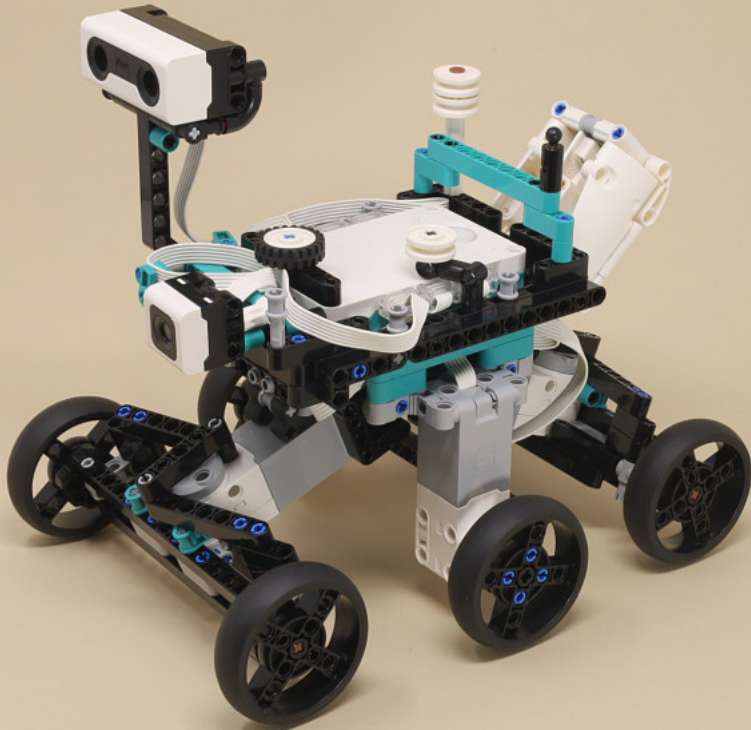


Mars 2020 Rover

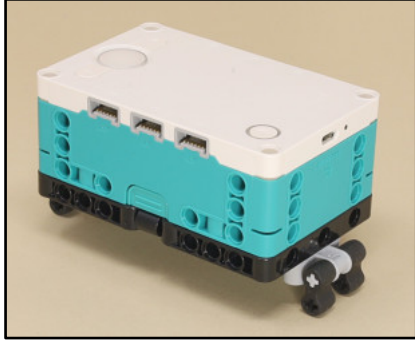
Zero Radius Turn Version



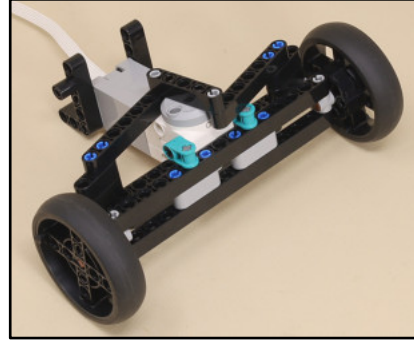
Scroll for
building
instructions



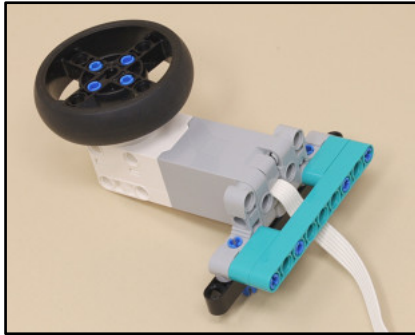
First build these sub-assemblies:



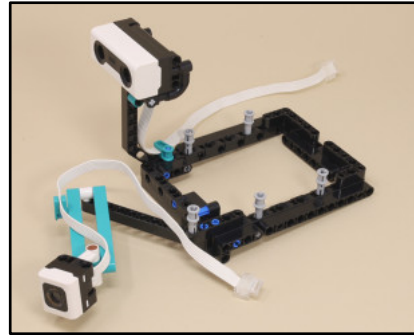
Base



Zero Turn Steering
(make 2x)

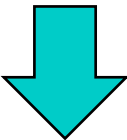


Drive Wheel
(make 2x)



Sensor Deck

...then continue for assembly instructions

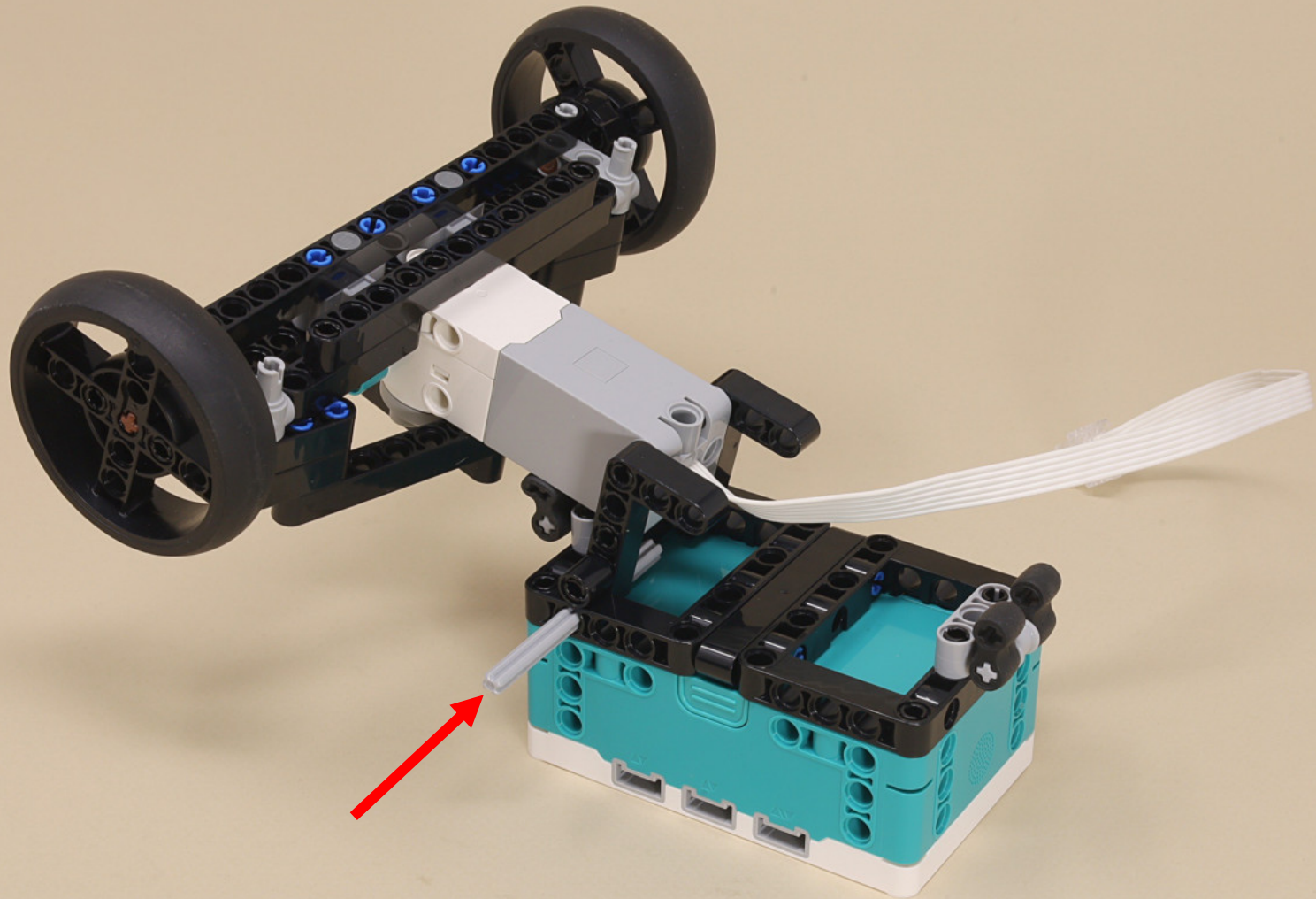


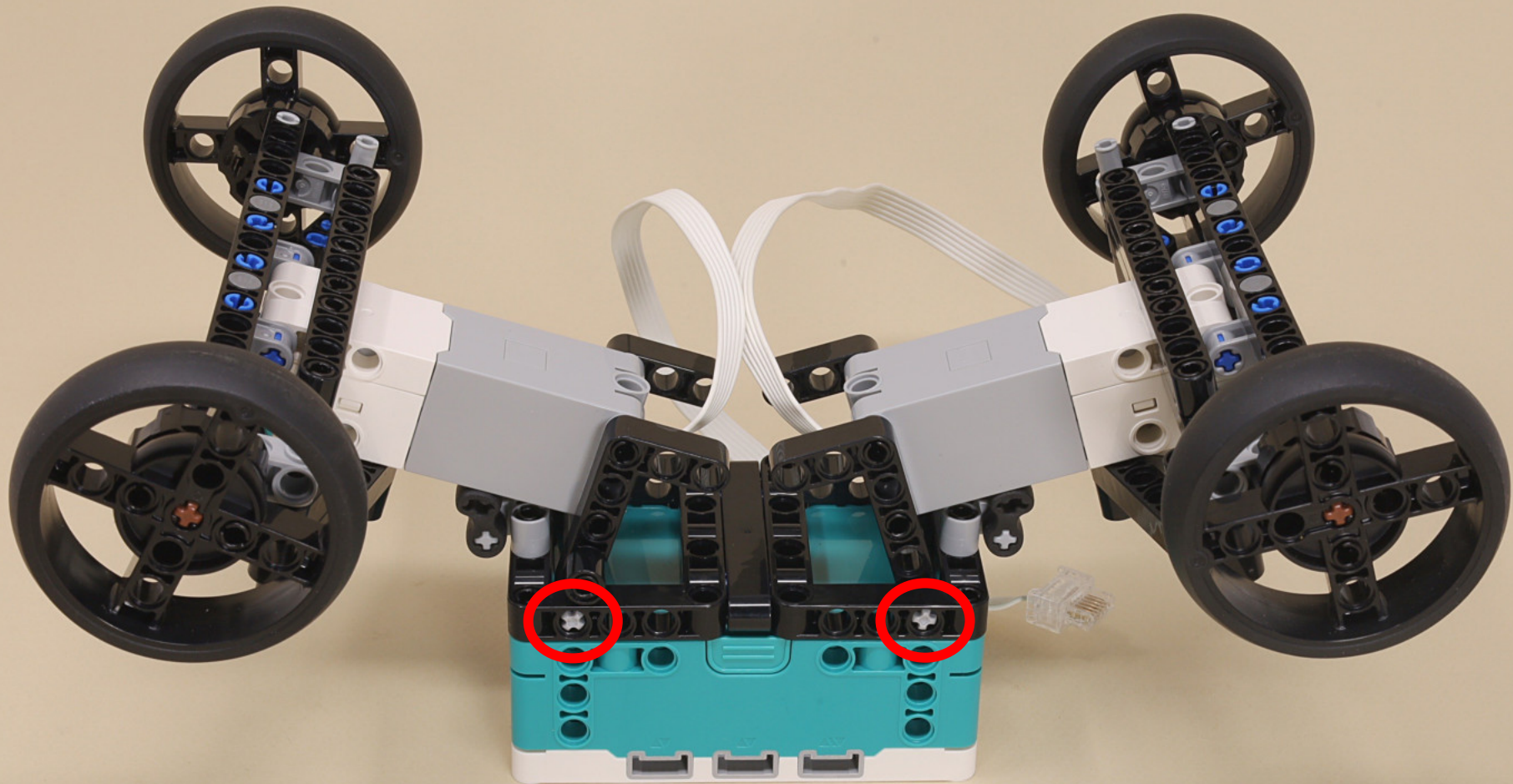


7

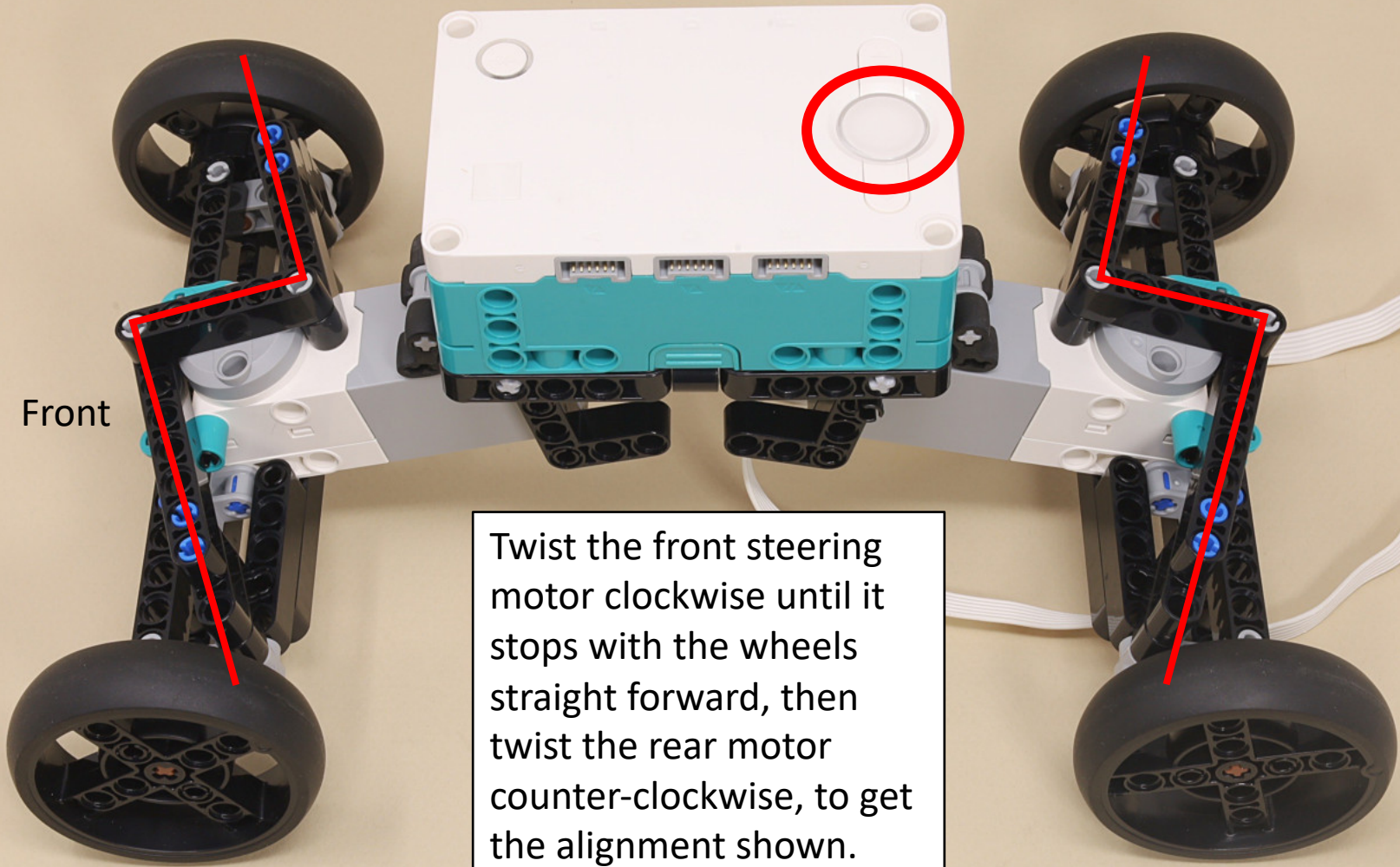


7



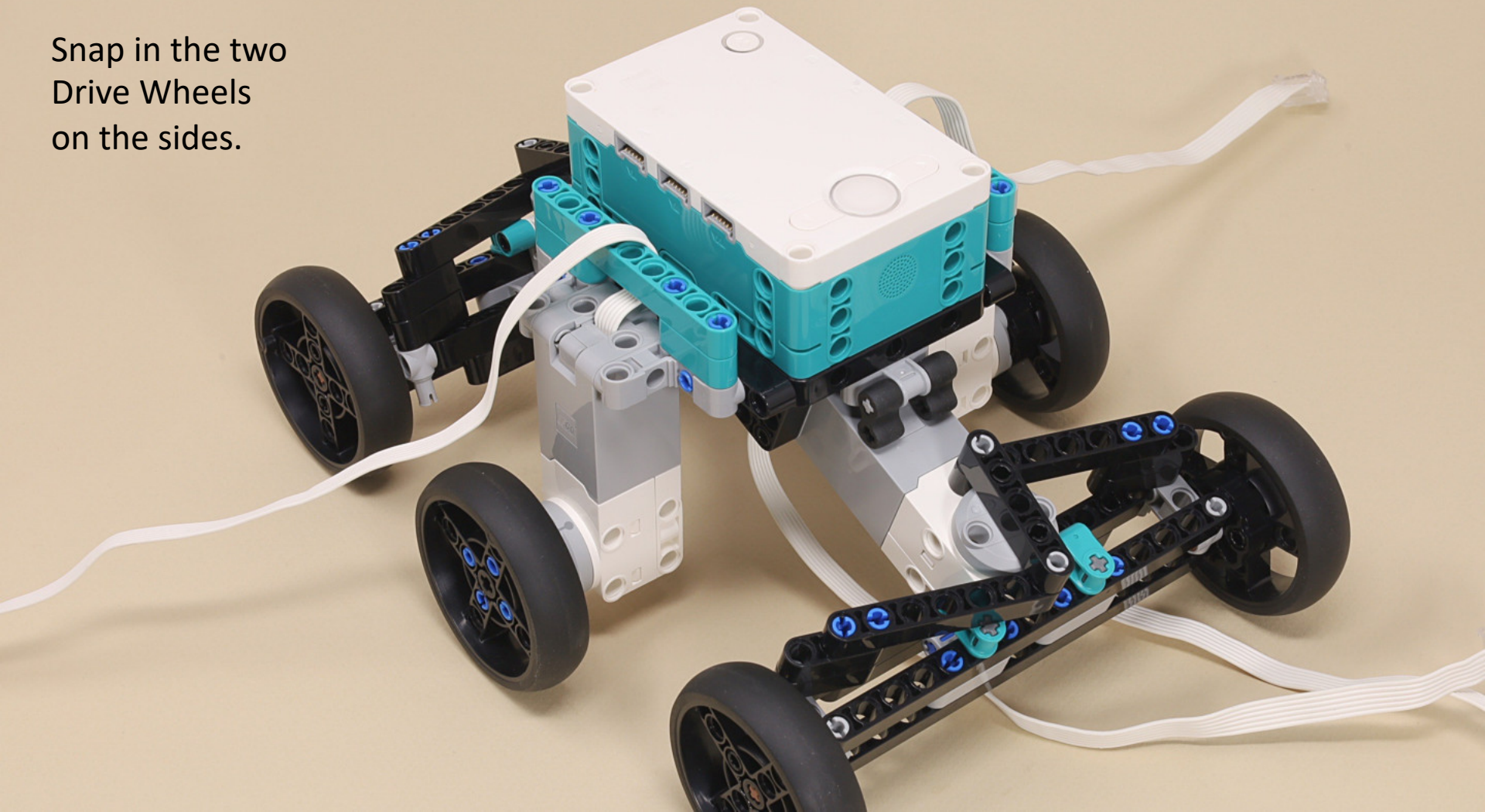


← Front



Twist the front steering motor clockwise until it stops with the wheels straight forward, then twist the rear motor counter-clockwise, to get the alignment shown.

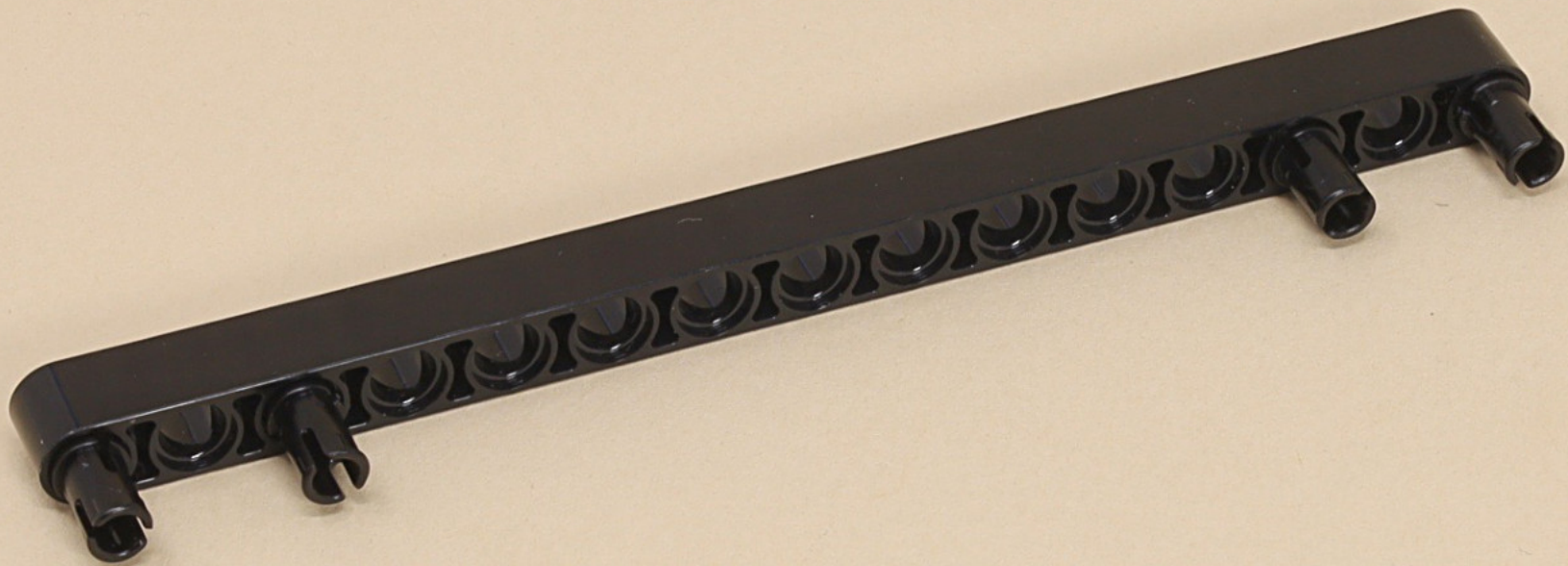
Snap in the two
Drive Wheels
on the sides.

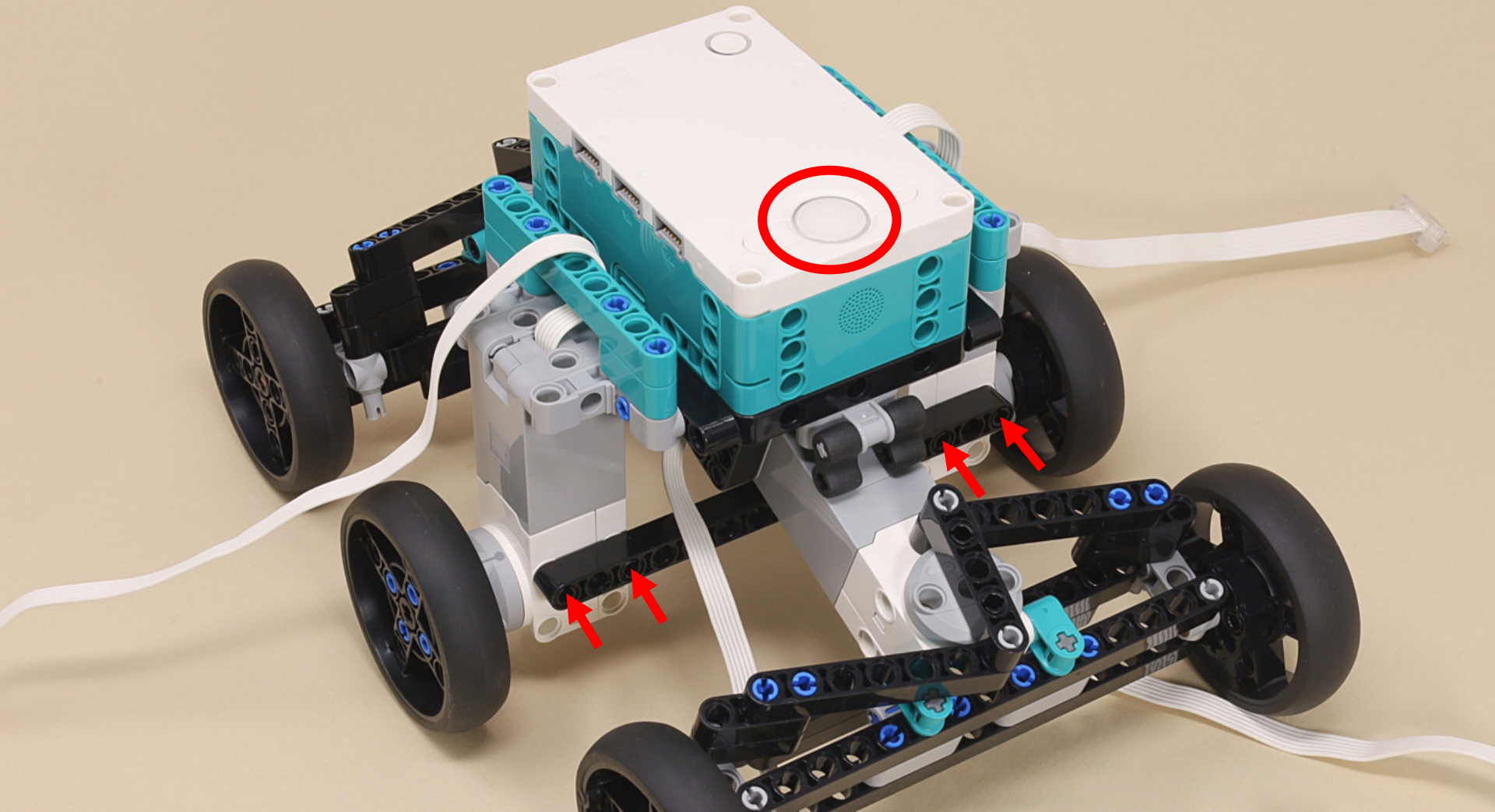




15



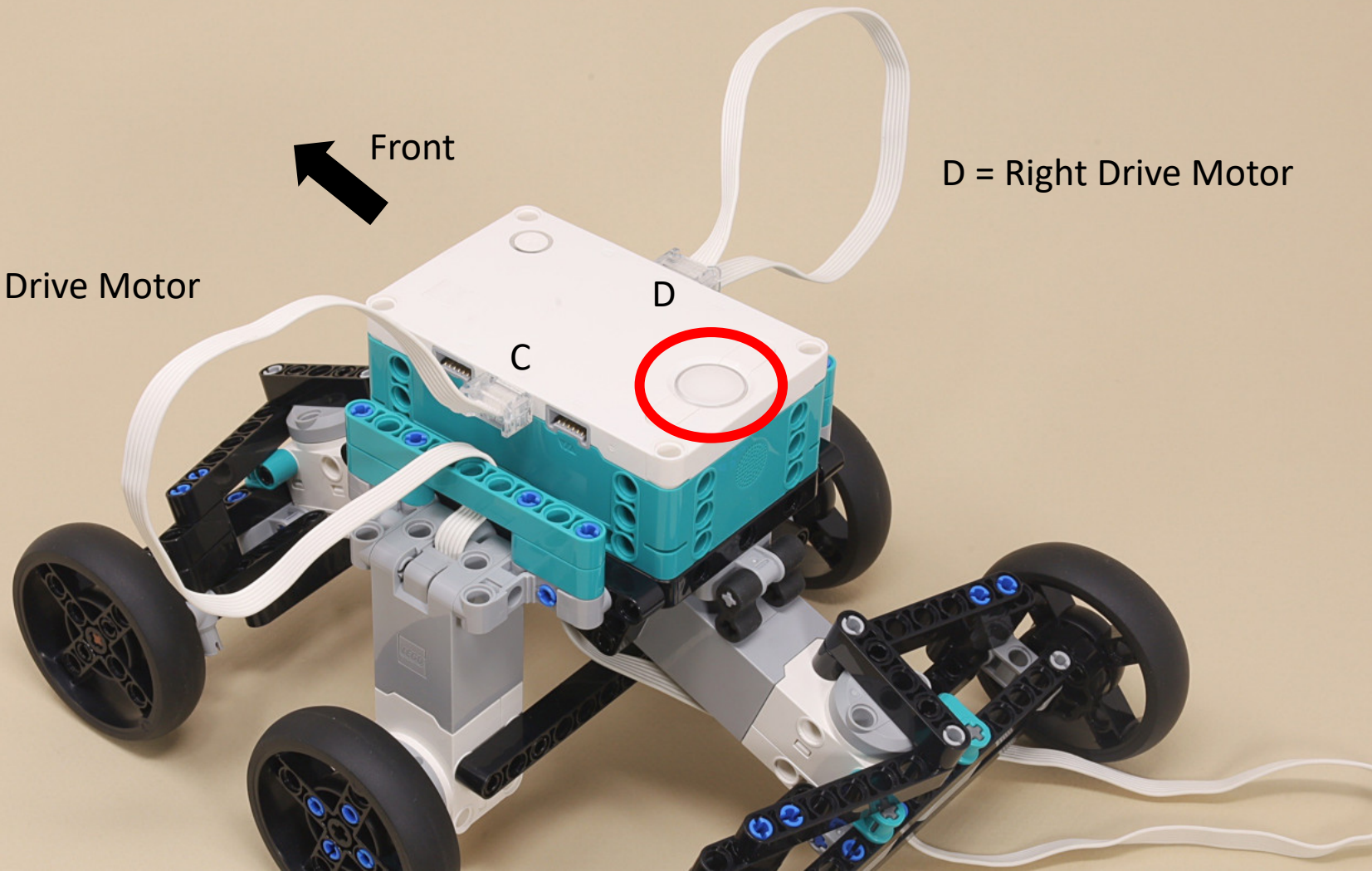




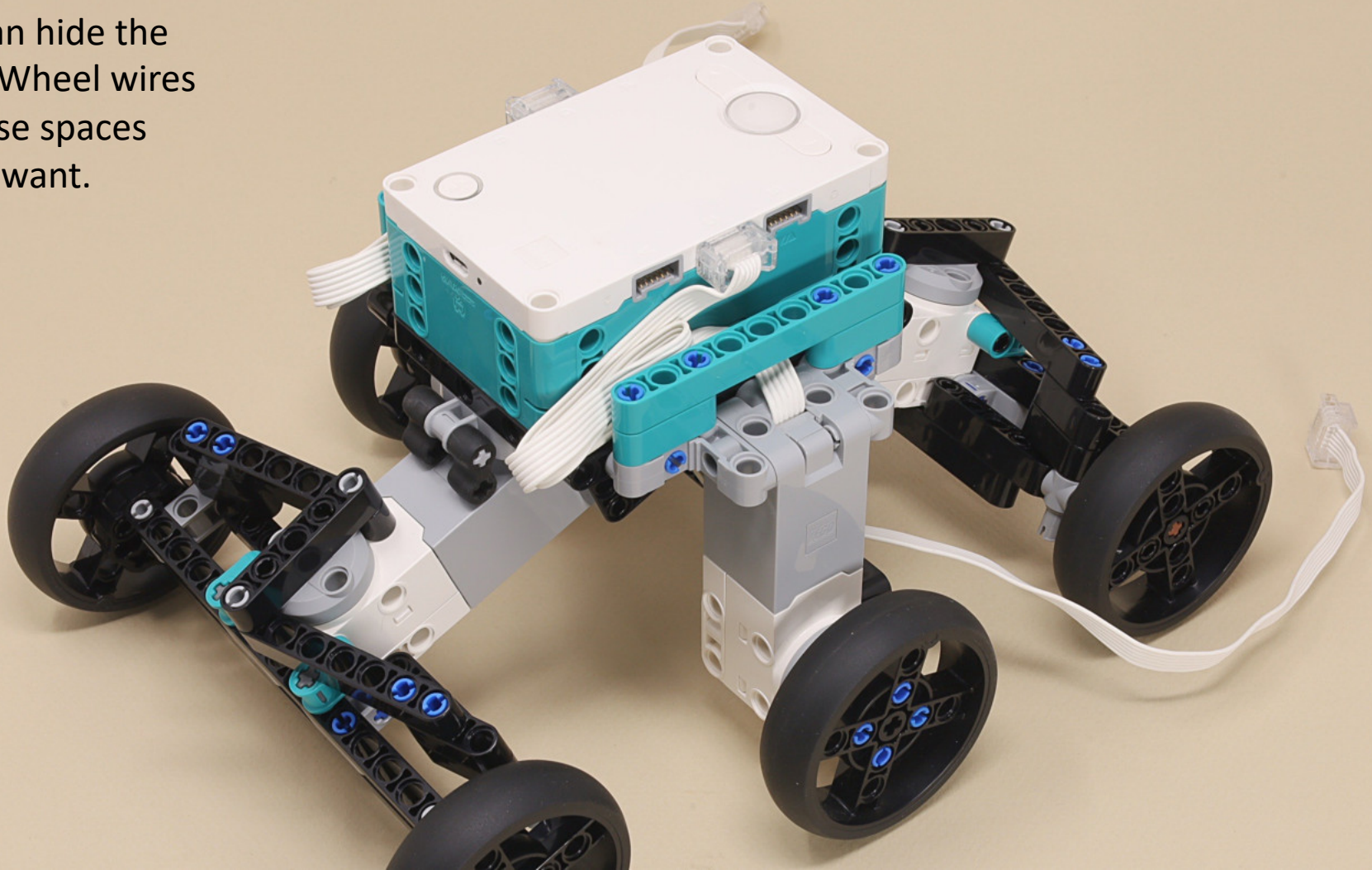
C = Left Drive Motor

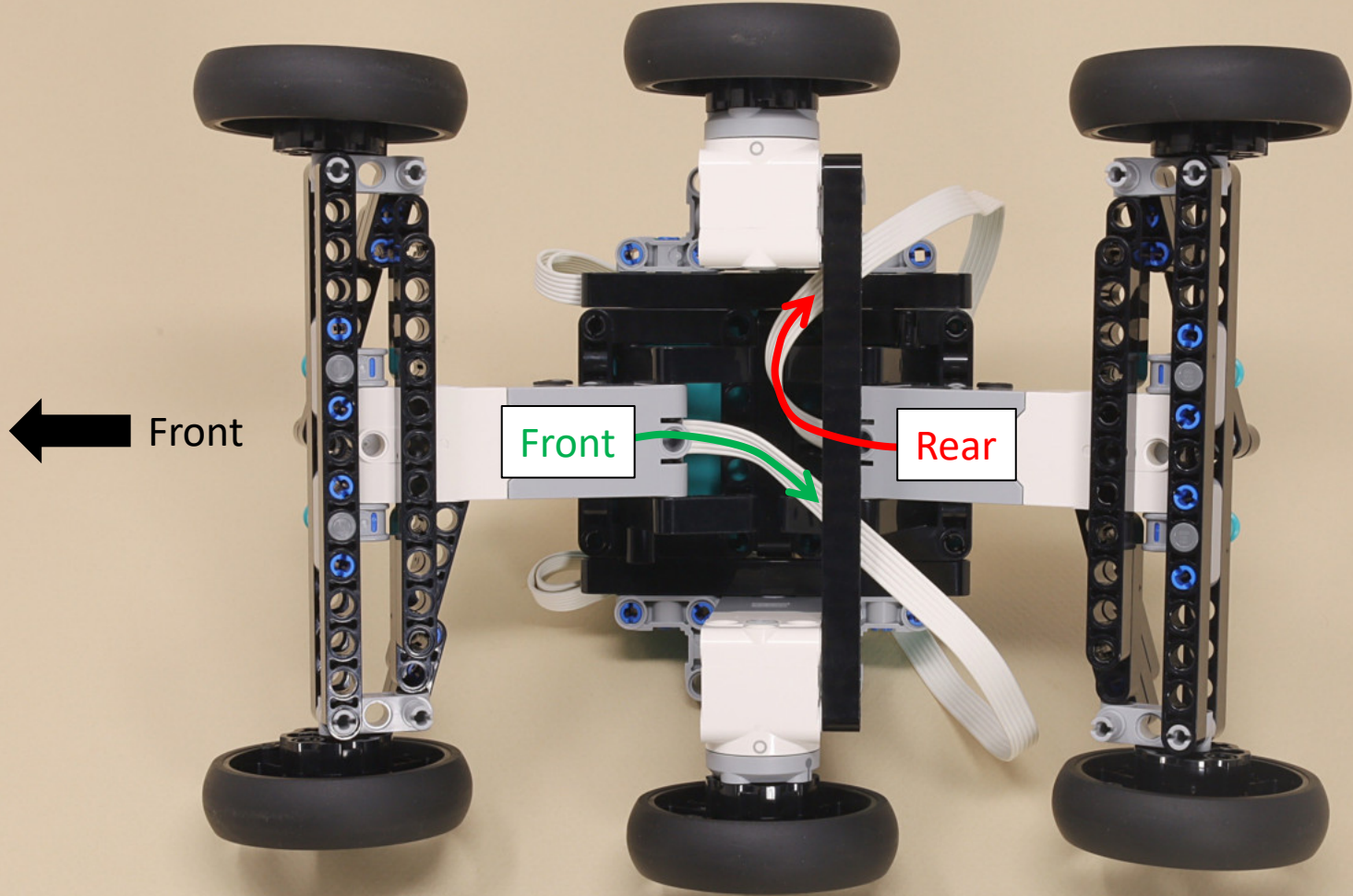
Front
↖


D = Right Drive Motor



You can hide the
Drive Wheel wires
in these spaces
if you want.

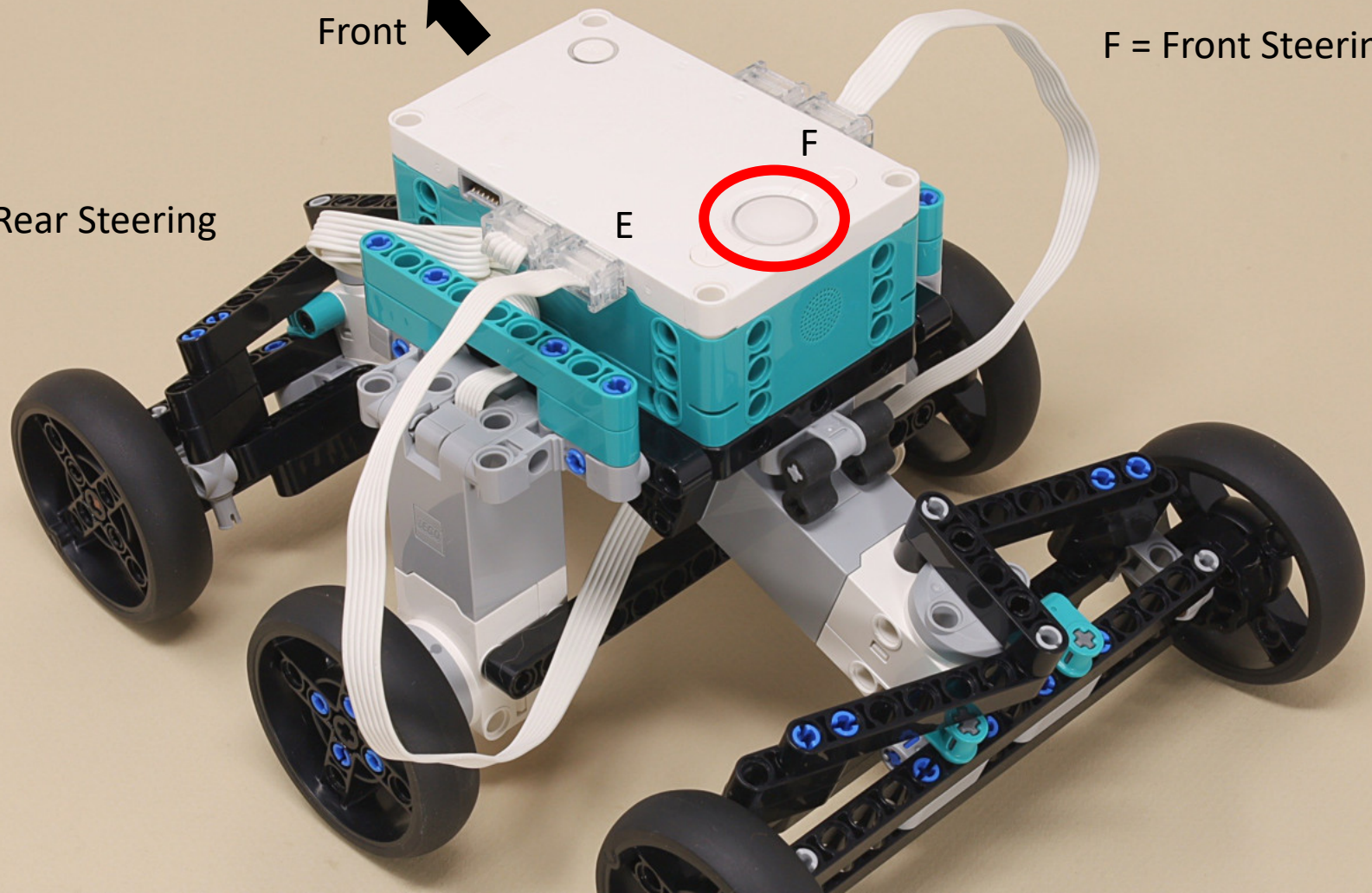




Front 

F = Front Steering

E = Rear Steering

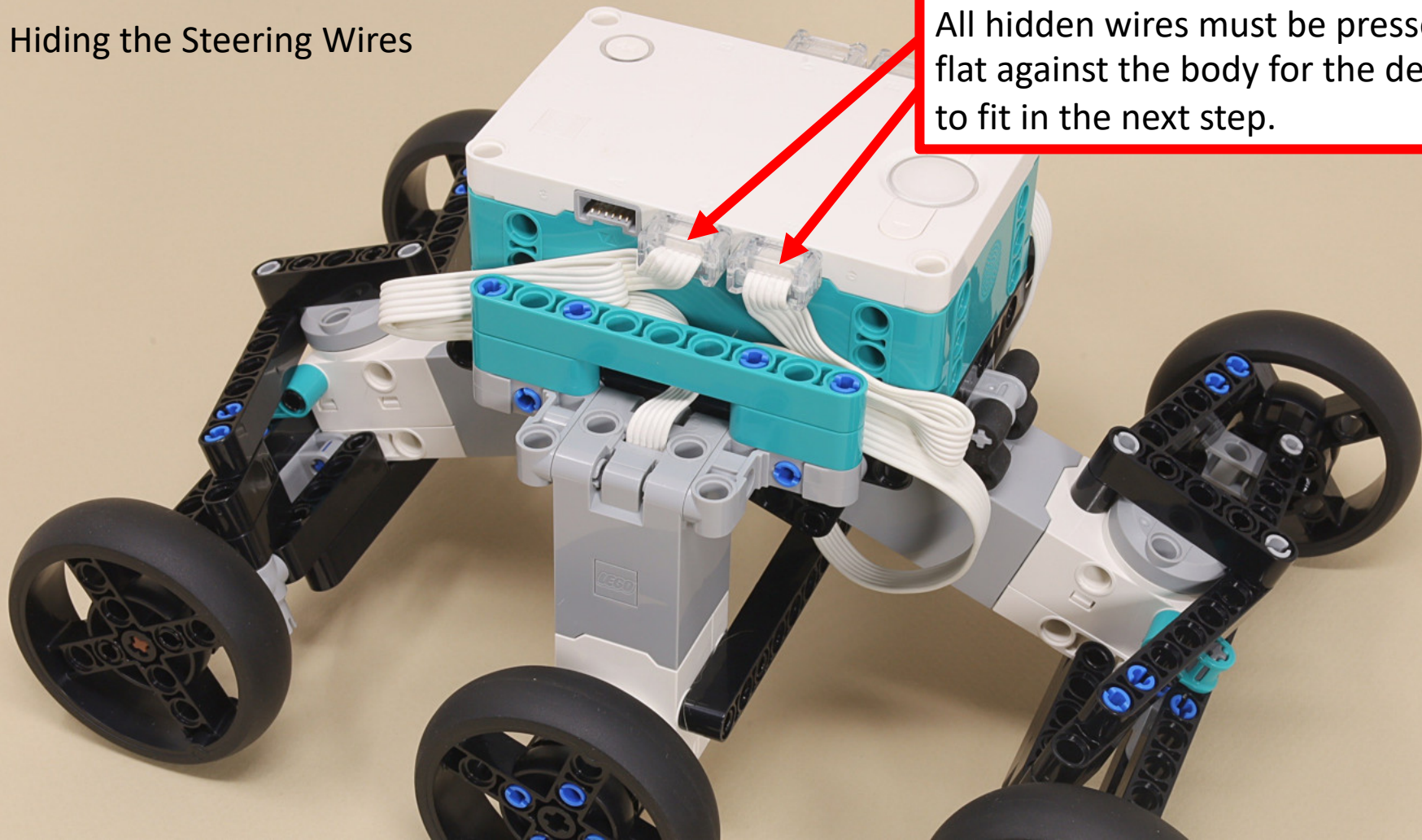


F

E

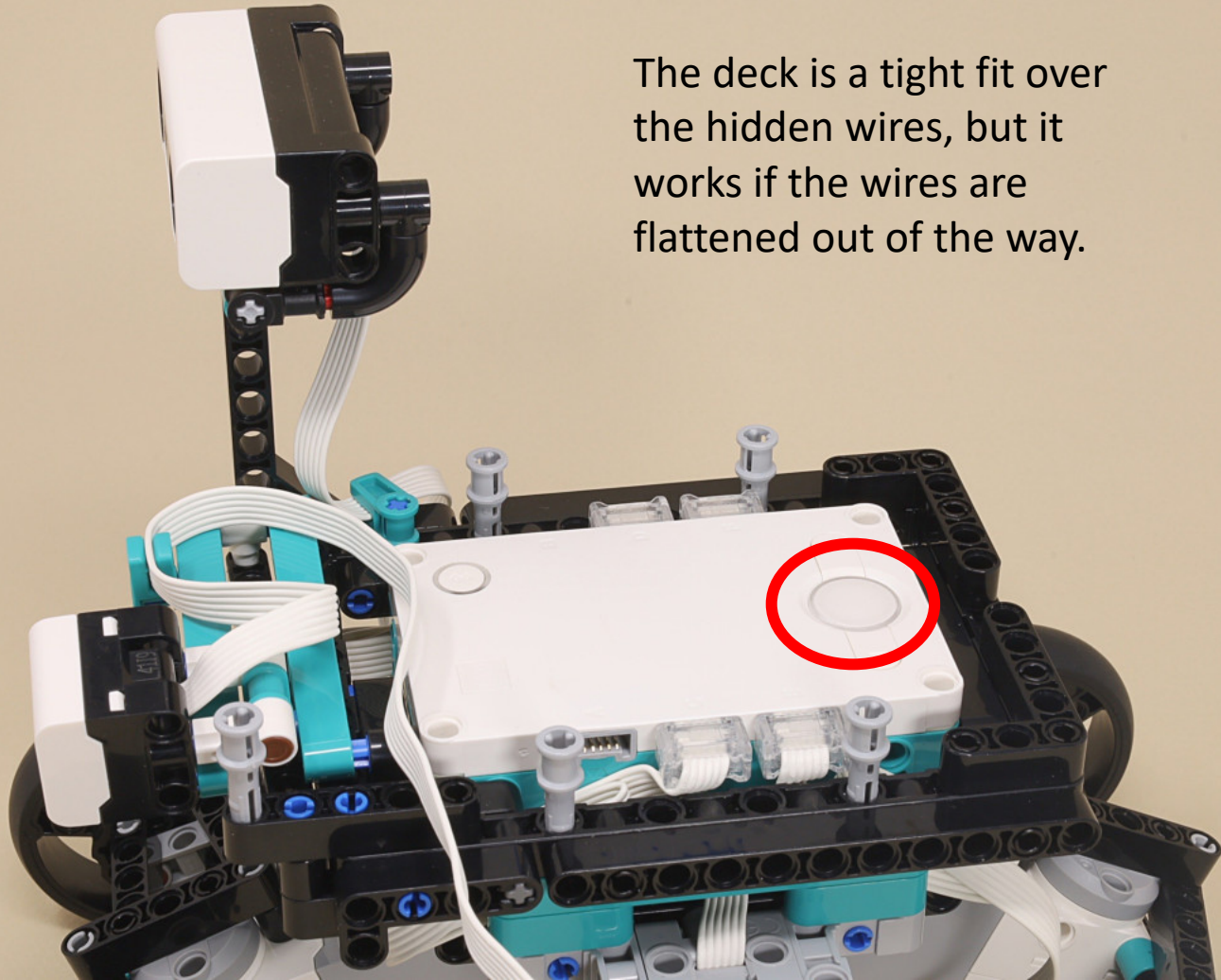
Hiding the Steering Wires

All hidden wires must be pressed flat against the body for the deck to fit in the next step.



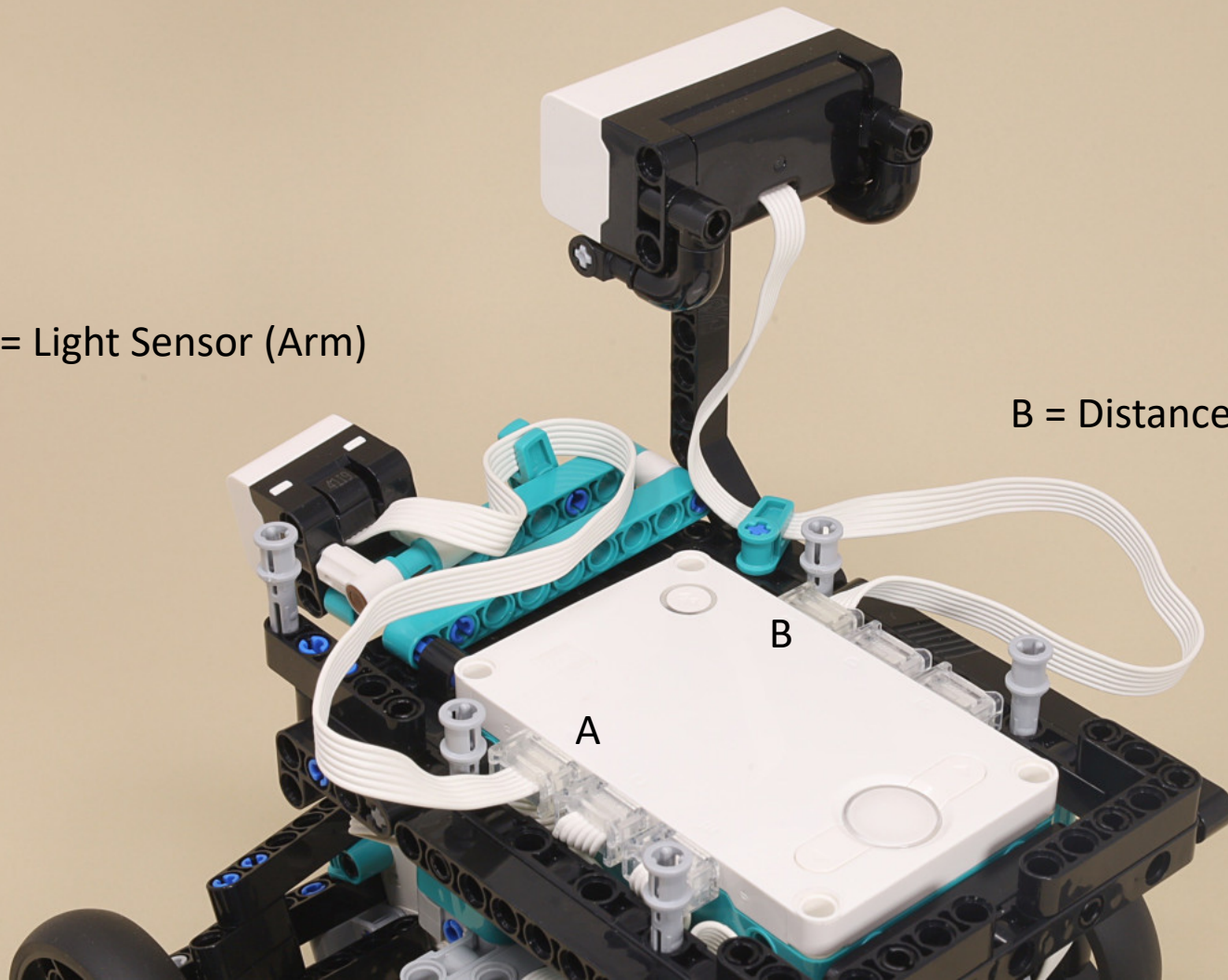
The deck is a tight fit over the hidden wires, but it works if the wires are flattened out of the way.

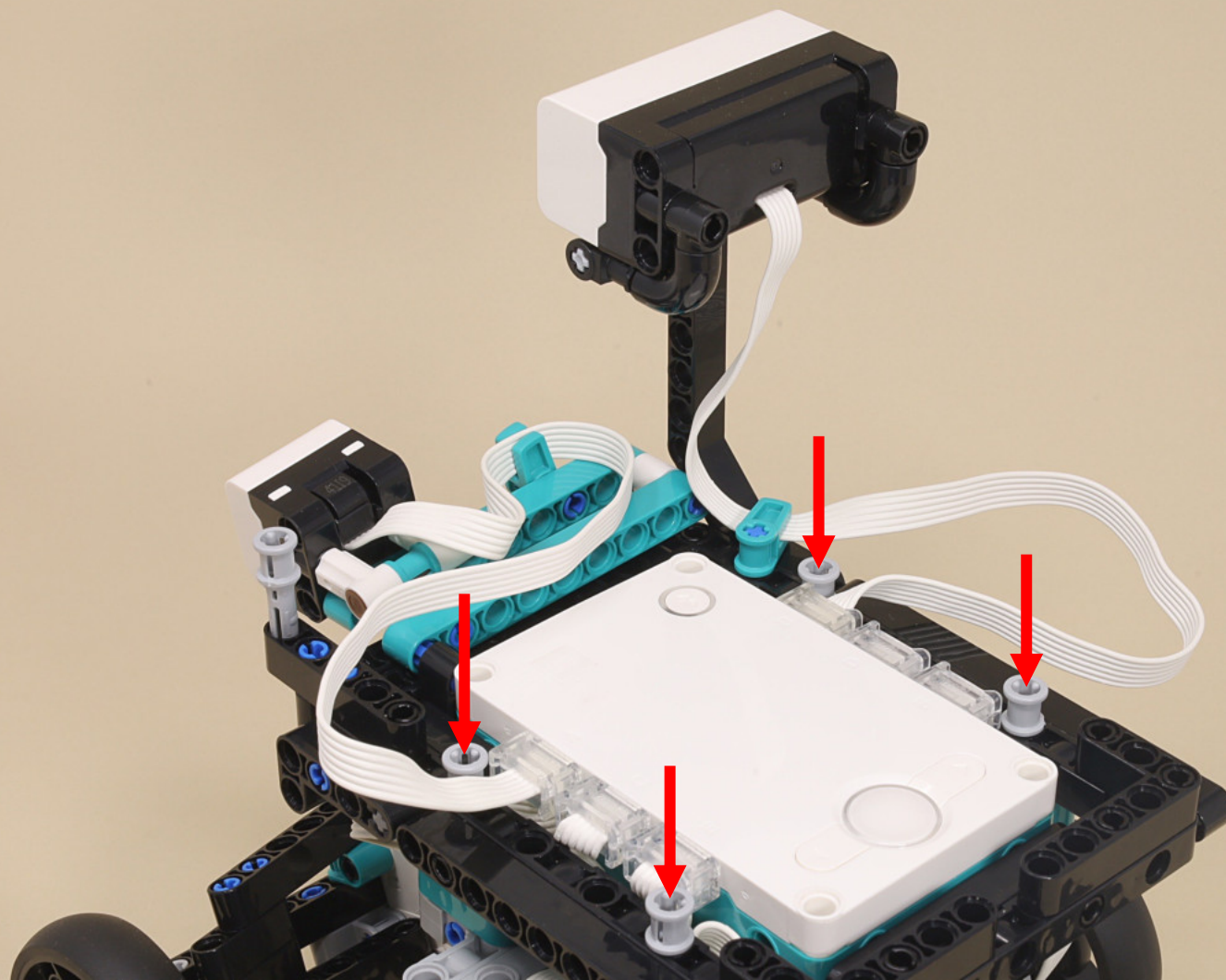
Front



A = Light Sensor (Arm)

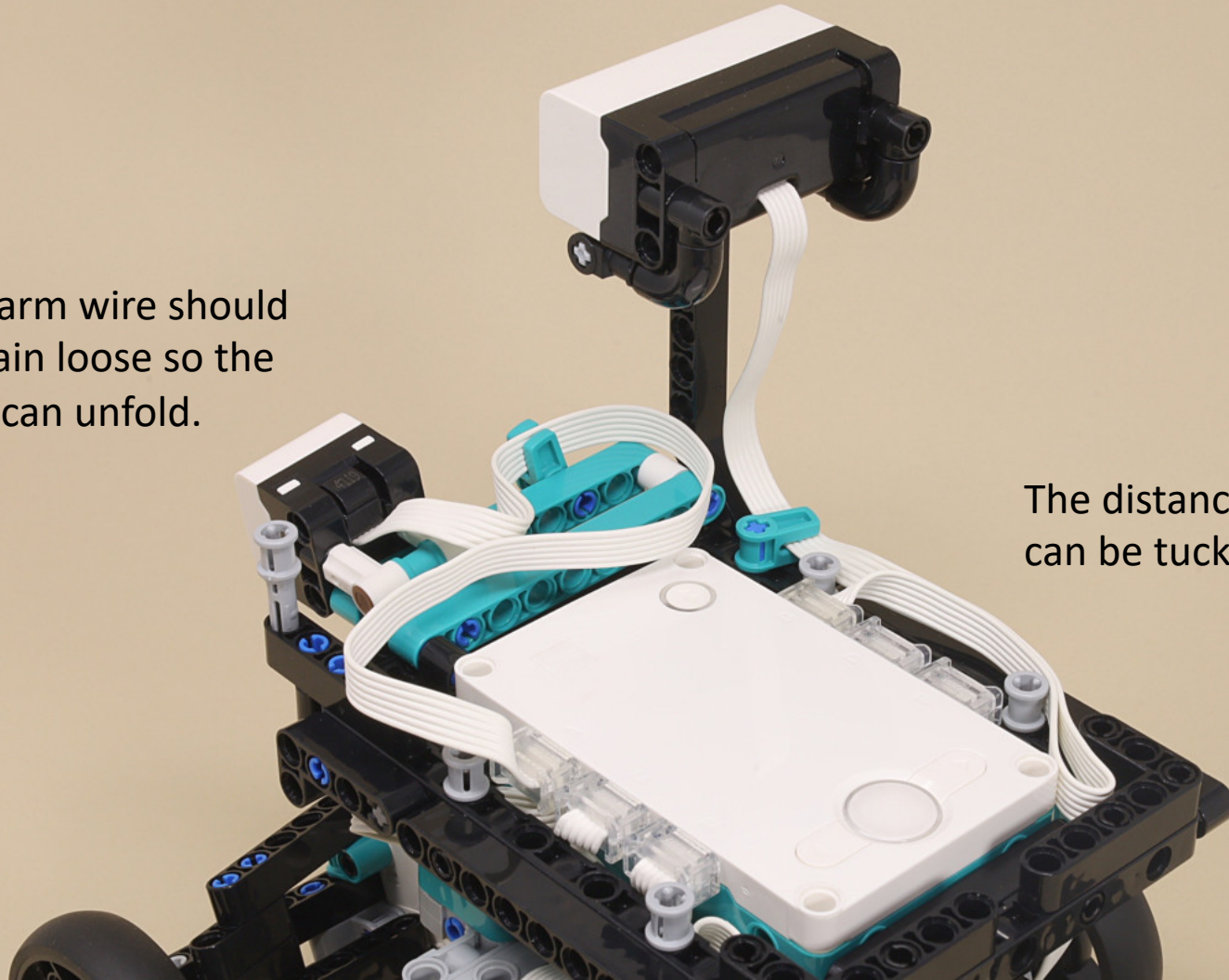
B = Distance Sensor





The arm wire should remain loose so the arm can unfold.

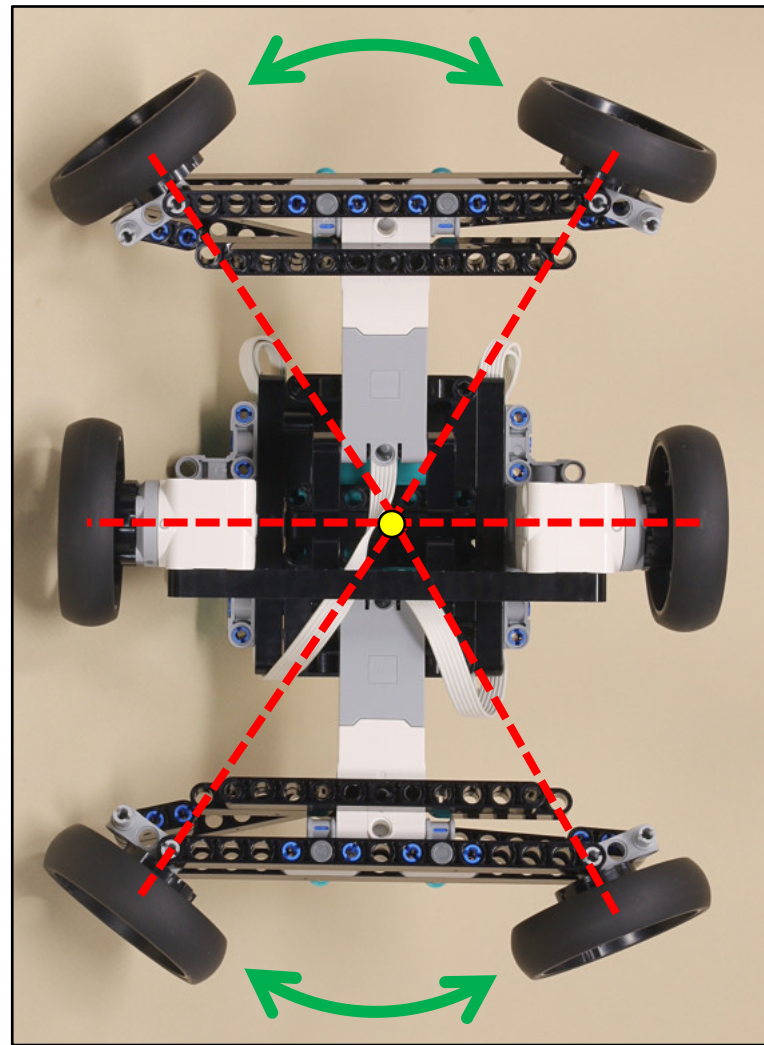
The distance sensor wire can be tucked in here.



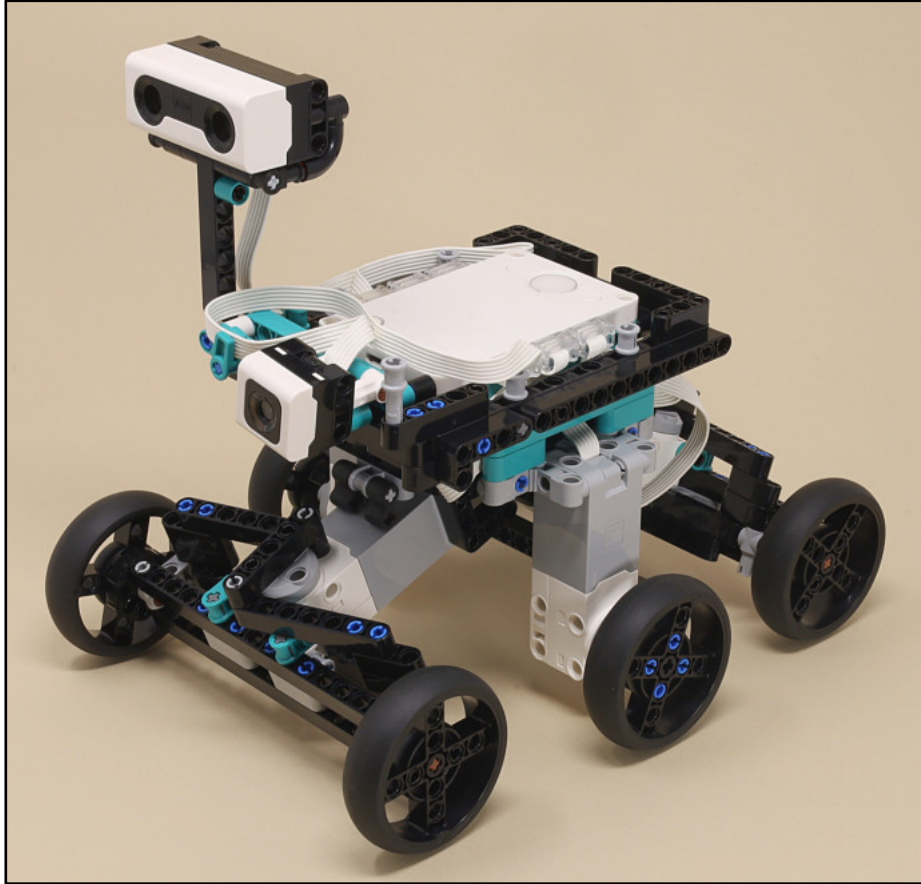
In a Zero Radius Turn geometry, all four of the outside wheels turn to become perpendicular to a turning center at the very center of the robot.

This allows the robot to pivot in-place around its own center for maximum maneuverability in tight spaces.

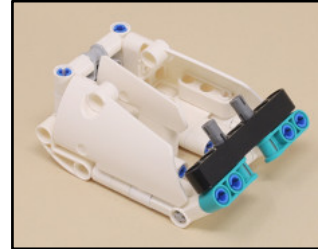
However, only two steering positions are effective: the zero radius turn shown here, and all wheels parallel to drive straight.



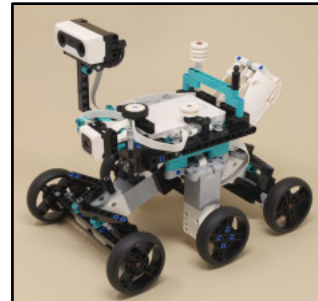
The rover is fully functional at this point



...or for more visual details, add:



Nuclear Power Source



Finishing Touches