



Activity 1 – Building a Basic Robot

Vocabulary

- beam
- bracket
- bronze bushing
- connector
- continuous rotation servo
- Quick Rivet
- Quick Rivet Peg
- setscrew
- standard servo
- thumbscrew
- wing nut



Materials

- TETRIX PRIME Starter Set
- Painter's tape
- Stopwatch
- "Building a Basic Robot Data Sheet"

Objective

Learn how to build the Wheelie Bot using the *Builder's Guide*.

Procedure

1. Become familiar with the starter set.
 - A. Examine the metal and plastic parts.
 - B. Identify and inventory each element within the PRIME set using the top card from the set.
 - C. Think critically about why the parts are separated into storage bins and why this is a necessary step.
2. Follow the instructions in the *Builder's Guide* to assemble the Wheelie Bot robot. The Wheelie Bot is a three-wheeled robot with one continuous rotation servo driving a wheel for propulsion and one standard servo providing the steering control.
3. After you have successfully assembled your robot, you need to connect the servos to the receiver. The drive servo should be plugged into channel 3 and the steering servo plugged into channel 1. This will enable you to move the joystick forward to move forward and sideways to turn.
4. If the servomotors do not move the robot in the same direction as the joystick movement, use the NOR/REV switches to change the direction of rotation.
5. Become familiar with the operation of the robot by operating the controls and driving it.