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Project No.: 2021-1-EL01-KA220-SCH-000023967
KA220-SCH - Cooperation partnerships in school education






# Simple & Powered Machines

# Land Yacht




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Discuss with your students if anyone is sailing. If yes, let him/her to describe his/her experience.

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## Land Yacht










Either as a sport, or as a hobby, sailing is popular in many Mediterranean countries.



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## Land Yacht



The "driving" of the boat is impressive. Depending on how we want to move, we turn the sail properly.



Exactly! So as to use all the energy of the wind.

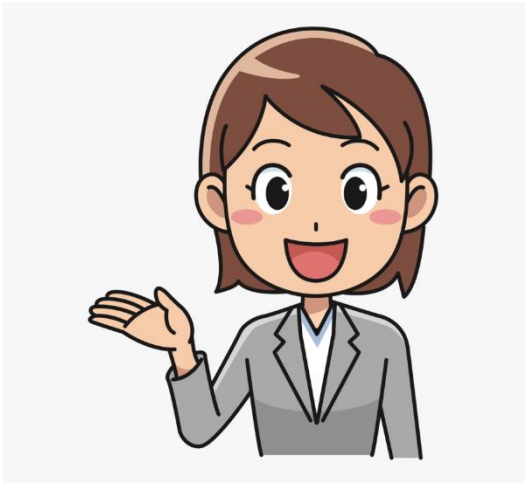


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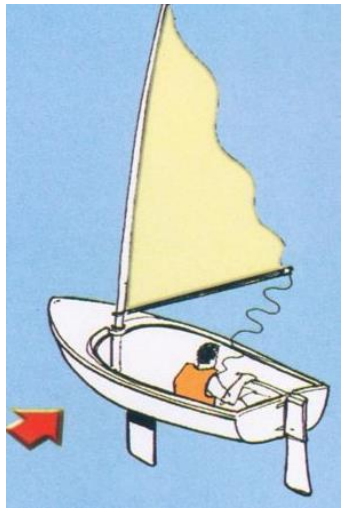
Discuss with your students how we use the wind to drive the boat.

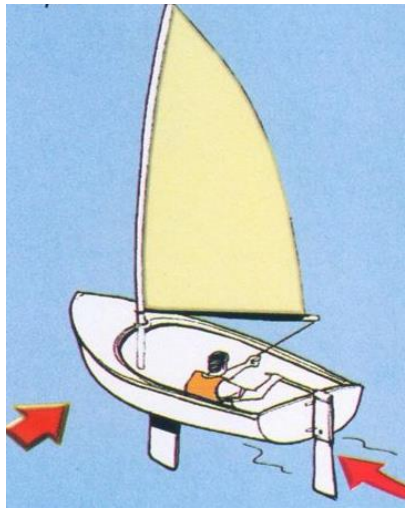
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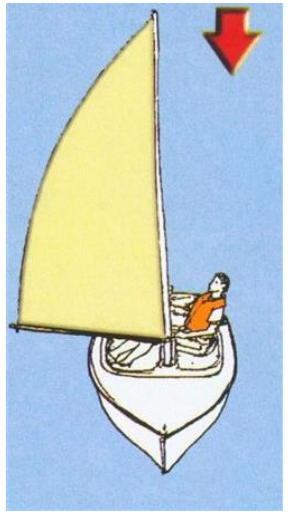
## Land Yacht

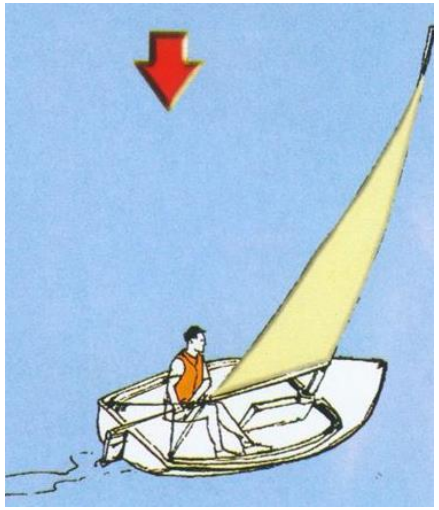


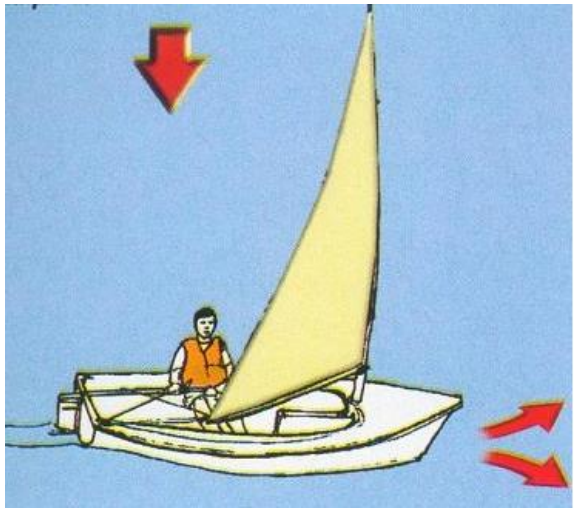
- When the sail is free, the boat does not move. If we move the sail properly inwards, it takes an aerodynamic shape and the boat moves. Since there is no brake, when we want to brake, we let the sail free (first 2 pictures)
- To direct the boat, we turn the steering wheel towards the direction we want. The motion of the steering wheel changes the flow of water, so the boat turns
- Depending on how we want to travel in relation to the wind, we put the sail to a suitable angle, e.g., when we travel towards the weather (picture 4) the sails are at 45°
- Depending on how we want to move, we turn the sail to the appropriate degrees. The position of our body also plays an important role in the balance of the boat (see pictures 3-5)











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Some information on the driving of the boat are presented here. Decide whether they are appropriate to mention them.

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## Land Yacht

Remember that sailing boats have existed since 2000 B.C. Ancient Greeks and other similar civilizations had used the power of the wind to move their ships.





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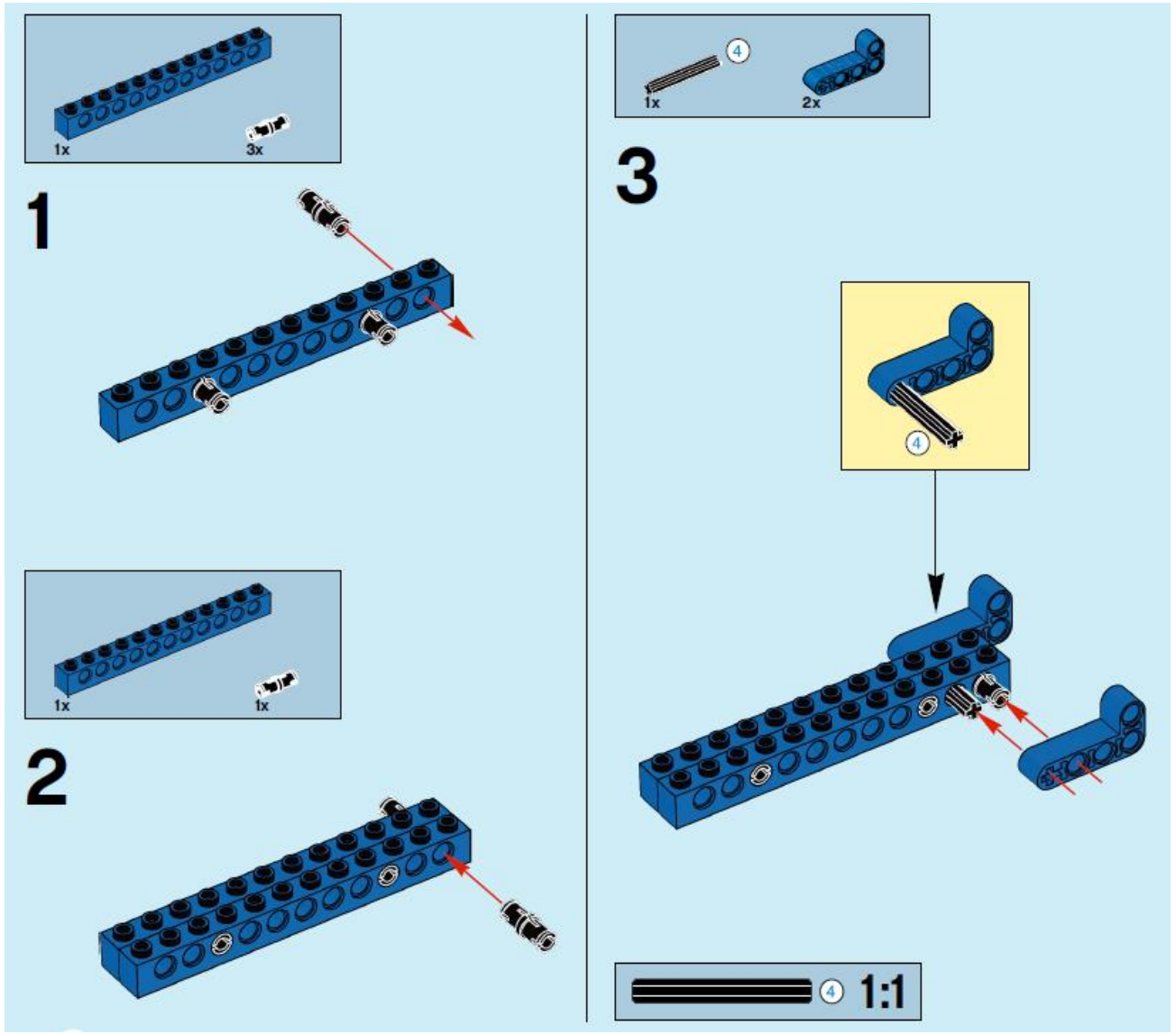
## Land Yacht

Today we will work on a land yacht, to make our work easier.



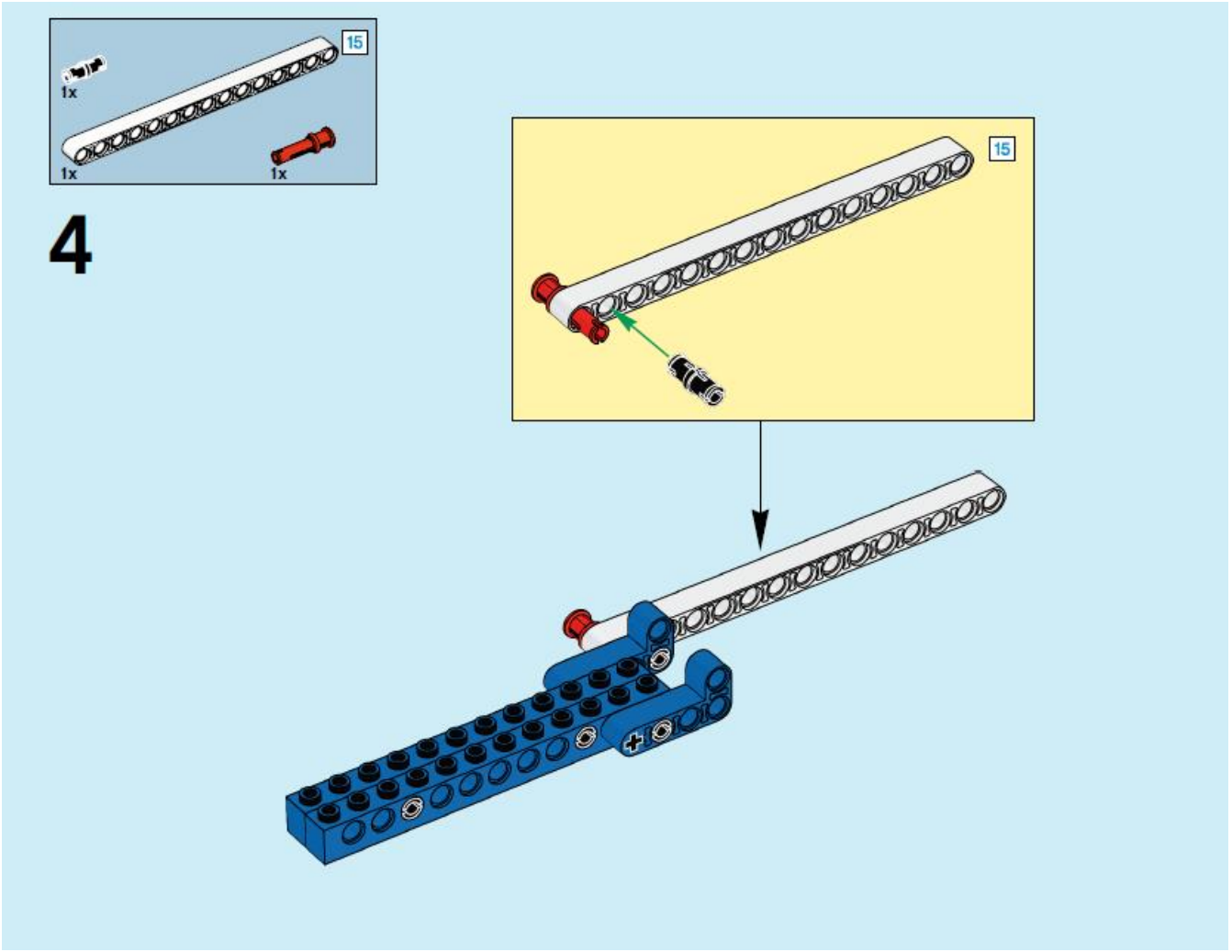
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# Start with the skeleton of the vehicle



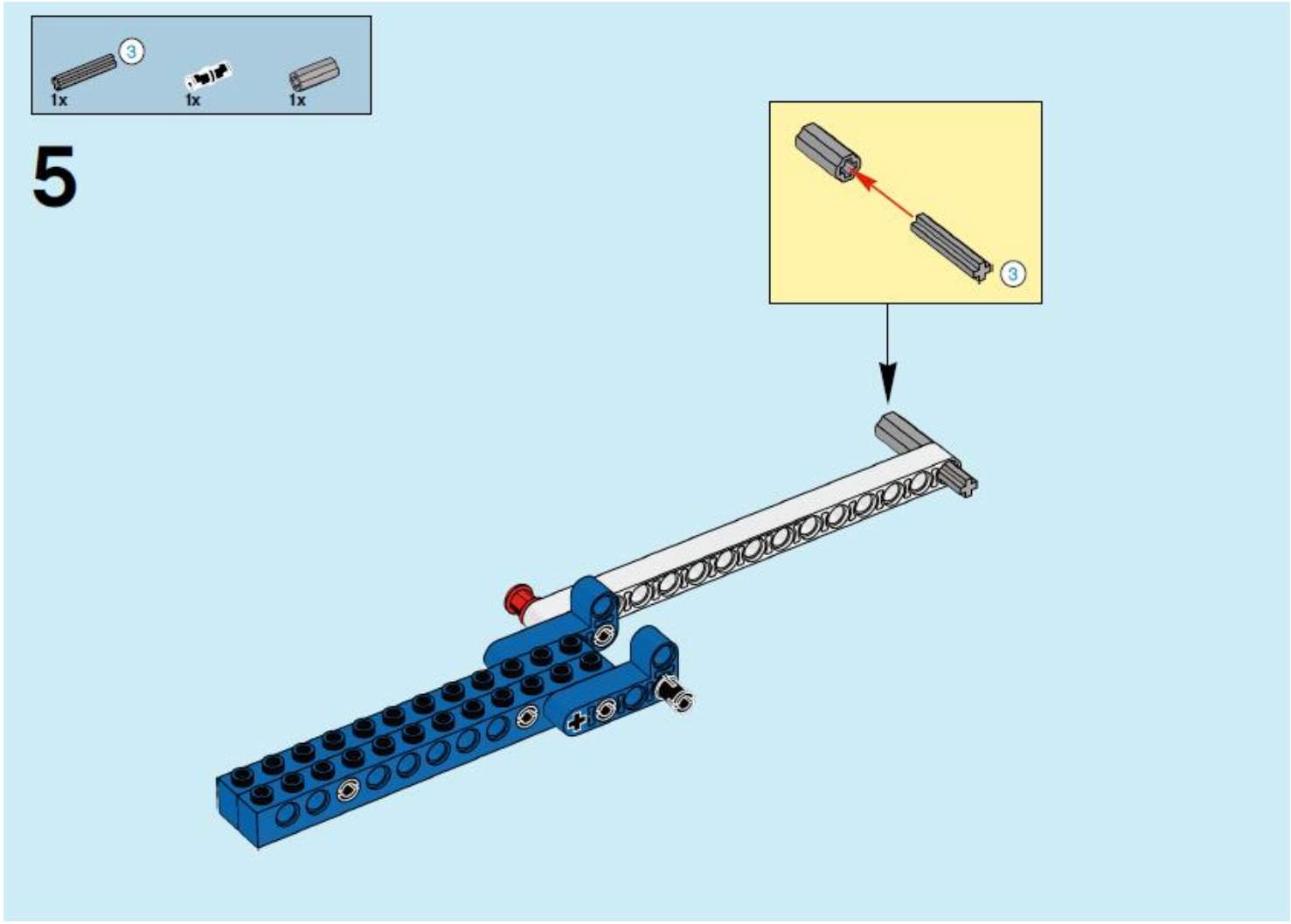

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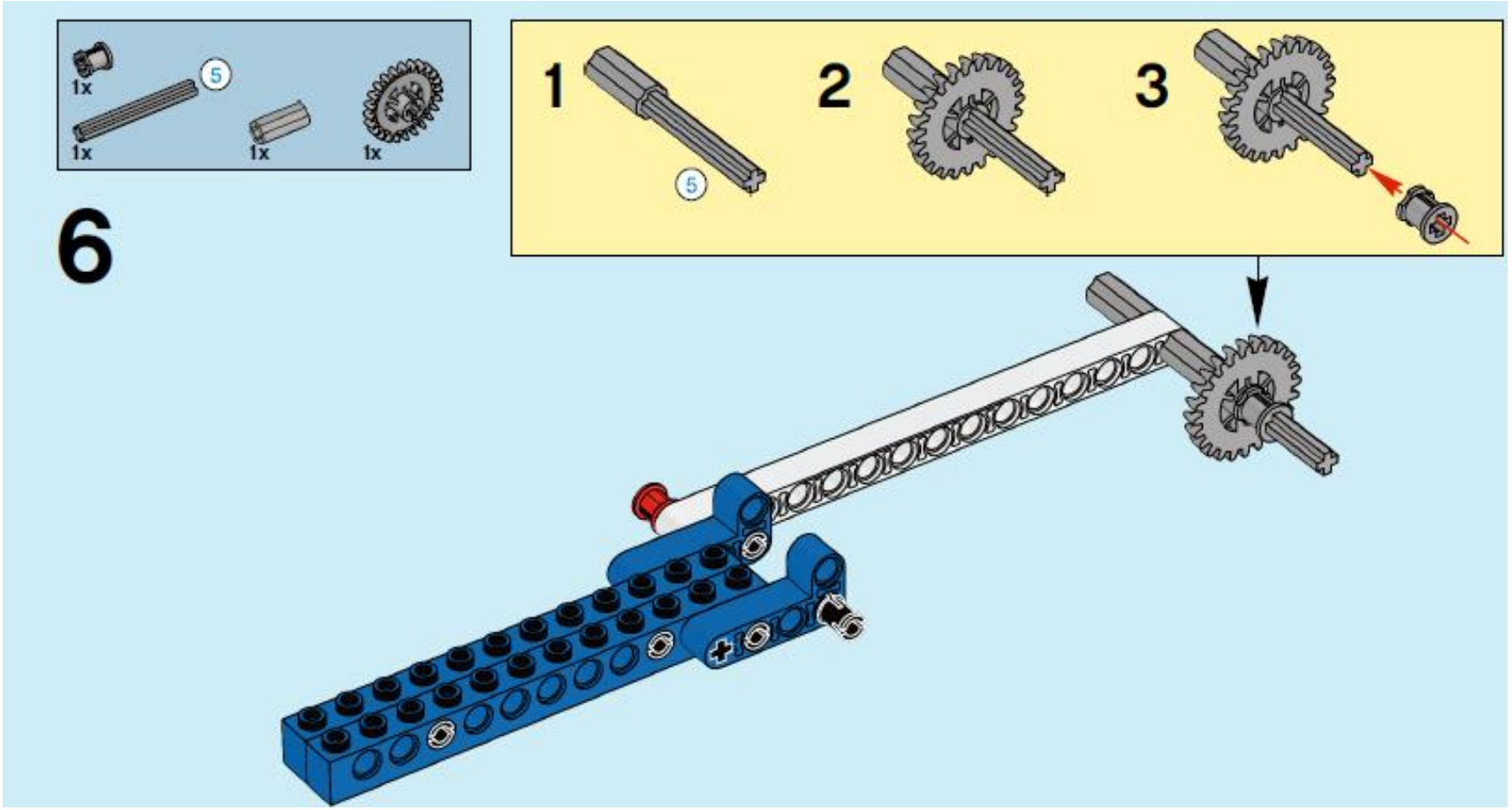

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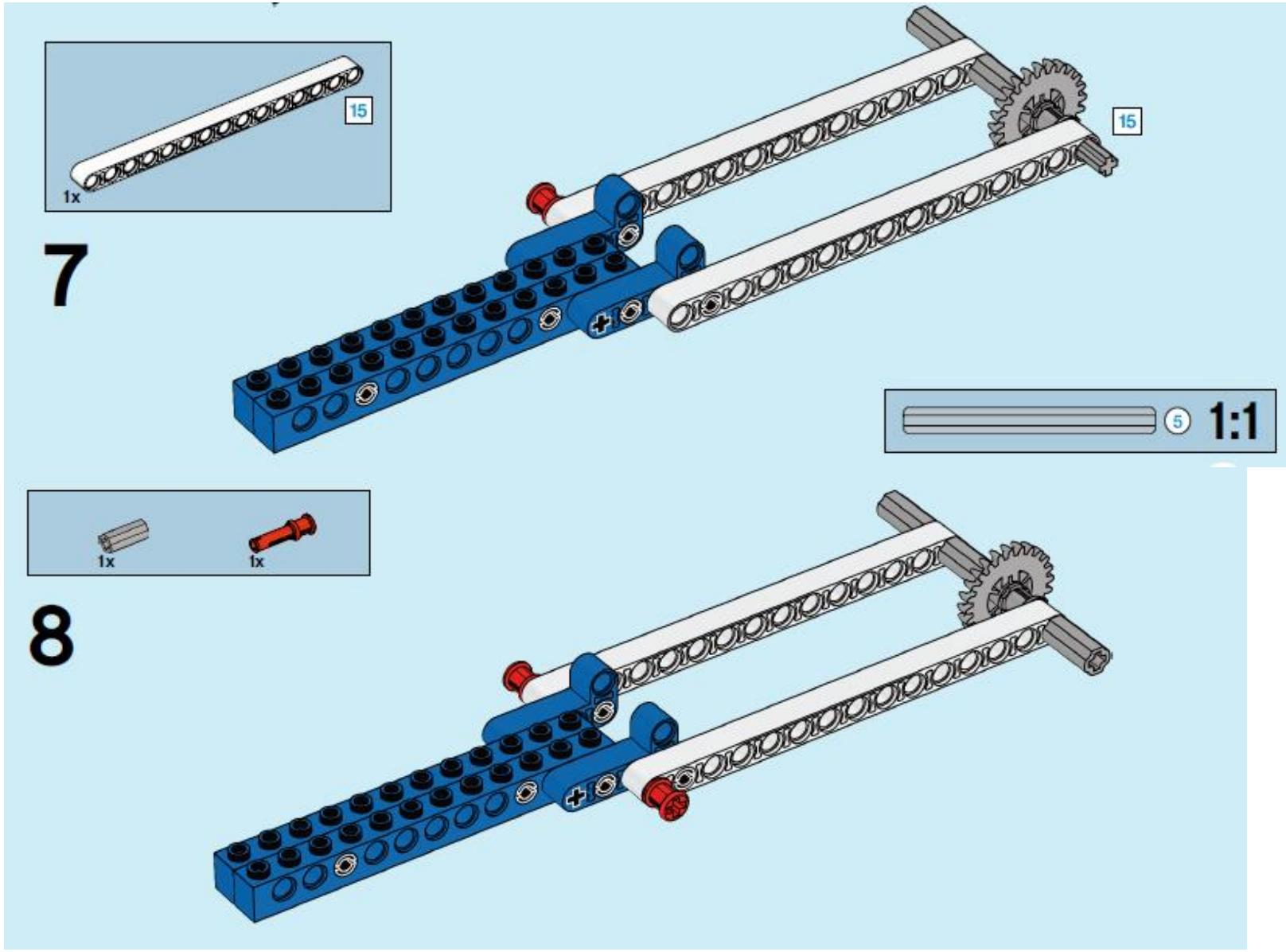
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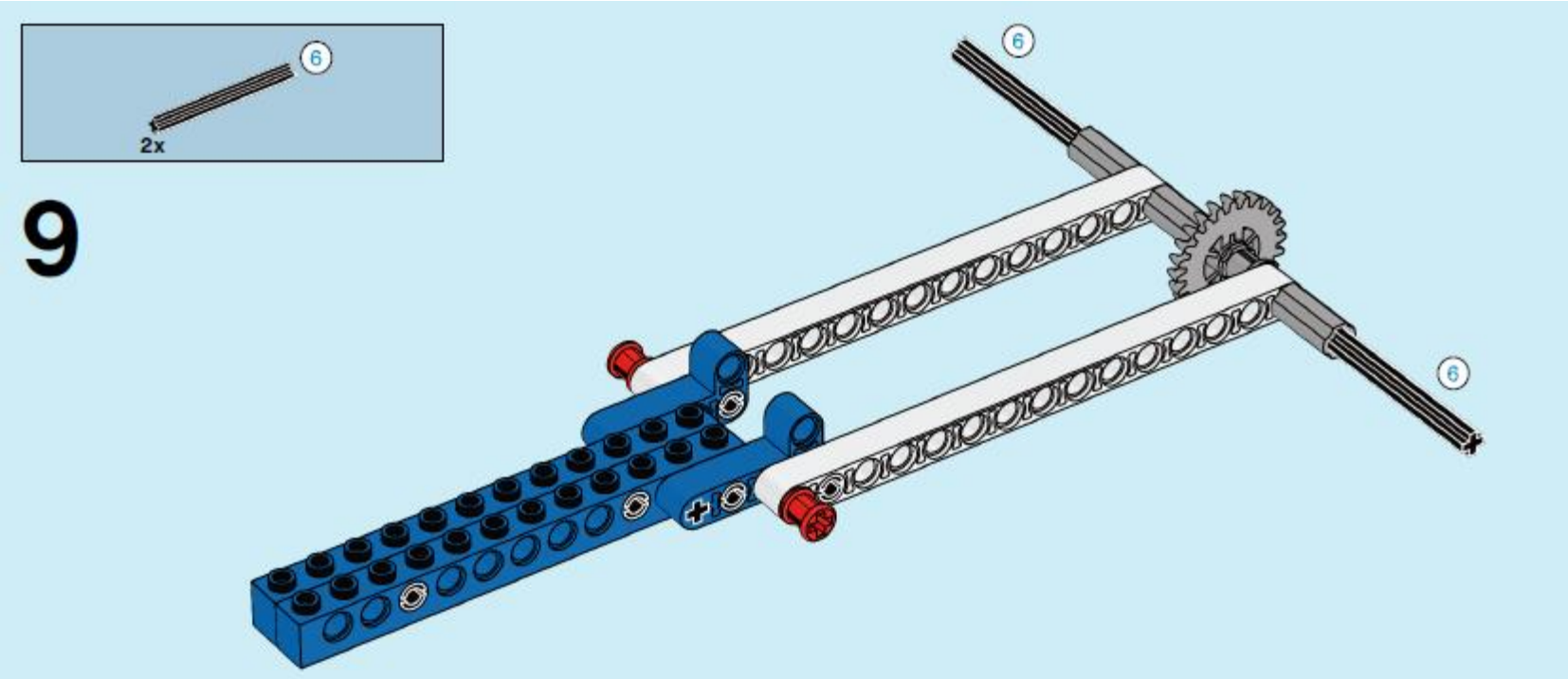
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## Land Yacht



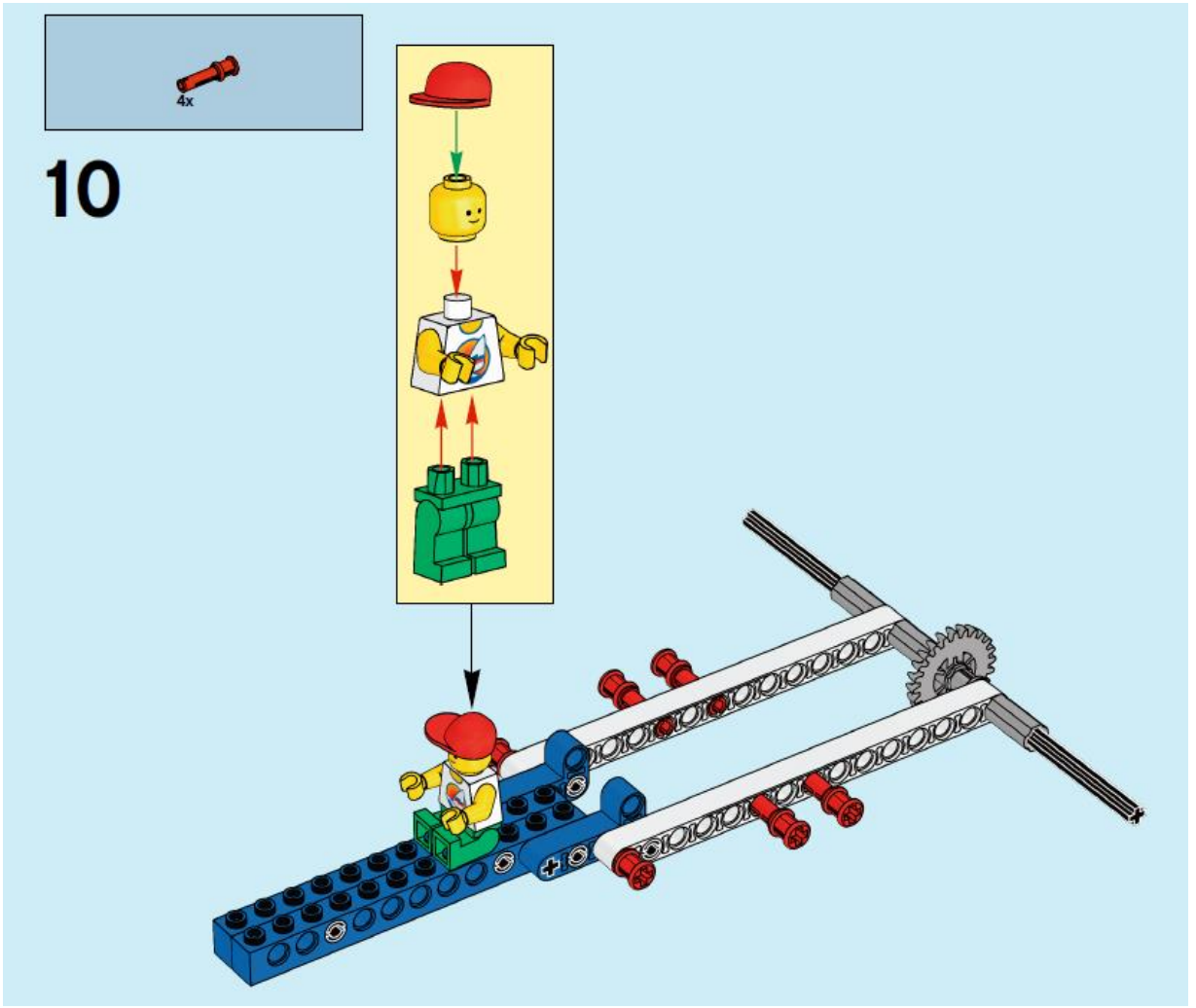

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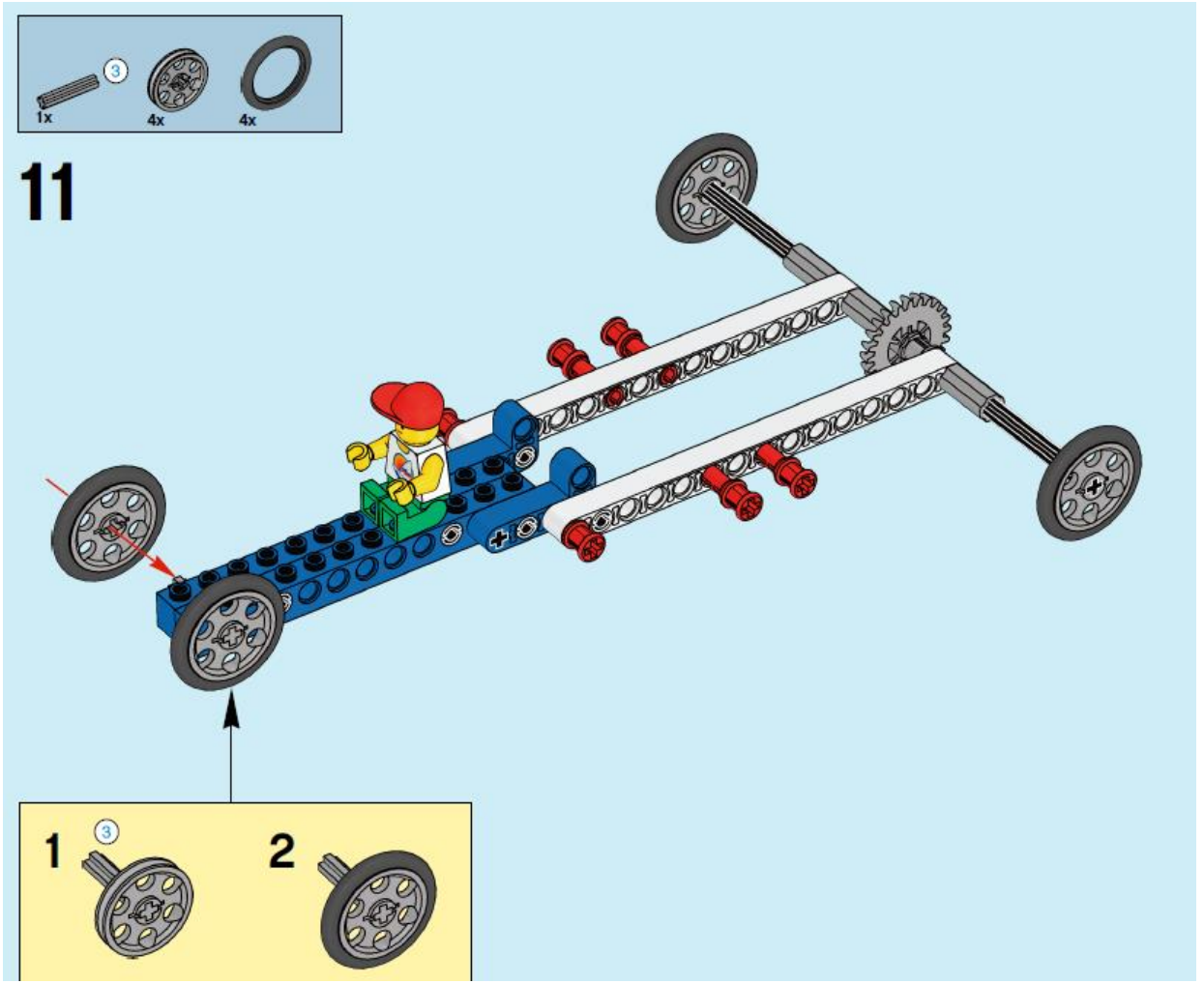

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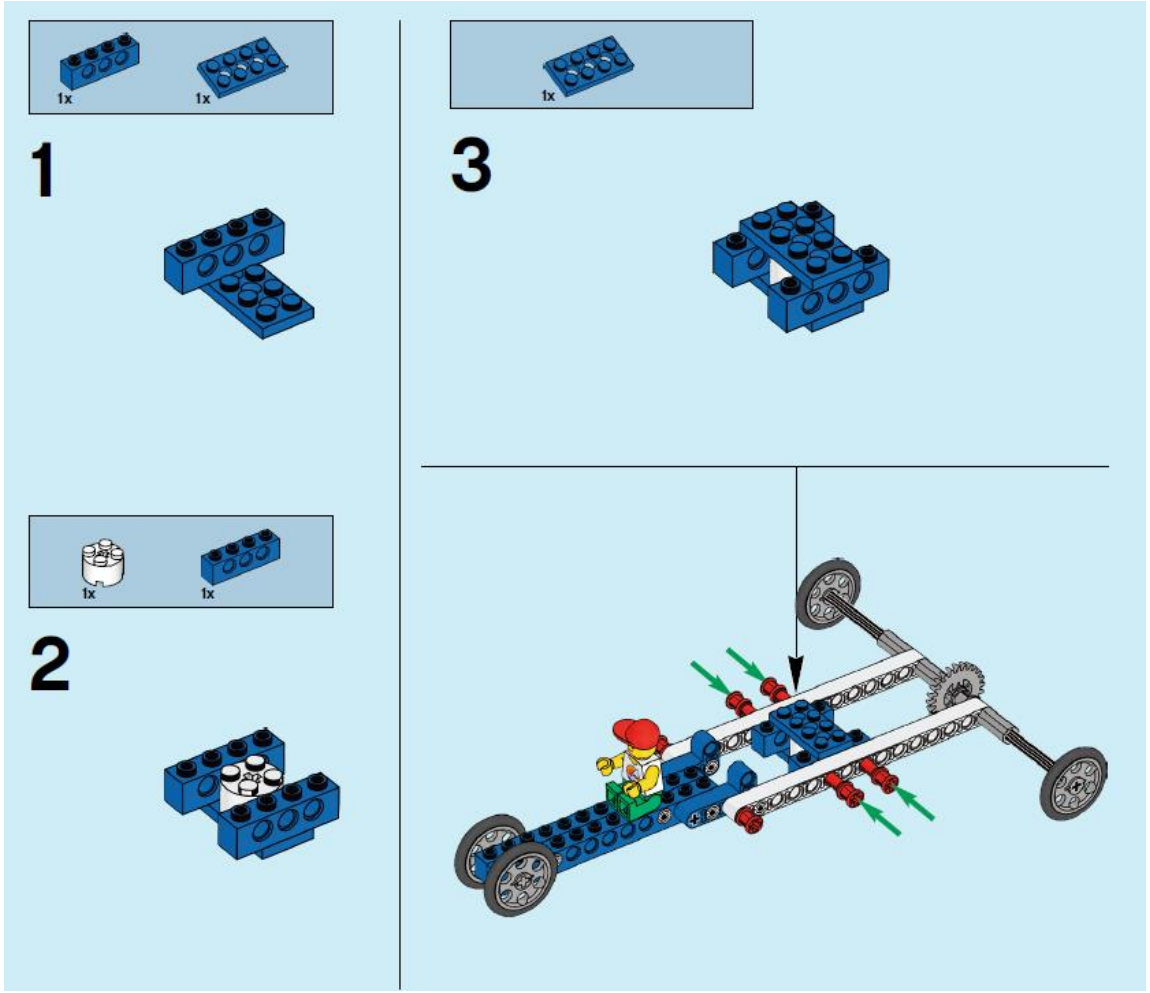

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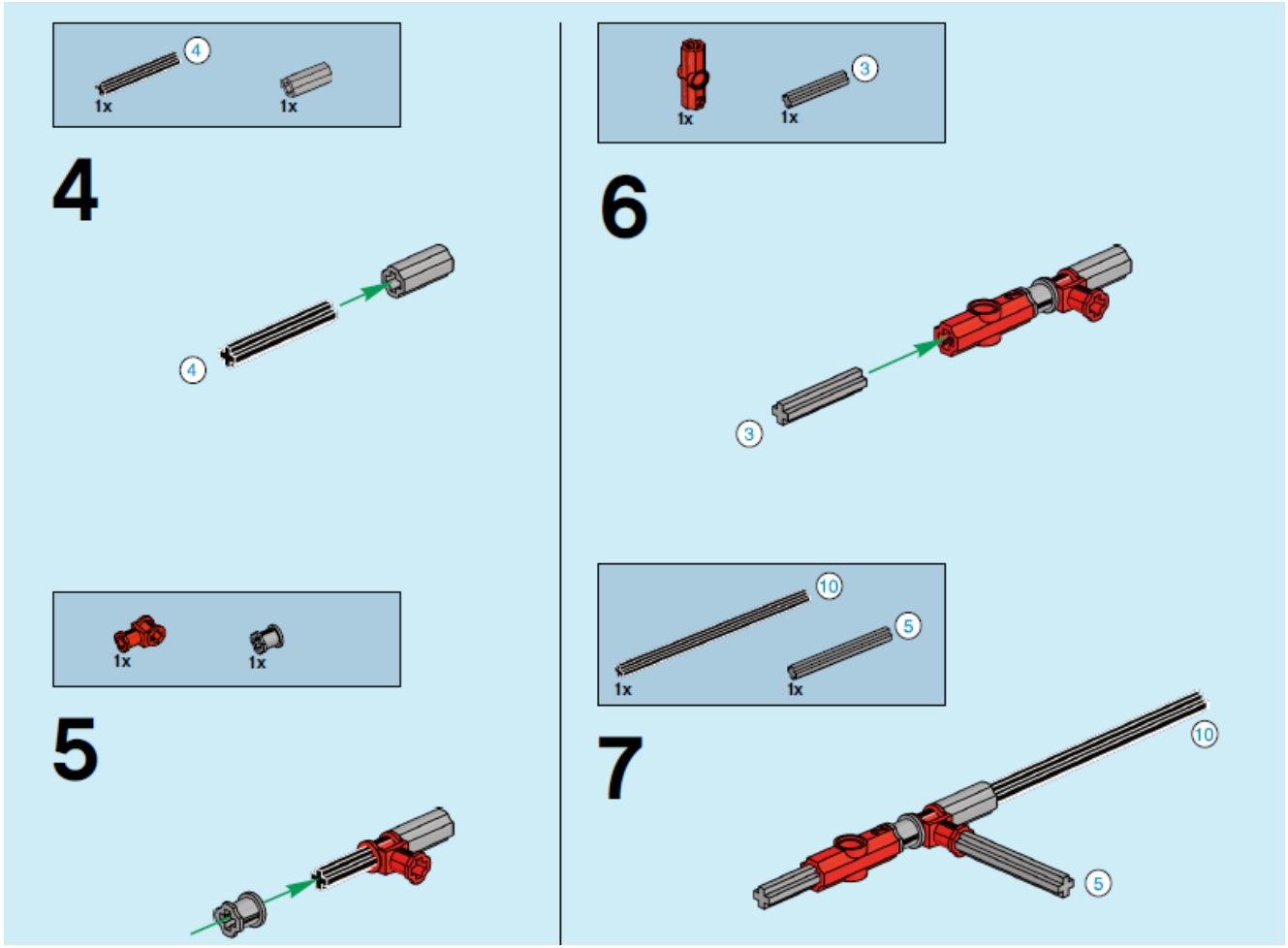
## Land Yacht




**Move on with the upper of the vehicle**

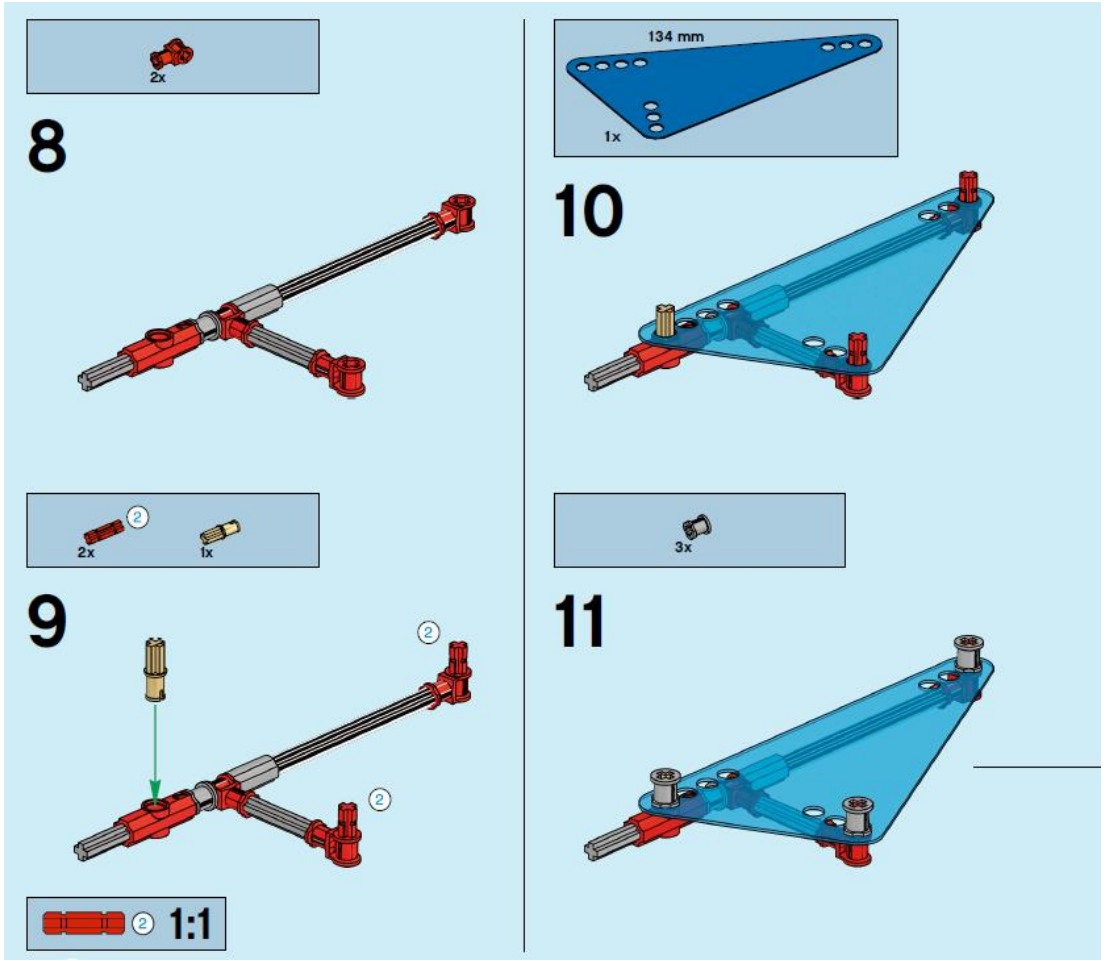
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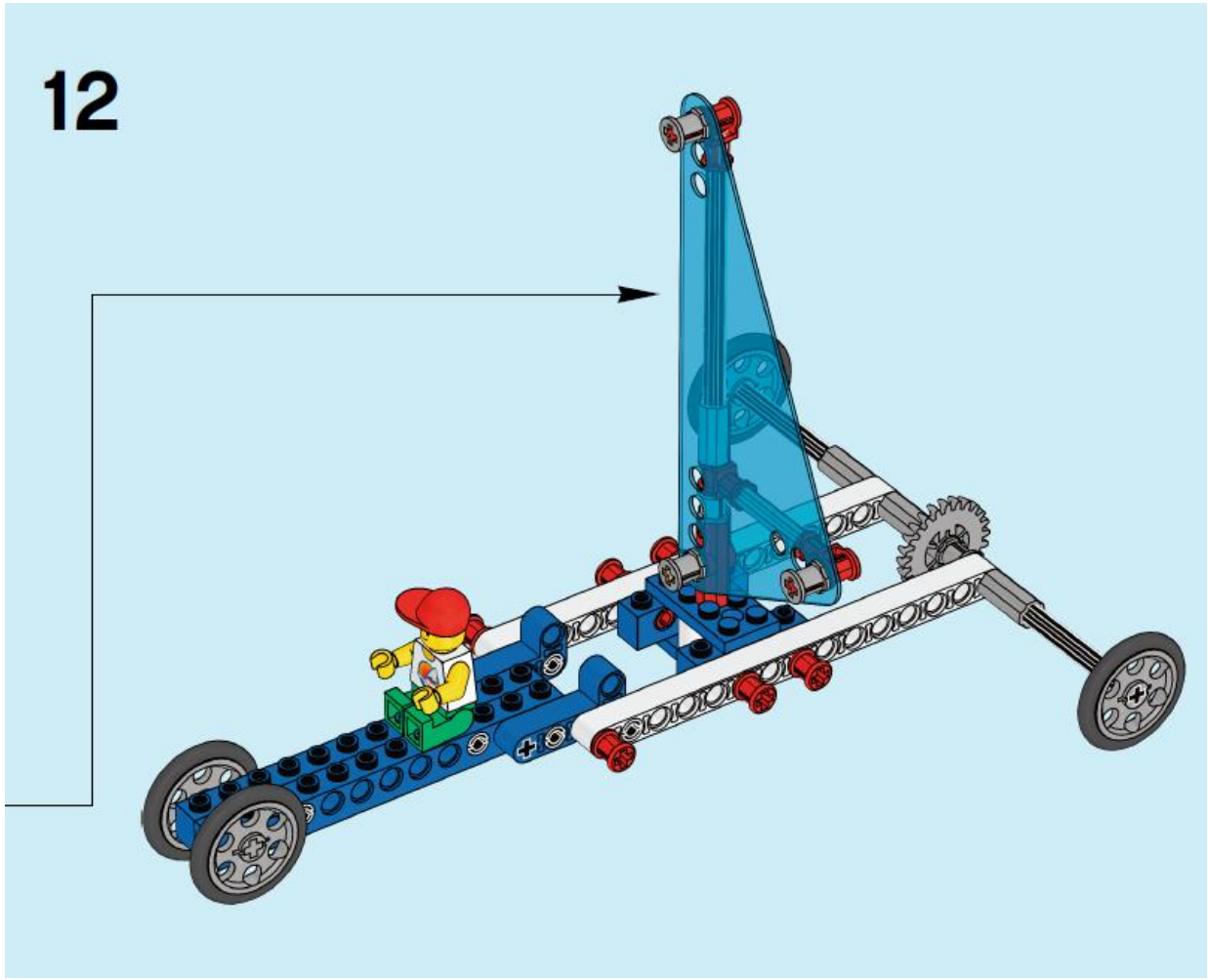
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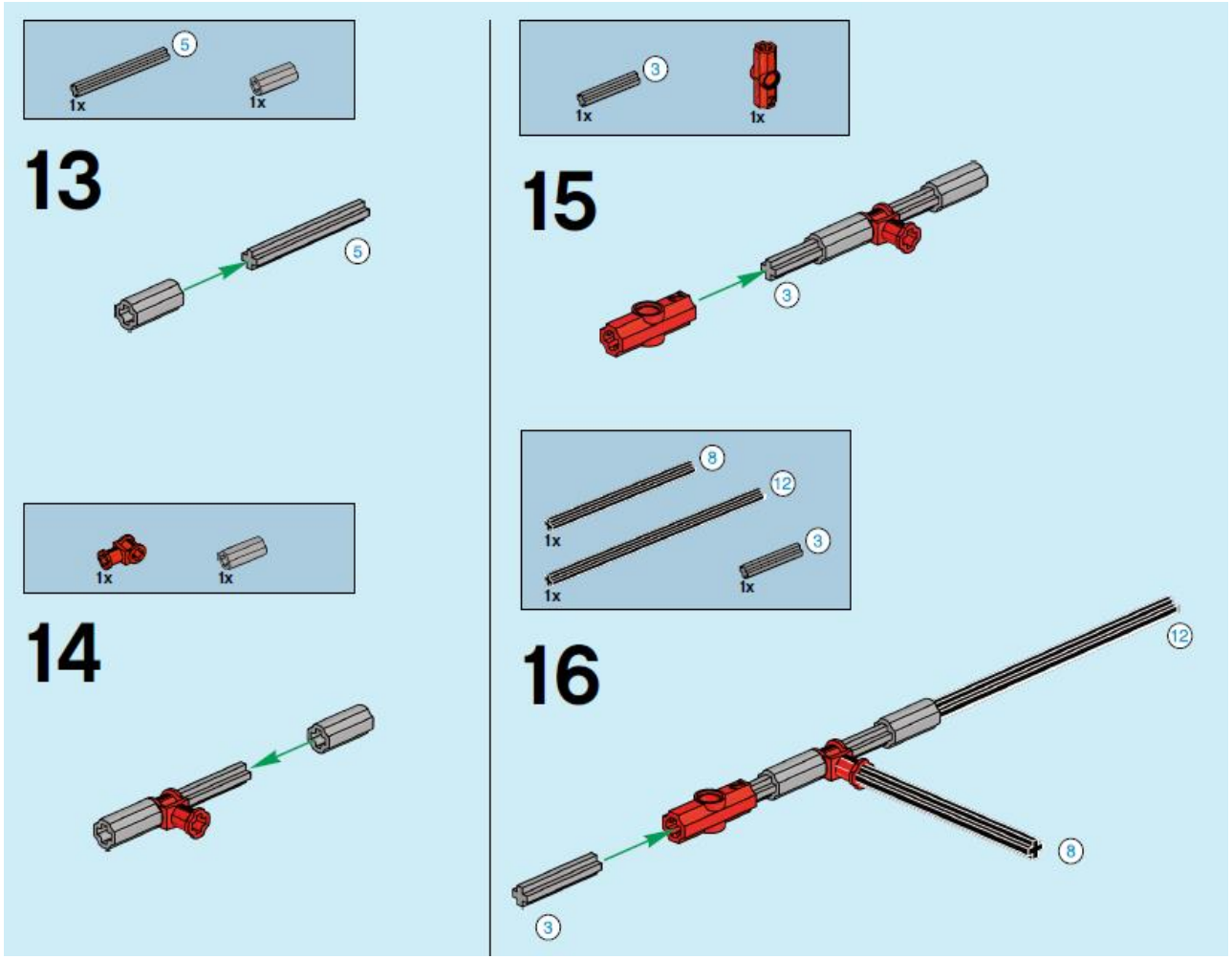

## Add the smallest sail

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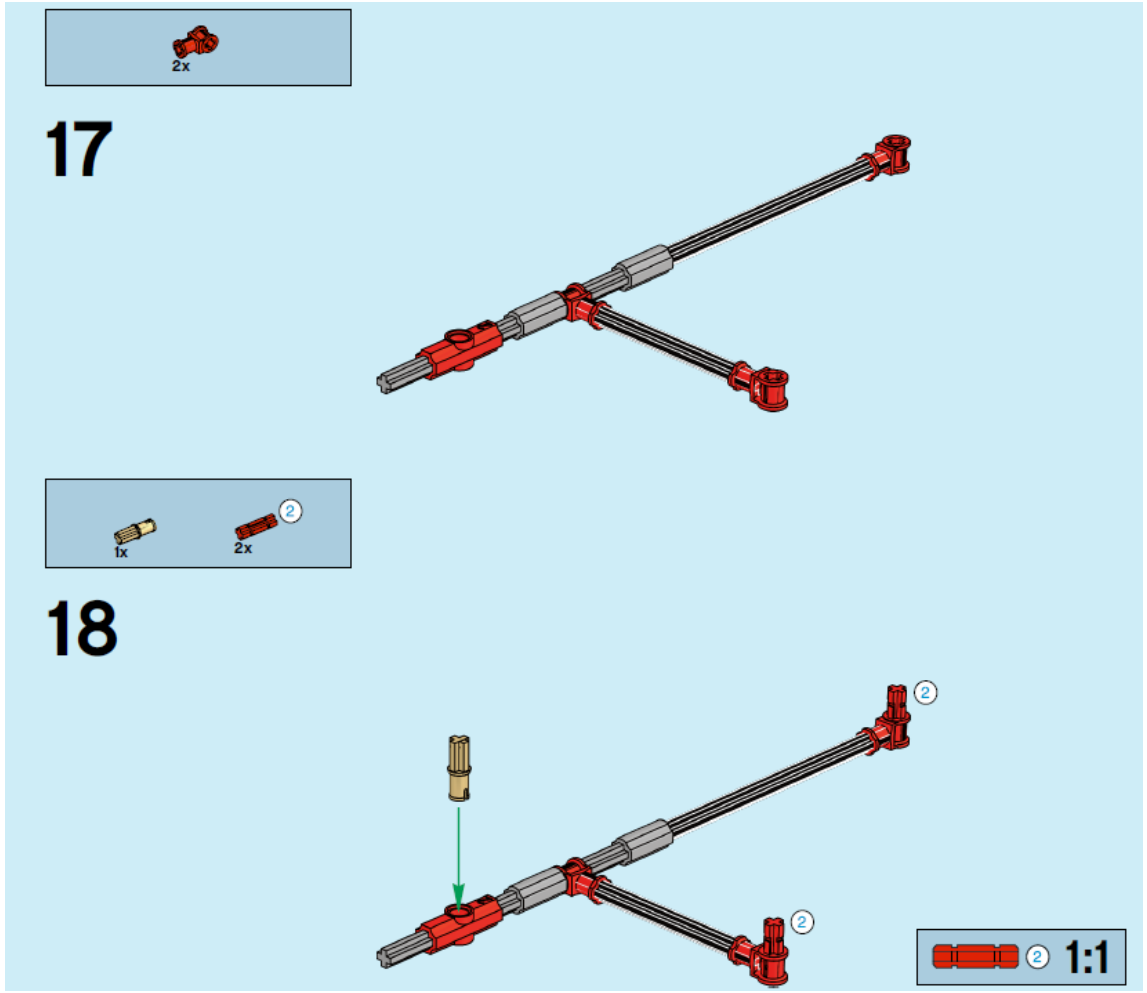

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# Remove the parts of the sail and add what you see now

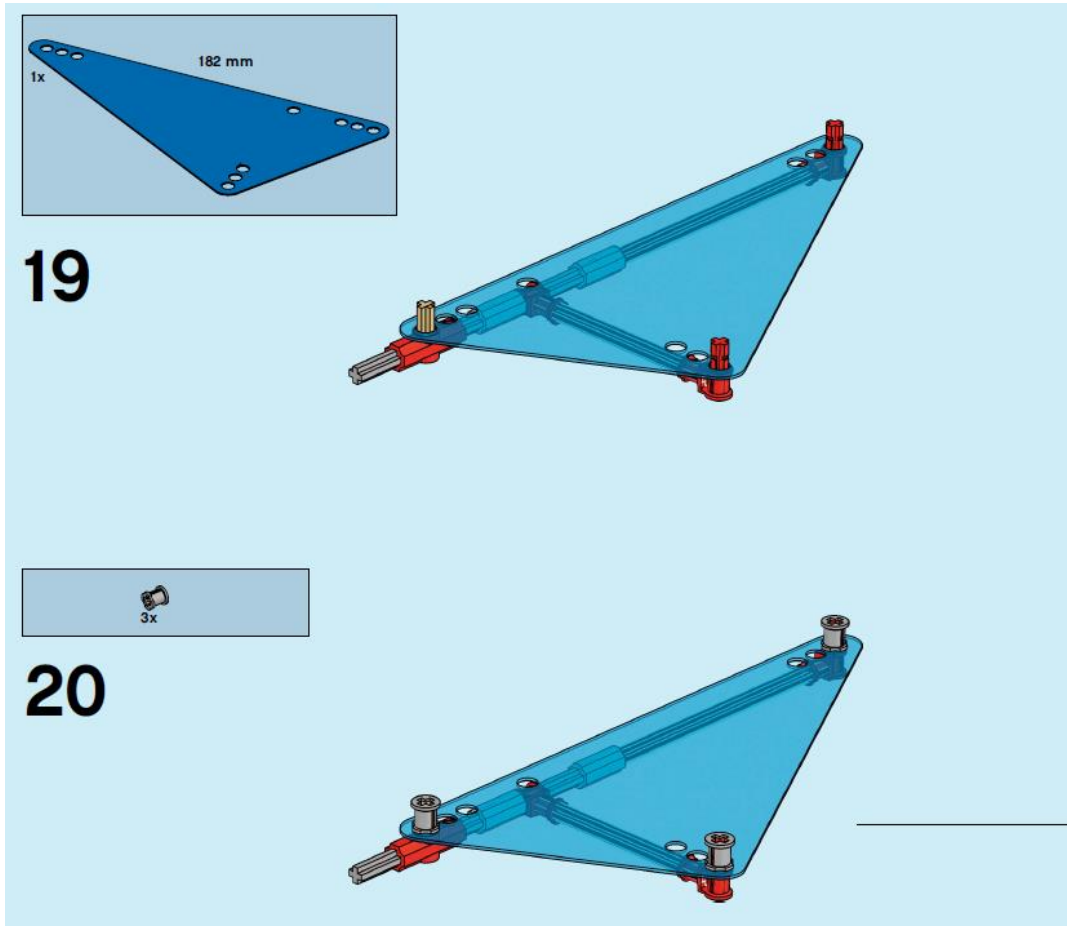
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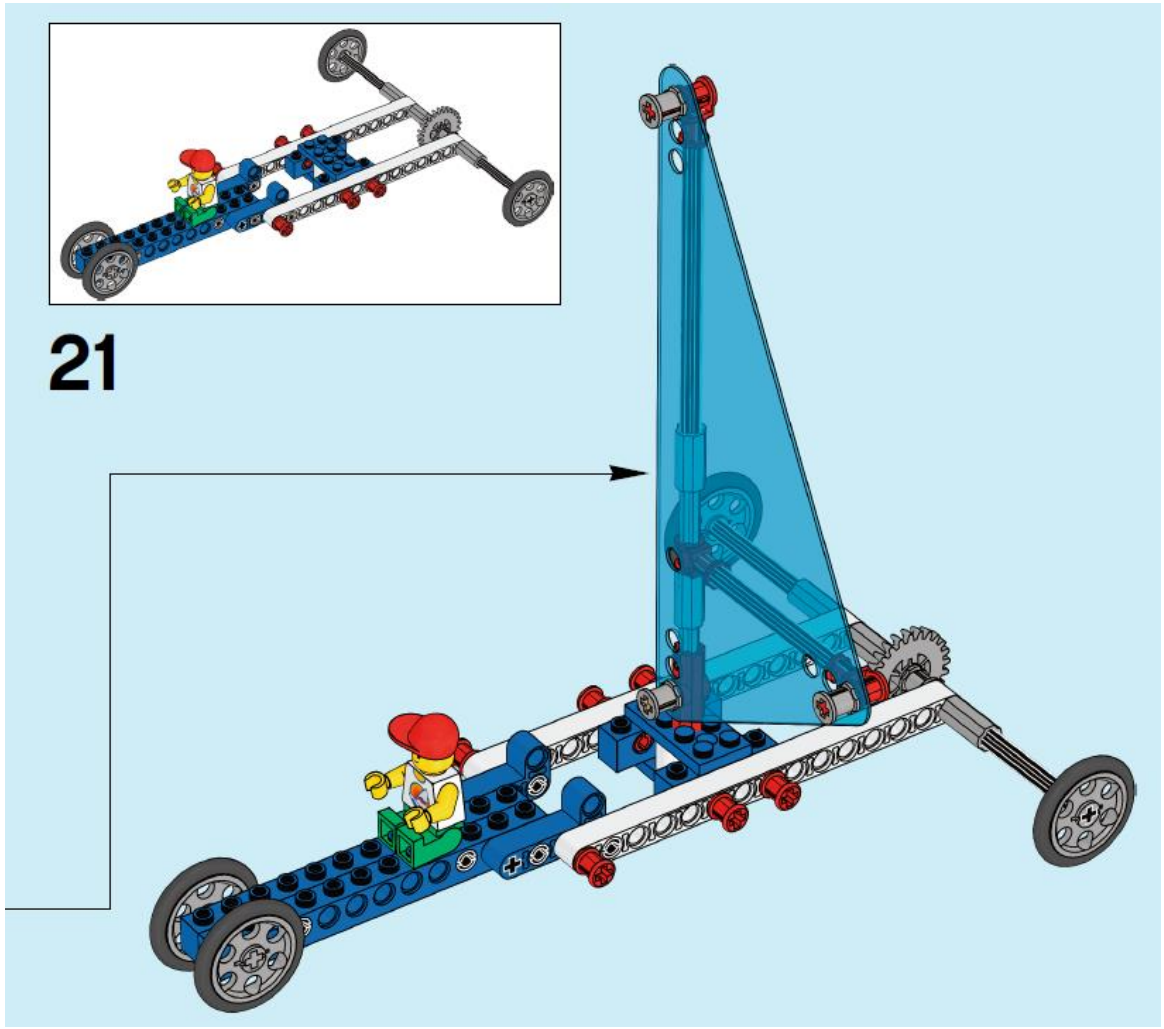
# Add the middle sail



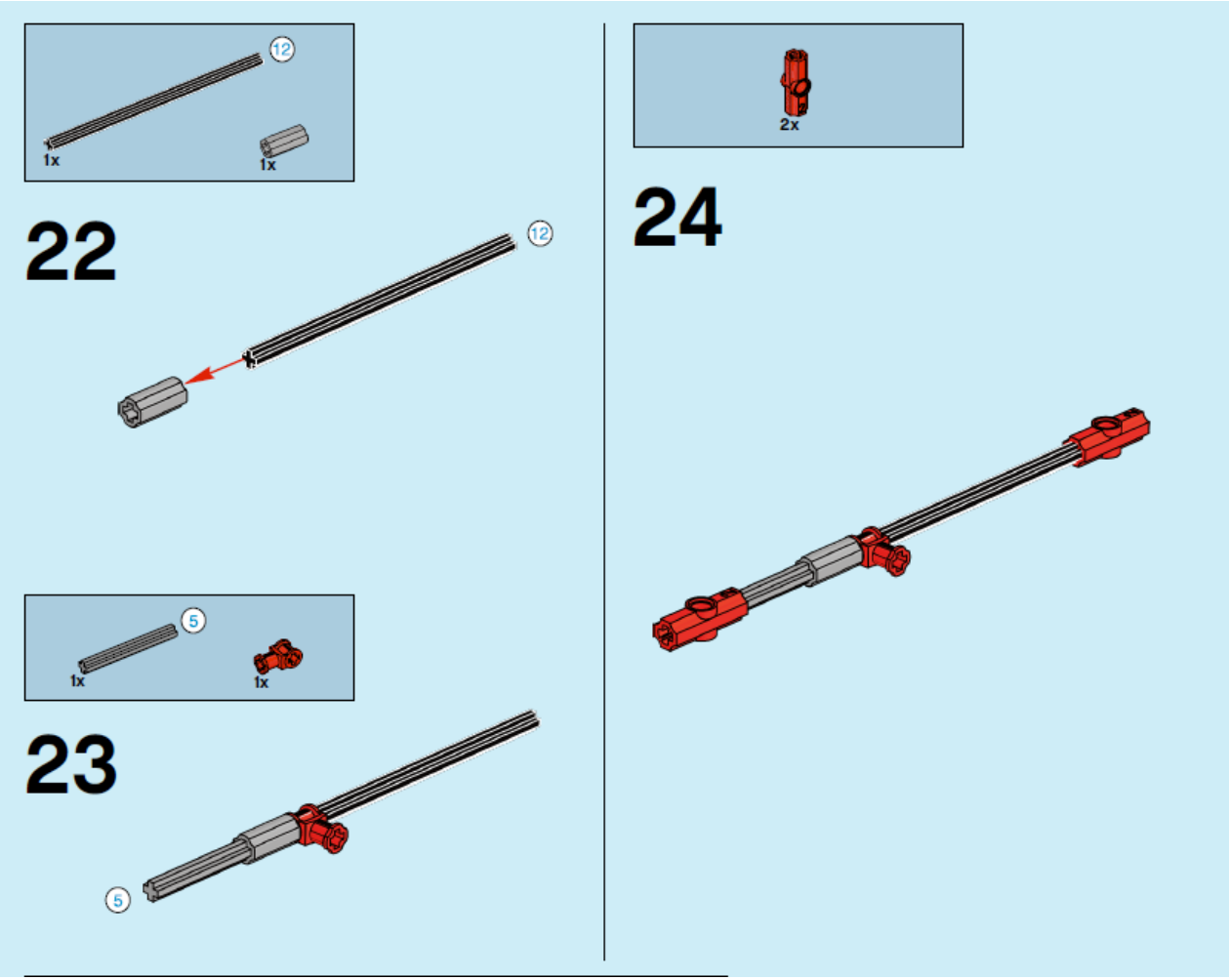

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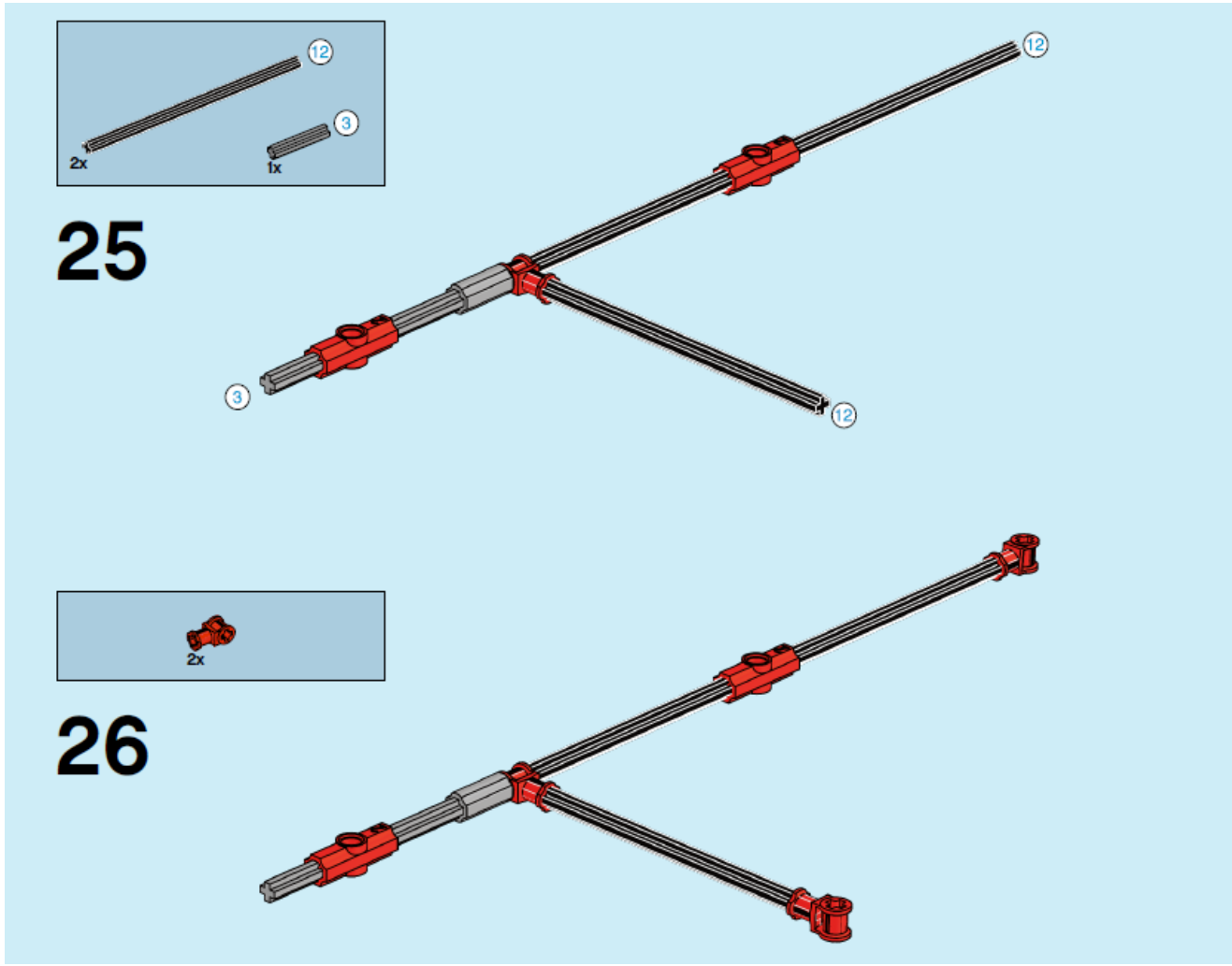

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# Remove the parts of the sail and add what you see now

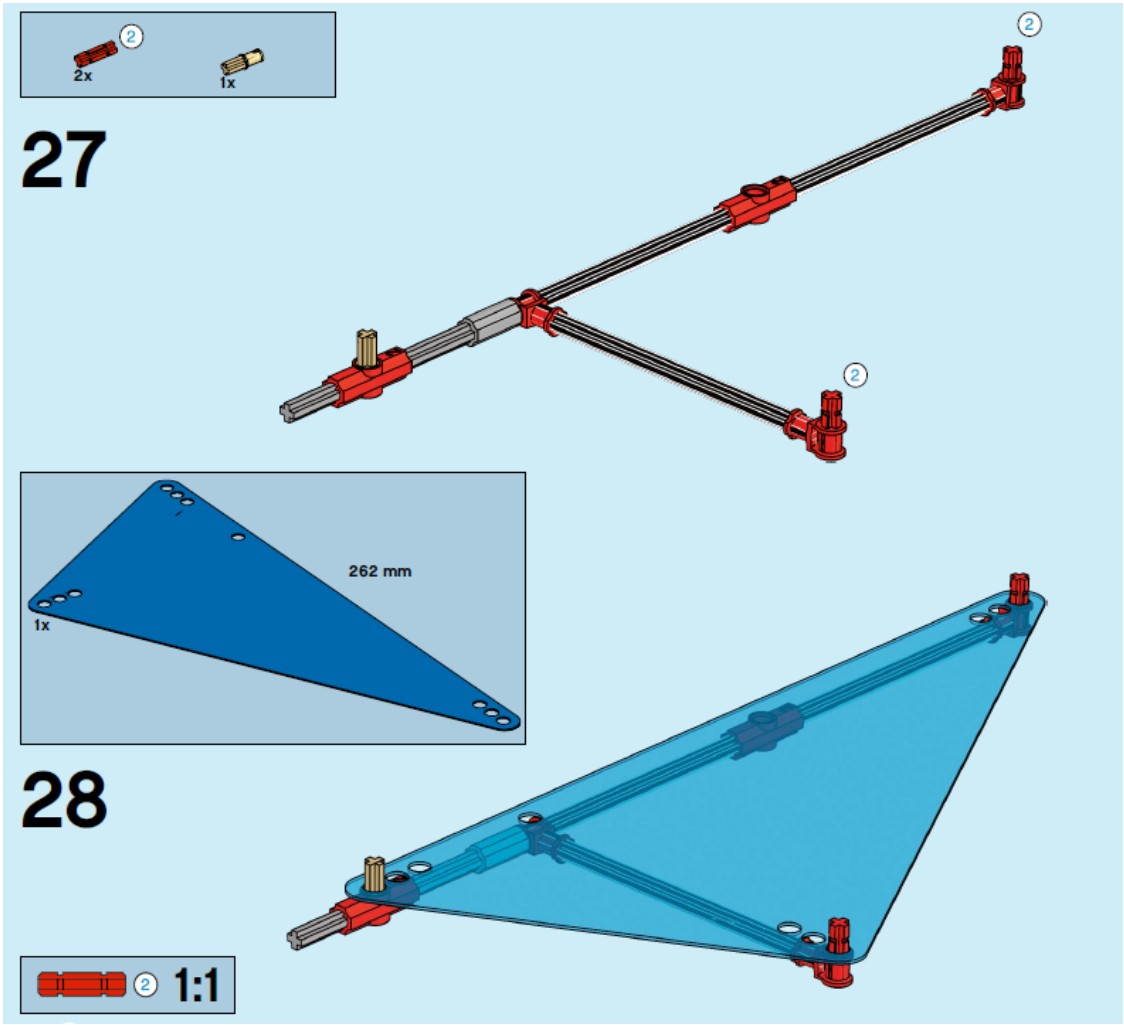
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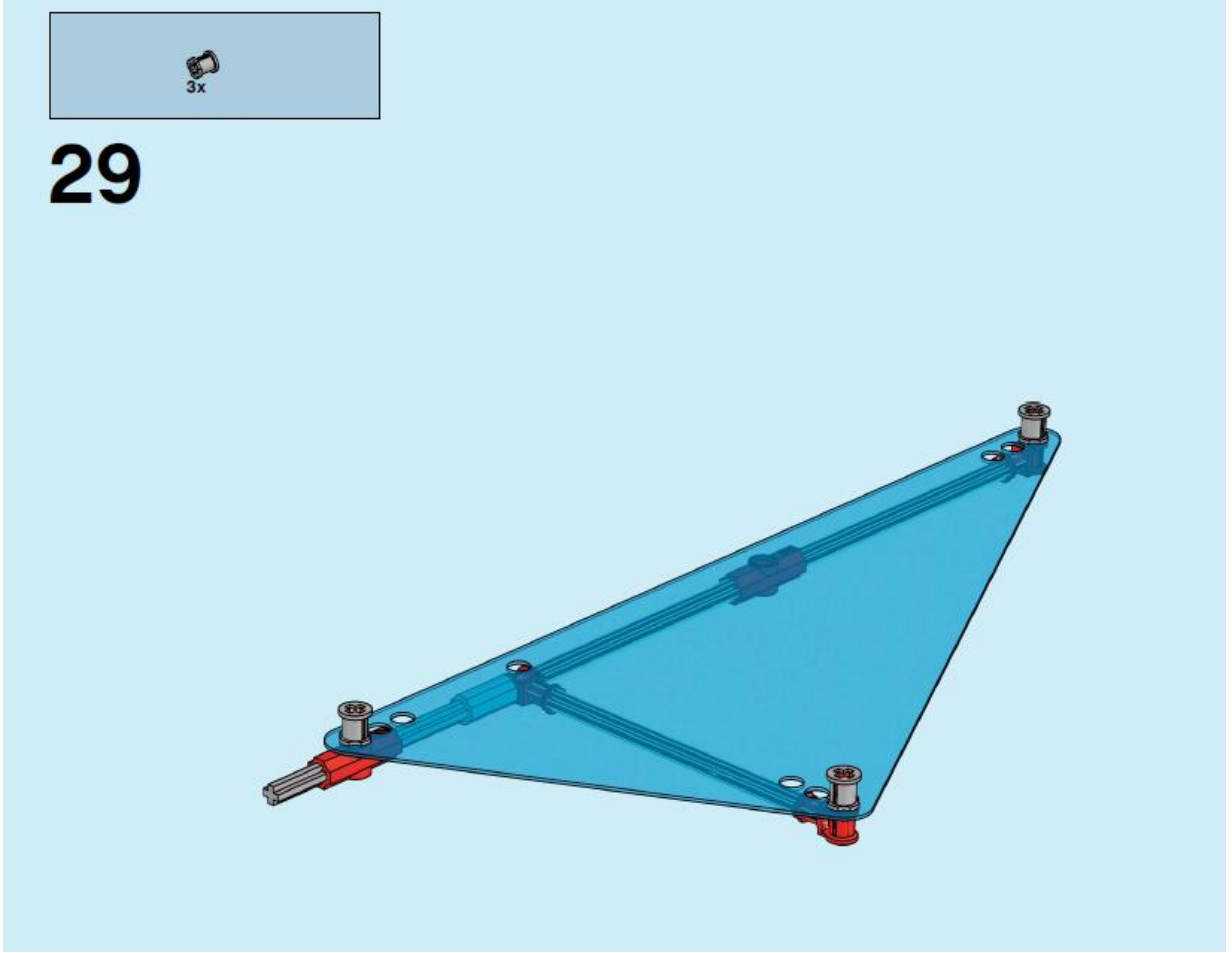

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## Add the biggest sail

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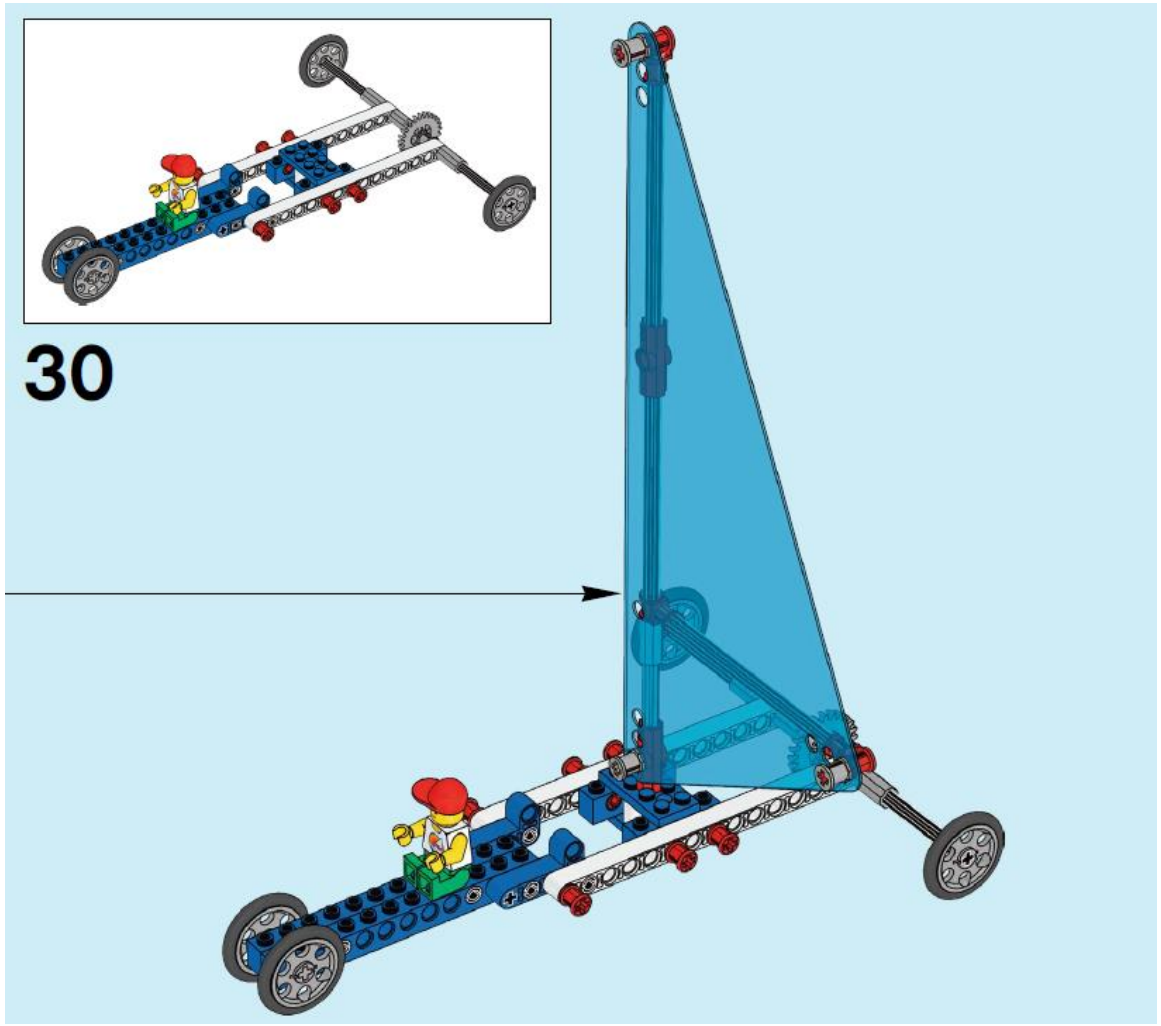



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