Motor Encoder Test

Description:

This test is performed to determine if the number of revolutions counted by the motor encoder is accurate.

Materials:

1. Ultrasonic Motor
2. Microcontroller & Wires
3. Post-It flag
4. Stopwatch

Procedure:

1. Connect the motor to the microcontroller and plug into power.
2. Connect the microcontroller to a laptop with the required files.
3. Ensure that the latest version of the active program is uploaded to the motor.
    a. The latest main.cpp can be downloaded from Lab Archives.
4. Place a thin post-it flag on the motor shaft to mark an initial position.
5. Run the function “revolutionsCounter()” by pressing 4 and start a stopwatch at the same time.
    a. This program will rotate the motor at 60 RPM until the encoder counts 60 revolutions.
    b. This program is expected to run for 60 seconds.
6. While the program is running, visually count the actual number of revolutions.
7. Compare actual number of revolutions against expected value. Make a note if the motor does not end in the same orientation as it started.
8. Repeat 3-5 times.