Hi Y'all,

This is the Texan Bot Boy speaking. I just finished assembling the Hexbug Balancer, and thought I would share some thoughts I have. I made a few changes, some of them improve the structural integrity of the Balancer, and some of them are mostly cosmetic. I also had some thoughts about operating the Balancer.

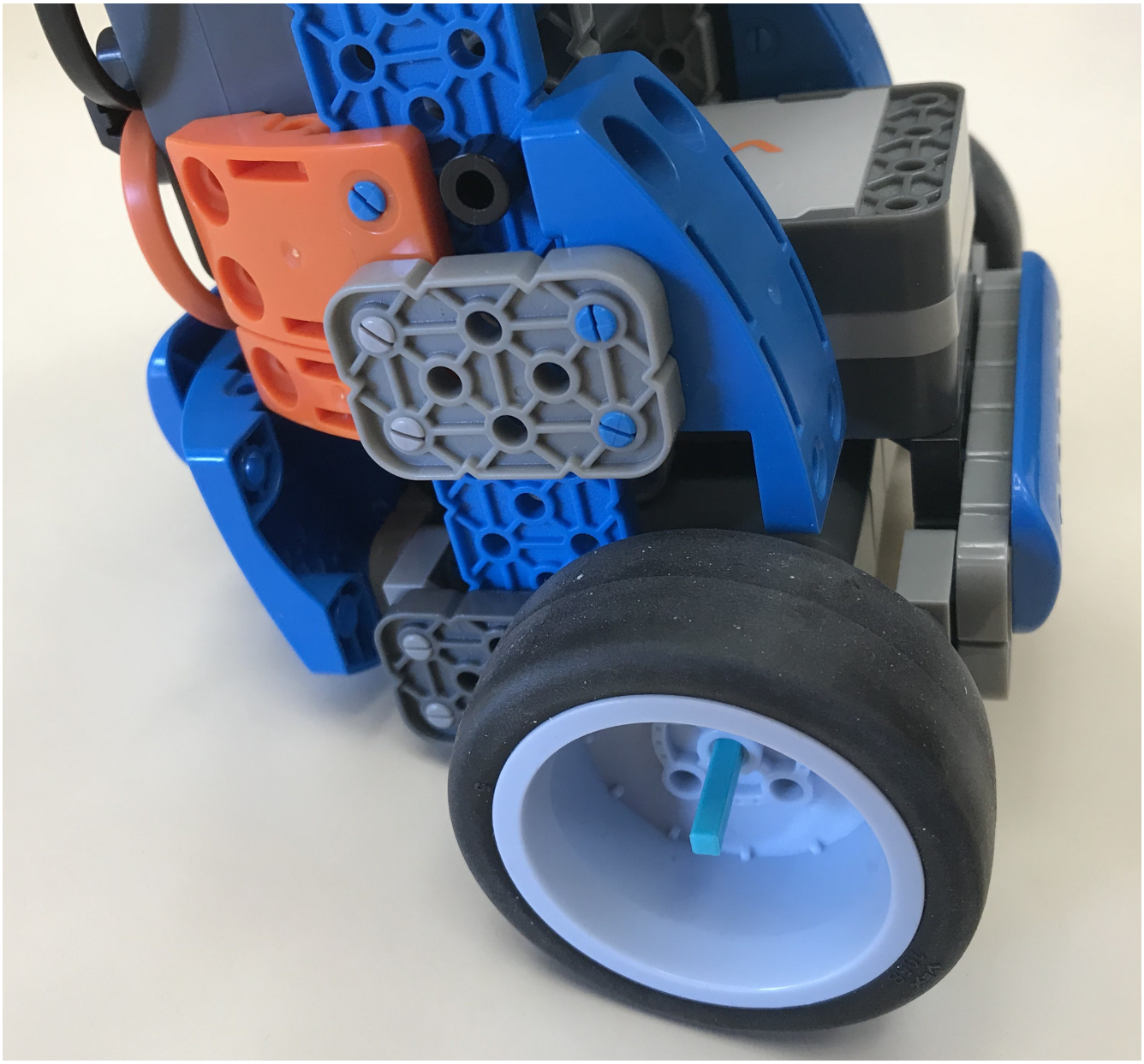

Illustration 1

The first improvement is shown in figure 1. The blue piece on the right just kind of hangs in the air on a 2X2 beam. I moved it higher up, and used a 2X3 beam to hold it in place. Before this mod, every time I picked up the bot, the blue piece would come off, and it is awkward to try to get it back on. The blue piece is higher, and it does interfere now with the black spacer that limits the downward movement of the arm. I have tested the change, and it does not appear to interfere with operation of the bot.

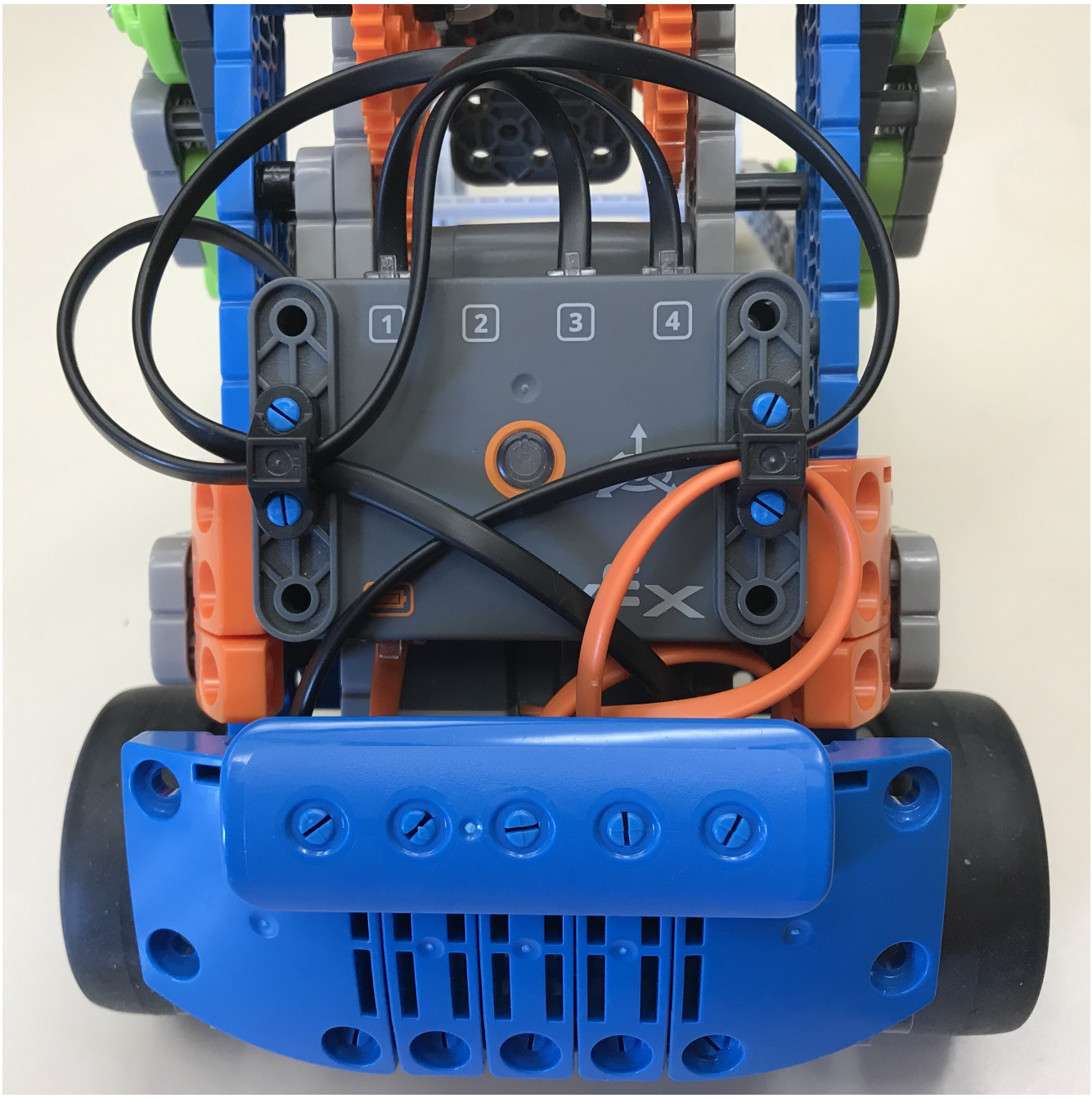

Illustration 2

The second improvement is shown in figure 2. I added the blue piece to the blue diaper the bot is wearing. This strengthens the diaper piece. It was kind of flopping around in the air.

This picture also shows how I used a pair of cable hold downs to hold the power and motor cables. These can be used to ensure that the cables don't interfere with any of the moving parts. I tried adding a piece on the inside, but it interfered with the cables, so I moved the piece I added to the outside.

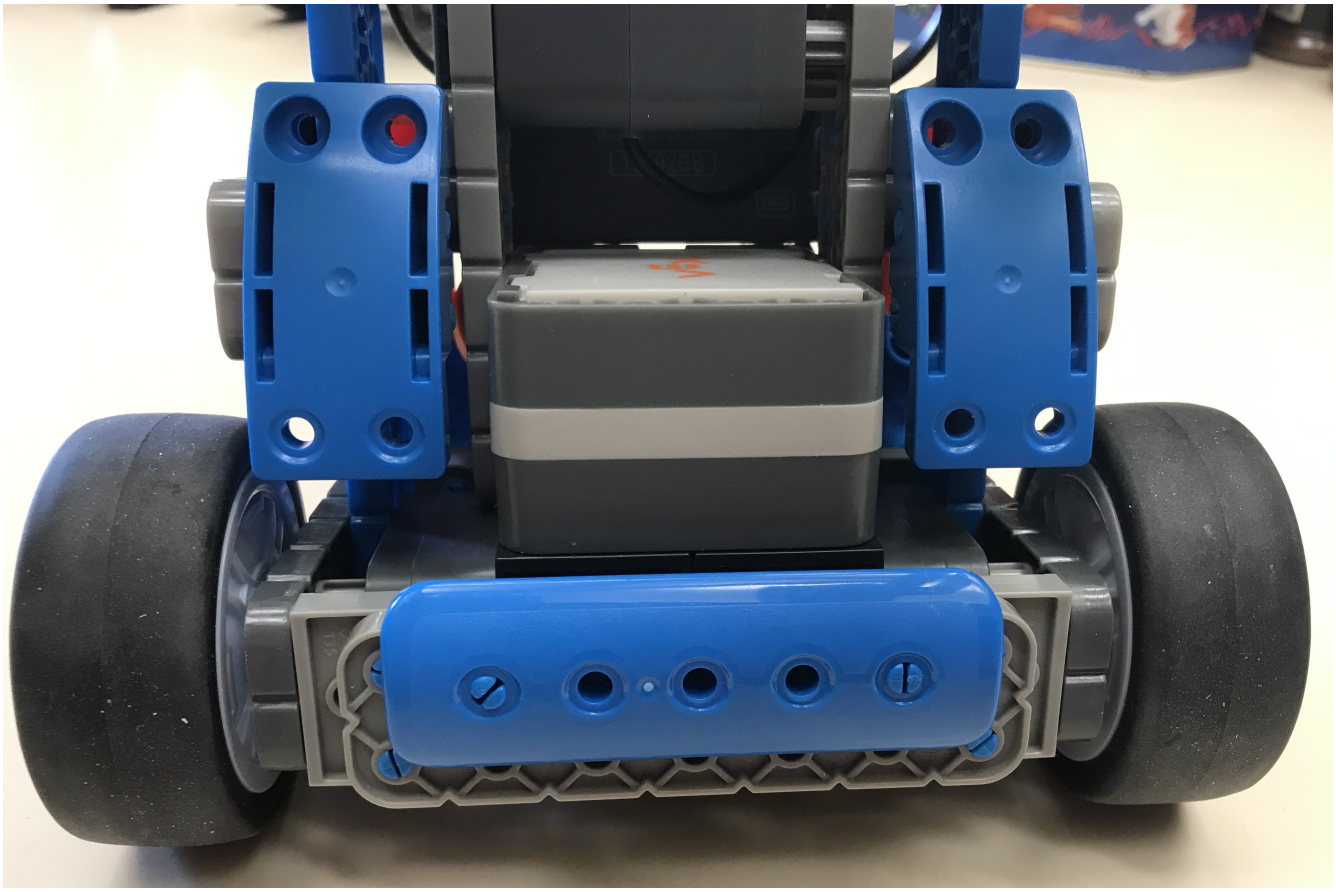

Illustration 3:

The next change is shown in figure 3. It is purely cosmetic, but it matches the piece I added in the front.

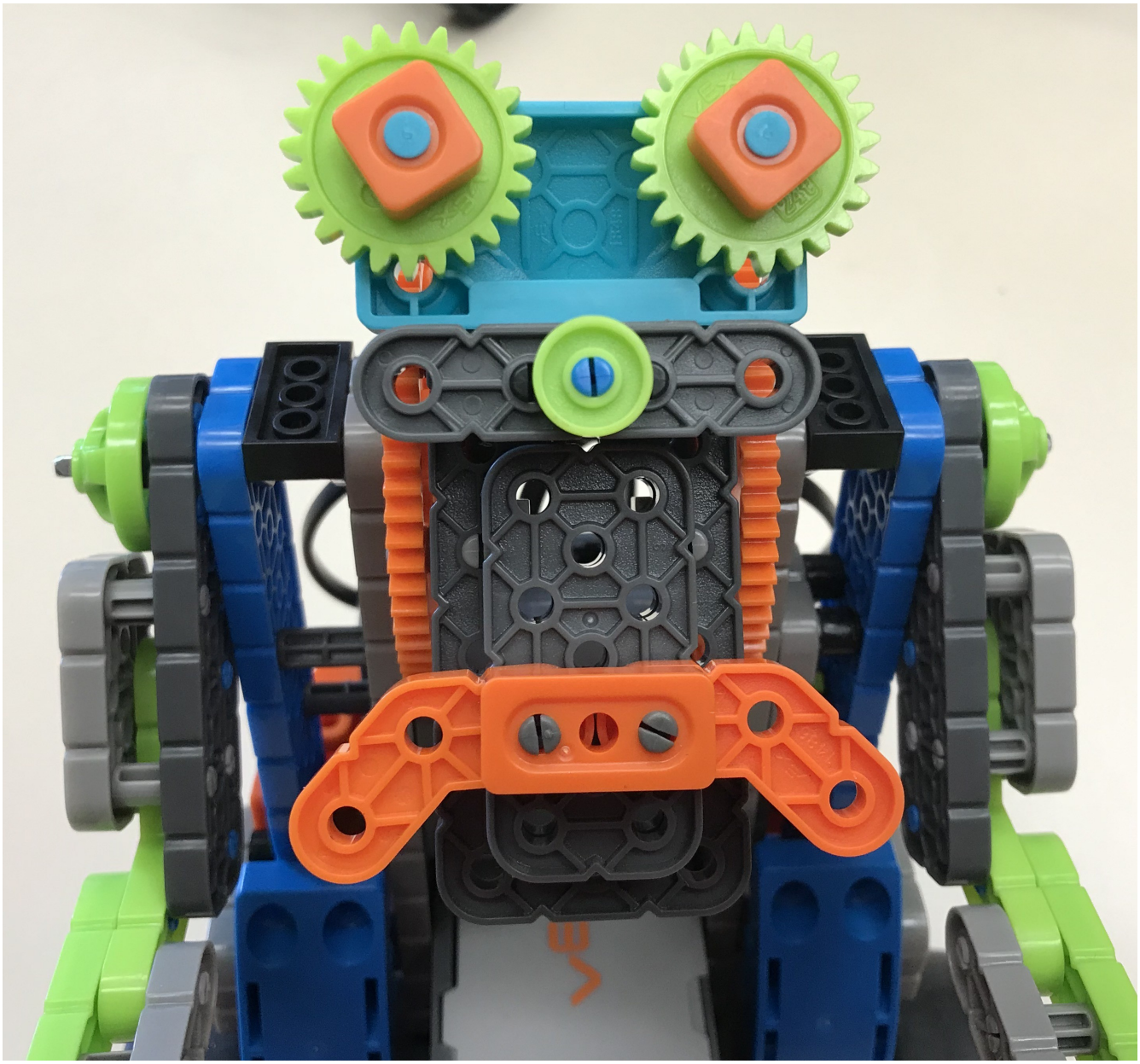

Illustration 4:

The next enhancement is shown in figure 4. It is purely cosmetic. In the original design, the rectangular orange piece was one hole lower. This looked odd to me (which is probably why Balancer is scowling.) By the way, have you notice how expressive Balancer can be?

The next comment I wanted to make was about operation of the Balancer. I put it together, turned it on, and all the motors worked, but it made no attempt to self balance. I was totally puzzled, then my wife suggested there might be a switch somewhere. I knew there were no mechanical switches on the bot, so I looked at the control screen for the Vex Pilot app. Sure enough, there was a big switch icon on the right side of the screen. When I pressed the switch, the Balancer promptly stood up. I turned it off, moved it around some, and could not get it to work again.

Finally, someone in the Forum suggested that the bot should be tilted forward, resting on its arms. When I did this, and turned on balancing, it worked like a charm.

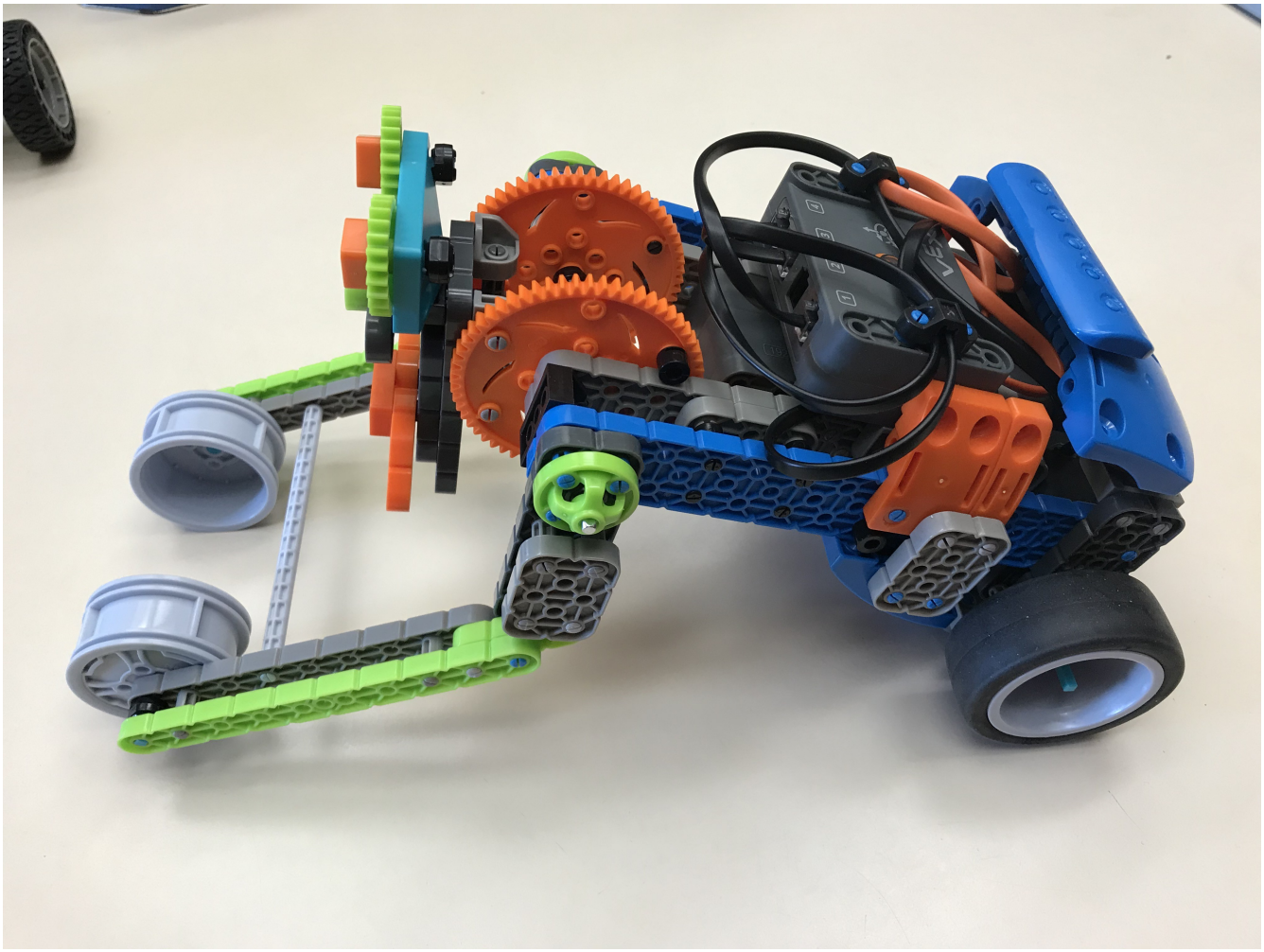

Illustration 5:

This is shown in figure 5. This is really impressive. When balancing is turned on, the bot pulls its arms back as if it is attempting to stand up. It cannot quite stand vertically using just its arms, so the bot moves forward to get its center of gravity centered.

The last comment I had was about the documentation that came with the Build Blitz kit. I wihed that it had made a comment about how the design was based on the inverted pyramid, and that the design makes use of the accelerometers that are built into the brain. When you look at this as just another radio controlled toy, it is rather unimpressive. To me, this really seems like a well thought out design. I love how they made use of the arms. If you turn off balancing, it still acts like a bot with four wheels.

And oh yeah, the usual complaint, I found the Vex Pilot app hard to use, it was much too responsive. I could only make the smallest and slowest moves and still feel like I had any control.

Since I am on a rant, let me throw in another thought. I also built the Offroad Truck. When I tore it apart, I kept the steering motor and sensor together. I tried to use it in another build, and sometimes it worked, and sometimes it didn't. What I figured out was that the shaft was not fully inserted into the motor. When the app starts for the first time, it seems to move the motor and check to see that the sensor reading changes. If this does not happen, the motor stops as if it is dead.

So if you use the steering motor assembly, make sure the shaft is fully seated in the motor.

So that's it for now. The Balancer was my first build from the Build Blitz. I will have to see what is next.

TBB