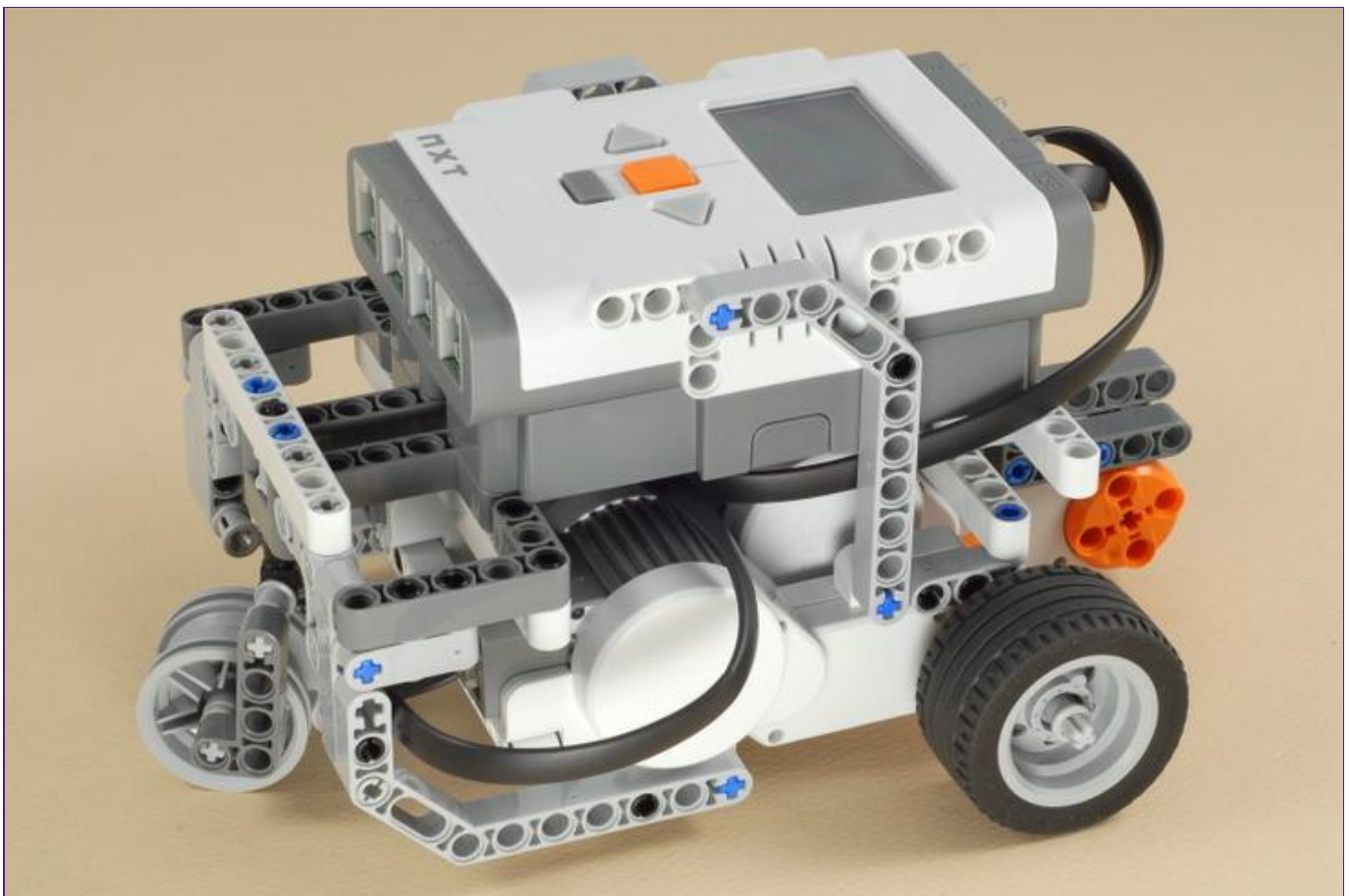


Claw Striker

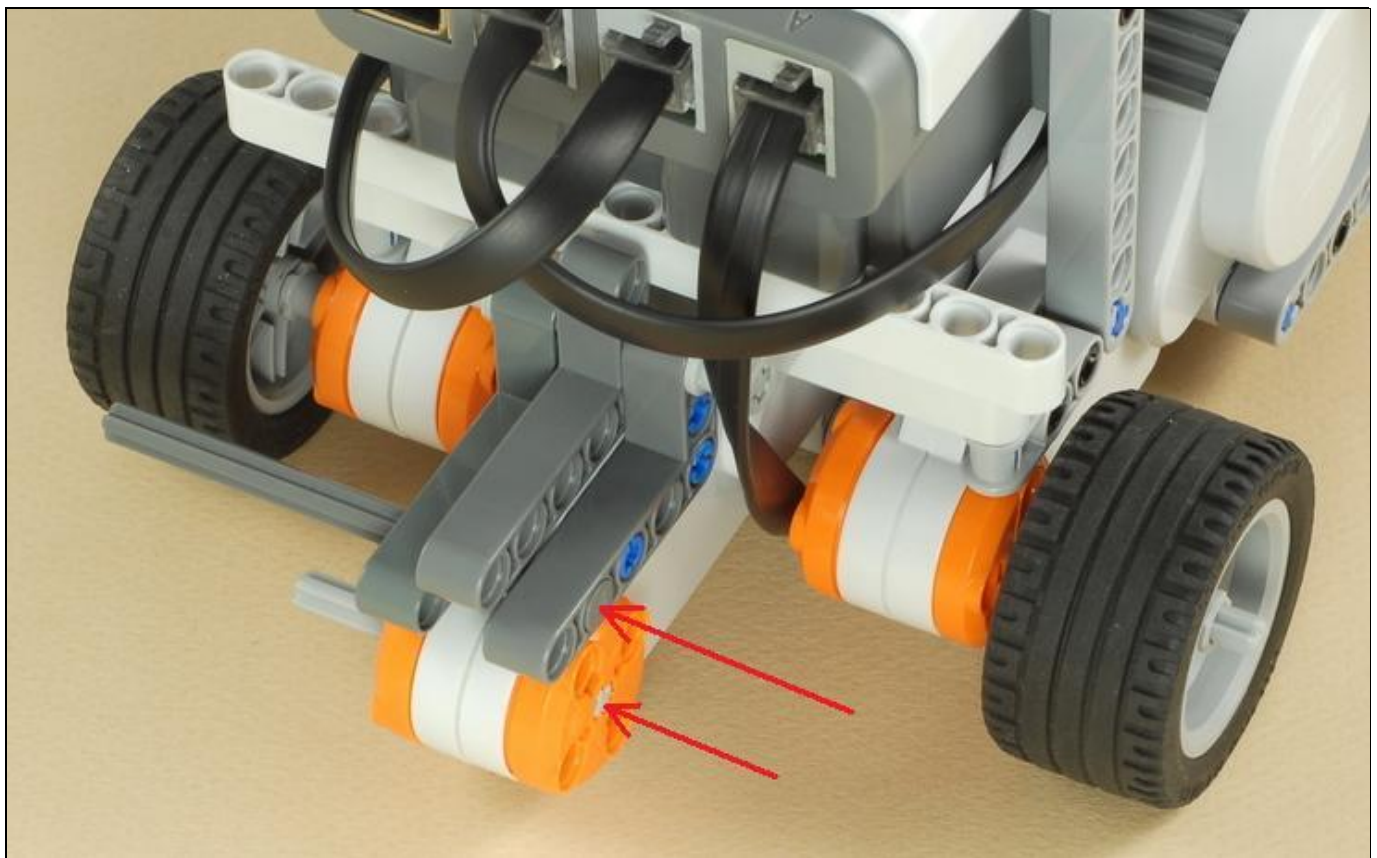
Building: Program: Designed for **NXT 2.0** (8547)[Building Instructions](#)

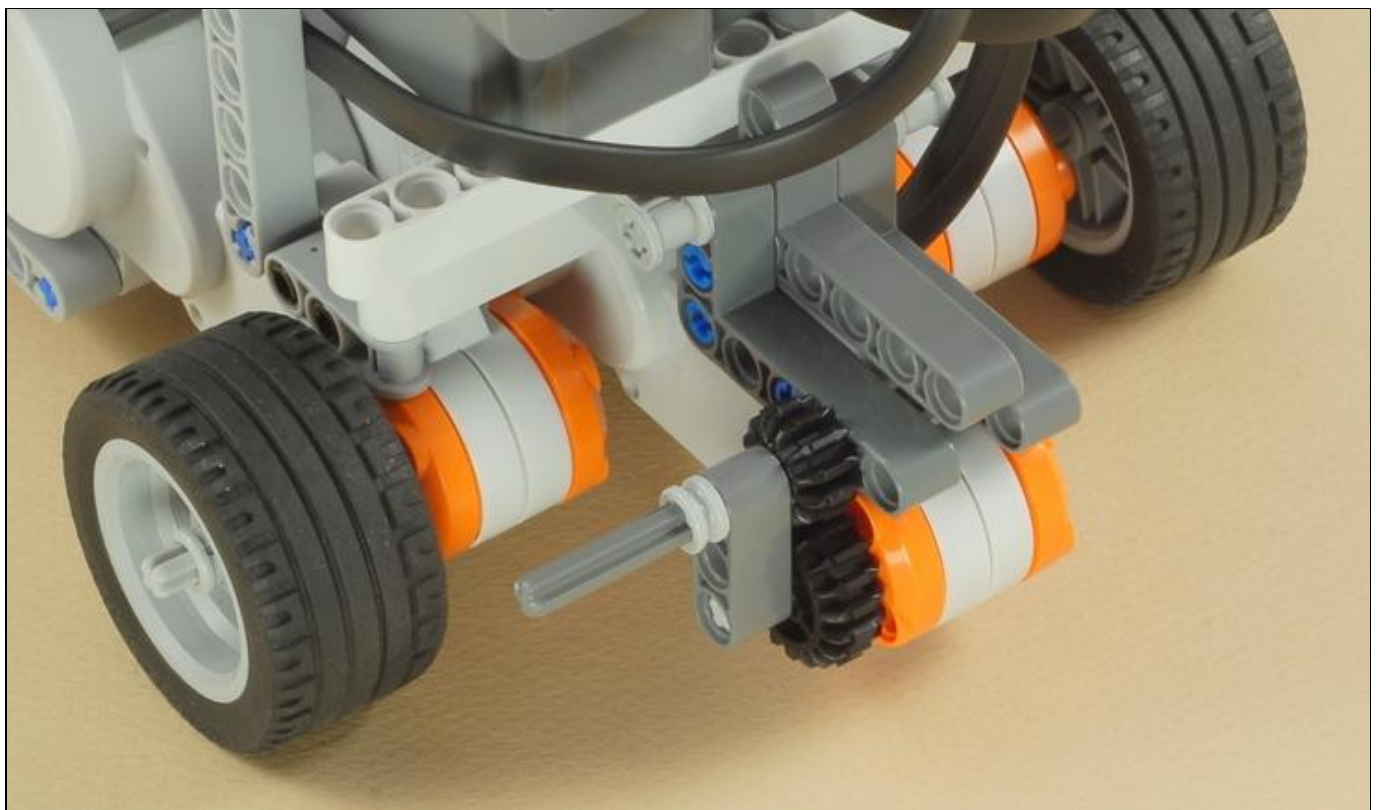
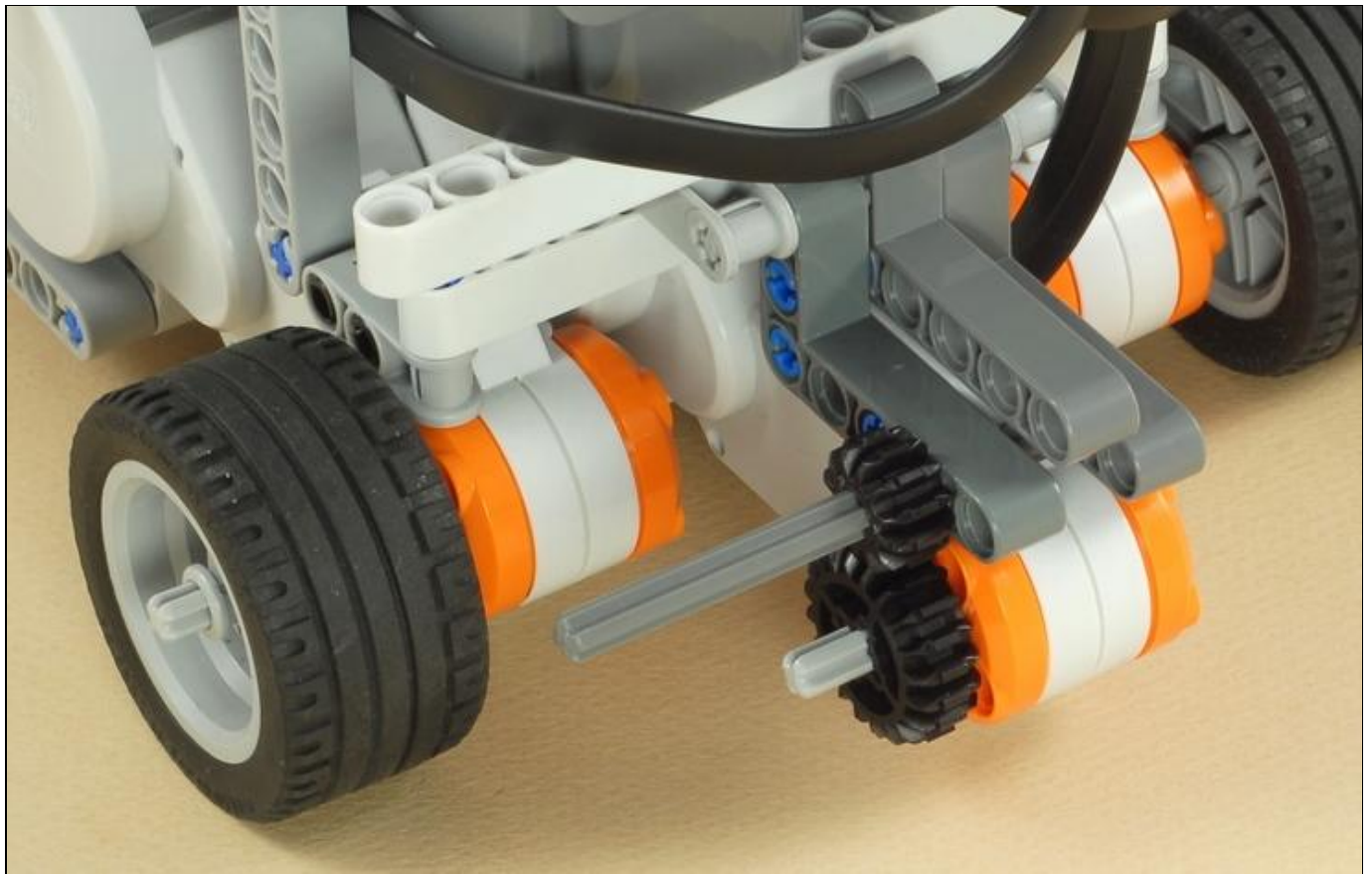
1-14

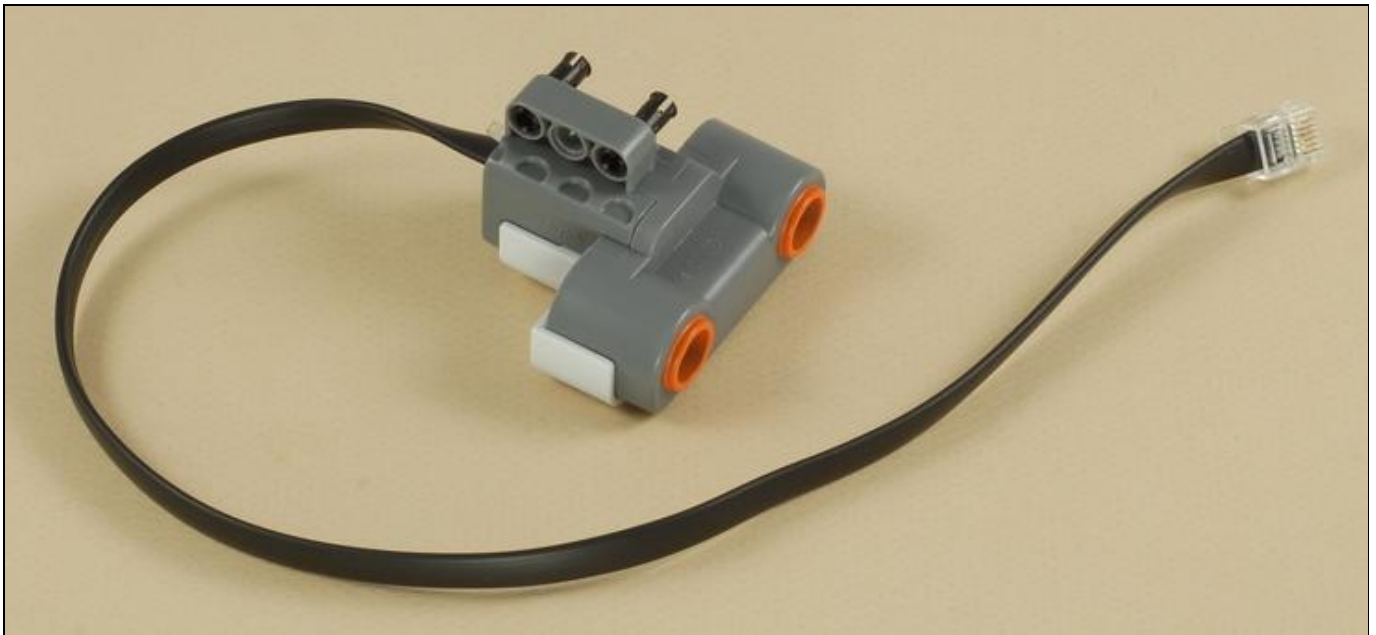
Start by building the [3-Motor Chassis](#). Click the picture for building instructions.

[Building Instructions](#)

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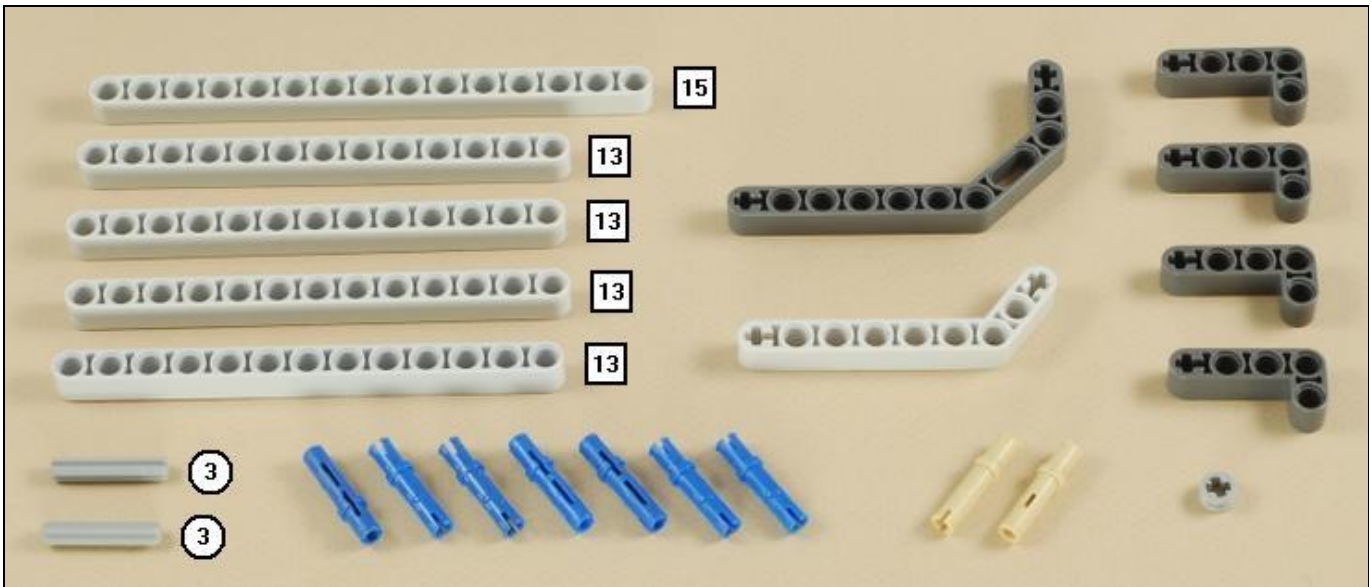
**16**

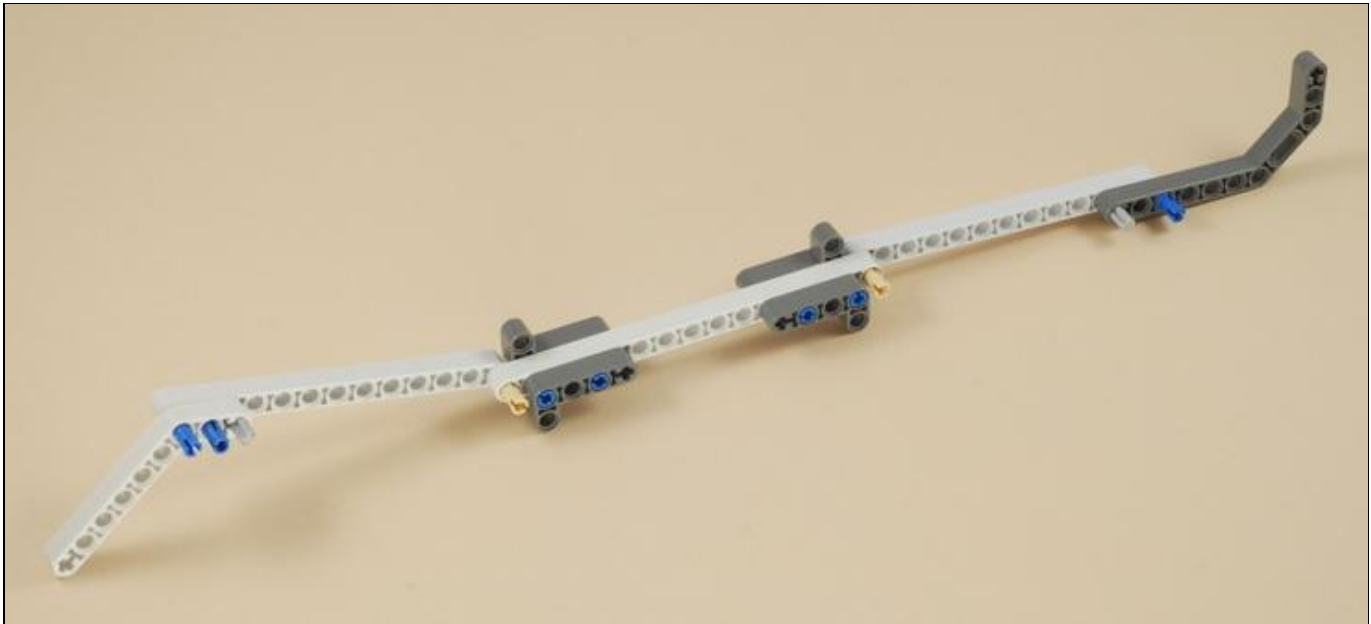
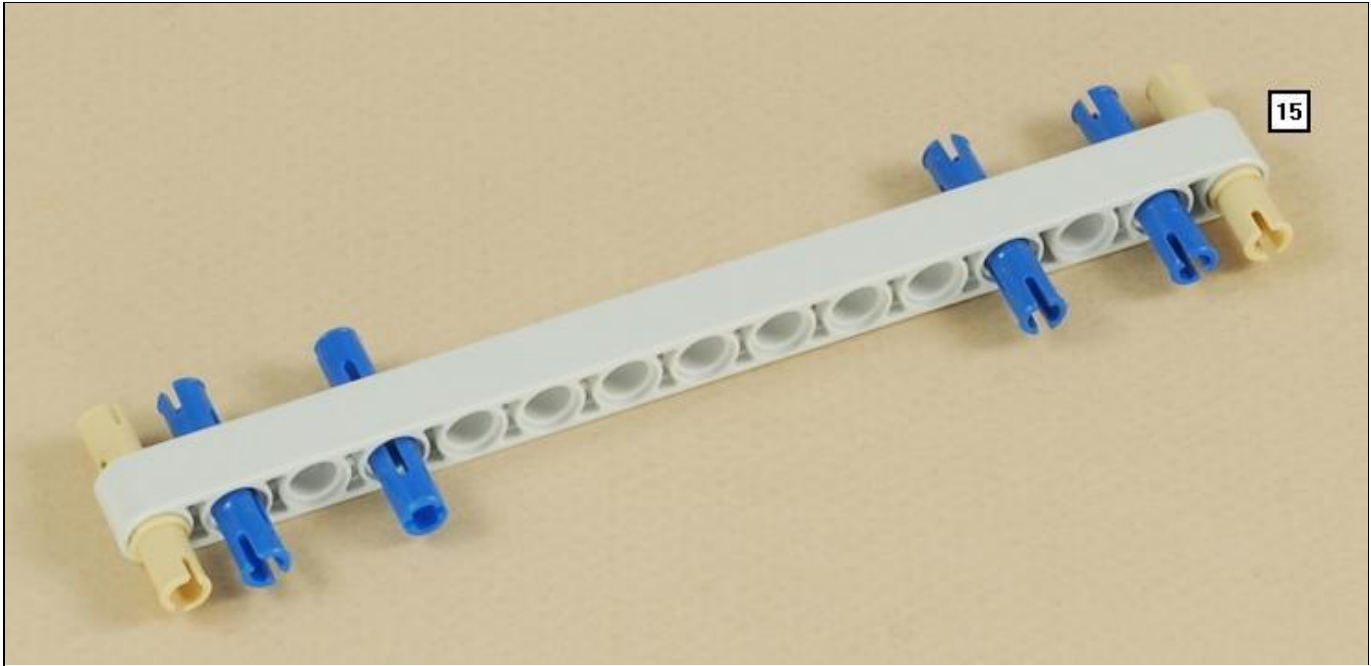


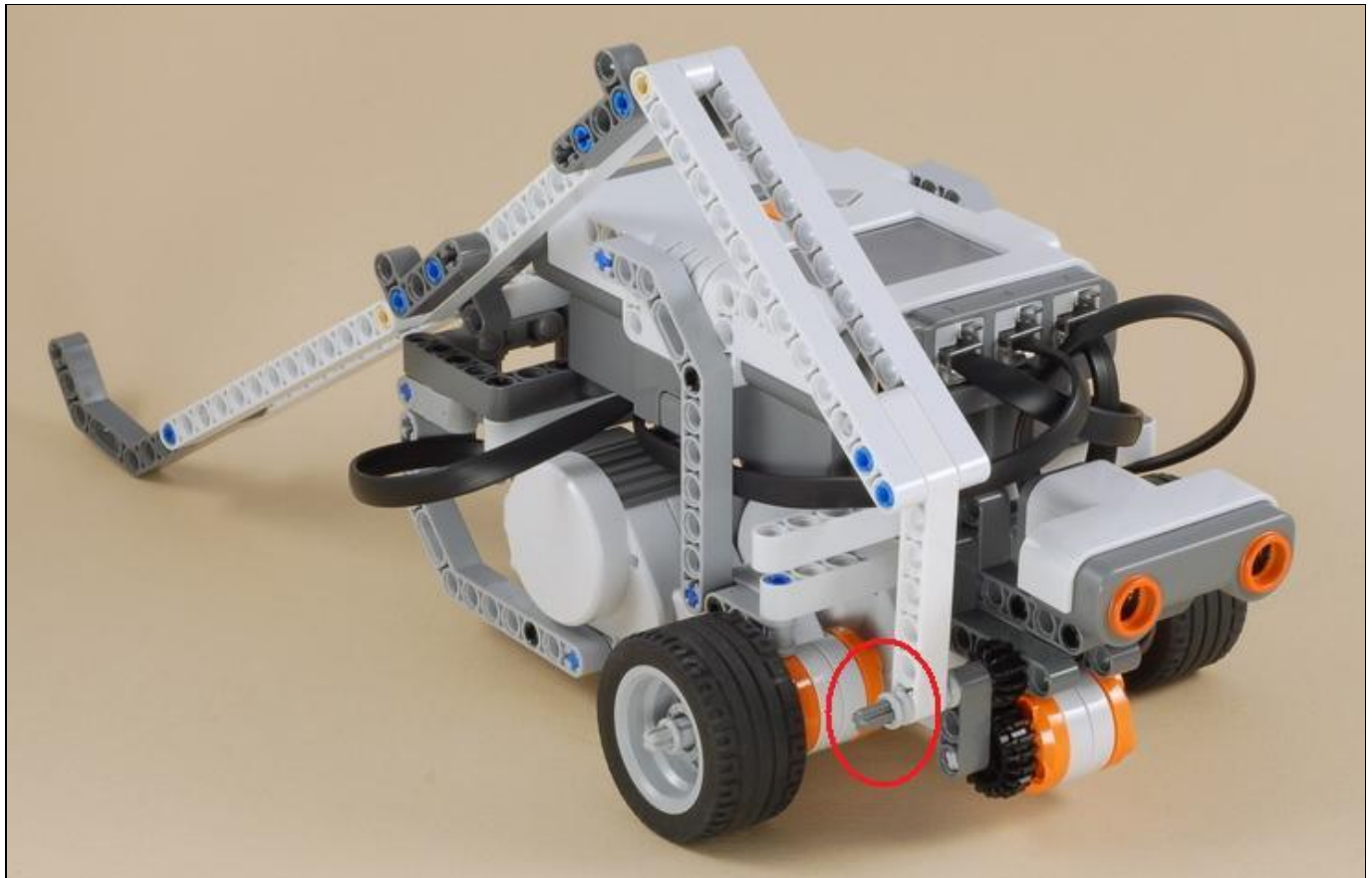
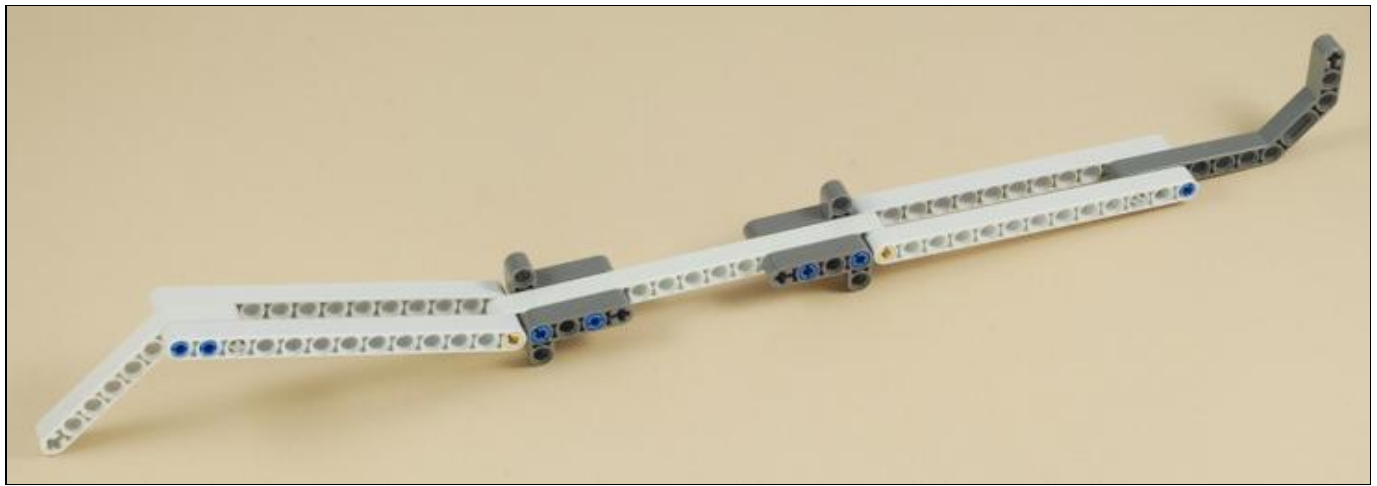
Plug the wire for the ultrasonic sensor into port **4** on the NXT, routing it through the chassis brace as shown to keep it out of the way.



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Claw Striker Programming

The [ClawStrike](#) program will make the Claw Striker try to automatically find a target and then strike it.

1. Place the Claw Striker and a target big enough for it to see in the middle of a large open area on a hard smooth floor (doesn't work as well on carpet). The target should be no more than about 2 feet (60 cm) away.
2. Run the [ClawStrike](#) program, then step back so the robot will not see you instead. There are three warning beeps at the beginning of the program to give you time to back away.
3. The Claw Striker will try to locate and strike the target as follows:
 - a. Turn around in a slow pivot turn looking for the target with the ultrasonic sensor
 - b. Sound a beep when the target is first seen (leading edge)
 - c. Keep turning until the trailing edge of the target is found, then sound another beep.

- d. Turn back half of the angle between the leading and trailing edges to try to point straight at the center of the target.
- e. Measure the distance to the target with the ultrasonic sensor, then go forward or back up as necessary to adjust the range to 33 cm, which is the length of the claw whip.
- f. Strike with the claw whip

Challenges

- The process of finding the target and driving to it is not completely accurate, so try several different starting positions to find some that work well. Also, some objects are seen by the ultrasonic sensor better than others. Try experimenting with different targets.
- Although the [3-Motor Chassis](#) used in this design normally has a pivoting castor wheel in the rear so that the chassis can turn well on carpet, the castor wheel introduces some inaccuracy into the turns and positioning. Try locking the castor wheel into place with the axle as shown at the end of the building instructions and see if this makes it any more accurate on a smooth floor.
- The [ClawStrike](#) program is an example of an "autonomous" (not remote controlled) control program. You could also try programming the Claw Striker to respond to a remote control, using ideas similar to the [Hammer Car](#). You will need to modify the program slightly to work with the Claw Striker.

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