

As seen in The Community Voice:



Tech High robot makes shipping deadline - just barely

By Cecily Condon and Greg Weaver, Tech High Robotics



Left to right, Greg Weaver, Ian Collins, Blake Hooper and Garth Antila of the Tech High Robotics Club load 111-pound "Glory Angel" onto a truck Tuesday to be shipped to a competition in San Jose. Cecily Condon

After six weeks of work Technology High School's robot Glory Angel (named in honor of Sara Baker, a Tech High Alumnus currently in the hospital) has been completed and shipped to competition.

The robot shipped Tuesday to the Silicon Valley Regional Competition at San Jose State University. This regional competition takes place March 13-15. Following that competition, the robot will be shipped to the Sacramento Regional at UC Davis for the competition scheduled March 20-22. The team is confident that the robot will function as planned, due to the amount of planning and engineering put in to the design.

Each year as the final days of building approach, a sense of panic rises, but this year the team was able to stay calm under pressure and pull through those final days with grace.

It was by no means an easy task to accomplish with many members of the team working 17-hour days on weekends, and staying at Tech High until 10 p.m. on weeknights, making minor changes and getting everything ready to be shipped.

This weekend was a blur for the team. Work after school Friday focused on completing final design of the fork lift mechanism. Saturday began at 9 a.m., with additional fabrication and troubleshooting. By late afternoon, most of the major components had been manufactured, and were awaiting assembly.

Difficulties arose, but the team worked on until finally calling it a night at midnight. Sunday began all too early, bleary-eyed students clutching steaming cups of coffee. They would have normally been asleep, but not today. Robot Ship Day was Tuesday, and they still weren't done.

Work started slowly, but picked up pace quickly. By late afternoon, power had been supplied to the forklift motors and the group actually saw the forklift rise for the first time. Loud cheering erupted from the tired group, but they weren't done yet.

Work continued late into the night, and by the time they packed up and went home, it was early Monday - just one day left.

After a few hours of sleep, students and mentors, their eyes glazed from the long days and late nights, returned to the task. By evening, the forklift was working perfectly, a testament to the design and engineering skills of the mentors and students.

At 10 p.m., the robot was ready for it's first drive test- fully operational. The forklift worked as planned, and the drivetrain proved to be as robust as expected. There was only one glitch- FIRST competition rules specify a maximum weight of 120 pounds, and according to multiple weights, the robot had a total weight of 130 pounds.

Galvanized with new energy, everyone came together in an organized discussion and brainstormed possible ways to lose the extra pounds. Wheels could be fabricated from plastic instead of aluminum, frame members could be lightened, motors could be removed. Within an hour they were hard at work on the robot making those changes.

At 1 a.m., they decided that they had done all they could, and it was finally time to go home. They'd finish tomorrow.

Tuesday morning, back from an exhausting three-day weekend work session, work resumed, milling, drilling, cutting, shortening to shave precious ounces. After a panicked day, the final weight was in- 111.2 lbs, not including new wheels. They'd done it.

Later that day, their biggest goal for the year was reached - Team 675 had shipped a tested, operational robot, ready for the 2008 FIRST competition.

This was the team's ninth and most successful build season in FIRST robotics, largely due to generous sponsors and mentors.

The team is sponsored by MV Transportation, Brooks Automation, LRG Capital Group, Abbott Diabetes Care, Friedman's Home Improvement, the Rohnert Park Rotary and Nicole Smith Orthodontics