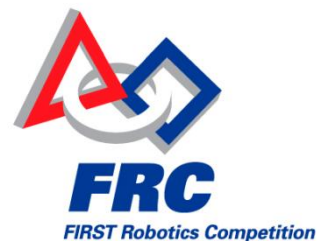


Section  
**1**

# INTRODUCTION

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# 1 INTRODUCTION

## 1.1 WHAT IS THE *FIRST* ROBOTICS COMPETITION® (AKA FRC)?

The *FIRST* Robotics Competition (FRC) pairs high school students with adult mentors (primarily engineers and teachers) to design and build robots that compete against one another in this high energy “varsity sport for the mind”. Each year at the Kickoff in January, a new, challenging game is introduced. These exciting competitions, also known as Coopertition™(s), combine the practical application of science and technology with the fun, intense energy and excitement of a championship-sporting event.

In 2011, FRC will reach nearly 55,000 high school students representing approximately 2,200 teams. FRC teams come from every state in the United States, as well as from Bosnia, Brazil, Canada, United Kingdom, Mexico, Chile, Germany, Israel, Turkey, Australia and The Netherlands. FRC teams will participate in 50+ Regional Competitions, 8 Michigan District Events and approximately 340+ deserving teams will qualify to go to the *FIRST* Championship relocated in 2011 from Atlanta, GA to the Edward Jones Dome in St. Louis, MO.

This year’s challenge will be presented at the 2011 FRC Kickoff on Saturday, January 8, 2011. At the Kickoff event, all teams:

- See the 2011 game field for the first time;
- Learn about the 2011 game rules and regulations; and
- Receive the official Kit of Parts (KOP) which includes motors, sensors, chassis hardware, transmissions, software packages, control systems and batteries. The intent of the kit is to provide a level starting point for all teams.

## 1.2 GRACIOUS PROFESSIONALISM™, A *FIRST* CREDO

Dr. Woodie Flowers, *FIRST* National Advisor and co-founder of FRC, elaborates on the significance of Gracious Professionalism™ in *FIRST*:

“*FIRST* celebrates high-quality, well-informed work done in a manner that leaves everyone feeling valued. Gracious Professionalism™ seems to be a good descriptor for a big part of the ethos of *FIRST*. It is one of the things that makes *FIRST* different and wonderful.

Gracious attitudes and behaviors are win-win. Gracious folks respect others and let that respect show in their actions. Professionals possess special knowledge and are trusted by society to use that knowledge responsibly. Thus, gracious professionals make a valued contribution in a manner pleasing to others and to themselves.

In *FIRST*, Gracious Professionalism™ means that we learn and compete like crazy, but treat one another with respect and kindness in the process. We try to avoid leaving anyone feeling like they have lost. No chest-thumping barbarian tough talk, but no sticky sweet platitudes either. Knowledge, pride and empathy comfortably blended.”

## 1.3 PROMINENT FRC AWARDS

*FIRST* values and acknowledges team performance, both on field and off, that promotes our mission to change culture. The three (3) most prominent FRC awards that celebrate our culture are described below.

Additional awards recognize outstanding technical expertise, community involvement and safety practices. A complete list and description of awards available to teams as well as past winners to date can be found in Section 5 of the manual.

### 1.3.1 The Chairman's Award

Every year, veteran FRC Teams have the opportunity to compete for *FIRST's* most prestigious award; i.e., the Chairman's Award, which represents the spirit of *FIRST*. This Award was created to maintain focus on changing culture in ways that would inspire greater levels of respect and honor for science and technology, as well as encourage more of today's youth to become scientists, engineers and technologists. The Chairman's Award honors the team that best embodies the goals and purpose of *FIRST* and is a model for other teams to emulate.

One team is chosen at each regional to receive this award; these teams go on to be considered for the Chairman's Award at the Championship. Teams who have won the Chairman's Award at the Championship are entered into the *FIRST* Hall of Fame.

### 1.3.2 The Woodie Flowers Award

The Woodie Flowers Award, founded in 1996 by Dr. William Murphy, celebrates outstanding mentors who lead, inspire and empower their team. Woodie Flowers Award winners demonstrate effective communication in the art and science of engineering and design.

Students submit an essay that nominates one mentor from their team for consideration. Past winners of this award are listed below.

### 1.3.3 The Dean's List Award

This award, introduced during the 2010 season, celebrates outstanding student leaders whose passion for and effectiveness at attaining *FIRST* ideals is exemplary. Finalists are chosen by a panel of Judges at each FRC Regional and the Michigan State Championship. From the Finalists, the Dean's List Award Committee will select 10 Winners at the Championship in St. Louis, MO.

Mentors submit an essay nominating a maximum of two (2) students from their team for consideration.

## 1.4 SAFETY: A *FIRST* CULTURE

Safety is critical within *FIRST* and must be observed continuously by all participants. As a part of the "Safety Awareness and Recognition Program", teams are observed and evaluated both at many levels and by many individuals at both the events and the Championship.

Quick Terminology:

*Safety Advisors* - evaluate team safety behavior and practices at Regional Competitions

*Referees* - observe safety on the playing field as well as adherence to the game rules

*Judges* - evaluate how teams have integrated safety into their robot designs when considering the team for technical awards

Safe practices at the competitions are mandatory. Teams are required to adopt safe habits throughout the entire competition season including during travel to and from events and while working in their shops at home, etc...



**PLEASE** take the time to read the sections of this manual. It was prepared with **YOU** in mind and is a great resource for important information you will need throughout the season.

Section  
**2**



# COMMUNICATION

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## 2 COMMUNICATION

### 2.1 OVERVIEW

This section provides teams with necessary information for contacting *FIRST*® staff, key vendors and others, and how *FIRST*® will communicate important season information. This section also contains help regarding the use of the *FIRST* logo, finding materials on the website, the Team Information Management System (TIMS) and tips on reserving hotels.

### 2.2 *FIRST* HEADQUARTERS - CONTACT INFORMATION

You can reach *FIRST* via mail, email, phone, and fax, or get information from our website. The office is open Monday through Friday from 8:30 AM to 5:00 PM, EST. Refer to the sections below for the appropriate help resource.

***Be sure to provide your TEAM NUMBER on all communications!***

Mailing Address	200 Bedford St, Manchester, NH 03101
Email Address	<a href="mailto:frcteams@usFIRST.org">frcteams@usFIRST.org</a>
Phone Numbers	(603) 666-3906, "0" for team support (800) 871-8326, "0" for team support
Fax Numbers	(603) 666-3907 (Main) (603) 647-5772 (Finance)

### 2.3 TEAM SUPPORT

The Operations (Team Support) Group is eager to answer your FRC program and season related questions. Please call or email us with any questions you may have – we look forward to helping you!



### 2.3.1 Emails and Subject Lines

Our program requires that many requests be in writing, so oftentimes email is the best way to get a quick answer or solution to your problem. To facilitate a quick reply, always include your **Team Number** either in the body of the email or in the subject line.

### 2.3.2 Please Do Not Duplicate Efforts

We ask that you do not contact or copy multiple persons about the same problem. Being a small group, we must work efficiently and avoid having more than one person working on the same issue. We can usually answer questions or requests within one to two working days. Please do not hesitate to contact us by phone if your question requires immediate assistance.

## 2.4 CONTROL SYSTEM SUPPORT

Information on the 2011 Control System, including software and hardware, will be available after kickoff, please refer to the Kit of Parts section at the bottom of this page::

## 2.5 SOFTWARE CONTACT INFORMATION

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=452>

### Autodesk

Please go to [www.autodesk.com/FIRST](http://www.autodesk.com/FIRST) and join the Community to download Autodesk software products. Visit the Community often to check on new information and resources; to get your 2011 Kit of Parts modeled in Autodesk Inventor Professional 2011 at Kickoff; and to submit your questions and requests for technical support.

### PTC Software

Please visit [www.ptc.com/go/FIRSTgettingstarted](http://www.ptc.com/go/FIRSTgettingstarted) for information on the available software downloads and training. If you *cannot* find answers to your questions from the above website, please contact [FIRSTsupport@ptc.com](mailto:FIRSTsupport@ptc.com) with any questions.

## 2.6 FIRST ROBOTICS COMPETITION WEBSITE

Visit the *FIRST* Robotics Competition (FRC) area on the [usfirst.org](http://usfirst.org) where you can find answers to administrative concerns and link to other areas of support.

- Check deadlines and dates for the Team Information Management System (TIMS), entries, grants, registration and payments, robot shipment, and awards submissions. <http://www.usFIRST.org/roboticsprograms/frc/content.aspx?id=454>
- Find links to the new “Consent and Release Form”, the “Email Blast Archive”, “FRC Q&A Forum”, the “2011 Robot Shipping” page, “FRC Team Manual” sections, events and a list of the “Regional Contacts” at: <http://www.usFIRST.org/roboticsprograms/frc/default.aspx?id=966>
- Find fundraising support materials such as the photo gallery, video clips, and program information. <http://www.usFIRST.org/roboticsprograms/resourcecenter.aspx?id=952>

### 2.6.1 Getting Answers To Your Competition Questions

- **Competition Manual** - is available at: <http://www.usFIRST.org/roboticsprograms/frc/content.aspx?id=452>. Sections relating to the game will be posted post Kickoff.
- **Team Updates** – will be posted at: <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=450>

After the Kickoff *FIRST* will start posting Team Updates on line, **Tuesdays by 5:00 PM** and **Fridays by 5:00 PM**. Team Updates provide rules updates, important information about parts and administrative reminders/deadlines. Please note:

- Unexpected circumstances may, on occasion, delay this publication;
- Additional updates may be released, if necessary; and
- Occasionally, *FIRST* will publish revisions to manual sections.

**NOTE: Please be sure to check these website locations often during the build season to ensure that you have the latest information!**

## 2.6.2 FRC Q&A Forum

After Kickoff, *FIRST* provides an on-line forum for questions and answers (Q & A). It is accessible at <http://forums.usfirst.org> for each section of the Competition Manual.

Anyone can view questions and replies on this system. Only those team contacts with a special team username and password can post questions to this system. This username and password have been sent to the team's Main Contact. Teams may post directly to the moderators of the forum. Until a moderator accepts, and answers, the questions, others cannot see them

## 2.6.3 Email Blasts

Email blasts are important communications that *FIRST* sends to team contacts identified in TIMS. The email blasts remind teams of important deadlines, updates, and other timely FRC information.

*FIRST* archives the email blasts on the *FIRST* website at “**2010-2011News and Email Blasts**” webpage at: <http://www.usfirst.org/roboticsprograms/frc/emailblastarchive.aspx>.

*FIRST* will typically send out one email blast on the **Thursday** of each week throughout the FRC Season

## 2.6.4 “Bill’s” Blog

Is located at <http://frcdirector.blogspot.com/> and should be read weekly for additional important updates from the Director of FRC, Bill Miller.

## 2.7 THE TIMS - SUPPLYING INFORMATION TO *FIRST*

The TIMS is the online system used by the Main and Alternate Contacts of the team to:

1. Create a Team Profile,
2. Register for events,
3. Enter Kit and Kickoff Preferences,
4. Enter Judge’s Information (for awards),
5. Accept students to the team, track their electronic Consent and Release Forms, print a Team Roster, and assign students to submit for key awards and track their progress.

The TIMS additionally provides options to allow teams to register themselves as a team willing to mentor others, or for a team to identify itself as a team in need of mentoring.



## 2.8 JUDGES' INFORMATION

**The Judges' Information Section is the best way to provide an overview of your team to the competition judges. Please take advantage of this opportunity and provide this important information in TIMS.**

The Judges' Information is a team overview page. It is your team's opportunity to share valuable information and statistics with *FIRST* and the judges at the events. These data are very valuable for planning events and very helpful in our efforts to procure funding. *FIRST* may use the robot photos you submit in the Awards Ceremonies. Enter the information under the "Judges' Information" section in TIMS.

The purpose of the Judges' Information page is to provide:

- a common starting point for judging each team;
- insight for judges into team's workings, history, goals, strengths, and robot; and
- team data for *FIRST* and its archives.

Please refer to the team manual, Section 5 – The Awards, for more information.

## 2.9 EVENT-SPECIFIC INFORMATION

Event specific information such as agendas', site information, pre-order lunch forms etc. are posted at: <http://www.usfirst.org/roboticsprograms/frc/regionalevents.aspx?id=430>

Check back periodically as this page is updated in stages.

## 2.10 REGIONAL EVENTS HOTEL SEARCH INFORMATION

*FIRST* will not be offering hotel reservation services for the regional events. We do recommend bearing in mind these safety considerations when making your reservations:

- 24 hour security;
- Secure parking;
- Interior entrance rooms - rooms that have exterior entrances are the ones that have inherent security risks.

## 2.11 CHAMPIONSHIP HOTEL INFORMATION

*FIRST* is pleased to announce that Steele Meetings, Inc. will once again be handling the hotel reservation system in St. Louis for the 2011 *FIRST* Championship. Please click on the following link to make your reservations: <http://www.firstchampionshiphousing.com/Regionals.aspx>.

## 2.12 FIRST LOGOS

You have numerous creative opportunities for designing your own team identity. Every year, we see great examples of how teams "brand" their efforts with websites, incredible team logos on robots, T-shirts, hats, banners, fliers and giveaways. These branding activities are a great way to get students interested in art, communications, computer and language arts to join and work on the team.

As you manage your own promotion, you may want to incorporate the *FIRST* logo in what you do. Because our mark - the combination of the composite graphic element plus the *FIRST* word mark – is a registered trademark, we have a few guidelines for you to follow when using the *FIRST* logo or the FRC logo. You can find the logos and information about how to legally use them at [www.usfirst.org/brand](http://www.usfirst.org/brand)



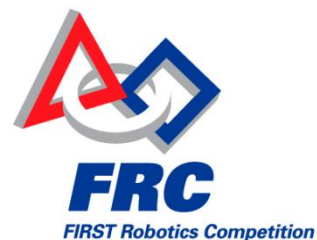
### 2.12.1 Logo Use

Once the game is announced at the Kickoff, you will be able to download this year's game logo at <http://usfirst.org/roboticsprograms/resourcecenter.aspx?id=952>.

**Section**  
**3**

# TEAM ORGANIZATION

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## 3 TEAM ORGANIZATION

### 3.1 GETTING STARTED: GUIDES, HANDBOOKS AND OTHER HELPFUL RESOURCES

Read and print the following documents at:

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=5504>

- “Starting an FRC Team”
- “FRC Handbook”
- “*FIRST* Mentoring Guide”
- Community sponsored resources

Each of these documents provides information and suggestions for organizing your team. For help with other practical aspects of the competition, refer to the “Resources” fly-out on the left hand side of the FRC Home page at <http://www.usfirst.org/roboticsprograms/frc/default.aspx?id=966> . Here you will find sponsorship links, tutorials, technical links for programming and pneumatics, ideas for team sustainability, mentoring resources and other assets.

**Tip!** Safety is an integral part of the *FIRST* programs. Be sure to read the safety page at <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=470> where you will find the link for the “*FIRST* Robotics Competition Team Safety Manual.”

Start your season off by assigning a Safety Captain, creating safe work places, and establishing a safe work ethic.

### 3.2 SUGGESTED LEADERSHIP ROLES

Developing a team leadership structure that assigns clear roles and responsibilities is the first step to organizing your team. Once complete, it will be much easier to prepare for the season, unify and manage the team, keep current with important information and meet season deadlines. Your team is encouraged to align its leadership structure with the contact requirements of the TIMS as outlined on the tables below, but team structure is the team’s prerogative and the following are only suggestions.

Examine the roles, and compare recommended qualities and abilities with your mentors from a *FIRST* perspective. Please remember it is essential that team members and mentors share the workload!

### 3.2.1 Main Contact Responsibilities

The Main Contact is the primary contact who provides team information to *FIRST* and undertakes key actions on behalf of the team via the TIMS. It is recommended this role is filled by the lead mentor of the team. This person may choose to delegate some of the responsibilities listed below, but should still be up to date with their progress and ensure their completion. This position must be held by one over the age of 18.

Award Submissions:	Assign student submitters in TIMS. Ensure submissions of Woodie Flowers, Website, Chairman's, and other Awards by the respective deadlines. Find details in the "Awards" section of the FRC Manual. Review <a href="http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440">http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440</a>
Bill's Blog:	Monitor FRC Director, Bill Miller's blog for additional news and updates. <a href="http://frcdirector.blogspot.com/">http://frcdirector.blogspot.com/</a>
Calendar of Important Deadline Dates:	Monitor the <i>FIRST</i> website calendar for changes, additions at: <a href="http://usfirst.org/roboticsprograms/frc/content.aspx?id=454">http://usfirst.org/roboticsprograms/frc/content.aspx?id=454</a>
Communications	Receive <i>FIRST</i> communications, read Team Updates, Bill's Blog, etc. (see below). Ensures team is educated on important information. Contacts <i>FIRST</i> Team Support with any questions.
Consent and Release Forms:	Ensure all team Consent and Release Forms are submitted. Please refer to <u>Chapter 3- At the Events Section 3.8.1</u> of the Team Manual for more information regarding the Consent and Release form. Review <a href="http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=8128">http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=8128</a>
Contact Information:	Keep all contact information up to date in the TIMS Team Profile Section. Provides his/her accurate email address, mailing address, and phone number to allow timely communication with <i>FIRST</i> , especially for use during vacations or team travel.
Email Blasts:	Receive, read and share with team e-mail blasts. Email blast and News Archive Page located at <a href="http://www.usfirst.org/roboticsprograms/frc/emailblastarchive.aspx">http://www.usfirst.org/roboticsprograms/frc/emailblastarchive.aspx</a>
Event Information:	Register team for Events in TIMS
Judges' Information:	Enter this submission into the TIMS by the deadline.
Kit and Kickoff Information:	Submit selections in TIMS by deadline
Robot Transportation:	Invite Shipping Contact to team, or assume role. Ensure the Shipping Contact is actively learning the rules and making plans to transport your team's robot. Also ensure that they are meeting all deadlines.
Safety:	Work with team's Safety Captain to ensure team member safety. Review <i>FIRST</i> Safety Policies/Procedures.
Scholarship Opportunities:	Invite team Scholarship Contact in TIMS.
Team Profile:	Maintain and update Team Profile Information in TIMS to reflect correct team contacts, partner organization, team demographic information

Team Updates	Reads Team Updates posted at: <a href="http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=450">http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=450</a>
TIMS (Team Info System):	Maintain and update ALL team's TIMS record at <a href="https://my.usfirst.org/frc/tims/site.lasso">https://my.usfirst.org/frc/tims/site.lasso</a>
Track Twitter Feed:	Monitor the FRC Twitter Feed for announcements about updates, news and important information. <a href="http://twitter.com/FRCTeams">http://twitter.com/FRCTeams</a>

### 3.2.2 Alternate Contact Responsibilities

This person is the Main Contact's "right hand" and shares in providing and maintaining accurate information in TIMS, as well as providing leadership to the team. The Alternate Contact should read and share in the responsibilities of the Main Contact as outlined above. Generally the Alternate Contact assumes the Main Contact role should the Main Contact not be able to fulfill his/her duties. Key duties include:

Calendar of Important Deadline Dates:	Monitor the Calendar of Important Deadline dates for changes, additions at: <a href="http://usfirst.org/roboticsprograms/frc/content.aspx?id=454">http://usfirst.org/roboticsprograms/frc/content.aspx?id=454</a>
Communications:	Receive and send relevant <i>FIRST</i> communications <u>Chairman's Award (CA) project</u> – Collect information about, and document, the successes and accomplishments of the team. Organize the CA submission for the team and help prepare the CA presentation to be given to the judges at the event. Please refer to Team Manual, <u>Chapter 5 – The Awards</u> for more information about the Chairman's Award.
Contact Information:	Provide current contact information for the TIMS, including an alternate phone number and address in case <i>FIRST</i> has to make contact during vacation or while the team is traveling.
Public Relations:	Confer with Main Contact. Notify Public Relations Contact of any upcoming team fundraising or events.
Robot Transportation:	Be familiar with the robot transportation responsibilities and deadlines in case the Shipping Contact needs help. Can also assume role of Shipping Contact.
Safety:	Work with team's Safety Captain to ensure safety while working and traveling.
Support:	Provide any support the Main Contact or team may need.
School Vacation Coverage:	Assist Main Contact with receiving communications and handling team issues during vacation periods.
TIMS (Team Info System):	Assist Main Contact with maintaining and updating team's TIMS record at <a href="https://my.usfirst.org/frc/tims/site.lasso">https://my.usfirst.org/frc/tims/site.lasso</a>

### 3.2.3 Shipping Contact Responsibilities

This is a critical position on the team as this contact is responsible for handling robot shipping, bag and tag, and receiving any items shipped from *FIRST* to the team (e.g., a replacement part).

Communications:	Receive and read <i>FIRST</i> email blasts, read Bill's Blog and the Team Updates. Communicate with <i>FIRST</i> on any shipping related questions.
Contact Information:	Provide the Main or Alternate Contact with current contact information for the TIMS, including a valid phone number to enable <i>FIRST</i> contact during vacation times or when the team is traveling.
FedEx Donation	Receive and safeguard any shipping paperwork the team is given at Kickoff. The FedEx donation can save your team hundreds of dollars on shipping your robot. Carefully guard the shipping documents. Bring them to the team's events and use them as specified in manual <u>Chapter 5 – Robot Transportation</u> . <b><u>NEITHER <i>FIRST</i> NOR FEDEX WILL REPLACE LOST SHIPPING DOCUMENTS.</u></b>
Kit of Parts:	If your team opted to pay for your Kit of Parts shipment (i.e. elected the "Team Pays" choice in the TIMS), confer with Main/Alternate Contact to ensure that the shipping address in the TIMS is correct. If your team wants to pick up the kit, make sure the Main Contact meets the deadline for this TIMS entry. Designate an adult mentor to pick up the kit at a Kickoff. If your team wants to designate another team to pick up the kit, make sure the appropriate Surrogate Kit Pickup paperwork is delivered to <i>FIRST</i> by the deadline as indicated on Calendar of Important Deadline Dates at <a href="http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=454">http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=454</a>
Robot Shipment	<b>Read <u>Chapter 5 - Robot Transportation</u></b> in the FRC Team Competition Manual as well as review supplemental instructions as directed in that chapter.  <b>Be familiar with and conform to the following:</b> <ul style="list-style-type: none"> <li>* Deadlines/specifications for shipping your robot crate.</li> <li>* Customs requirements if you ship over a border.</li> <li>* The drayage system and its deadlines and rules.</li> <li>* On-time robot arrival at each event within the <i>FIRST</i> rules.</li> <li>* Bag and Tag Events, requirements and procedures.</li> </ul>
TIMS Team's FedEx, UPS or USPS Account Number:	Provide the Main or Alternate Contact with a shipping account number for the TIMS. This could directly impact the missing, defective, or broken parts replacement system for your team. Sponsor/school may let team use its shipping account, or obtain a number from the companies' websites.

### 3.3 RECOMMENDED ADDITIONAL CONTACTS

#### 3.3.1 Corporate / University Contact Responsibilities

This contact provides information about the team to the University or Corporation sponsoring the team. Keeping the sponsor/partner informed of team progress and achievements throughout the season is a great way to ensure their support.

Communications	Receive related team e-mails. Provide information if necessary.
Contact Information:	Provide up to date contact information for the Main Contact for the TIMS. Provide an alternate phone number and address in case <i>FIRST</i> needs to make contact during vacation or while the team is traveling.
Public Relations:	Notify university/sponsor contacts of any upcoming team fundraising or events. Confer with Main Contact. Let supporters know about trials and successes regarding the robot design and build. Get them excited right through the process and continue providing information throughout the year. Invite them to an event.
Scholarships:	Know the website area concerning scholarships and inform students about the opportunities and deadlines. Encourage and assist students interested in applying for them.

#### 3.3.2 Public Relations Contact Responsibilities

This person's role in advertising the team's goals and accomplishments is critical. Work with the team contacts to ensure the partners are apprised of the team's progress and accomplishments.

Communications:	Receive relevant <i>FIRST</i> communications and reply when necessary
Contact Info.	Provide up to date contact information to the Main Contact for the TIMS.
Fundraising:	The team would be wise to advise this person of any fundraising activity or team appearances at least two weeks before the date so that advance notification of the event can be prepared and sent to media contacts.
PR Updates:	Responsible for receiving and disseminating any PR updates issued by <i>FIRST</i> , and using them to the team's advantage in local newspapers, as well as TV/radio stations.
Sponsors:	Send any PR information to current sponsors all during the year, and prepare "marketing" materials to attract potential new sponsors.



### 3.3.3 Scholarship Contact Responsibilities

This team contact is responsible for disseminating information about *FIRST* Scholarships to the student FRC team members and their parents. It is **HIGHLY RECOMMENDED** a Scholarship Contact is assigned to team and entered in TIMS!

Communications:	Receives key Scholarship Information from <i>FIRST</i> and shares with team students. Communicates with <i>FIRST</i> on any Scholarship related questions.
Contact Information:	Provide up to date contact information for the TIMS. Provide an alternate phone number and address in case <i>FIRST</i> needs to make contact during vacation or while the team is traveling.

### 3.3.4 School Contact Responsibilities

This adult representative is responsible for knowing and enforcing all school rules regarding team participation. A teacher or principal may be best qualified for this role to facilitate the team's progress and meeting deadlines.

Communications:	Receive school related team e-mails. Provide information/reply if necessary. If no one is specified to work on the following projects, work with Main Contact to make sure students get them done. Refer to the web <i>Calendar of Important Deadlines</i> . <a href="http://usfirst.org/roboticsprograms/frc/content.aspx?id=454">http://usfirst.org/roboticsprograms/frc/content.aspx?id=454</a> Monitor Award due dates. Please refer to the Team Manual – <u>Chapter 6 – The Awards</u> .
Contact Info.	Provide up to date contact information for the Main Contact/the TIMS
Public Relations:	Notify Public Relations Contact of any upcoming team fundraising or events. Conferring with Main Contact.
Safety:	Stress safety whenever possible.
Scholarships:	Inform students early about scholarship opportunities and deadlines, and encourage and assist those interested in applying for them.

### 3.3.5 Technical Contact Responsibilities

This person will assist the team with technical issues and problems related to engineering.

Communications:	Receive team e-mails. Provide information/reply if necessary. Keep the rest of the team apprised on your technical successes/issues. . Ask for help/ideas.
Contact Information:	Provide up to date contact information for the TIMS. Provide an alternate phone number and address in case <i>FIRST</i> needs to make contact during vacation or while the team is traveling.
Pre-Ship Inspection:	Work with the team members to perform a robot inspection before your robot ships. Use the Inspection Sheet that will be listed in Team Manual <u>Chapter9 – The Robot</u> after Kickoff. This inspection will show where problems are so you can correct them before shipment. It will also provide the students with information they will need to know during the on-site, pre-competition inspection since the inspectors will be asking the students questions.
Public Relations:	Notify Public Relations Contact when your robot nears completion or when you have an opportunity to show off your robot.  If the PR contact is not available, notify local media of any upcoming team fundraising or events. Plan these opportunities with your Main Contact.
Safety:	Stress safety and ensure safe working conditions, safety glasses use, etc...

### 3.3.6 Travel Contact Responsibilities

This person will make event(s) travel and hotel arrangements for the team members and mentors. Tackle this task early to ensure there is room on preferred flights and in preferred hotels.

Communications:	Receive relevant <i>FIRST</i> communications and communicate with <i>FIRST</i> and team as necessary.
Contact Information:	Provide up to date contact information for the TIMS. Provide an alternate phone number and address in case <i>FIRST</i> needs to make contact during vacation or while the team is traveling.
Hotel Reservations:	<u>Regionals</u> : Refer to <u>Chapter 2 - Communications</u> section of the Manual for hints and good advice on choosing team hotels. <u>Championship</u> : Book through <i>FIRST</i> vendor Steele Meetings, Inc., located on the <i>FIRST</i> website, to obtain reasonable hotel packages.
Manual and Website:	Refer to the “Site Info” on the website for special travel/parking instructions. Bring the directions for the venue.
Stores/Supplies:	Refer to the <u>Chapter 4 - At the Events</u> portion of the Manual to find links to various types of stores, such as printing, supplies, hardware. Find stores near your chosen event and print out the directions to them.

Travel Pricing:	Obtain, consider, and compare travel costs prior to registering for an event(s). The web has many opportunities to compare airfares. Ask for group rates to see if that is a good option. Is bussing an option?
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### 3.4 OTHER IMPORTANT TEAM POSITIONS

Your team may want to consider appointing one or several Rules Monitors and Safety Captains. Students are welcome to fill these positions if the team members and mentors agree and find responsible candidates. *FIRST* does not need their contact information in the TIMS.

Please read below for some job-related roles these students or adults may want to fill. There will be one Safety Captain Badge at the team's initial Regional event for each team's Safety Captain. If a team has more than one captain, they can take turns wearing the badge at the events.

#### 3.4.1 Game Rules Monitor Responsibilities

Know Point System:	Be sure the team understands the system; implement the best strategy.
Know Penalties:	Be sure all mentors and operators know and understand all penalties.
Learn Game Rules:	Read and understand the rules of the game and communicate them to the team members so they know the ins and outs of the game.
Learn Web System:	Check the online Manual for rules, changes, and web-based question and answer system. Online manual is at <a href="http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=452">http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=452</a> . Q&A is at <a href="http://forums.usfirst.org">http://forums.usfirst.org</a>
Monitor Team Updates:	Communicate any changes, written in the updates, to the team. Team Updates are at <a href="http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=450/">http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=450/</a> . News and Email Blasts are at: <a href="http://www.usfirst.org/roboticsprograms/frc/emailblastarchive.aspx">http://www.usfirst.org/roboticsprograms/frc/emailblastarchive.aspx</a> .

### 3.4.2 Safety Captain Responsibilities

At the Events:	<p>Bring enough safety glasses for the team and all guests. Make sure persons who will unpack your robot crate will have glasses to wear as they arrive at the Pit, and make sure all persons wear safety glasses/goggles properly.</p> <p>Be sure your team transports and lifts the robot safely.</p> <p>Know where the EMT area is, and report any injuries to the Pit Supervisor at the time of injury or treatment.</p> <p>Discourage running in the Pit or Competition Arena, and work with the green-shirted Safety Advisors to keep things safe and the Pit aisles clear.</p> <p>Bring any serious safety infractions, such as metal grinding or open flames to the attention of the Pit Supervisor, as well as any blatant discourtesies.</p>
Home Work Site:	<p>Obtain enough safety glasses for the team. Ensure all persons wear them over their eyes when working on the robot or in the "work" vicinity. People who wear glasses must have regulation safety glasses with side shields or wear safety goggles over their glasses.</p> <p>Make sure the work area is safe and the floor is clear at the team's workplace and at the events.</p>
Read FRC Competition Manual:	<p>Read "Courtesies and Rules" section in <u>Chapter 4 -At the Events</u> section of the Manual. Meet with team members and decide what the team deems important in the safety area. Diplomatically enforce their findings.</p>
Read FRC Team Safety Manual:	<p>Print and read the "<i>FIRST</i> Robotics Competition Team Safety Manual." Meet with the team and go over the manual with everyone.</p>
Safety Policies:	<p>Review Safety Policies and Procedures in the "<i>FIRST</i> Robotics Competition Team Safety Manual." and inform the team of the mandates and suggestions. Encourage all team members and mentors to read the document, follow the suggestions, and become familiar with the safety awards.</p> <p>Suggest that the team build a robot cart if it doesn't have one.</p>
Use Courtesy:	<p>At all times, think with a <i>Gracious Professionalism</i>® attitude.</p> <p>This position is one that should make teams aware of safety issues and make team members want to improve conditions, not balk at the methods <i>FIRST</i> uses to ensure a safe environment. Use common sense and good judgment when bringing an infraction to someone's attention. Please be kind and positive because the Safety Captain is an ambassador for your team.</p>

# AT THE EVENTS

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## 4 AT THE EVENTS

### 4.1 OVERVIEW

This section provides a general summary regarding safety, mascots/uniforms, recommended items and equipment for teams to bring. You will also find information about pit rules, generic event schedules, robot inspections, replacement parts and competition manners. The following section provides a "feel" for competition schedules, event check in procedures, practice times and matches. Please familiarize your team with this overview so all team members know what to expect and will understand the routine and the rules.

### 4.2 FIRST SPECIFIC EVENT INFORMATION

To ensure that your team has the proper information for the competitions it will attend, review the information presented at <http://www.usfirst.org/roboticsprograms/frc/regionalevents.aspx?id=430>. This information is only available on the *FIRST* web site and contains critical event-specific information regarding pre-order lunches, agendas, event addresses/directions, drayage locations, team socials and more.

### 4.3 FIRST SAFETY

Participants and team mentors should review the *FIRST* safety policies and the **FIRST Safety Manual** located at <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=470>. It provides sound safety practices for your workplace and *FIRST* events.

Additional specific site restrictions can be found within the information referenced in Section 3.2.

Every team should know, understand, and follow the safety rules found in the FRC Team Safety Manual.

#### 4.3.1 Safety Recommendations

At events, the pure anticipation and excitement of being there sometimes overshadows common sense and safety fundamentals. One safety area that teams sometimes overlook is the particular need to wear appropriate and proper clothing when working or just hanging around the robots. In addition to the ANSI-approved safety glasses required for eye protection, *FIRST* also highly recommends that team members and mentors:

- Refrain from wearing dangling jewelry or loose, baggy clothing near the robots;
- Tie back long hair so that it will not get caught in the robot or other machinery;
- Wear gloves to protect hands and fingers when handling the robot or the robot crate;
- Remember that fire extinguishers are available at the pit Admin station and near the playing field; and
- Please stay within your team pit or move to the competition viewing area. If the pit area becomes too crowded for teams and their machines to move back and forth to the field safely and quickly, *FIRST* will request that some team members leave the area.

#### 4.3.2 Robot Carts

To protect team members from muscle strains and other injuries as they transport the robot between the pits and the competition area, we strongly recommend that team members use a cart. Please keep the following in mind:

- Carts must remain in the team pit area when not in use for robot transportation;
- All carts should fit through a standard 30-inch door;
- Wheels on the cart must not damage site flooring; and



- Do not add music or other sound devices to the cart.

Refer to the “*FIRST* Safety Manual” for robot lifting techniques. By practicing these safety techniques, your team members will also develop a quick, fluid routine.

### **4.3.3 Safety Recognition Program**

Throughout the competition, the easily recognizable, green-shirted Safety Advisors will continuously tour in pairs to observe activities in the pit, practice field, queue line, and playing fields to observe the safety habits of the teams. This includes observing the uncrating of robots and transporting them between the pit and playing fields. The Safety Advisors will rate safe performance in three key areas:

- 1.) Safe Behavior;
- 2.) Physical Conditions; and
- 3.) The use of Safety Glasses as well as other Personal Protective Equipment (PPE) as appropriate.

Safety Advisors will use safety tokens to recognize and encourage safe behavior(s) at the competition. Teams will earn tokens for positive safety habits in the above areas.

Teams will receive ten safety tokens in the event check in packet and should keep 5 of them. They should distribute the other 5, in whatever denomination they wish, to teams worthy of recognition. Teams will return the tokens to the Admin Station for a final count on the last competition day. The 3 teams accruing the most safety tokens will be announced during the Awards Ceremony. They should collect their “safety” award pins at the Pit Admin Station after the ceremony.

## **4.4 COURTESIES AND RULES**

The pit is where you can get to know other team members and perhaps pick a few brains and learn something new. The *FIRST* staff and volunteers want you to enjoy the competition and ask that everyone follow courtesy rules while in the pit, on the playing field, and in the audience.

Please help to make guests feel comfortable and welcome. Provide your team with the site restrictions and rules so everyone can work and compete in a safe, sportsmanlike and friendly environment.

### **4.4.1 Robot Wireless Control**

- Robots may be operated via wireless control only on the competition fields and the practice field with the *FIRST* supplied radio; and
- Teams are not allowed to set up their own 802.11a/b/g/n (2.4GHz or 5GHz) wireless communication (access points or ad-hoc networks) in the venue

## **4.5 STAFF/VOLUNTEER BADGES**

At events, staff and volunteers will wear distinguishing badges. Should your team members or mentors have questions or a problem, staff and volunteers will help you find the answer (especially your friendly Pit Admin staff!).

## **4.6 COMPETITION OVERVIEW**

This section provides general competition information and necessary details regarding scheduling, robot inspection, practice times, safety, rules, regulations and suggestions for teams.

### **4.6.1 Practice Matches**

Your event check in envelope will contain the Practice Match Schedule. Practice matches take place on the competition field. The Schedule will indicate on which competition field you will

practice and with what teams. **Teams cannot switch practice times.**

#### **4.6.1.1 Time Slots**

All teams will receive a comprehensive list of practice times. Your team must be ready to practice at the designated times and on the specified fields. If your team/robot cannot be ready for your practice time slot, don't forfeit your team's practice time entirely. Send in your human player to practice alone. Your team members may want to scout other teams and their strategies during practice and the actual competition matches.

#### **4.6.1.2 The Filler Line**

Although teams may not switch practice times, there will be a designated Filler Line at each competition. Teams whose robots are ready for practice may join the Filler Line. Teams from the Filler Line will be used on a first come, first served basis to fill empty spots in practice matches left by other teams that do not show up for their own practice match. Filler Lines will be limited to, at most, six (6) robots, but is dependent upon space at venues. Criteria for joining the Filler Line are as follows:

- **Robots in the Filler Line must have passed full inspection;**
- Teams must join the Filler Line with their robot;
- Teams may not work on their robot while in the Filler Line;
- Teams may not occupy more than one spot in the Filler Line; and
- If a team is queued up for their practice match, they may not join the Filler Line.

#### **4.6.1.3 Courtesy**

In order to make the most of practice time, there will be specified teams on the field during an assigned practice slot. Each team must be respectful of the other teams sharing the field. Friendly interaction between machines is acceptable, if all teams are willing. Unsportsmanlike conduct on the part of a team during practice could result in loss of practice time.

### **4.6.2 Competition Matches**

Once your team robot passes inspection and receives its official sticker, you are eligible to compete.

#### **4.6.2.1 Qualification Match Schedules:**

Before the pit opens on the morning of the second day, the Pit Admin Supervisor will place a copy of the Qualification Schedule on each team's pit table. This list provides information as to when teams will participate, with whom and against whom. **The list is final and the schedule will not be altered.**

#### **4.6.2.2 Scouting:**

Teams often use the Qualification Schedule to scout other teams to watch their strategies and robot capabilities. This is especially helpful when choosing alliances, should your team advance to the final matches.

#### **4.6.2.3 Early Matches:**

Make sure your team is on time and in place if you have an early match on competition days. **If your team is scheduled for any of the first four (4) matches on those days, you must queue up before the opening ceremony.** Matches begin immediately after the conclusion of the opening ceremony.

#### 4.6.2.4 The Schedule at Events

You will need to know when you will compete. The Pit Announcer and Queue Team will work together throughout the days to line up teams for competition matches and maintain the schedule. Pay attention to the match schedules and listen for announcements throughout the day, especially about any changes to the number of the ending match before lunch or which match designates the end of the competition day.

Please note that there will not be audible queuing at the Championship. As such, teams must queue up a half hour prior to each designated match.

#### 4.6.3 Competition Agendas

Print the event-specific agenda from the web site for each event you will attend. This information can be found at <http://www.usfirst.org/roboticsprograms/frc/regionalevents.aspx?id=430>. Bring it with you so your team will have the event's agenda.

##### 4.6.3.1 Championship Agenda

Please refer to the Championship Agenda at [www.usfirst.org](http://www.usfirst.org)

### 4.7 EARLY UNCRATING / LOAD IN PROCEDURES

#### 4.7.1 At Non Bag and Tag Events

For convenience and to help ensure safety in the pit, three (3) people from each team will be allowed to uncrate their robots before the pit officially opens at non-bag & tag events. **At least one (1) of the three (3) must be an adult of post high school status.** If any of the three (3) team members leave the pit area during that time, he/she will not be re-admitted until general pit opening. **Teams cannot work on the robot or set up the team's station during that time.**

**Regional Competitions:** Refer to your event agenda for possible early opening time, for uncrating only, on the morning of the first day of the event.

**The Championship:** Uncrating will be allowed on Wednesday evening from 5 PM to 9:30 PM. At least one (1) of the three (3) team members entering the pits must be a post-high school adult  
(The others may be either students or adults).

The rules for Wednesday night pit entry at the Championship are as follows:

- **The priority task for team members is to uncrate their robot and move their crate to the aisle so that it is accessible to Shepard for removal;**
- The three (3) team members will be permitted to load in team materials on Wednesday night;
- Team members may only make one trip with load-in materials;
- There is no set limit to the amount of material teams may load-in, but it must be done in a safe, manageable way (Safety Advisors and other volunteers will be on site checking for, and helping mitigate, unsafe conditions);
- Team members are permitted to stow load-in materials safely in their pit and out of the way of aisle traffic;
- Team members are permitted to begin charging batteries;
- Pit setup will not be permitted (if your crate becomes your pit setup, remember that you may *only* uncrate your robot);
- Working on the robot will not be permitted;
- Safety glasses are required while in the pit; and

- An adult team member (one (1) of the three (3) permitted in the pit) may use this time to check in early to avoid the rush on Thursday morning.

The Shepard Exposition Services (SES) Desk personnel will be on hand to help during this limited opening.

- If your crate has incurred damage, do not open it until you notify the SES Desk personnel right away about the problem.
- Look for any label on your crate having to do with weight or crate damage questions regarding your shipment. Contact the SES Desk before opening the crate. *Once the team opens a crate, you cannot protest a weight issue.*
- **SES - Resolution time for weight overage / damage problems:**  
Notify the SES Desk personnel immediately.
- When you have uncrated, notify the SES Desk personnel so haulers can remove the empty crate(s) and keep aisles clear and safe.

#### 4.7.2 At Bag and Tag Events

For convenience and to help ensure safety in the pit, five (5) people from each team will be allowed to bring their robots and equipment in to the event before the pit officially opens. Load in time may be available both the day before the event starts and early the day of the event. Refer to your event agenda for possible early opening time. **At least one (1) of the five (5) must be an adult of post high school status. Teams cannot work on the robot or set up the team's station during that time. Teams may not unbag their robots until their Robot-Lock Up Form has been approved by an inspector AND pits have officially opened**

Two additional people are allowed in early to bag and tag events as compared to non-bag and tag events because they must bring in all equipment and robots themselves and because the lack of crates will mean a less cluttered environment.

### 4.8 EVENT CHECK IN

Event check in takes place at the Pit Admin Station the first morning of the event at the Regional Competitions and Wednesday evening and Thursday morning for the Championship. At each event, *an adult member* of each team should check in *by noon on the first day of the event*.

Prior to attending your event(s), please download the Essential Information Sheet and the Agenda. You can find agendas on the 2010 *FIRST* Robotics Competition Regional Events page.

#### 4.8.1 Consent and Release Forms

We are highly encouraging all FRC team members to submit their Consent and Release form electronically.

FRC Team Mentors registered in TIMS will submit in TIMS. Student team members will submit via the *FIRST* Student Team Information Member System (STIMS) at:  
<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=8128>.

Please note that if a team member decides to submit their Consent and Release form electronically, it will cover the team member's attendance for the entire season – from Kickoff through Championship. However, if a team member chooses to turn in a “hardcopy” of the form (i.e. printed out from the website and signed) he/she will have to provide it both at the Kickoff event (if attending) and at the initial competition. If one does not attend the Kickoff event, then the team member will only have to provide one (1) form at their initial competition event.

#### 4.8.2 Event Check in Envelope

Upon receipt of the team's consent/release forms, each team will receive an event specific event check in envelope containing:

- Pit Map
- Practice Match Schedule
- Safety Captain Badge
- Team List
- Operator Badges
- Participation Pins

#### 4.9 THE PIT

Teams, volunteers, *FIRST* Staff and guests spend a lot of time in the Pit area. Get to know other teams, help each other when you can, and keep the aisles clear. Time is short and help is very often right "next door" in the adjacent team pits.

***Children under 12 MUST be accompanied  
in the Pit by an Adult at all times!***

##### 4.9.1 Pit Admin Station

The Pit Admin Station is centrally located in the Pit area. *FIRST* staff members and/or volunteers run this area to check in teams and help teams and visitors. Come to the Pit Admin station to:

- Turn in a printed roster and the remainder of your team's Consent/Release Forms;
- Check in and receive your check in envelope, and badges. Check your event agenda for the Pit opening/closing time for each event;
- Get answers to most questions, including machine shop access;
- Ask about lost and found articles; and
- Report an illness or injury.

##### 4.9.2 Team Pits

These are the areas where teams work on their robots. These numbered spaces help organize team placement and help team members, judges and visitors find teams easily. These areas are set up to be as equal as possible. Each team's pit will have a table and power outlet.

###### 4.9.2.1 Rules

For safety and because of insurance regulations:

- Teams cannot build any structure that supports people, or items for storage, above the work area in their team pit;
- No Team Station structures, signs, flags, or displays can be higher than 10 feet above the floor;
- Team Station signs, flags, and displays must be securely mounted to the structure; and

###### 4.9.2.2 **FIRST personnel, event management, and/or local committee members will require teams to remove any pit structure that is**

## **deemed unsafe or outside specifications.**

### **Space Regulations**

Each team is allotted approximately the same amount of workspace at an event, usually about 10'x10'x10'; however, the size will vary from event to event, and in many cases the space is smaller. Be sure your equipment will fit in a space smaller than those dimensions. In all cases, the height cannot exceed 10'. This includes the height of signs, flags, banners, etc...

Keep your equipment and team members within your assigned area and do not “grow” into the aisle or undesignated space. If your team is too large to fit into the allotted space, encourage your team to leave the area to scout other teams and/or to watch the matches.

**Don't add to your space by setting up in another area.**

#### **4.9.3 Spare Parts Station**

Spare parts will be available at the events; however, item availability varies from event to event. *FIRST* asks that teams bring any unused parts from their kits to events to assist and support each other or donate them to the spare parts cart (which will be used at other events). This kindness can expand your *FIRST* network of friends as you exchange parts.

***Batteries & chargers will NOT be available at any event unless you have made prior arrangements with FIRST (email [FRCParts@usfirst.org](mailto:FRCParts@usfirst.org) for more information).***

Teams are responsible for all items required at events. If a team needs a replacement high-value item, LOANERS will be available under restrictions that will be published after Kickoff.

#### **4.9.4 Inspection**

To ensure all robots are safely constructed and fall within the *FIRST* parameters, there is an official robot inspection at each event. Certified inspectors will be on site all day on the first day of the event, until Pit closing time, to inspect machines. Inspectors can sometimes help find problems and/or provide suggestions during an early inspection. Go to the Inspection Station, shown on the Pit map. Read below for criteria and caveats:

- To ensure safety and readiness, pre-inspect your robot before you ship it. This will make your official inspection go more smoothly and quickly;
- Inspectors will use an official inspection sheet for checking robots; a draft copy of the inspection checklist will be available to teams during the build season. Inspectors check off items on an Inspection Sheet as the team passes those portions of the process;
- Don't wait until the last moment to begin the process. Bring your robot to the Inspection Station early. Partial inspections, such as for height and weight compliance, help prevent an inspection clog at the end of the day;
- Student team members must accompany the robot and be prepared to answer Inspectors' questions;
- Correct items and return for inspection until your robot passes;
- Teams may practice on the first day of the event without completing the inspection process; however, if field personnel deem a robot unsafe, it will not be allowed to practice until the unsafe condition is fixed;
- Robots must pass inspection before actually competing in qualification matches;
- Each time you alter the form, fit, or function of your robot, you must request and pass a robot re-inspection; and

- Inspectors may re-inspect randomly before or after matches to ensure continued safety and compliance.

#### 4.9.5 Drayage Service Desk

Shepard Exposition Services (SES) will have a representative at its service desk to help you with shipping questions or problems. Refer to the Pit Map for its location. The Drayage Service Desk will not be available at specified Bag & Tag events.

#### 4.9.6 Machine Shop

Some events have a machine shop to help teams with repair and fabrication either sponsored by NASA or locals. While the machine shops vary, *FIRST* strives to have welding and a variety of high-powered tools available at the shop.

The staff and volunteers in the Pit Admin Station will be able to tell you how to make use of the machine shop. Sometimes the machine shop is on site and readily accessible to all teams, but when it is off site, we require teams to use the mandatory transportation provided at the venue. *Teams cannot travel to the machine shop "on their own".*

**Pit/Machine Shop Hours:** Specific hours are necessary to provide teams with equal work time. Please be aware of the opening and closing hours of the Pit/Machine Shop posted on the event specific agenda which can be found on the *FIRST* website.

#### 4.9.7 Team-Provided Mobile Machine Shops

*FIRST* welcomes team provided mobile machine shop facilities/trailers at events, but the proposed facility has to comply with *FIRST* and venue requirements. The mobile machine shop/trailer sponsor must adhere to the following two (2) sections.

##### 4.9.7.1 Approval, Liability and Security Coverage

- If your team would like to provide a mobile machine shop, please have *FIRST* approval and clearance prior to each event. E-mail [frcteams@usfirst.org](mailto:frcteams@usfirst.org) to request approval prior to Kickoff on January 8<sup>th</sup>, 2011.
- Teams must provide liability coverage. Note that liability coverage at event venues varies, and specific venue policies may further restrict the use of these team provided mobile machine shops. Without the proper additional insurance certificate, the mobile machine shop cannot be used at the event. The requirements are:
  - a) Name *FIRST* as an additional insured.
  - b) Fax the certificate to 603-666-3907, Attention: Team Support.
  - c) Present a copy of the certificate to the Event Manager on site prior to setting up the machine shop.
- Include an appropriate team-provided staffer to perform the requested work. Each staffer must be covered under the provided liability coverage.
- Provide for any security requirements. Neither *FIRST* nor the venue is liable and/or will provide these services for you.

##### 4.9.7.2 Local Restrictions

Although *FIRST* may approve a local machine shop use at any Regional, there are local restrictions such as fire codes and venue approval that you must consider as part of the process. *FIRST* will do its best to convey any relevant needs and work on your behalf to gain venue approval through a professional, legal process.



#### 4.9.7.3 Other Requirements

In addition to the above, the sponsoring team(s) must:

- a) Include an electrical source for the mobile machine shop facility;
- b) Ensure that all teams have the ability to use tools/machines and its use. Access cannot be restricted to certain teams;
- c) Handle job requests through the same counter/process as the *FIRST* provided shop services. This includes the sponsoring team's requests; and
- d) Operate ONLY during event hours when the Pit is open.

#### 4.9.8 Machine Tools at Events

When using tools in the Pit, be sure to use them properly, in a safe and controlled manner. Unsafe operation, especially those that endanger those around you and your team, will be subject to scrutiny by the event staff and safety reviewers. Their findings may result in team caution or event expulsion.

Please adhere to the following safety rules regarding Pit safety and tool use:

- **Tools that throw sparks are prohibited.**

Examples: Electric welders, bench grinders and angle grinders.

- **Tools that produce open flames are prohibited.**

Examples: Gas welders and propane/MAPP gas torches.

- **Floor standing power tools are prohibited.**

Examples: Full-size drill presses, full-size band saws and full-size table saws.

- **Grinding or painting in the Pit is prohibited.** Designated grinding and painting areas are available to teams.

- **Brazing/welding is prohibited at the team pits.** Use the machine shop.

- **Soldering is permitted.** Use electric iron/gun only.

- **Small, bench-top machinery, with appropriate guards, is permitted in team pits.**

Examples: Band saws, drill presses, and sanders.

- **Small, desktop machining centers are permitted as long as they are reasonably sized and easily lifted by one person.** They must be appropriately covered to prevent throwing of chips during operation.

Example: Desktop CNC mill.

#### 4.9.9 Suggested Equipment

We suggest you bring the following:

- Extension cord - heavy duty and at least 25 feet long;
- Power strip - to make best use of your power drop;
- Other items as suggested on the *Team Checklist* in this section of this Manual; and
- A relatively small cart to transport your heavy robot from the Pit to the playing field. Do not add music to your cart.

#### 4.9.10 First Aid Station

There will be an EMT in the pit to assist in the event of injury and illness. Mentors and the Safety Captain should refer to the Pit Map for the location and alert team members. *Notify the Pit Admin*

*Supervisor of any injuries or illness.* Bring a travel size first-aid kit for minor injuries.

#### **4.9.11 Traffic Flow**

At each event, there is a predetermined traffic flow pattern to maximize efficiency of the team/robot entrance and exit and to maintain safety to the competition area. Refer to the Pit Map for the flow. The queuing team maintains this pattern at each event. Please obey the traffic rules to ensure an efficient lineup for practice and competition.

It is extremely important to keep aisles clear for safety, judging accessibility, robot mobility, courtesy and maintaining competition schedules. Keep chairs and equipment out of the aisles. Please sit in the audience, not on the floor or in the aisles. Judges/Safety Advisors will notice noncompliance.

#### **4.9.12 Announcements**

We make every effort to keep noise down and announce only important items and scheduling, so PLEASE do not ask the pit announcer to make frivolous announcements.

#### **4.9.13 Queuing Your Team**

The Pit announcer and queue volunteers must maintain the practice and match schedules. Your team should designate team members to be your queue captains and carefully watch the schedule and alert the team when its turn is near. The queue captain should:

- Look at the Pit Map to find the pre-set traffic pattern for each event.
- Highlight team practice times on the Practice Schedule on the first day of the event and your competition match times on your Match List for the second and third days.
- Listen carefully for the queuing announcements at Regional events and line up your four (4) competing team members/mentor and robot when your team number is announced.
- Queue your team a half hour prior to your matches at the Championship since there are no match announcements. Ensure that you monitor play within your respective division and adjust your queuing time accordingly. Please check with the Lead Field Queuing personnel on your field if you have questions.

**NOTE:** Check the second and third day schedule. If your team is in the first four (4) matches of either day, the competition team must queue up prior to the Opening Ceremony, on or near the field.

#### **4.9.14 Property Security**

There have been occasions when items such as cameras and laptops have "disappeared" from the Pit or competition area. Use common sense and do not leave valuable items unattended. Neither the site nor *FIRST* is responsible for any theft. Take valuable items with you, or designate a team representative to remain with them in the team pit or competition areas.

#### **4.9.15 Lost and Found**

If you find an article or lose one, come to the Pit Admin Table to fill out a "Lost Item Report" or to turn in an article you find. We will make every reasonable attempt to return articles to owners.

### **4.10 CEREMONIES**

There are both Opening and Awards Ceremonies on the second and third day of FRC events. These ceremonies allow everyone to show honor and respect for their countries, sponsors, teams, mentors, volunteers and award winners and to provide everyone with the opportunity to applaud the successes of team members and mentors. They also give teams a chance to "meet" the judges, referees, MCs and other important persons and sponsors involved with the event.

At the Awards Ceremony, *FIRST* presents trophies and medallions to outstanding teams.

#### **4.10.1 All Teams Should Attend**

We encourage all team members to attend the ceremonies, on time, to show appreciation for the event and those people involved who are volunteering their time and efforts.

#### **4.10.2 Pit Manners/Rules During the Ceremonies**

- Team members will *not* be allowed to use power tools, hammers or other noisy tools during the ceremonies.
- All persons in the Pit should observe the code of behavior for the presentation of all national anthems:
  - Maintain a respectful silence;
  - Stand, facing the flag. If there is no flag, look toward the video screen showing a flag; and
  - ALL hats off please.

#### **4.11 PIT CLOSING ETIQUETTE**

**On Time:** For many reasons, it is necessary that teams adhere to the Pit closing time each day. Many people working in the Pit are volunteers and deserve to have a set closing time met. Assign team members and mentors to the cleanup/organization of your team pit.

**Robot Transportation:** The team's shipping contact should have a plan to ensure that everything is packed and out the door by closing time. For further details about shipping your robot or participating in the new Bag and Tag system, please refer to Section 4 - Robot Transportation in the 2011 FRC Competition Manual.

#### **4.12 TEAM SOCIALS**

Team socials may be held after the Awards Ceremony on the evening of the second day, and may include food, fun and an opportunity to unwind and get to know each other in an informal, relaxed and entertaining setting. These are NOT *FIRST* sponsored.

#### **4.13 CHAMPIONSHIP *FIRST* FINALE**

This event takes place after the Awards Ceremony on Saturday evening. Please refer to the Championship event Information.

#### **4.14 TEAM SPIRIT AND TEAM “LOOK”**

When deciding on a team name or acronym, consider how you can work a theme around it to make your team more fun and recognizable. Part of the pleasure of being a team member or mentor is the way the team stylizes itself.

Team numbers provide unique identification for FRC teams. We strongly recommend that you include the team number on all team T-shirts, trading buttons, hats, cheers and costumes.

##### **4.14.1 Team Giveaways**

Often teams bring small items to give away to others at the event. This is completely optional, but is certainly a great way to promote your team's identity. The most popular item to give away is a button with your team logo and number.

##### **4.14.2 Mascots and Team Costumes**

Keep safety in mind. Awards acceptance often means descending and ascending bleachers. Please make sure that mascot and team costumes are safe for the wearer as to vision and

movement and that they are comfortable and cool enough to prevent fainting and dehydration.

#### 4.14.3 Competition Spirit

We ask that you choose to bring attention to your team in ways that are in good taste and in the spirit of the competition. Please refrain from the following:

- Using obnoxious noisemakers;
- Using objects that can damage bleachers or floors;
- Wearing inappropriate clothing; and/or
- Taping or affixing items or papers to walls, bleachers, floors or other site areas.

Please make sure your team pit and surrounding area is clean when you leave the site.

#### 4.14.4 Banners and Flags

Sponsors provide *FIRST* with banners so we can display them in specified areas as a way of thanking them for their generosity. We encourage teams to bring team flags and/or sponsor banners, but we ask that you adhere to the following:

- DO NOT hang them in the competition area, since this area is designated for official *FIRST* sponsor banners ONLY.
- You may bring banners to the competition area while your team competes, but do not leave them or use them to section off seating. *Saving group seats is not permitted.*
- Hang banners *only in your team pit.*

### 4.15 BLEACHER RULES

Sitting together in a group during competition matches makes the game more exciting and fun. It's where you can show support for your team. Since very often there is not enough seating to accommodate everyone, there has to be a policy regarding seating. Teams are not allowed to save seating space.

With this in mind, it is not permitted to hang banners or ribbons to designate such an area. *We will remove and discard any banners, roping, etc...* Please take turns sitting in the bleachers. Share the fun. When you see there is a crowding problem, leave after your team's match and return later for another few matches.

### 4.16 SITE RESTRICTIONS

Please read the following common site restrictions and adhere to them in order to promote an orderly, safe, pleasant and exciting competition. Please refer to Section 4.2 of this manual section for additional site restrictions at your event.

- **Do not take robots from any Regional or the Championship if the event is NOT a Bag & Tag event.** You must go through the drayage company and ship your robot, even if it's your last competition.
- **Do not deliver or ship robots directly to the competition site if the event is NOT a Bag & Tag event.** All shipments must go through the drayage company.
- **Do not bring food** to the site. If you bring food, do not bring it onto the property.
- **Do not use noisy devices**, such as floor stompers, whistles and/or air horns.
- **Do not arrange for Internet access or phone lines** on the site or attempt to connect to the Internet.
- **Do not sell any products.** This includes food, hats, shirts or any promotional products.
- **Do not distribute any food products**, such as candy, water, soft drinks or fruit.

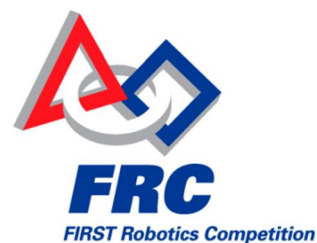
- **Do not sell raffle tickets.**
- **Do not bring bottled gas tanks (e.g. helium).** This is a safety concern.
- **Do not use walkie talkies.**
- **Do not invite or bring live bands to play in the audience.** This dilutes the presentation on the playing field and is too loud and confusing for the audience.
- **Do not play loud music in the Pit** because it interferes with important announcements. If a team receives more than a warning or two, the power to the team pit will be shut off and/or the music confiscated.
- **Do not form "tunnels"** during the Awards Ceremony. This can cause discomfort to those traveling through them and creates safety issues.

#### 4.17 CONSIDERATIONS

You will often hear the expression Gracious Professionalism® throughout your involvement in *FIRST*. You can read Woodie Flowers' definition in Section 0 – Introduction of the 2010 FRC Team Manual. One of our main goals is to encourage ALL team members and mentors to conduct themselves with kindness, sharing and consideration of others.

Gracious Professionalism™ is a central tenet of the *FIRST* experience. It is not acceptable to engage in hostile action, hostile/profane language or any other violent or antagonistic conduct. *FIRST* reserves the right, at its discretion, through the Event Manager or his/her designee, to arrange for any team, team member, event participant or other individual to be removed from participating or attending any *FIRST* event or program for engaging in such conduct. *FIRST* looks forward to everyone's cooperation in keeping our programs and events exciting, educational and full of Gracious Professionalism®.

<b><u>SAFETY GLASSES are REQUIRED!</u></b> <b>Bring enough for your team and visitors.</b>	<b>Bring required completed <u>CONSENT/ RELEASE FORMS</u> for all team members and mentors!</b>
<p style="text-align: center;"><b>TOOL BOX ITEMS</b></p> <ul style="list-style-type: none"> <li>-- Ball driver set / nut driver set</li> <li>-- Batteries and Charger</li> <li>-- Box cutter</li> <li>-- Broom (small, for team pit cleanup)</li> <li>-- C-Clamp, large, medium, small</li> <li>-- Cutters</li> <li>-- Deburring tool</li> <li>-- Dremel tool/accessories</li> <li>-- Drill - cordless w/charger, Drill bit set</li> <li>-- Flashlight</li> <li>-- Glue, super and/or glue stick</li> <li>-- Hacksaw and blades</li> <li>-- Hammer (ball peen &amp; brass)</li> <li>-- Heat gun</li> <li>-- Leatherman-type tool</li> <li>-- Level, small</li> <li>-- Lithium grease, spray can</li> <li>-- Magnet on a stick</li> <li>-- Paint brush</li> <li>-- Pliers - large, small, needle nose assort.</li> <li>-- Power outlet strip / extension cord (2)</li> <li>-- Power screwdriver</li> <li>-- Saber saw/wood &amp; metal blades</li> <li>-- Sandpaper - various grits</li> <li>-- Screws - nuts - washers</li> <li>-- Screw driver assortment, flat and Phillips</li> <li>-- Shrink tubing</li> <li>-- Socket set – 1/4", 3/8" drive</li> <li>-- Soldering iron (electric), solder, wick, flux</li> <li>-- Spare parts</li> <li>-- Square - small, medium</li> <li>-- Tap &amp; die set/assorted taps</li> <li>-- Tape: clear/electrical/masking</li> <li>-- Tape measure / ruler</li> <li>-- Tie wraps / connectors / rubber bands</li> <li>-- Tin snips</li> <li>-- Tweezers / scissors</li> <li>-- USB stick/drive -- Vice grip - large, small</li> <li>-- Volt meter</li> <li>-- WD-40 / lithium grease, spray can</li> <li>-- Wire terminal crimpers / Wire strippers</li> <li>-- Work gloves- several pairs</li> <li>-- Wrenches, Allen, crescent, open and box</li> <li>-- X-Acto type knife and blades</li> </ul>	<p style="text-align: center;"><b>ADDITIONAL ITEMS</b></p> <ul style="list-style-type: none"> <li>-- Banners - Corporate signs &amp; flags for team pit</li> <li>-- Camera and film, disposable</li> <li>-- Cart for moving robot</li> <li>-- Drop light</li> <li>-- Epoxy</li> <li>-- File folder box for paperwork</li> <li>-- Hand truck</li> <li>-- Laptop / software / cables / discs</li> <li>-- Manual and Updates</li> <li>-- Medical Release Forms</li> <li>-- Message board - dry erase marker set</li> <li>-- Notepads / spiral notebook / clipboard</li> <li>-- Paper / Sticky Notes</li> <li>-- Paper towels and paper cups</li> <li>-- Pens / pencils / sharpies / markers</li> <li>-- Portable printer</li> <li>-- Release form for each person, completed</li> <li>-- Seat(s) for team pit (small, foldable)</li> <li>-- Schedule to set up and break down team pit</li> <li>-- Spray cleaner</li> <li>-- Stapler / staples</li> <li>-- Storage box / bins- trinkets &amp; trash (buttons)</li> <li>-- Team roster and contact information</li> <li>-- Trash can (small) / trash bags</li> <li>-- Plastic zip type bags</li> </ul> <p style="text-align: center;"><b>PERSONAL ITEMS</b></p> <ul style="list-style-type: none"> <li>-- First Aid Kit - Band-Aids / Blister Kit / Ice Pack</li> <li>-- OTC Pain Medication; i.e., Aspirin, etc...</li> <li>-- Alcohol Prep Pads / First Aid Tape</li> <li>-- Cough Drops / Sore Throat Medicine</li> <li>-- Eye Wash And Drops</li> <li>-- Hand Sanitizer / Liquid Soap</li> <li>-- Feminine Products</li> <li>-- Insect Sting Medicine / Insect Repellent</li> <li>-- Facial Tissues/ Cotton Balls / Wet Cloths/</li> <li>-- First Aid Cream</li> <li>-- Anti-Nausea or Diarrhea Medication</li> <li>-- Safety Glasses</li> <li>-- Sewing Kit (Small)</li> <li>-- Sunscreen / Sunburn Spray / Aloe Vera Gel</li> </ul>



# ROBOT TRANSPORTATION

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## 5 ROBOT TRANSPORTATION

### 5.1 OVERVIEW

Following the guidelines will ensure that your robot arrives where it needs to be on time so that your team can focus on the important thing – participating in the event!

### 5.2 ROBOT SHIP DAY

**All teams must cease work on their robot on or before ROBOT SHIP DAY.** Any team that fails to comply may jeopardize their participation in the rest of the FRC season. See Section 5.4.1 for complete instructions on your ROBOT SHIP DAY options.

**ROBOT SHIP DAY is Tuesday, February 22, 2011**

### 5.3 SHIPPING AND DRAYAGE DEFINITIONS

<b>BILL OF LADING</b>	White FedEx Freight shipping document printed in purple and red. Provided by <i>FIRST</i> at Kickoff and used to ship the team's robot. US teams receive one (1) bill of lading for each leg of the robot's journey that is covered under the 2011 FedEx donation.
<b>Consignee</b>	Term on a FedEx Bill of Lading that refers to the recipient of the crate. The Consignee is the "Ship To" address for your crate. When shipping your robot to a drayage warehouse, your Consignee would be the drayage company and the address of the warehouse.
<b>Drayage</b>	<i>FIRST</i> contracts with a drayage company for each Traditional (non-Bag and Tag) event. They receive and store your robot until it is needed, transport it to and from the event venue and ensure that your robot ships off to its next destination.
<b>FedEx</b>	Shipping company that has generously donated to help FRC teams ship their robots to and from Traditional Regional Events.
<b>Payment Authorization Form</b>	A form required by SES in order to handle your crate through the drayage system. Teams must provide credit card information on this form to cover any freight overages. <u>This form must be completed regardless of which shipping method you will use.</u>
<b>PRO NUMBER</b>	A number used to track the movement of a shipment through the FedEx Freight system. Each Bill of Lading will have a Pro Number and barcode in the upper left-hand corner. Keep your PRO NUMBER handy to track your shipment.
<b>Shepard Exposition Services (SES)</b>	The drayage company contracted to receive, store, and ship your robots for Traditional Regional Events.

**Shipper** Term on a FedEx Bill of Lading that refers to who is shipping the crate. Please fill in the school/company name and address, as well as the contact name and phone number for the person shipping the crate.

**Shipping** In this case, the term "shipping" refers to the transportation of your robot in its crate:

- 1) To the Drayage warehouse
- 2) From the Drayage warehouse to the next event's Drayage warehouse
- 3) Home after your last event

**TRACKING NUMBER** A number used to track the movement of a shipment through the FedEx Express system. Each US Airbill or International Air Waybill will have a Tracking Number pre-printed on the form. Only a limited number of teams will receive a US Airbill or International Air Waybill.

**Traditional Regional Event** A competition event where teams must ship their robots to and from the event. Due to safety concerns and agreements with our venues, teams are not allowed to carry their robots in or out of these events unless they receive special permission. See Section 5.5 for further details on shipping.

**Bag and Tag Event** A competition event where teams must carry their robots to and from the event. No shipping options will be available on-site. Teams attending these events must Bag and Tag their robots. See Section 5.6 for further details on Bag and Tag.

**BAG** Plastic BAGS large enough to contain your robot. Provided by *FIRST* to isolate your robot under the Bag and Tag system.

**TAG** Zip tie TAGS with individual serial numbers used to seal BAGS for teams attending Bag and Tag events.

## 5.4 ALL TEAMS MUST

### 5.4.1 Verify ROBOT SHIP DAY compliance

Every team must provide proof that they ceased working on their robot on or before ROBOT SHIP DAY. Please follow the instructions below for your chosen transportation method. These are the only options available to comply with ROBOT SHIP DAY. Instructions on how to use each transportation option can be found in Sections 5.5 and 5.6.

#### 1. If You Ship Your Robot Using Any Allowable Shipping Method

For details on your Robot Ship Day shipping options, see Section 5.5.2.

- a. Obtain a receipt or copy of the shipping document from the shipper and ensure it clearly shows the date and time the crate left your team's hands;
- b. Make a copy for tracking purposes and retain it for your records. You may be asked to produce a copy of this receipt;
- c. The Main or Alternate Contact for your team must enter your pro number or tracking number in the special shipping section in TIMS by **Tuesday, March 1**.

## 2. If You Drive Your Robot to the Drayage Facility

- a. Ask the drayage warehouse personnel to put the time and date of delivery on an official receipt;
- b. Write your team number clearly on the receipt;
- c. Make a copy and retain for your records;
- d. Address the envelope as shown below, using all capital letters; and
- e. Send the receipt to *FIRST* so it arrives by **Tuesday, March 1**.

**Verification Mailing Address – Use capitals please:**

**[YOUR TEAM #]**  
TEAM SUPPORT / OPERATIONS  
*FIRST* ROBOTICS COMPETITION  
200 BEDFORD STREET  
MANCHESTER, NH 03101

## 3. If Your First Event is a Bag and Tag Event

- a. Bag and seal your robot on or before ROBOT SHIP DAY as described in Section 5.6.
- b. Fill in the Robot Lock-Up Form, clearly noting all required information.

## 5.5 TRADITIONAL REGIONAL EVENTS

A “Traditional Regional Event” is a competition event where teams must ship their robots to and from the event. Due to safety concerns and agreements with our event venues, teams are not allowed to carry their robots in or out of these events unless they receive special permission. Please see Appendix I for a complete list of Traditional Regional Events.

### 5.5.1 All teams attending a Traditional Regional Event **MUST**

- **Keep your filled crate weight below 400 pounds.** Teams are expected to ship their robot in their crate – not every tool they own. Any teams exceeding 400 pounds will be charged overage fees accordingly. See the “How to Ship Your Robot” document on the Competition Manual web page for further details: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).
- **Print the shipping labels for each event you will attend.** These documents contain the address for the drayage warehouse where you will ship your robot for each event. They can be found here: [www.usfirst.org/frc/robotshipping](http://www.usfirst.org/frc/robotshipping).
- **Ship to the designated drayage warehouse facility for your event. Event sites do not accept or store team robots, crates or toolboxes.** Your robot may be lost, delayed or damaged if you do not ship to the designated drayage warehouse.
- **Ship through the drayage system (managed by SES) using either FedEx or Shepard Exposition Services (SES) as the shipper.** No other shippers or shipping

arrangements are permitted. The only exception to this rule is for the first shipment of the season on Robot Ship Day (see Section 5.5.2).

- **Complete a “Payment Authorization Form” to cover drayage costs prior to your team’s initial event.** Go to [www.shepardes.com/first](http://www.shepardes.com/first) to complete an online payment authorization or print a faxable form. If your team does not complete the form prior to attending an event, you will be required to provide a valid credit card on the spot to cover any shipping or weight overage charges.
- **Construct a crate that meets at least the minimum guidelines set forth in the “Shipping Crate Construction” document:** [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).
- **Bring shipping documents to the event.** There will be no replacement FedEx shipping documents or Shipping and Drayage Documents available at events. Bring these with you to the event so you will be prepared to ship your robot at the end of the event.

### 5.5.2 Teams attending a Traditional Regional Event MAY

- **Use the FedEx donation to ship your robot.** FedEx has generously donated shipping services to help teams who must ship their robots. Teams who qualify to use these shipments will receive shipping paperwork with their Kit of Parts at Kickoff. You must follow the instructions contained in the “How to Ship Your Robot” document or your use of the FedEx donation may be revoked: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).
- **Ship a Tool Crate.** Some teams choose to ship a second crate containing tools to the event(s). Shipping a second crate is allowed, but only if the crate meets the following conditions:
  1. The second crate may NOT be shipped using the FedEx donation. Abuse of the FedEx donation may result in a loss of this option for all teams in the future.
  2. The team is financially responsible for all shipping and drayage costs for their second crate. The team must call SES prior to ROBOT SHIP DAY to arrange shipment of the second crate and payment of the drayage charges.
  3. Paint or stencil “TOOL CRATE – Pc 2 of 2” in letters at least 6 inches tall on each face of the crate. Failure to properly label which crate contains tools may delay arrival of your robot at the event.
- **Select an alternate transportation method for the first shipment of the season on Robot Ship Day.** Only for the shipment on Robot Ship Day, teams may choose one of the options below. See Section 5.5.1 above for details on what to request when you hand over your robot.
  1. Ship your robot using the FedEx donation (See “How to Ship Your Robot” for further details: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual));
  2. Ship your robot either through Shepard Exposition Services (SES) or using an alternate shipper of your choice; or

3. Hand-deliver your robot to the drayage facility for your first event. To use this option, you must:
  - a. Arrive during the normal business hours of the facility on Robot Ship Day: 8:00AM – 4:00PM local time.
  - b. Arrive in a truck with a 48” bed height (dock level) or you will be turned away at the warehouse. Safety and liability rules require a 48” bed height so that your robot can be unloaded by a forklift onto the dock.
  - c. Treat the dock workers with gracious professionalism.
- **Request an exception from the rule that teams must ship home.** Teams may have a reason that they need their robot home earlier than allowed by shipping it.
  1. Requests will be considered only for the team’s last event of the season or for a Traditional Regional Event prior to a Bag and Tag Event.
  2. Teams requesting an exception must contact Team Support via [frcteams@usfirst.org](mailto:frcteams@usfirst.org).
  3. *Complete the exception application process by February 25, 2011* to allow for processing. Make the request clear and provide the:
    - Subject line: "Robot Removal, [Name of Event] - Team [your team #]";
    - A detailed explanation of your reason for requesting an exception; and
    - The event where you wish to take your robot home.

Upon reception of this information, *FIRST* will, in good faith, consider your request. Be advised that each venue, its rules, and safety situations are unique. Some events are not laid out for safe robot removal and you will be refused for that reason. The Director of FRC will review each case and will provide a written response. This decision will be final.

#### **Exception Stipulations**

1. The drayage company will not help or provide equipment for the removal and teams will not be permitted to use the loading dock.
2. You may have to wait to load out at an earlier or later time than may be convenient.
3. You will also be responsible for dismantling and removing your robot crate. Do not expect to receive assistance in those processes.
4. A \$150 clean-up fee will be assessed for any crates left behind.

## **5.6 BAG AND TAG REGIONAL AND DISTRICT EVENTS**

A “Bag and Tag Regional Event” is a competition event where teams must carry their robots to and from the event. Teams attending these events must BAG and TAG their robots. Teams are not allowed to ship their robots in or out of these events unless they receive special permission. Please see Appendix II for a complete list of Bag and Tag Regional Events.

### 5.6.1 All teams attending a Bag and Tag Event **MUST**

- **Read the “Attending a Bag and Tag Event” document** for further details on how to transport your robot to and from Bag and Tag Regional Events: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).
- **Make arrangements to carry your robot to and from the event.** Shipping and drayage will not be available for Bag and Tag Events unless special arrangements are made with FRC (see Section 5.6.2). Do not ship your robot to the event.
- **Follow proper bagging procedure:**
  1. Set the BAG on the floor, leaving room for the robot in the center.
  2. Place the robot in the center of the BAG and pull the bag up around the robot. Be careful not to catch the bag on any corners or sharp edges.
  3. Tightly seal the BAG with your next numbered TAG.
  4. Complete the *Robot Lock-Up Form* as described below.

- **Complete the *Robot Lock-Up Form***

The *Robot Lock-up Form* is available on the Competition Manual page of the *FIRST* website at [www.usfirst.org/frc/robotshipping](http://www.usfirst.org/frc/robotshipping). Make sure that you complete every item on the line. **Incomplete forms will be rejected by inspectors at events.** The *Robot Lock-Up Form* must be filled in by an adult, 18 years or older, who is not a student on the team. By signing this form the signor attests to the fact that he/she is 18 years old or older, is not a student member of the team, and that all rules and regulations regarding access periods and lock or unlock are being followed.

### 5.6.2 Teams attending a Bag and Tag Event **MAY**

- **Make use of the Robot Access Period if applicable.** Teams attending Michigan District Events will not have as much time to work on their robots at events as teams attending 3-day events. Because of this difference, these teams are granted an additional limited ‘Robot Access Period’ to unbag their robot between ROBOT SHIP DAY and their 2-day events. See the “Attending a Bag and Tag Event” document for further details: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).
- **Request permission to ship to a Bag and Tag Event.** If your team’s home location is a great distance from the Bag and Tag Event you will attend, or you have other very significant challenges that prevent you from transporting your robot to the event, you may request permission to ship to the event. FRC will try to arrange limited drayage at Bag and Tag Events where there are teams who must ship in order to attend.

**To request permission to ship to a Bag and Tag Event:**

1. Submit your request by December 15, 2010.
2. Email FRC teams with a subject line of “Team #[your team number], Request to ship to Bag and Tag Event [Regional Event name].”
3. Include the following information in your request:
  - Where your team is located
  - How far you must travel to attend the event

- Any significant challenges you are facing to transport your robot
  - A contact name and mailing address where you can receive a FedEx envelope if approved.
4. FRC will consider your request and respond in writing with further instructions. If approved, we will send your team the necessary shipping documents and an address to ship your robot to.

## 5.7 CHAMPIONSHIP – KNOW YOUR OPTIONS

Teams must ship their robots to and from the FRC Championship. All shipping rules stated previously in this chapter apply to shipments to Championship.

### 5.7.1 What Happens if You Qualify at a Bag and Tag Event?

- Teams that qualify for the Championship at a Bag and Tag event must follow all procedures in the “Attending a Bag and Tag Event” document: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual). Bag your robot as described and ship it to the drayage location for the Championship.
- Teams qualifying at a Bag and Tag event will receive one (1) FedEx Freight BILL OF LADING at the event **IF** they have not already received the maximum number allowed. Teams may receive up to two (2) shipments prior to the Championship under the FedEx donation. Teams that have already received two (2) shipments will NOT receive any additional BILLS OF LADING.
- The team’s Shipping Contact should present himself/herself to the Event Manager at the Bag and Tag Event to receive any applicable shipping documents.

### 5.7.2 Traditional Regional Event - If You Know You Will Attend Championship

Already know you will be able to attend the Championship? Simply ship your robot the way you would to any other event.

- If you have a FedEx shipment left, fill out the FedEx BILL OF LADING and the SES BILL OF LADING with the Championship drayage address.
- If you do not have any FedEx shipments left, fill out a SES BILL OF LADING to indicate that you will be shipping through SES and provide the shipping desk with your payment information.

### 5.7.3 Traditional Regional Event - Not Sure Whether You Can Attend Championship?

If you are not sure your team will be able to attend the Championship, SES will attempt to hold your robot until the Tuesday following your event. **SES cannot guarantee that they will be able to hold your crate at the warehouse after the event.** They will do their best to ensure that your robot does not ship out before Tuesday, but please call SES as early as possible with your decision.

Please follow these guidelines to request a shipping hold on your robot:

1. Talk to a representative at the shipping desk at your event. Explain your intention to place a temporary hold on your robot while you determine if you can attend the Championship.
2. Fill out your paperwork with the address of the drayage location for the Championship. Make sure that you write "Hold until Tuesday" in the special instructions box on the SES BILL OF LADING. Also fill out your FedEx BILL OF LADING if you have one left. Turn in all paperwork to the shipping desk.
3. Label your crate. Use an 8 ½" x 11" sheet of paper to create a sign for your crate that says:

**TEAM WILL CALL  
HOLD UNTIL TUESDAY**

4. Follow up with SES by Tuesday. Call SES at (704) 394-9140 to let them know whether you will attend the Championship or not.
5. If you will not attend the Championship, provide SES with your complete shipping address so that they can update your BILL OF LADING to ship to your team's location.
6. Track your shipment online to ensure it arrives in time.

#### 5.7.4 After Championship

All teams attending the Championship will receive one (1) shipment home for their robot under the FedEx donation. The BILL OF LADING for this shipment will be distributed at the Championship in the team's registration packet.

### 5.8 IMPORTANT SHIPPING CONTACTS

#### 5.8.1 FIRST is Your First Contact

If you have any questions about robot shipping rules or processes, **CALL FIRST!** Rules in this chapter are written and administered by *FIRST*, not Shepard Exposition Services or FedEx. *FIRST* is not responsible for information given by representatives of outside vendors.

<b>Additional instructions:</b>	<a href="http://www.usfirst.org/frc/competitionmanual">www.usfirst.org/frc/competitionmanual</a>
<b>Download shipping labels and Robot Lock-Up Form:</b>	<a href="http://www.usfirst.org/frc/robotshipping">www.usfirst.org/frc/robotshipping</a>
<b>Phone:</b>	(800) 871-8326 - 8:30 AM to 5:00 PM EST
<b>E-mail:</b>	<a href="mailto:frcteams@usfirst.org">frcteams@usfirst.org</a> <b>Subject line:</b> <i>FIRST</i> Team [your #] Shipping Question



<b>Fax:</b>	(603) 666-3907
<b>Address:</b>	Team Support/Operations 200 Bedford Street Manchester, NH 03101

### 5.8.2 Shepard Exposition Services (SES)

Call SES if you have questions about how drayage works, if you need to schedule a shipment outside the FedEx donation, or if you have SES billing questions.

<b>Website:</b>	<a href="http://www.shepardes.com/first">www.shepardes.com/first</a>
<b>Phone:</b>	(704) 394-9140 – 8:00 AM to 5:00 PM EST Western teams may call after hours until <b>10:00 PM EST</b> at (704) 201-2058
<b>E-mail:</b>	<a href="mailto:pmullis@shepardes.com">pmullis@shepardes.com</a> <b>Subject line:</b> <i>FIRST</i> Team [your #] for [event name]
<b>Fax:</b>	(704) 398-0914
<b>Address:</b>	Paula Mullis – <i>FIRST</i> Robotics Shepard Exposition Services 5401-M Hovis Road Charlotte, NC 28208

### 5.8.3 FedEx

Call FedEx to schedule your pickup and with any FedEx tracking questions. Have your BILL OF LADING and PRO NUMBER available when you call.

<b>Website:</b>	<a href="http://www.fedex.com/us">www.fedex.com/us</a>
<b>Phone - FedEx Freight:</b>	1-866-393-4585
<b>Phone - FedEx Express:</b>	1-800-GO-FedEx (1-800-463-3339)

## 5.9 APPENDIX I – TRADITIONAL REGIONAL EVENTS AND THE CHAMPIONSHIP

State/ Country	Event Name	Event Venue	Location	Date(s)
CA, USA	San Diego Regional	San Diego Sports Arena	San Diego	10-Mar - 12-Mar-2011
CA, USA	Los Angeles Regional	Long Beach Arena	Long Beach	24-Mar - 26-Mar-2011
FL, USA	Florida Regional	University of Central Florida Arena	Orlando	10-Mar - 12-Mar-2011
GA, USA	Peachtree Regional	Gwinnett Center	Duluth	17-Mar - 19-Mar-2011
HI, USA	Hawaii Regional	Stan Sheriff Center	Honolulu	24-Mar - 26-Mar-2011
IL, USA	Midwest Regional	UIC Pavilion	Chicago	24-Mar - 26-Mar-2011
IN, USA	Boilermaker Regional	Purdue Armory	West Lafayette	17-Mar - 19-Mar-2011
IS, Israel	Israel Regional	Nokia Arena	Tel Aviv	13-Mar - 15-Mar-2011
LA, USA	Bayou Regional	Alario Center	Westwego	17-Mar - 19-Mar-2011
MA, USA	WPI Regional	WPI	Worcester	10-Mar - 12-Mar-2011
MA, USA	Boston Regional	Agannis Arena	Boston	07-Apr - 09-Apr-2011
MD, USA	Chesapeake Regional	Baltimore Convention Center	Baltimore	17-Mar - 19-Mar-2011
MN, USA	Lake Superior Regional	DECC	Duluth	10-Mar - 12-Mar-2011
MO, USA	St. Louis Regional	Chaifetz Arena	St. Louis	17-Mar - 19-Mar-2011
NC, USA	North Carolina Regional	Dorton Arena	Raleigh	07-Apr - 09-Apr-2011
NV, USA	Las Vegas Regional	Thomas & Mack Arena, UNLV	Las Vegas	31-Mar - 02-Apr-2011
OH, USA	Buckeye Regional	Wolstein Center	Cleveland	07-Apr - 09-Apr-2011
PA, USA	Philadelphia Regional	Liacouras Center	Philadelphia	07-Apr - 09-Apr-2011
SC, USA	Palmetto Regional	North Charleston Coliseum	North Charleston	24-Mar - 26-Mar-2011
TN, USA	Smoky Mountain Regional	Knoxville CC/Coliseum	Knoxville	31-Mar - 02-Apr-2011
TX, USA	Lone Star Regional	George R. Brown Convention Center	Houston	17-Mar - 19-Mar-2011
TX, USA	Dallas Regional sponsored by JCPenney	Dallas Convention Center	Dallas	07-Apr - 09-Apr-2011
UT, USA	Utah Regional	Huntsman Center	Salt Lake City	07-Apr - 09-Apr-2011
WI, USA	Wisconsin Regional	US Cellular Arena	Milwaukee	10-Mar - 12-Mar-2011
MO, USA	FIRST Championship	Edward Jones Dome	St. Louis	27-Apr - 30-Apr-2011

## 5.10 APPENDIX II – BAG AND TAG REGIONAL AND DISTRICT EVENTS

State/ Country	Event Name	Event Venue	Location	Date(s)
AZ USA	Arizona Regional	Arizona Veteran's Coliseum	Chandler	17-Mar - 19-Mar-2011
CA USA	Sacramento Regional	UC Davis ARC Pavilion	Davis	17-Mar - 19-Mar-2011
CA USA	Silicon Valley Regional	San Jose State University	San Jose	31-Mar - 02-Apr-2011
CO USA	Colorado Regional	Daniel L. Ritchie Center	Denver	07-Apr - 09-Apr-2011
CT USA	Connecticut Regional sponsored by Northeast Utilities	Connecticut Convention Center	Hartford	31-Mar - 02-Apr-2011
DC USA	Washington DC Regional	Walter E. Washington Conv. Ctr.	Washington	24-Mar - 26-Mar-2011
MI USA	Michigan State Championship	Eastern Michigan University	Ypsilanti	07-Apr - 09-Apr-2011
MI USA	Kettering University FIRST Robotics District Competition	Kettering University	Flint	04-Mar - 05-Mar-2011
MI USA	Traverse City FIRST Robotics District Competition	Traverse City Central High School	Traverse City	04-Mar - 05-Mar-2011
MI USA	West Michigan FIRST Robotics District Competition	Grand Valley State University	Allendale	18-Mar - 19-Mar-2011
MI USA	Detroit FIRST Robotics District Competition	Wayne State University	Detroit	18-Mar - 19-Mar-2011
MI USA	Ann Arbor FIRST Robotics District Competition	Skyline High School	Ann Arbor	25-Mar - 26-Mar-2011
MI USA	Niles FIRST Robotics District Competition	Niles High School	Niles	25-Mar - 26-Mar-2011
MI USA	Livonia FIRST Robotics District Competition	Churchill High School	Livonia	01-Apr - 02-Apr-2011
MI USA	Troy FIRST Robotics District Competition	Troy Athens High School	Troy	01-Apr - 02-Apr-2011
MN USA	Minnesota 10000 Lakes Regional	Williams Arena/The Sports Pavilion Univ of MN	Minneapolis	31-Mar - 02-Apr-2011

MN USA	Minnesota North Star Regional	Univ. of MN - Mariucci Arena	Minneapolis	31-Mar - 02-Apr-2011
MO USA	Greater Kansas City Regional	Hale Arena	Kansas City	10-Mar - 12-Mar-2011
NH USA	Granite State Regional sponsored by BAE Systems	Verizon Wireless Arena	Manchester	03-Mar - 05-Mar-2011
NJ USA	New Jersey Regional	Sun National Bank Center	Trenton	03-Mar - 05-Mar-2011
NY USA	Finger Lakes Regional	Gordon Field House	Rochester	03-Mar - 05-Mar-2011
NY USA	New York City Regional	Javits Convention Center	New York	11-Mar - 13-Mar-2011
NY USA	SBPLI Long Island Regional	Hofstra University	Hempstead	24-Mar - 26-Mar-2011
OK USA	Oklahoma Regional	Cox Arena	Oklahoma City	17-Mar - 19-Mar-2011
ON Canada	Waterloo Regional	University of Waterloo	Waterloo	24-Mar - 26-Mar-2011
ON Canada	Greater Toronto West Regional	Hershey Centre	Mississauga	31-Mar - 02-Apr-2011
ON Canada	Greater Toronto East Regional	Hershey Centre	Mississauga	31-Mar - 02-Apr-2011
OR USA	Oregon Regional sponsored by Autodesk	Portland Memorial Coliseum	Portland	24-Mar - 26-Mar-2011
PA USA	Pittsburgh Regional	PITT Petersen Event Center	Pittsburgh	10-Mar - 12-Mar-2011
TX USA	Alamo Regional	San Antonio Convention Center	San Antonio	03-Mar - 05-Mar-2011
VA USA	Virginia Regional	VCU Siegel Center - Richmond	Richmond	07-Apr - 09-Apr-2011
WA USA	Seattle Olympic Regional	Qwest Field	Seattle	17-Mar - 19-Mar-2011
WA USA	Seattle Cascade Regional	Qwest Field	Seattle	17-Mar - 19-Mar-2011

# HOW TO SHIP YOUR ROBOT

Greetings FRC teams!

If you will be attending a Traditional Regional Event (non-Bag and Tag) or the Championship, you are required to ship your robot both to and from the event. In order to do this successfully (and make sure your robot ends up where it needs to go!) you will need to understand two things: the drayage system and how to use your donated FedEx shipments. Please read this supplement carefully and contact [frcteams@usfirst.org](mailto:frcteams@usfirst.org) with any questions.

See you at the events!

-FRC Team Support

## TRADITIONAL REGIONAL EVENTS AND THE CHAMPIONSHIP

Teams attending Traditional Regional Events and/or the Championship will ship their robots to and from the events following the procedures below. A complete list of Traditional Regional Events can be found at the end of Section 5 of the 2011 FRC Competition Manual: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).

Teams will NOT be allowed to carry their robots in or out of any Traditional Regional Events or the Championship unless they receive special permission as outlined in Section 5 of the Competition Manual.

### 1. DRAYAGE – WHAT IS IT AND WHY DOES IT MATTER?

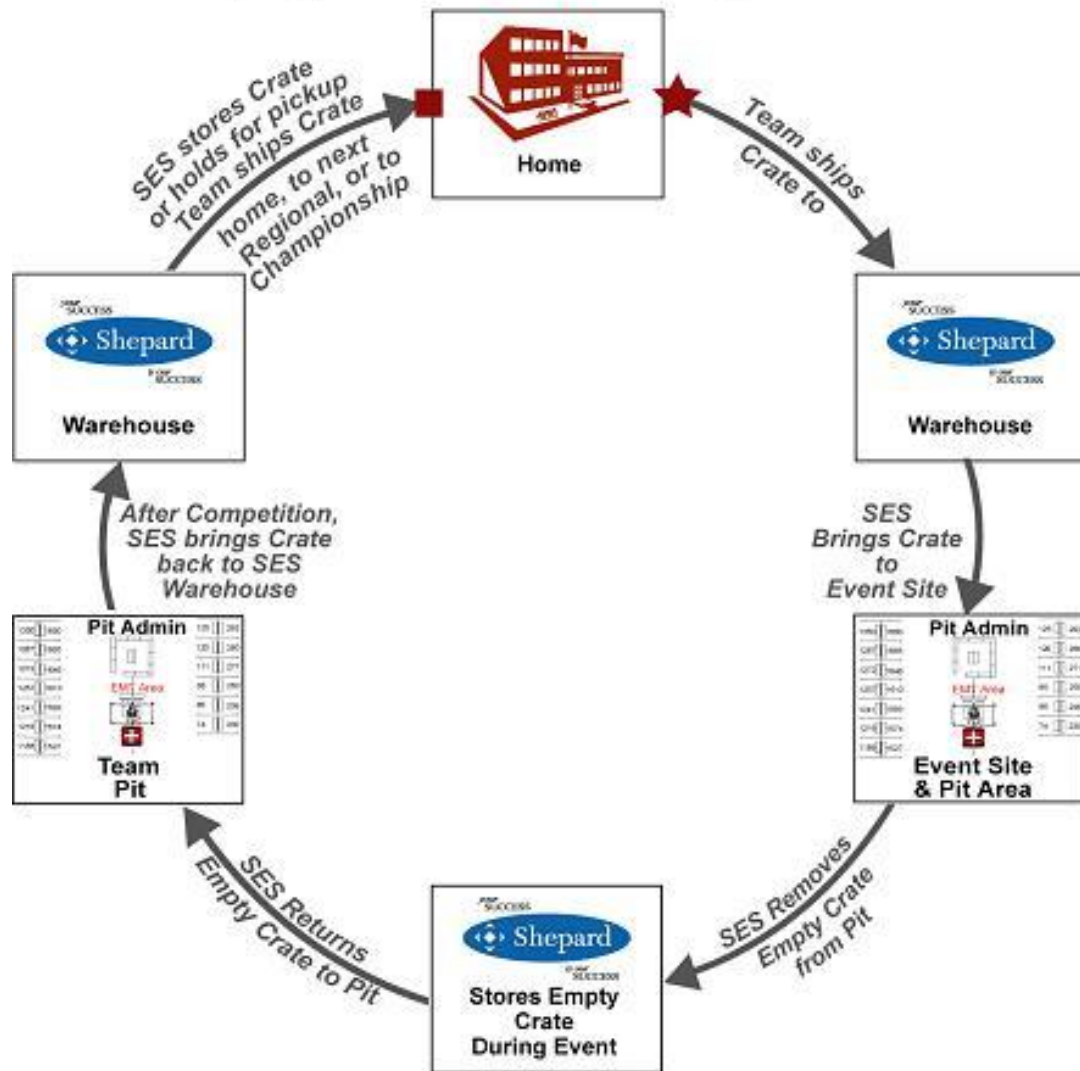
*FIRST* contracts with a drayage company for each Traditional (non-Bag and Tag) Event. You will ship your robot to their warehouse. They receive and store your robot until it is needed, transport it to and from the event venue and ensure that your robot ships off to its next destination after the event.

Every team attending a traditional Regional Event must ship its competition crate(s) to the designated drayage site. Only teams attending Bag and Tag Regional and District Events will be allowed to transport their robots directly to the event venue.

Shepard Exposition Services (SES) is the designated drayage company for all Traditional Regional Events and the Championship this year.

# Shepard Exposition Services (SES) *FIRST* Drayage Contractor

## Understanding Drayage and Robot Transportation



\* Shepard Exposition is not responsible for Drayage service for Long Island Regional Diagram and service applies for all other Regionals

## 2. RULES OF THE DRAYAGE SYSTEM

### 2.1 Robots MUST Ship Through the Drayage System

In order to maintain a fair and safe robot shipping process and honor our venue agreements, union rules, and on-site safety, teams must ship robots from event to event through SES.

- **Do not ship your robot to the event location.** Venues will NOT accept robot crates and *FIRST* will NOT take responsibility for robots shipped by any method other than those outlined in this chapter.
- The **ONLY** events that allow teams to carry their robots directly into the venue are Bag and Tag Events. See Section 5, Appendix II of the FRC Competition Manual for a complete list of Bag and Tag Events.

## 2.2 Before Your Events

Crates must arrive at the drayage site by the Monday before the event in order to be in place for the beginning of the event. If you are concerned that your crate may not arrive in time, make prior arrangements to ship through SES. FedEx shipments will not be expedited to meet a delivery deadline.

Teams have a few different options to ship to their first event of the season as described in Section 5 of the Competition Manual. After the first event, teams must ship either using the FedEx donation or through SES's logistics carrier.

Teams may plan to ship their robot through SES because they are a) saving their Donated FedEx shipments; or b) all the team's FedEx shipments have been used up. Arrangements for the shipment must be made before the event. To schedule a shipment, visit [www.shepardes.com/first](http://www.shepardes.com/first) or contact Paula Mullis at (704) 394-9140.

## 2.3 At the Events

Drayage personnel are not allowed to, and will **not**, load your crate onto your vehicle. At a Traditional Regional Event (non-Bag and Tag) teams must:

1. All teams must have a Payment Authorization Form on file with SES **before** you will be able to make shipping arrangements. See Competition Manual Section 4.5.1 for further details.
2. Visit the SES desk on the first day of the event to get an SES BILL OF LADING. This allows SES to track your robot through their system and must be completed in addition to any FedEx paperwork.
3. Remove all old PRO NUMBER stickers from your crate.
4. Attach address labels to your crate showing the next destination.
5. Fill out all required BILLS OF LADING and/or AIRBILLS using the drayage location for the current event as the "Shipper" and the next destination as the "Consignee." See [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual) for examples.
6. Turn in all shipping paperwork to the SES shipping desk at the event. Teams that leave their shipping paperwork on the crate or fail to provide correct shipping paperwork will be charged for their shipment.
7. **All SES shipments must be paid before you leave the Regional. Payment is accepted in the form of credit card on file, money order, or school check.**
8. SES will contact FedEx or the SES house shipper (depending on what you indicated on your shipping paperwork) to schedule the outbound shipment from the drayage warehouse. Your team does not need to contact the shipper directly.

## 2.4 Calculate Your Drayage Costs

*FIRST* pays the drayage costs for robot crates up to 400 pounds. The following rules apply to all crates:

- **Weigh In:** The drayage warehouse handlers will weigh team crates as they arrive at each facility. These weights will be certified and any crates exceeding 400 pounds will be subject to drayage overage fees.
- If a team wants to dispute the weight of its crate, a scale will be on site at each event for reweigh. **Teams must request reweighing BEFORE opening the crate.** Once the crate is opened, the team relinquishes any appeal rights.
- Crates will be weighed at each event and charges will be assessed separately at each event.
- Any robot crate heavier than 400 pounds will be charged as follows:
  - \$55 for crates weighing 400-450 pounds;
  - \$100 for crates 450-500 pounds; and

**NOTE:** A team's scales may vary from the drayage company's scales. It's in a team's best interest to stay well under break points in the drayage charges. For example: a crate weighing 435 pounds would be charged \$55 but a crate weighing 460 pounds would be charged \$100.

  - An additional \$100 for every 1-100 pounds over 500. For example: a crate weighing 545 pounds would be rounded up to 600 pounds and would be charged \$200.
- Any tool crate (second crate) will be charged \$55 for every 1-100 pounds for the entire weight of the crate. For example: a tool crate weighing 340 pounds would be rounded up to 400 and charged \$220. **NOTE:** Teams are responsible for shipping charges on tool crates as well. See Section 5.5.7.
- **Damage:** The drayage warehouses will not be responsible for damage to uncrated materials, improperly packed materials, or any concealed damages, loss, or theft of materials after crates have been picked up for loading out of the competition site.

## 3. USING THE FEDEX® DONATION TO SHIP YOUR ROBOT

FedEx has again graciously agreed to partner with *FIRST* for the 2011 FRC season. FedEx's donation will allow all FRC teams to ship their robot to and home from one (1) Traditional Regional Event. *FIRST* expects all teams to follow the instructions below carefully. Neither FedEx nor *FIRST* will reimburse teams for shipments that violate the terms of the donation.

**Bag and Tag NOTE:** Teams will only participate in the FedEx donation if they are attending a traditional Regional Event or the Championship. Teams attending a Bag and Tag event who wish to request permission to ship to that event must read the instructions found in Section 5.6.2 of the Competition Manual.

### 3.1 Shipments the FedEx Donation Does Not Cover

The FedEx donation does not cover certain shipments. Teams in the following situations must pay for their own shipping arrangements. Teams are responsible for all shipping costs.

- Shipping between back to back events (events on consecutive weekends).
- Intra-Canada shipments.



- Intra-Hawaii shipments. Teams in Hawaii should work with their Regional Director for further shipping instructions.
- Intra-Israel shipments. Teams in Israel should work with their Regional Director for further shipping instructions.
- Shipments abused or used incorrectly by the team. Neither FedEx nor *FIRST* will cover the costs for teams who fail to follow the published shipping rules.

### 3.2 Steps to Ship Your Robot Using the FedEx Donation:

1. **Call FedEx by February 15, 2011 to schedule a pickup appointment on or before ROBOT SHIP DAY.** Failure to schedule your pick up by February 15 may result in your robot not being picked up on ROBOT SHIP DAY, which may jeopardize your participation in the rest of the FRC season. Continental US Teams call FedEx Freight at 1-866-393-4585; all other teams call FedEx Express at 1-800-463-3339.
  - a. **FedEx will only pick up during their business hours.** Do not plan to schedule an appointment after hours unless your team would like to pay any extra charges.
  - b. **FedEx trucks require a loading dock!** If your school or business does not have a loading dock, you must request a lift gate when you schedule your shipment or FedEx will be unable to pick up your robot.
2. **Be prepared to pay for any additional charges required.** The FedEx donation covers the basic cost of transporting your robot in its crate. If your team incurs additional charges, such as if FedEx must make two (2) trips to deliver your robot, those charges will be billed to the team.
3. **Fill out your FedEx paperwork for your first shipment.** Your team will receive up to two (2) BILLS OF LADING or AIRBILLS with your kit at Kickoff. Fill out one of them with the drayage warehouse address for your first event. For examples of how to fill out your paperwork, go to [www.usfirst.org/frc/robotshipping](http://www.usfirst.org/frc/robotshipping).
4. **Pack your robot into your crate and affix the provided FRAGILE stickers on all four (4) sides.** If you need instructions on building a crate, see the "Shipping Crate Construction" document here: [www.usfirst.org/frc/competitionmanual](http://www.usfirst.org/frc/competitionmanual).
5. **Have your packed crate ready at the dock or door when the FedEx driver arrives.**
6. **Track your shipment online.** Keep one copy of your shipping paperwork so that you have the pro number or tracking number for your shipment. You can track its progress online on FedEx's website: <http://www.fedex.com/us>.

### 3.2 Rules for Using the FedEx Donation:

- Keep your loaded crate weight under 400 pounds.
- Teams **CANNOT** use the FedEx donation for back to back events (aka consecutive weekends). Teams shipping back-to-back must contact Shepard Exposition Services to schedule and arrange payments for these shipments.
- Teams are financially responsible for any shipments they require outside of the FedEx donation.

- Teams will receive their BILLS OF LADING or AIRBILLS with the Kit of Parts in January. The BILLS OF LADING or AIRBILLS will be packaged in a FedEx Express envelope with your team number on the front. Once your team signs off on their Kit of Parts receipt, YOU are responsible for keeping track of your BILLS OF LADING or AIRBILLS.
- Treat your FedEx paperwork like gold! The FedEx donation can save your team several hundred dollars on shipping your robot. **FIRST will not provide replacement BILLS OF LADING or AIRBILLS for teams that lose, forget or otherwise fail to properly use their shipping paperwork.**
- Only the pre-printed FedEx Freight BILLS OF LADING provided by FIRST will count as part of the FedEx donation. Teams that obtain BILLS OF LADING from any other source will not have their shipments covered.
- Each BILL OF LADING is made up of a top sheet and a carbonless copy underneath. Provide the top copy to the FedEx driver when they pick up your robot and retain one for your records. You will need the PRO NUMBER in the upper left-hand corner to track your shipment.
- If you do not intend to use all of your team's donated shipments, please mail the BILL OF LADING back to Team Support/Operations at FIRST, 200 Bedford Street, Manchester, NH 03101. Abuse of the FedEx donation could result in the loss of the donation for all teams in the future.
- If your team is registered to compete at the Championship, the FedEx donation provides one (1) additional shipment home from the Championship. You will receive the additional BILL OF LADING at the Championship.
- Teams qualifying for the Championship at a traditional Regional Event will **NOT** receive any additional BILLS OF LADING at the qualifying event. Teams are responsible for managing how they use their two (2) donated shipments. Event Managers will not have extra copies available. The only exception to this rule will be teams qualifying for the Championship at a Bag and Tag event (see Section 5.9).

**Example:** If a team uses one (1) Bill of Lading to ship to their initial Regional and their second Bill of Lading to ship to their second Regional, then the team must pay SES to ship their robot home OR to the Championship. If a team has qualified to go to the Championship at a Regional and they have already used their two (2) donated shipments, then the team **MUST** ship to the Championship through SES.

For further details on the FedEx donation and examples of how to fill out your BILLS OF LADING, see the Robot Shipping web page here:

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=3570>

#### 4. TRACK YOUR SHIPMENT

FedEx Freight Shipments may take up to 5 or 6 business days to arrive. Bad weather may delay shipments by an additional day or two. (Do not count the day you ship). If this will not allow your robot to arrive at its next destination on time, you must work with SES to arrange and pay for the shipment.

To estimate the travel time for your robot to arrive, please use the FedEx service map here: [www.fedexfreight.fedex.com/servicemaps.jsp](http://www.fedexfreight.fedex.com/servicemaps.jsp). Make sure that you select FedEx Freight.

Your PRO NUMBER will allow you to track your shipment online. Your PRO NUMBER is located in the upper left-hand corner of your copy of the BILL OF LADING (above the bar code).

Track your FedEx shipment at <http://www.fedex.com/us>

## **5. SHIPPING HOME FROM CHAMPIONSHIP**

All teams attending the Championship will receive one (1) shipment home for their robot under the FedEx donation. The BILL OF LADING or AIRBILL for this shipment will be distributed at the Championship in the team's registration packet.

Shipments home from the Championship may take up to four (4) weeks to return to your team's home location. Please plan accordingly. If you require your robot earlier than this for a specific reason, you must make arrangements to pay for shipment of your robot home through Shepard Exposition Services or request permission to manually transport your robot home as described in Section 5.5.2 of the Competition Manual. FedEx shipments home will not be expedited.

# ATTENDING A BAG AND TAG EVENT

Greetings FRC teams!

If you will be attending a Bag and Tag Regional Event, you will be transporting your robot to and from the event. In order to do this successfully (and make sure you are in compliance with the rules!) you will need to understand two things: how to properly bag your robot and what to do if you are attending multiple events. Please read this supplement carefully and contact [frcteams@usfirst.org](mailto:frcteams@usfirst.org) with any questions.

See you at the events!

-FRC Team Support

## BAG AND TAG

Teams attending designated Bag and Tag Events will transport their robots to and from the events themselves following the procedures below.

**Teams will NOT be allowed to carry their robots in or out of any Traditional Regional Events or the Championship unless they receive special permission as outlined in Section 5 of the Competition Manual.**

Drayage will not be available for Bag and Tag events. Do not ship your robot to the event.

## 1. Supplies

Each team attending at least one (1) Bag and Tag Regional Event will receive a special Bag and Tag kit in January with their Kit of Parts. The kit will contain:

- Two (2) plastic BAGS large enough to contain your robot. Only the *FIRST*-provided bags may be used – teams may not supply their own bags.
- At least six (6) zip tie TAGS with individual serial numbers.

## 2. General Rules For Bagging Your Robot

Every team must abide by ROBOT SHIP DAY regardless of whether they are attending a traditional Regional Event OR Bag and Tag event for their first event (see Competition Manual Section 5.2).

### 2.1. Proper bagging procedure:

1. Set the BAG on the floor, leaving room for the robot in the center.
2. Place the robot in the center of the BAG and pull the bag up around the robot. Be careful not to catch the bag on any corners or sharp edges.
3. Tightly seal the BAG with your next numbered TAG.
4. Complete the *Robot Lock-Up Form* as required in **Section 5.6.1** to verify the date and time that the BAG was sealed.

## 2.2. Your First Event is a Bag and Tag event

If the first event your team will attend for the season is a Bag and Tag event, follow this procedure:

1. Bag and Tag your robot on ROBOT SHIP DAY, and complete the *Robot Lock-Up Form*
2. Transport your robot to your event venue in your own vehicle. If you plan to transport your robot in a personal vehicle, please ensure that you have adequate means to secure the robot. If the robot is being transported in open air, such as in the back of a pickup, be very careful to shield the BAG from excessive wind. Wind can cause the BAG to flap against the robot, causing damage to the BAG.
3. You must carry your own robot into the event sealed in the BAG. Teams will not have access to the loading docks or forklifts; we recommend bringing a rolling cart or dolly to facilitate load in.
4. You may NOT open your BAG until it has been checked, approved by an inspector, AND pits have officially opened for the first day of competition. Upon check-in at Pit Admin, ask for the person in charge of checking Robot Lock Up Forms. **YOU MUST HAVE YOUR ROBOT LOCK-UP FORM READY FOR REVIEW AT THE EVENT. DO NOT FORGET TO BRING IT.**
5. After your Robot Lock-Up Form has been properly filled out to reflect the open time and date, your team may open the BAG and prepare to compete.
6. After the event, if you are waitlisted or will be attending another event, re-seal your robot in the BAG with a new TAG and fill out the Robot Lock-Up Form.
7. Remove your robot from the event through the front door or designated exit.
8. **IF** you are attending a traditional Regional Event or the Championship next:
  - a. Crate your robot (in the bag). FedEx and Shepard Exposition Services will not pick up a robot that is not in a crate. See [Section 5.6](#) for crate construction requirements.
  - b. Ship it to the drayage location for your Regional Event following the instructions in [Sections 5.5 and 5.6](#).
  - c. **All robots going to a second event must be shipped by the Tuesday following the Bag and Tag event.** For example, a team attending the Greater Kansas City Regional March 4-6 must ship to their next event by March 9.
  - d. FedEx Freight requires prior notice for pickups, especially if your location does not have a loading dock. If you plan to ship after a Bag and Tag event, you must call one (1) week ahead to schedule your pickup.
  - e. DO NOT open your BAG at the next event until it has been checked, approved by an inspector, AND pits have officially opened for the first day of competition.

## 2.3. Your Second Event is a Bag and Tag Event

If your first event is a traditional Regional Event, and then you will attend a Bag and Tag event, follow this procedure:

1. Follow the shipping procedures for your Traditional Regional Event on ROBOT SHIP DAY.

2. Bag your robot per the bagging procedure outlined above at the end of your first Regional Event - **before packing in your crate**. Make sure to fill out your *Robot Lock Up Form*. Crate your robot for shipment.
3. Ship your robot to your home location through the drayage system.
4. Before your Bag and Tag event, remove your robot from the crate, and **keep it in the bag**.
5. Transport your robot, in the bag, to the Bag and Tag Event venue in your own vehicle. If you plan to transport your robot in a personal vehicle, please ensure that you have adequate means to secure the robot. If the robot is being transported in open air, such as in the back of a pickup, be very careful to shield the BAG from excessive wind. Wind can cause the BAG to flap against the robot, causing damage to the BAG.
6. You must carry your own robot into the event sealed in the BAG. Teams will not have access to the loading docks or forklifts, so we recommend bringing a rolling cart or dolly to facilitate load in.
7. You may not open your BAG until it has been checked, approved by an inspector, AND pits have officially opened for the first day of competition. Upon check-in at Pit Admin, ask for the person in charge of checking Robot Lock Up Forms. **YOU MUST HAVE YOUR ROBOT LOCK-UP FORM READY FOR REVIEW AT THE EVENT. DO NOT FORGET TO BRING IT.**
8. After your Robot Lock Up Form has been properly filled out to reflect the open time and date, your team may open the BAG and prepare to compete.
9. After the event, if you're waitlisted or will be attending another event, re-seal your robot in the BAG with a new TAG and fill out the Robot Lock-Up Form.
10. Remove your robot from the event through the front door or designated exit.

### 3. Robot Lock and Unlock Instructions

#### 3.1. Completing the Robot Lock-Up Form

The *Robot Lock-up Form* is available on the Robot Shipping page of the *FIRST* website. Make sure that you complete every item on the line. **Incomplete forms will be rejected by inspectors at events.** The *Robot Lock-Up Form* must be filled in by an adult, 18 years or older, who is not a student on the team. By signing this form the signor attests to the fact that he/she is 18 years old or older, is not a student member of the team, and that all rules and regulations regarding access periods and lock or unlock are being followed. Phone numbers are required for verification in case inspectors at events have questions regarding the form.

#### 3.2. When the *Robot Lock-Up Form* must be used

The *Robot Lock-Up Form* must be filled in during the periods indicated in **Section 2** above. The forms also apply when the robot is being locked up *and* when it is being unlocked. Robots do not need to be locked up during the regular build season before ROBOT SHIP DAY.

## **4. Teams Attending 2-Day Events**

Two-day events for the 2011 season include all Michigan District Events. Teams attending these events will not have as much time to work on their robots at events as teams attending traditional 3-day events. Because of this difference, these teams are granted an additional 'Robot Access Period' to unbag their robot between robot ship day and their 2-day events.

### **4.1. 'Robot Access Period' – Permitted Actions**

During the Robot Access Period, teams may perform any activity they would normally do during the build season, including practicing with the robot.

### **4.2. 'Robot Access Period' - Schedule**

Teams may unlock their robot for a total of 6 hours during the 7-day period preceding any two-day event in which their team will be competing with their robot. The 6 hours may be broken up in any way the team wishes, with the exception that no single access period may be shorter than two hours. The robot must be locked up in between sessions and this must be documented on the *Robot Lock-Up Form* each time.

# ROBOT LOCK-UP FORM V2.0

*Please remember to bring this form to your events!*

Team Number: \_\_\_\_\_

Team Name: \_\_\_\_\_

Home City: \_\_\_\_\_

Date	Time	Signature*	Security Seal Number	Print Last Name, First Name	Phone Number**	(L) – Locked (U) – Unlocked	Explanation (reason for locking or unlocking)

\*By signing above, signor attests that he/she is 18 years old or older, is not a student member of the team, and that all rules, regulations, and procedures relating to robot lock-up and unlock have been strictly followed

\*\* Phone number is required in case inspector requires form verification



# Robot Lock-Up Form

## Noncompliance V2.1

This form is to be used when a team can not demonstrate compliance with robot lock-up requirements because of a missing, damaged, or otherwise unacceptable robot lock-up form.

Instructions: Team leader is to fill out and sign Section 1 of this form, and present it to an inspector at the event. The inspector is to take the form, obtain the additional signatures required, and return it to the team. The team **MAY NOT UNBAG** their robot until this process is complete.

### Section 1

Date: \_\_\_\_\_ Event: \_\_\_\_\_

Team # \_\_\_\_\_ Team Leader Name (print) \_\_\_\_\_

I hereby certify that my team has met all rules and regulations regarding the 2011 FRC robot lock-up process. Due to the circumstance below, my team is not able to provide the required Robot Lock-Up form to the inspector (please check appropriate box):

- ☐ My form is 100% correctly filled out, but we did not bring it with us or we lost it in transit
- ☐ My team did not complete the required form, or the form is not acceptable as-is
- ☐ My form is damaged or unreadable, but is 100% correctly filled out
- ☐ Other (please explain) \_\_\_\_\_

Team Leader Signature: \_\_\_\_\_

### Section 2

An inspector is required to obtain the additional signatures below, and return this form to the team. Note: The inspector should attempt to get the third signature in the order listed: the Field Supervisor or Pit Admin Lead should sign only if the Head Referee is not available.

Lead Inspector Signature: \_\_\_\_\_

FTA Signature: \_\_\_\_\_

Head Referee, Field Supervisor, or Pit Admin Lead: \_\_\_\_\_

# SHIPPING CRATE CONSTRUCTION

## CRATE CONSTRUCTION REQUIREMENTS

Build your crate so it is sturdy and falls within height and weight parameters when packed for shipment. If a crate exceeds size specifications or is poorly constructed, *FIRST* will not guarantee its security or its delivery to the site.

### 1. All Crates MUST

1. **Weigh less than 400 pounds when fully loaded.**
2. "Sit" on 2 pieces of 4" x 4" lumber, spaced at least 28" apart so it can be moved by a forklift.
3. Have a footprint no greater than 4' x 4' and be no taller than 5'10" (70") high. This maximum includes the 4" x 4" lumber mentioned above.
4. Be constructed so it can withstand stacking during transport and storage.
5. Have "**TEAM # XXXX**" (insert your team number) painted or stenciled in letters at least 6" high on at least one side of the crate. Shipping labels and paperwork often get lost in shipping. Painting your team number clearly on the crate will help to ensure that it arrives at your Pit Area on time.

### 2. All Crates Should

1. Be sturdily built to prevent damage to your equipment
2. Use 3/8" or 1/2" plywood or 3/8" or 1/2" Oriented Strand Board (OSB), a solid panel product of consistent quality with no laps, gaps, or voids.

**Note:** Medium density fiberboard (MDF) is not recommended for crate building because the material makes crate construction too heavy, and MDF can be dangerous to use if the correct safety precautions are not taken. MDF contains a substance called urea formaldehyde, which may be released from the material through cutting and sanding and cause irritation to the eyes and lungs.

Do not use particleboard because it collects moisture that adds weight and may cause the crate to fall apart. Remember, your crate may be exposed to the elements when loading and unloading trucks.

### 3. Crate Limit

FIRST asks that each team ship only one crate, but only allows a maximum of two (2) crates for any team at any competition site. This helps keep Pit entrances, aisles, and egresses clear, safe, and less crowded. This restriction also keeps team costs down.

If you ship a tool crate, it should also meet the above specifications. Teams pay all shipping and drayage costs for the additional crate.

## 4. Shipping Batteries

It is not mandatory that you ship your batteries with the robot, however, if you choose to ship the 12VDC batteries in the crate with the robot, federal regulations require teams to follow the instructions below.

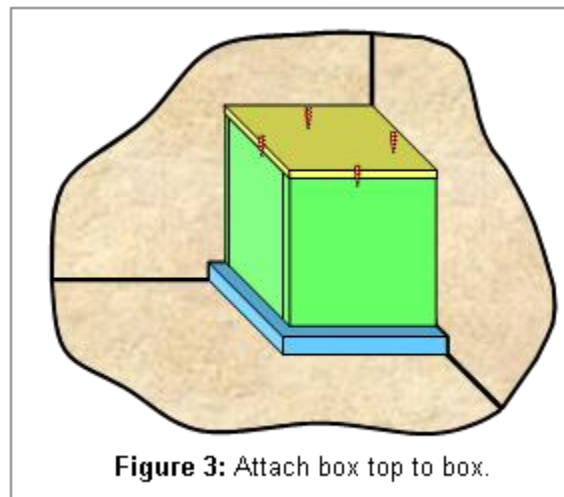
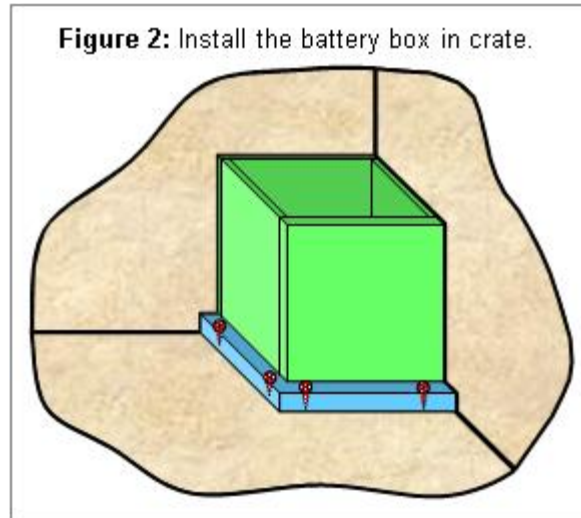
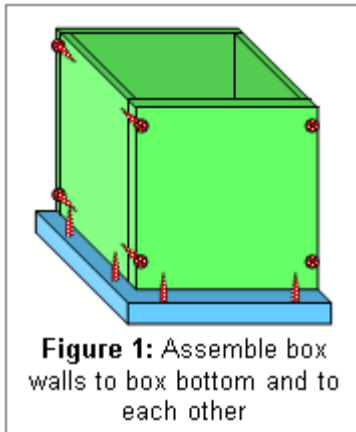
- NO batteries are to remain mounted on the robot (connected or not)!
- Ship them inside their original box or carton packaging.
- Use the Styrofoam covering with protective caps to cover the battery terminals.
- Secure the boxed batteries inside an “inner battery box.” See the Robot Shipping web page for further instructions on constructing an inner battery box.
- In the description section of your shipping paperwork, write “NON-SPILLABLE BATTERY INSIDE.”
- NOTE: International teams do not need to ship batteries with their robots to events in the US. Batteries will be provided for your use, via the spare parts table, at the regional events.

## 5. Instructions for Assembling an “Inner Battery Box”

**Bill of Materials**

Item #	Part Description	Material	Dimensions	Qty
1	Box walls	½” plywood	8” x 8½”	4
2	Box bottom	½” plywood	9” x 10”	1
3	Box top	½” plywood	8” x 9”	1
4	Fasteners	Staples <i>or</i> drywall screws	1¼”	16
5	Base fasteners	Staples <i>or</i> drywall screws	1¼”	4
6	Lid fasteners	Drywall screws	1¼”	4

1. Attach the box walls to the box bottom and to each other using the fasteners, spaced approximately as shown in Figure 1.
2. Install the box into your crate. Use the exposed 1” lip of the box bottom to secure the box to the crate using four more fasteners. Place fasteners approximately as shown in Figure 2.
3. Put your batteries in the box (Don’t forget to use the original packaging and styrofoam).
4. Secure the box top. Use 4 fasteners, positioned approximately as shown in Figure 3.



## 6. International Teams - Crates Crossing US Borders

The above sections apply to all crates. Crates crossing a US border have additional limits. Federal Rules apply to the crating and the pallets you will use to ship crates across US Borders to FRC events.

The US Dept. of Agriculture has adopted international guidelines to decrease the potential for the introduction of certain plant pests that may accompany wood materials arriving from other countries. The crate construction and pallet guidelines stipulate that wood packing materials be either heat treated or fumigated with methyl bromide in accordance with applicable rules. These wood materials must have the approved international mark certifying treatment.

**ALL IMPORTS (with certain exceptions) WILL BE DENIED ENTRY IF THEIR WOOD PACKING MATERIAL DOES NOT CONFORM TO THESE GUIDELINES AND MARKING REQUIREMENTS.**

All international teams, or US teams shipping into and out of the US, must do the following to comply:

- Use only plywood or other exempted wood materials when constructing their shipping crates and robots;
- If using raw wood materials such as 4" x 4", 2" x 4"s, 1" x boards, etc..., obtain the materials from a lumber dealer who sells compliant wood products;
- Be sure the wood is marked with the approved international mark;
- Make sure you use properly treated and labeled wood for the 4" x 4"s under your crate used for facilitating forklift use;
- If you must use a pallet to ship your crate, make sure it is either non-wood or a compliant wood pallet, available from commercial pallet distributors;
- Canadian teams should obtain an appropriate importer's statement as indicated; and contact your local FedEx office for additional information and assistance. You can also find information at: <http://fedex.com/us/promo/woodpackaging.html>

## **Bag and Tag Frequently Asked Questions (FAQ) v1.0**

### **Q: What's 'Bag and Tag'?**

A: Instead of shipping their robots on Robot Ship Day, teams attending regional events designated 'Bag and Tag' put their robots in a large bag, close it with a security seal, and log the information on a 'Robot Lock-Up' form. They are then responsible for bringing their robot and other equipment to the event themselves, rather than having them shipped. Inspectors at the event will check the bag, tag, and form to make sure the rules were followed before teams will be able to access their robot.

### **Q: When and where am I getting the bags and tags I need for this process?**

A: You will be receiving them along with your Kit of Parts. If you need an additional bag or seal at an event, more will be available at Pit Admin.

### **Q: Can I ship my robot to a Bag and Tag event?**

A: As a rule of thumb, no. Bag and Tag events will not have regular shipping and drayage services available. However, if this presents you with an extreme hardship, you may request an exception by emailing [frcteams@usfirst.org](mailto:frcteams@usfirst.org). Be sure to include as much detail as you can in your request. Not every request will be granted.

### **Q: Since I am not shipping my robot to my event, does that mean I can continue to work on my robot after Robot Ship Day?**

A: No. Teams attending Bag and Tag events must follow the same 'Build Season' rules as teams who are shipping their robots. There is a minor exception for teams who are attending 2-Day events (in 2011, this means Michigan District Events only), because they have less time to work on their robots at these events. For more details, see the document entitled 'Attending a Bag and Tag Event' under Section 5 here:

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=452>

### **Q: Did I have the option to choose whether I would Bag and Tag or ship to my event? I don't remember seeing that when I registered.**

A: No, you did not have the option to choose. Your 'Bag and Tag' status was determined by the event you selected. The full list of Bag and Tag events has been published several times starting in September, most recently here: <http://frcdirector.blogspot.com/2010/12/some-loose-ends.html>. It was also listed on the event details screen under each individual event.

**Q: Do I still get FedEx shipping vouchers (otherwise known as bills of lading)?**

A: That depends on what other events you may be attending. If you are only signed up for one Bag and Tag event, and nothing else, no. If you are signed up for one Bag and Tag event and Championship, you will be getting one voucher (bill of lading). If you did not sign up for Championship, but qualify at the Bag and Tag event you are attending, you will be given one voucher at the event. If you signed up for any non-Bag and Tag event, you will be getting two vouchers as usual.

**Q: Where can I find more information?**

A: Look under 'Section 5 – Robot Transportation' here:

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=452> You may also email [frc teams@usfirst.org](mailto:frc teams@usfirst.org) if you have any other questions.

# Section 6

## THE AWARDS

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## 6 THE AWARDS

### 6.1 FIRST ROBOTICS COMPETITION AWARDS

This chapter contains descriptions of the *FIRST*® Robotics Competition Awards as well as any required submission criteria. Note an asterisk designates a new or “changed” award. Unless otherwise noted, all awards are given at Regional events, District events and the *FIRST* Championship. *FIRST* will hold an Awards Ceremony to present these awards at each appropriate event.

### 6.2 COMPLETE AWARDS LIST

Award	Description	Selected By	Regional	District	CMP Division	FIRST CMP
Chairman's Award	The Chairman's Award represents the spirit of <i>FIRST</i> . It honors the team that, in the judges' estimation, best represents a model for other teams to emulate. It embodies the goals and mission of <i>FIRST</i> . It remains our most prestigious award.	Chairman's Judge Panel (application and interview process)	√	√		√
Champion	This award celebrates the alliance that wins the final match of the Championship Playoffs	Robot Performance				√
Championship Finalist	This award celebrates the alliance that makes it to the final match of the Championship Playoffs	Robot Performance				√
*Coopertition™ Award	The Coopertition™ Award celebrates the team that earns the most Coopertition points during the competition.	Performance	√	√	√	√
Creativity Award <i>Sponsored by Xerox</i>	This award celebrates creative design, use of a component, or a creative or unique strategy of play.	Judges	√	√		√
Division Champion	This award celebrates the alliance that wins the final match in their division at the Championship.	Robot Performance			√	
Division Finalist	This award celebrates the alliance that makes it to the final match in its division at the Championship.	Robot Performance			√	
*Engineering Excellence Award <i>Sponsored by Delphi</i>	This award celebrates an elegant and advantageous machine feature that recognizes any aspect of engineering excellence and innovation in the real world. This includes, but is not limited to: design, wiring methods, material selection, programming techniques, and unique machine attributes. The criteria for this award are based on the team's ability to concisely describe verbally, as well as demonstrate, this chosen machine feature.	Judges	√	√		√

Award	Description	Selected By	Regional	District	CMP Division	FIRST CMP
Engineering Inspiration Award	This award celebrates a team's outstanding success in advancing respect and appreciation for engineering and engineers, both within their school as well as their community. Criteria include: the extent and inventiveness of the team's efforts to recruit students to engineering, the extent and effectiveness of the team's community outreach efforts, and the measurable success of those efforts.	Judges	√	√		√
Entrepreneurship Award <i>Sponsored by Kleiner Perkins Caufield &amp; Byers</i>	This award celebrates the entrepreneurial spirit. This award recognizes a team, which since its inception has developed the framework for a comprehensive business plan in order to scope, manage, and obtain team objectives. This team displays entrepreneurial enthusiasm and the vital business skills for a self-sustaining program. (Please note, a formal business plan must be completed and given to the judges during the Pit interview process. Teams should be prepared to talk about their plan at that time. Look on the <i>FIRST</i> website under <a href="#">FRC Awards</a> for more information.)	Judges	√	√		√
*Excellence in Design Award <i>Sponsored by Autodesk</i>	This award honors clear and compelling evidence of excellence in design development, documentation, communication, and presentation. The intention of the Award is to inspire, recognize and celebrate design as one way in which you can change your world.	Reg: Students CMP: Autodesk	√			√
<i>FIRST</i> Dean's List	This award celebrates outstanding student leaders whose passion for and effectiveness at attaining, <i>FIRST</i> ideals is exemplary. Look on the <i>FIRST</i> website under <a href="#">FRC Awards</a> for more information.	<i>FIRST</i> Dean's List Judges	√			√
Founders Award (not a team award)	Each year <i>FIRST</i> presents this award to honor an organization or individual that has contributed significantly to the growth of <i>FIRST</i> .	<i>FIRST</i>				√
Gracious Professionalism™ Award <i>Sponsored by Johnson &amp; Johnson</i>	<b>This award</b> celebrates outstanding sportsmanship and continuous Gracious Professionalism™ in the heat of competition, both on and off the playing field.	Judges	√	√		√
Highest Rookie Seed Award	This award celebrates the highest-seeded rookie team at the conclusion of the qualifying rounds.	Robot Performance	√	√	√	

<b>Award</b>	<b>Description</b>	<b>Selected By</b>	<b>Regional</b>	<b>District</b>	<b>CMP Division</b>	<b>FIRST CMP</b>
Imagery Award (in honor of Jack Kamen)	This award celebrates attractiveness in engineering and outstanding visual aesthetic integration from the machine to team appearance.	Judges	√	√		√
Industrial Design Award Sponsored by General Motors	This award celebrates form and function in an efficiently designed machine that effectively achieves the game challenge.	Judges	√	√		√
Industrial Safety Award Sponsored by Underwriters Laboratories	This award celebrates the team that progresses beyond safety fundamentals by using innovative ways to eliminate or protect against hazards. The winning team consistently demonstrates excellence in industrial safety performance that shines throughout the competition from uncrating to re-pack.	Safety Advisors	√	√		√
Innovation in Control Award Sponsored by Rockwell Automation	This award celebrates an innovative control system or application of control components to provide unique machine functions.	Judges	√	√		√
Judges Award	During the course of the competition, the judging panel may encounter a team whose unique efforts, performance, or dynamics merit recognition.	Judges	√	√		√
Quality Award Sponsored by Motorola	This award celebrates machine robustness in concept and fabrication.	Judges	√	√		√
Regional/District Finalist	This award celebrates the alliance that makes it to the final match of the competition.	Robot Performance	√	√		
Regional/District Winner	This award celebrates the alliance that wins the final match of the competition.	Robot Performance	√	√		
Rookie All Star	This award celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of <i>FIRST</i> to inspire students to learn more about science and technology.	Judges	√	√		√
Rookie Inspiration	This award celebrates a rookie team's outstanding success in advancing respect and appreciation for engineering and engineers both within their school, as well as in their community.	Judges	√	√		√
Team Spirit Award sponsored by Chrysler	This award celebrates extraordinary enthusiasm and spirit through exceptional partnership and teamwork.	Judges	√	√		√
Website	The Website Award recognizes excellence in student-designed, built, and managed <i>FIRST</i> team websites.	Website Evaluators (prior to the event)	√	√		√

Award	Description	Selected By	Regional	District	CMP Division	FIRST CMP
Woodie Flowers	The Woodie Flowers Award celebrates effective communication in the art and science of engineering and design. Dr. William Murphy founded this prestigious award in 1996 to recognize mentors who lead, inspire and empower those around them using excellent communication skills.	Panel of prior WFA Winners	√			√

### 6.3 NEW AWARDS SUBMISSION PROCESS

The Regional Chairman's Award, the Woodie Flowers Award, and the Website Award must be submitted through the *FIRST* Student Team Members Information System (STIMS) <https://my.usfirst.org/stims/site.lasso>. The Main or Alternate contact for your team must assign up to four (4) student award summitters in FRC TMS. Those students will be notified of their status via email and may then log into the Student Team Member system and be able to view the awards submission section on their main page. The *FIRST* Dean's List Award must be submitted by the team main or alternate contact through TMS, <https://my.usfirst.org/frc/tms/site.lasso>. The Awards Submission section of STIMS and TMS will open for submissions at **noon EST on November 11, 2010** and close for submissions on **Thursday, February 17, 2011 at NOON EST.**

### 6.4 CHAIRMAN'S AWARD

The *FIRST* Robotics Competition is about much more than the mechanics of building a robot or winning a competitive event. It is about the partnership among people who are part of the *FIRST* community and the impact on those who participate in *FIRST* programs with a united goal of achieving *FIRST*'s mission. *FIRST*'s mission is to change the way young people regard science and technology and to inspiring an appreciation for the real-life rewards and career opportunities in these fields.

The concept of the Chairman's Award includes Regional Chairman's Awards, which enable *FIRST* to recognize more teams for their exemplary efforts in spreading the *FIRST* message, as well as their talents in organizing materials for their presentations.

The winning entries of the Regional Chairman's Awards will travel to the Championship for the continuing process of consideration for the most prestigious 2011 Chairman's Award.

#### 6.4.1 Overview

The Chairman's Award was created to keep the central focus of the *FIRST* Robotics Competition as our ultimate goal for transforming the culture in ways that will inspire greater levels of respect and honor for science and technology, as well as encourage more of today's youth to become scientists, engineers, and technologists.

The Chairman's Award represents the spirit of *FIRST*. It honors the team that, in the judges' estimation, best represents a model for other teams to emulate, and which embodies the goals and purpose of *FIRST*. It remains *FIRST*'s most prestigious award.

*FIRST* will present a Regional Chairman's Award at each Regional and three (3) Regional Chairman's Awards at the Michigan State Championship in 2011. Only the winners of the Regional Chairman's Award will be eligible to compete for the Chairman's Award presented at the *FIRST* Championship.

Hall of Fame members; i.e., teams that have already won the Chairman's Award, are ineligible to compete for the Regional Chairman's Award for five (5) years. Teams that won the Chairman's Award at the Championship prior to 2006 are eligible to participate in 2011. Teams that won in 2006-2010 are ineligible.

#### **6.4.2 First-Year (Rookie) and NASA Grant Teams:**

Because the Chairman's Award recognizes sustained excellence and impact, not just a one (1) year team effort, it is not possible for a first year (rookie) team to receive this honor. *FIRST* does, however, invite and encourage rookies to develop a Chairman's Award submission which may be evaluated by the judges determining the winner of the **Rookie All-Star Award**. This submission will document where the team started its *FIRST* journey and will also provide background for documenting the results of the team's efforts – it will be a great way to start the team's efforts to win the Chairman's Award.

*Rookie Teams:* If you prepare a Regional Chairman's Award submission, print a copy to give the Judges when they visit you at your Pit Station. Judges will not be viewing them online.

Teams receiving **NASA Grants** must provide a copy of this submission as part of the grant.

All teams are encouraged to print a copy of their final submission for their records and to confirm for themselves that the submission was accepted.

#### **6.4.3 Submission Information**

The criteria for the 2011 Chairman's Award are essentially identical to those in the past, with special emphasis on recent accomplishments in both the 2010/2011 year and the preceding two (2) years. The judges focus on teams' activities over a sustained period, as distinguished from just the six (6) week design and build time frame.

As in the past, teams may only submit at one (1) Regional competition for judging. Teams submitting for both the Chairman's Award and the Woodie Flowers Award should note that both awards are judged at the same event. Students working on the Woodie Flowers Award submission and those team members working on the Chairman's Award submission should coordinate to select the best event for the team.

More information on this award can be found on the *FIRST* Website under <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440>

Submission Deadline for Chairman's Awards are no later than **Thursday, February 17, 2011 @ NOON EST.**

##### **6.4.3.1 Video Requirement for 2011 Season**

Teams competing for the Regional Chairman's Award must provide a video to the judges at the event. The content of the video should explain what the team has done to be a Regional Chairman's Award winning team. The video may be shown to the judges during the teams 5 minute presentation time at the discretion of the teams; however the team must provide the equipment for viewing (i.e., laptop). Although it is a requirement of submission, it is not a requirement for the judging process for 2011. Specifications for the DVD will be found on the *FIRST* website under <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440>. Teams who do not submit a video to the judges will not be considered eligible for the Chairman's Award and will not be interviewed by the judges.

##### **6.4.3.2 The Chairman's Award Championship Award Process**

At The Championship, a panel of judges will review the all the winning submissions and will select one ultimate Chairman's Award winner. This winning team has the additional honor of choosing one of its junior or senior student members to be the recipient of the Allaire Medal.

#### 6.4.4 The Allaire Medal - Leadership Exemplified

The Chairman's Award is presented at the Championship to the *FIRST* team judged to have the best partnership effort. The Allaire Medal recognizes leadership exemplified and is awarded to an individual student on the winning Chairman's Award team.

Named in honor of Paul A. Allaire, a long-serving *FIRST* Chairman of the Board, the Allaire Medal is given to the student who has demonstrated outstanding leadership on his/her *FIRST* team, within his/her school and community and whose personal character best embodies the spirit of *FIRST*.

The team receiving The Chairman's Award at the Championship will select the Allaire Medal recipient. The adult and student team members determine the winner. The recipient must be a high school junior or senior who has been accepted into a four (4) year degree program at a college or university. The Allaire Medalist receives the Allaire medallion and up to \$10,000 in total scholarship support for undergraduate tuition, room and board, fees and books at his or her intended university or college.

### 6.5 EXCELLENCE IN DESIGN AWARD, *SPONSORED BY AUTODESK*

#### 6.5.1 Purpose of Award

This award honors clear and compelling evidence of excellence in design development, documentation, communication, animation, and presentation. The intention of the Award is to inspire, recognize and celebrate design as one way in which you can change your world.

#### 6.5.2 Award Overview

With a distinctive history of 19+ years of sponsorship of *FIRST*, Autodesk continues to honor the inventors, engineers and design professionals of the future who are at the center of the *FIRST* Robotics Competition. They want to help teams develop an awareness of the power of design; learn the processes and tools for great design; and award achievement in design excellence. Autodesk understands that you want to have a positive impact on the world and now more than ever, design technology is helping to improve the way we live and shape the world in which we live.

#### 6.5.3 Award Specifics

Again this year, Autodesk is proud to sponsor the Award for Excellence in Design – with two separate categories in this single Award. Category One will involve 3D Design; and Category Two will involve Animation.

All competitors for the Award will have the opportunity to choose from, or combine any of 35 Autodesk products to incorporate in their entry in 2011. These products are available for free\*, along with *FIRST* relevant learning materials and tech support, when you join our Education Community. Just go to [www.autodesk.com/first](http://www.autodesk.com/first). If you enter in the 3D Design Category your entry **MUST** include use of at least Autodesk Inventor Professional 2011. If you enter in the Animation Category, your entry **MUST** include use of at least either Autodesk 3ds Max, Maya, or Softimage. Remember, you can use as many Autodesk products as you like...but use of at least the above products is required in the competition category you choose.

Complete information about the Award, including submittal format, deadlines, criteria, and judging process will be posted by January 10, 2011 on the *FIRST* website and on the *FIRST* section of the Autodesk Education Community at: [www.autodesk.com/first](http://www.autodesk.com/first).

#### 6.5.4 Award Judging

All entries in, 3D Design will be submitted and judged at the Championship level, only. There will be a winner in this Category announced at *FIRST* Championship.

Entries in Animation, will be submitted and peer judged at each Regional event. The winner at the Regional level will be announced and shown at the Regional event awards ceremony. All winners at the Regional level, potentially with others identified by Autodesk experts, will be judged at the *FIRST* Championship level by a panel of professionals. There will be a Championship winner in this Animation announced at the 2011 *FIRST* Championship.

At the 2011 Championship, the winner of the Autodesk Award for Design Excellence (in both of the two Categories) will be announced and shown at the awards ceremony.

*FIRST* and Autodesk value design and are committed to honoring the teams who compete for this Award by showing the amazing work created by each of them as often as possible.

## **6.6 FIRST DEAN'S LIST**

### **6.6.1 Overview**

In an effort to recognize the leadership and dedication of *FIRST*'s most outstanding FRC students, the Kamen family sponsors an award for selected top students, aka *FIRST* superstars, known as the *FIRST* Dean's List.

The students who earn *FIRST* Dean's List Award status will not only be great examples of student leaders who have led their teams and communities to increased awareness for *FIRST* and its mission but they will continue on, post-award, as great leaders of *FIRST*'s ever growing student alumni. This award joins the ranks of prestigious awards like the *FIRST* Founder's Award which honors sponsors or other supporters who help to grow *FIRST*; the Woodie Flowers Award, which honors outstanding mentors at *FIRST*; and the Chairman's Award, which honors the team to have best achieved the mission of *FIRST*. It is the hope that the *FIRST* Dean's List will, in time, garner national recognition, similar to the National Merit Scholarship Program, which could increase the competitiveness of college, scholarship, internship and employment opportunities for the recipients. Prestigious colleges have expressed great interest in meeting ***FIRST* Dean's List's** Award winners!

The award was created during the 2010 FRC season by the Kamen family in recognition of Jack and Evelyn Kamen, parents of *FIRST* founder Dean Kamen. Jack, who passed away in August of 2008 at the age of 88, and his wife Evelyn have been fixtures at many *FIRST* events. Their humor, along with a positive and supportive attitude, truly symbolizes the *FIRST* culture. In fact, Jack is the designer of the playful red, white and blue geometric shapes that create the *FIRST* logo which wonderfully balances the technical and emotional sides of what *FIRST* is all about. Dean's mother, Evelyn, is a tireless caretaker for her family and is an exceptional teacher, principal and tremendous *FIRST* supporter. She lends her experience as a leader of schools to chair the judge panel that selects the ***FIRST* Dean's List** Award winners.

Dean's parents always encouraged his passion for innovation and his gift for motivating leaders throughout the world to support the *FIRST* mission. It is the family's hope that this award will encourage the passion in all *FIRST* students to promote the *FIRST* mission both as a student on an FRC team and for years to come as members of the *FIRST* student alumni.

### **6.6.2 Submissions**



The process for competing for the **FIRST Dean's List** is similar to the process for the Woodie Flowers Award and the Chairman's Award in that applicants must first compete at the Regional level to be considered at the Championship level. Applicants for the **FIRST Dean's List** are nominated by their mentor as **FIRST Dean's List** Nominees. These students will be reviewed at one (1) Regional where their team is competing with two (2) **FIRST Dean's List** Finalists chosen at each Regional.

All Dean's List Finalists will be considered for the final selection of ten (10) **FIRST Dean's List** Award winners at the **FIRST** Championship in St. Louis.

Each FRC mentor is invited to select up to two (2) students (may select only one but not more than two) as **FIRST Dean's List** Nominees. In deciding which students to nominate, mentors should consider the impact the award will have on the nominated student. For example, mentors may choose to nominate a junior whose college acceptance prospects would be enhanced by both the nomination and any subsequent advancement in the competition. Each mentor may only submit their two (2) **FIRST Dean's List** Nominees to compete for the **FIRST Dean's List** Finalist designation at one (1) regional. Students previously selected as Dean's List Semifinalists or Finalists ARE eligible for nomination again this year.

#### 6.6.2.1 Criteria

Criteria for selection of the **FIRST** Dean's List shall include, but not be limited to a student's:

- demonstrated leadership and commitment to the ideals of **FIRST**;
- interest in and passion for a long term commitment to **FIRST** and its ideals;
- overall individual contribution to their team;
- technical expertise and passion;
- entrepreneurship and creativity;
- ability to motivate and lead fellow team members; and
- effectiveness at increasing awareness of **FIRST** in their school and community.

Evaluation of Nominees and Finalists will be based on a one page essay, submitted by the mentor, which best describes each student's fulfillment of the criteria. (As previously noted, Mentors can submit up to two nominations/essays per team). Although a single mentor must submit the nomination, the team as a whole must verify the accuracy of the submission. **FIRST** is relying upon the team for veracity and accuracy of the submission data.

Each entry shall be in the form attached which includes identifying information; i.e., the student's cumulative GPA; and an essay of not more than 4,000 characters attesting to why the student has been nominated. Essays must be submitted no later than **Noon EST on February 17, 2011** to <https://my.usfirst.org/tims/site.lasso>. A photograph of the Dean's List Nominee is encouraged, but optional, and the essay submission and such photos may be used, in promotion of the recipient and/or the award, at the discretion of **FIRST**. Winners will be required to sign a **FIRST** media release to allow use of their likeness to sponsors contributing to the **FIRST** Dean's List recognition program and will be responsible for any taxes associated with federal/state prize requirements.

If a team is attending more than one regional event, the mentor must select one event at which their nominations are to be considered. Each essay must clearly state the



team name, the names and grade levels of the student(s) nominated, an explanation of why the students were nominated as well as the regional event at which the nomination is to be considered.

### 6.6.3 Judging

At each FRC regional event, judges will select two (2) students from the **FIRST Dean's List** Nominees as **FIRST Dean's List** Finalists. The two (2) Regional **FIRST Dean's List** Finalists will be honored at the award ceremonies at that regional event. Six (6) **FIRST Dean's List** Finalists will be selected at the Michigan State Championship.

All **FIRST Dean's List** Finalists will be considered for the **FIRST Dean's List** at the **FIRST** Championship in St. Louis using the essays provided. Finalist candidates need not be present at the **FIRST** Championship in order to be considered. Ten (10) Students will be selected as the **FIRST Dean's List Award** Winners for the 2011 FRC season.

The ten (10) 2011 **FIRST Dean's List** Award winners will receive the following:

- a written recommendation from **FIRST** leadership to the college(s) or employer(s) of their choice;
- a credit towards the winning student's team 2012 registration fee;
- a commemorative plaque for the student's school Hall of Fame;
- an invitation for them, and a chaperone, to attend an expenses paid **FIRST Dean's List** Award Summit, at **FIRST** Headquarters in Manchester, New Hampshire; and
- the opportunity to work with all members of the **FIRST** Dean's List and **FIRST** leaders to advance the mission of **FIRST**.

## 6.7 THE FOUNDER'S AWARD (CHAMPIONSHIP ONLY)

Each year **FIRST** presents this award to honor an organization or individual that has contributed significantly to the growth of **FIRST**.

## 6.8 WEBSITE AWARD

The Website Award recognizes excellence in student designed, built and managed **FIRST** team websites. Two (2) subcategories are awarded:

- "Website Excellence" - Every submission that meets the first website design standards of excellence will receive the website excellence award.
- "Best Website" –One (1) best website award will be given at each regional competition. the championship best website award winner will be chosen from among the regional best website award winners.

### 6.8.1 Submission and Deadline Information

Teams must enter their website into the **FIRST** awards submission site by **Noon EST on February 17, 2011** to be evaluated. Each team's website is eligible for a website award at every regional event at which the team is competing. The website must be complete and functional by the date of submission. Any website found to be "down," and not viewable by the evaluators, will be disqualified.

Additional information can be found on the *FIRST* website under:  
<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440>.

## 6.9 WOODIE FLOWERS AWARD

The Woodie Flowers Award celebrates effective communication in the art and science of engineering and design. Dr. William Murphy founded this prestigious award in 1996 to recognize mentors who lead, inspire and empower using excellent communication skills.

Each year, students may submit an essay nominating one (1) mentor from their team to be considered for this award. If a team already has a mentor who has won the Regional Woodie Flowers Award in a prior year, then that team may resubmit that mentor in the current year. *FIRST* will recognize one (1) adult mentor at each Regional for receipt of the Regional Woodie Flowers Award. The current year Regional Woodie Flowers Award winners, along with those mentors who won a Regional Woodie Flowers Award in a prior year and have been re-nominated, will be judged to receive the Woodie Flowers Award at the FRC Championship.

### 6.9.1 Spirit of the Award

High school students on a *FIRST* Robotics team may choose one (1) adult team member as their Woodie Flowers Finalist Award (WFFA) candidate (eligibility information on *FIRST* website under <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440>). The students will describe how this mentor has given them the best understanding of the challenges, opportunities and satisfaction involved in the discipline of engineering and design. Dr. Flowers will lead the past Championship Woodie Flowers Award (WFA) winners as they judge and select the Finalists and ultimate Championship winner based on student essays.

This award recognizes an individual who has done an outstanding job of motivation through communication while also challenging the students to be clear and succinct in recognizing the value of communication. As such, it is very important that this be a student-led effort and a student decision. Team mentors should direct their students to the online entry site and let the high school student nominators decide whom to nominate. Adults can help edit, but this must be a student-led effort, since any team mentor is eligible. Authors must be **clearly** identified as high school students in the online submission.

### 6.9.2 Submission Deadline

The Woodie Flowers Award entries are due **Thursday, February 17<sup>th</sup> NOON EST**. Eligibility and entry requirements, judging criteria and details on the entry process can be found on the *FIRST* website under <https://my.usfirst.org/stims/site.lasso>.

### 6.9.3 Prior Year Regional WFFA Winner Re-submission

Please refer to the current Championship WFA eligibility requirements on the *FIRST* website. Student nominators must submit a new 3000 character (maximum) essay in order to re-nominate their previous year Regional WFFA winner to be eligible for the current Championship WFA. Student nominators will not be able to edit the original submission. Past winners without a new essay will not be eligible for the WFA. While the judges can review past essays, the new essay must be able to stand alone as a complete submission.

Each *FIRST* team can nominate/re-nominate a maximum of one (1) candidate for the Championship WFA.