



ARM Race



POWERED ARM PROSTHESIS RACE

In this race, pilots using an arm prosthesis on one or both sides can compete. The prosthesis has to include the wrist and can be navigated with any kind of control.

CHALLENGES FOR 2020

The Powered Arm Prosthesis Race now includes a task where objects have to be "felt". This completely new task called the "Haptic Box" demands the identification of objects without any visual feedback. This means the pilots have to identify the objects of different shapes and materials only through contact with their prosthesis. This is intended to promote the development of prostheses with sensory feedback.

Time Limit
8 minutes



Task Name	Breakfast	Laundry	Clean Sweep	Home Improvement	Haptic Box	Stacking
Points (Total: 100)	14	15	16	17	20	18
Task Description	Cut bread (sponge), unwrap a package of sugar cubes, open the bottle, jam jar and tin and light a candle	Put on hooded sweater; close two blazer buttons and put it on the hanger; hang up the T-shirt with two blue clothes pegs; tie shoe laces of both shoes together and hang them over the clothes line	Grasp a variety of objects and move them to the target position	Drive a nail into the wood using the hammer; cut paper into two pieces using scissors, screw a bulb into the bulb holder	Identify objects of specific shape and compliance inside the box by "touching" them; place matching objects in front of the box.	Stacking cups to form a vertical pyramid.
Challenge	Hand strength; coordination of both hands	Fine motor skills; coordination of both hands; size of arm prosthesis	Fine motor skills; multiple types of grips	Fine motor skills; multiple types of grips; range of motion in forearm	No visual feedback on the location and grip position of the hand, as well as the hardness and shape of the objects	Range of motion in forearm and wrist
Scoring	1. Whoever achieves the highest score by solving the tasks is the race winner. 2. In case of a tied score between two or more pilots, the pilot with the lowest total time is the race winner.			Main Competition Rules Blue objects may only be moved and manipulated with the arm prosthesis. There are no restrictions for any of the other objects. The pilot may skip tasks, but cannot return to them later.		