Power Turtle Drivetrain Build Instructions



Before you start, make sure you have all needed parts. It may be helpful to have all the parts that you are going to need ready and separated from the rest of the kit.

20 or 30 - 1x1 Connector pegs	8 - 2x2 connector peg	4 - 0.5x standoff	4 - 36 tooth gears	4 - 12 tooth gears
16 - Thin washers	8 - Rubber shaft collar	4 - 3x Capped Shafts	4 - 2x Motor Shaft	4 - 160mm tires
4 - 2x12 beam	2 - 2x8 beams	8 - 2x2 Corner Connector		
4 - Smart Motors	4 - Smart Cables short	Robot Battery	Robot Brain	Controller (joystick)

Parts needed for 1 side: 1- 2x12 beam, 2 - 3x capped shafts, 2 - 2x motor shafts





Create a second one exactly the same

Step 2

Parts needed for 1 side: 4 - Thin washers, 2 - 12 tooth gears, 2 - 60 tooth gears





Make a second one exactly the same

Parts needed for 1 side: 1 - 2x12 beam, 1 - 2x2 Corner Connector, 4 - 2x2 pegs, 2 - 0.5 standoffs, 4 - washers



Parts needed for 1 side: 4 - Rubber shaft collars, 2 - small tires



Parts needed for 1 side: 2 - 1x1 pegs, 2 - short cords, 2 - motors



Parts needed: 16 - 1x1 pegs, 2 - 2x8 beams, 4 - 2x2 corner connectors



Parts needed for 1 side: 1 - brain, 1 - battery, 2 - 2x2 corner connectors



Tada! You Power Turtle is ready to drive. You can use the Driver Control program that is always available. With Driver Control use the buttons rather than the joysticks. Each wheel will have it's own set of buttons.

If you would rather use the joysticks then you can download the Power Turtle Sample program using ModKit.



Step 8 - Download Joystick Drive Program (Optional)

Parts needed: Power Turtle Robot, Computer running ModKit, USB Cable, Access to the Team's GDrive

1. Launch ModKit



2. Select Project, and then Browse



3. Look for 'Power Turtle Sample', select it, and then press Open



4. Select a slot to download the program onto. Slot 3 should work.



5. Save program to the brain. Make sure your USB cable is hooked up first.



6. Look for the Power Turtle Sample program on the brain of your robot.

Note: If your computer is not connected to the team's GDrive (or you are not a BumbleBees team) then you can download the sample program from here: <u>https://drive.google.com/open?id=0B4XIIU8ff1-8Sk5rc0JXY1pzXzA</u>