

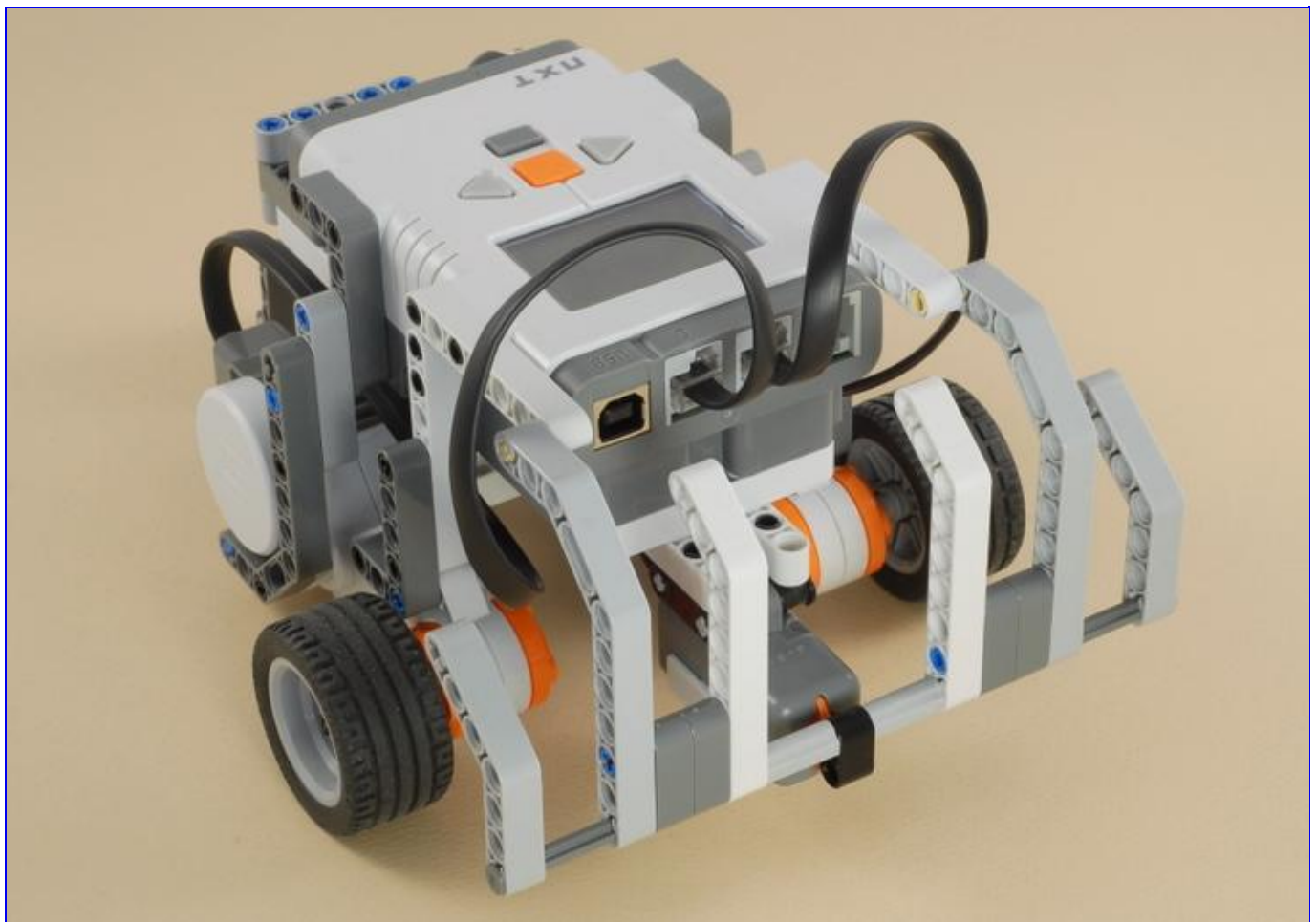
Explorer

Building: Program: Designed for **NXT 2.0** (8547)

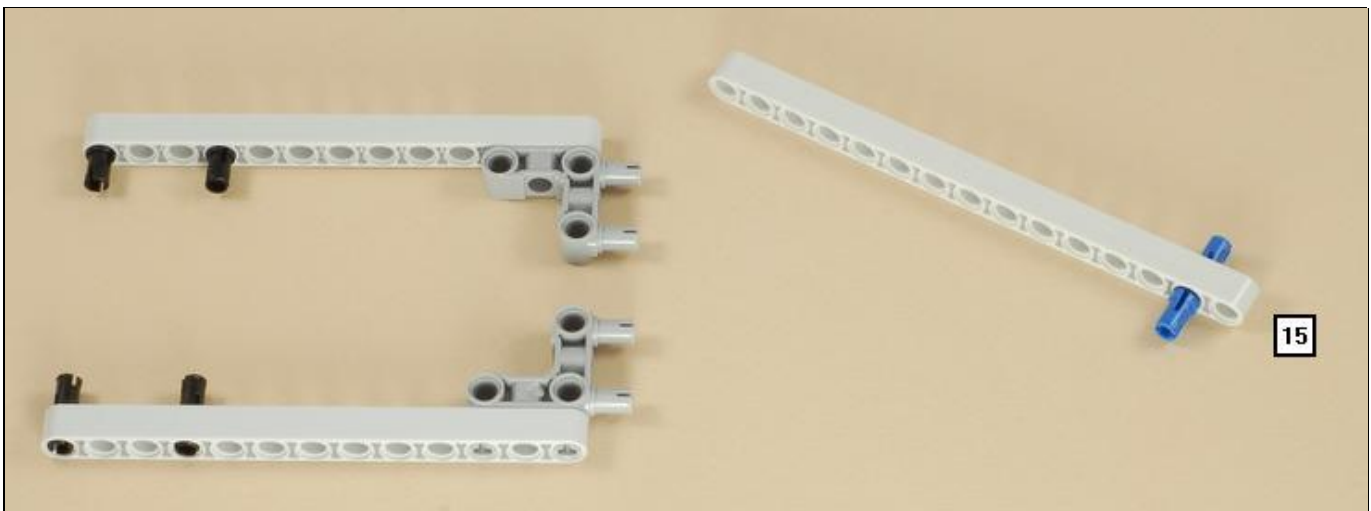
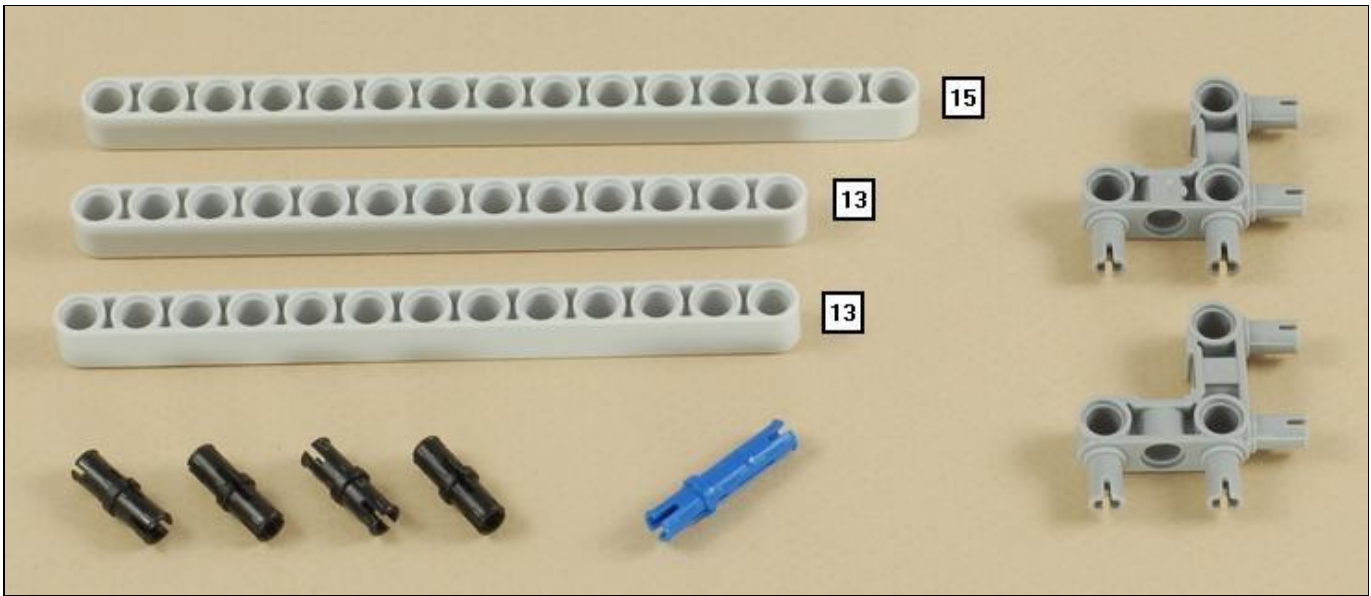
Building Instructions

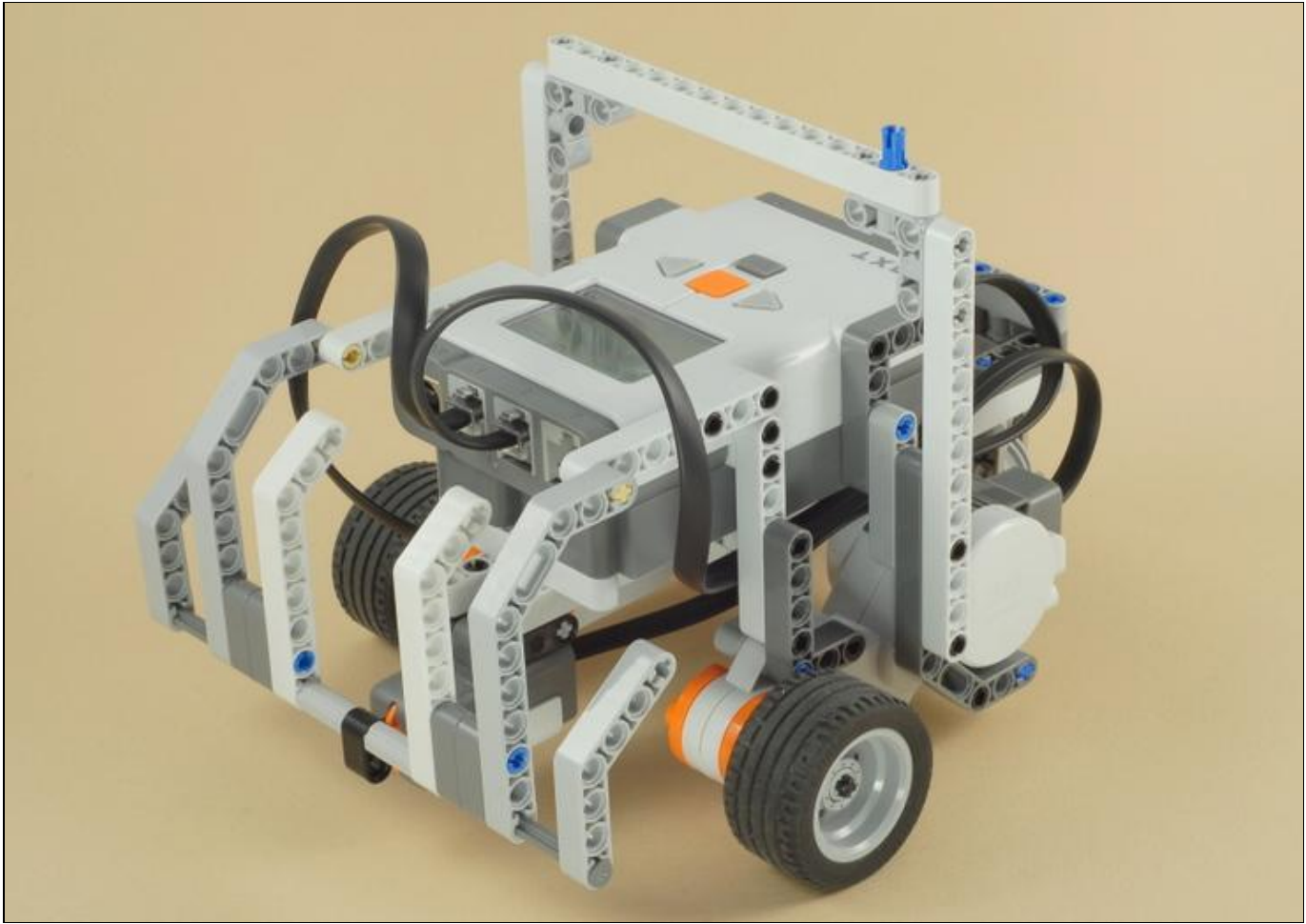
1-14

Start by building the [Bumper Car](#). Click the picture for building instructions.

[Building Instructions](#)

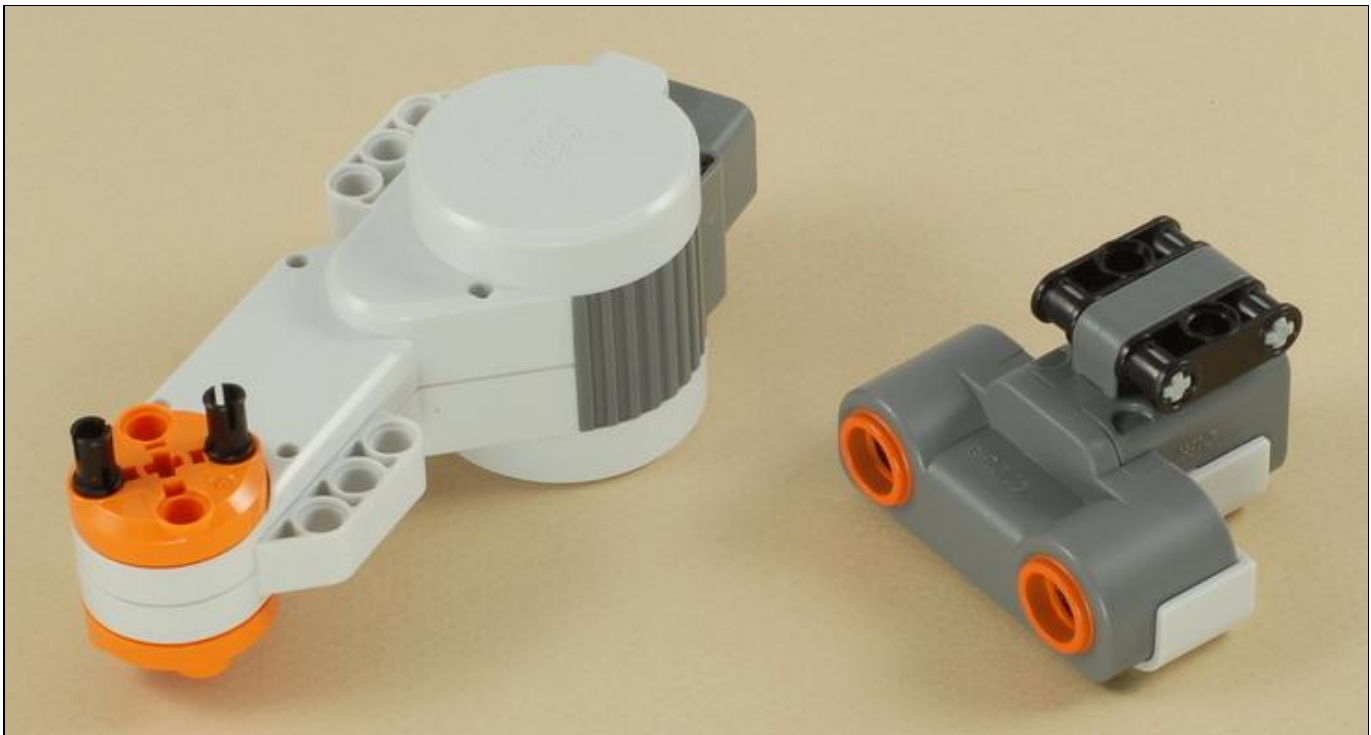
15





16







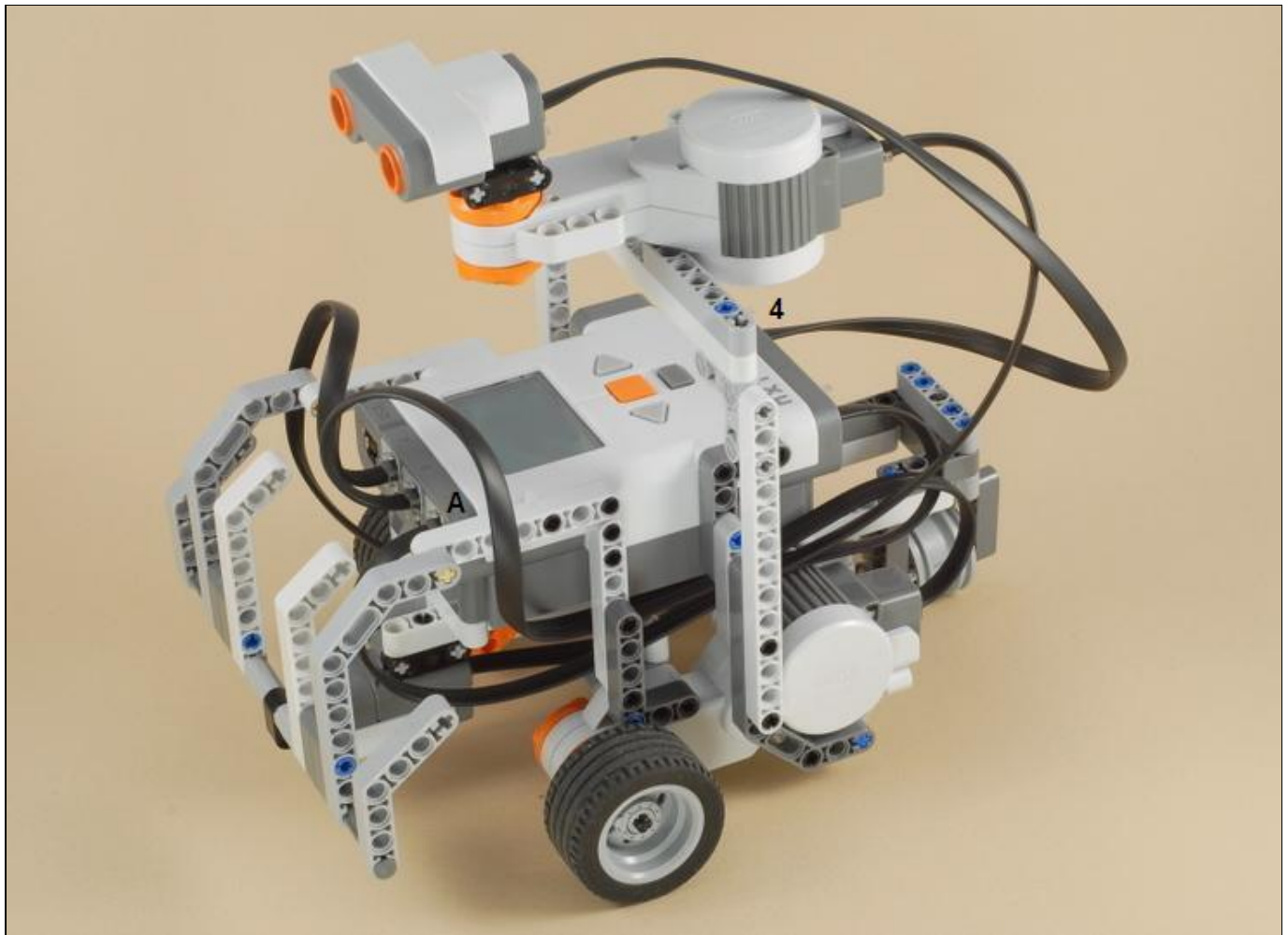
17





Connect the neck motor wire to port **A** on the NXT, and the ultrasonic sensor wire to port **4** on the NXT.

Important: Make sure that the wires stay out of the way of the bumper and that there is enough slack so that the head can pivot all the way to the left and right.



Explorer Programming

Use the [Explorer](#) program for the Explorer. This program makes the robot repeat the following steps:

1. Go straight until either the ultrasonic sensor sees something close or the bumper is hit.
2. If the bumper was hit, make a sound and back up a little.
3. Turn the head to look right and then left, and use the ultrasonic sensor to determine which direction appears to have more space, then turn in that direction.

Using the Explorer

Make sure the "eyes" of the ultrasonic sensor are pointed straight ahead before running the [Explorer](#) program, so that robot is not confused about which way is which.

Challenges

- Set your Explorer loose and see if you can predict which way it will turn each time it approaches an obstacle, and try to guess where it will end up. Will it get stuck anywhere?
- For an advanced programming challenge, try modifying the [Explorer](#) program to change what

happens when the Explorer "sees" an obstacle or bumps into something. Can you come up with a better navigation strategy that is more interesting or less likely to get stuck?

[Home](#) [Projects](#) [Help](#) [Contacts](#)

Copyright © 2007-2011 by Dave Parker. All rights reserved.
All project designs, images, and programs are protected by copyright. Please see the [usage policy](#).