
Critical Customer Needs and Relevant Specs

Based upon customer concerns garnered from 12/03/2010 interview.

Tilt Mechanism

1. Smooth resistance across all displacements.
2. Variable resistance for different patients.
3. Variable safety lockout at different angles.

Relevant Specification

1. The resistance of the tilt mechanism will be measured in Newtons. (N)
2. The resistance variability will be determined by the possible range of weight in kilograms. (kg)
3. The lockout variation will be determined by the range of degrees the bike can tilt. (\pm°)

Pedal Mechanism

1. Realistic starting resistance.
2. Smooth motion throughout rotation.

Relevant Specification

1. The pedal resistance will be measured in Newton-meters. (N-m)

Electronic Display

1. Increase the accuracy of the display.
2. Increase the size of the display and incorporate the "Speedo" into the main console.
3. Add a variable hit counter to the display, possibly with audio feedback.

Relevant Specification

1. The accuracy will be measured by the delta of measured tilt angle to actual. (Δ°)
2. The display size will be measured in inches squared of viewing space. (in^2)

Instructional Sheet

1. Create a step-by-step guide for both the patients and the physical therapist.
2. Should include pictures.

Relevant Specification

1. The quality of the instructional sheet will be the Time-to-Use. (seconds)