Rookie Quick Start Guide
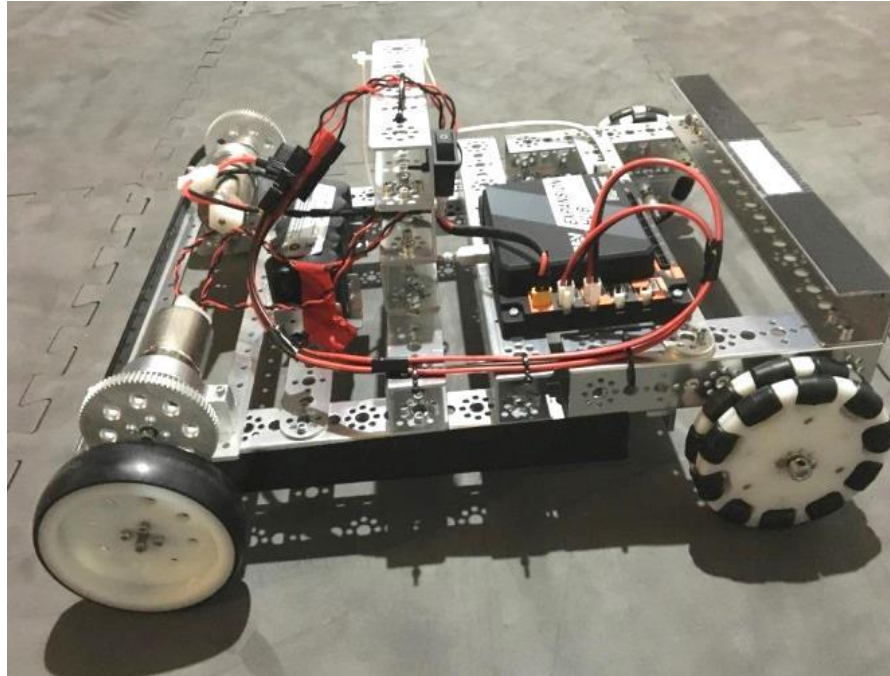
Build a Driving Chassis

Frog Tech University, FRC Team 503
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Step 1: Build a Basic Chassis

- Use the PushBot Build Guide found at http://www.frogforce503.com/page-ftc-resources.html
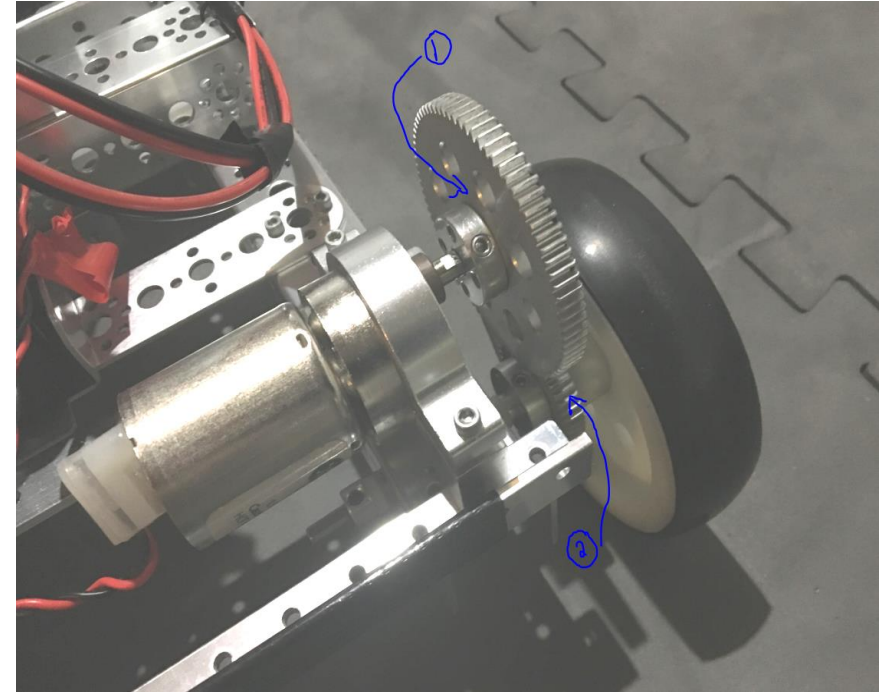
- Follow pages 102-115 to construct a basic chassis

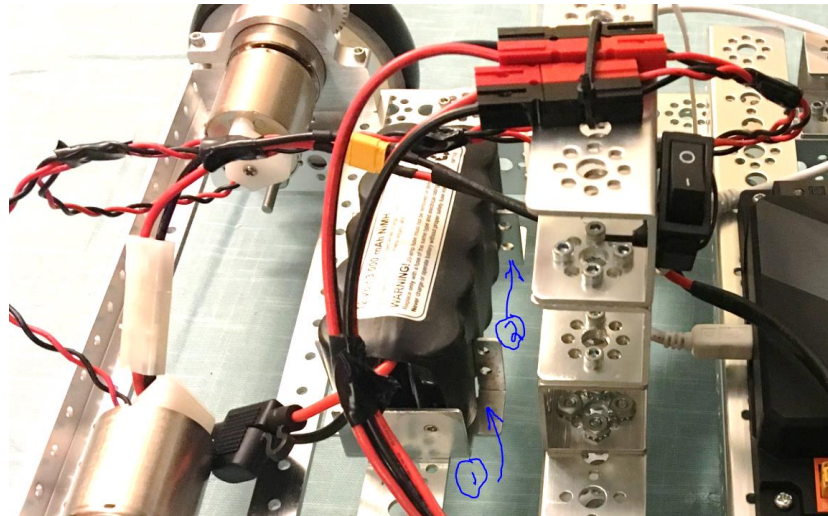*Sample PushBot chassis without Game Spec mechanism.*

Step 2: Add Motors

- Follow pages 135-139 to mount the drive motors.

Step 3: Mount Accessories

- Follow pages 140-146 to construct the PDM mount which will be used for the REV hub (do not install until later).

- Follow pages 161-165 to add the phone holder.

- Follow page 168 to add the battery (do not zip tie battery until later).
  - 2" standoffs or brackets can be added to hold the ends of the battery.

Step 4: Configure Phones

- Using the Blocks Programming Training Manual found at http://www.frogforce503.com/page-ftc-resources.

- Review sections 1 and 2 for a useful overview.

- Work through section 3 to configure the phones.

- Step 4 and Step 5 can be done simultaneously by two separate groups of students.

FROG FORCE 503 A LEAP AHEAD
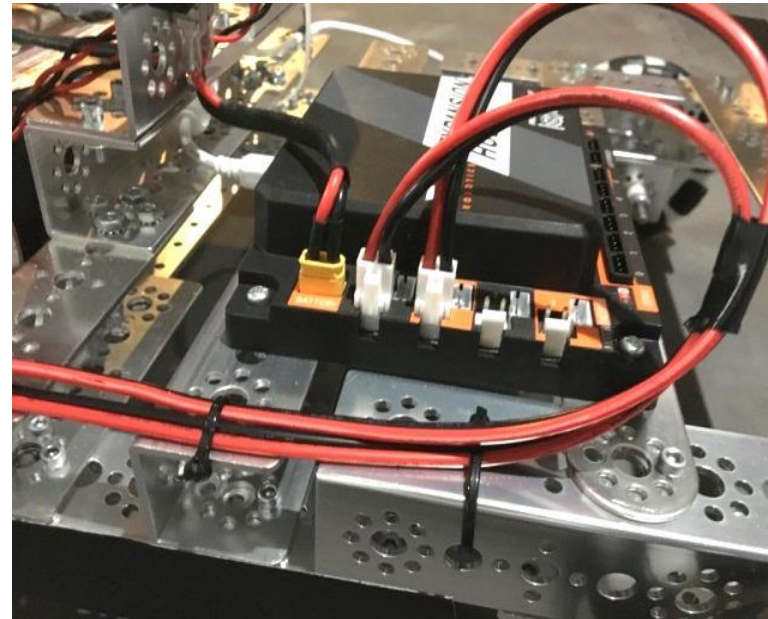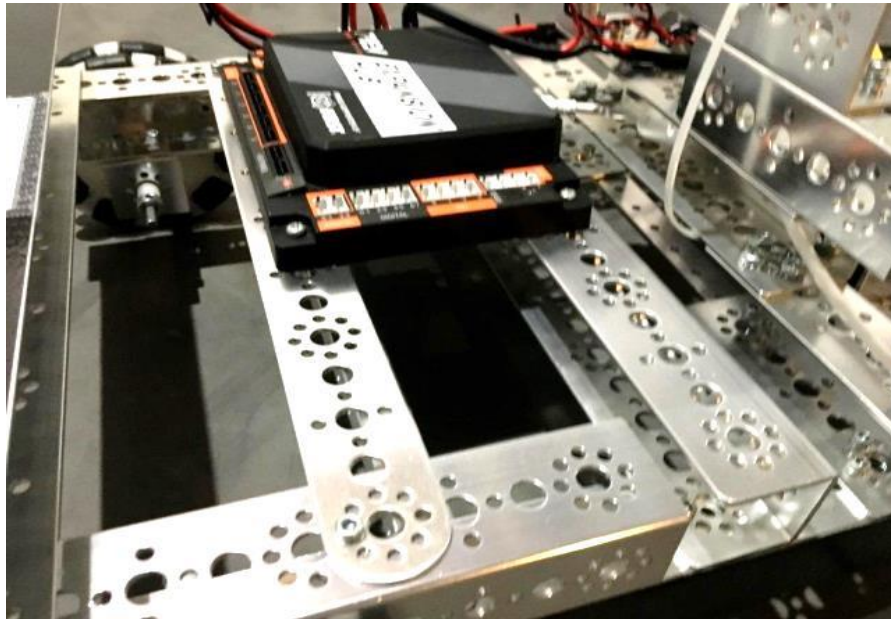
Step 5: Wire Chassis

- Using the Blocks Programming Training Manual

- Mount REV Hub to PDM mount built in step 1(d). Do not Install!

- Work through section 4.1, Connecting 12V Power to the REV Hub

- Work through section 4.2, Connecting the Motor to the REV Hub

- Repeat section 4.2 for second motor

- Complete wiring BEFORE installing REV Hub mount to chassis.

- Refer to PushBot Build Guide pg 146 to install REV Hub mount to chassis.

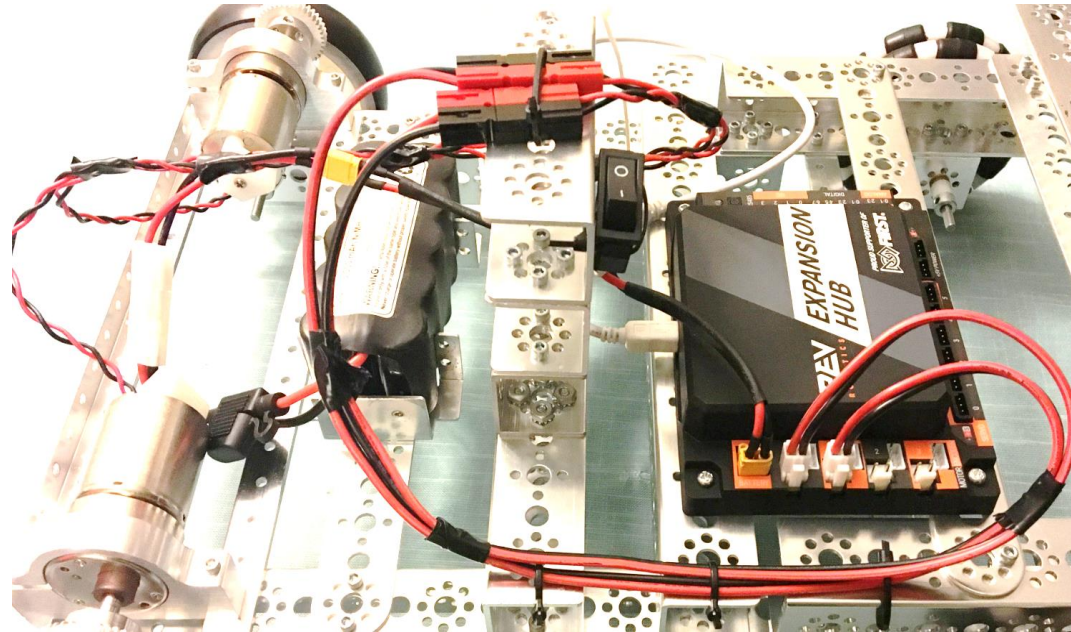- (Steps 4 and 5 can be completed simultaneously by two separate groups of students.)

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Alternate REV Location

- REV hub mounting location can be modified for Game Spec design.
- PushBot REV module mounting on top of the chassis.

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Wiring Tips

- Use zip ties to keep wires organized.

- Secure power poles to channel.

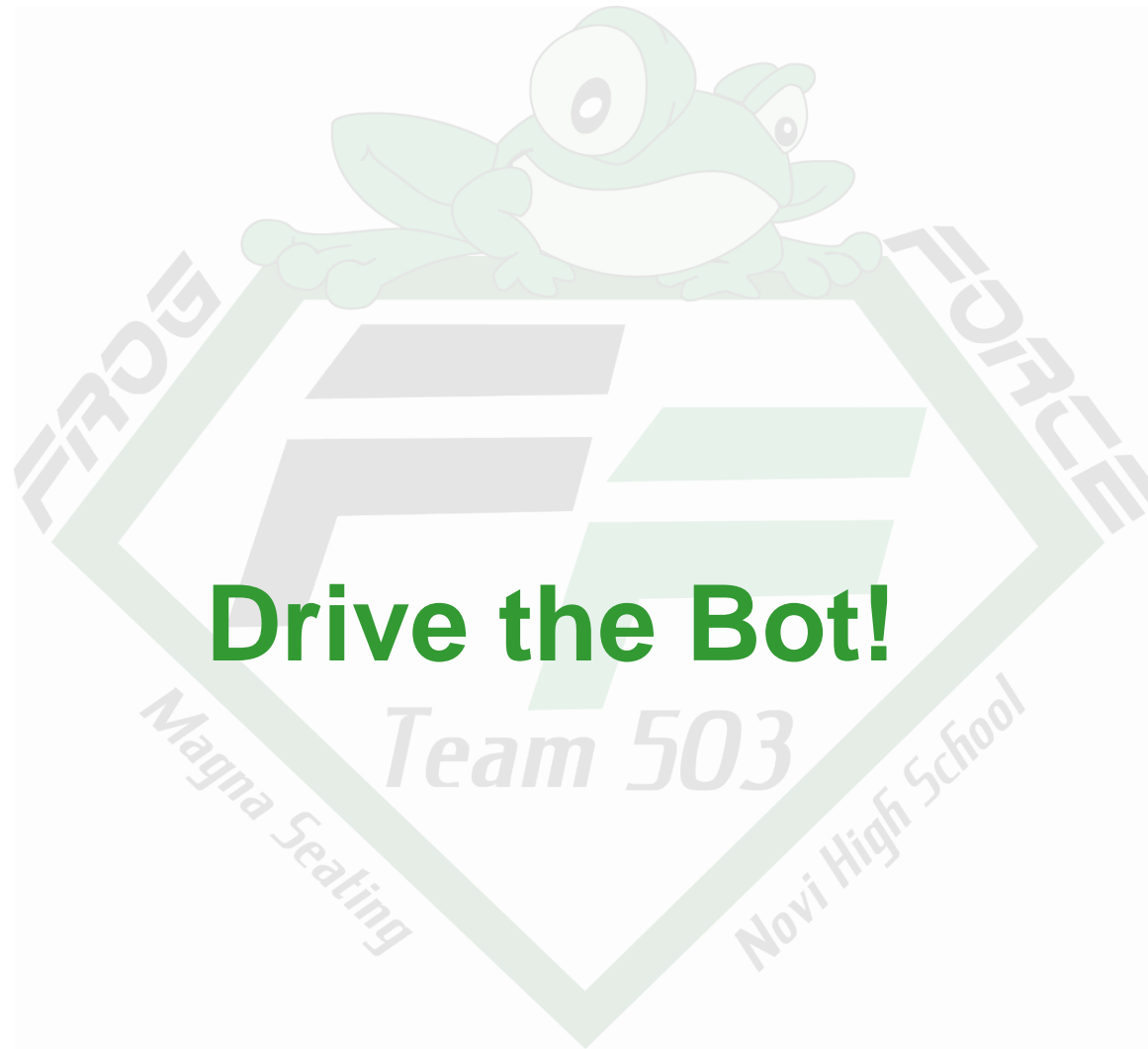- Secure power switch to channel.

Step 6: Configure Robot Controller

- Using the Blocks Programming Training Manual

- Work through section 5 steps 1 through 17, Configuring the DC Motor

- Pay attention to which ports the motors are plugged into.

- Name motors indicating Left and Right

- Repeat steps 14 through 17 to configure both motors

- Skip to step 30, Saving the Configuration Information

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Step 7: Program the Bot

- Using the Blocks Programming Training Manual

- Work through section 6, Writing an Op Mode

- Repeat section 6.8 for second motor.

- Work through section 7, Running Your Op Mode

- [Blocks Programming Tutorials](#)

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What we are doing today will transform tomorrow's culture.

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