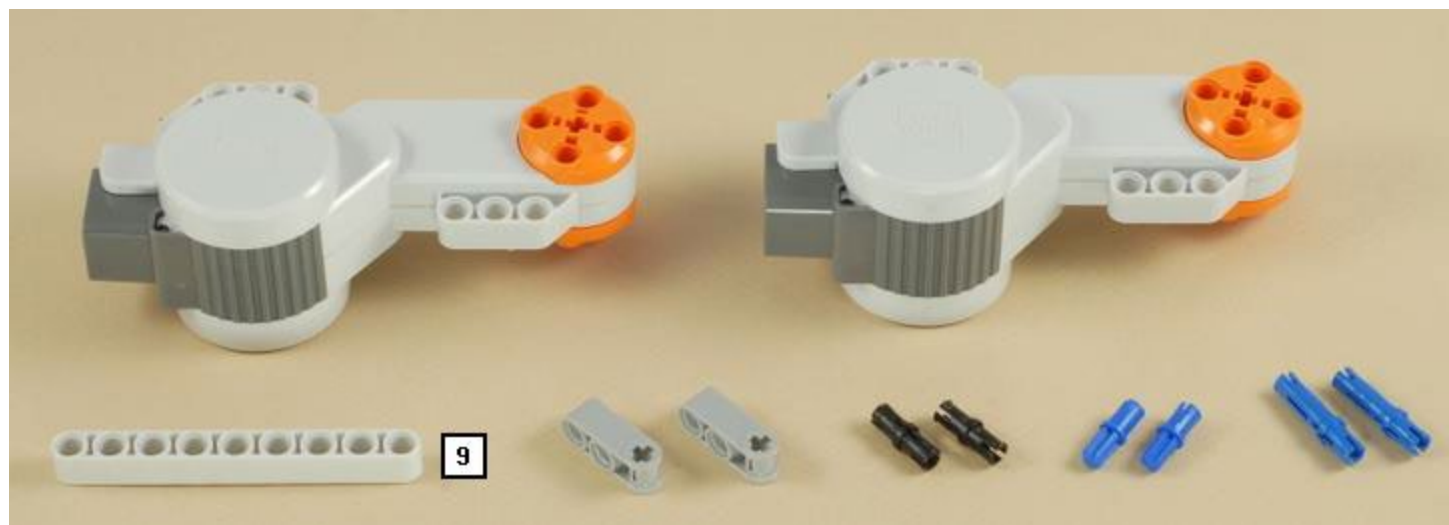


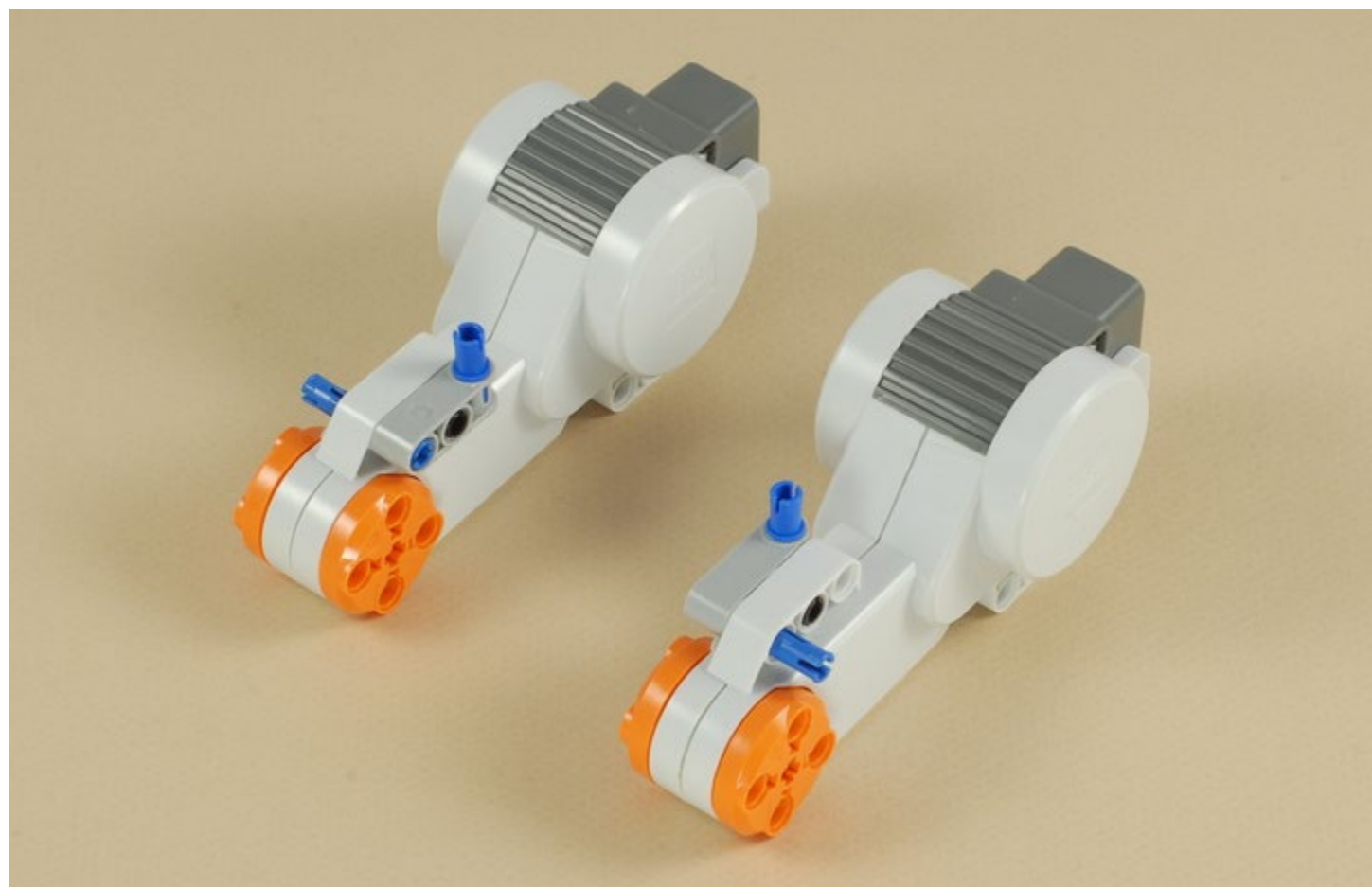
Castor Bot

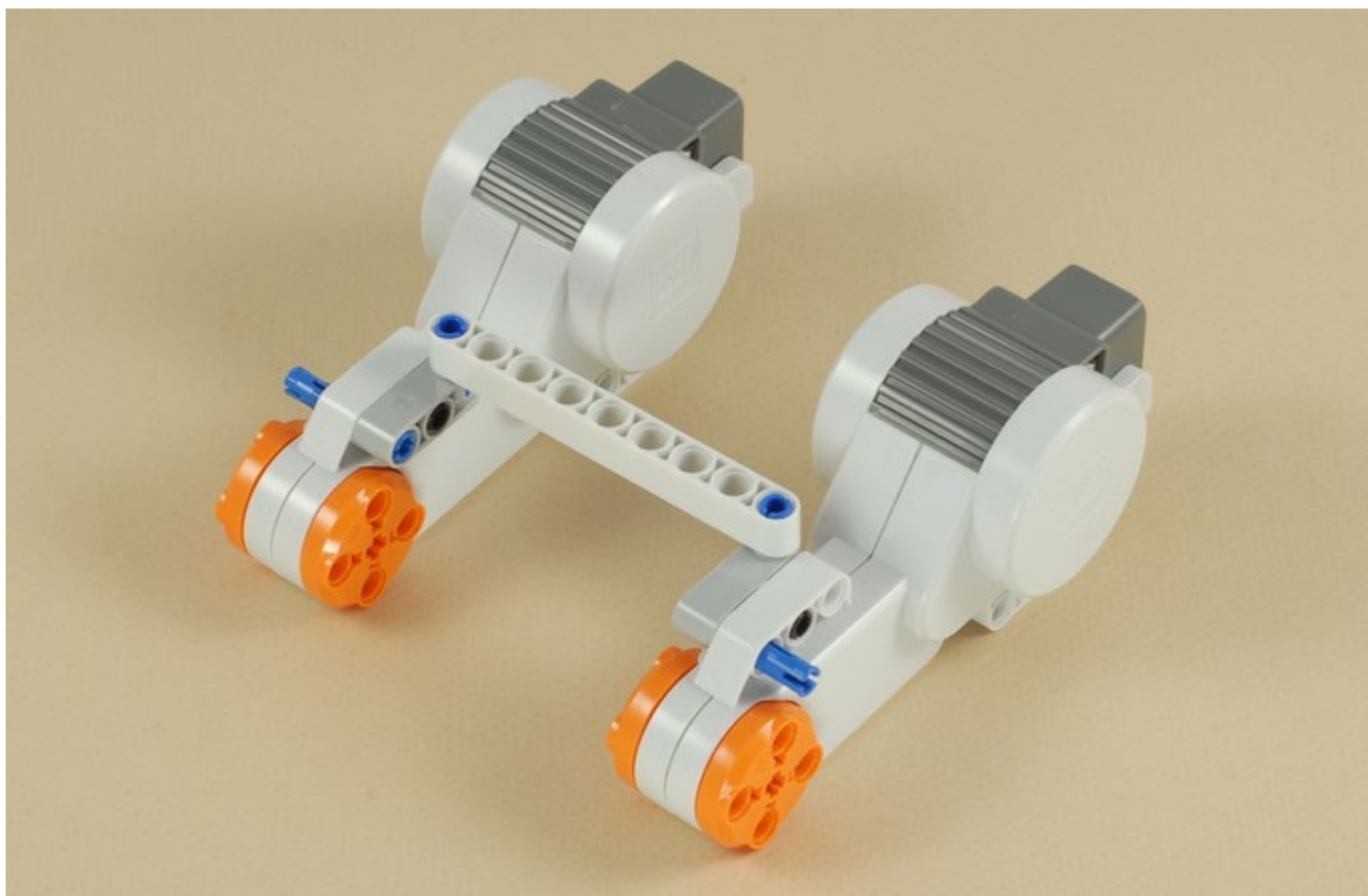
Building Instructions



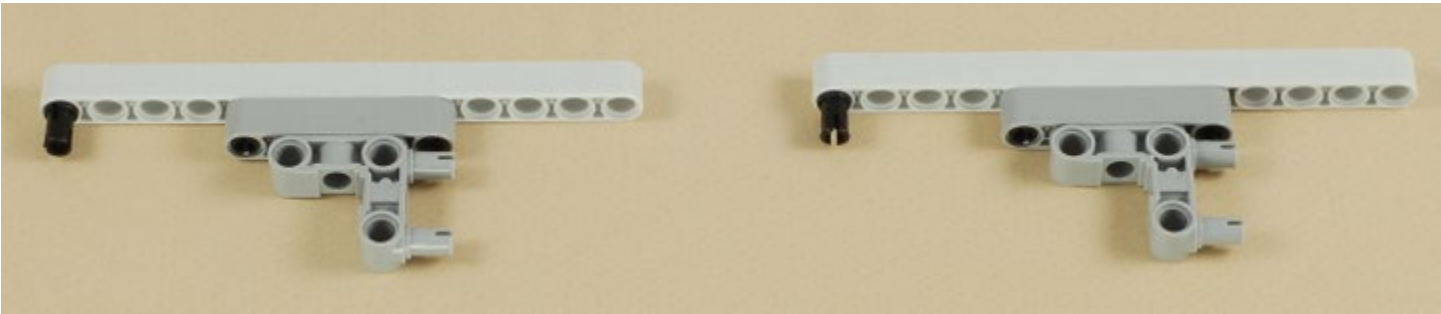
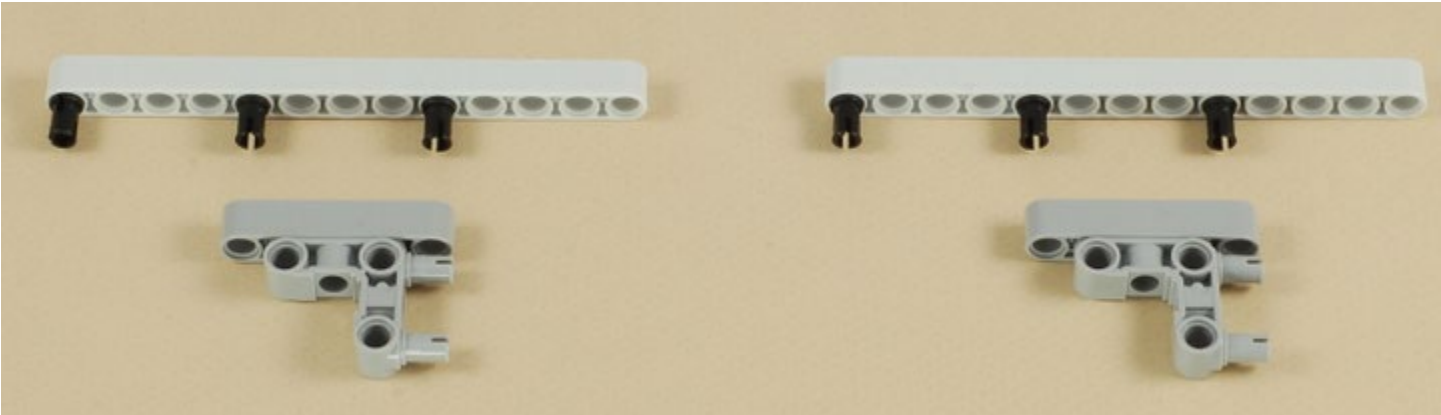
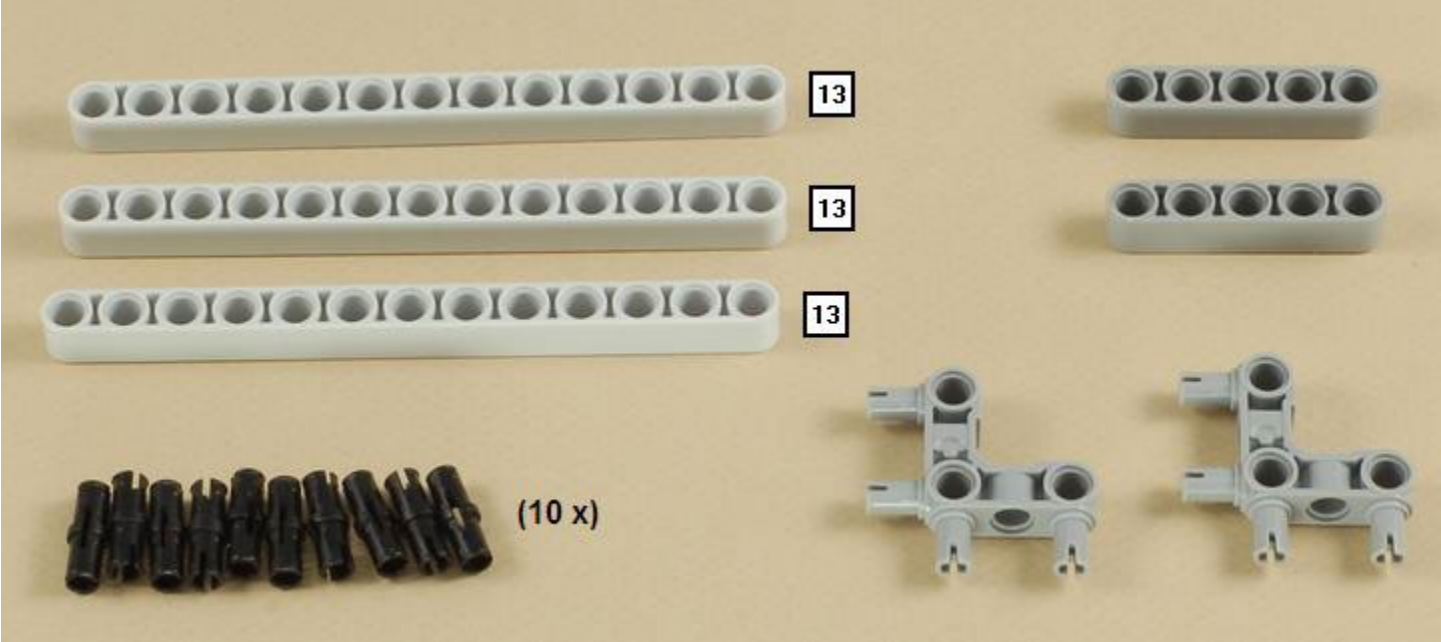
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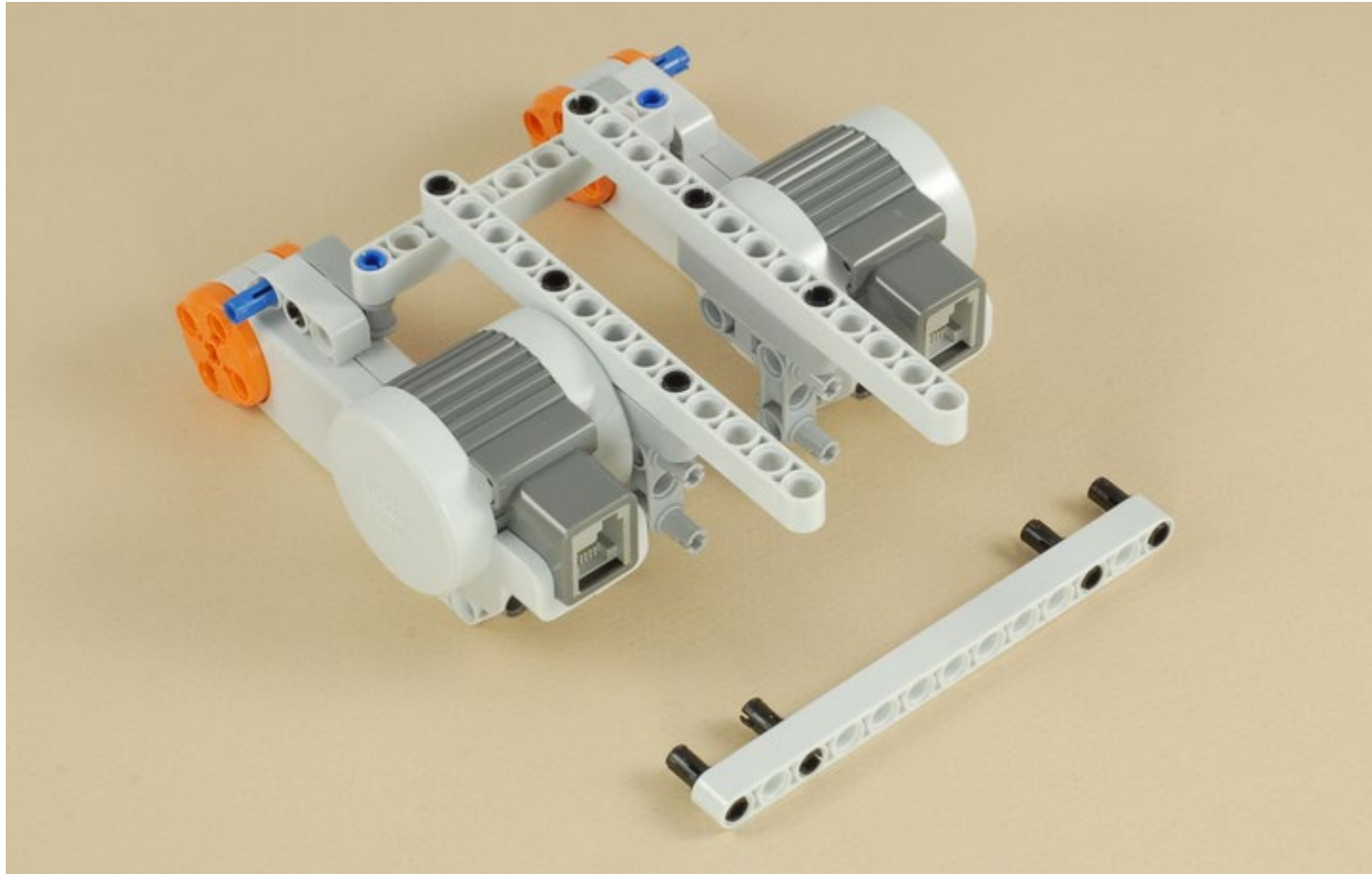


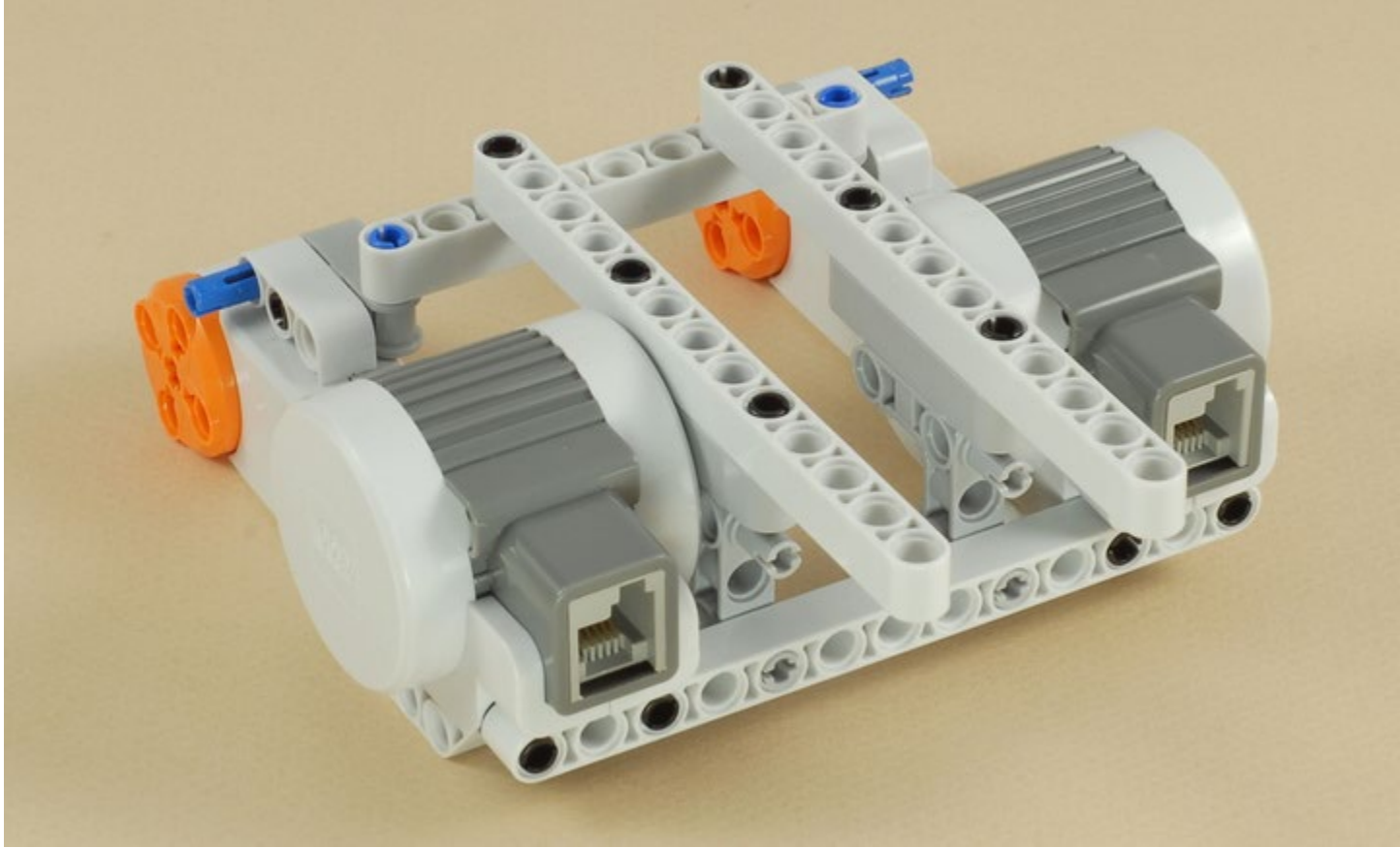




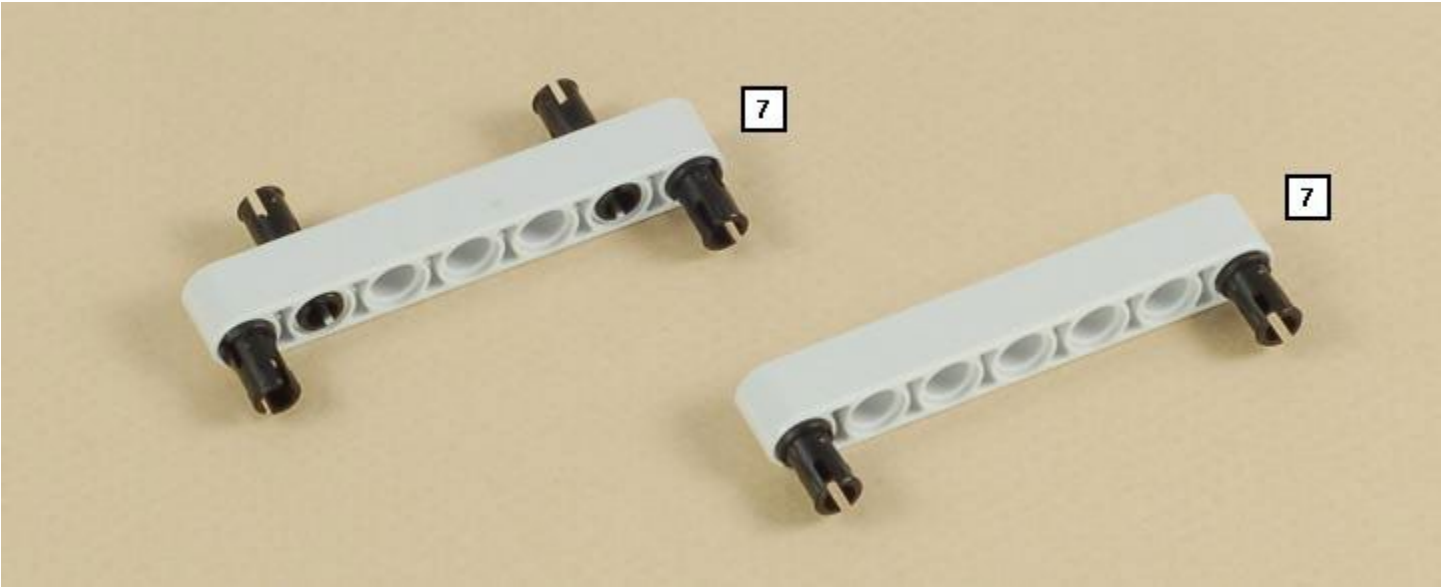
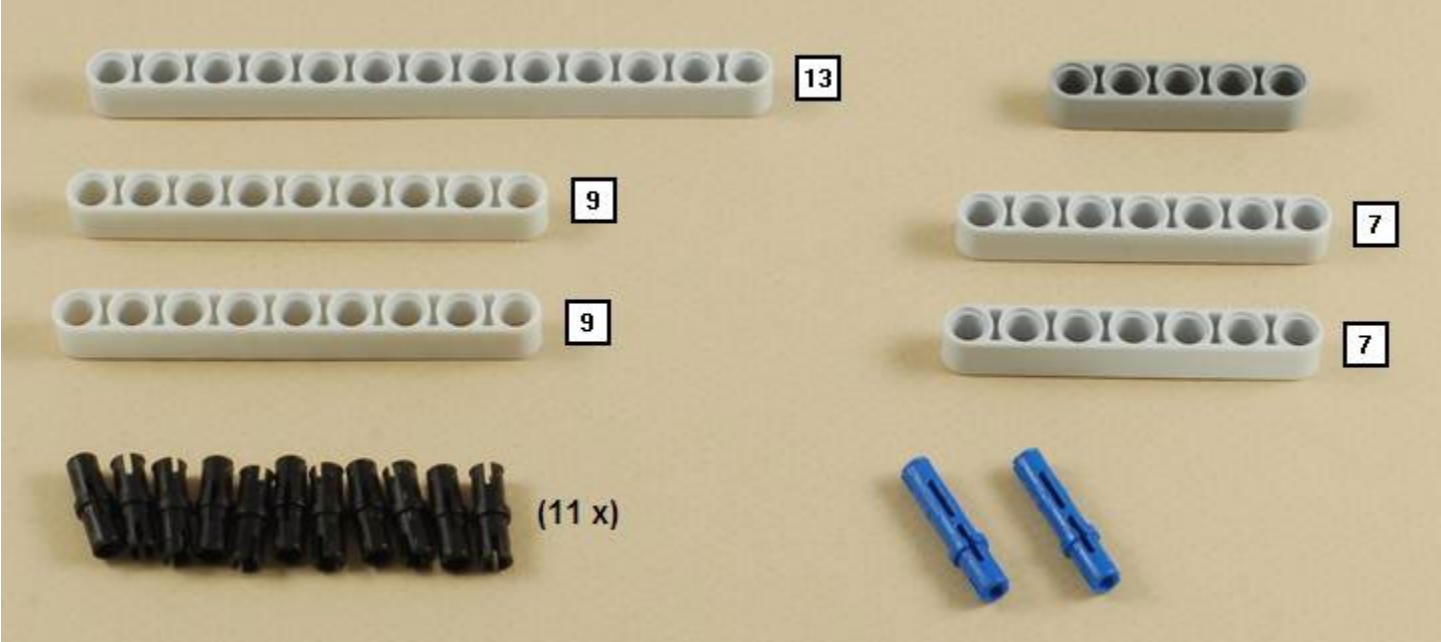
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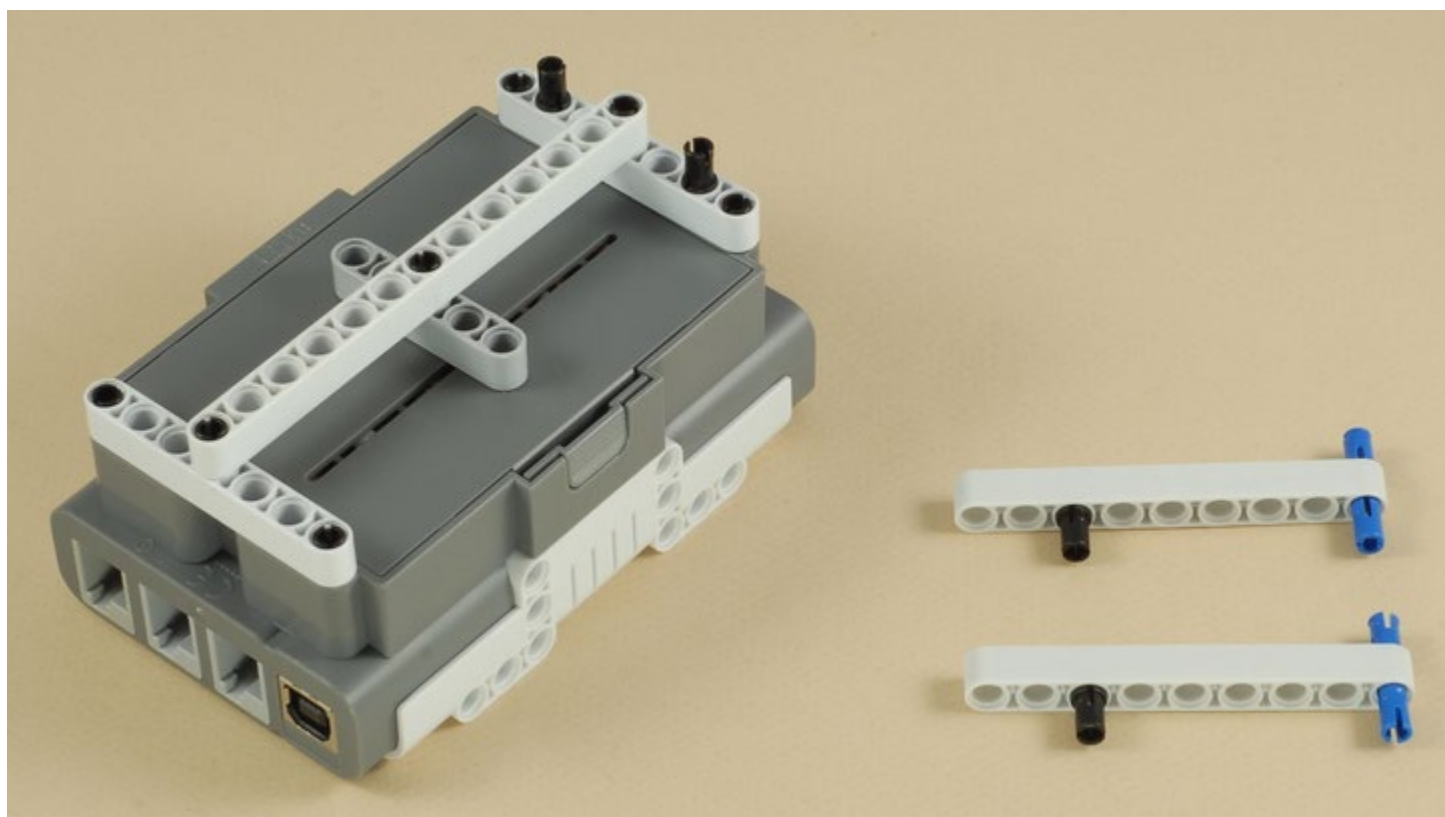
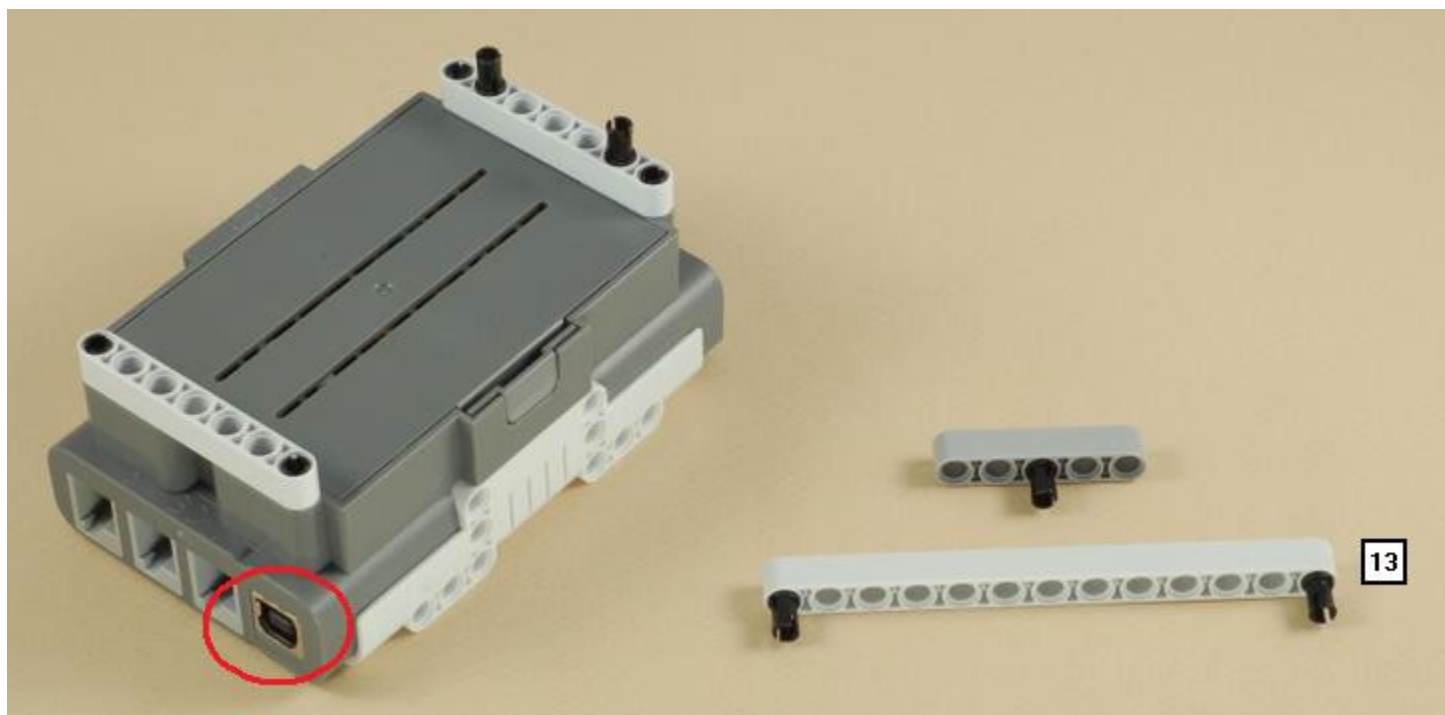


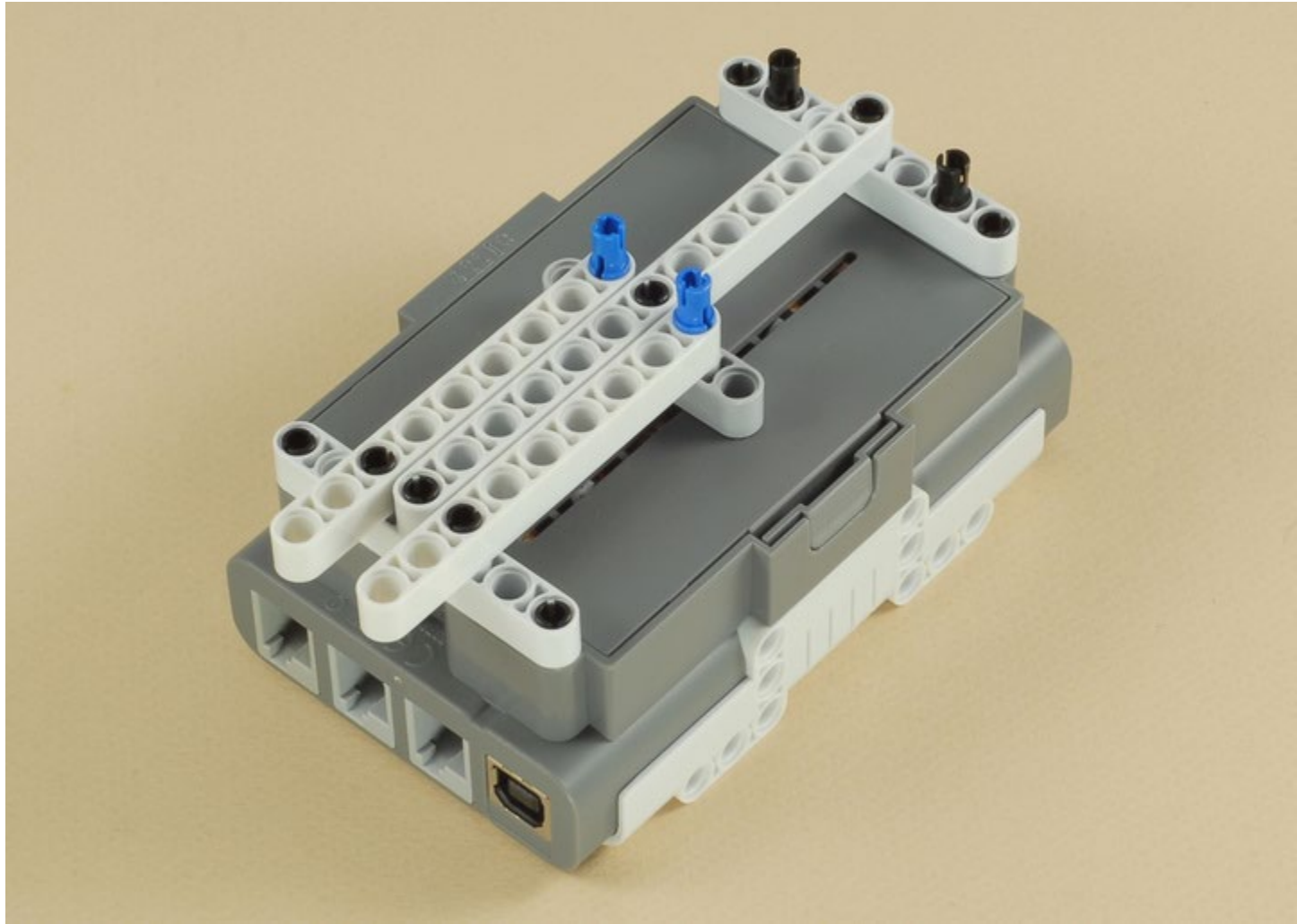


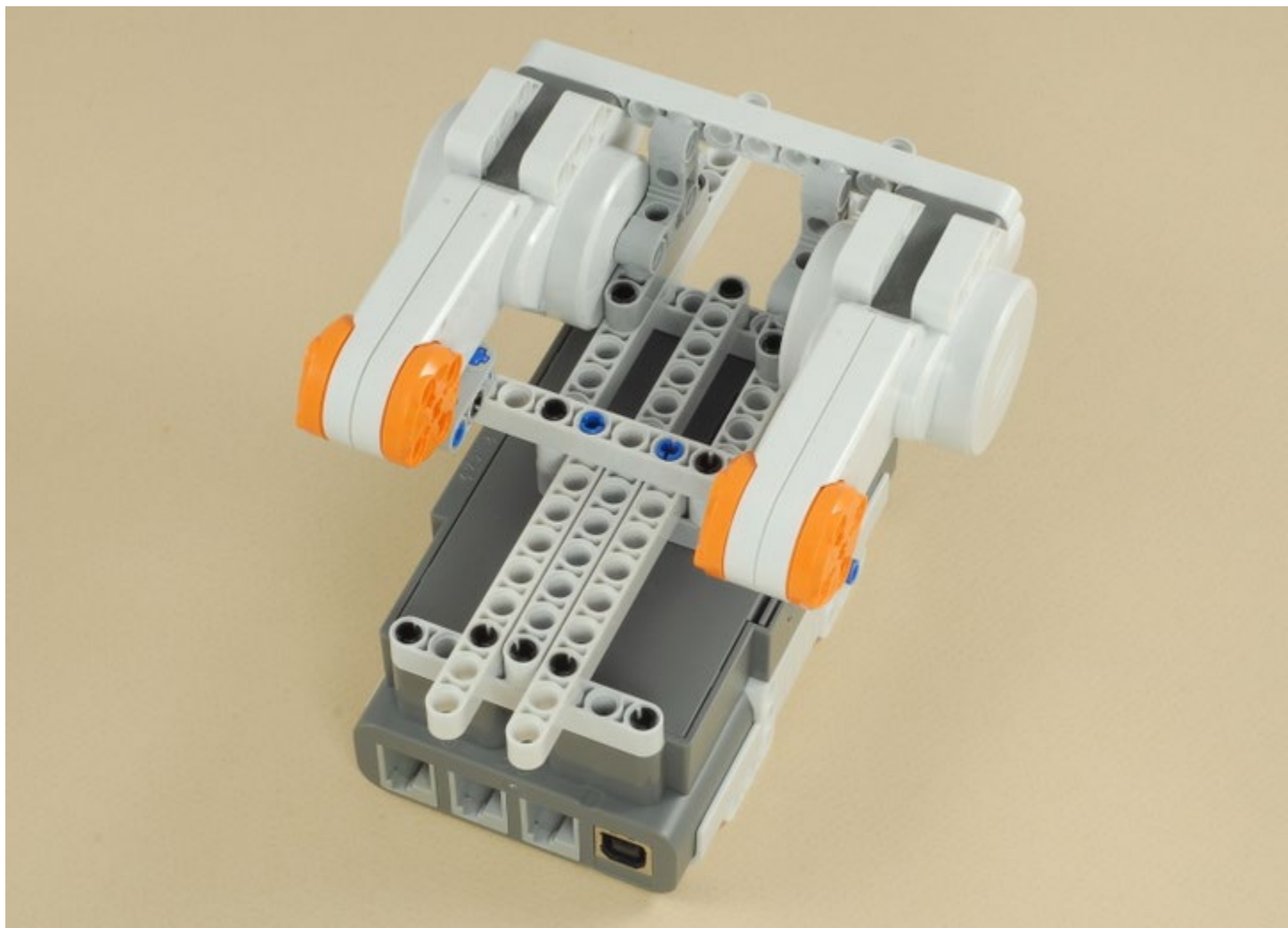


3-AA (for AA batteries only)

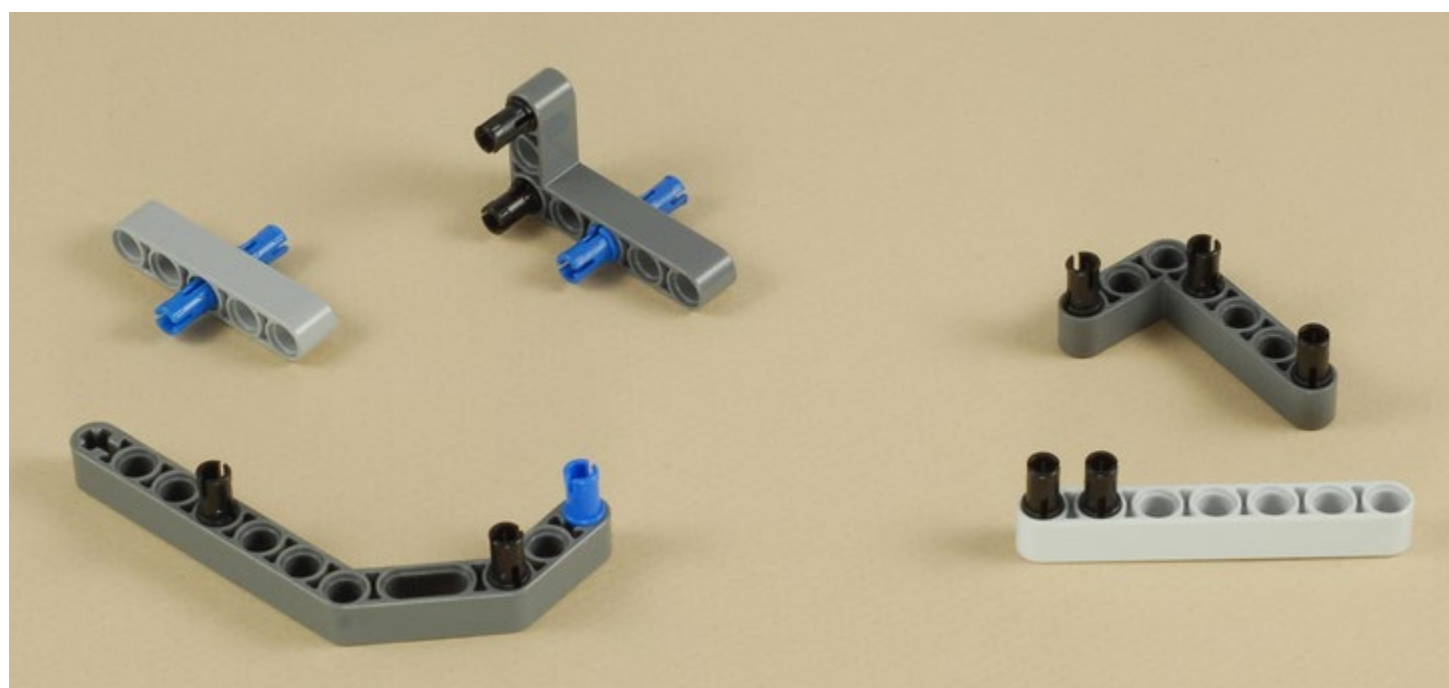
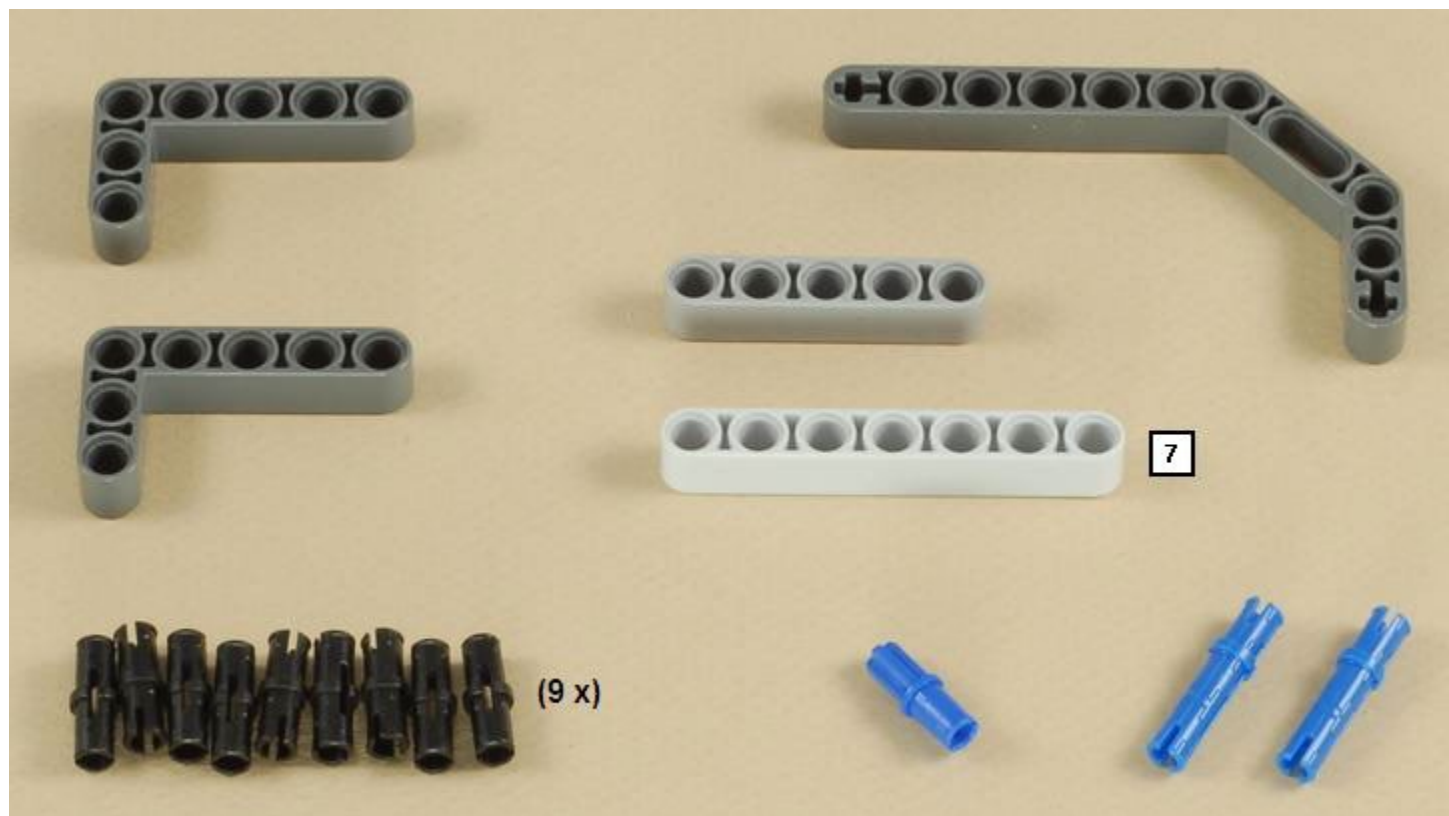


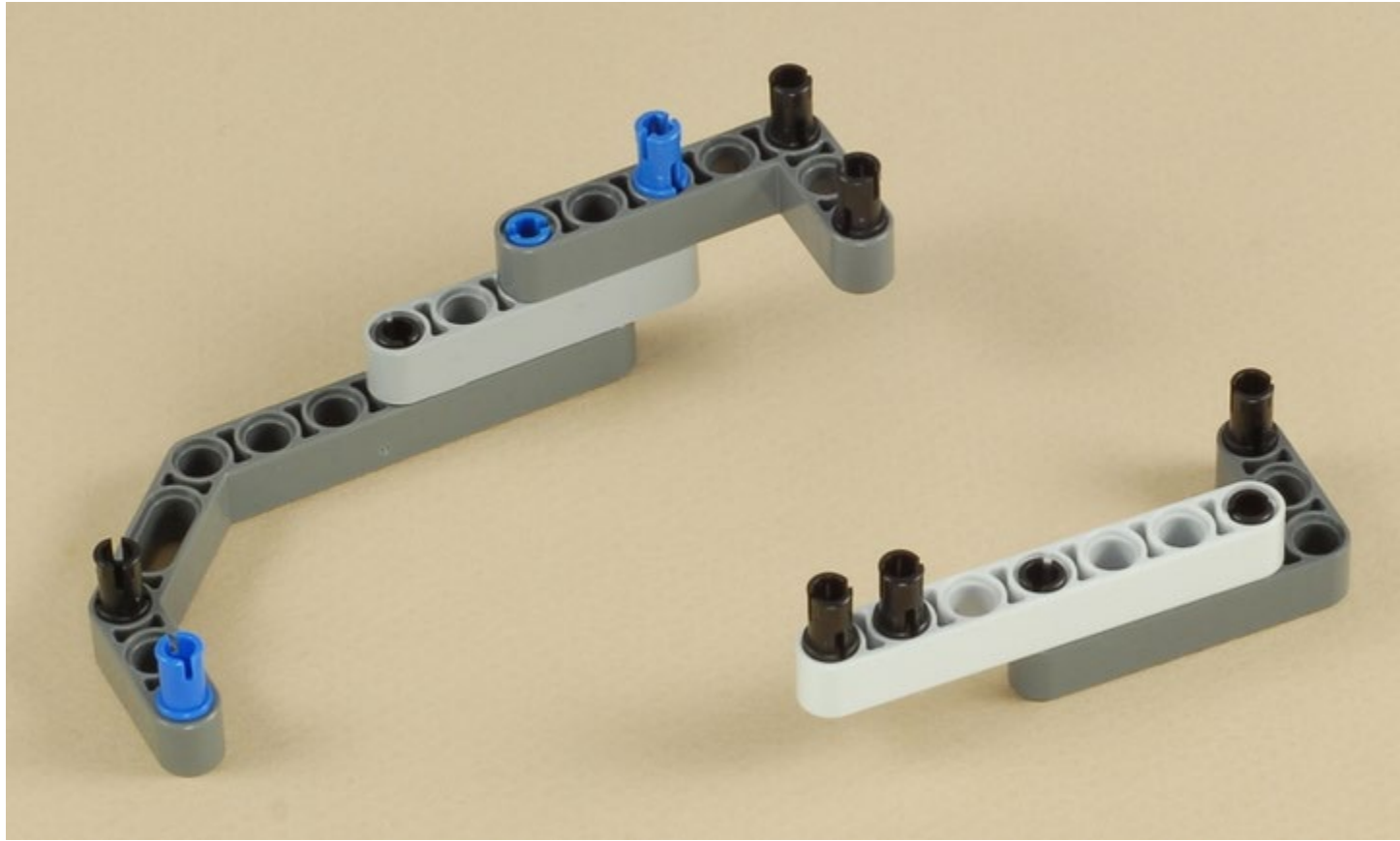






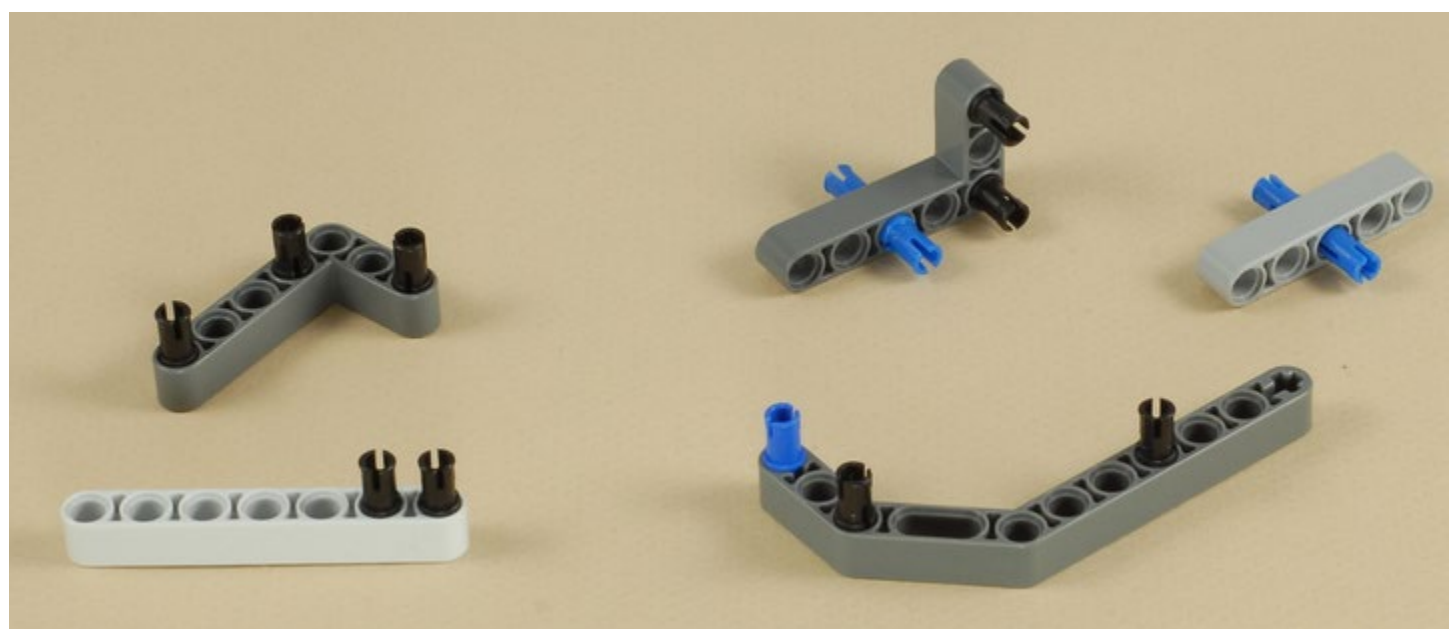
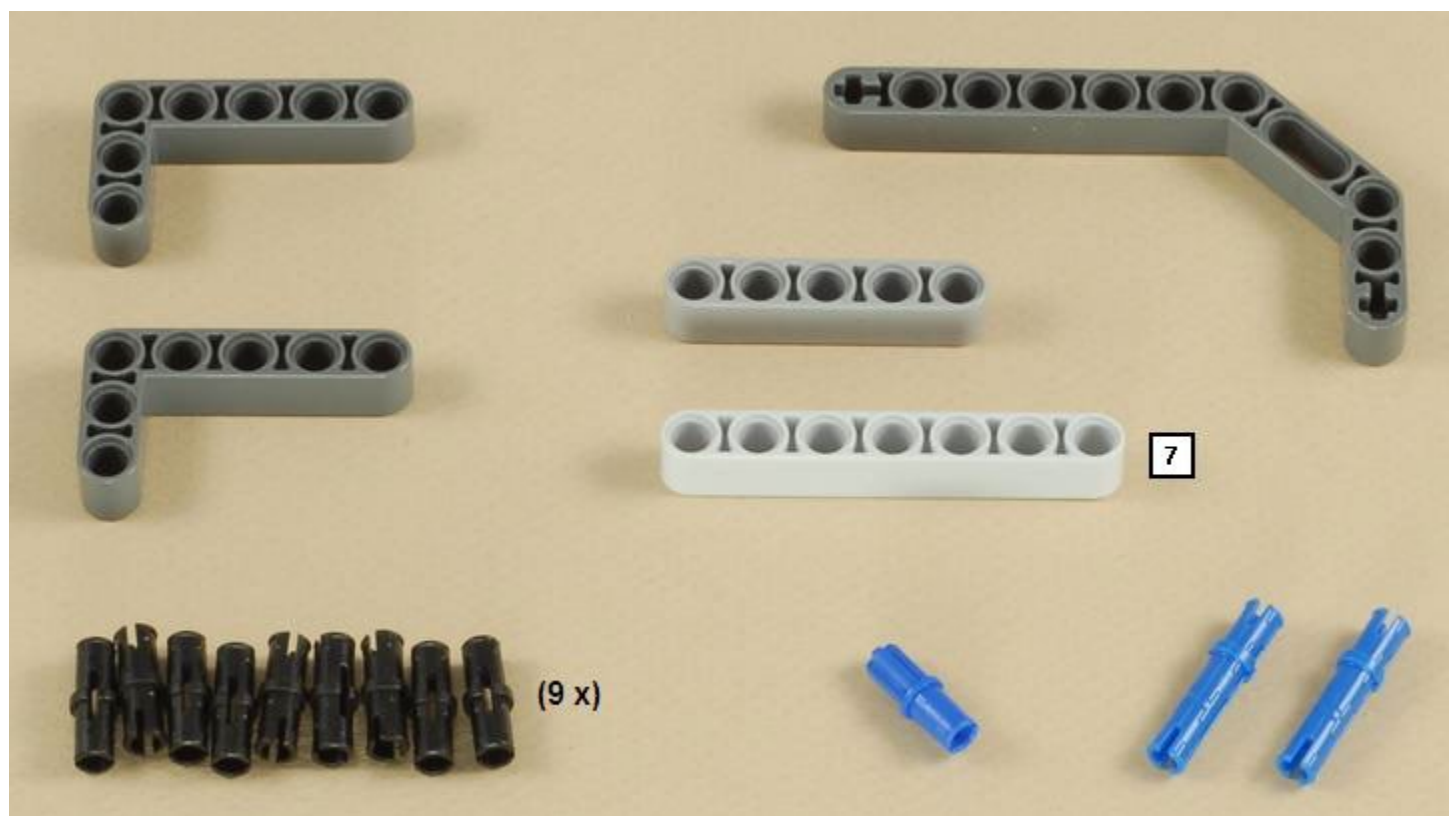
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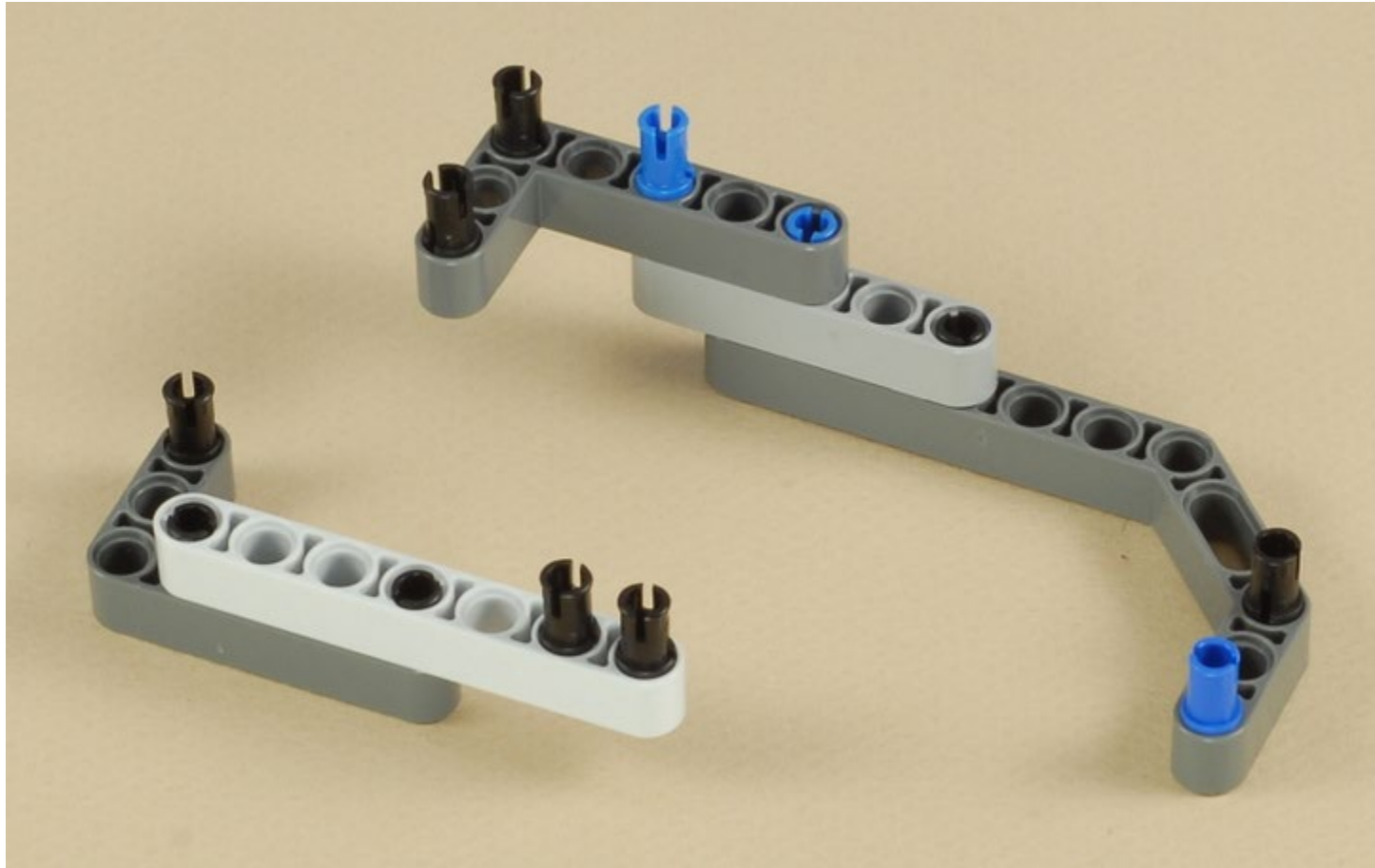


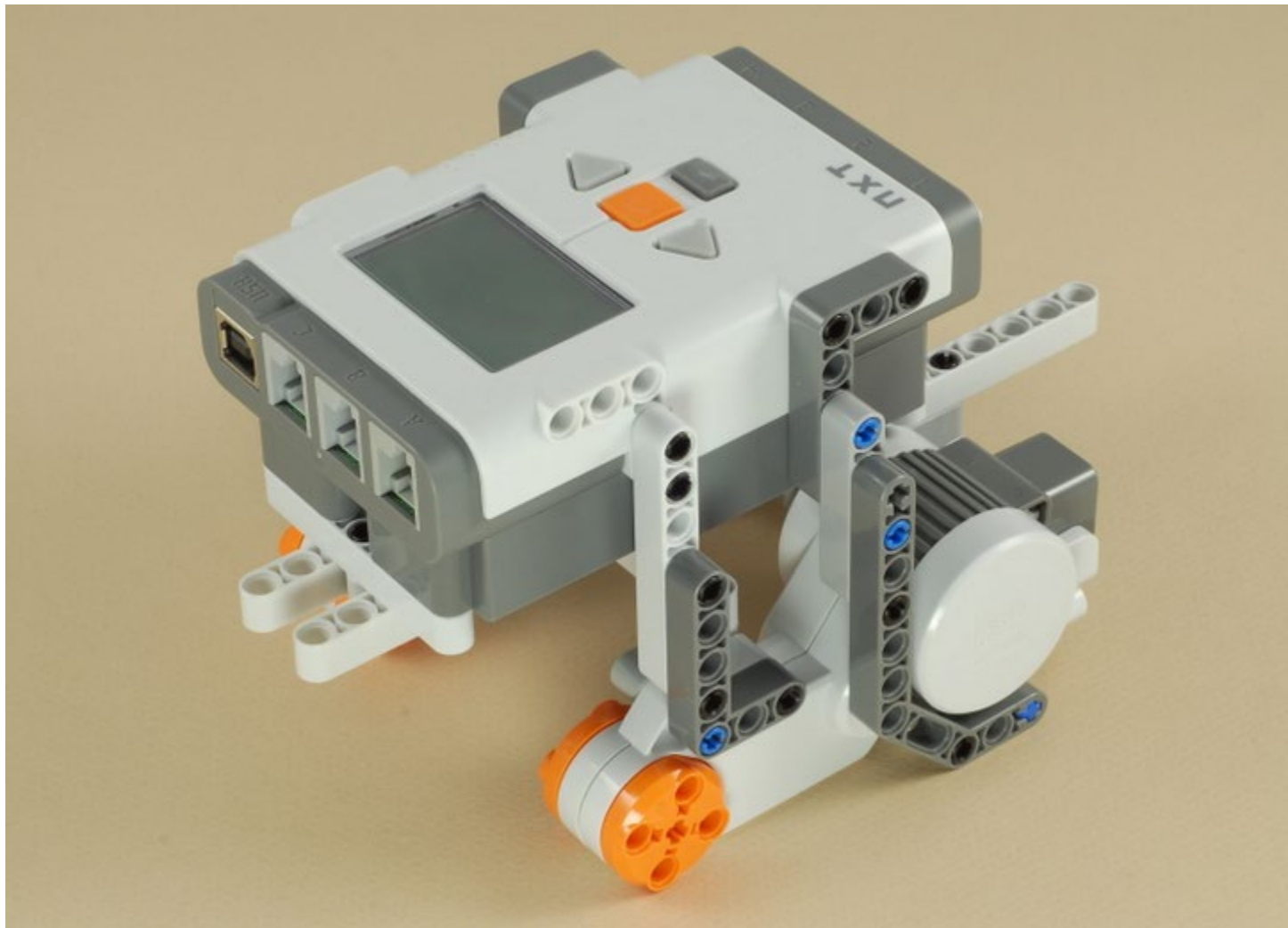




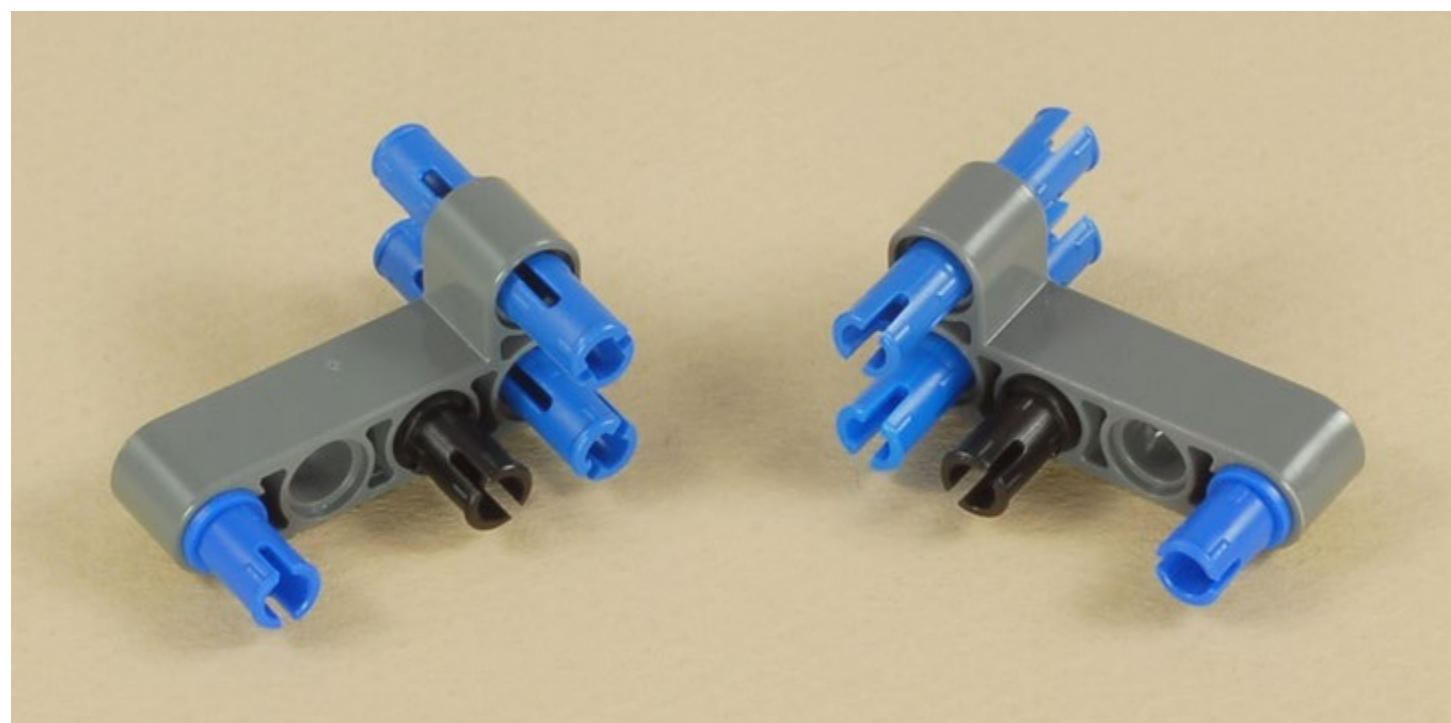
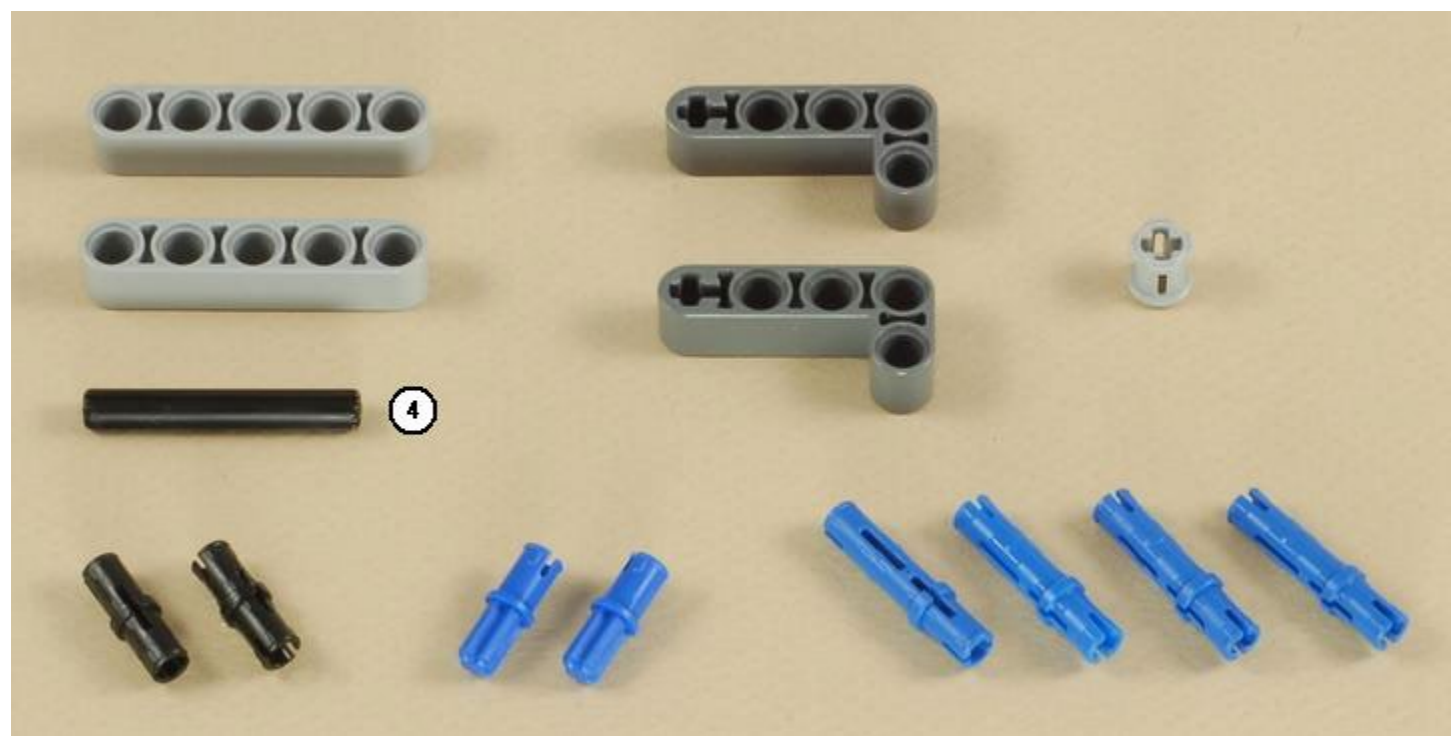
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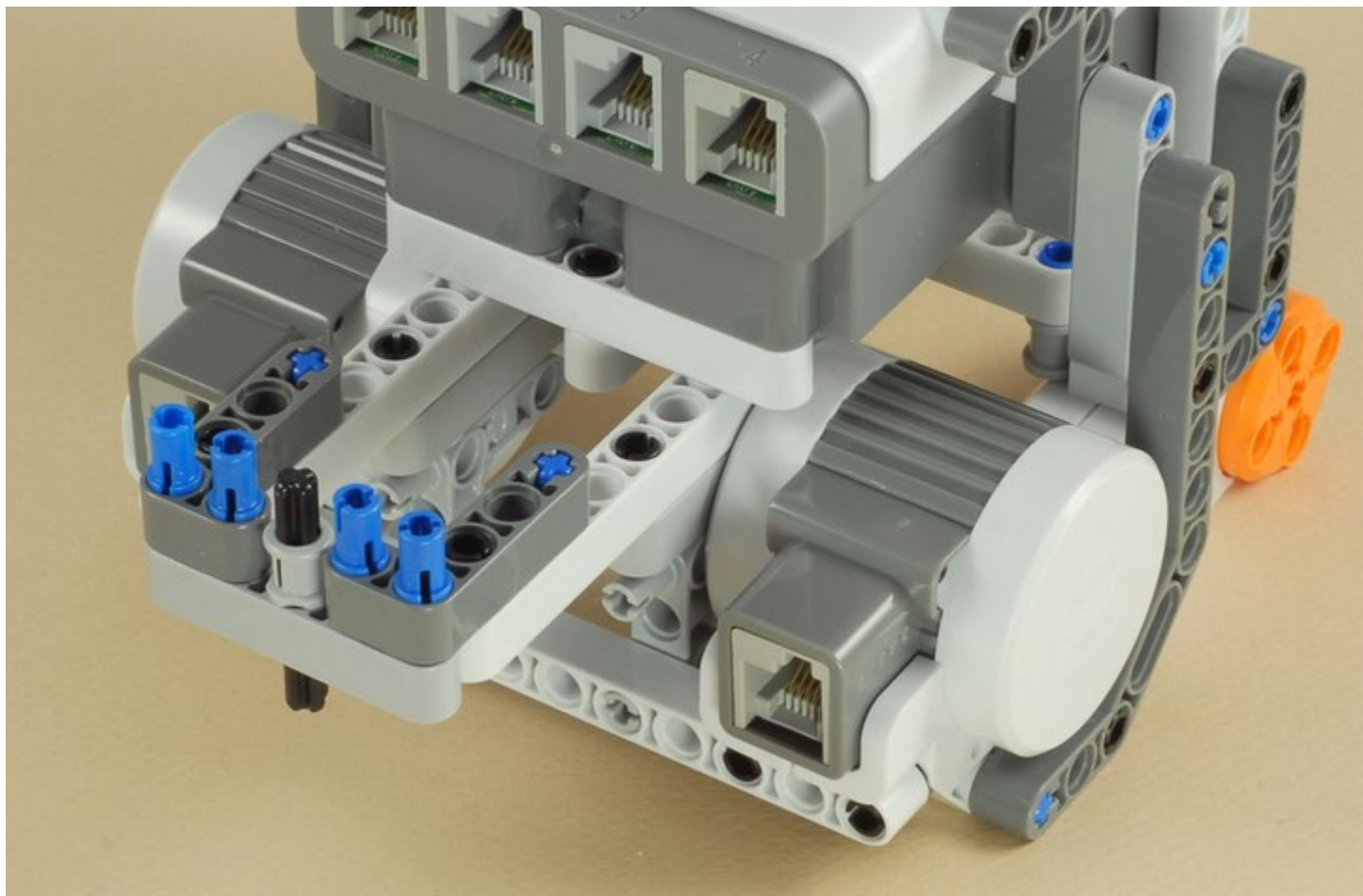
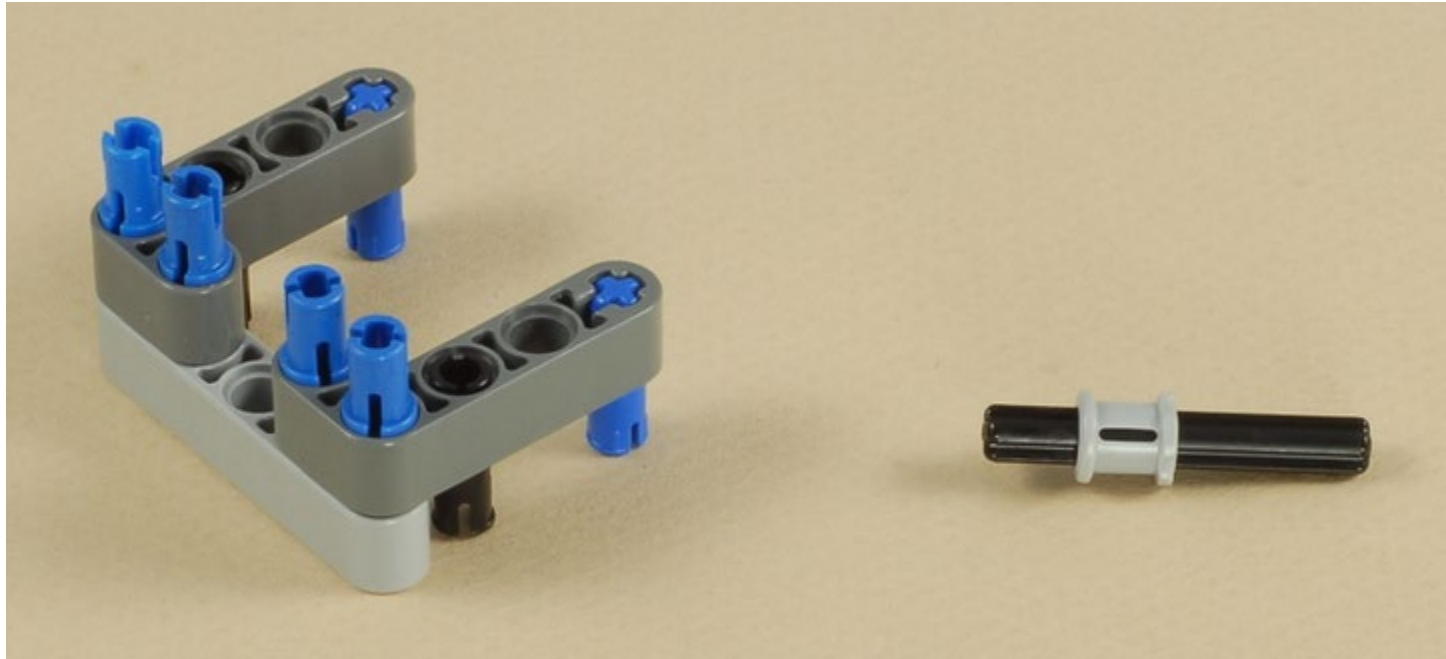


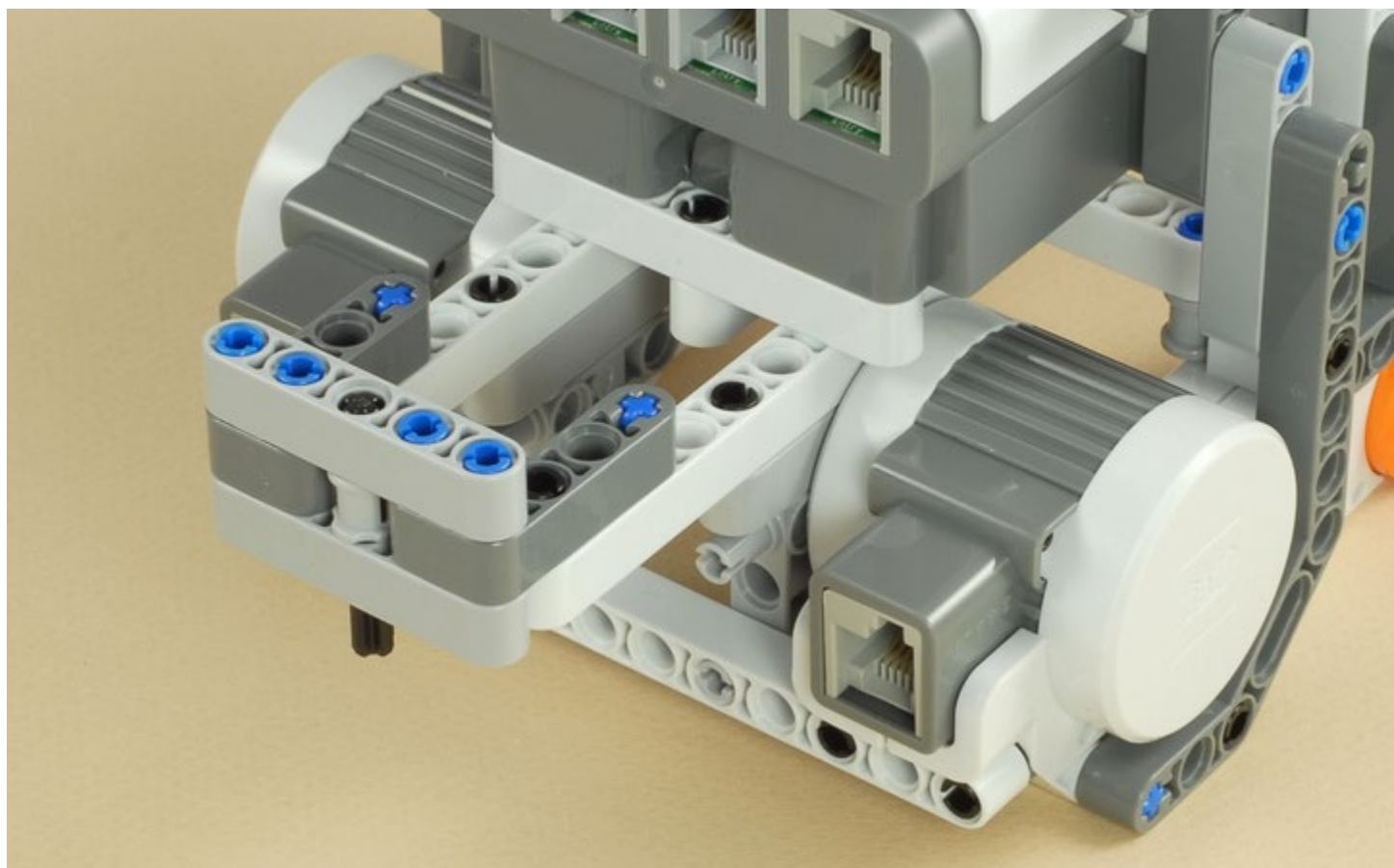




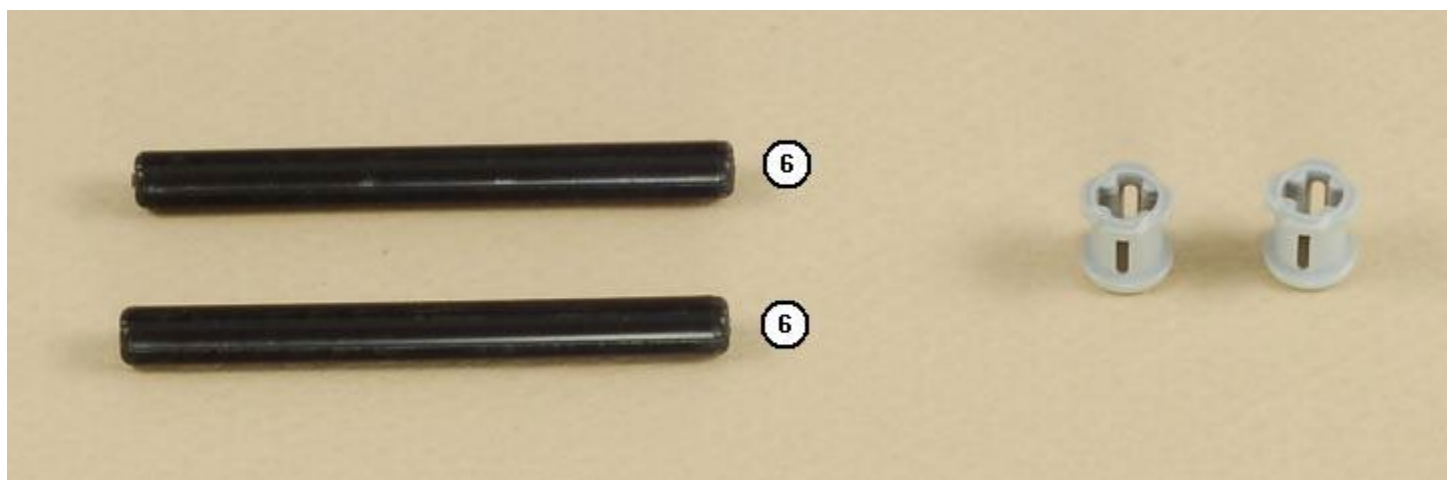
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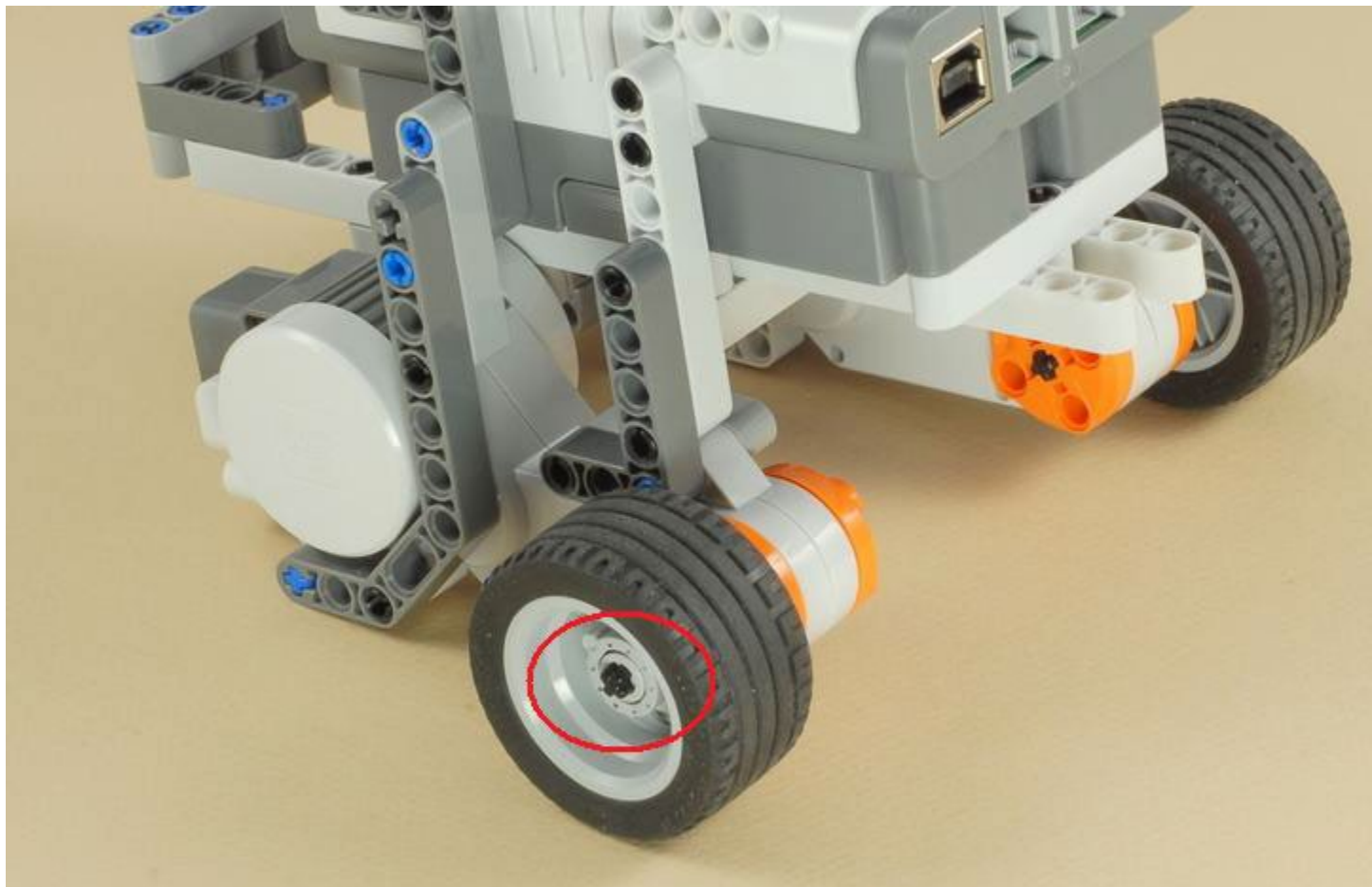




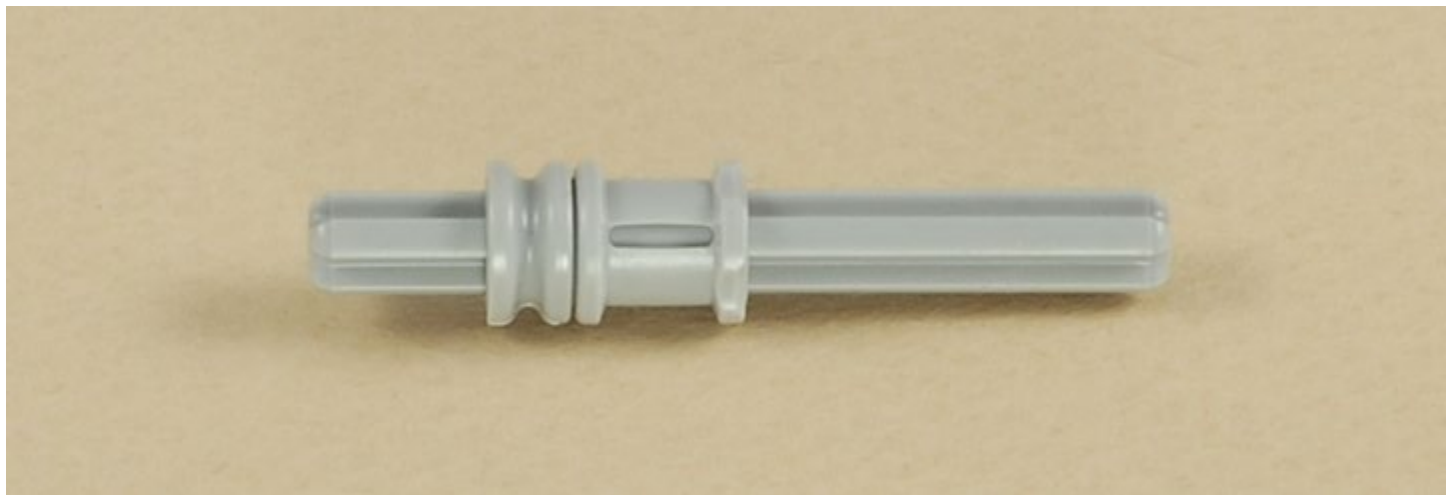
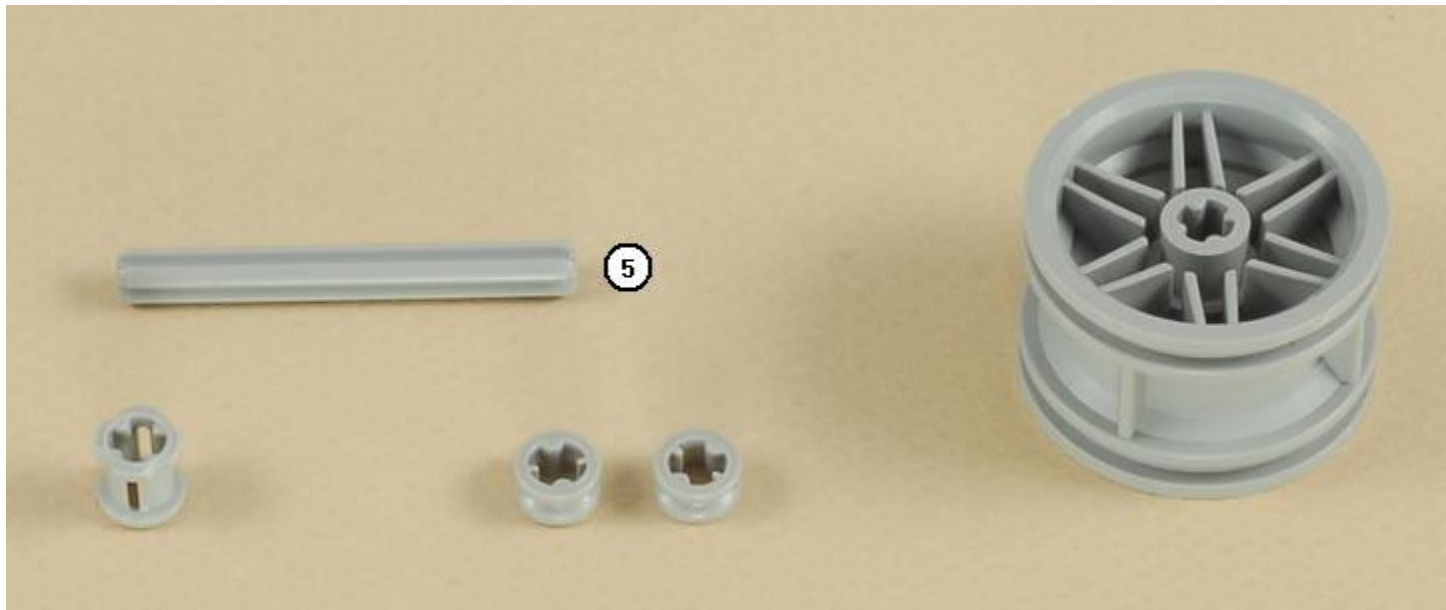
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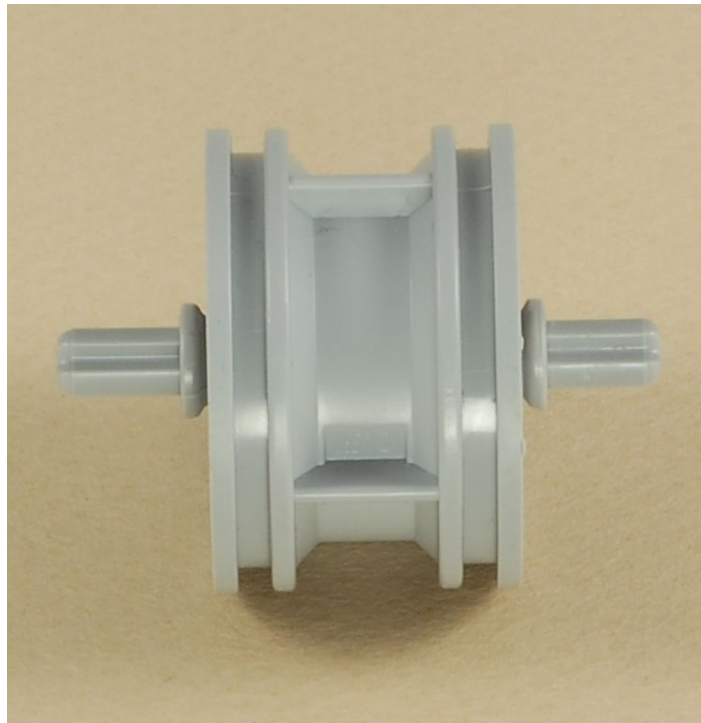




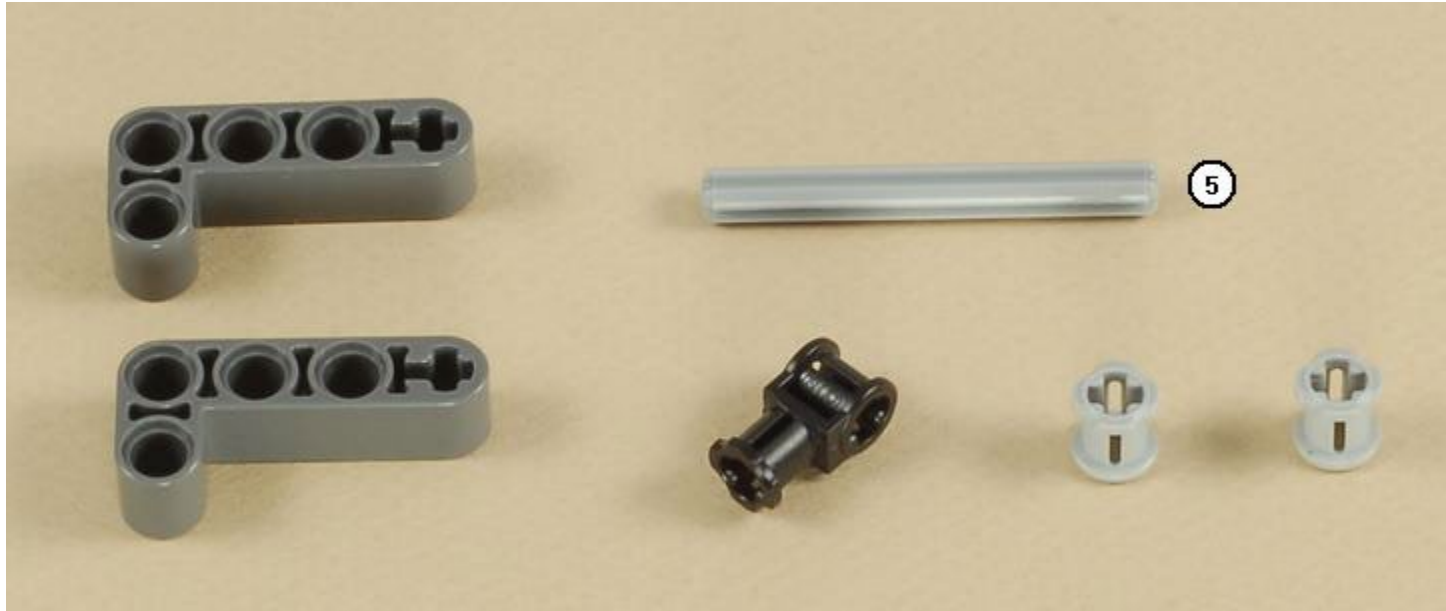


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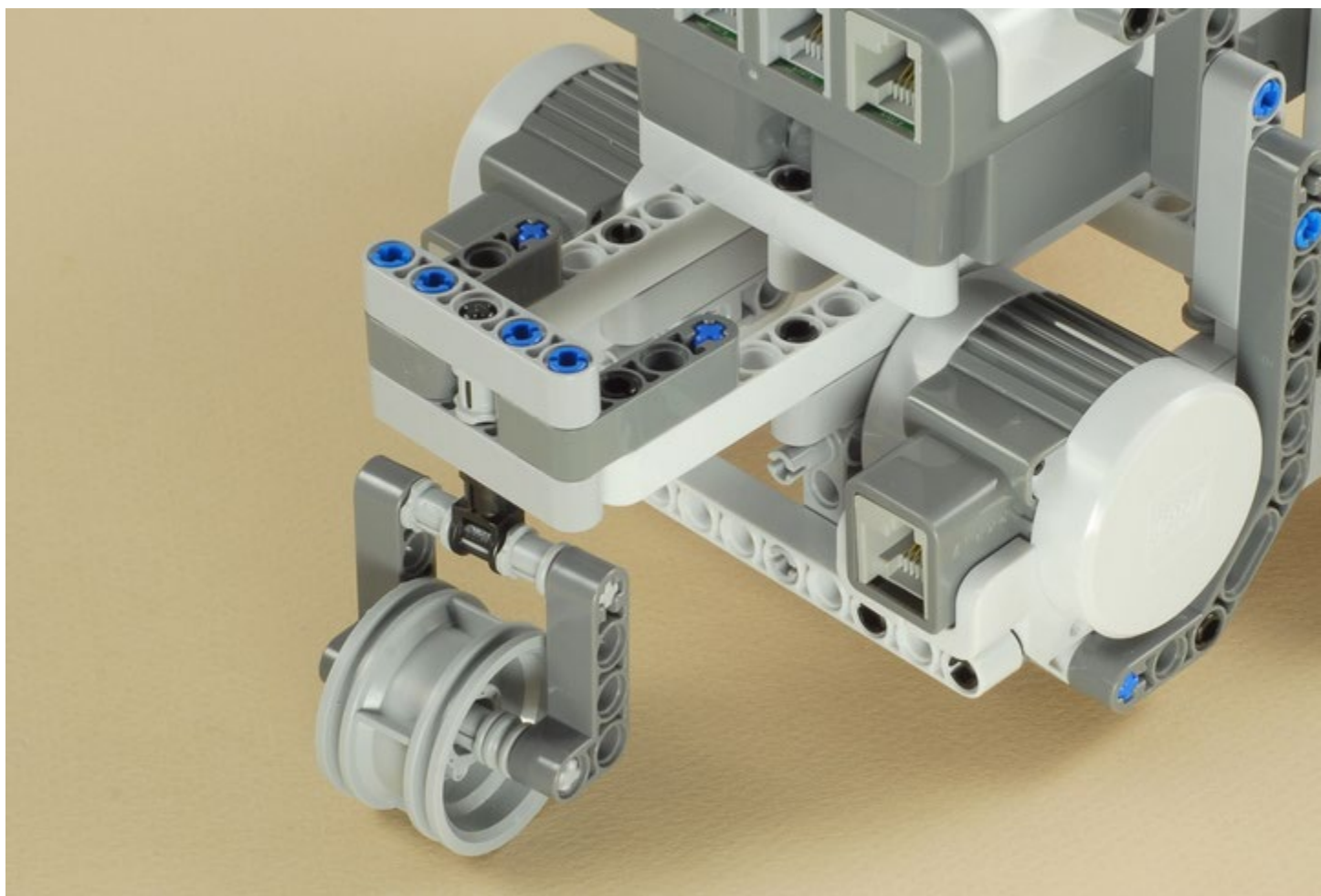




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11

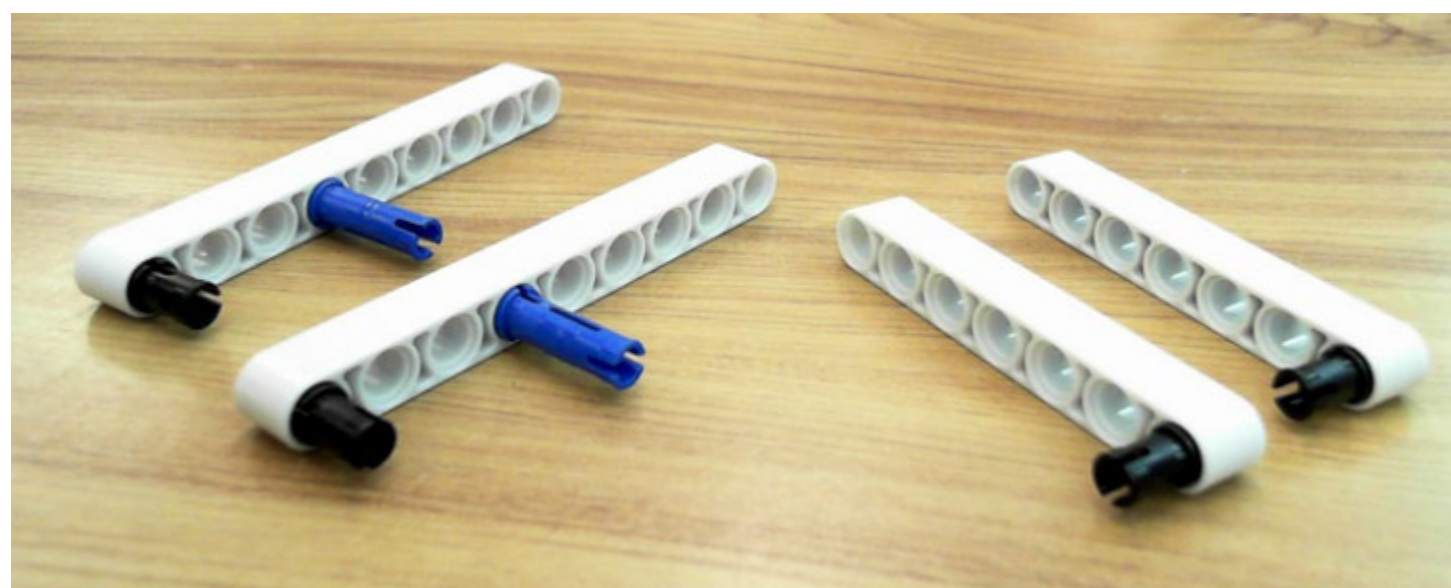
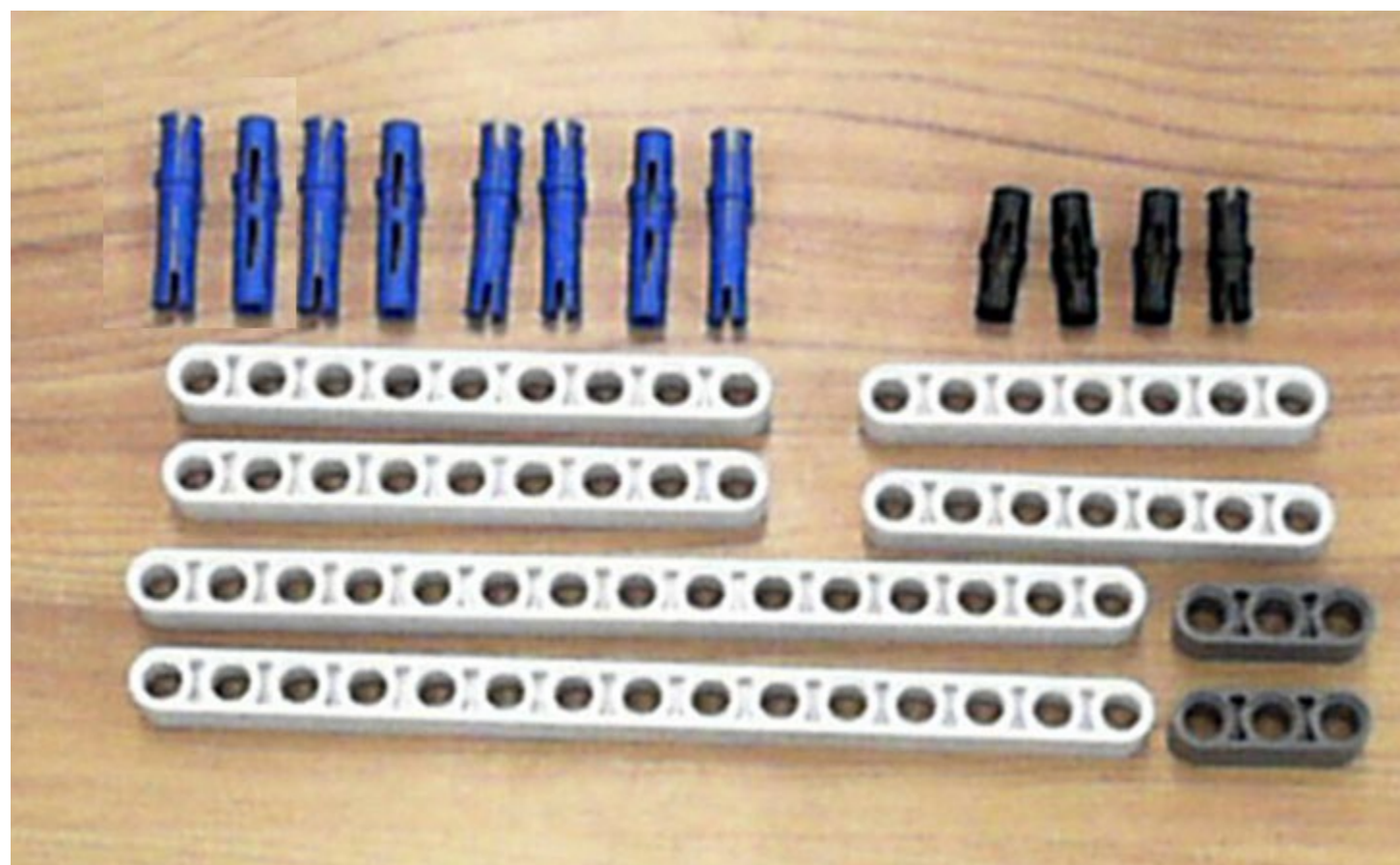


Use two medium length wires to connect the two drive motors to ports **B** and **C** on the NXT.

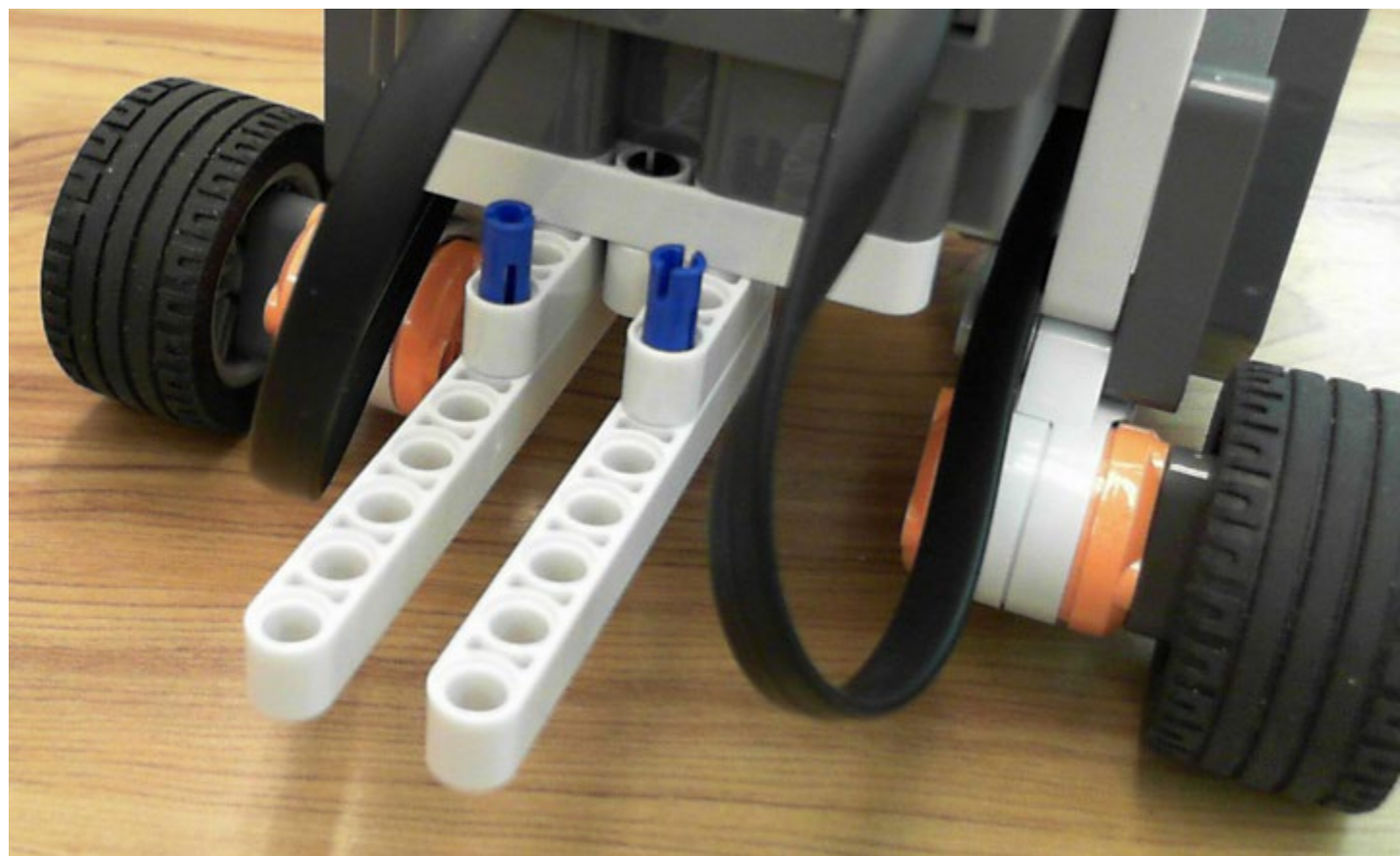
Important: Keep the left wire on the left and the right wire on the right (do not cross the wires).

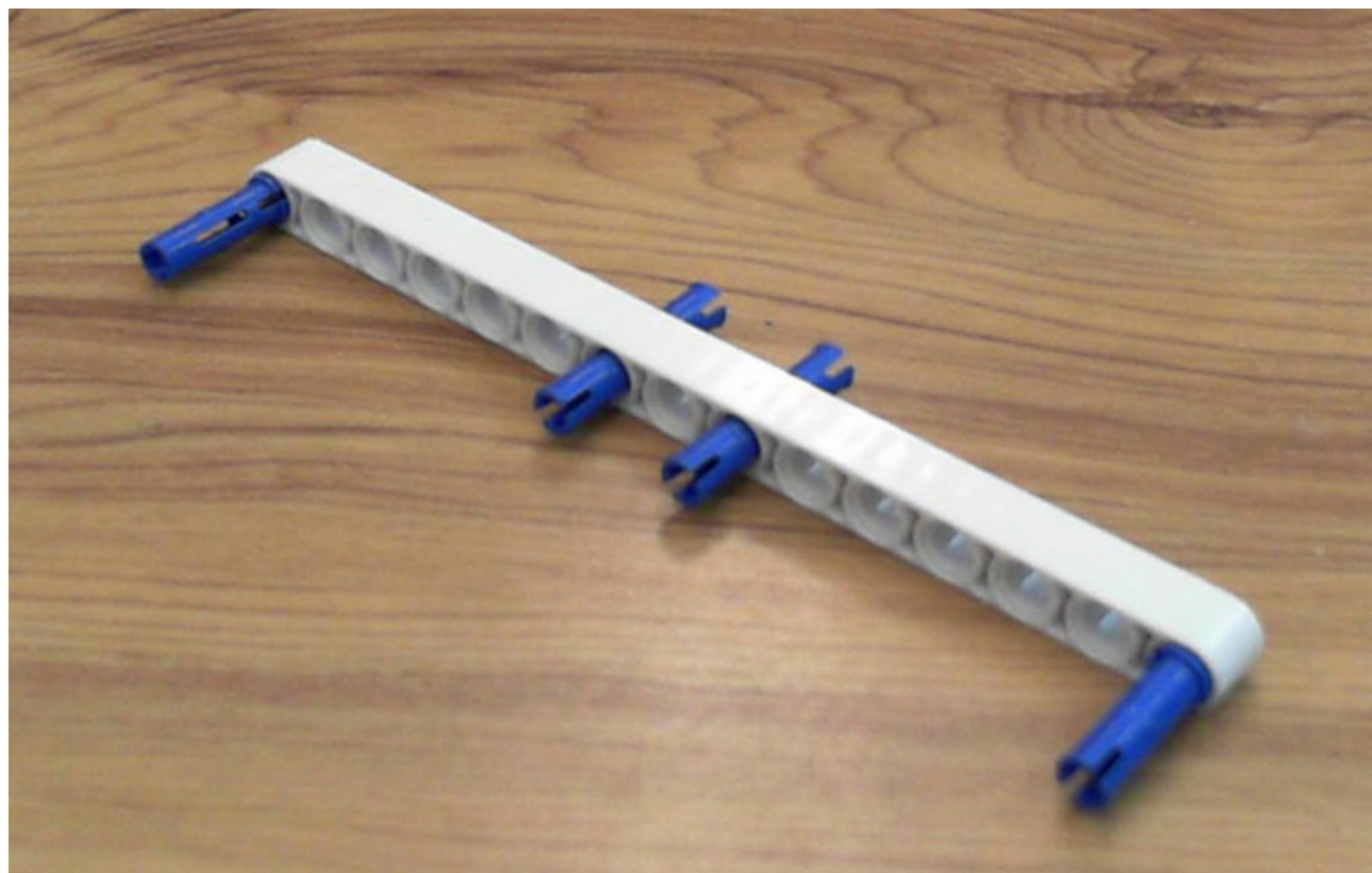


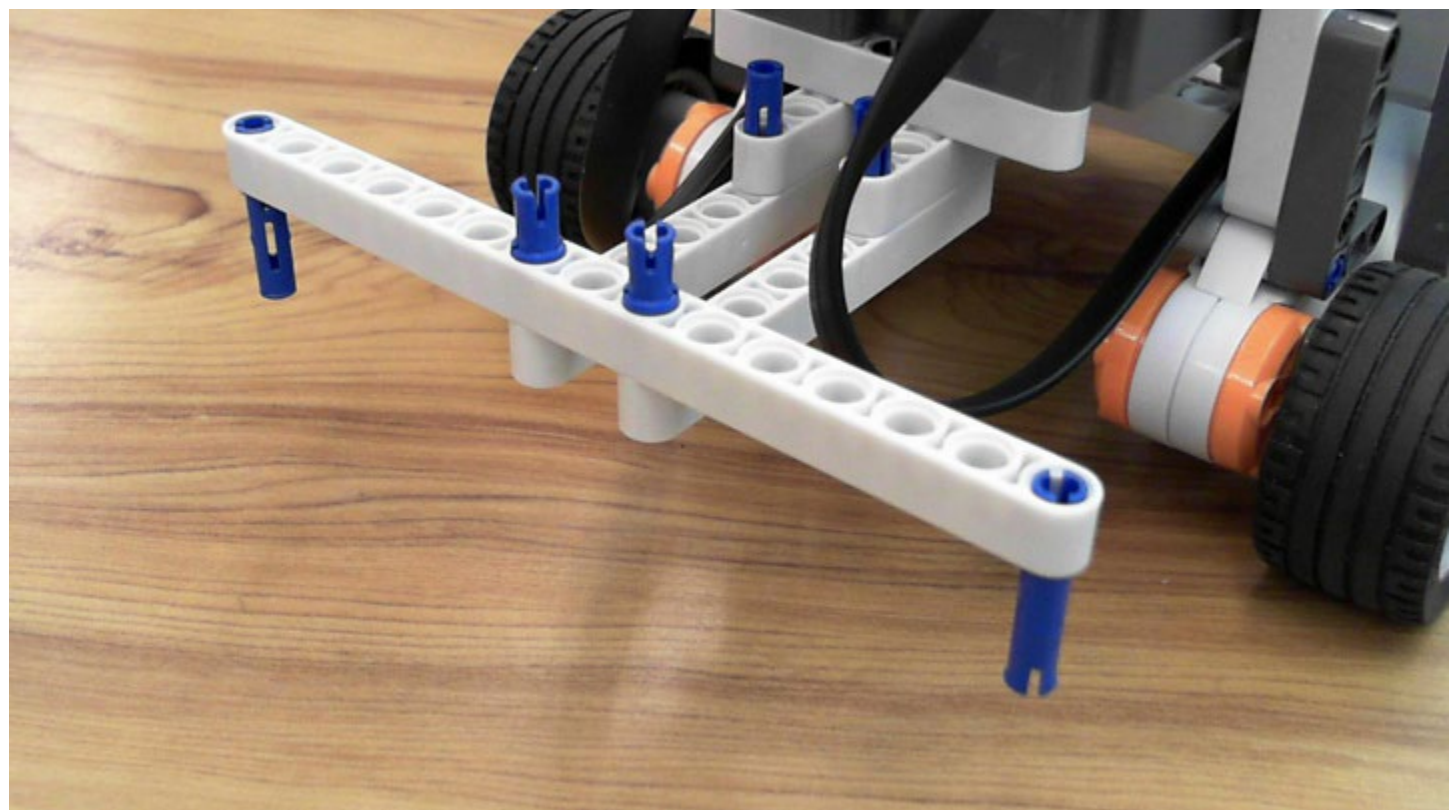
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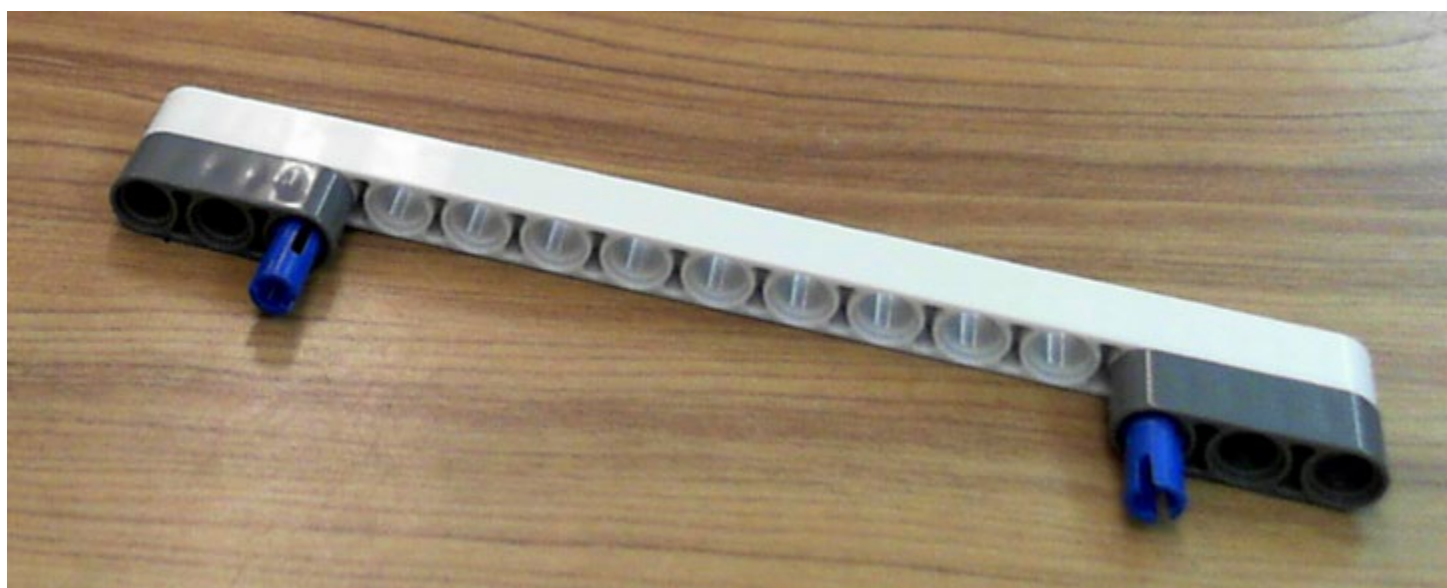
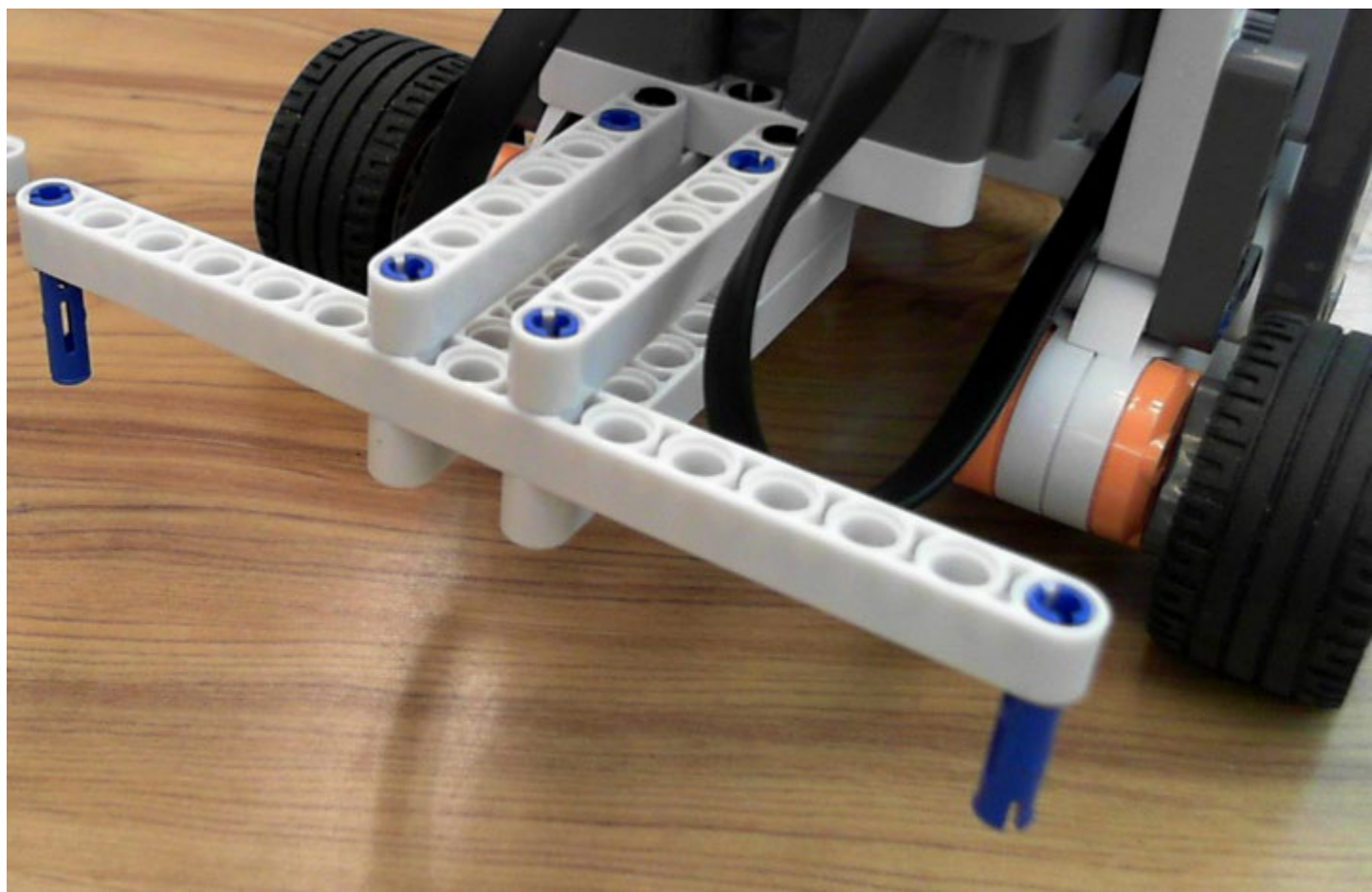


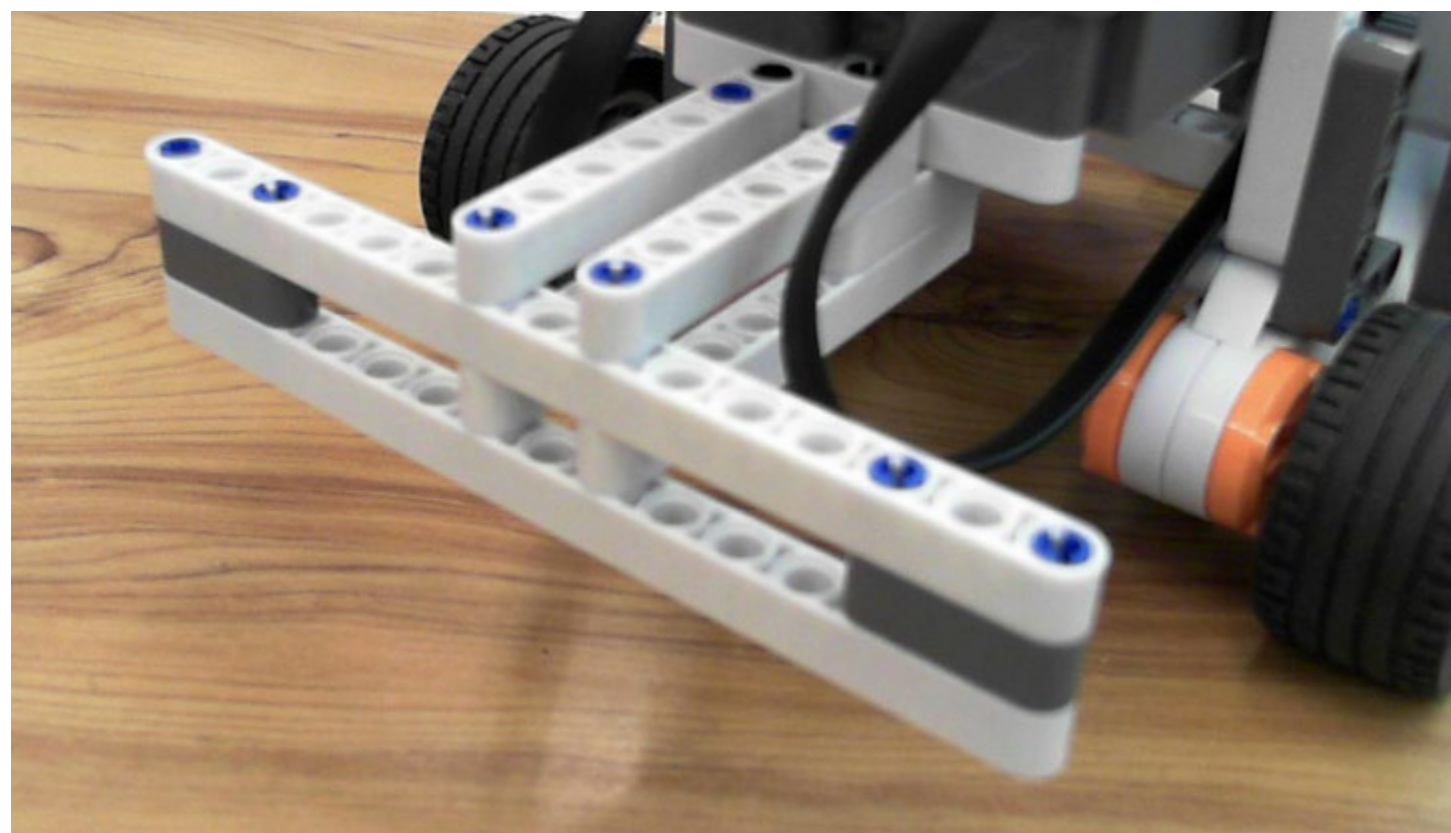


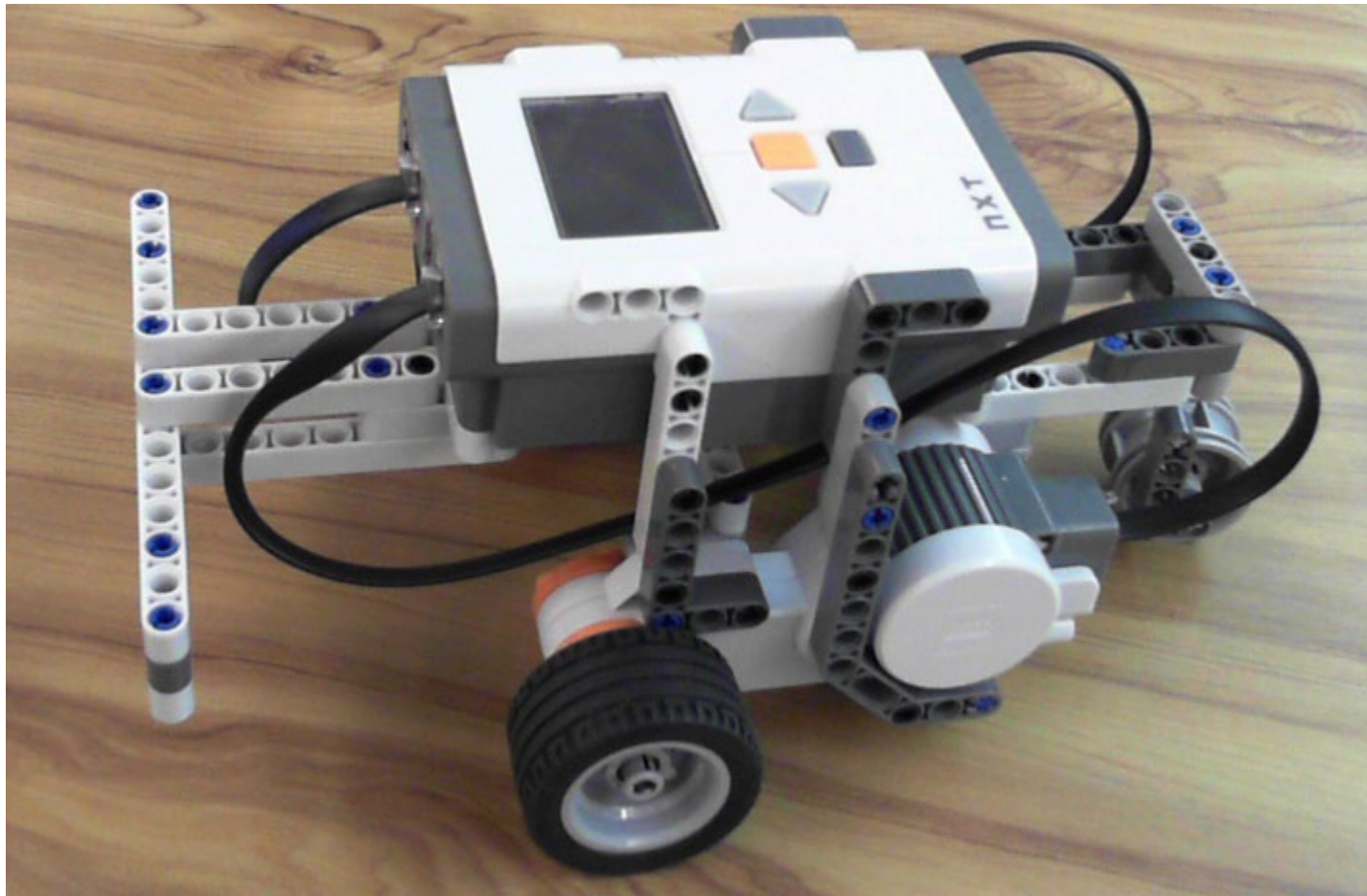












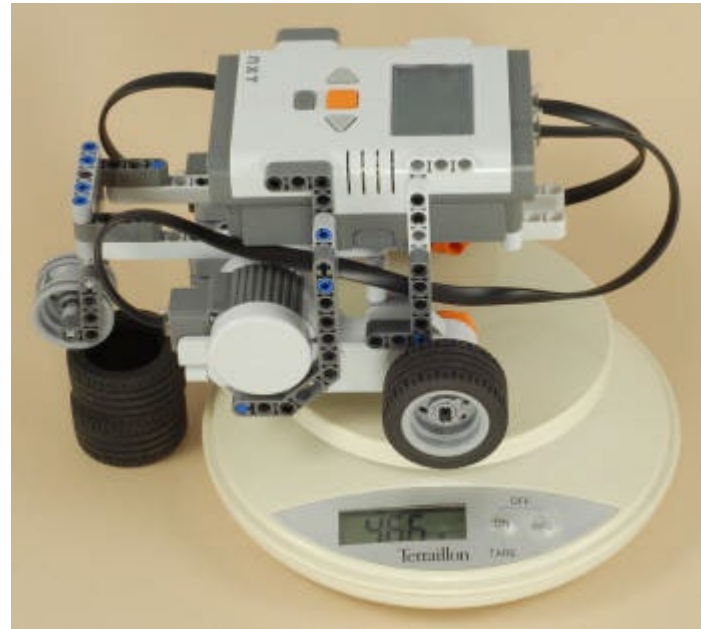
Building Tip: Weight Balance

When building a robot with a castor wheel, it is important to consider the weight balance of the robot. For good turning, you want to have most of the robot's weight over the drive wheels, if possible. But there must also be enough weight over the castor to keep the robot stable and avoid tipping over. If too much weight is over the castor, the robot may struggle to turn, might get caught up and stall, or the drive wheels might start slipping. However, if too much weight is over the drive wheels, the robot may pop a wheelie when told to drive backwards.

As determined by the experiment below with a small scale, the Castor Bot robot has a total weight of 624 grams, with 466 grams over the drive wheels. This works out to 75% ($466/624$) of the weight over the drive wheels.



The Castor Bot's total weight is 624 grams



466 grams (75%) is over the drive wheels