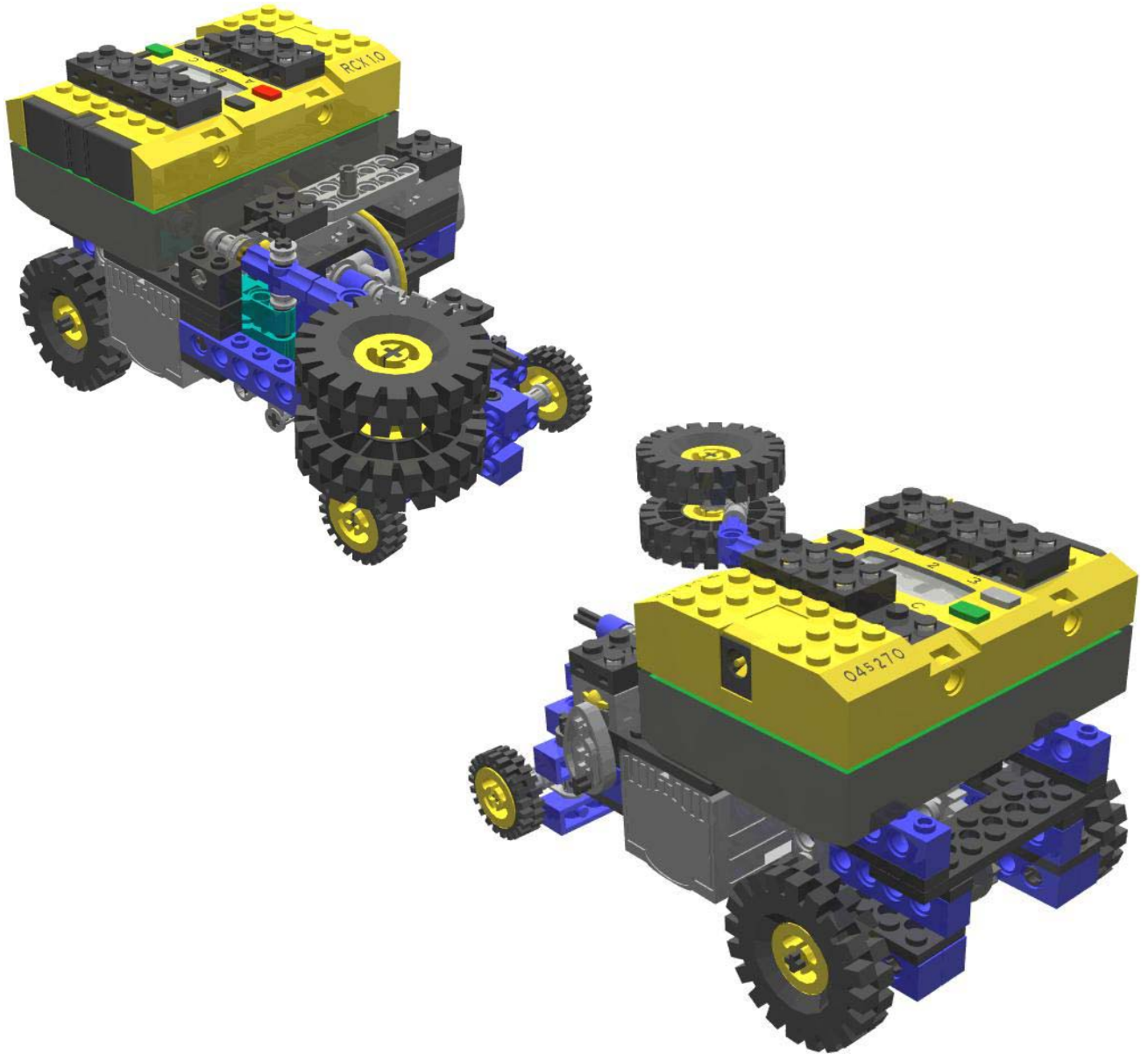


Building Instructions: Maze Robot

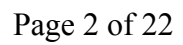


Basic Design from: “Building Robots with Lego Mindstorms”

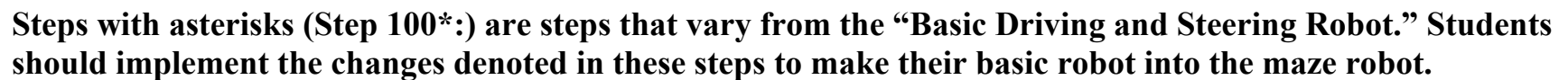
Modifications by: David Wang

Diagrams and Instructions by: David Wang

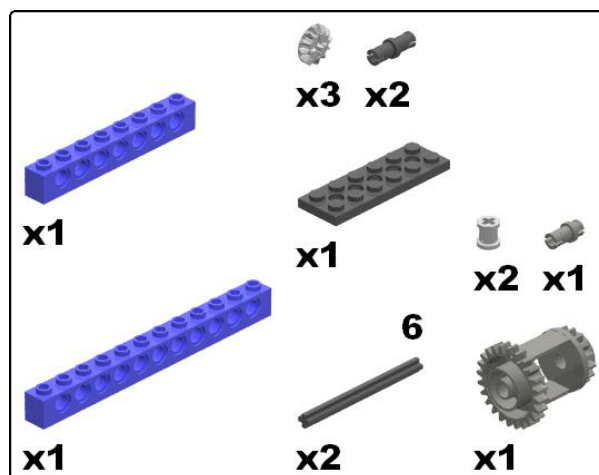
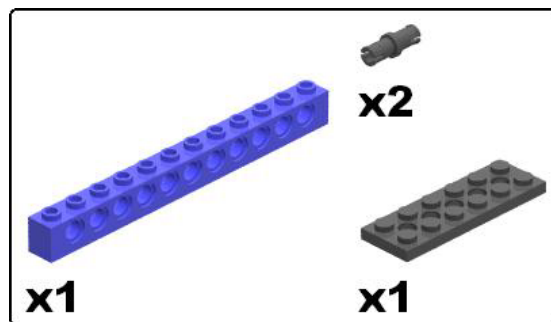
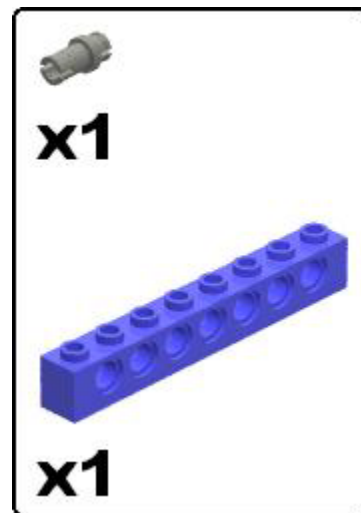
Diagrams and Instructions generated by: MLCad, LPub, L3P, and POVRay



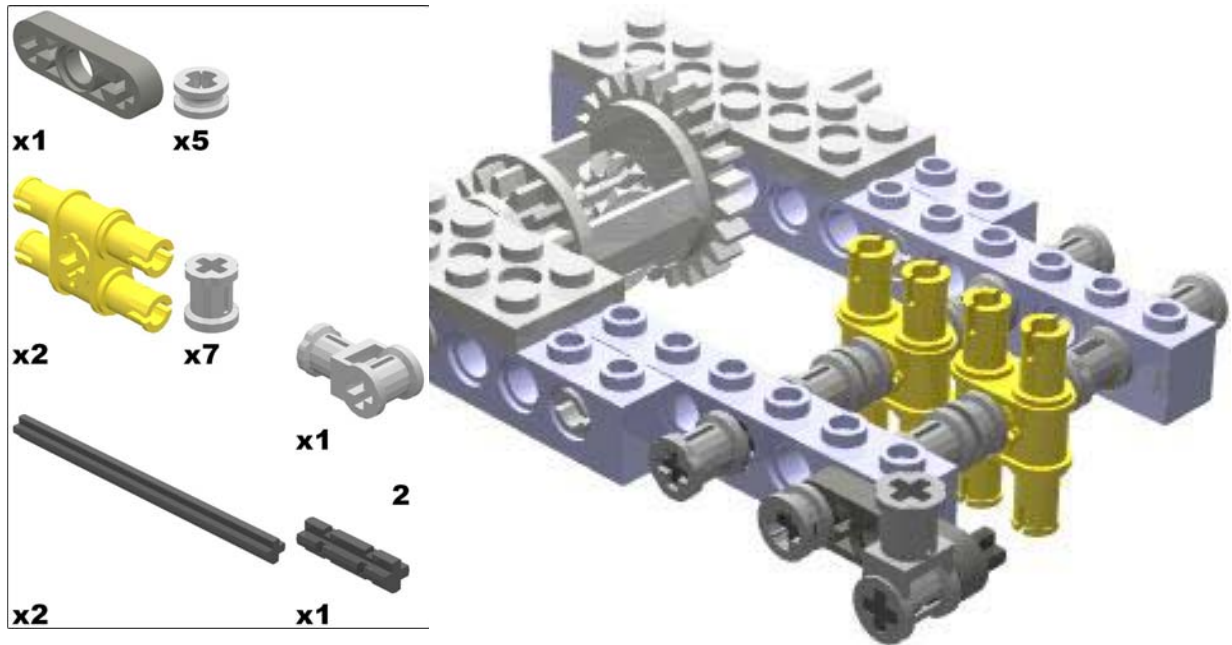
These are the NEW parts you will need:



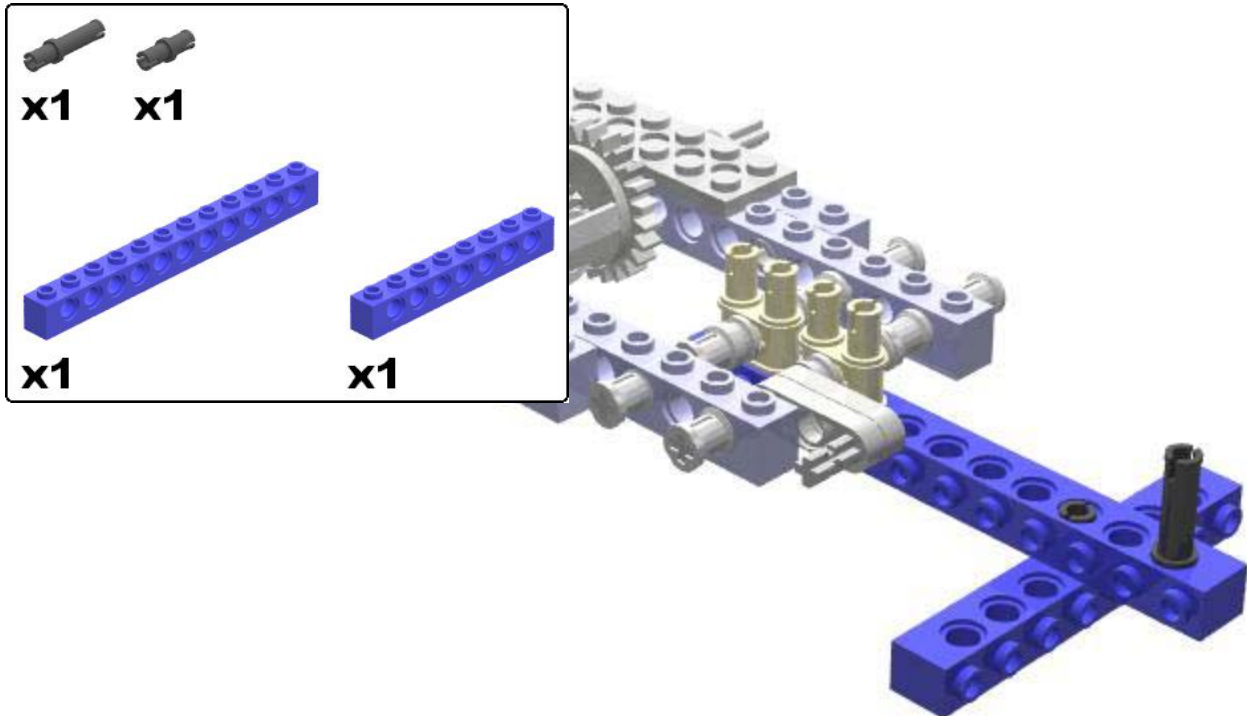
A blue 1x7 Technic beam is shown. A red vertical line is drawn through the center of the beam, indicating the center of gravity.



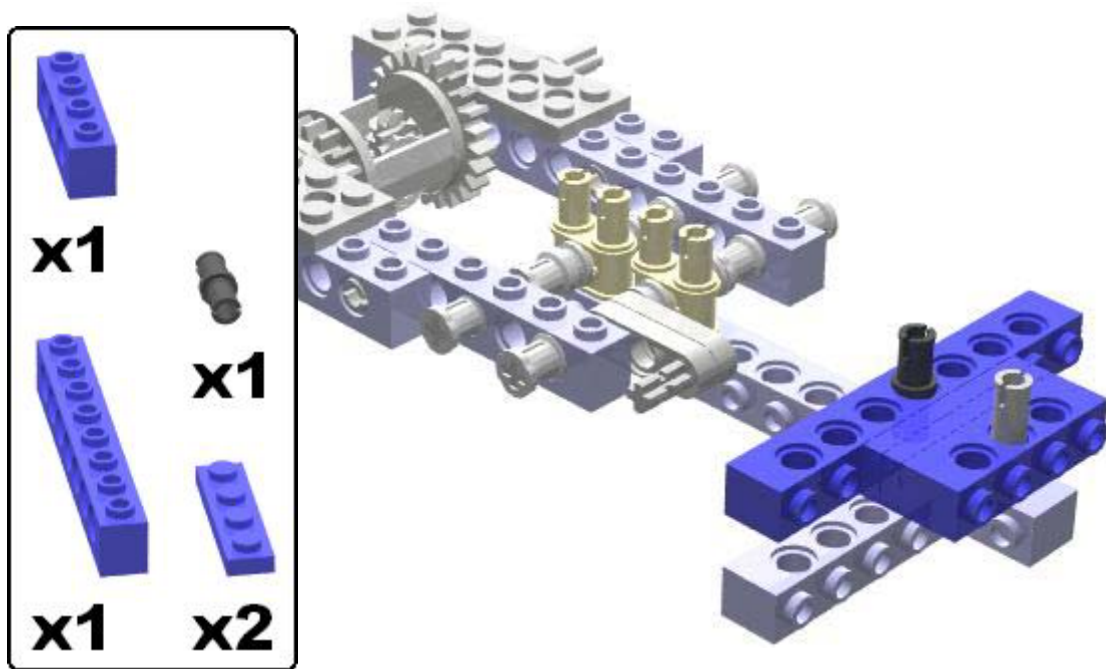
Step 4*:



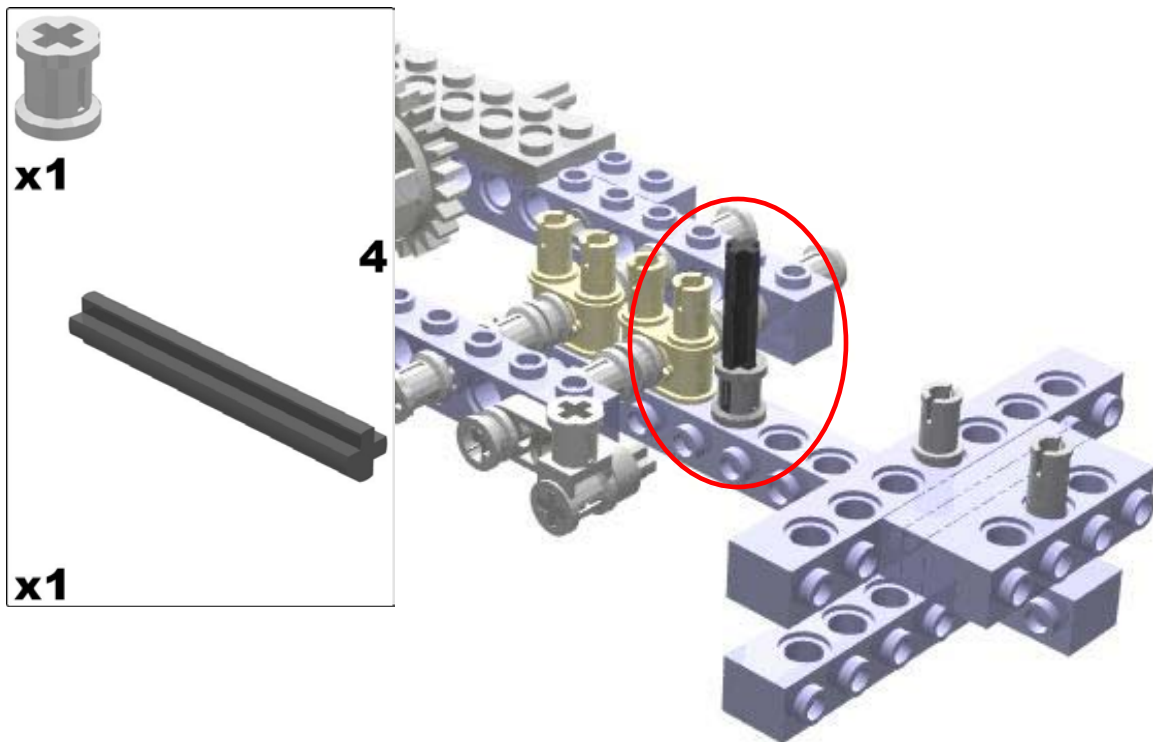
Step 5:



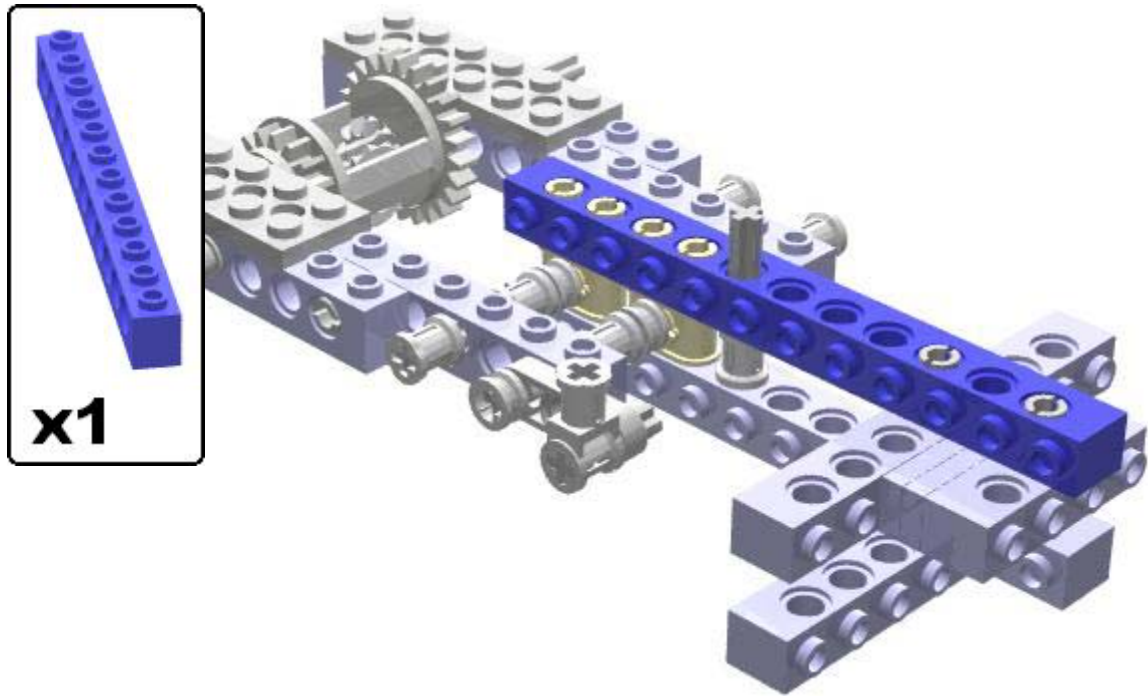
Step 6:



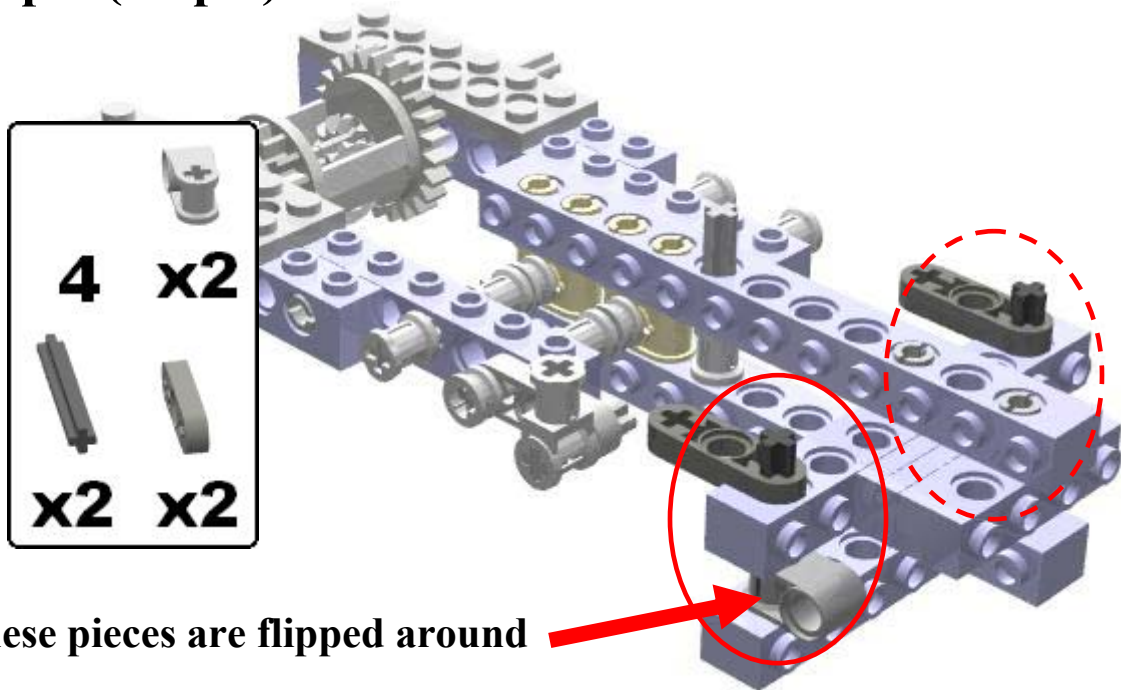
Step 7*:



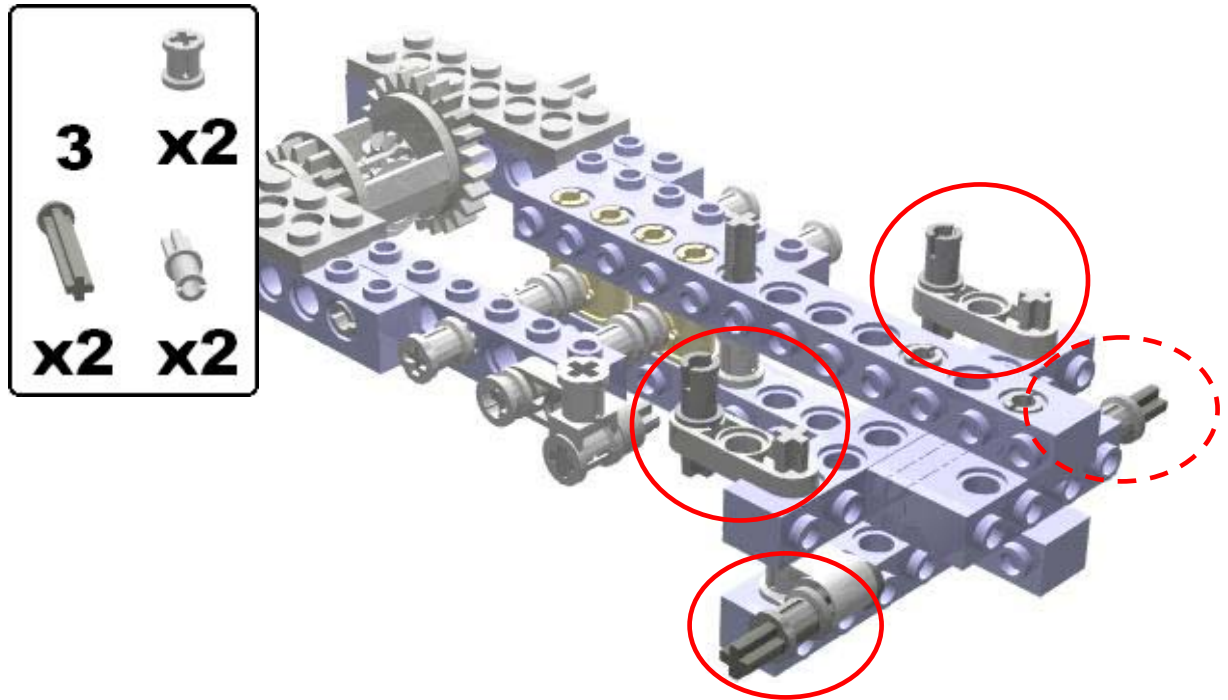
Step 8 (Step 7):



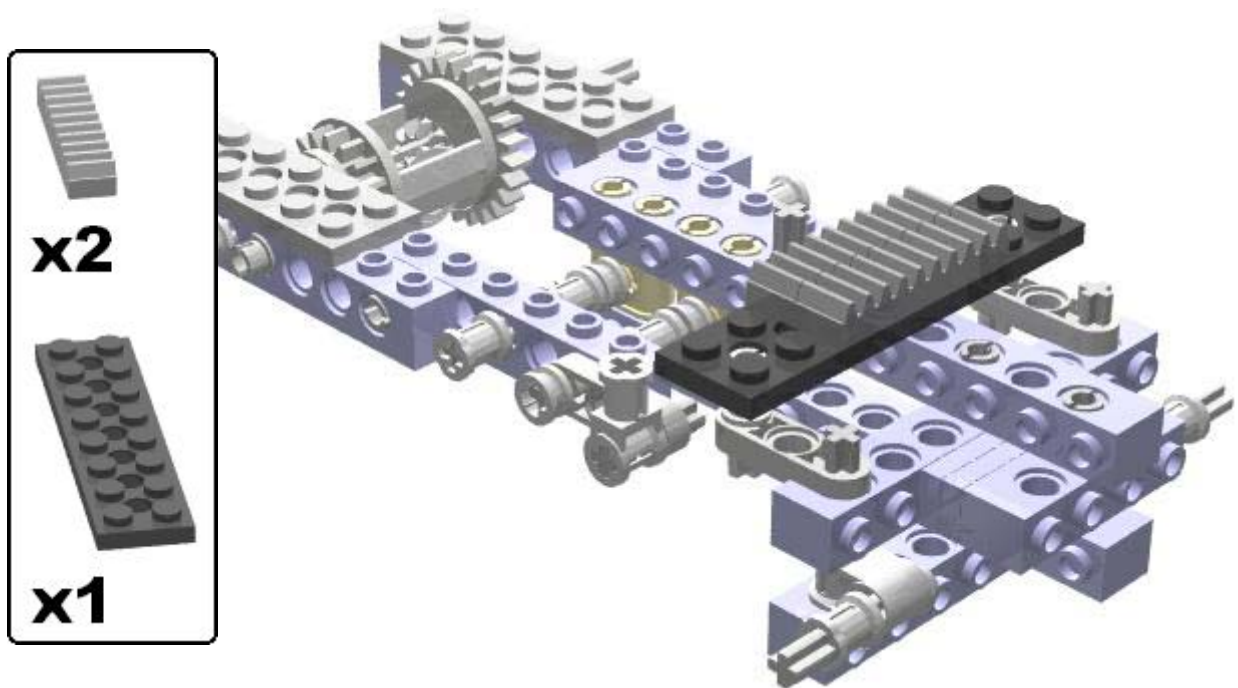
Step 9 (Step 8)*:



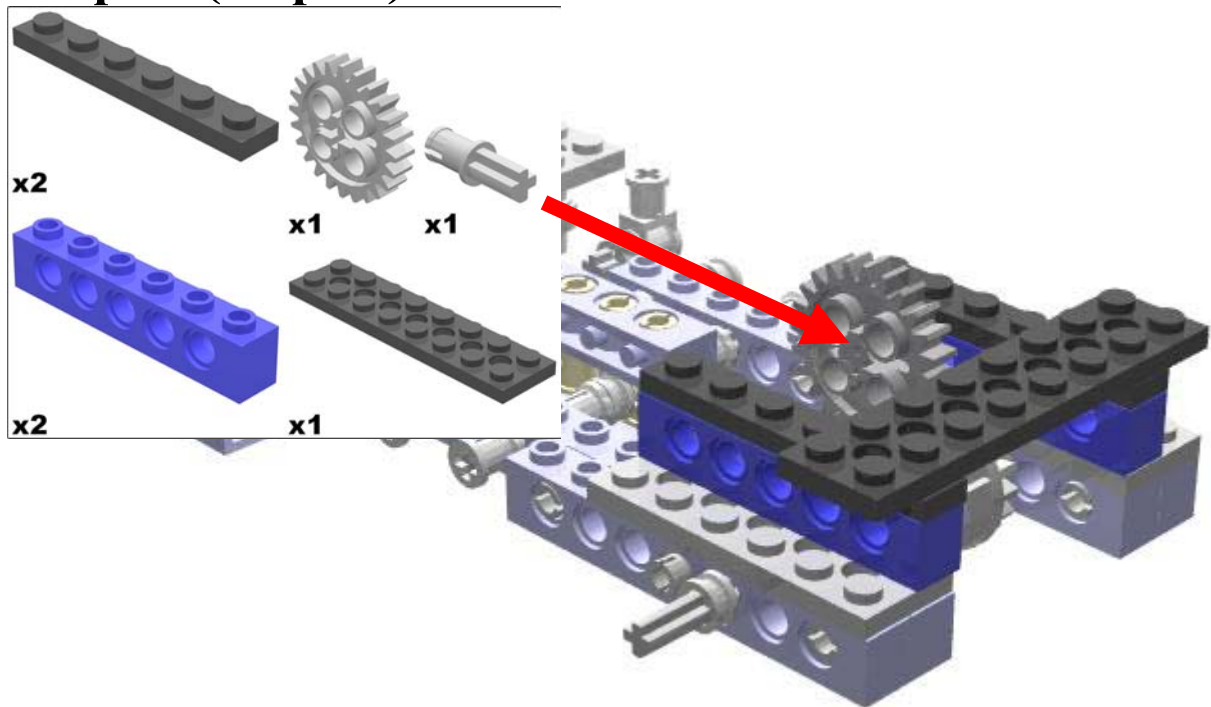
Step 10 (Step 9):



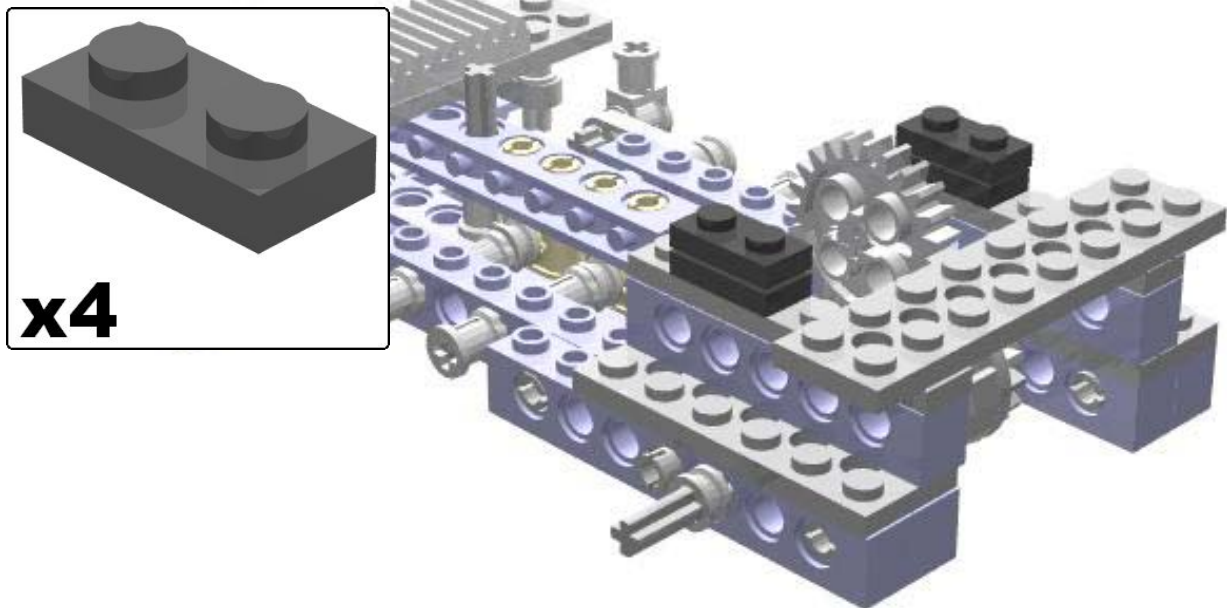
Step 11 (Step 10):



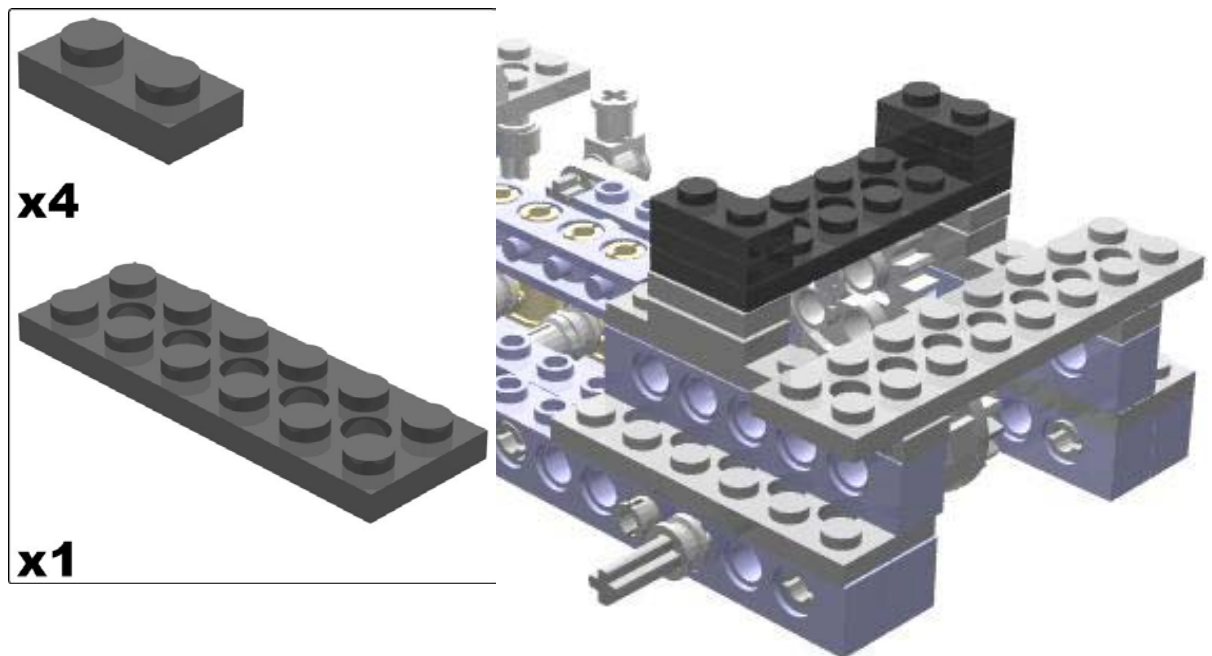
Step 12 (Step 11)*:



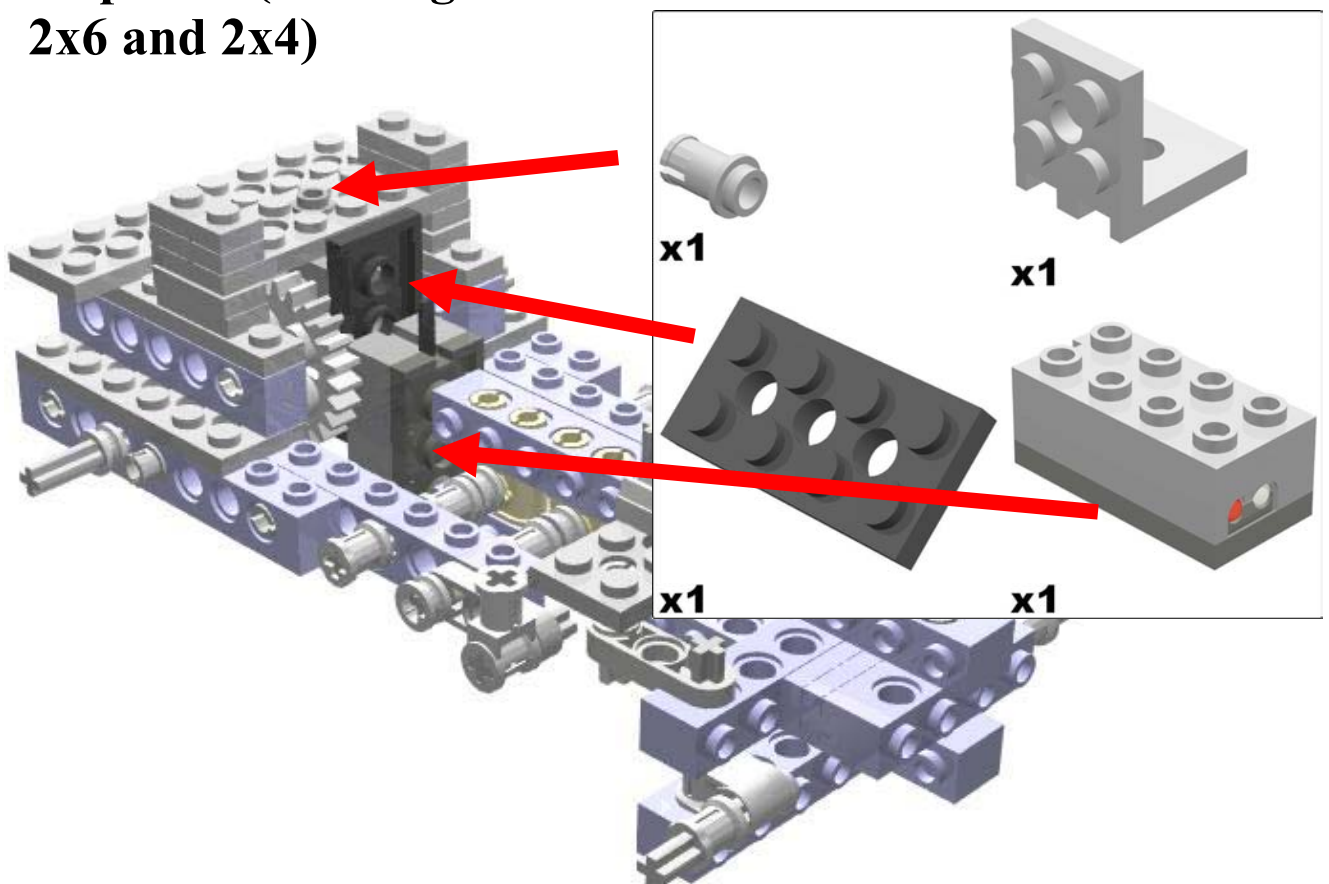
Step 13*:



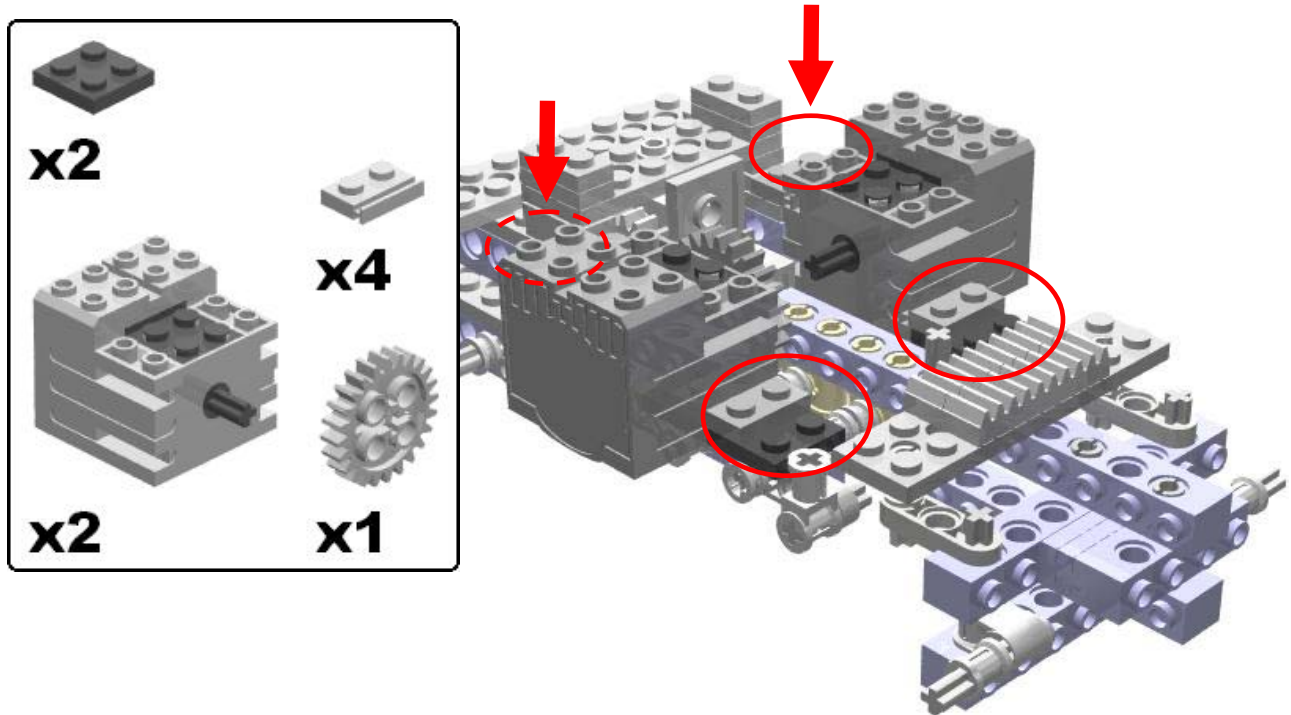
Step 14*:



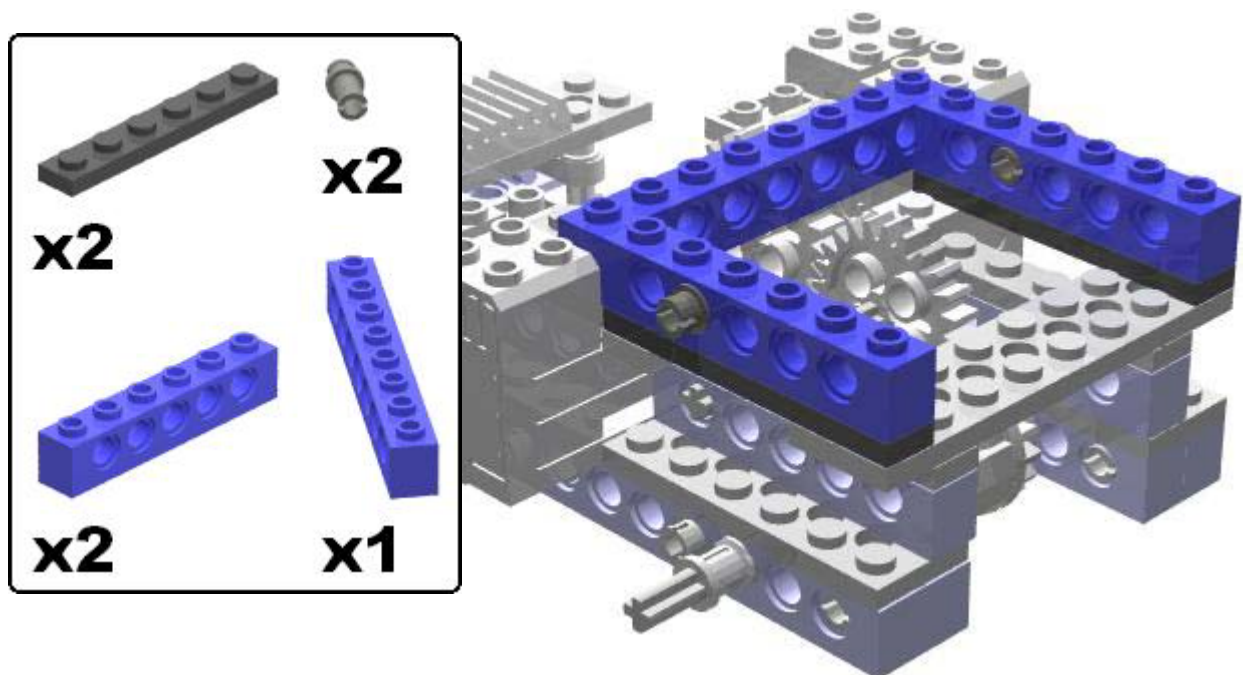
Step 15*: (The angle bracket is connected to the 2x6 and 2x4)



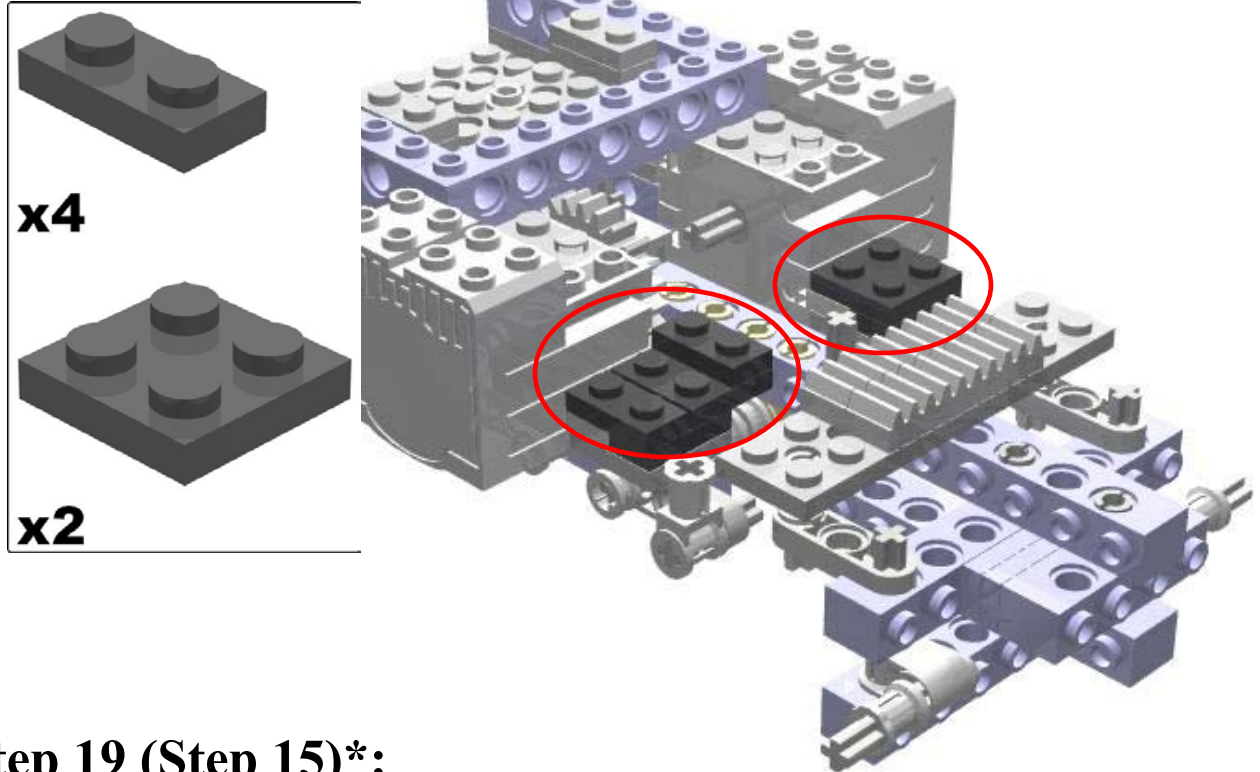
Step 16 (Step 12):



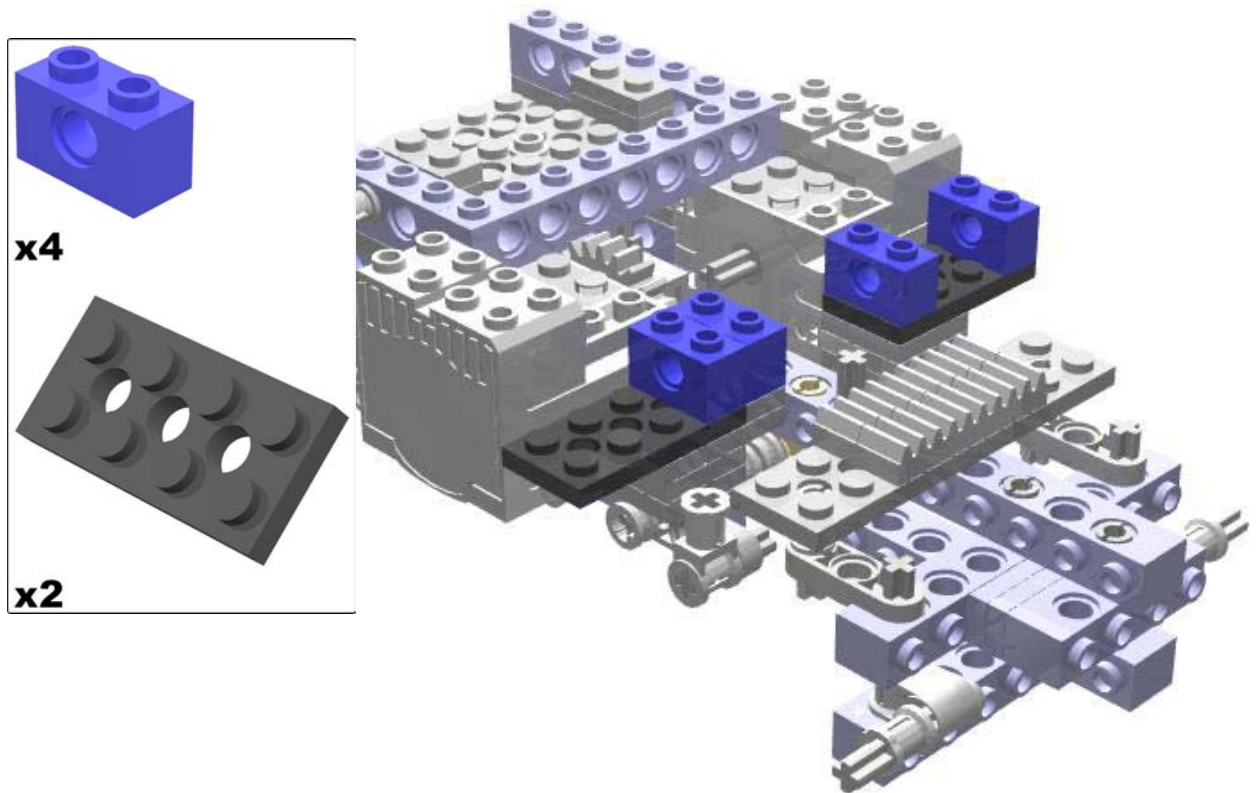
Step 17 (Step 13):



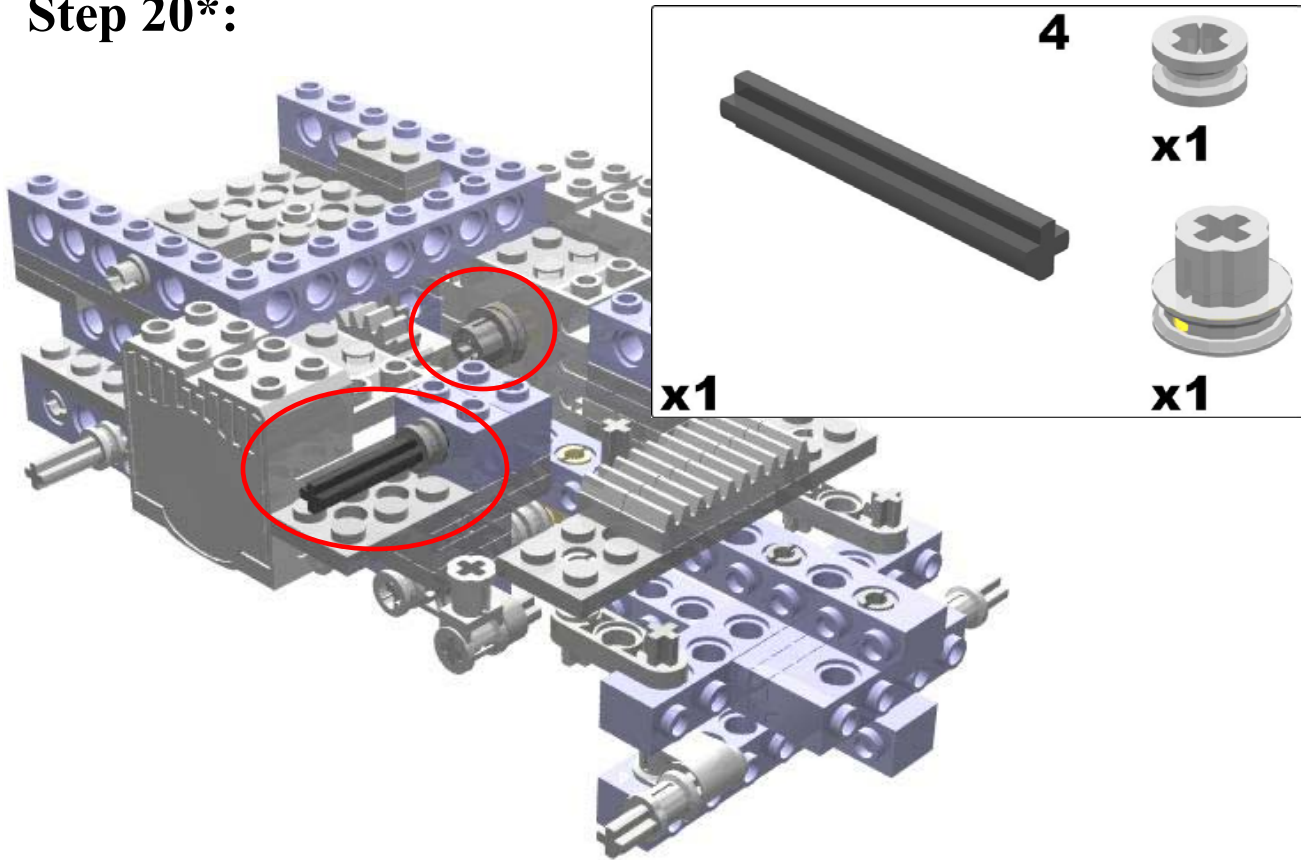
Step 18 (Step 14)*:



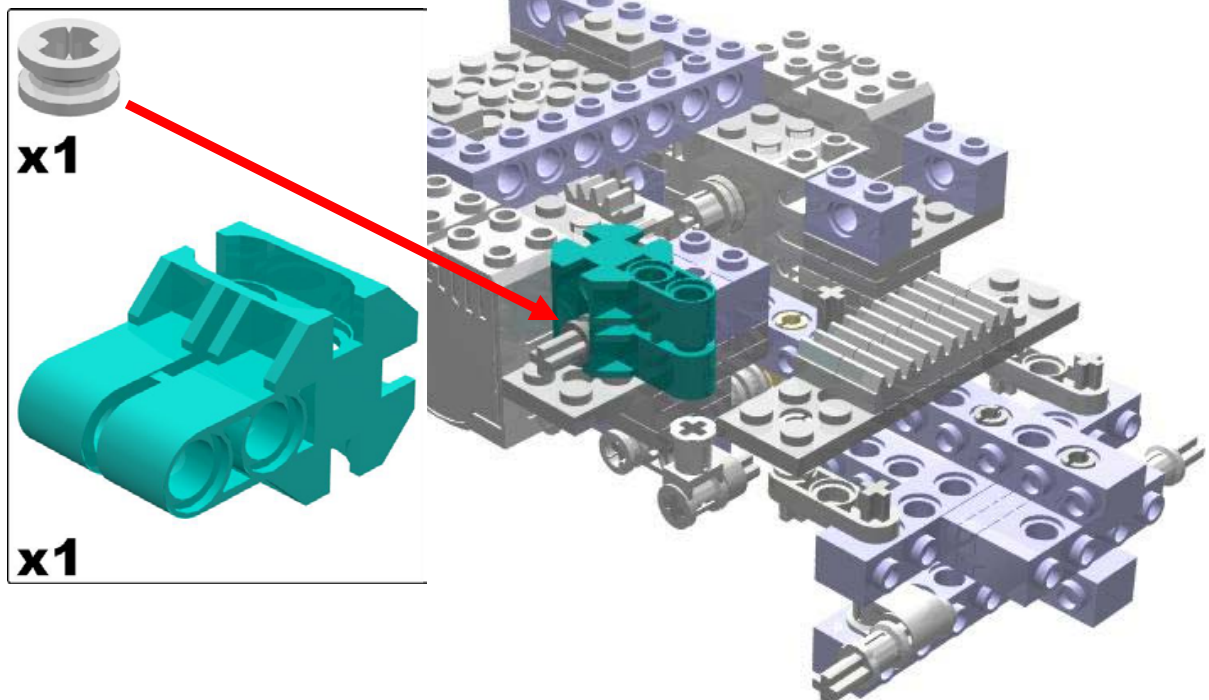
Step 19 (Step 15)*:



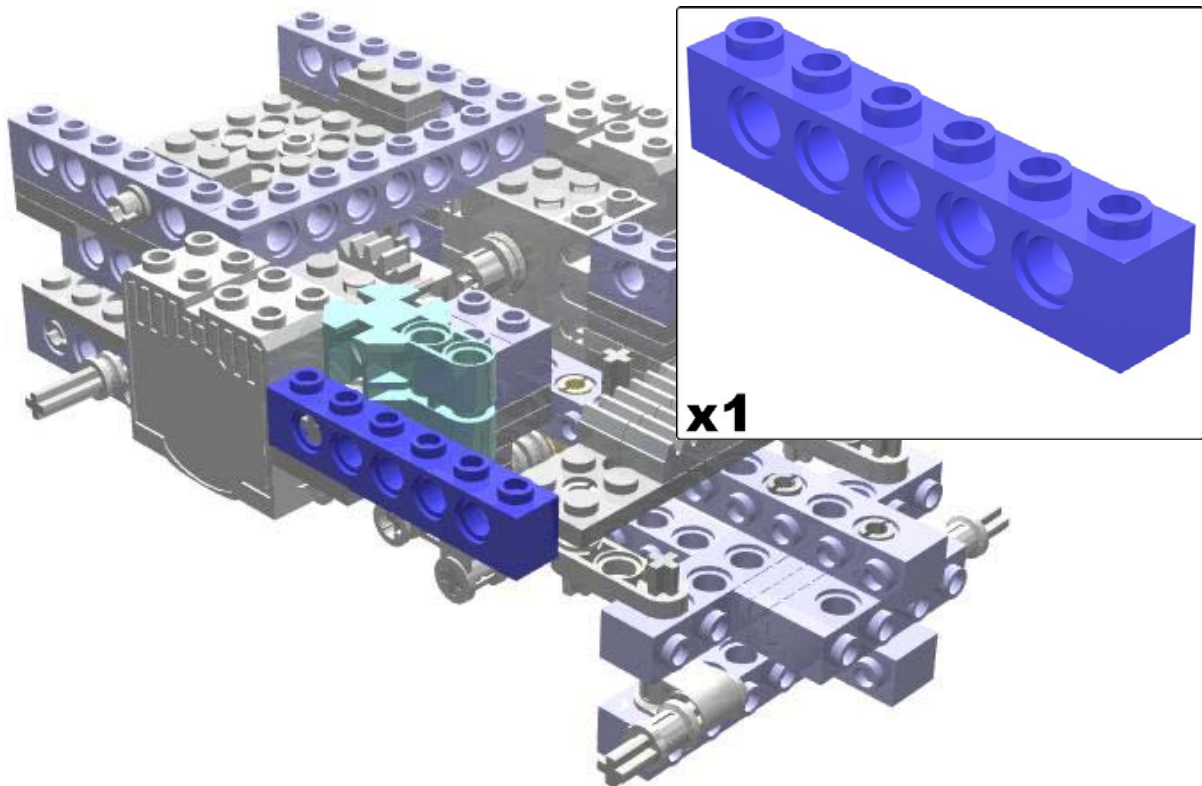
Step 20*:



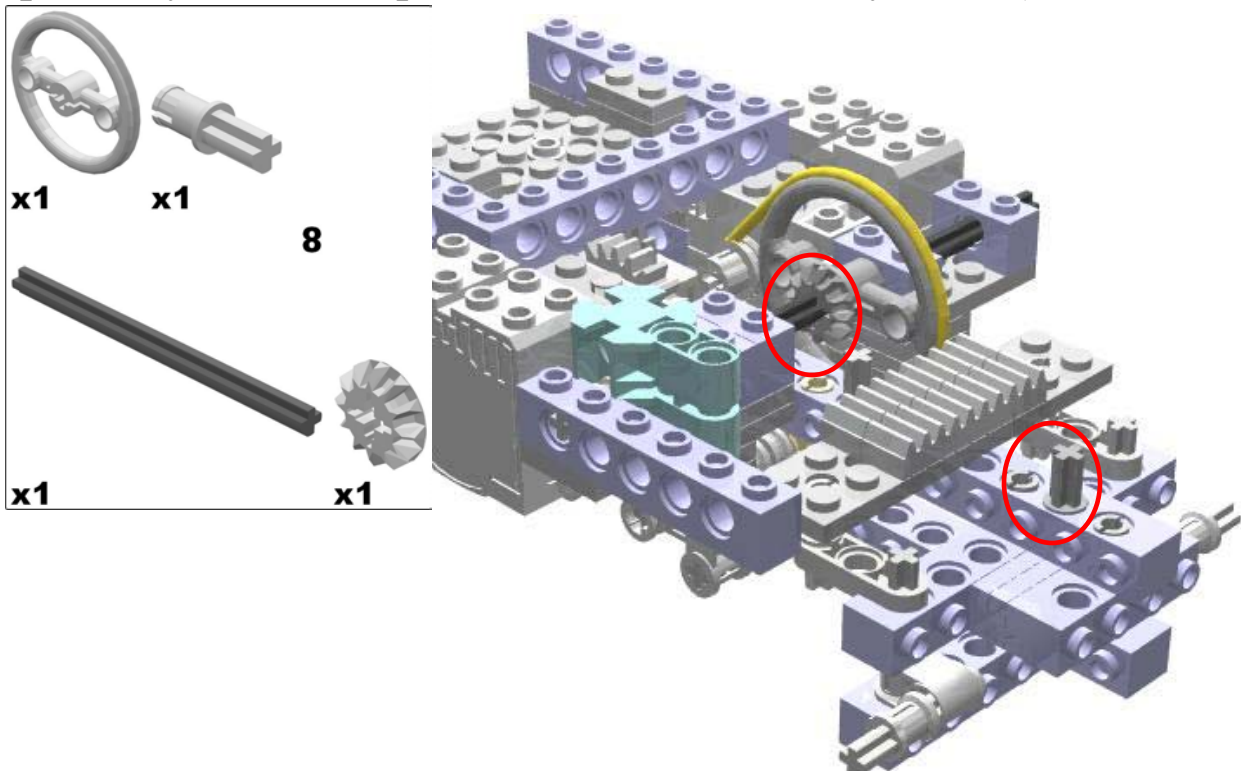
Step 21*:



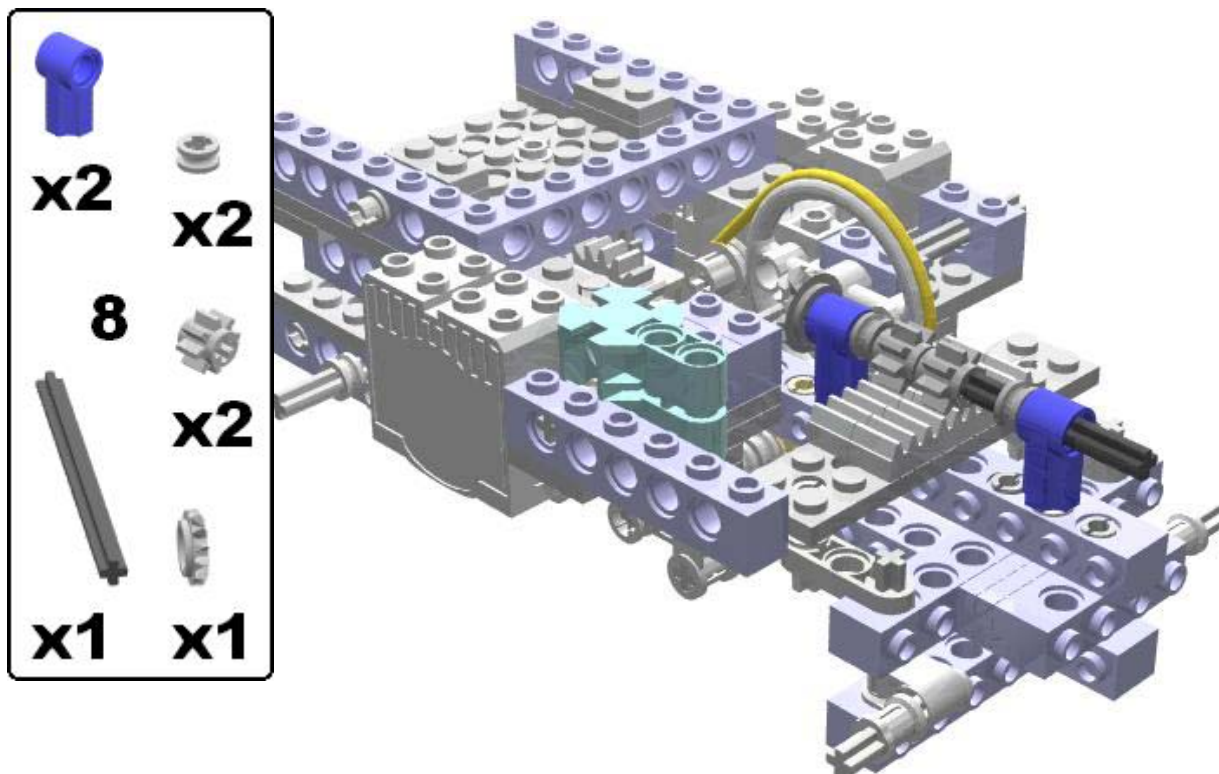
Step 22*:



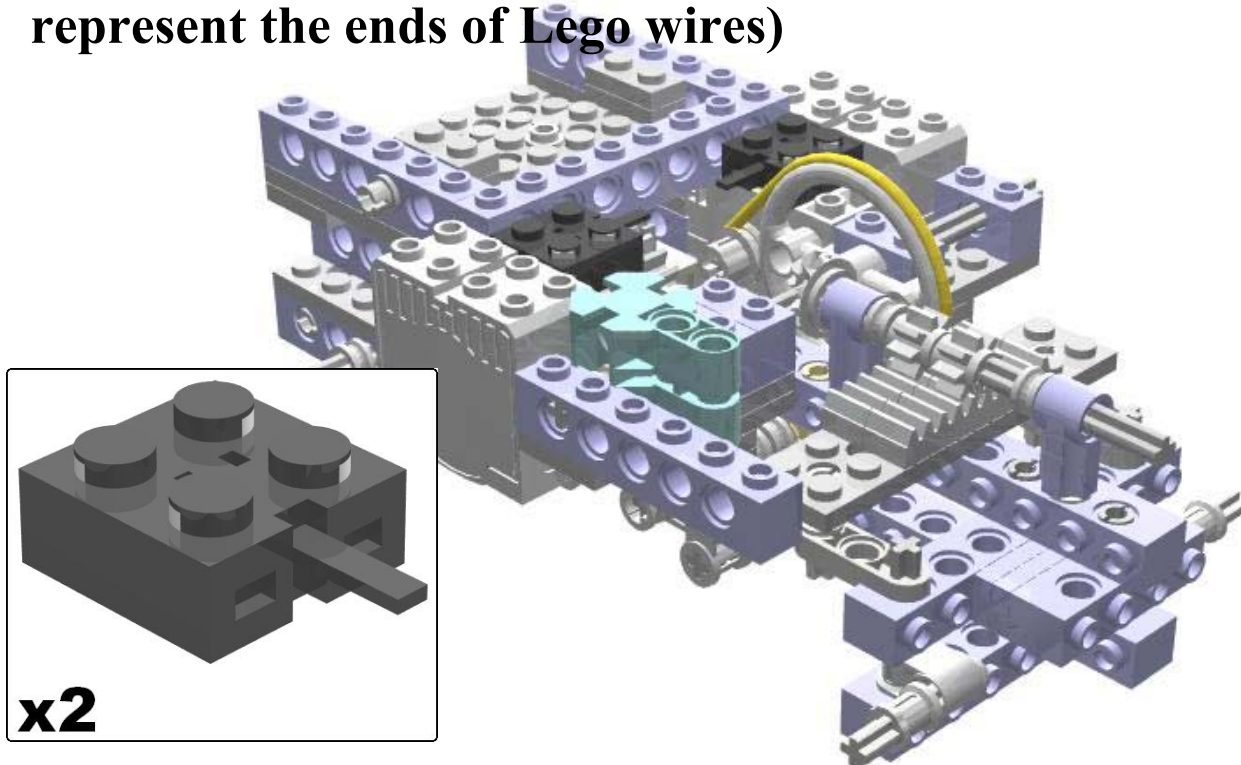
Step 23 (Step 16)*: (Note the yellow rubber band – this part may be hard to put on. It can be found in your kit.)



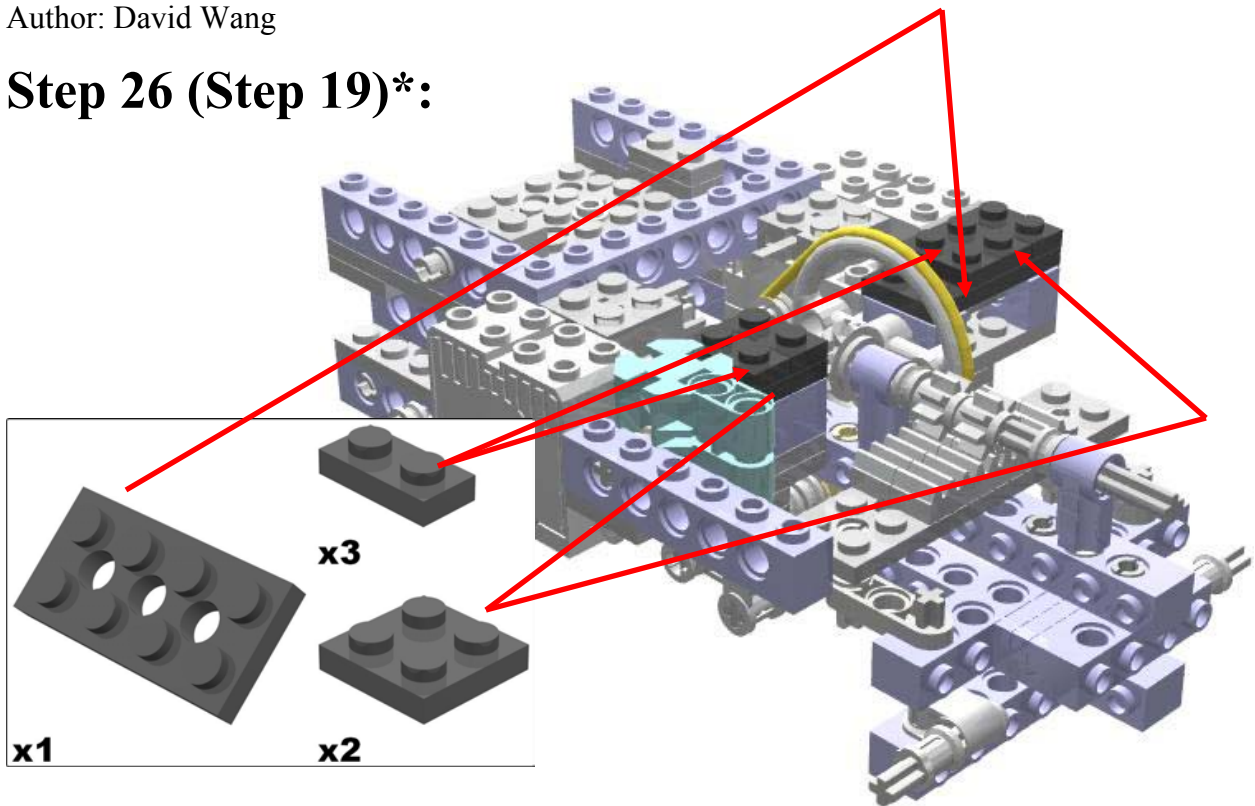
Step 24 (Step 17)*:



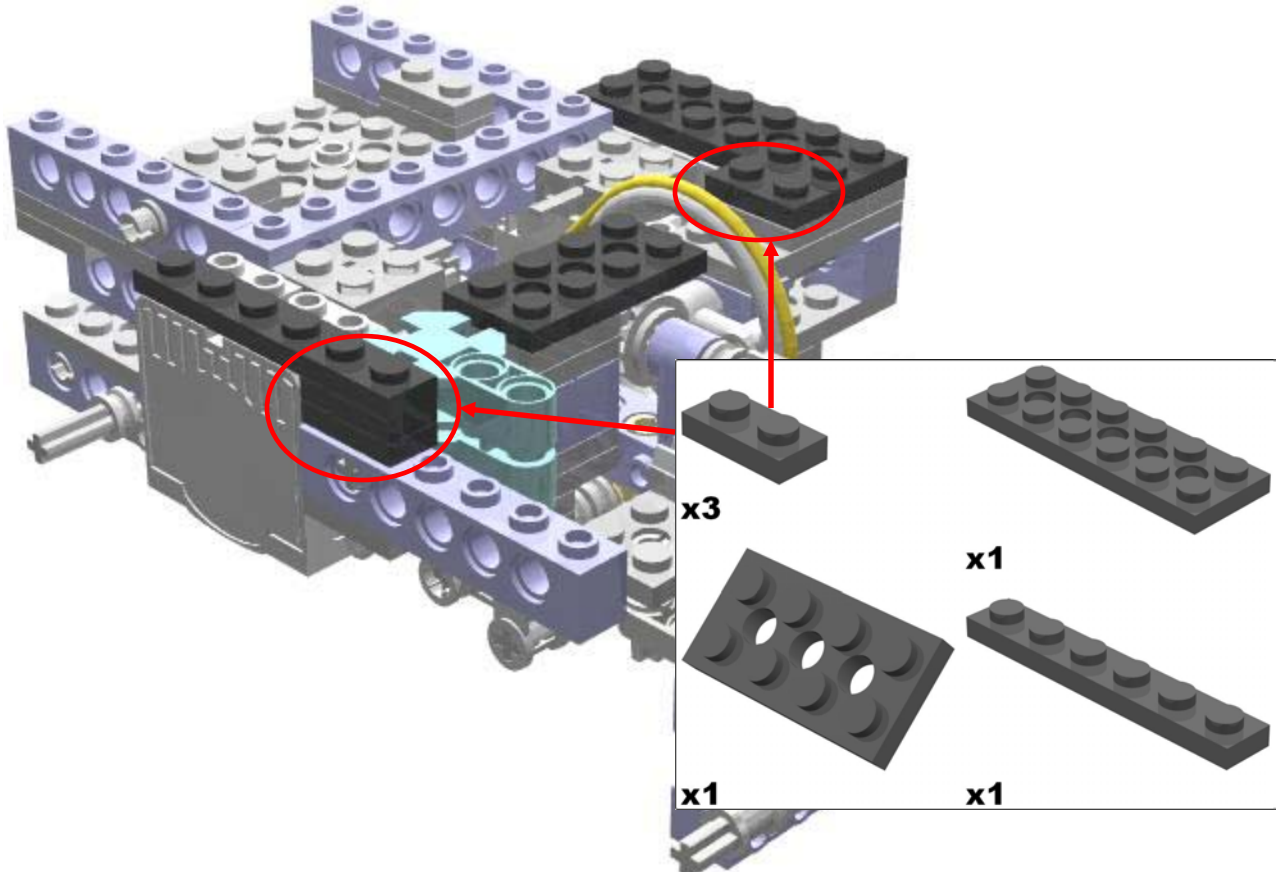
Step 25*: (The 2x2 blocks displayed here represent the ends of Lego wires)



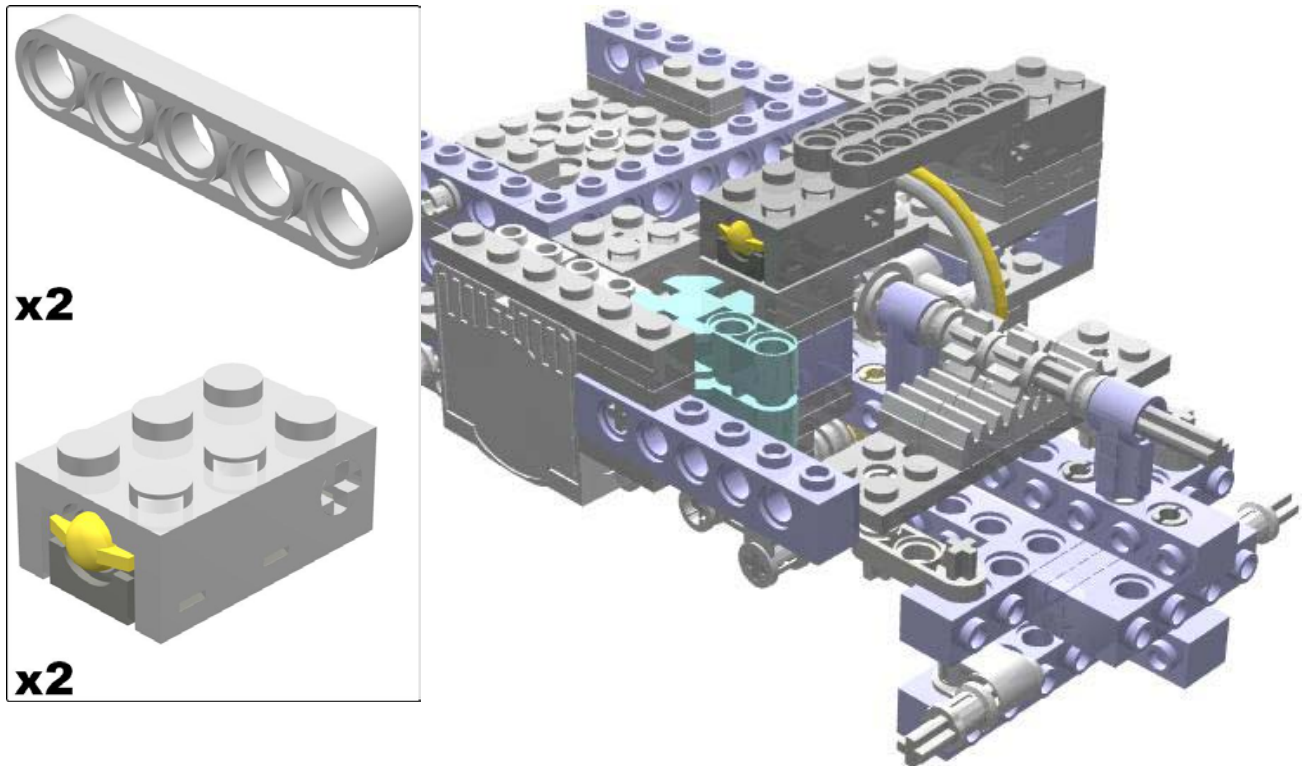
Step 26 (Step 19)*:



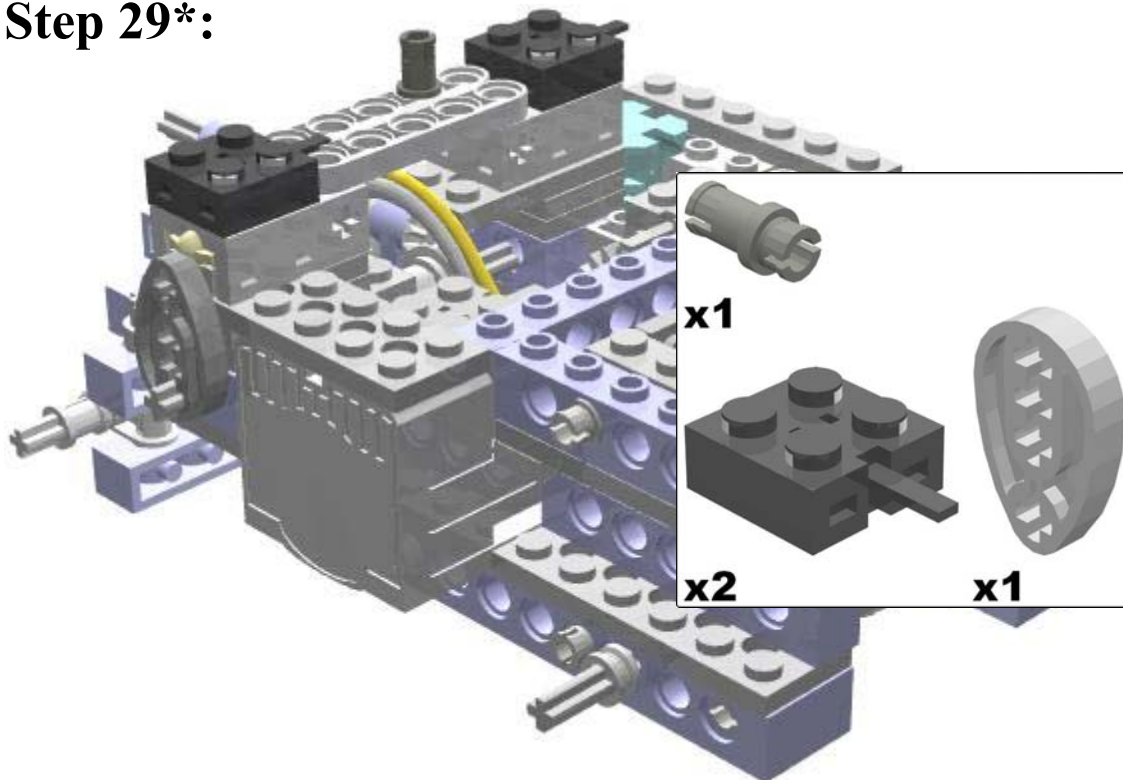
Step 27*:



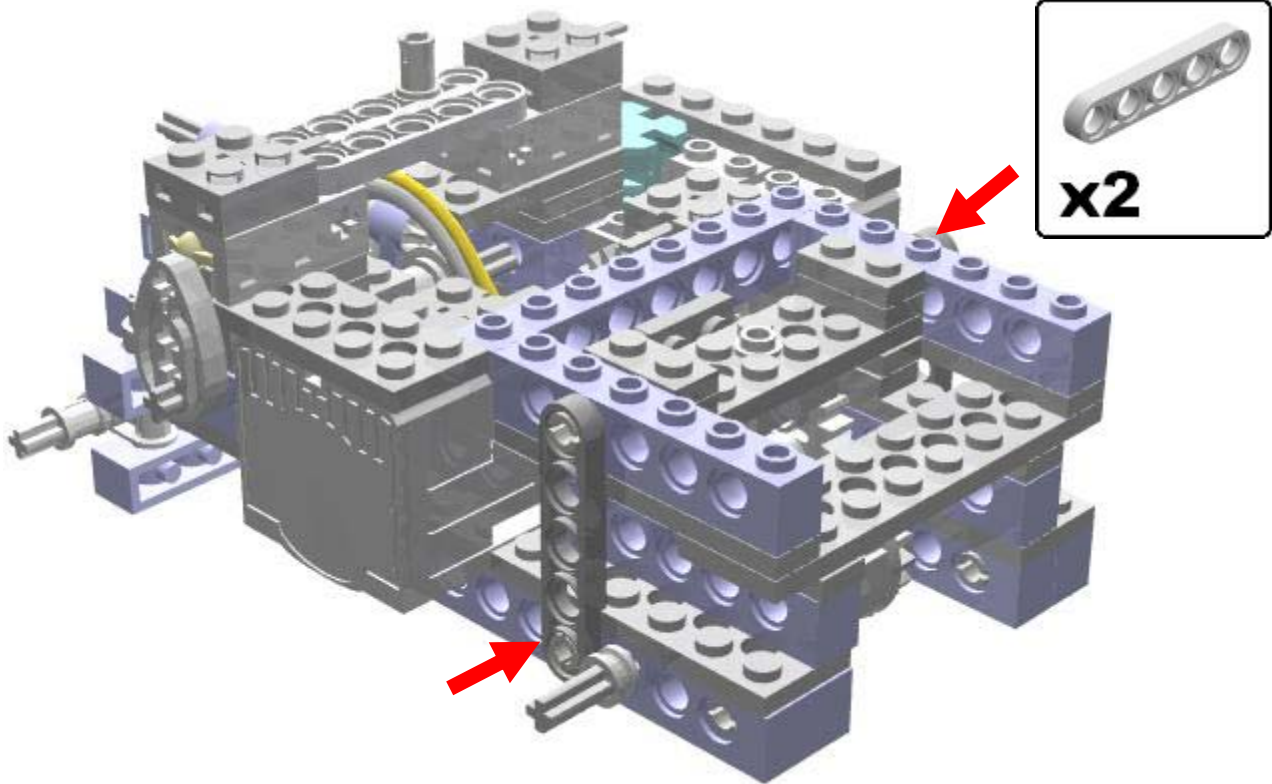
Step 28 (Step 21)*:



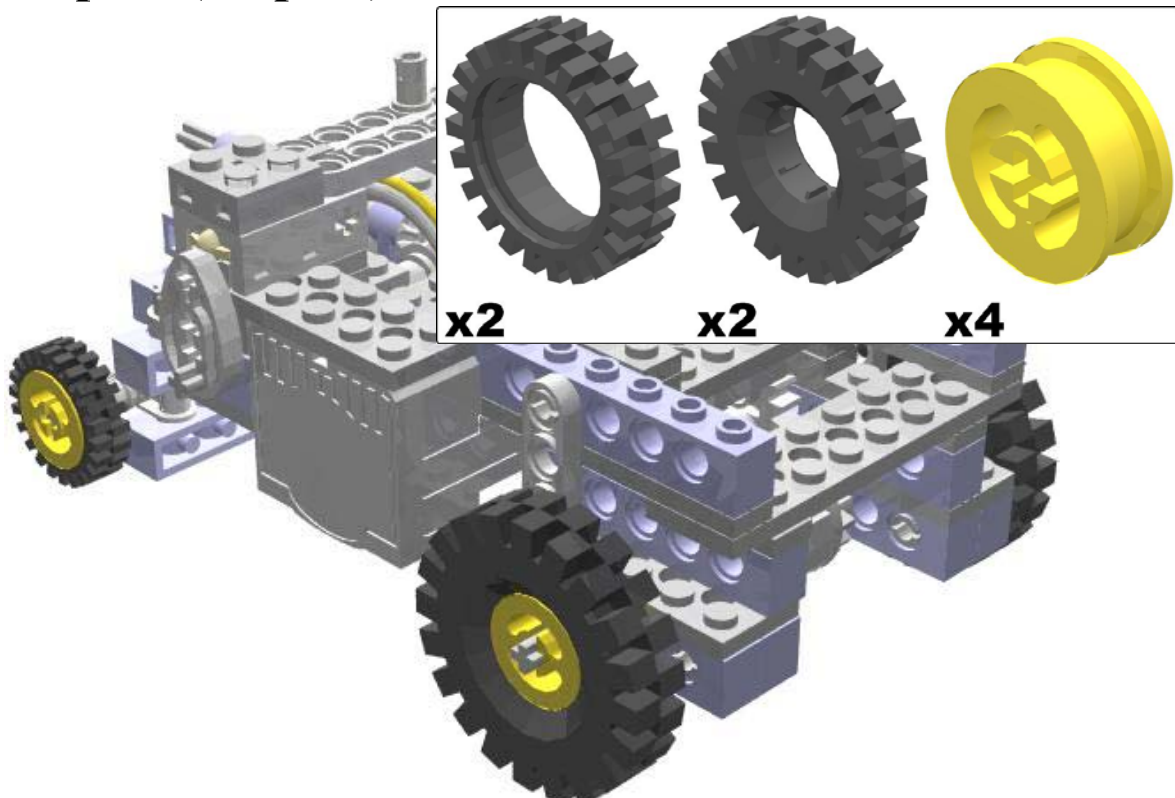
Step 29*:



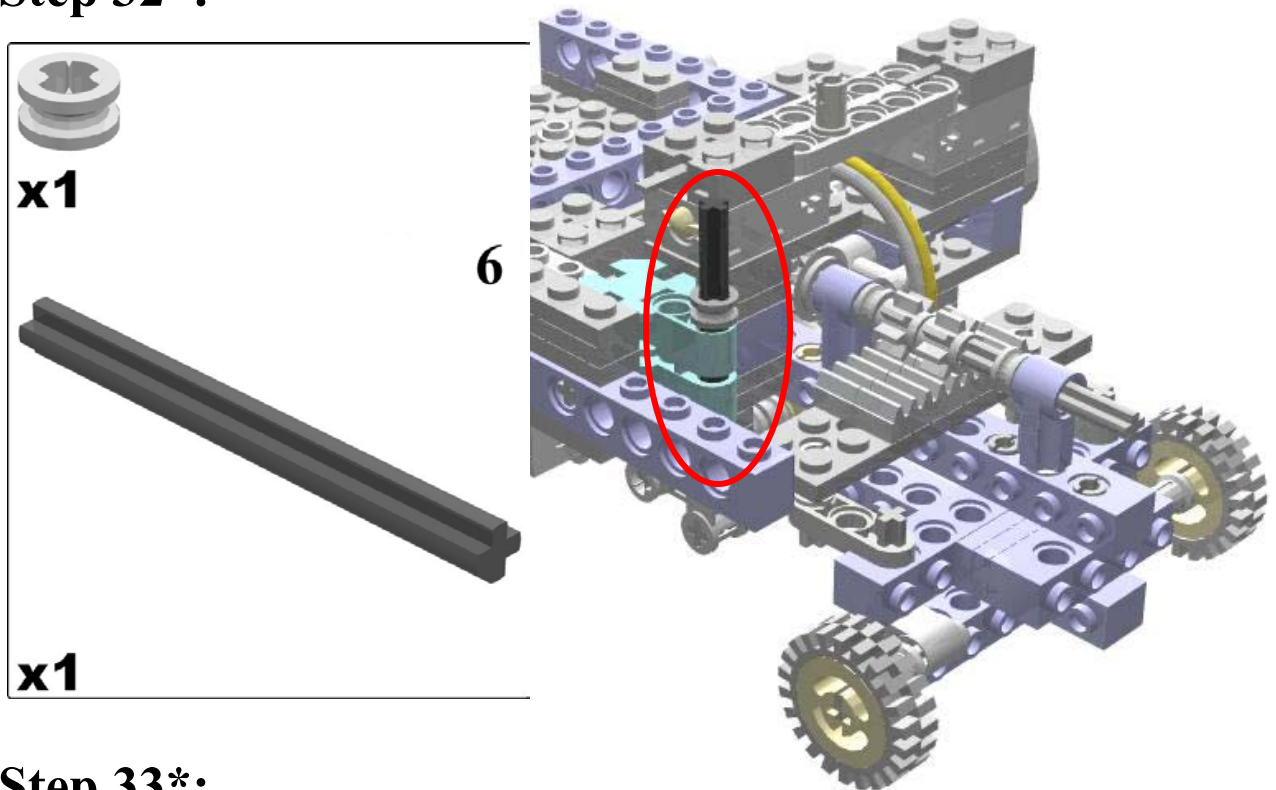
Step 30 (Step 22):



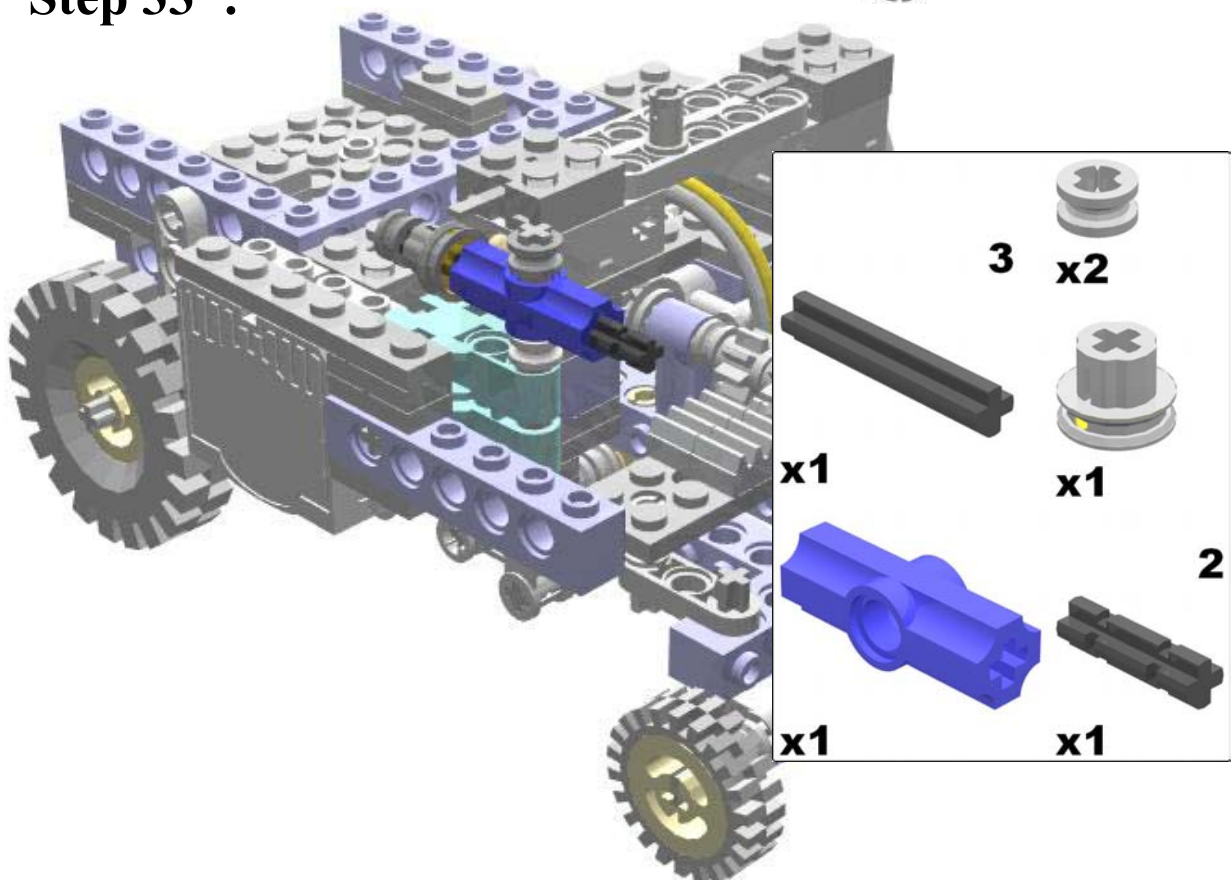
Step 31 (Step 25):



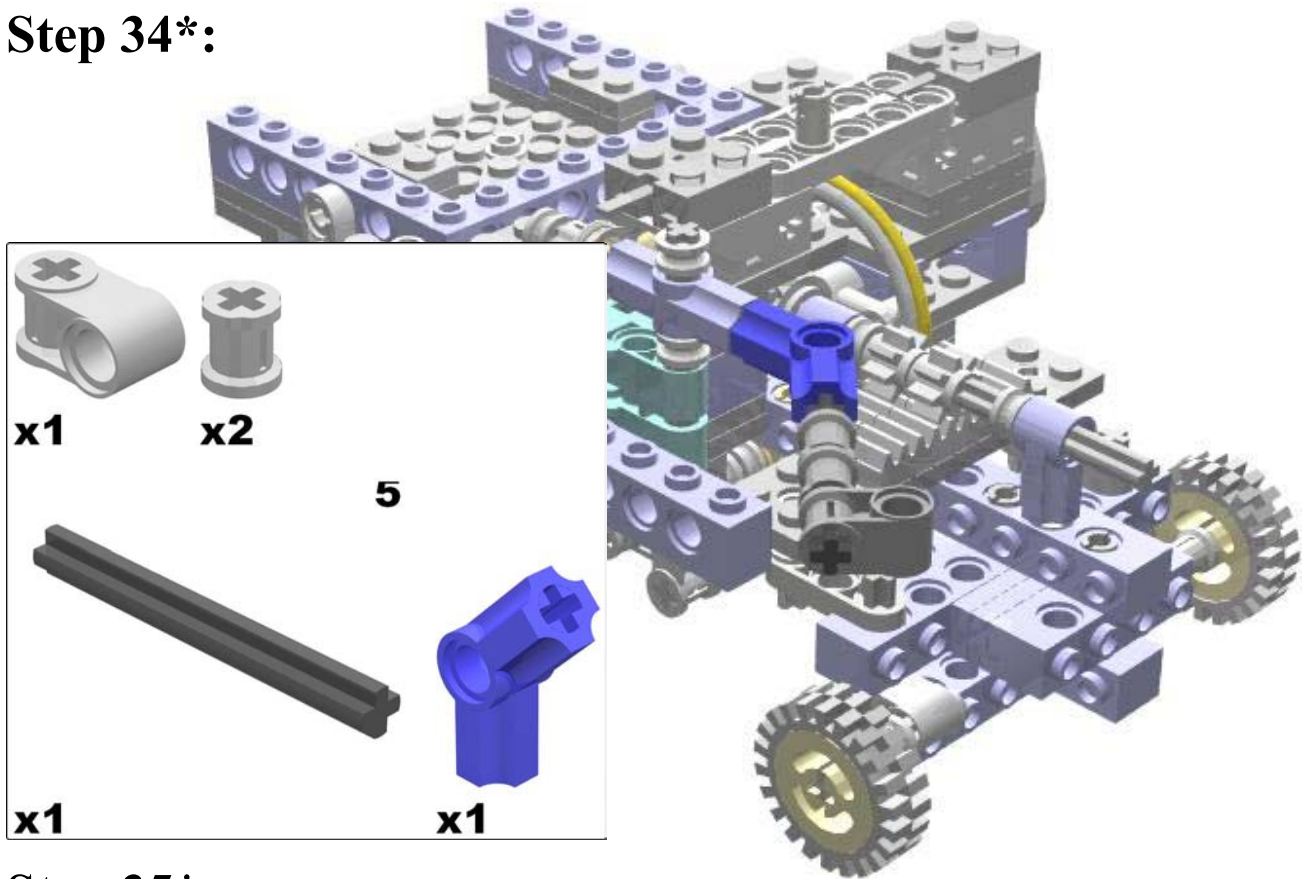
Step 32*:



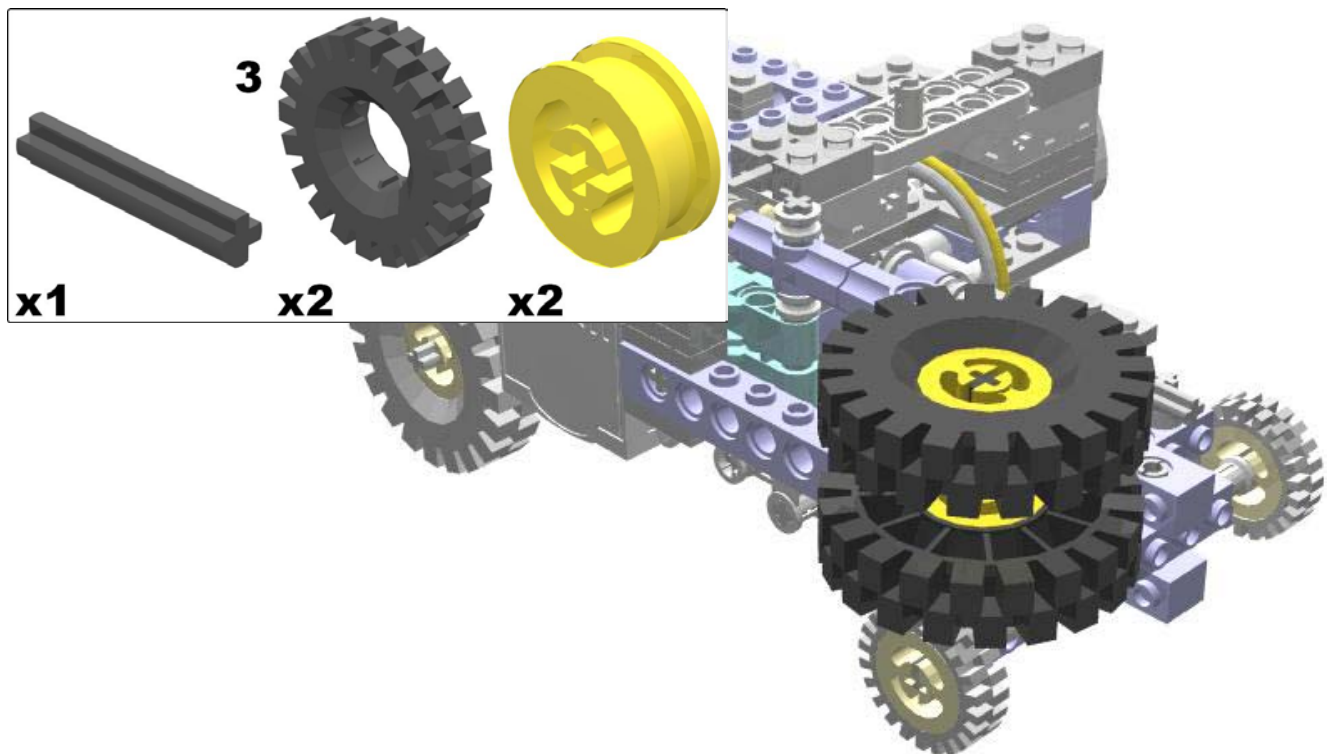
Step 33*:



Step 34*:

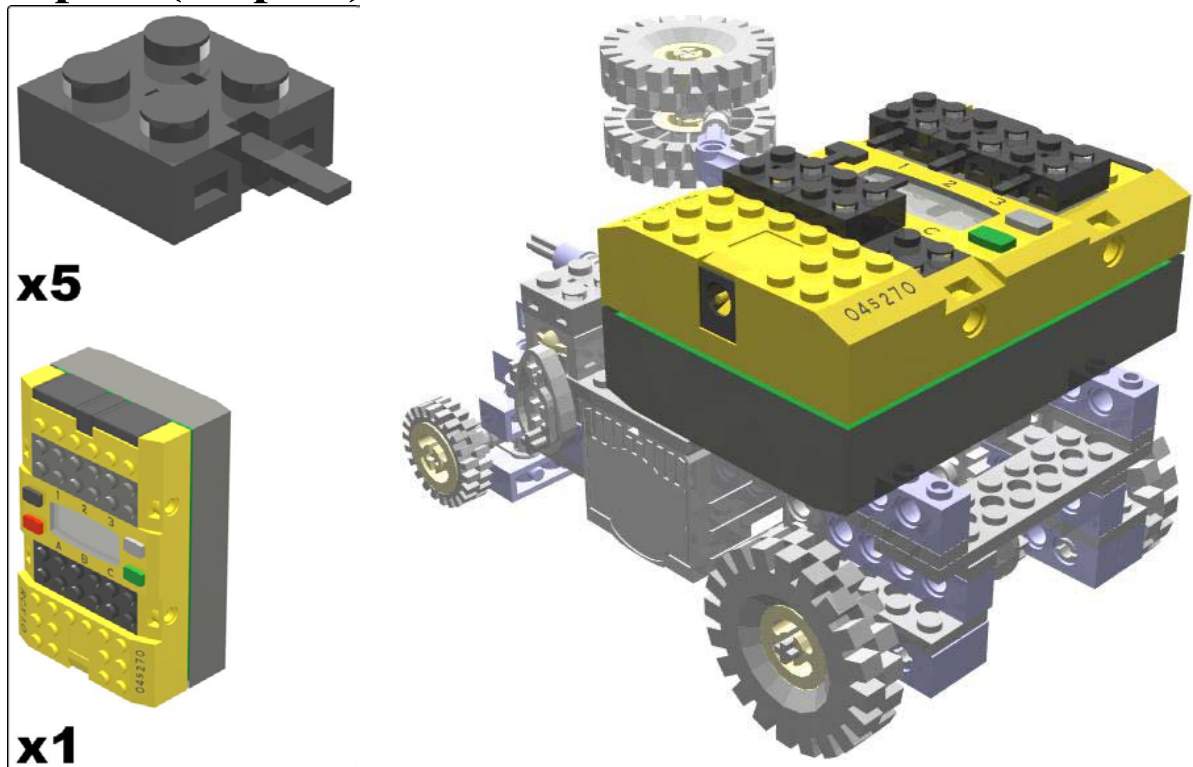


Step 35*:

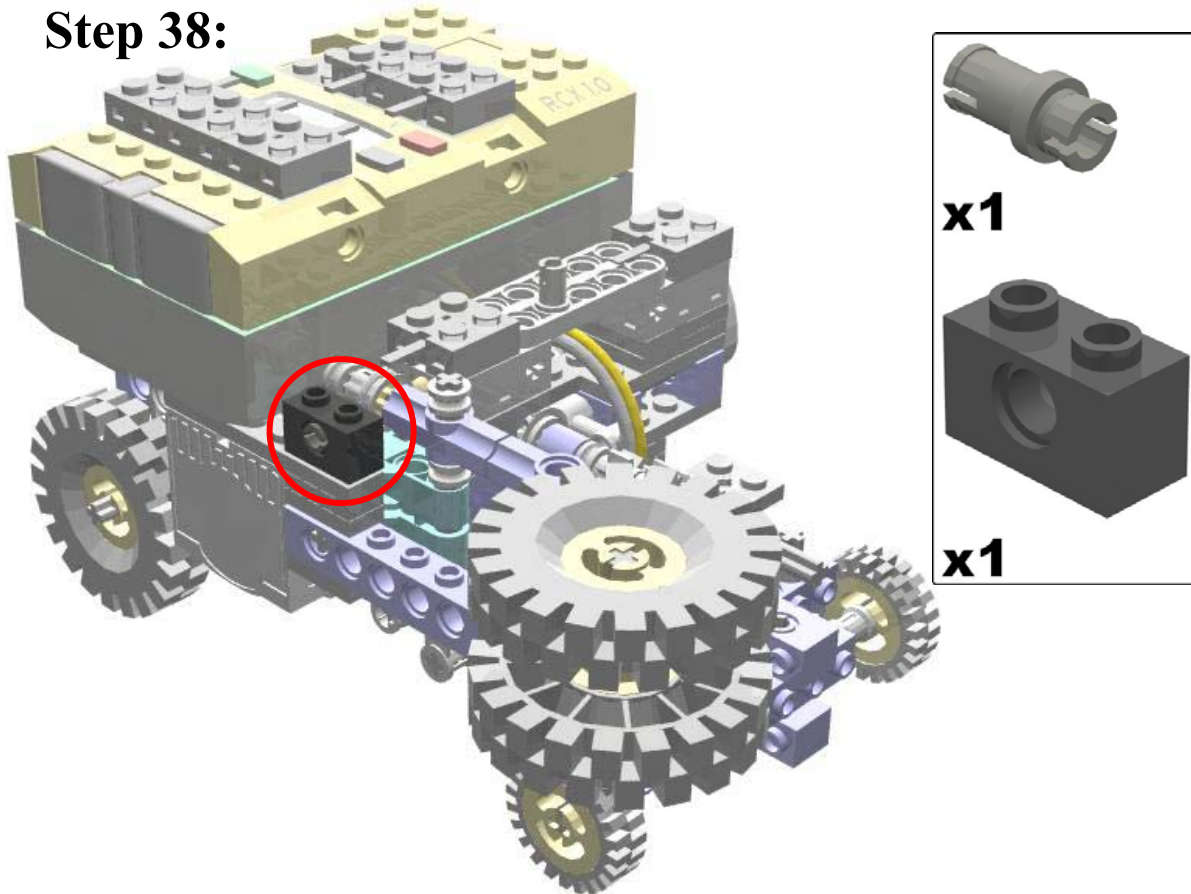


Step 36*: Attach the blue rubber band from the $\frac{1}{2}$ bushing on the lever arm you built in steps 33-35 to the dark grey peg on top of the touch sensors. The idea is to make the lever arm trigger the touch sensor when it is NOT touching a right wall.

Step 37 (Step 26)*:



Step 38:



Important Points:

- 1.) The block and peg in step 38 help prevent the robot from wandering too far right. If it interferes with the bump sensor, you may remove it.
- 2.) The orientation of the wire connections to the RCX and Motors MATTER.
- 3.) In step 34, you may move the piece that holds the 2 wheels in step 35 and the bushings on the rod to whatever distance you want.
- 4.) If you have already built the “basic robot,” you may find it easier to disassemble the old robot entirely to make sure you have all the pieces you need laying in front of you.