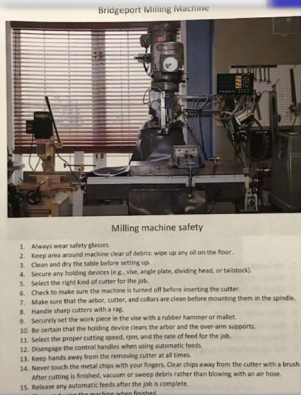


Machine Maintenance and Documentation

We have manuals and safety guidelines for all our machines. New team members read these documents before using machines and learn how to use them with help from experienced team members. Our safety guidelines describe proper procedures that ensure the machine is safely run. We routinely maintain our expert machines, such as the HAAS CNC Mill.

We also set at least 30 minutes every practice to ensure everything in the shop is clean and ready for the



Thank You to our Parents, Coaches, and Sponsors.



We Couldn't Do This Without You!

Our Team



We are The Highlanders, Team 4499, a community-based team that began in 2013 through a 501(c)3 nonprofit, Neaera robotics in Fort Collins, CO. We are a team of 11 students from grades 8-12, from 6 different schools. We build a robot to meet a different challenge each year and compete in a robotics challenge put on by FIRST, an organization working to promote STEM education through cooperation — a combination of cooperation and competition — in students from ages 5 to 18. Our team's mission is to provide youth the opportunity to explore science, technology, engineering, and mathematics—through hands-on experience and support in STEM



FIRST
ROBOTICS
COMPETITION

The Highlanders

FRC Team 4499

The SPORRAN Safety Program

Safety—Follow the color code

Preparation—Learn about tools and work environment before performing tasks

Observation—Determine issues before they happen

Report—Document learning experiences for future practice

Respond—Make safety adjustments based on learning experiences

Awareness—Share safety culture with team members and your community

Network—Work together to come up with new ideas

Color Coded Safety Tools

We created a color coded safety program where each color represents different types of safety equipment used to run machines. Each machine has color coded electrical tape on it to give us an easy and simple way of knowing what is needed to run the machine safely. We use electrical tape because it has a variety of bright colors to choose from and is very durable so we won't have to replace them all the time.

The Highlanders color-coded safety

	Safety Glasses
	Ear Protection
	Gloves
	No Loose Clothing/Hair
	Mask
	Chemical
	Expert

Training Program

Every Highlander has to start somewhere. We put safety first in all of our training. We start by having them learn and follow the color coded safety key as they work with us to learn. We start by having them choose out of 3 subsystems which they would like to explore first. Then we work together on everything until the "trainer" thinks that they are ready to use the machine or instrument alone. We require every person to read the owner's manual before running specific machines. While we are training we start with the basic skills that are needed all the time. For example every new mechanical member makes a cube on the manual mill.



Tournament Safety

In our pit we have laminated posters with arrows pointing to our safety equipment so when we are in rush we will know where the equipment is. Also, we will print out extra posters for any team that asks.



We make safety kits to hand out to teams at every tournament we go to. Each kit has 1 bandage, 1 emergen-C packet, 1 pair of earplugs and a safety tips pamphlet made by us that include tips that every team can use to ensure they are safe. We make and bring these to tournaments to hand out and have extras if any team needs more.

