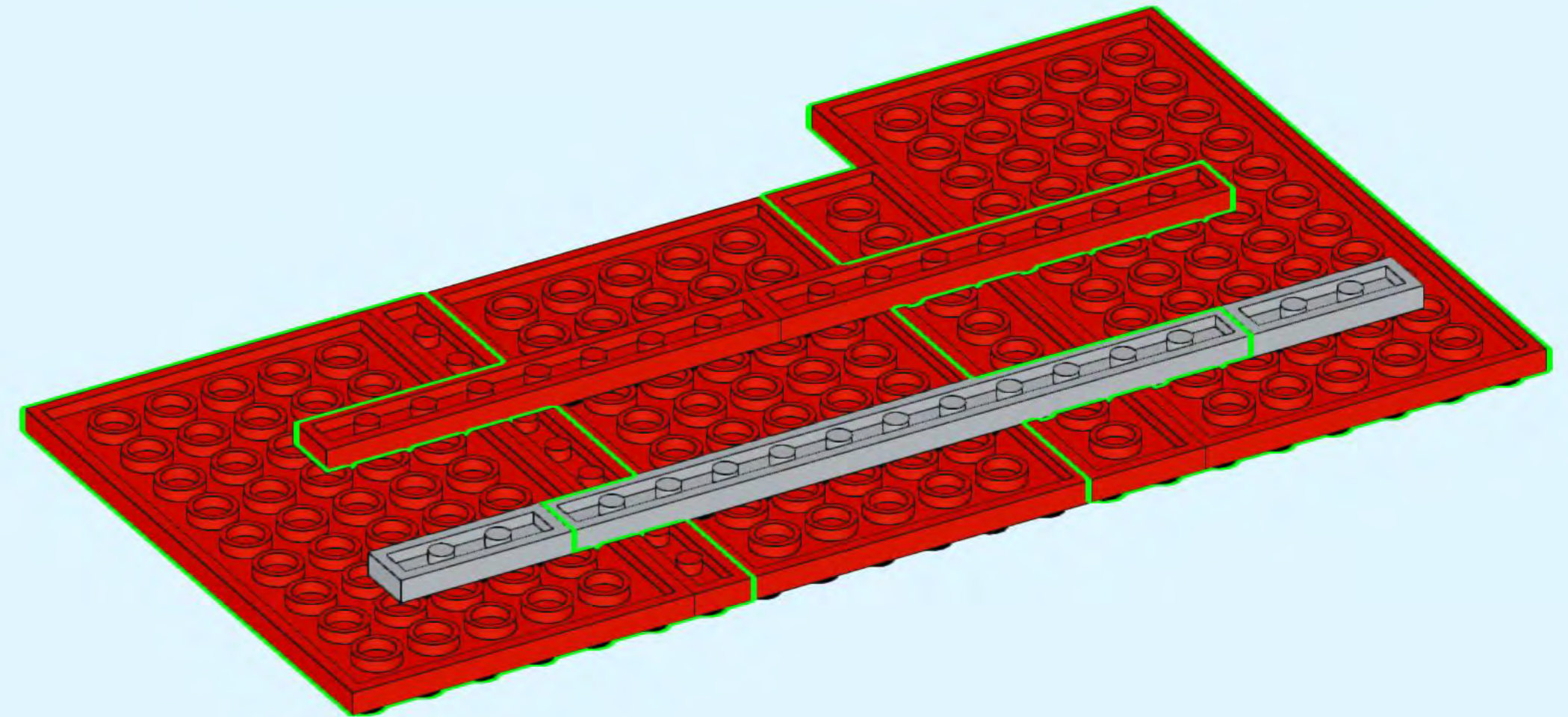
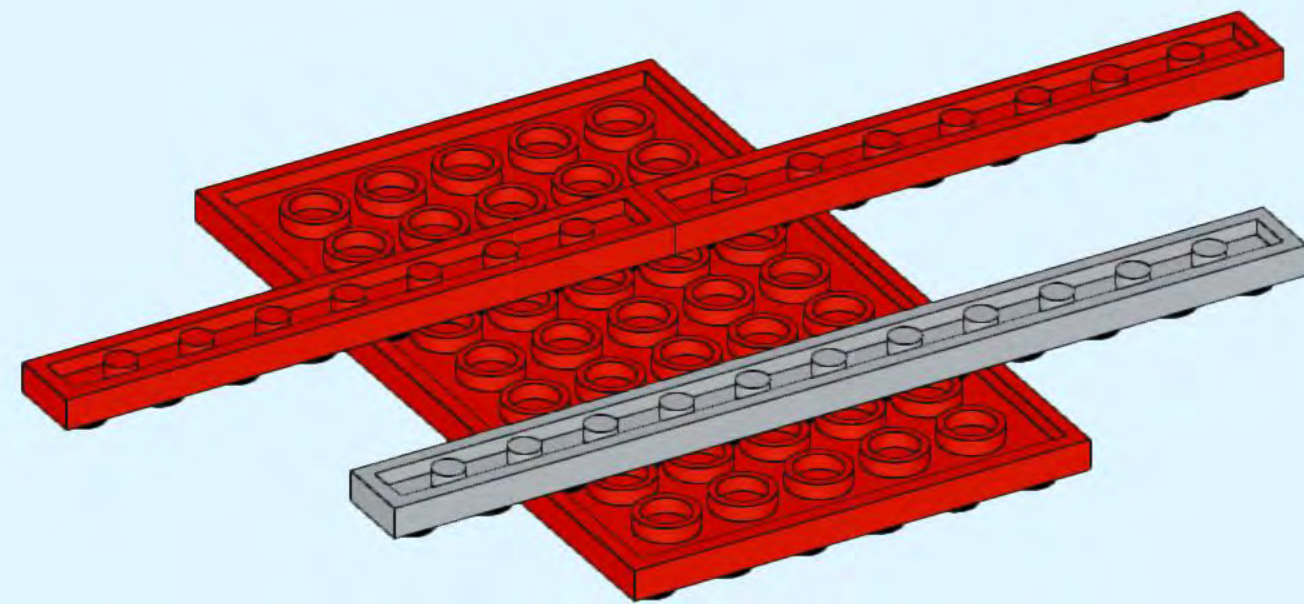
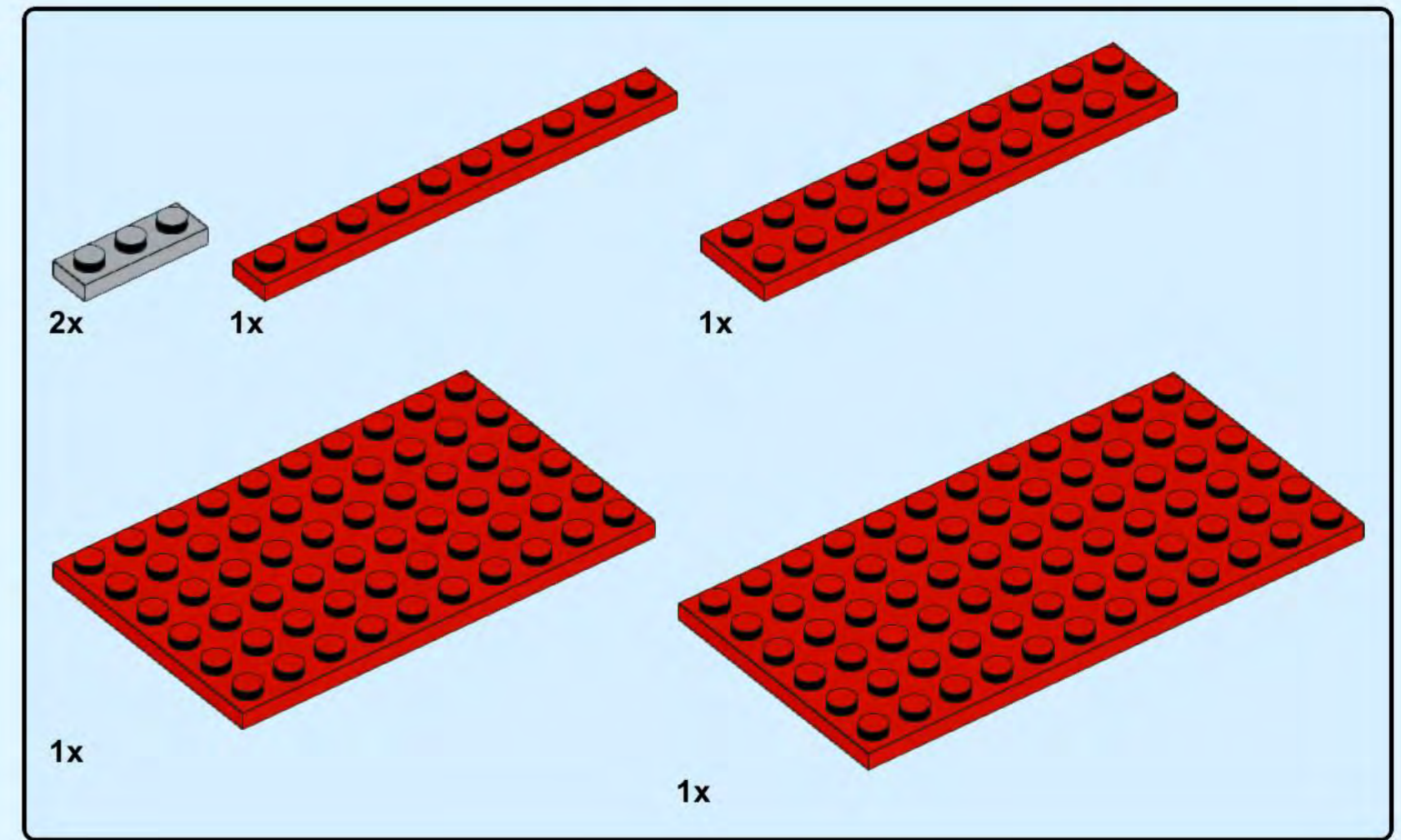




# 395

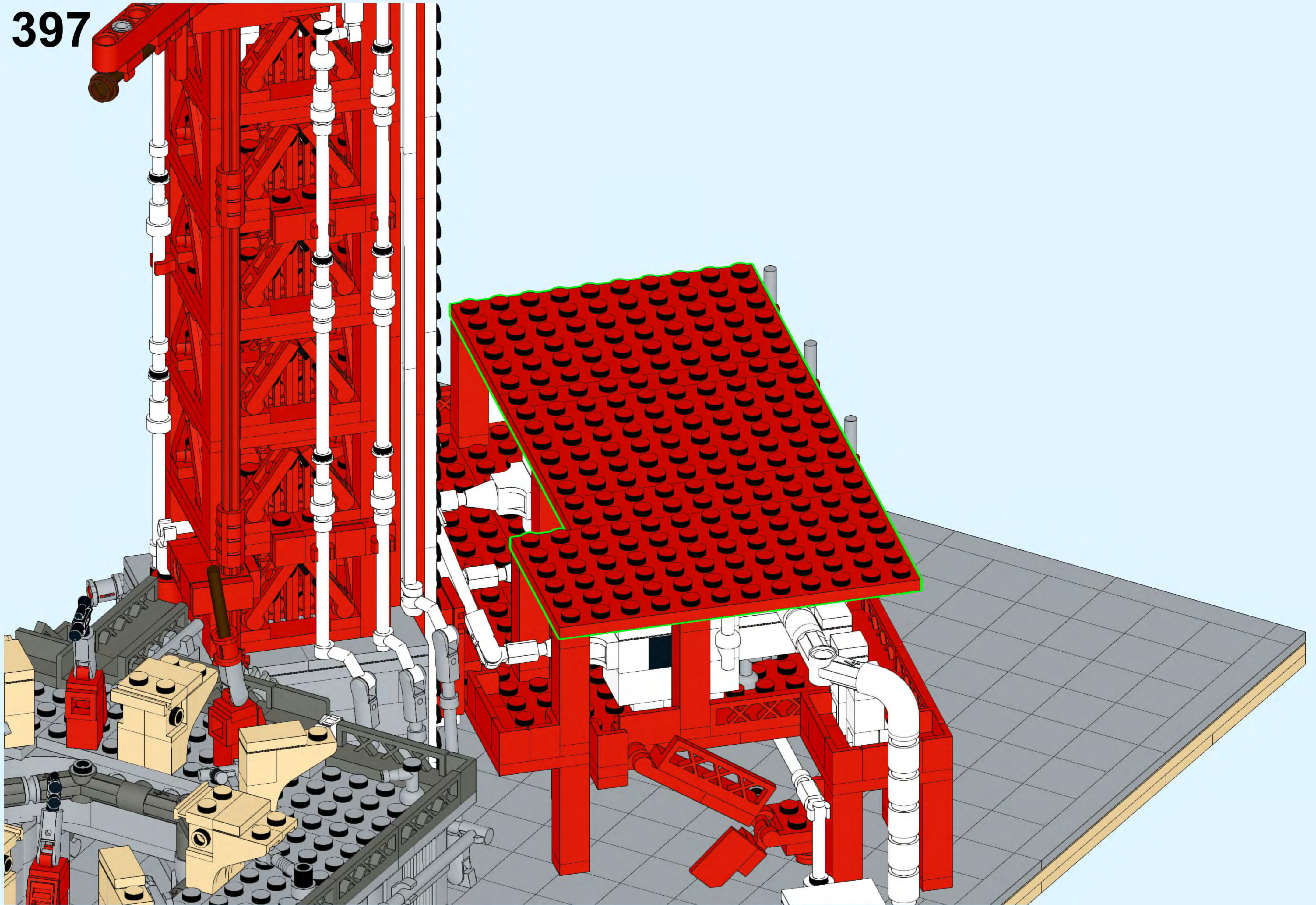


# 396

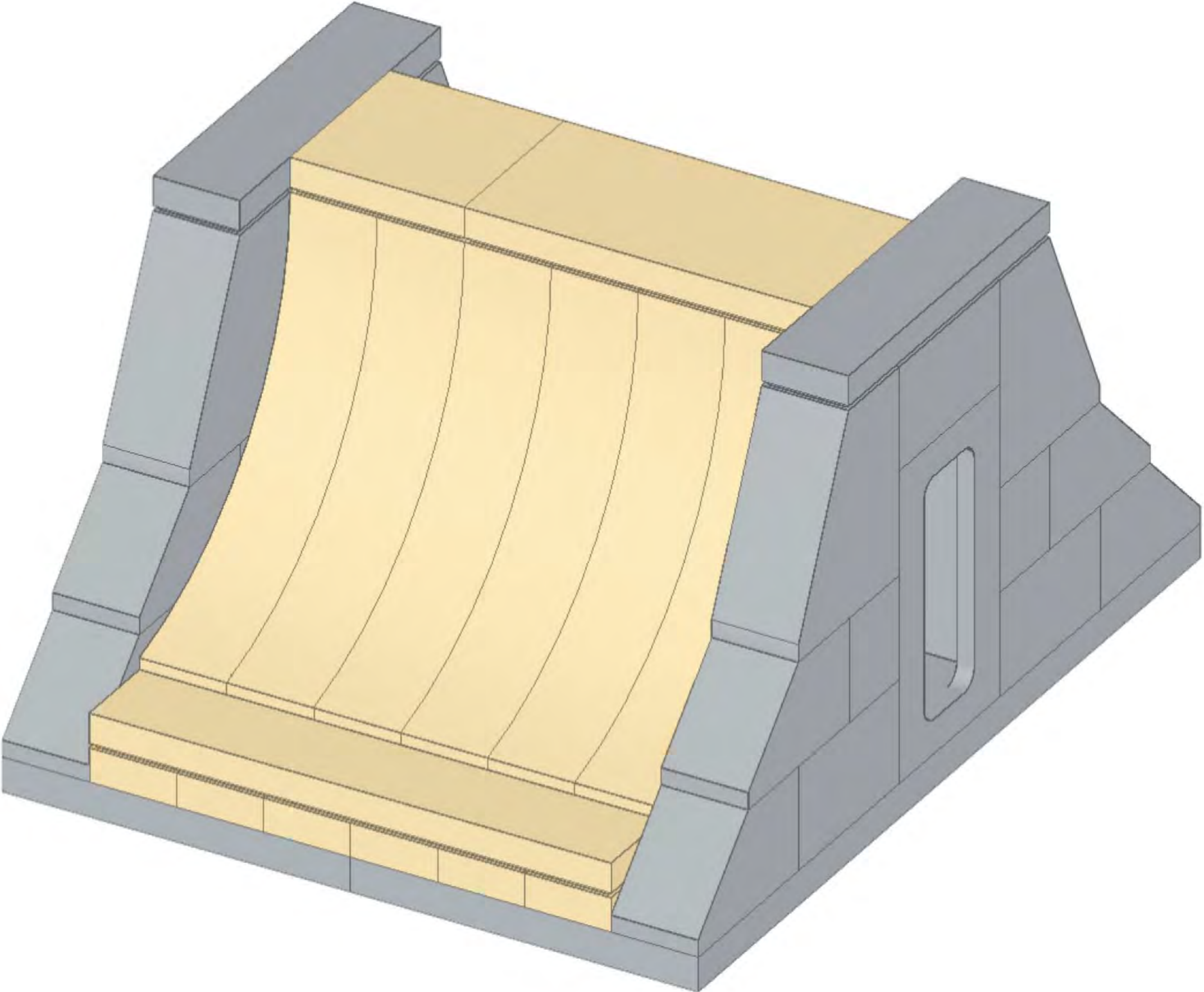




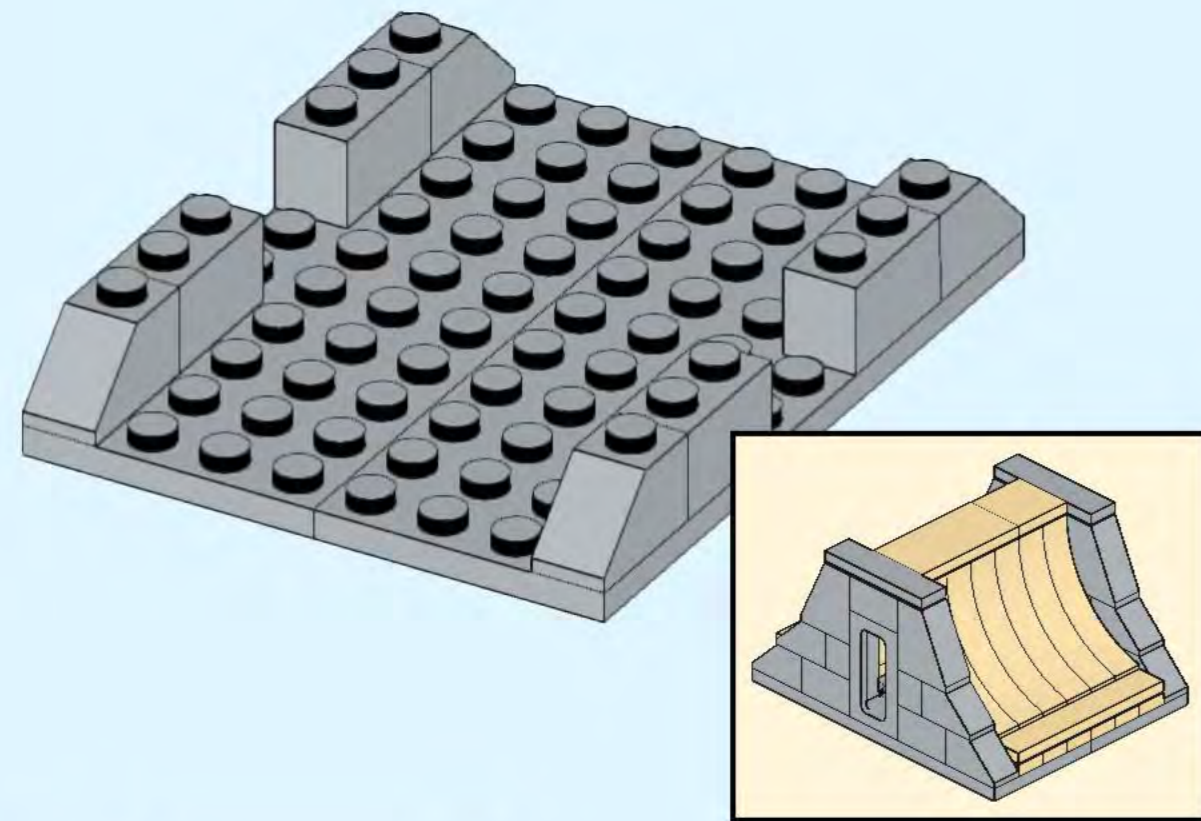
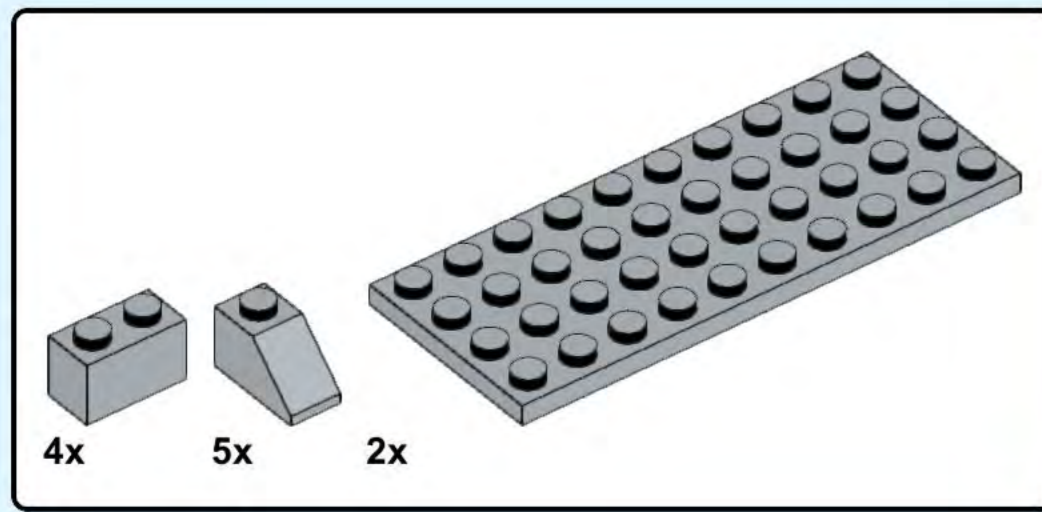
397



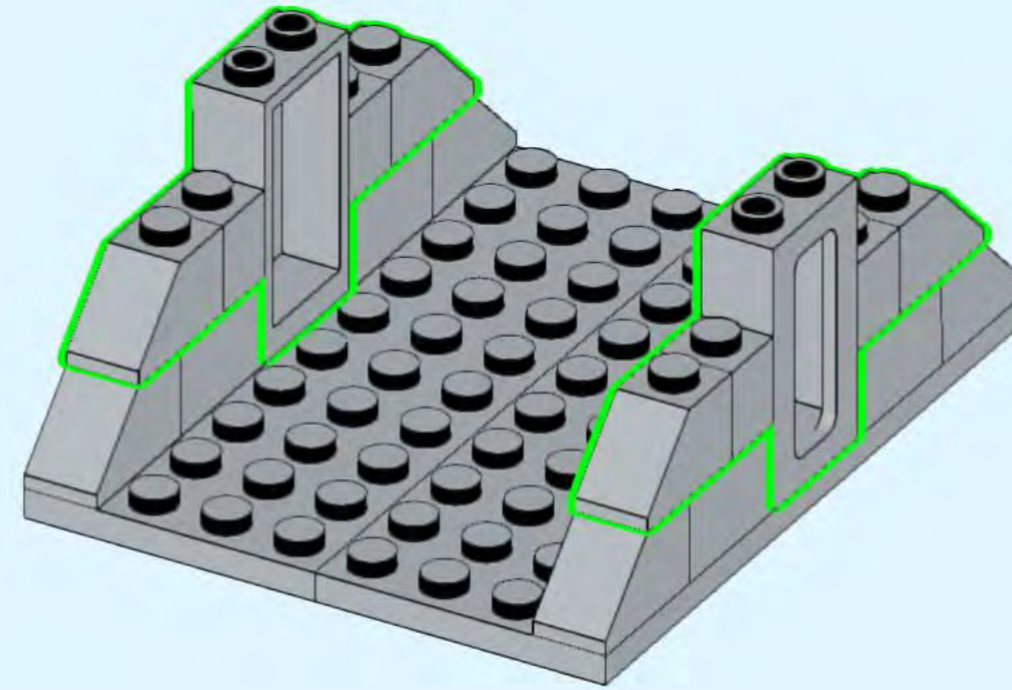
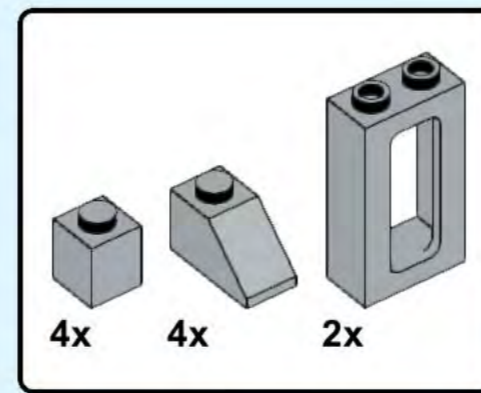
Plume deflector



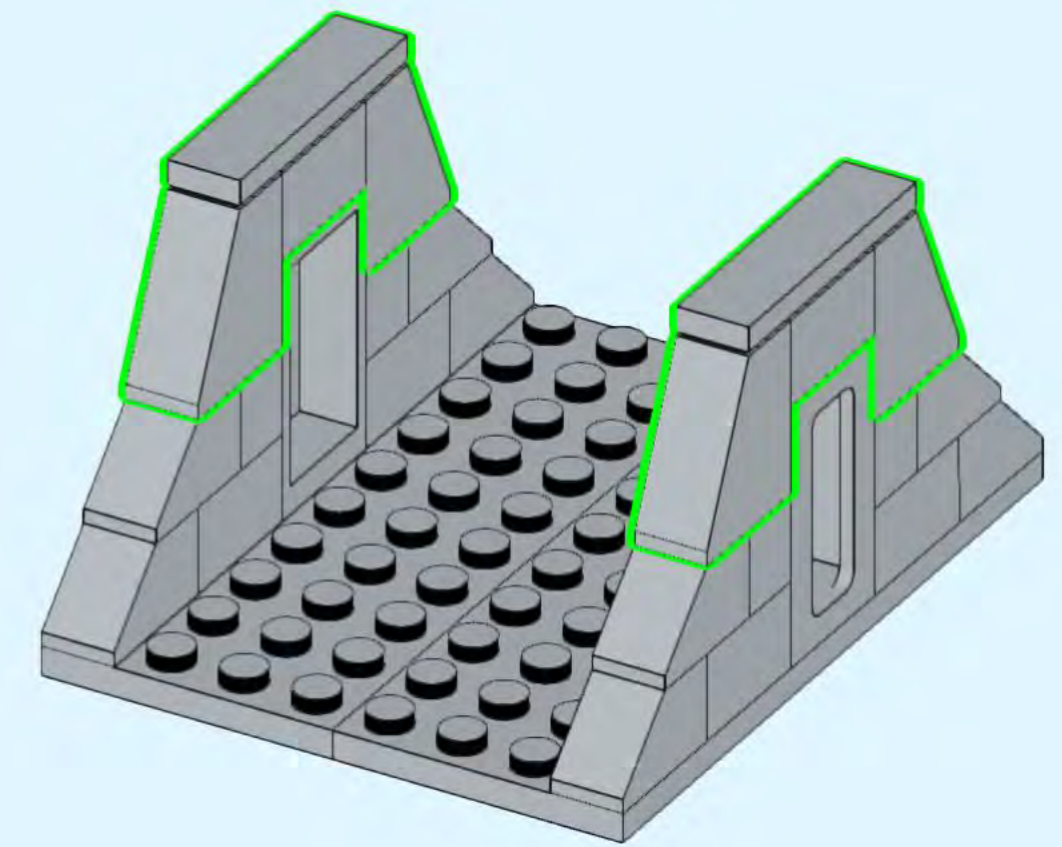
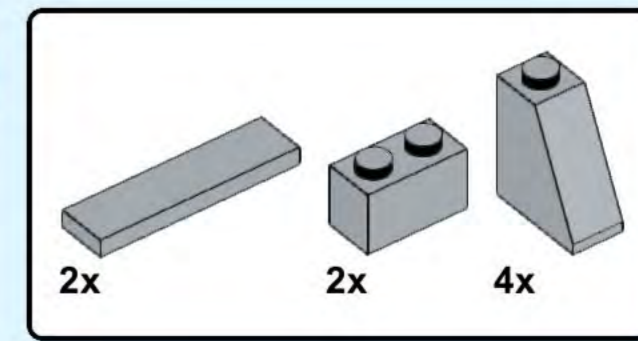
398



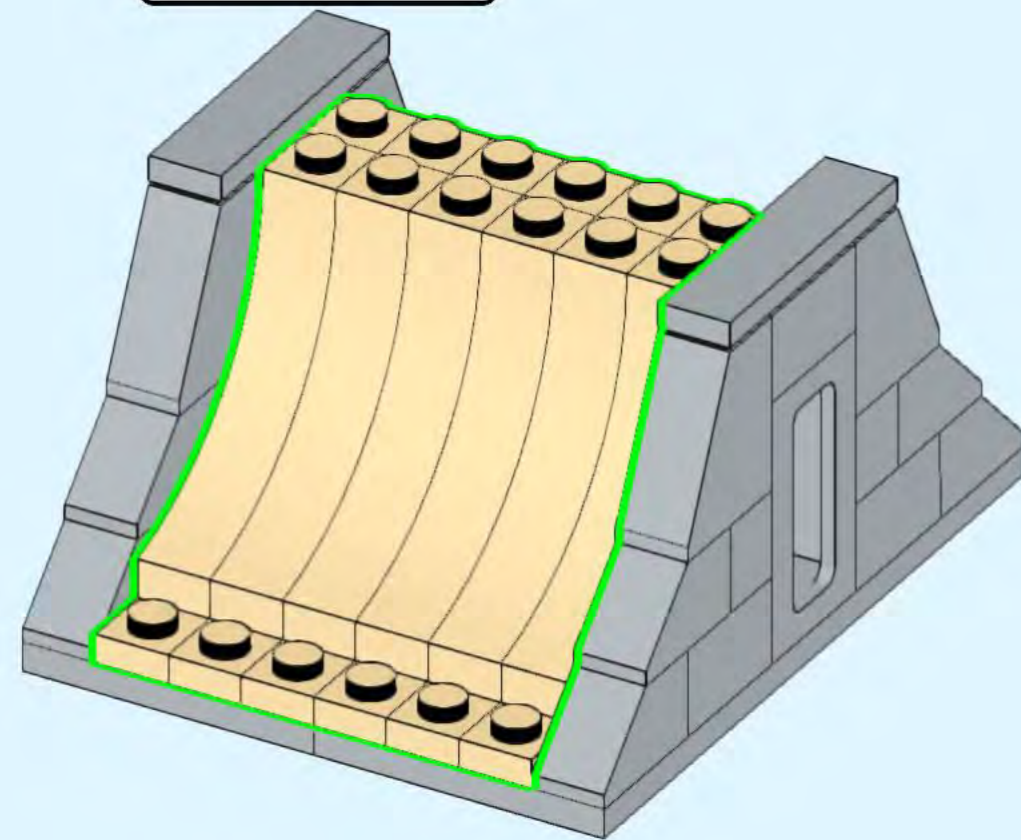
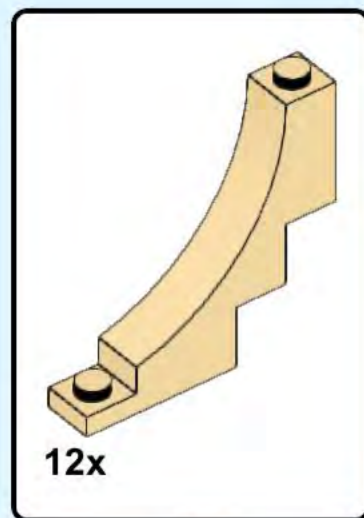
399



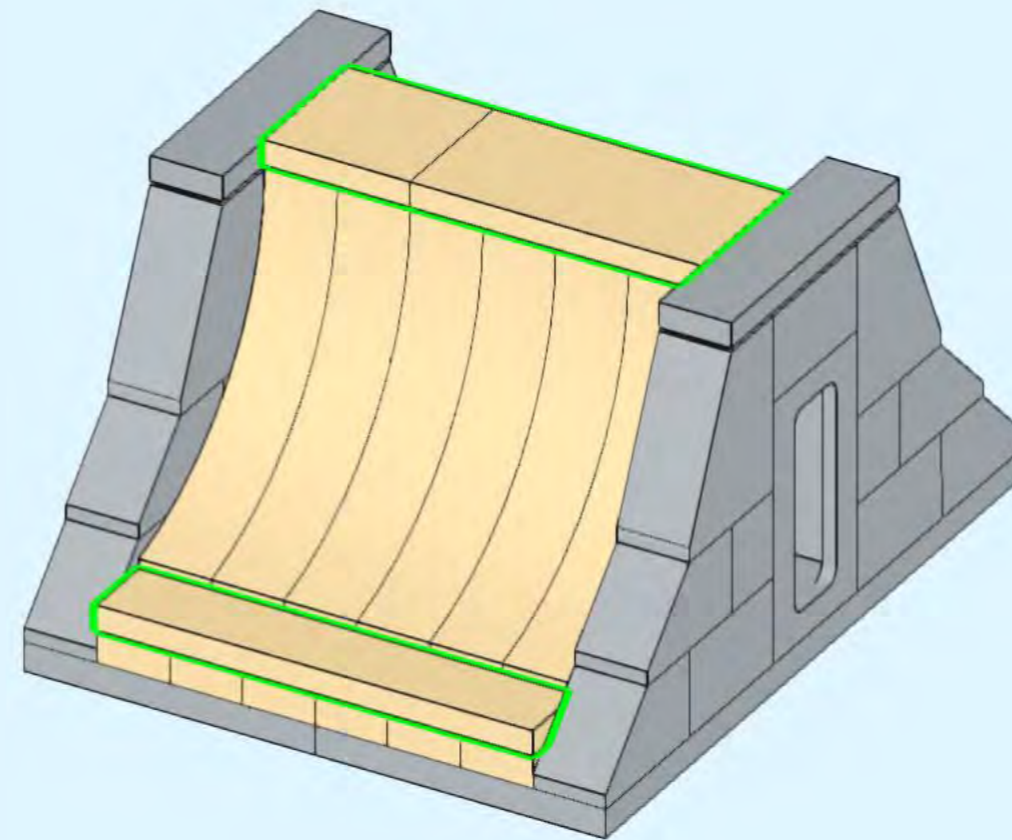
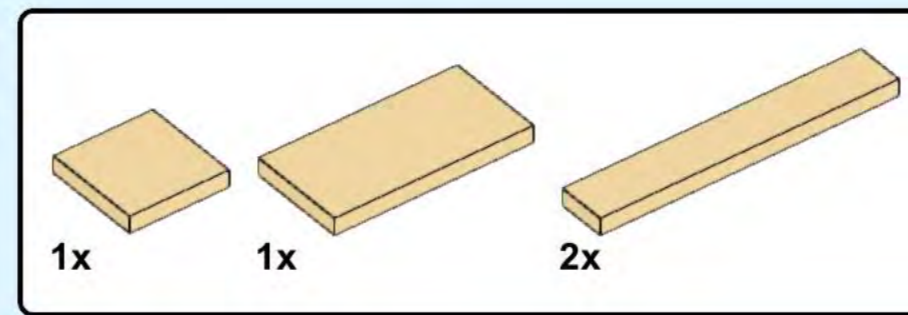
400



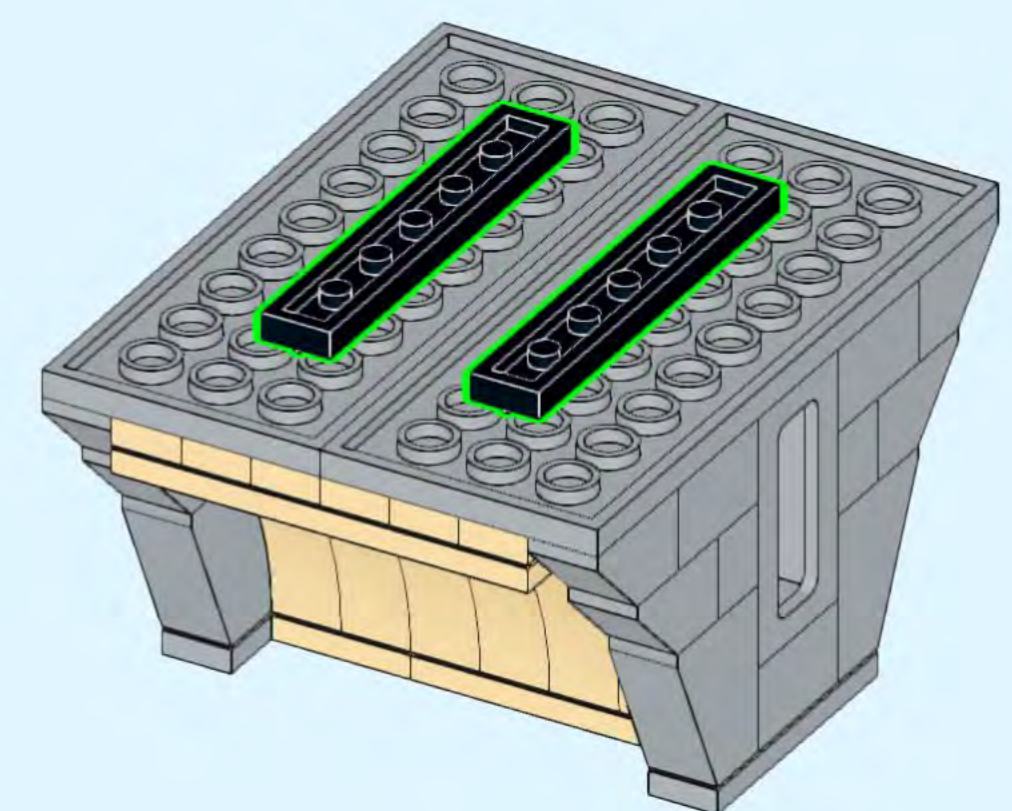
401

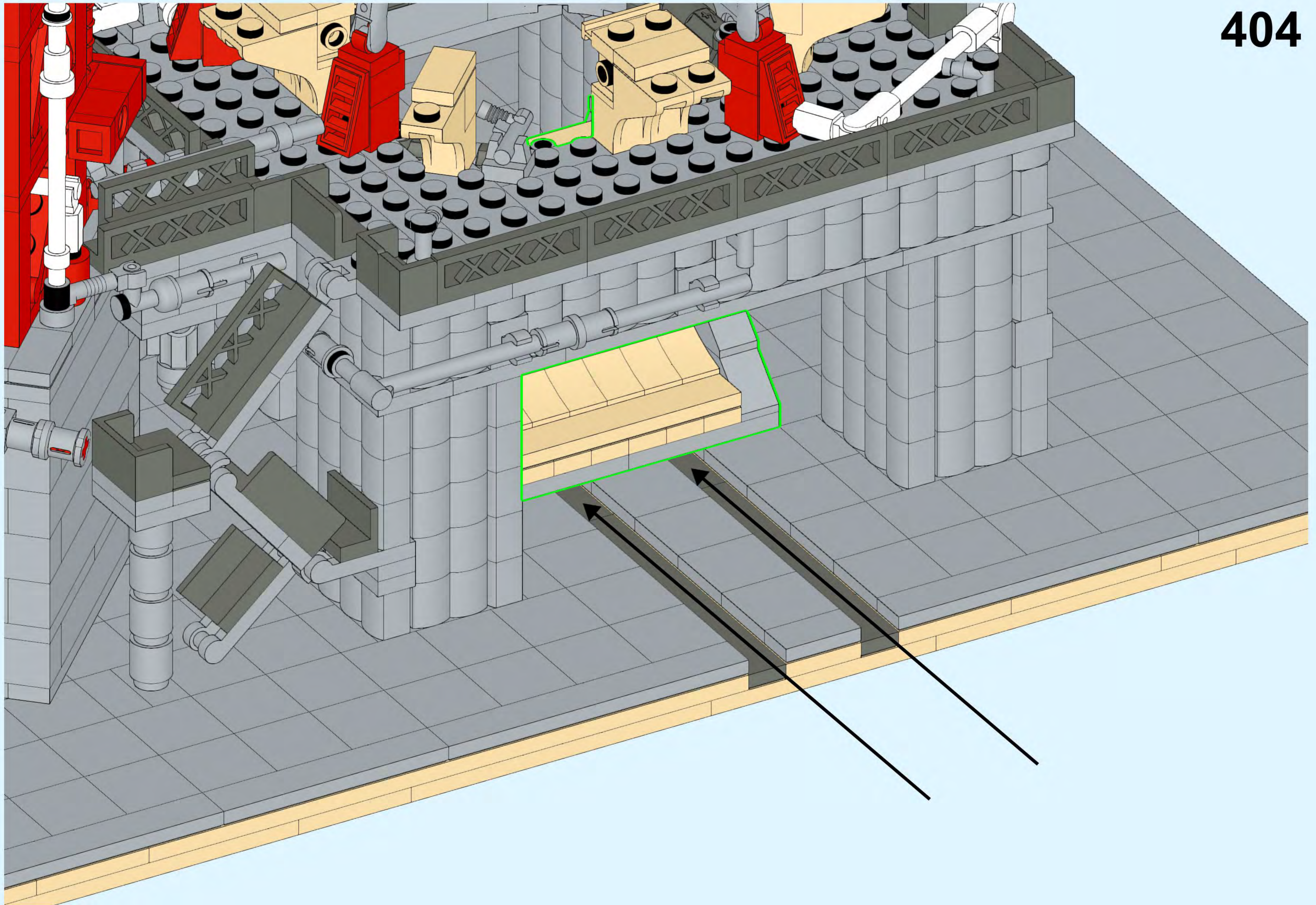


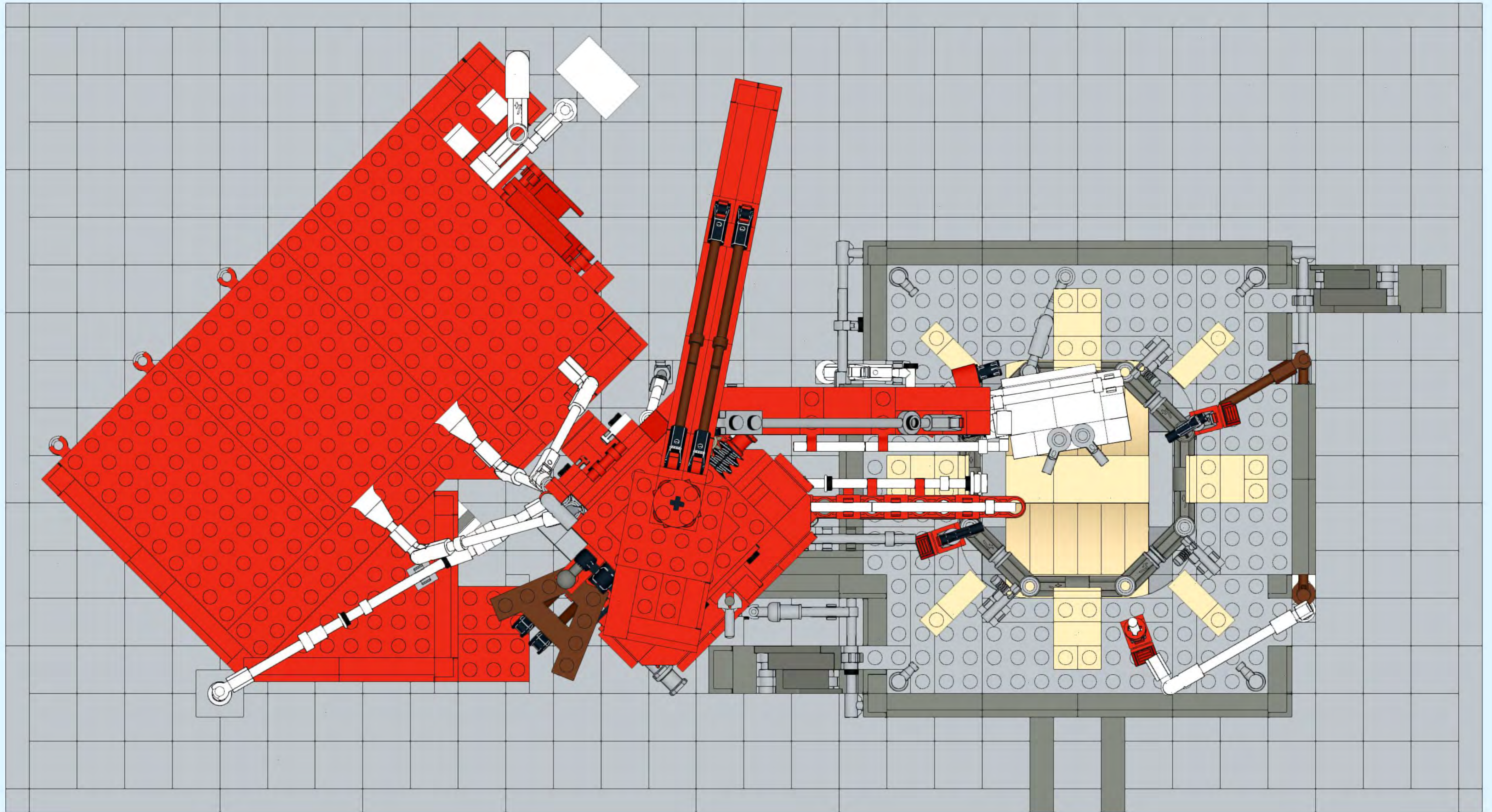
402

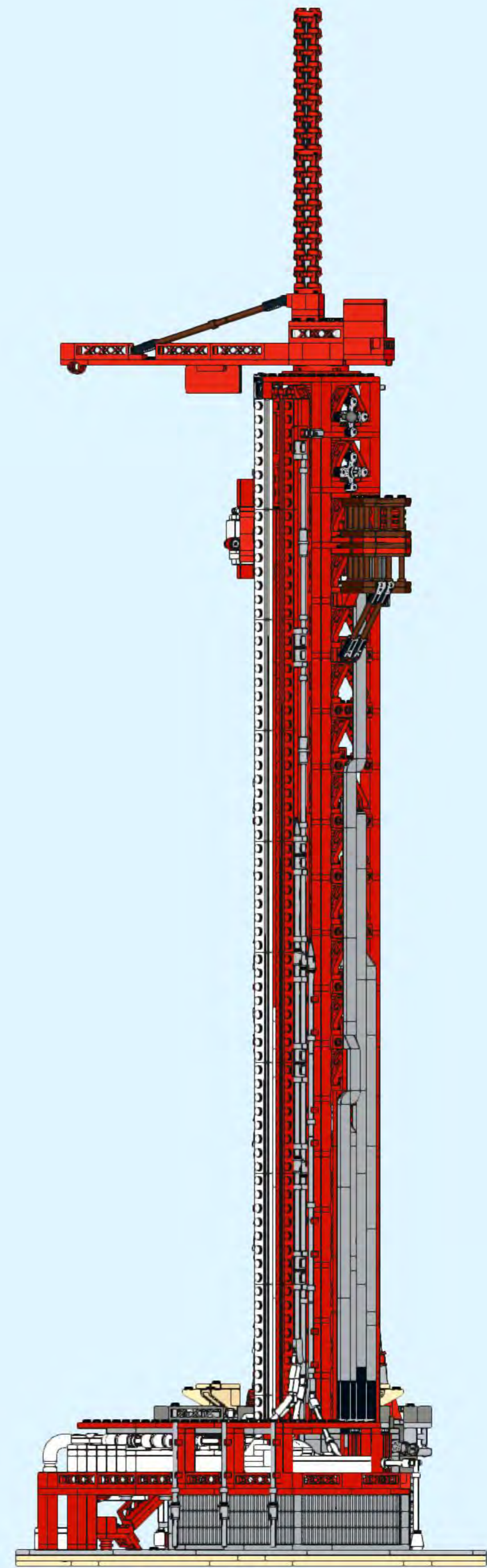
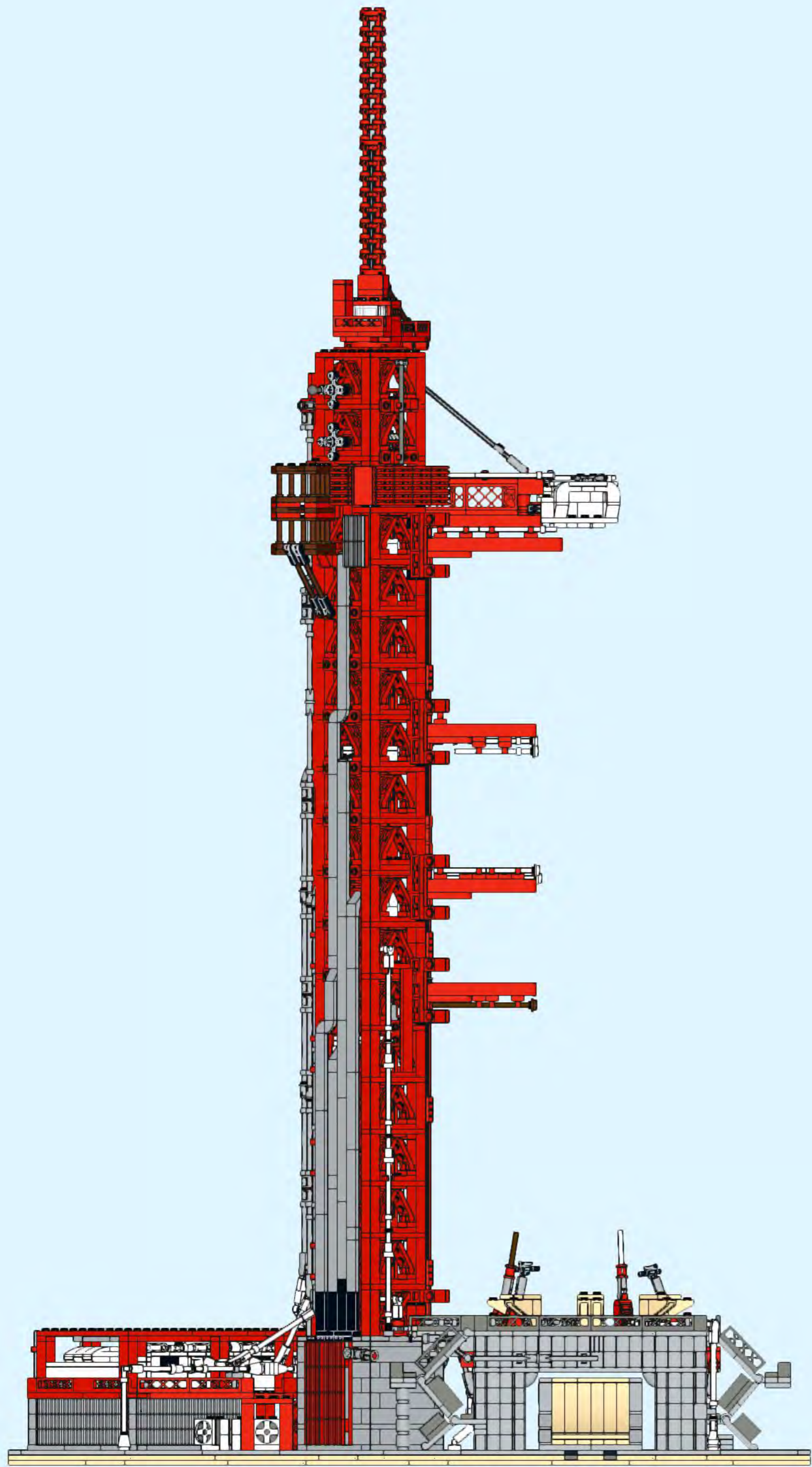


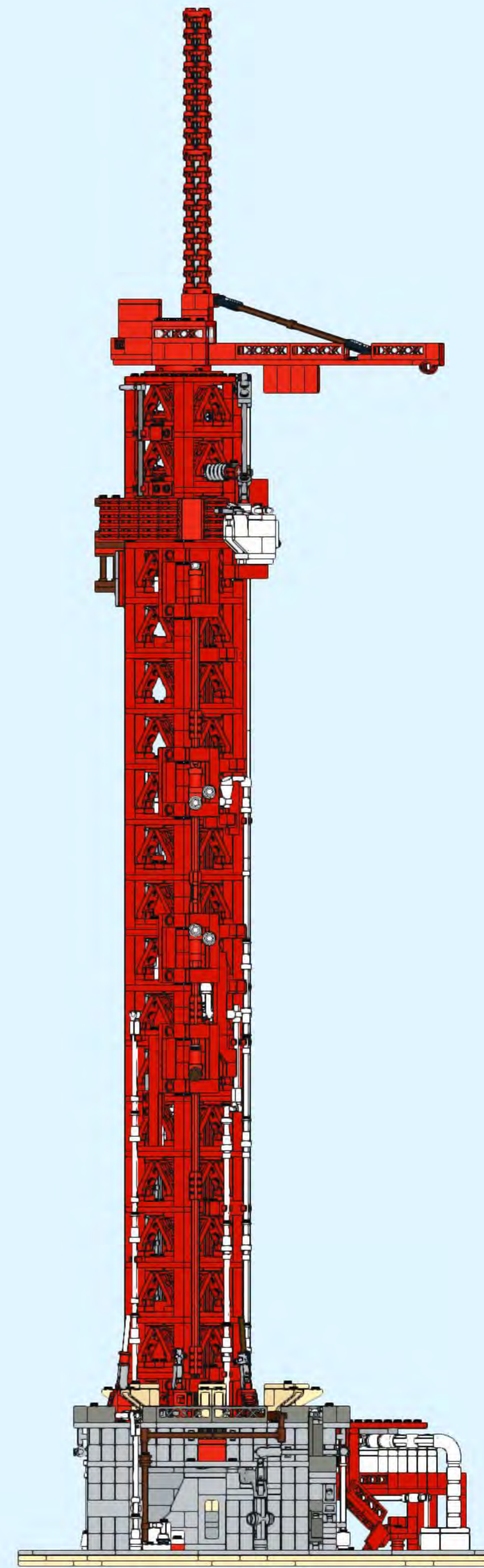
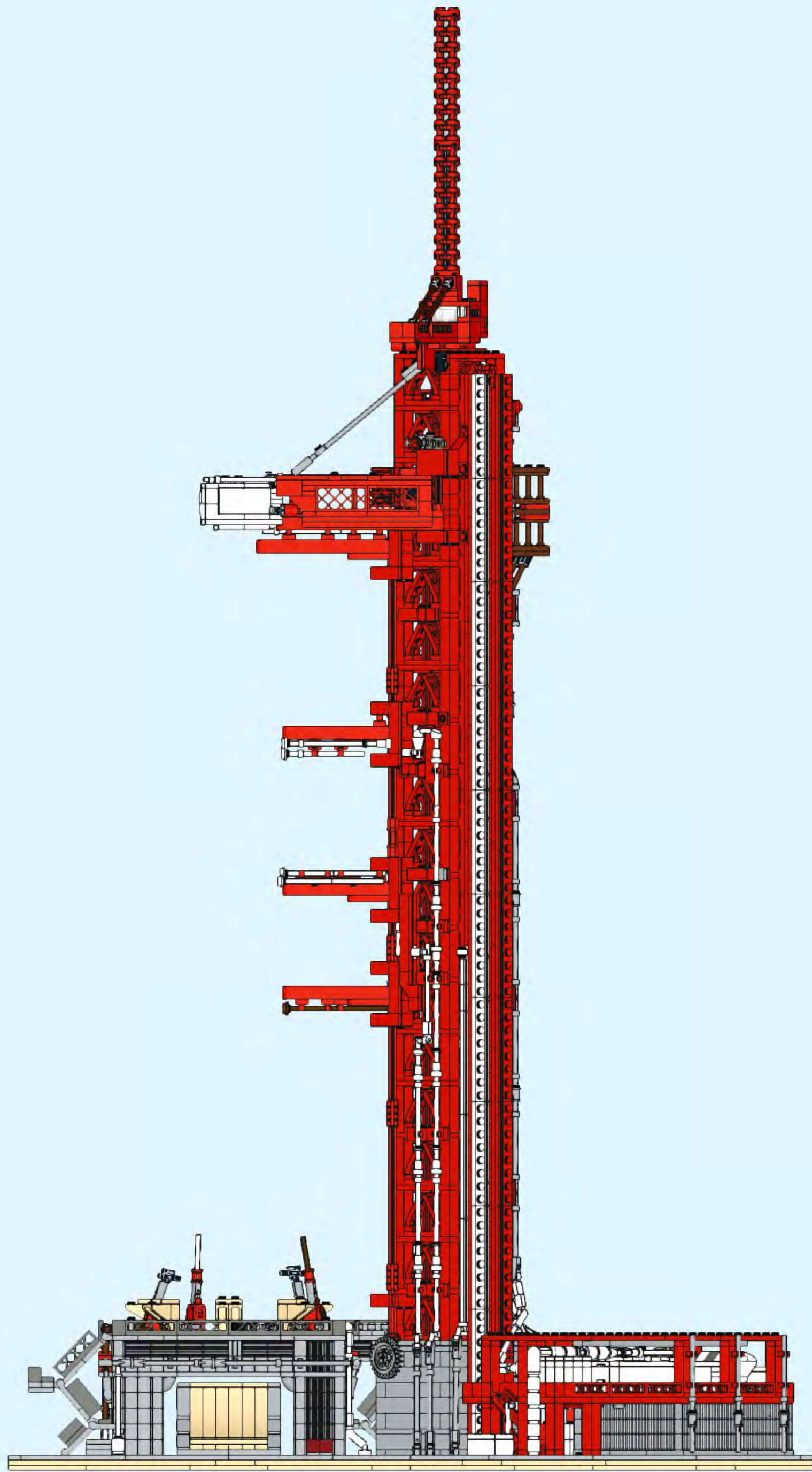
403

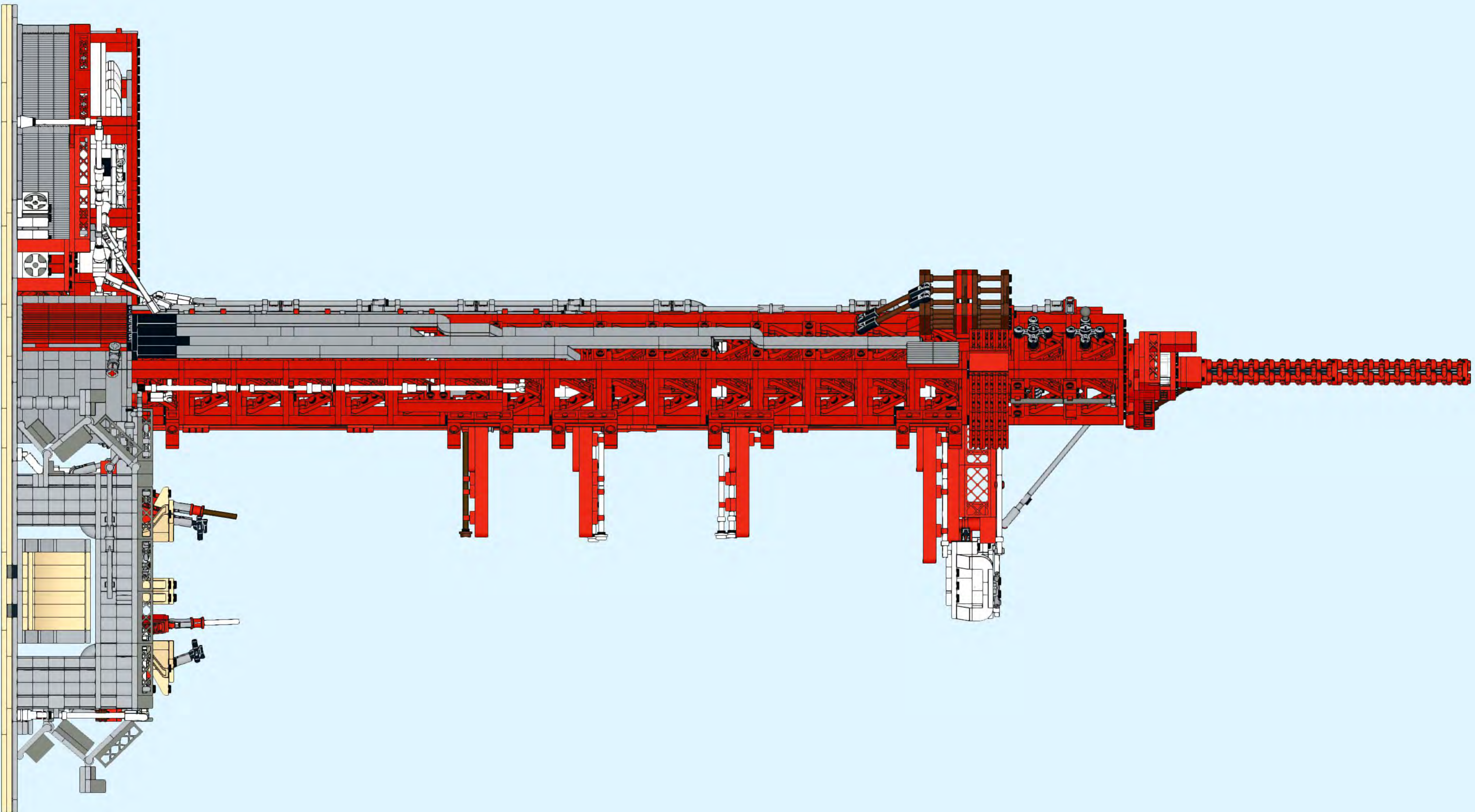






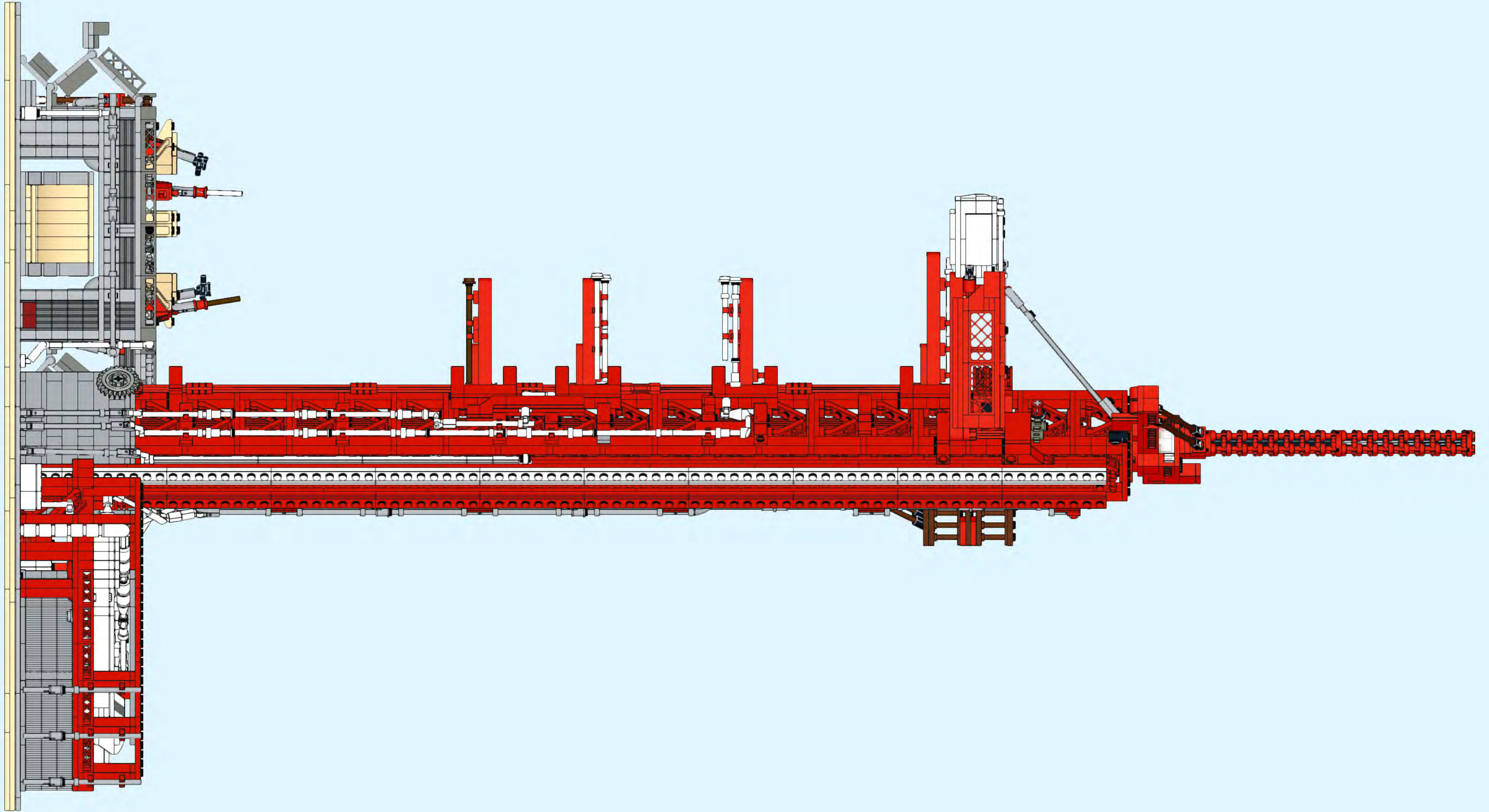


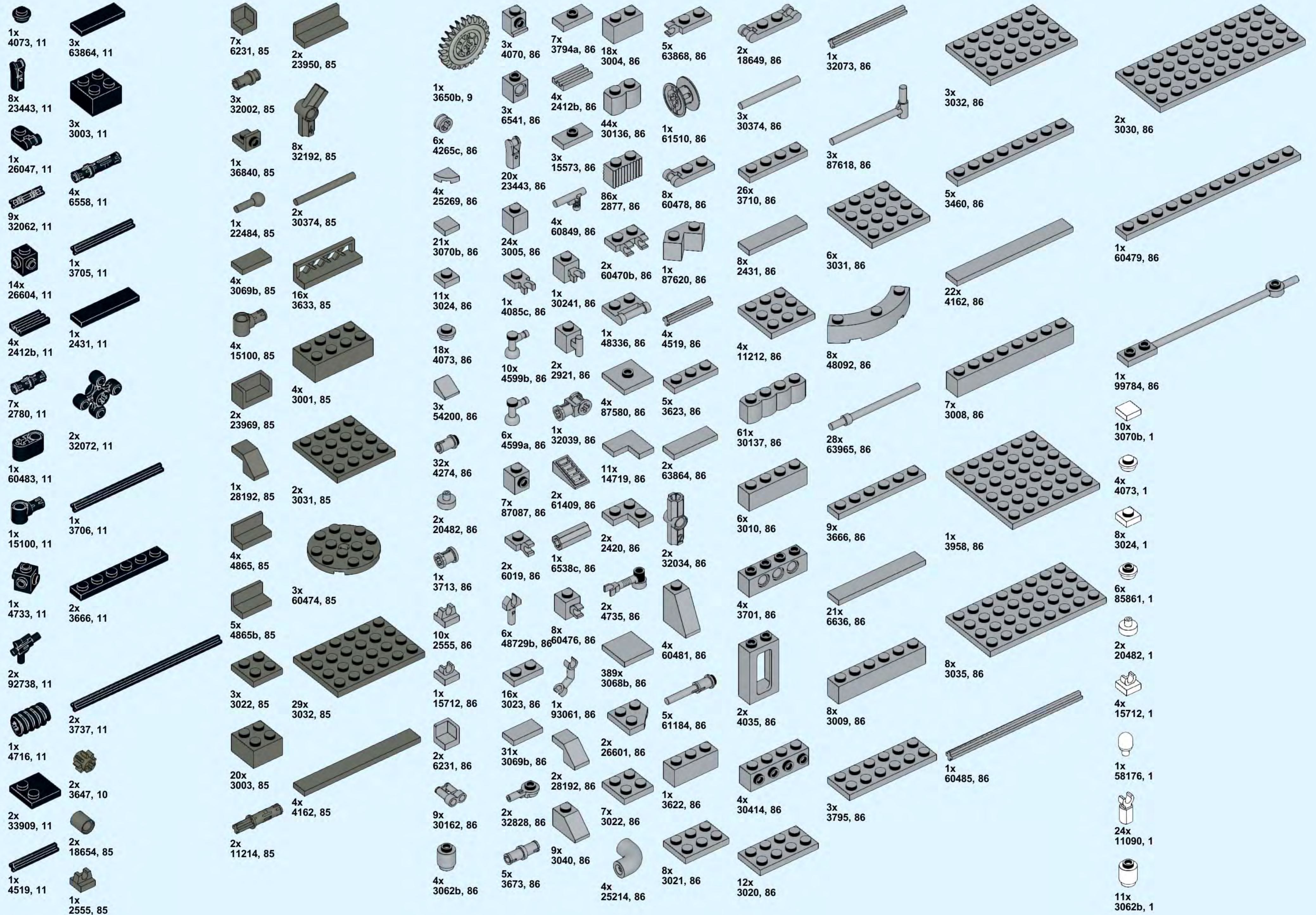


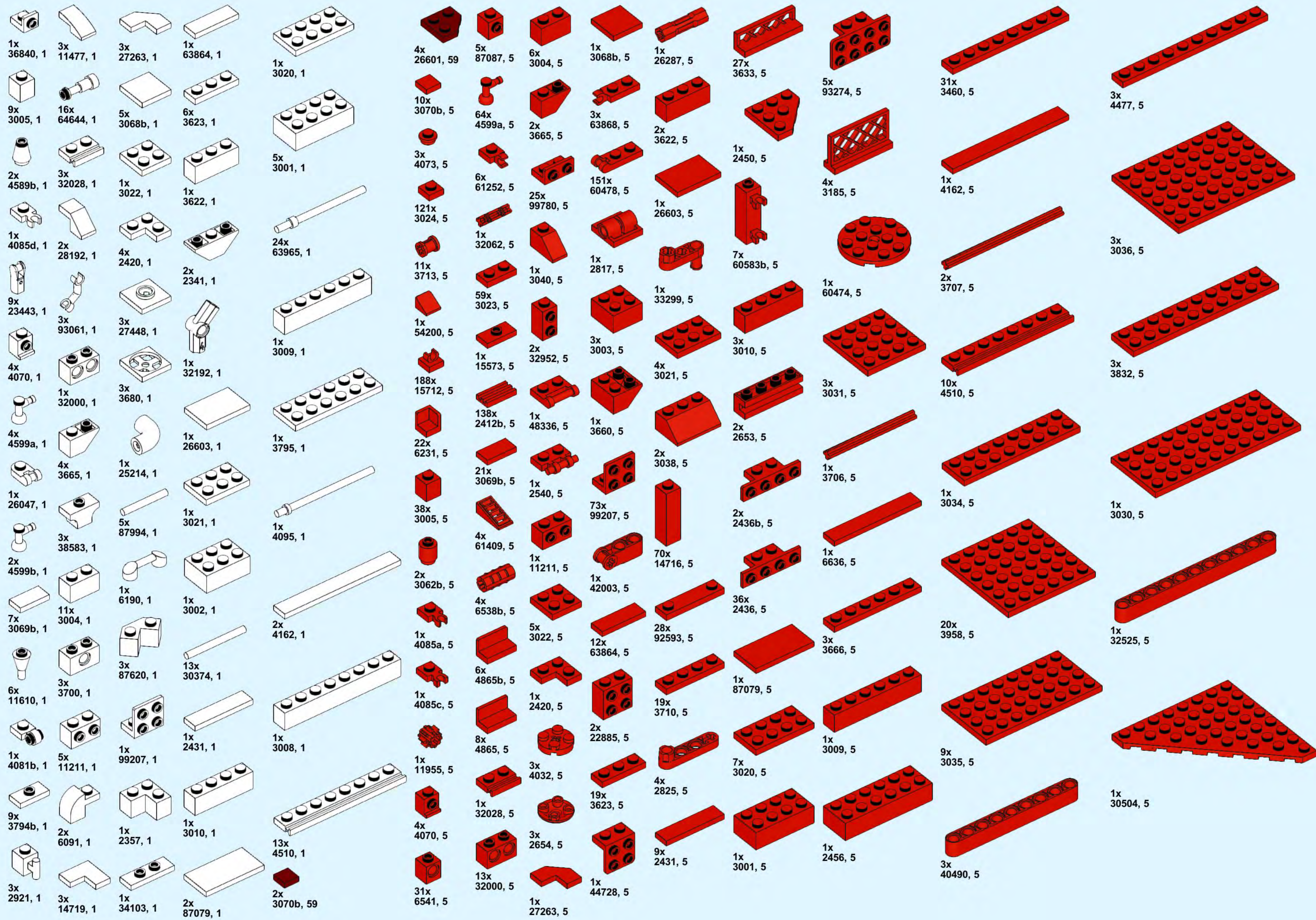


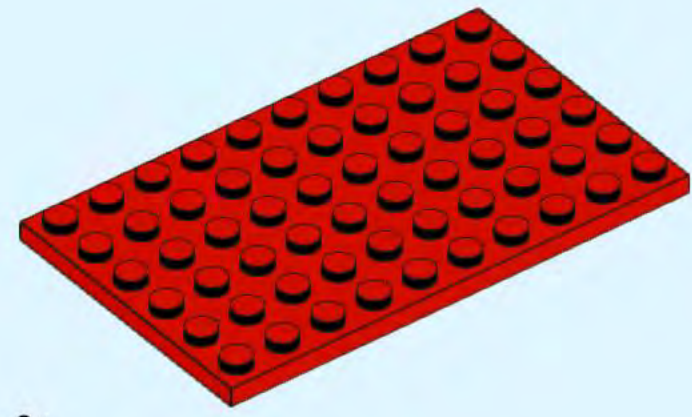


411

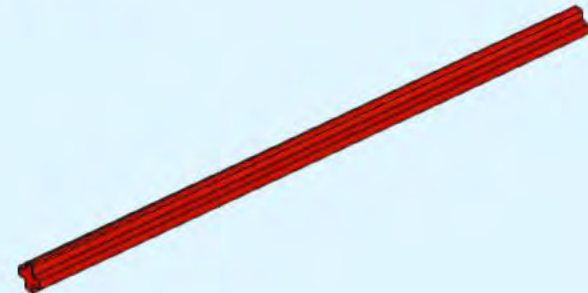




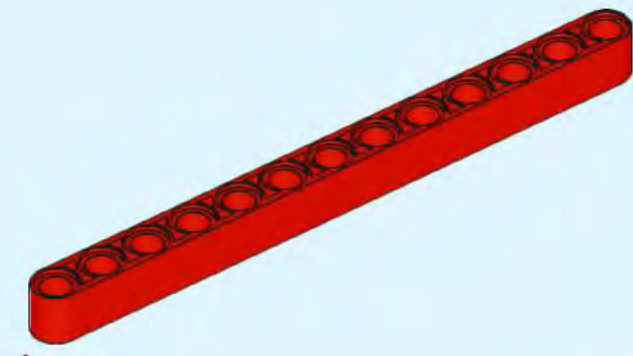




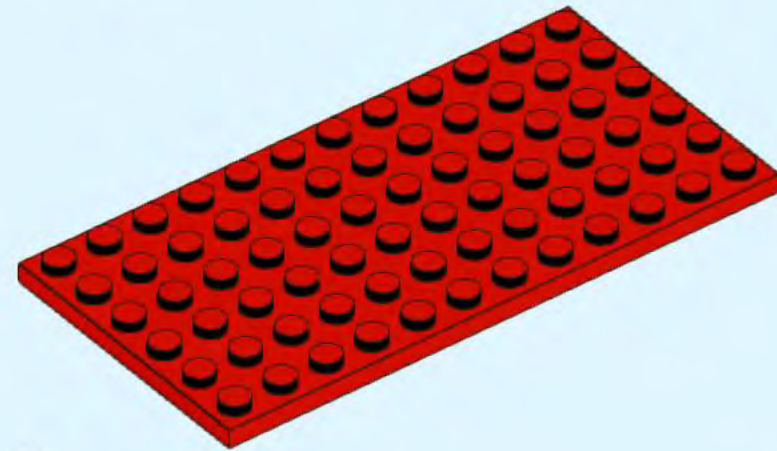
2x  
3033, 5



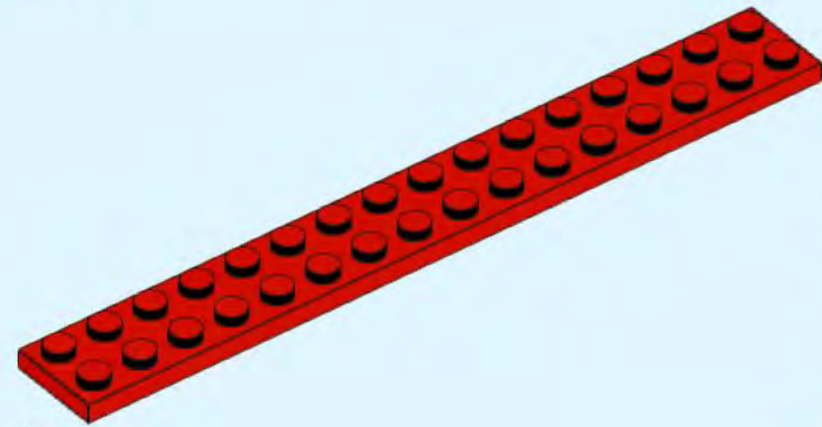
4x  
3708, 5



1x  
41239, 5



1x  
3028, 5



1x  
4282, 5

3x  
85861, 88

1x  
11090, 88

4x  
15573, 88

4x  
3794b, 88

2x  
3022, 88

3x  
87994, 88

2x  
30374, 88

1x  
3020, 88

4x  
15332, 88

2x  
87618, 88

3x  
63965, 88

1x  
3795, 88

14x  
2456, 88

3x  
15706, 88

3x  
30374, 120

1x  
6587, 69

1x  
32002, 2

8x  
4070, 2



3x  
15706, 88

3x  
30374, 120

1x  
6587, 69

1x  
32002, 2

8x  
4070, 2

4x  
3005, 2

8x  
3069b, 2

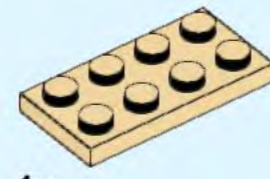
4x  
32028, 2

1x  
3068b, 2

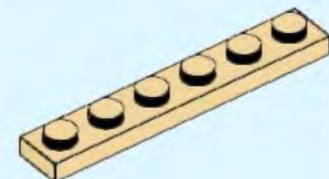
12x  
3021, 2

12x  
88292, 2

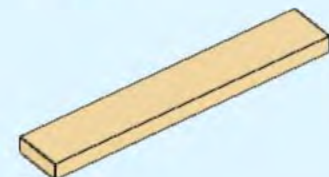
1x  
87079, 2



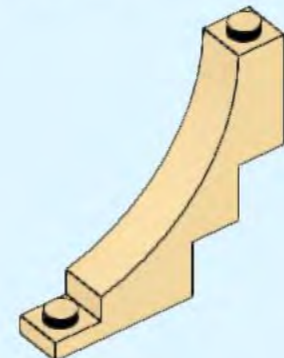
1x  
3020, 2



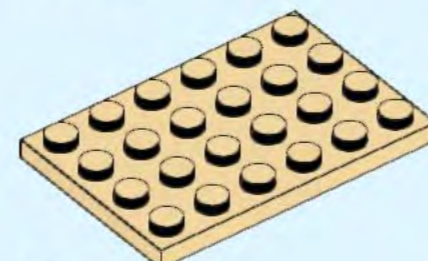
1x  
3666, 2



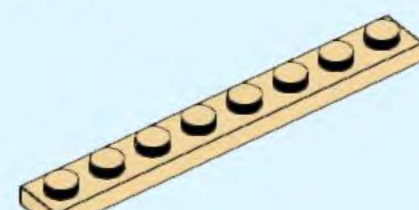
2x  
6636, 2



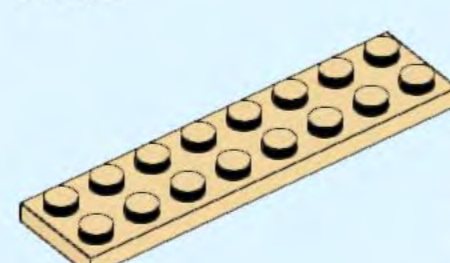
12x  
30099, 2



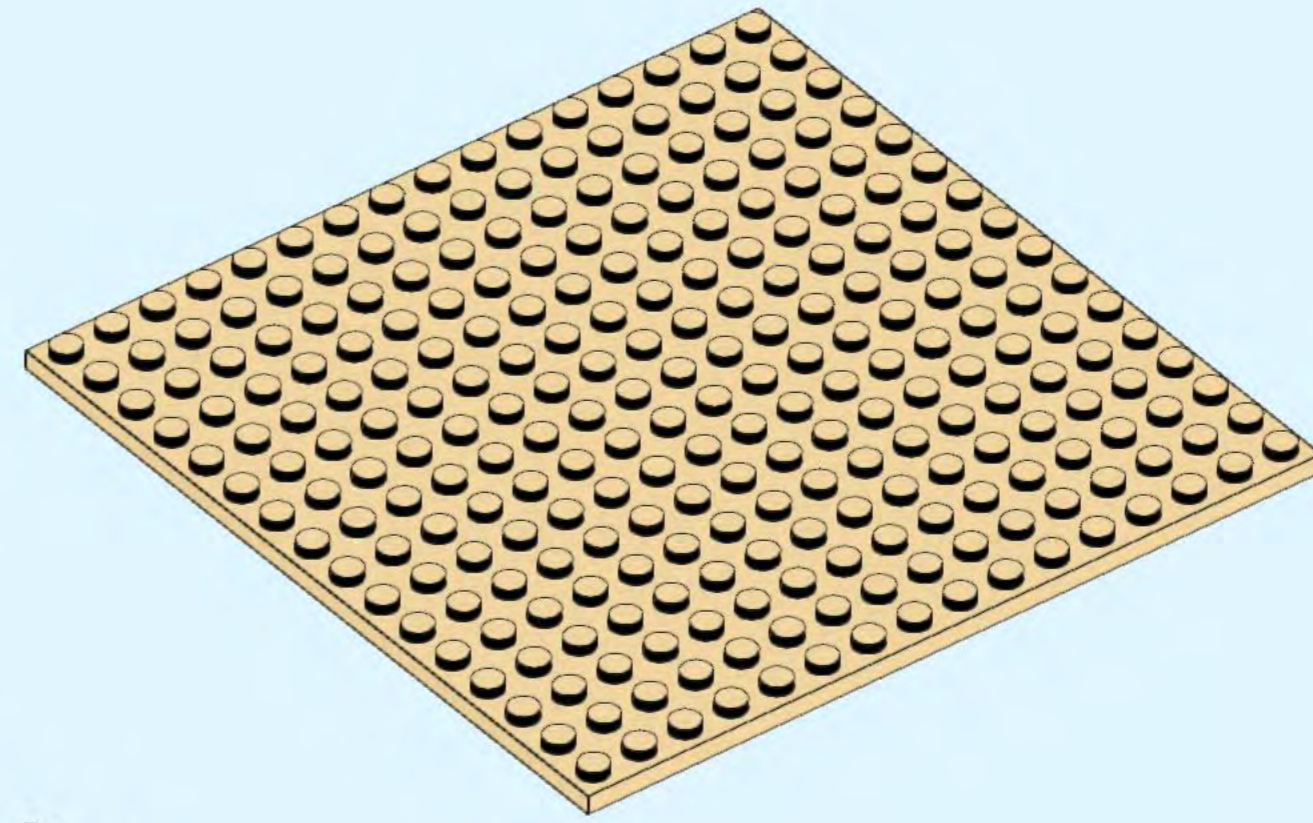
10x  
3032, 2



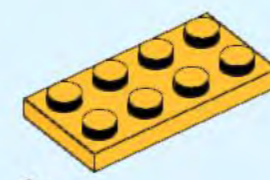
2x  
3460, 2



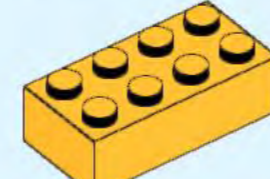
27x  
3034, 2



5x  
91405, 2



2x  
3020, 110



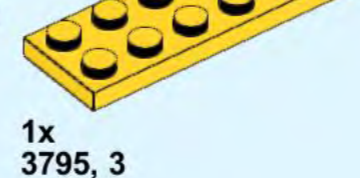
2x  
3001, 110



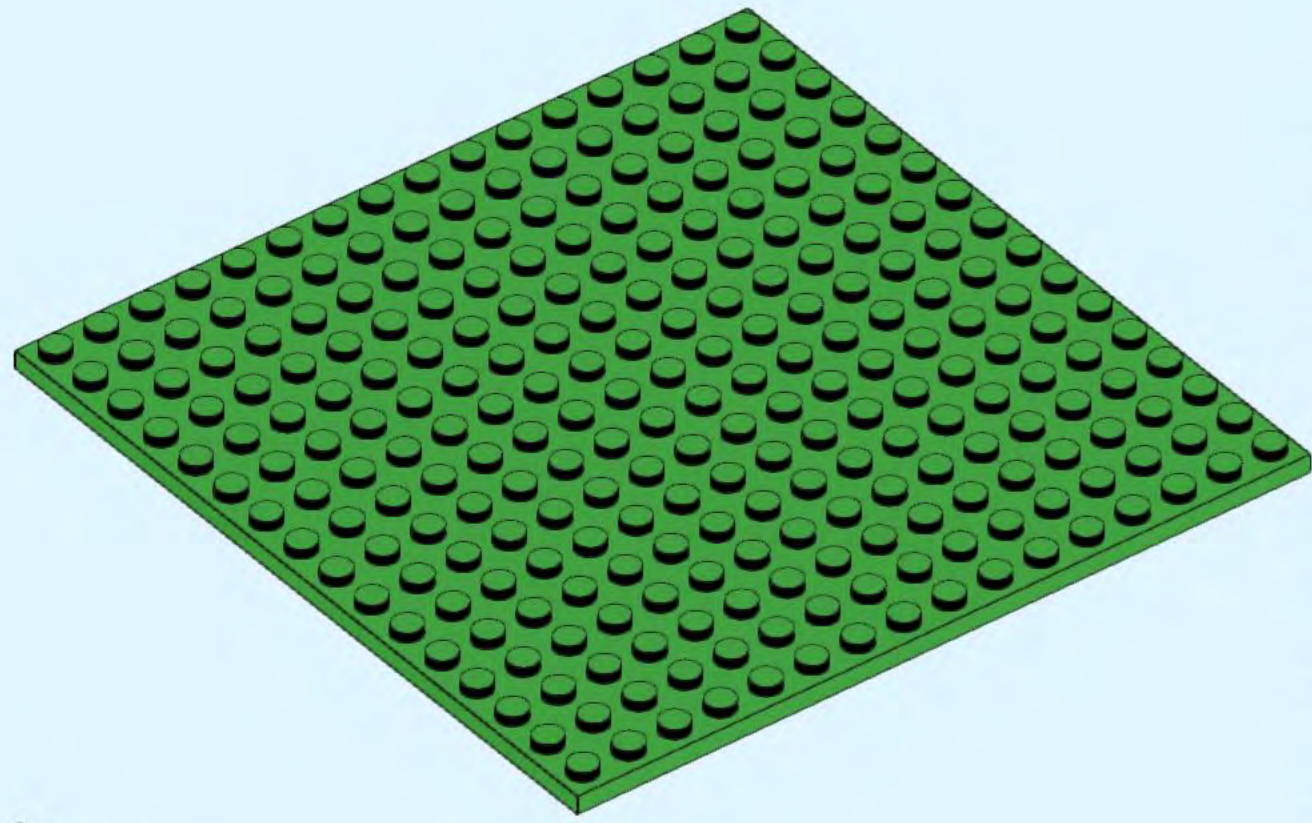
20x  
3068b, 3



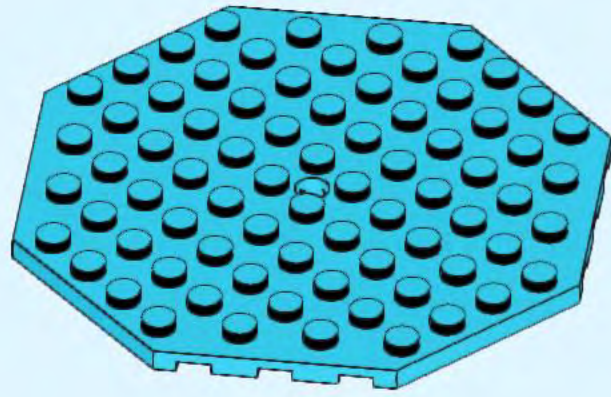
2x  
3022, 3



1x  
3795, 3



2x  
91405, 36



1x  
89523, 156



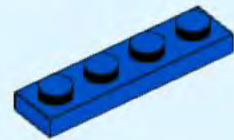
8x  
3023, 7



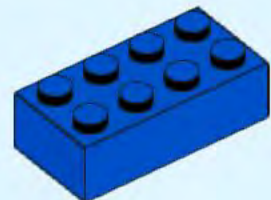
1x  
43093, 7



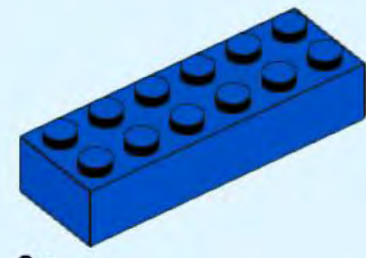
17x  
3021, 7



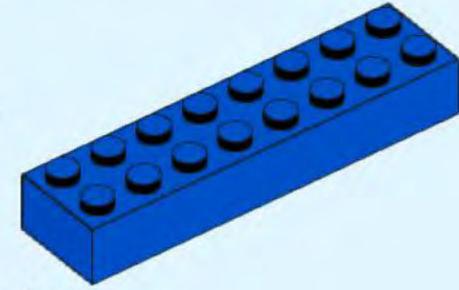
7x  
3710, 7



4x  
3001, 7



8x  
2456, 7



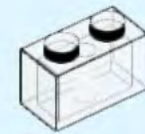
4x  
3007, 7



8x  
3069b, 89



8x  
3062b, 71



2x  
3004, 12



2x  
53451, 66