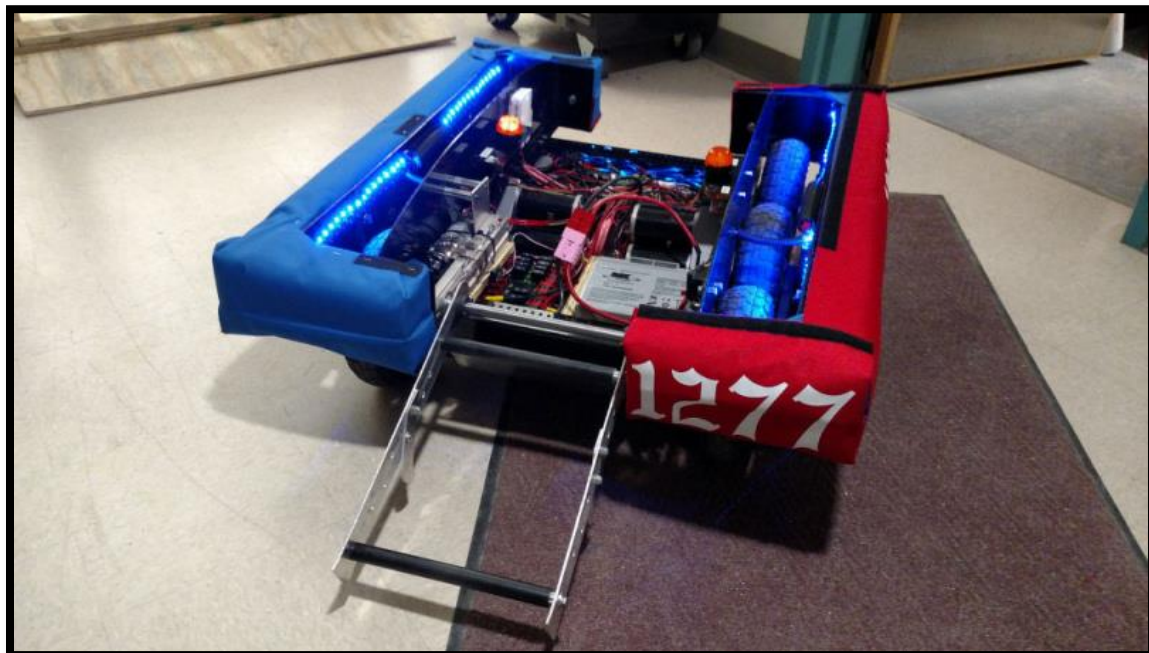




## The Black Knight

Designed specifically to beat defenses, the Black Knight was built small and robust.

- Six CIM motors for a total of 2.7HP driving two all-metal AndyMark Toughbox 12.5:1 gearboxes
- All 1/8" aluminum chassis for robustness, riveted construction, powder coated by students
- 1/8" front skid plate and diamond plate undercarriage skid plates
- Upper skid rails to protect robot from portcullis and low bar
- Six 10" pneumatic wheels aired down to 5 PSI
- Custom length hex axle shafts
- Custom wheel hubs designed and machined by students
- Low center of gravity for stability
- Multi-purpose swing arm designed for cheval-de-frise, portcullis and ball handling
- Encoders on all motors for accurate autonomous operation
- Reversible controls – press a button to reverse front/rear
- Two cameras for best view
- Multiple autonomous modes selected by switches located next to status light
- Switchable LED lights for red alliance or blue alliance decor





## About Us

- Groton-Dunstable Regional High School located in Groton, MA (approximately 900 students)
- Rookie year: 2004
- Competed in quarterfinals in 2004, 2008, 2012, 2016
- Active students: 24
- Mentors: 7 technical and 3 non-technical

## Community Outreach

- Lowell Spinners (minor league baseball team) – Invited to flip ceremonial light switch with robot
- Providence Bruins – demonstrate robot during period break
- Grotonfest (annual local festival)
- Annual demonstration at middle school
- Elementary school science fair presenter
- Groton Public Library demonstration
- Groton Board of Trade demonstration
- GE “Bring your child to work day”
- GD Open House
- GD Digital Café demonstration



## Marketing & Fundraising

- Marketing plan available on website: [www.team1277.org](http://www.team1277.org)
- Social media including Twitter and Facebook
- Corporate sponsors: 12
- Private donors: 9
- Total donations for 2016: over \$15,000



*Justin J. Maynard Memorial STEM Innovation Scholarship - Ted & Connie Lapres Fund  
The Hughson Family - The Adams Family - MJR Engineering Co., Inc. - Timothy & Cheryl Battles  
The Carey Family – The Resca Family – The Vollmar Family – The Sottile Family  
Groton-Dunstable Regional High School*