RECF Education Video

South Brunswick High School Team C

Intended Purpose: To help new teams learn the process and fundamental basics needed to start and finish construction of a functioning robot.

1st Scene: Introduction to montage of steps

Intended Purpose: To better educate the robot designing process to new teams

1. Blueprint (showing various videos of our team designing
2. Mechanical Prototype (Our team members are working on building the 1st design of our robot)
3. Electrical Prototype (Our team members attempting to get the robot working, programming etc.)
4. Testing and Evaluation (various tests of the arm, chassis, bucket attempting to reach goal of lifting sacks and movement of robot)
5. Redesigning and Improvement (reprocess stage, after knowing weaknesses. Learning from the robots mishaps help it improve for future usage)

2nd Scene: Venturing into specific details

Electrical and Mechanical Engineer are discussing about the specifics a general robot may have

* First, they talk about drive train system. Have 2 omniwheels on each side which allow the robot to move in two directions, sideways and forwards. Also have 5 gears on each side of equivalent width to prevent from torqueing and sliding. Helps keep the robot chassis more stable and easy to control. In addition, the reason for 3 wheels is to prevent materials from interfering in between the wheels.
* After, they talk about the 6 bar linkage. The 6 bar linkage helps the robot obtain higher heights, which can be vital when defending sacks, or knocking sacks out. There are 3 bars parallel.

Electrical

* Programming of motors: Since all the gears are equivalent in width magnitude, all the motors are able to move at concurrent times. (henceforth allowing all the wheels to move at same pace)
* Programming of motors on the arm- Arm moves down by itself without help from motors. Each motor has encoder module to send signals to cortex so the motors can hold arms in place.

3rd Scene:

Intended Purpose: To encourage new teams and start them off with a few vital tips to ensure success

* Stay Organized
* Communicate and Teamwork
* Have Fun