

Flipping Gymnast

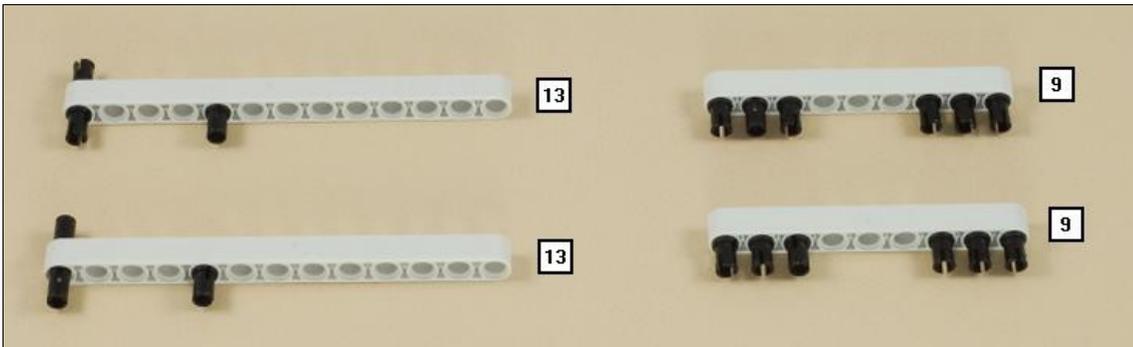
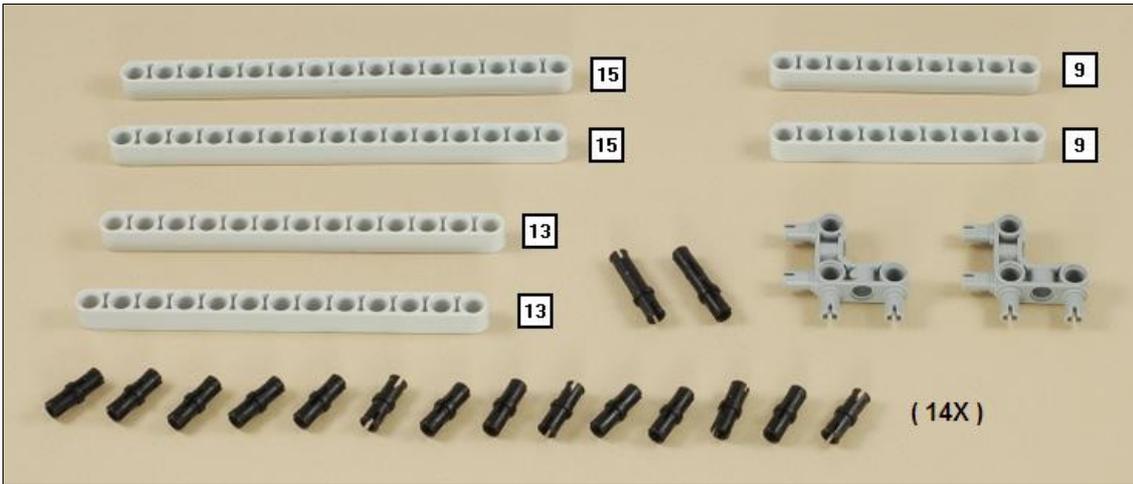
Building: 

Program: 

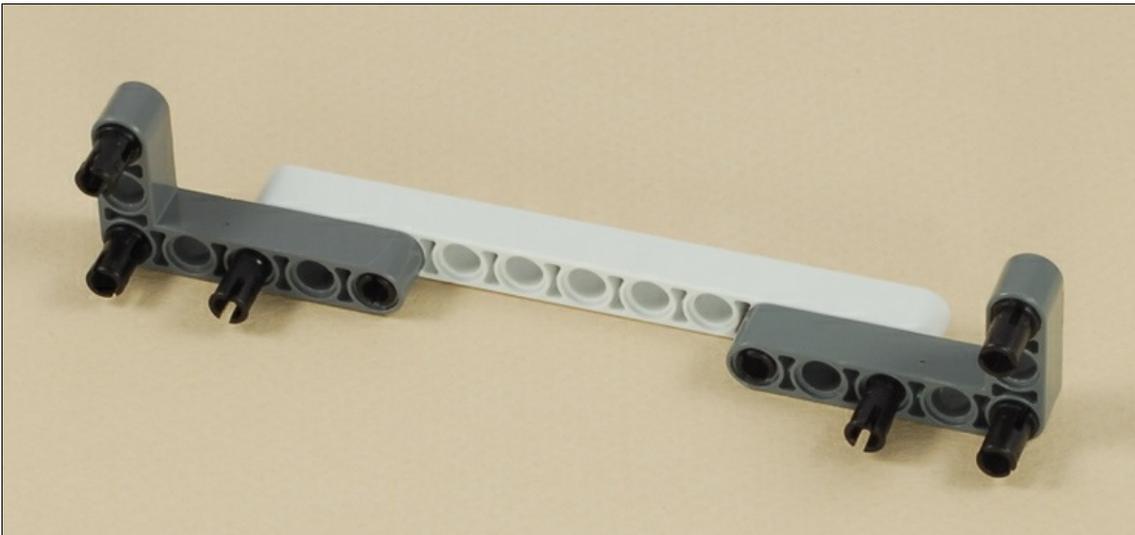
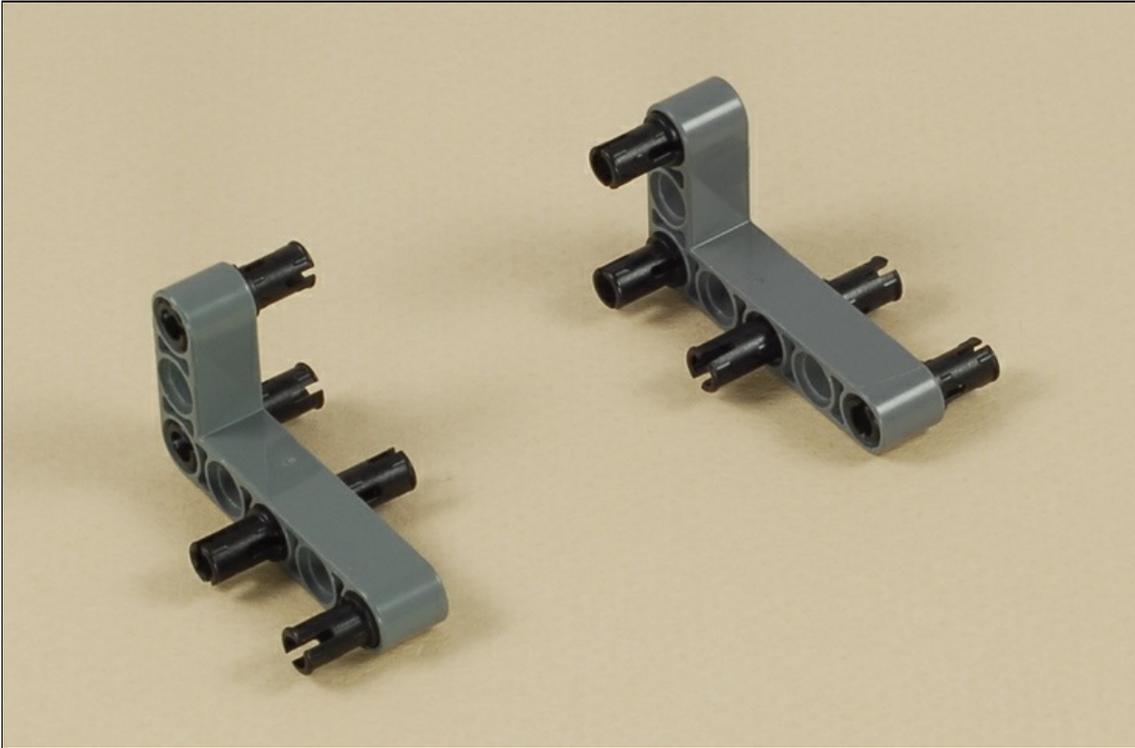
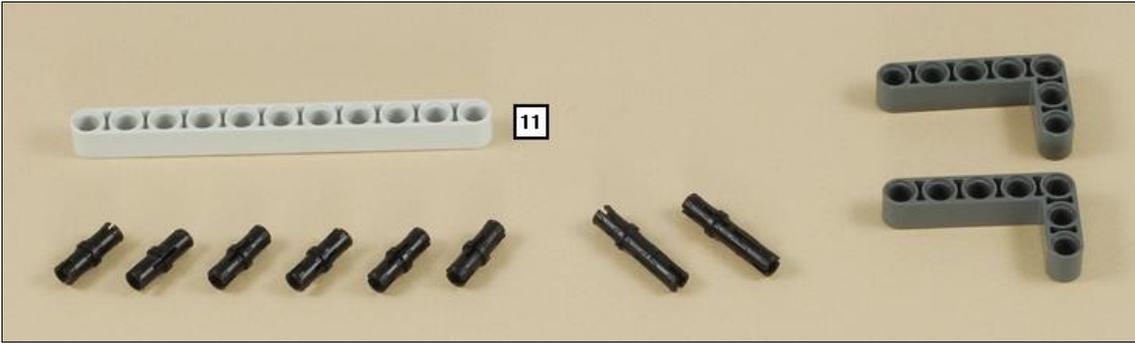
Designed for **NXT 1.0** (8527, or 9797 + 9695/9648)

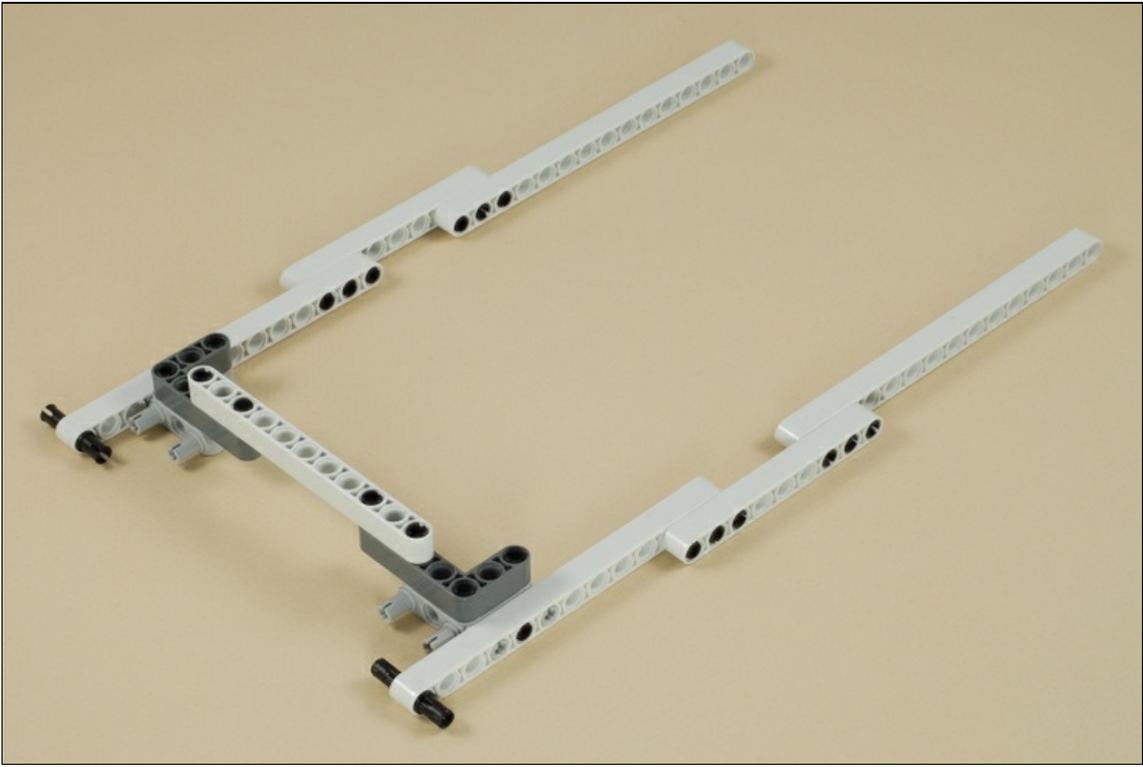
Building Instructions

1

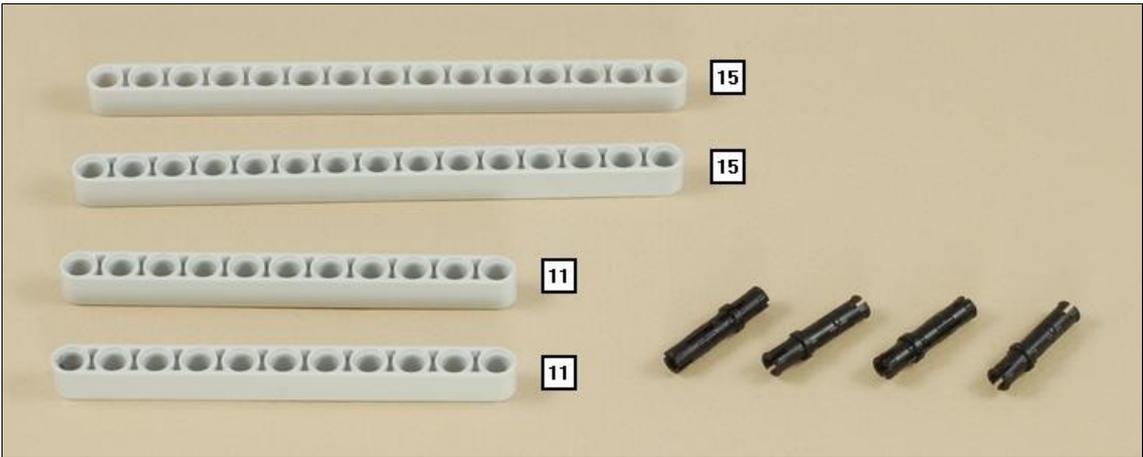


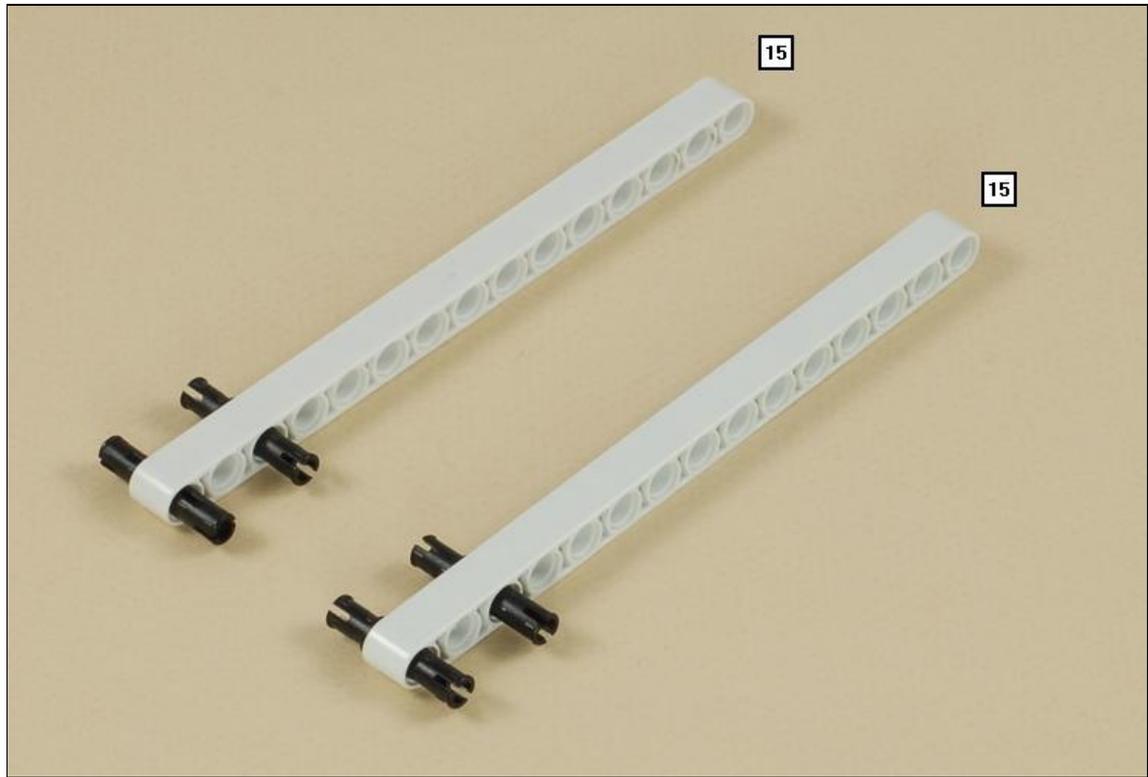
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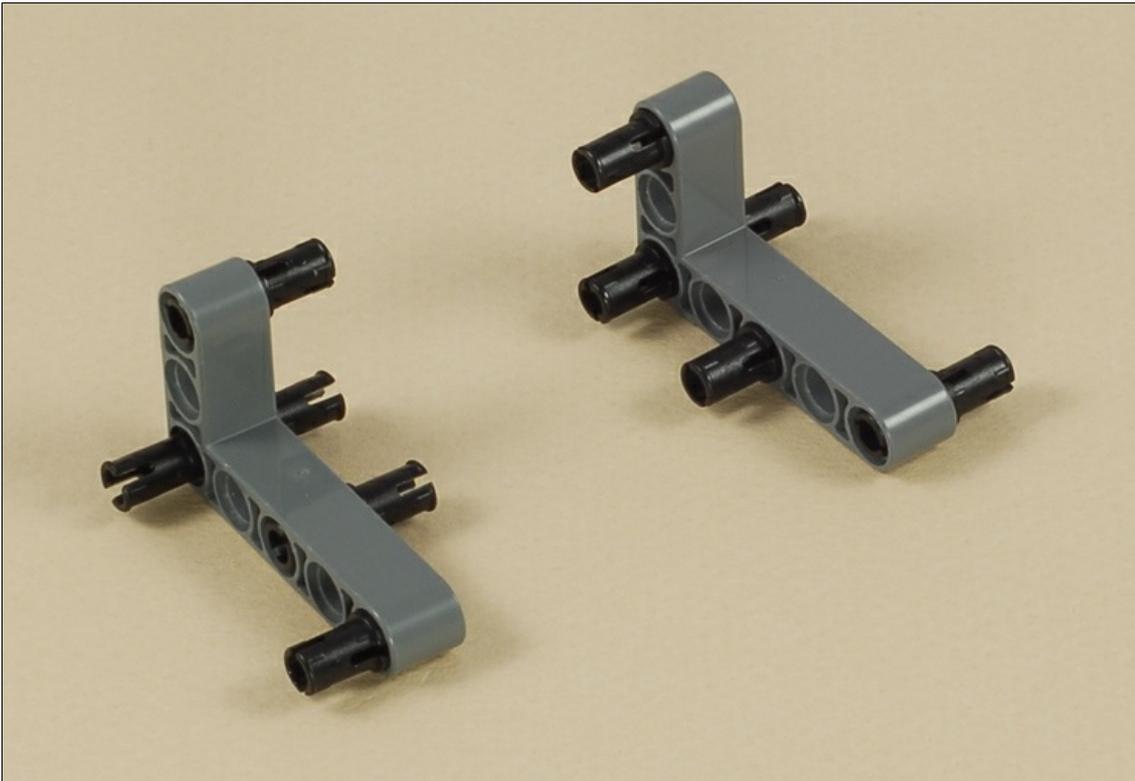
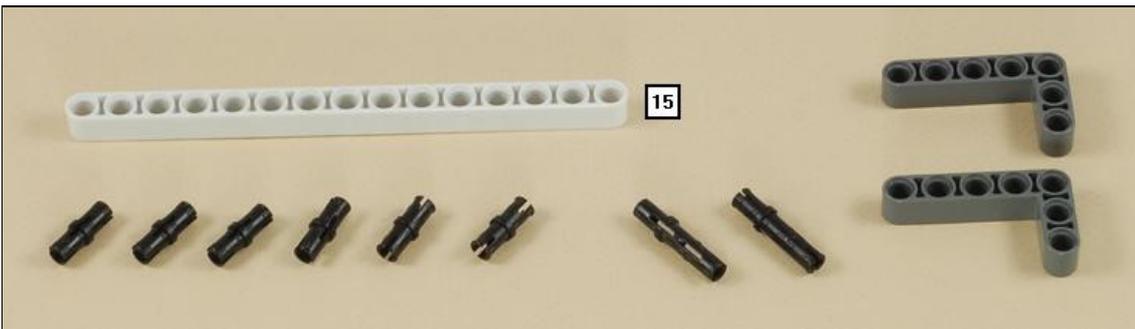
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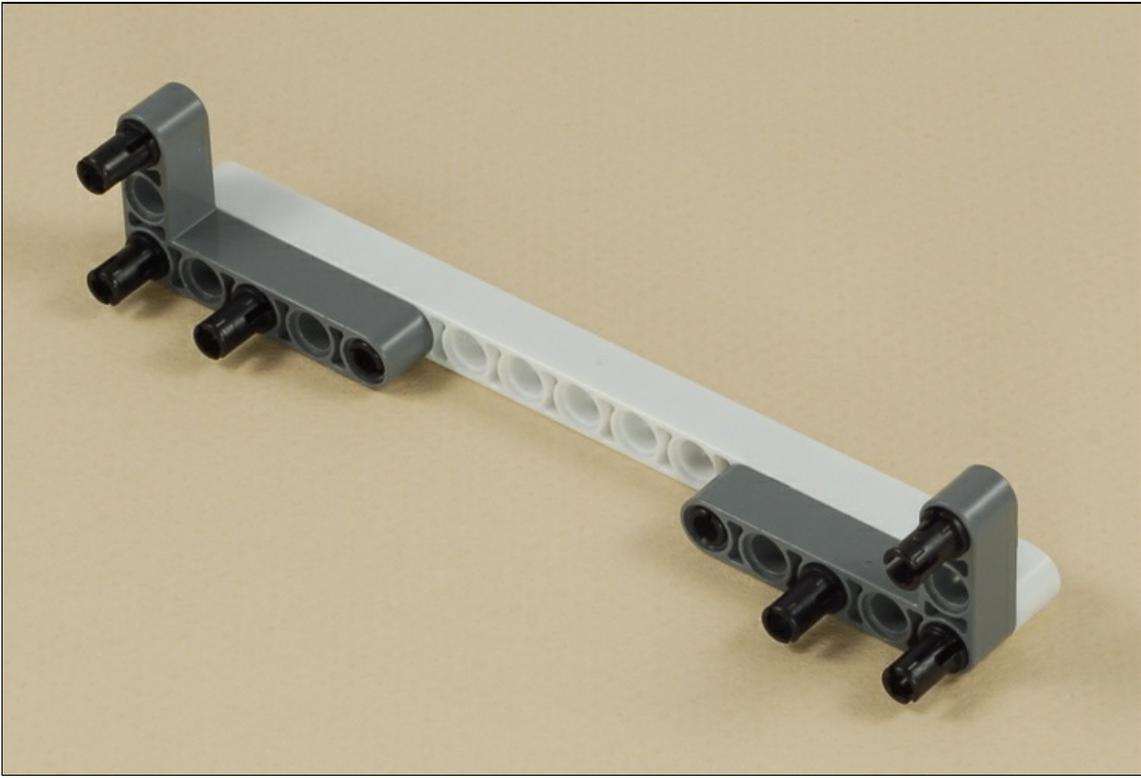




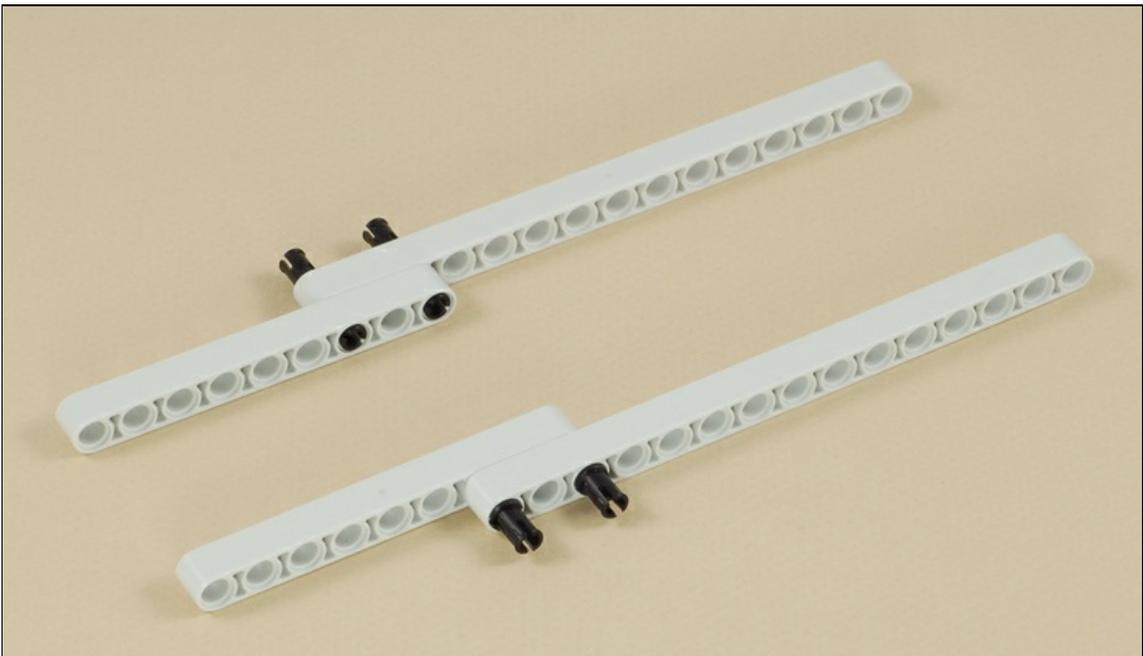
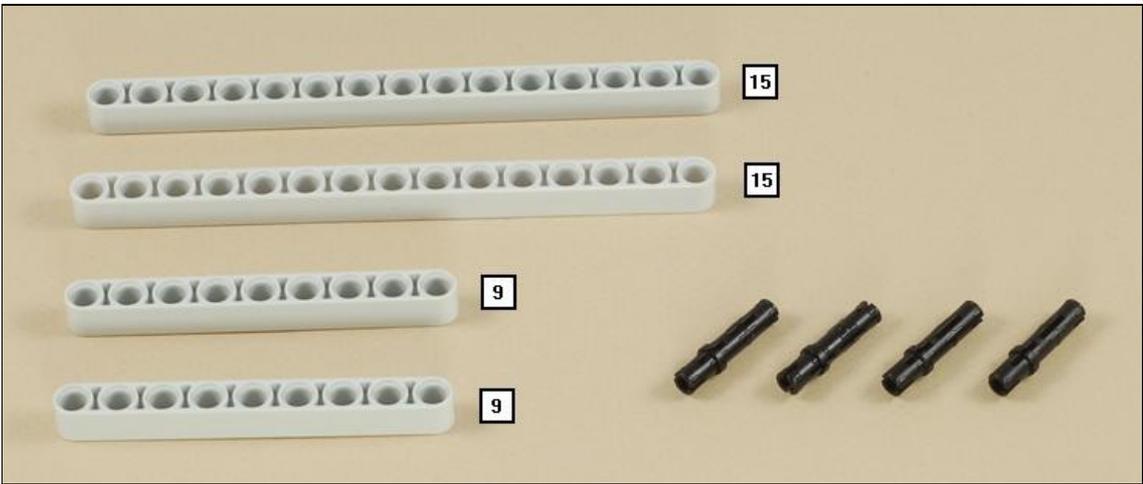


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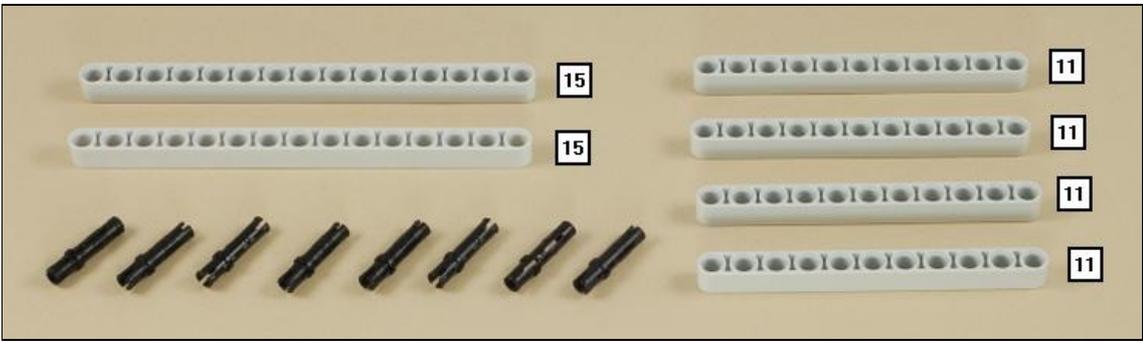


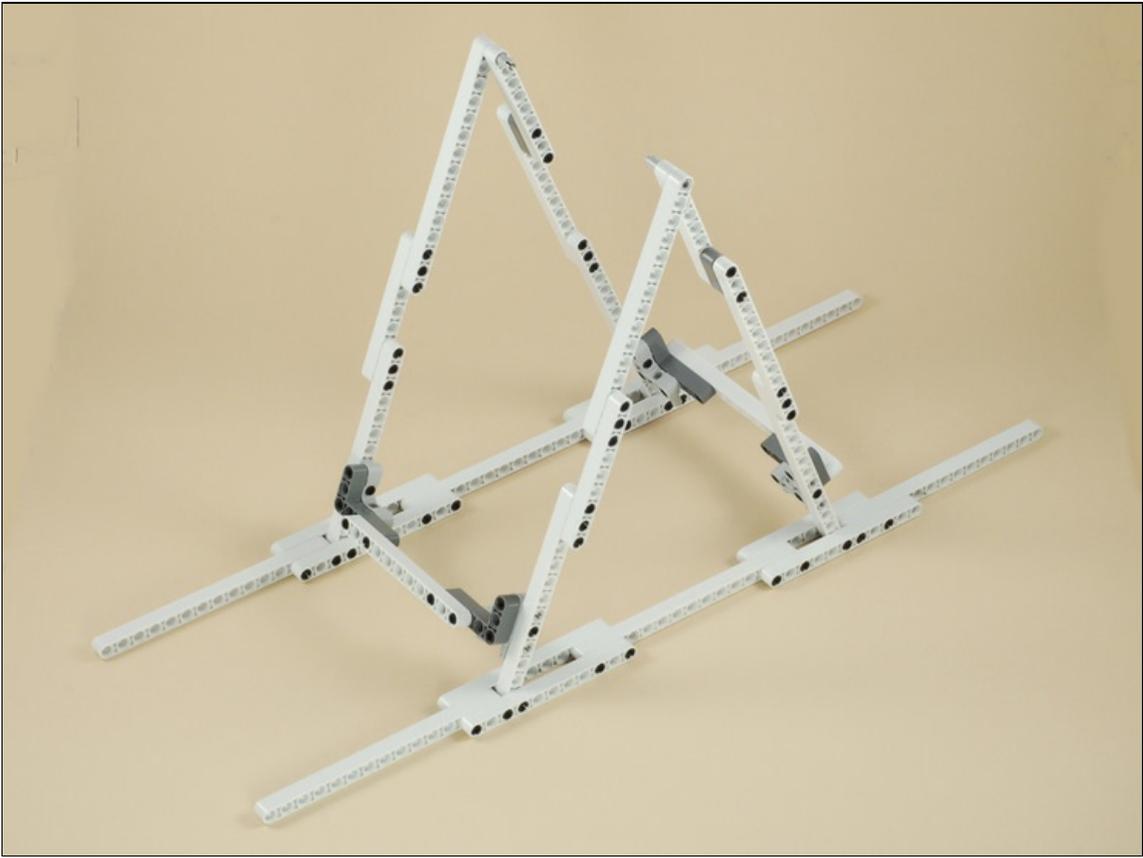


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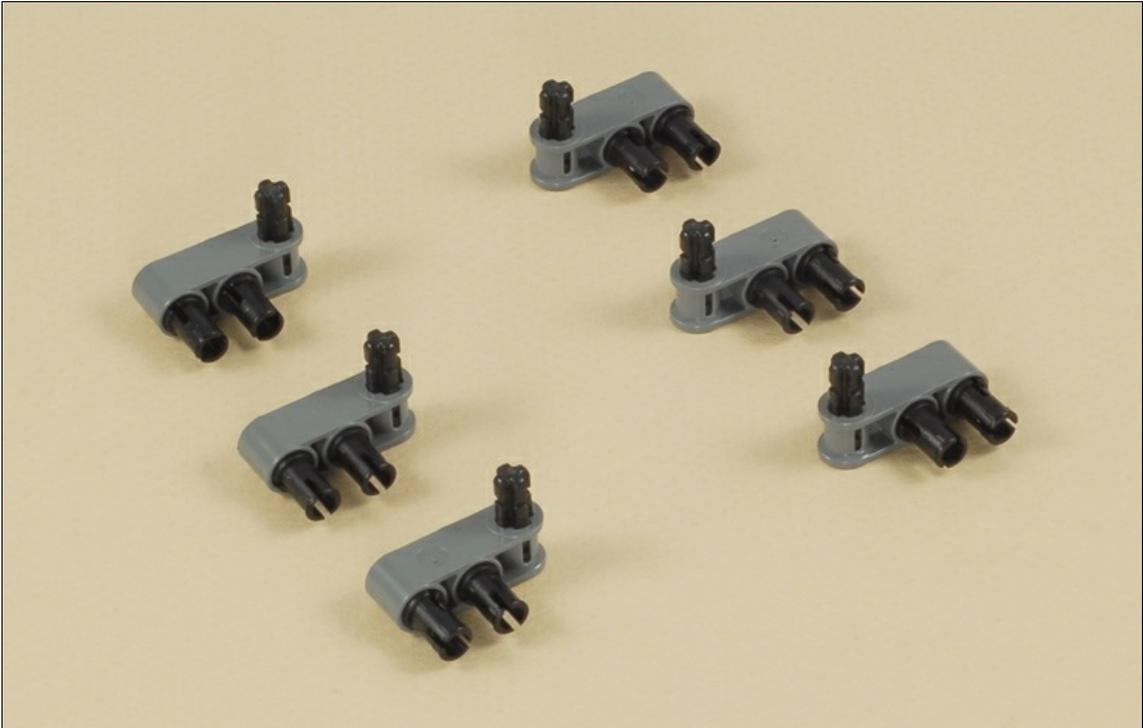
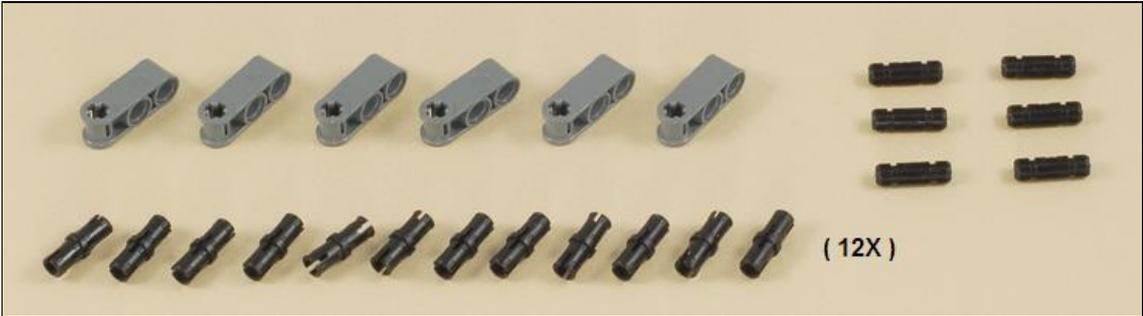


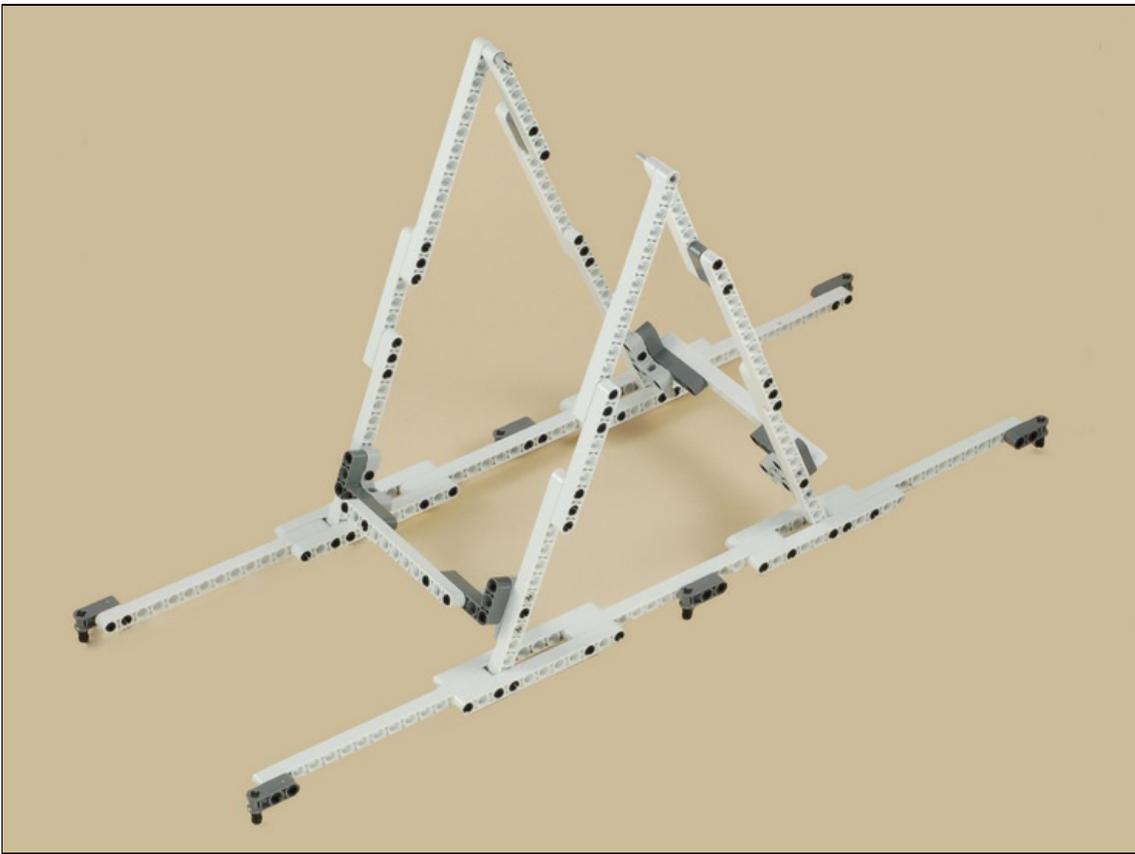




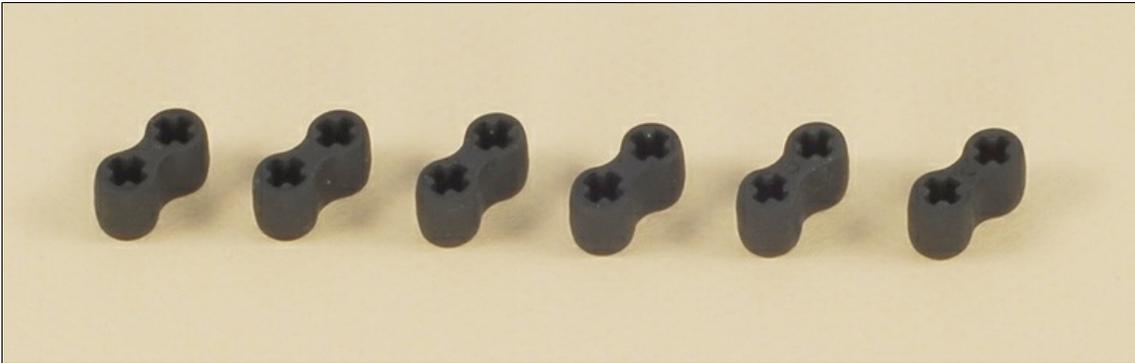


8





9 (Do this step for hard floors only)

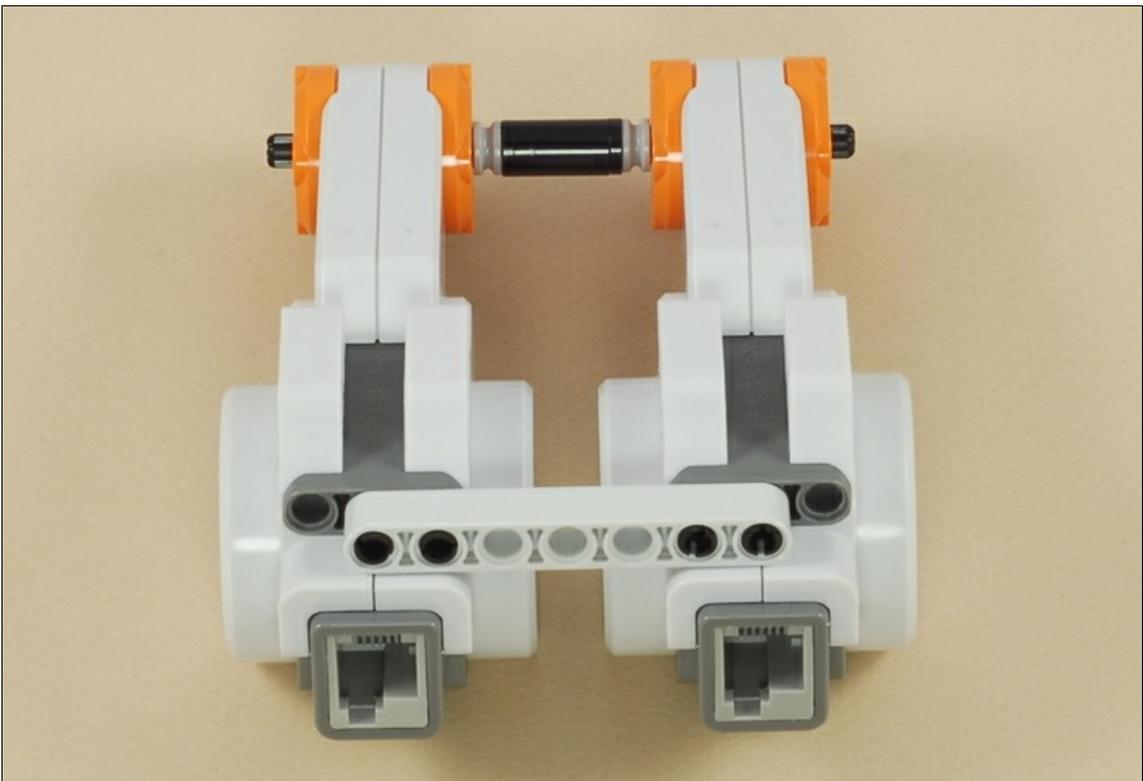
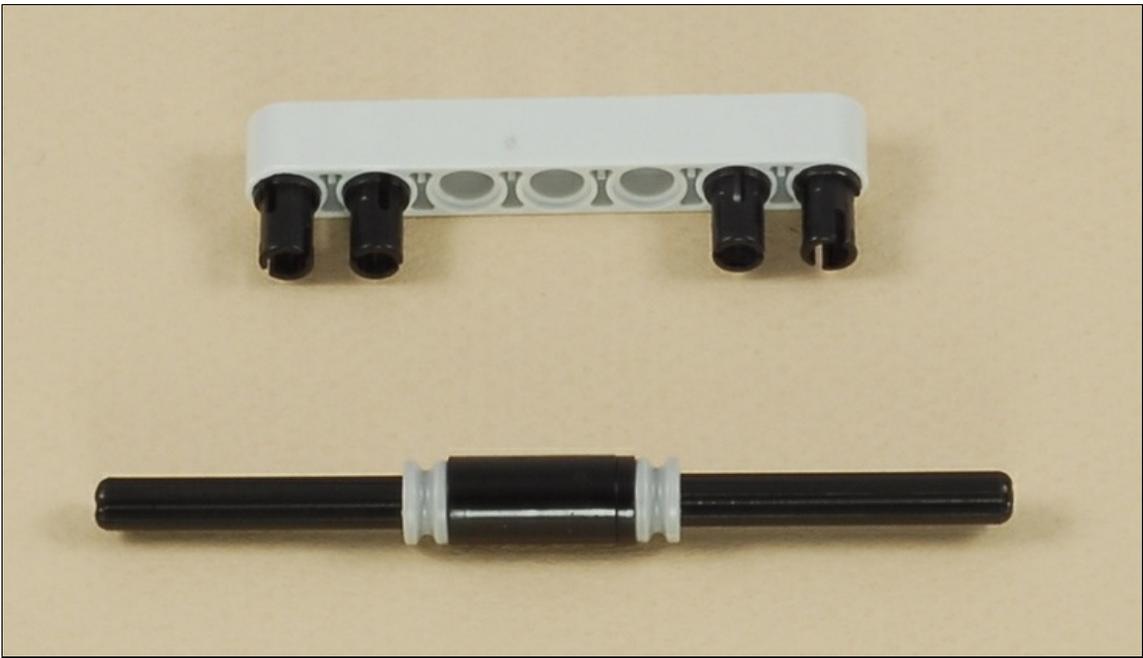
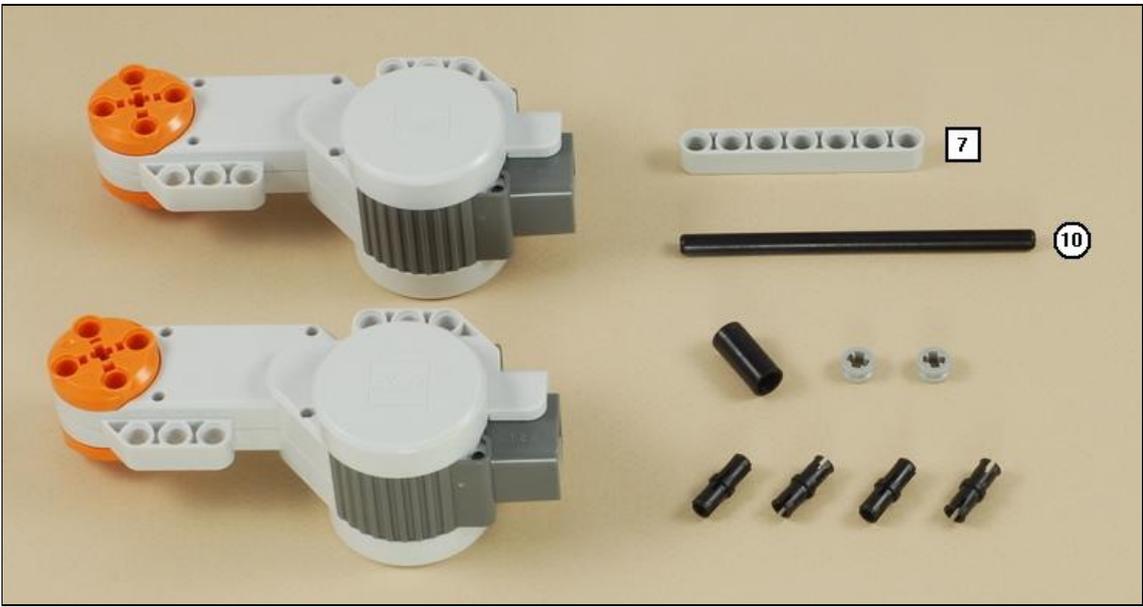


For carpet floors, skip this step and let the spikes on the feet dig into the carpet.

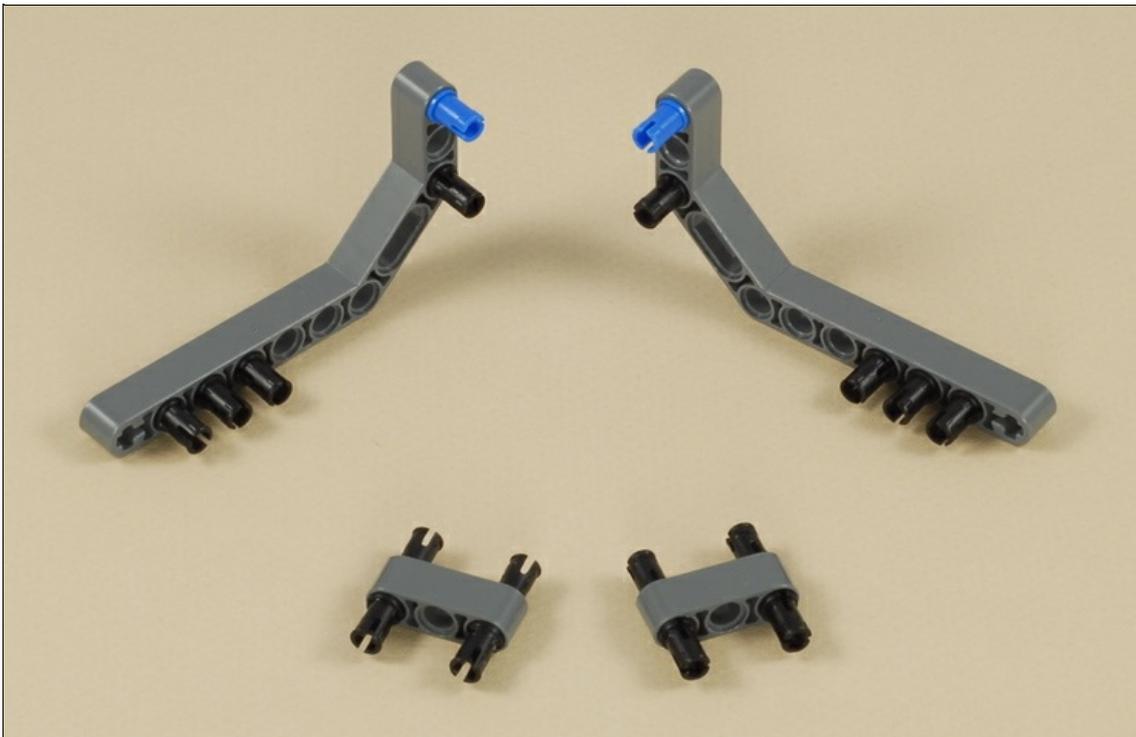


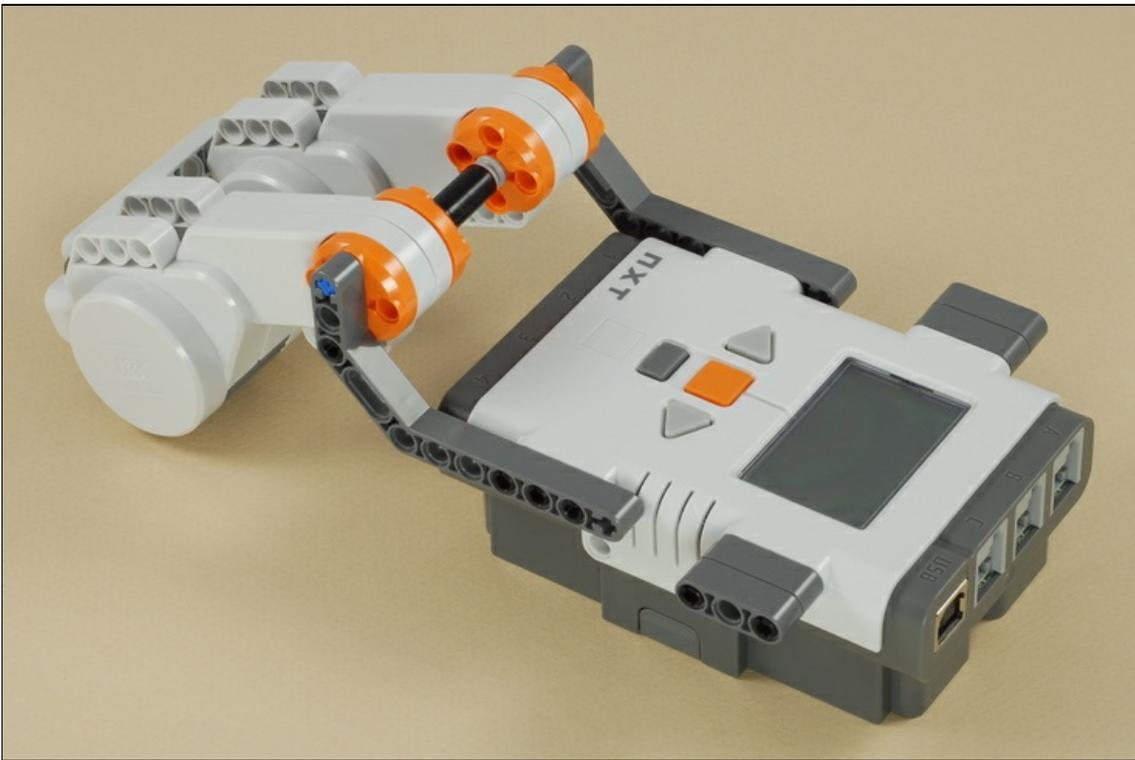
For hard floors, add the rubber pieces for grip.

10



11





12

Use two medium-length wires to connect the motors to ports **B** and **C** on the NXT.

Important: Route the wires as shown.





Flipping Gymnast Programming

Use the [Gymnast](#) program for your flipping gymnast. Start it with the gymnast hanging straight down naturally and not swinging. This is a simple program that would be easy to modify to experiment with your own tricks.

Challenges

- The [Gymnast](#) program is designed to make the robot do a back flip. However, my son discovered that if you start the robot in a different position, it will actually do a front flip instead. Can you make it do this?
- Try modifying the [Gymnast](#) program or writing your own program to make the gymnast do some different tricks, or perhaps a longer routine with several tricks.
- Try modifying the design of the robot to make it look different or more like a person. If you change the balance of the robot, you may need to modify the program to make it swing correctly. As designed here, the [Gymnast](#) program uses leg swings of 0.4 seconds in each direction, but this timing may need to change if you change the robot.



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