



The 101+ Things I Wish I'd Known Before My First *FIRST* Tournament

(Compiled on the Chief Delphi *FIRST* Forum, 2005-2006)

Our thanks to Rick Tyler, FVC mentor, for compiling these hints; NEMO tried to organize them into general categories for easier reading.

- Be aggressive in your onsite marketing. If no one knows who you are, you'd better have a robot so much better than everyone else's that it just doesn't matter. Wear distinctive shirts.
- Specialize. Despite what Robert Heinlein said about insects, you can't run a team where everyone is responsible for everything.
- Check the robot before every match. Use checklists. If it's good enough for NASA, it's good enough for *FIRST*.
- Wear comfortable shoes.
- If you want to do well at the tournament, pick your drivers ahead of time. The qualification rounds are no time to test new drivers.
- Adults should keep their hands in their pockets when work needs to be done.
- Get more sleep. Sleep before the competition, because for three days you won't get much if any. If you don't think you'll get enough sleep, better bring some Bawls!
- Make sure your robot has the correct code loaded.
- Don't EVER lose hope. Even if you're dead last after qualifying, there is still a chance to make it to the finals. Keep working to make your robot the best it can be.
- Always scout your competition and alliances. Scout teams, not matches. Sometimes very good teams run into very bad luck. When scouting, don't sweat the small details, look at the important facts needed and scout them well. Scouting is MUY important. Scout early rather than late. It's no fun try to figure out who you want to pick in the last five minutes before you have to choose. Anyone can end up being a picker and anyone can end up at the bottom of the list. Sometimes a team that you were barely paying attention to can end up being a really great alliance partner.
- Be enthusiastic. Yell, cheer, chant, and dance. Act foolish. HAVE FUN! These competitions are supposed to be a blast - don't lose sight of just how fun science, technology and engineering can be. And always look at the big picture. Don't be afraid to have fun because it's not "cool". Honestly, no one at a *FIRST* competition is going to judge you. No one cares. Chances are there are least 20 people dorkier than you. Support your team with all you have. You're never too cool for a giant conga line around an arena. To really embarrass your mentors, make a huge sign of their head and then take it to every regional possible and get it on the Webcast. Don't take things too seriously: it's supposed to be fun.
- Work on your network. *FIRST* is more than just a robotics competition. Use it to find out what you like and try to meet people you can get in touch with when you leave high-school, for job opportunities. Talk to other teams, make friends, more friends = much more fun. Get out of your pits and meet other teams. Otherwise, you might as well watch a Webcast. Meet other people from other teams - they have a lot to teach and a lot to learn. Don't be afraid to talk with other teams.
- Always have enough people in the pits to fix your robot at any given time, but don't keep the pits crowded with unnecessary people. Bring white boards and markers. My team has done this since the first year we were competing. We use them to go over strategy with other teams, as well as to post when our matches are, with what teams, against what teams, and what color our alliance is.

Make sure someone has a key to the big toolbox, or disable the lock before you leave. Trying to borrow a hacksaw at 8am Thursday is embarrassing. ALWAYS bring a spare cordless drill battery to uncrating, because yours will die. Never forget your multi-tool in the hotel. Keep your pit ORGANIZED. It is MUCH easier to get repairs done on a tight schedule if you don't have to spend ten minutes looking for a tool. Have a neatly organized pit area, very team/spectator friendly. Bring hardware...even if you don't think you'll need it or didn't use it on the robot - bring all you can.

- Keep up on *FIRST*'s schedule of events. HAVE A CLOCK! It helps a lot and make sure it's the right time.
- Yes, kids really do cry when their robot loses. Pretty soon, you will too.
- When something goes wrong with the robot, it's always the programmer's fault. Don't panic if something stops working. If you need help, ask for it! Other teams are more than willing to help out, and chances are, one of them will know what's wrong. Never be afraid to ask for a spare part even if you're sure no one will have it.
- Start the animation on kickoff day, not 10 PM the night before the deadline.
- A Minute on the field waiting is as long as a Microsoft minute (read as eternity).
- A Minute during the match goes by like a flash.
- Make sure your PWM cables are going in the right direction.
- Learn what every flashing light in the control system means.
- Make sure everyone knows about the robot. Being able to have any team member speak eloquently to the judges is a huge plus! Don't run from a judge, it looks bad for your team (but I'm sure I did my first regional). On a similar note, judges aren't scary people, and after 6 weeks you'll be surprised at how much you can actually tell them about your robot. They'll love it, especially if you're not on pit crew. Have a mock-judge practice day where you can talk as a team about some things you can tell a judge if you are approached. Judges really want to know about your team, your robot, your business plan, etc. Help them. Lots of hints on this on Chief Delphi.
- Do not get more complicated than is necessary. "Keep it simple, keep it safe, make it fun."
- If something goes wrong with your robot, don't stress out too much. There will ALWAYS be someone willing to help, and someone with a worse issue.
- Check all systems before every match. MAKE SURE YOU HAVE TIGHT CONNECTIONS AND THE SERIAL CABLES ARE FULLY SCREWED IN.
- Most problems are electrical or in the software. If something goes wrong, check these first.
- Eat a good breakfast before competition. Eat. Take lunch breaks, and one or two other ones. Otherwise the stress will kill you. Remember to eat and drink, *FIRST* is very intensive and food is not often your number one priority during the day. Bring lots of water. No one wants to pay \$4 for 16 ounces of water. Hunger and thirst will disappear, but continue to eat and drink in normal intervals. Don't over/under eat. Don't forget your Mountain Dew/ Pepsi/ Caffeine pills/ Sugar.
- Have your pit crew assigned before ship and give them practice on the robot
- Give your drivers a lot of practice, if there is space on the field and you have time use the field.
- Color coordinate your tools for easy access in the pits, say I need a 10/24 screw, where is it -- oh, it's blue.
- Have a big banner to put up in the stand area [if allowed by venue rules]. Your team's banner can never be TOO BIG.
- Make sure you turn the robot on before the match.
- Speak up when it comes to a major decision about the robot.

- It's impossible to bring too many buttons. It's impossible to bring too much of any give away.
- Make sure your battery cable isn't somewhere your arm will catch it and unplug it when you start a match. (True story). For Heaven's sake, use a Velcro battery strap or otherwise firmly secure your battery. Batteries don't help you if they're lying on the field. Make sure you have the spare battery plugged in and zip tie the battery connection (helps a lot when the battery doesn't come undone during a match). Make sure all your batteries are numbers and use them in order 1-4 and MAKE SURE YOU SWAP them after each match. Dead batteries are embarrassing.
- Safety *FIRST!* Never forget your safety glasses. Safety glasses may be a nice forehead protector, but that's not what they are made for. Bring eye glass wash to the competitions to keep those safety glasses clean! Make a list of safety rules and go over it with your team so everyone knows the proper safety procedures. Place list in pits where everyone can read it. Judges like the list. Make punishments for breaking the safety rules. Pushups work well. Wash those hands! Don't get sick! Remember the Norwalk virus! Don't run down steep bleachers carrying 80 lbs of luggage and computer equipment, because spraining your ankle less than three minutes into your first-ever *FIRST* event is not that much fun. Bring a mini first aid kit, because chances are someone in the stands will need it and won't want to go to the pits to use that one. If your robot has moving appendages that could possibly be at head level, don't under any circumstances get too close to the bot if it's turned on.
- Be careful when driving your robot cart over cables, it can learn how to fly. If part of your robot cart sometimes sticks to the underside of the robot, make sure it's not stuck there when you put the robot down for a match, leaving your wheels 2 inches off the ground. Stop very slowly when your robots wheels are the only thing touching the cart. Don't forget your robot cart.
- If you're the coach, don't be afraid to do whatever you have to in order to get the driver's attention, especially if it's to avoid a penalty. Go on, it won't kill him to be hit on the head. If you're the coach, don't touch the controls, whatever you do. Always coordinate strategy with your partners.
- Winning is an outcome
- Don't bother bringing a Game Boy or iPod. Don't bring things you won't need
- Always keep track of your stuff (i.e. put your name on it), especially when you leave things in the stands, and especially if everyone on the team has something that looks exactly like yours (i.e. team shirts).
- If people offer free hugs, take them up on it.
- Volunteer...it will make you see a totally different side of *FIRST*.
- Often time the best; most powerful teams are the ones who are most likely to help those in need.
- If it can't be done in pneumatics, it really doesn't need to be done.
- Designate a few team members to be 'team spokespeople' in the pit and then be sure they are always there to be spoken to.
- Don't ever let the engineers change things when they have a "good idea".
- Remember that screw heads have to be in the box while fitting your robot.
- Never let a problem with another team member get in the way of both of you having a good time.
- Keep the same drive team and pit crew for every match. Develop excellent communication between the pit crew and drive team, and within each group.
- Don't forget the chain of command. Don't be afraid to break the chain of command
- Reliability is the best asset you can have on the playing field
- Remember that even if you are an item, and even if you aren't eating each others faces off, even the smallest PDA [public display of affection] can make people think poorly of your team.

- Don't make an A\$\$ out of yourself and assume... it's not a good thing.
- If the code doesn't work, check the robot (especially wiring, sensors)
- You WILL lose your voice.
- Lots of mentors and other adults read as well as post on Chief Delphi. Judges read Chief Delphi. Every individual post reflects back on your team. Your opinions and statements DO reflect on your team and its' reputation, regardless of what your disclaimer says.
- **WARNING! FIRST IS HIGHLY ADDICTIVE** - MAY CAUSE: SLEEPLESSNESS, LARINGYTIS, UNCONTROLLABLE CHEERING, YELLING, CLAPPING, STOMPING, TENDENCY TO TALK TO ALLEN WRENCHES, COMPULSION TO BE IN ATLANTA IN APRIL, REVULSION FOR PIZZA, INCLINATION TO CALL PEOPLE 'HUMAN PLAYER', OBSESSION WITH #S 5 26 120 130, INTENSE LOVE/HATE FEELINGS TOWARDS ROBOTS, IRREVERSABLE POSTIVE ATTITUDE, STRONG FONDNESS FOR WOODY FLOWERS, STRANGE DESIRE TO BALANCE THINGS ON 2 WHEELS, TENDENCY TO LEAN TOWARDS MIT, INEXPLICABLE ADMIRATION FOR SOMEONE CALLED DEAN KAMEN, CAUTION! MAY CAUSE STUDENTS TO SUDDENLY EXCEL UNEXPECTEDLY AND WITHOUT WARNING. SIDE EFFECTS ARE PERMANENT - THERE IS NO CURE OR TREATMENT FOR ADDICTION TO *FIRST*.