Verification 2: Control

The control verification is a test of your robot's ability to move under control.

You should have a fully operational robot, although you are allowed and encouraged to modify them after the verification.

Verifications will take place during your lab section. Please read the checklist carefully, and be 100% prepared to demonstrate your robot when asked.

Control test (3 points)

If you show us that your robot can move at least 10 feet as measured by the reed switch, orienting itself towards a desired, constant orientation (e.g. North), from an arbitrary starting orientation, you will receive the full 3 points. If your robot appears unable to complete this test, points will be distributed as follows. Keep in mind that you are only allowed to use a single Arduino sketch.

The piston can be made to move repetitively from code. The angle of the steering is controlled from code (1 point).

You can display the magnetometer reading of the robot orientation and the distance travelled by the robot as measured with the Reed switch, on the serial monitor (1 point).

The steering is under feedback control, judged by the angle of steering automatically changing when the robot is picked up and rotated (1 point).

Code Quality (1 point)

All code is commented and you can quickly show the TA key sections of the code and explain briefly what they do. For example, the TA might ask "Show me where your code reads in the magnetometer?". You should be able to show the region, and the code itself should be clearly labeled with comments.

Presentation (1 point)

You presented your robot on time and within the allotted time given. You convinced the TAs that you have a working autonomous robot.