Verification 2: Mechanical

The mechanical verification is a test of your robot's manufacturing quality and functionality. You should have a fully built robot, although you are allowed and encouraged to modify them after the verification.

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

Locomotion (1 point)

The robot must actuate using the air pressure from the tire. It must exhibit forward locomotion, however small (but should show potential for sustained locomotion). You can trigger the actuation electronically or mechanically, but be ready to demonstrate either way. Remember to have your tire ready at 40psi *before* your verification!

Dimensions (2 points)

Your robot fits within the size parameters as described in the final project handout. We will use a physical tube with an inner diameter of 12". Your robot must fit in the tube, when steering forward (1 point). The center-plane of your tire should be at the correct height of 16" +/- 0.25", as measured at any and all points around the tire (1 point).

Steering (1 point)

Your robot has a physically functioning steering system. It is able to *roll* (no dragging) on the table while turning left or right. You do not need to actuate your steering electronically. You can move it by hand (make sure never to turn a servo by hand when it is powered, this can strip its gears).

Presentation (1 point)

You presented your robot in a 3 minute demonstration. You convinced the TAs that you are on track to a working autonomous robot, without requiring their prompting.