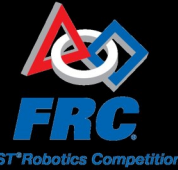


#4499

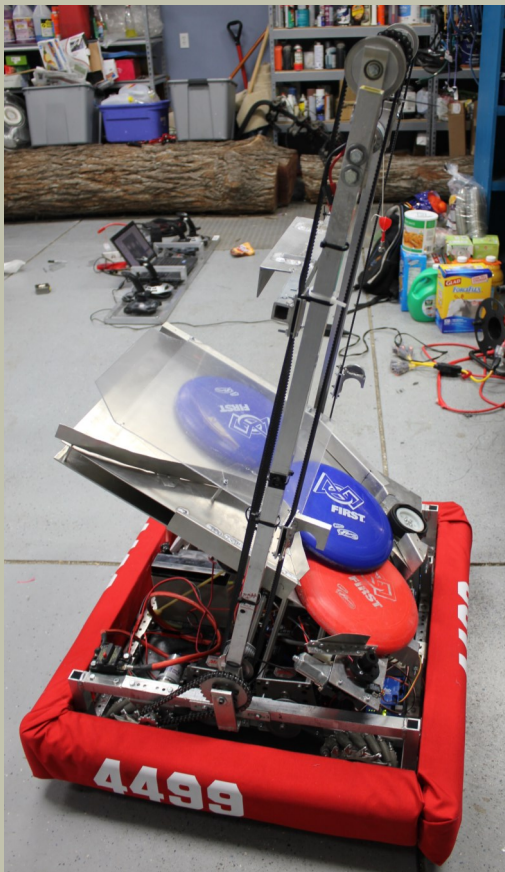
www.highlandersfrc.com

The Highlanders

Robotics Team



“It’s not about the game, it’s about the journey”



Team 4499 Rocks the Colorado Regional Qualifier!



Team 4499 did very well at the Colorado Regional Qualifier—the robot worked better, the team was more coordinated, we scored more points and learned so much! The tone of the tournament was very different than the Hub City Qualifier in Lubbock last month. Denver was bigger, and much busier—more teams, more people, and more spectators. The energy level was up, and that made things a lot more fun, too. Gracious professionalism still ruled the day, visible in some of our members helping another team with their programming, and yet another team giving us tips to improve our shooter, along with the materials to make the improvements!

We came out of the tournament with two awards this time—one for being the highest-placing rookie team, and another for being chosen as the best all-around rookie team. So if we hadn't already earned our trip to World Championships, we would have at this tournament.

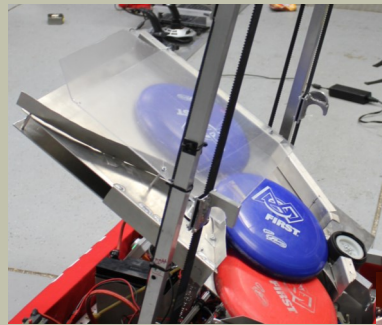
Let's see if we can walk you through the tournament with us....

Wednesday—

We left Fort Collins with a trailer loaded with goodies. The bagged robot was in the back of the car, nice and protected, along with the parts we had improved. The trailer had the pit, our tools, our buttons, banners and safety glasses. And lots of food! A few brave, strong individuals were able to move all the gear into the Magness arena on DU's campus.

Thursday—

8:00 am—Pit setup begins. The pit had to be assembled from the individual 2x4s, a process we've made as efficient as possible, but still takes a bit.



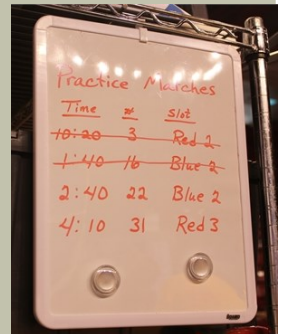
Who Are We? The Highlanders FRC Team 4499 out of Fort Collins, CO is a rookie (first year) team in the FIRST Robotics Challenge. We are having a great season! We had a great time at the Hub City Regional tournament in Lubbock, TX in March, and again in Denver at the CO regional. We won awards in both tournaments which will allow us to go to the championship event in St. Louis, MO April 24-28.



9:30 am—Pit is set up and we start working on the robot. We had two major improvements: First, we moved the shooter from the arm to the base. Thanks to our friends & mentors at FleetwoodGoldcoWyard in Loveland, we were also able to lose the Home Depot bucket! Our second improvement was to add a second hook on the robot's belts. This allowed us to climb to the second level of the pyramid. We needed a way to be touching the pyramid as we went under it, and so attached a cool, retractable magnet.



2:00 pm—after lots of work, the robot is reassembled and ready to try out, in time for our scheduled prac-



2:40 pm—Our first practice match! Not terribly productive, but it was a good time to learn what happens if the drive motor belts aren't tightened....Oops! Turns out, you can't move!

4:10 pm—After some hard work, we're back to the practice field for a second match.

Much more successful, we were able to move and shoot, and managed a 10 point





4:40 pm—The robot passes inspection! Our changes dropped 13 lbs off the bot, so weight was not a problem. Nice to pass on the first try, and with several hours left

6:20 pm—We hit the practice field to try to get the autonomous program working. We really wanted those 18 points!



8:00 pm—Pits close, and we head home (or to the hotel!) for the night.

Friday—

8:00 am—Pits open for the day. We start getting ready for a busy day of qualifying rounds. These will count towards our tournament ranking, and every team gets 8 matches Friday and 3 on

Time	#	Slot	
9:14	3	Red 1	Friday
10:38	15	Blue 3	
11:34	23	Blue 1	
1:56	31	Red 1	
2:44	37	Blue 1	
4:00	47	Blue 2	
4:28	51	Red 1	
5:10	57	Red 2	
9:35	67	Red 1	Saturday
10:45	77	Blue 3	
11:27	83	Blue 3	

Practice time 12:00

8:30 am—Opening Ceremonies. Our teammate Linda sings the national anthem beautifully. Now we know what she does in her (very limited) free time!



9:14 am—Our first qualifying match. We were able to load Frisbees at the feeder station and score a 10-point climb. The magnet got hung up, so we couldn't legally get under the pyramid to go for 20 points.
Record: 0-1



10:38 am—Second qualifier match. Autonomous worked! 2 of 3 discs made it in. Still a 10-point climb; the magnet stuck to the motor, eliminating our ability to get under the pyramid. We had some heavy hitters on our alliance and won handily, anyway.
Record: 1-1

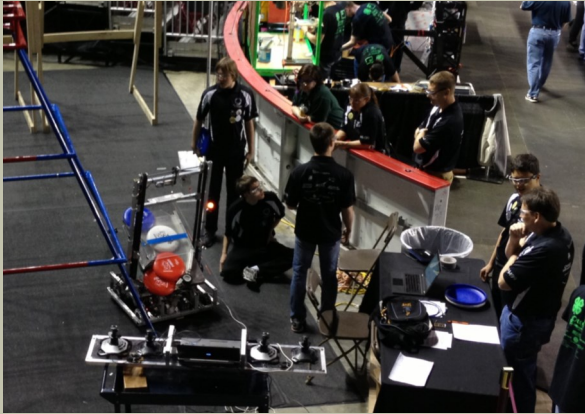


11:34 am—Third match. We scored three goals in tele-op, and another 10 point climb. No autonomous. Feeding Frisbees was easier this time, too. Lost the match (by 6 points!)
Record: 1-2



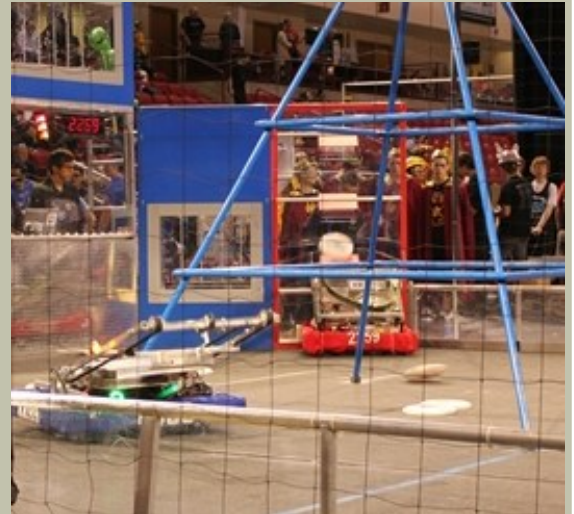
Friday afternoon—

12:20—Back to the practice field. A new idea for the under-the-pyramid pass: bump the butt of the robot into the pyramid leg, swing the robot around. Simple, right? And it eliminated the magnet, proving once again that simple & reliable beats cool every



1:56 pm—Fourth match. The pyramid swing works like a charm, but we ran out of time before we could get the full 20. Still, proof of concept has us all riding high. Won that match, too!

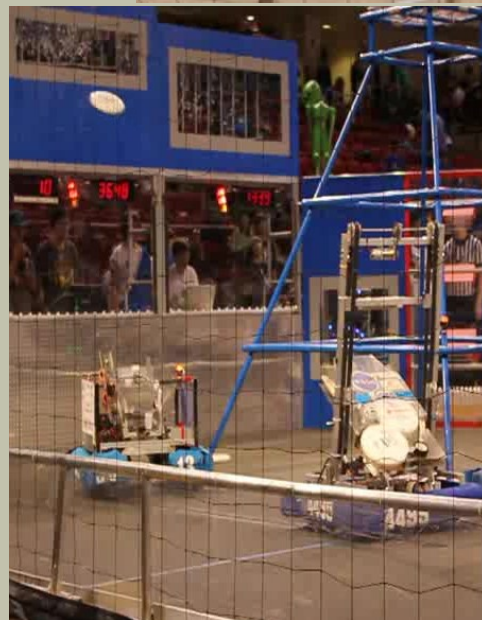
Record:
2-2



2:44 pm—Match #5. Autonomous didn't work, but we got our 20-point climb, and another win.

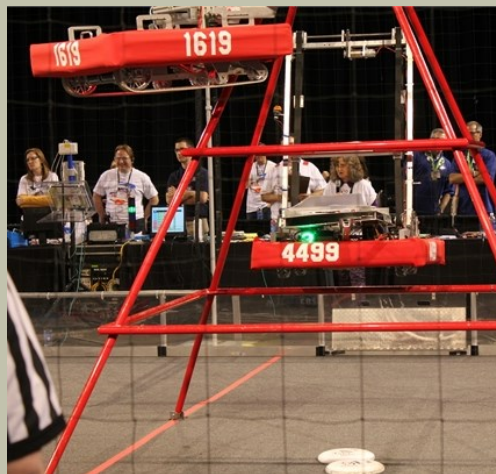
Record: 3-2

3:15 pm—Practice field again - we still aren't reliably shooting in autonomous. Code changes and some practice look like they will solve this for us. Fingers crossed....



4:00 pm—Match 6. Success! We get all 3 Frisbees in during autonomous, for 18 points. Add in our 20-point climb, and we score 38 for the alliance!

4:28 pm—Seventh match. We have a great autonomous, and go straight to our 20-point climb. Our alliance partners agree that with the 3 of us, we are strong enough that we don't need to try for extra shots (see 1619 in the photo? 30 point climb!). Record 5-2.



Record: 4-2 (and we're ranked 8th!!)

4:40 pm—We get a visit from the Windsor FTC team. Looking forward to seeing you at Worlds, guys!



5:10 pm—Match 8, our last for the day. Troubles plague the whole alliance, and we lose. Record: 5-3. We end the day ranked 12th, though!

During the course of the day, a problem has been brewing. Each time our arm falls over when we're NOT touching the pyramid, we break the rules about robot size. The judges have been lenient, but are now saying that we



7:00 pm—Team Social. Pizza, chips and cookies, plus basketball, ping pong, music and dancing. Nobody from team #4499 danced; "we're not that kind of a team." We do, however, play ninja.



9:30 pm— At the hotel, we stay up late strategizing, assessing the competition, and ranking the teams in case we get to pick an alliance tomorrow. Maybe we stayed up too late?



Saturday—

8:00 am—Back to work! Our rules team asks the judges about the DQ. After looking through the rules, they agree that the penalty can only be a 3 point foul. We still want to avoid it, but we're not looking at losing



9:35 am—Match #9. Another successful autonomous and 20-point climb, and a win. Banana man makes his first appearance, throwing discs for glory. Record: 6-3

10:45 am—10th match. We win again!

11:27 am—11th and final qualifier match. Despite having our best match yet (42 points!) we lose to one of the top teams in the tournament. Record: 7-4.

12:00 pm— We end the qualification matches in 14th place, the top scoring rookie team in the tournament.

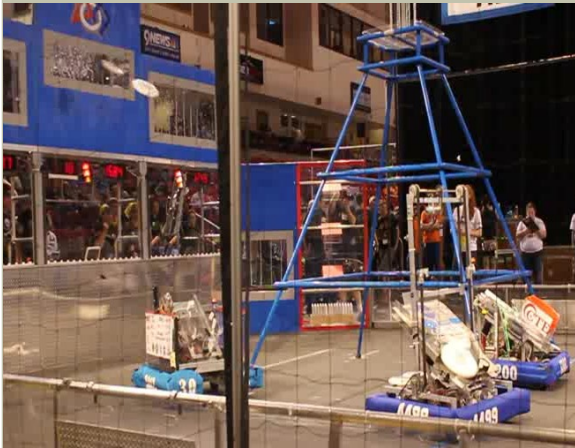


Go Highlanders!!

Saturday afternoon—

12:15 pm—Alliance selection for the elimination rounds. The top 8 teams get to pick other teams to compete with them in the afternoon's quarter, semi and finals, if they make it that far. We get picked for the #7 alliance, giving us the opportunity to continue into the afternoon.

Quarter-Finals, Alliance 7 vs. Alliance 2:



Elimination matches are decided by a best 2-of-3 scenario. The alliance that wins 2 matches moves on in the competition, while the losing alliance is done for the tournament.

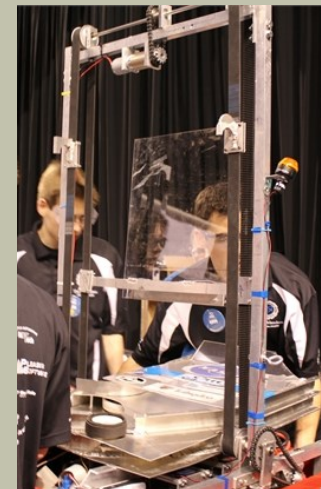


1:50—Our alliance performed amazingly well. All 3 teams scored on autonomous, for a total of 48 points! More goals scored during tele-op plus 30 total climbing points each time led us to win the quarter-final, first match 84-62, second match 93-



Semi-Finals, Alliance 7 vs. Alliance 3:

2:50—Since we were facing a “full court shooter” - a robot that could sit at the feeder station and shoot discs all the way across the field with great accuracy, we added a defensive piece on the robot. We glued/screwed a 12” piece of plexi-glass to our hooks, so that we could raise and lower it as necessary. We successfully blocked the shooter part of the time; our maneuverability comes at the expense of traction, and so counter-defensive bots were able to keep us out of the line of fire some of the time. We lost the first match 103-74, but only lost the second by 11 points! We were out of the running, and retreated to the stands to watch the final matches. Our defensive improvements are definitely something to develop for worlds!!



Saturday Awards Ceremony—

We win the Highest Rookie Seed award, for ranking the highest of all the rookie teams at the tournament.



Next we get called up to receive the Rookie All-Star award! The same award we won at Lubbock, this honors the best all-around rookie team. What a compliment!



4:30 pm—All that's left to do is pack up. We bag up the robot, take down the pit and load it all into the trailer for the trip back to Fort Collins. What a great weekend!!



Sunday—

After unloading the trailer at the shop on Saturday night, we take the day off. Only our third one since January 5th, we figure we deserve it!

Meet The Team



Naathan: Build team, scouter, cheerer



Megan: Scouter, safety volunteer



Jacob: Build team, scouter, funny guy.



Andre: Safety captain, funny face-maker



Drew: Team ambassador, aka the one



Bretta: video & photography



Matt I: All about the rules.

Matt C: Driver of all things robotic

Michael: Build team, scouter extraordinaire.





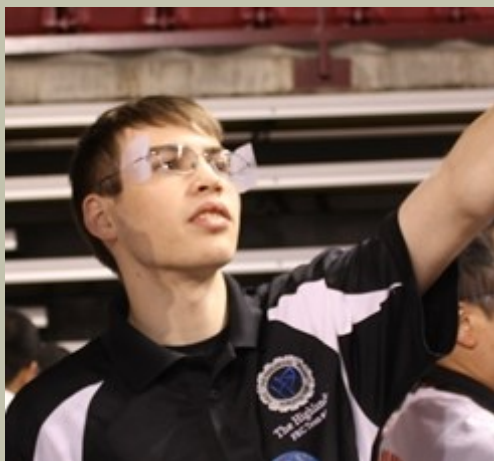
Will: Driver, team lead, hard worker, just doesn't stop.

Skyler: Build team, scouter



Blake: Build team co-captain.

Alex I: Programmer, drive team coach.



David: Build team, funny guy. Funnier than the other guy? Maybe!



Linda: programmer, songstress



Caelan: Frisbee thrower, sometime banana man



Alex F: Build team co-captain

What's Next? WORLDS!!!! Our robot is already on its way, in the hands of FedEx. It will be delivered to our pit at the tournament. Everyone keep your fingers crossed it gets there in one piece! We haven't quit meeting daily, of course; we are building an exact replica of the robot so that we can practice before we leave; we saw so much improvement from the start of the Denver tournament to the end, it really drove home the need to practice! We also are working on a system to anchor the arm while we are driving, and yet let it move when we need to climb.

We will all head out on April 23rd. Qualification matches start on Thursday 4/25 and continue through Friday. Elimination rounds (we plan for success, of course!) are on Saturday. Check our website on Wednesday or Thursday for a schedule of our matches and a link to the simulcast—you can watch us from anywhere! The general spectator schedule is at: www.usfirst.org



Safe travels for the robot!

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