

FRC ESSENTIALS
SEPTEMBER 30 2017



Rookies - Read, Watch, Go

- Read the manual from last year
- Watch match video
- Go to off-season events (STEMley Nov 11)
- Visit other teams
- Sponsors, mentors, students



Competing Teams

- Know the game, rules, tournament structure
- District Model rules
- Batteries
- Spare parts
- Food
- Contact info
- contingency



TIMS – My Dashboard

<https://my.firstinspires.org/Dashboard/>

- Mentors
- Sponsors
- Team Roster and Release Forms
- Events
- Passwords, Coupons, Voucher Codes
- <http://www.firstinspires.org/resource-library/frc/2016-kit-of-parts>
- Blog <http://www.firstinspires.org/robotics/frc/blog/>





Tools and Equipment

- Hand Tools
- Power Tools
- Borrow
- Mentors





Build

- Manage Time and People
- Reread the rules
- Weigh and Measure
- Prototype and CAD
- Test
- Build Two



Read the Rules

- Download the manual before kickoff day
- Read the rules – all of them
- Drive Team - Read and Understand the rules
- Have a manual handy at the event
- Q&A and Updates ****
- Compare Team version to Actual Field Drawings

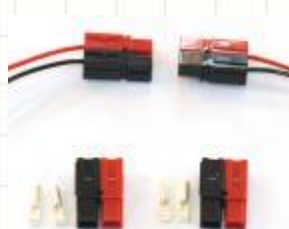


Build a Field

- Build as much of the field as possible
- Build the field components accurately
- Mark lines and walls accurately
- Practice in match situations
- Compare Team version to Actual Field Drawings



MECHANICAL



- Use Kit Frame or similar
- Keep it Simple
- Take Care with Electrical Connections
- Use consistent bolts and sizes
- Use Nylocks
- Take Care with Pneumatics
- Wiring and Controls: see WPILib <https://wpilib.screenstepslive.com/s/4485>
- Do one thing well



SUPPLIERS

Metal Suppermarkets – aluminum

<http://metalsupermarkets.com/niagara/>

Bolt and Nut Supply – bolts

<http://www.boltandnutsupply.com/about.shtml>

McMaster Carr USA – Everything

<http://www.mcmaster.com>

Polyzone-Plastruct Vineland – Lexan

<http://www.polyzone.com/>

VEX Pro – Robot Parts

<http://www.vexrobotics.com/vexpro/>

AndyMark – Robot Parts

<http://www.andymark.com/>

Studica – AndyMark CA

<http://www.studica.com/>



SUPPLIERS

Digikey – electronics, wire

<http://www.digikey.ca/>

Powerwerx – Wire, Anderson

<http://www.powerwerx.com/>

Automation Direct – Pneumatics

<http://www.automationdirect.com/adc/Home/Home>

SDP-SI – Sprockets, pulleys etc

<http://www.sdp-si.com/>

USA Bearings and Belts

<http://www.usabearingsandbelts.com/>

The Robot Shop – sensors, servos,

<http://www.robotshop.com/ca/>

Battery Zone – Batteries

<http://www.batteryzone.ca/>



PIT ORGANIZATION

- Sponsors
- Have organizers for bolts etc.
- Label bins and totes
- Batteries and chargers, label
- Tools organized in a tool box
- Don't leave team coats, bags and general team stuff in the pit- it is a work area.
- Only necessary staff
- Set it up at home first



LOOK

- Do Everything As Best as Possible
- Look Good
- Take Pictures and Video
- Market Yourself



- Be ready for alliance picking
- Have a list
- Student Alliance Captain (white board)
- What Information do we really need
- Be accurate
- Incredibly important

Scouting &
Pick List



- Updates
- Protect space and focus
- Repository/Github...
- Dedicated Laptop
- Reach out for help early

Programming



EMERGENCY

- Have emergency medical info accessible (pit, stands, adult)
- First Aid Kit
- Safety Glasses
- Contact information
- Contingency Plan



SPARE PARTS

- Make spare parts
(30 lbs withholding)
- Spare motors, Radio, roboRIO, Power distribution board, speed controllers, etc.
(spare parts desk)
- Bumper material
- Chain, wheels, tread, belts



- Snacks and Drinks
- Plan meals for large group
- Team Socials
- Save time and Money
- During Build and at Events

Food



Behaviour and GP

- Talk to team about behaviour before attending an event
- Include Parents
- Ask for Help, most are willing to help.



Website/Twitter/Facebook

1

- Event Info

2

- Match Schedule

3

- Web Cast

4

- Progress

FRC Tracker 2017

FRC Spyder

FRC Team Tracker

watchfirstnow.com

thebluealliance.com



At event

- Scouting & Pit Scouting
- Video & Pictures
- Network and Learn
- Help Others
- Compete like crazy
- Be prepared to talk
- Welcome VIP's and guests
- Have Fun



Team Setup





QUESTIONS

