

# THE 1999 FIRST ROBOTICS COMPETITION

## TEAM UPDATE #6

Date: April 13, 1999

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### **MORE ALLIANCES IN ELIMINATION MATCHES AT EPCOT**

Due to the large number of teams attending the National Championship, FIRST has decided to extend the Elimination Matches to include the top 16 alliances. Thus, there will be one extra layer of best 2 of 3 Elimination Matches.

### **THREE TEAMS PER ALLIANCE IN ELIMINATION MATCHES**

At the 1999 Great Lakes Regional FIRST Robotics Competition, teams voted to try a new format for the Elimination Matches. In this new format, there were three teams in each alliance and two of the three teams competed in any given Elimination Match. The new format was judged a success and will be used at the National Championship. The benefits of the new format are an increased number of teams participating in the Elimination Matches, more flexibility when devising a strategy to win against an opposing alliance, and the ability of an alliance to swap in a "replacement" team if a robot breaks. Details of the new format are included below.

### **RULES UPDATE - ELIMINATION MATCHES AT EPCOT**

#### Alliance Selection

Prior to the start of the Elimination Matches, the top sixteen ranked teams will each select two allies. Starting with the number one seed and proceeding in descending seed order, each team representative will select one ally. After all top sixteen teams have one ally, the process will repeat, until all top sixteen teams have two allies.

Each of the newly formed alliances will be captained by a member of the top seeded team of the alliance. Only two of the three teams in an alliance will compete in any given match. Alliances will compete within the standard series of Elimination Matches. In the end, the winning alliance for the tournament will consist of all three teams in the alliance, regardless of the number of Elimination Matches played by any team within the alliance.

#### Responsibilities of the Alliance Captain

Prior to the start of the Elimination Matches, one pre-college student member of each top sixteen team must be identified to the Alliance Coordinator on the stage as an Alliance Captain. Each Alliance Captain must wear an official Captain Hat supplied by FIRST. Alliance Captains are responsible for selecting which two of the three alliance teams will compete in each match, and for keeping the Alliance Coordinator informed as to their selections.

At least five minutes prior to the start of the first Elimination Matches, the Alliance Captains involved must inform the Alliance Coordinator on their stage which two of

their three teams will compete. Alliance Captains must report team selection at least two minutes prior to the start of each subsequent set of best 2 of 3 matches. Within a set of best 2 of 3 matches, Alliance Captains must report team selection within two minutes after the Referees have allowed teams back onto the field to clear the previous match. The Alliance Coordinator will give Alliance Captains a 30 second warning before their selection period expires.

Each Alliance Captain will receive three index cards, one for each team in the alliance. Each card will have an alliance team number written on one side. The Alliance Captains will communicate their team choices for an upcoming match by delivering/exchanging cards held by the Alliance Coordinator. Alliance Captains should be careful to hold the index cards so as to shield the team numbers from the sight of the opposing alliance.

If an Alliance Captain does not provide the index cards to the Alliance Coordinator within the time limits specified above, it will be assumed that the teams fielded by the alliance will not change in the upcoming match.

The Alliance Captain will be allowed to stand in the Operator Stations assigned to the alliance, per the same rules as for robot operators and coaches, regardless of which two of the alliance's teams are competing in the match.

#### Time-outs

If necessary, alliances may call a time-out prior to the start of an Elimination Match. Time-outs may not be called until after the teams competing in the upcoming match have been selected, and team selection may not be changed during or after a time-out. Time-outs may last up to two and one-half minutes and will be counted in 30 second increments.

#### Rematches

In the event of a rematch, only the four teams that played in the original match may compete.

### **RULES UPDATE - CONTROL SYSTEM RULES**

During the course of the regional competitions this year, some teams experienced control system problems due to high frequency electrical noise created by the motors. In order to help prevent this, 0.1  $\mu\text{f}$  capacitors must be installed across the outputs of all Victor 883 speed controllers.

Capacitors will be available to all teams at the Spare Parts desk. Capacitors can be installed easily by bending the leads and attaching them at the screw terminals on the motor output side of the speed controllers (just like attaching the transorbs, but on the opposite side of the speed controller). Installation should take only a few minutes.

## **RULES UPDATE - DECLINING AN ALLIANCE PARTNERSHIP**

In the regional competitions, teams were allowed to decline an invitation to form an alliance with one of the top seeds in anticipation (or by pre-arranged agreements) that they would be asked to be an ally of a lower seeded team. This situation put an enormous amount of pressure on all teams and may have lead to some unfortunate developments that are not in the spirit of FIRST and "gracious professionalism". To alleviate this problem and to encourage good sportsmanship and teamwork in its broadest sense, teams are encouraged to accept their first offer to be an ally. However, FIRST also recognizes that, in the spirit of freedom of choice, teams should not be forced into an alliance. Therefore, Rule P7 has been updated as follows:

- P7. Teams may decline an offer to ally for the Elimination Matches, but the declining teams will not be eligible to be selected by another team as an alliance partner for the duration of the event.

## **NATIONAL CHAMPIONSHIP AGENDA**

The agenda for the National Championship is now available on the FIRST web site at <http://www.usfirst.org/1999comp/Agendas/Disney.html>. Please make note of the following agenda items:

- Qualifying Matches will start on **Thursday at 6:30pm**. This will allow sufficient playing time for teams to play six Qualification Matches each.
- One representative from each team should report to the west side of the Einstein stage at **11:30am on Saturday**. The team representatives should all be pre-college students who will represent their teams during alliance selection for the Elimination Matches. The team representatives from the top 16 teams will become the Alliance Captains as described above.
- Two team representatives from each team should meet in front of the Newton stage at **5:15pm on Saturday**. Team representatives will accept awards on behalf of their entire team during the awards ceremony.
- All members of the finalist and champion alliances should report to the Newton stage at **5:30 on Saturday** in order to receive their award medals. Both alliances will also be recognized in front of the entire audience during the full awards ceremony, but the early medal handout will eliminate the need for the time consuming procession of all team members across the stage at that time.

## **TEAM PRESS INFORMATION**

Teams are encouraged to send original copies of any press coverage they were featured in this year to FIRST. We are building a portfolio of press coverage of the 1999 Competition, and would like to make this collection as comprehensive as possible. The portfolio will be used at FIRST to help others understand the nation wide impact of this program. Original clippings can be sent to Sandra Darah, FIRST, 200 Bedford Street, Manchester, NH 03101.

## **PRESS ACCESS AT THE NATIONALS**

At the nationals, all press will need to be issued credentials to obtain access to scheduled press briefings and to reserved press areas adjoining each stage. If any teams have professional crews that are accompanying your team to record this year's competition, they must register at the Press Tent at the Competition site. **Access to the EPCOT stages will be restricted to competing team members only**, and thus it is essential to have all members of the press register at the Press Tent to gain access to their reserved viewing positions.

## **NASA BROADCAST OF NATIONAL CHAMPIONSHIP ON THE INTERNET**

NASA will broadcast the 1999 FIRST Robotics Competition National Championship live on the internet on Friday, April 23 and Saturday, April 24. The broadcast will be available at the NASA website (<http://quest.arc.nasa.gov/firstrobots/>) and requires RealPlayer (available on their website). The event will be broadcast live on the internet from 9:00 AM - 9:00 PM (Eastern Daylight Time) on 4/23 and from 8:00 AM - 5:00 PM (EDT) on 4/24.

Teams are encouraged to download RealPlayer (free trial versions of the software are available via the NASA web site) to ensure their systems are ready to play back the broadcast. Once RealPlayer is loaded, you are invited to test your system by viewing the FIRST video that is posted on the NASA AMES web site (<http://quest.arc.nasa.gov/firstrobots/>).

FIRST is extremely grateful to NASA Ames for making this live internet broadcast possible.

## **RAYTHEON DEEP THUNDER HOSTS WEB BOOTH AT NATIONALS**

Raytheon Deep Thunder (Team 147) will host a web booth at the National Championship that will provide internet access for all teams from the Competition Pits. Twelve computers will be available for team members to use and will be outfitted with outbound email capability, web authoring with Front Page 98, and upload capability for posting completed team web pages on the internet. Telephone lines will be available for teams with modem equipped laptops.

In addition to these services, Raytheon Deep Thunder is also providing webmasters to assist teams that do not have a web author. Raytheon Deep Thunder has made arrangements for teams without their own host site to be provided with a web page site for a period of 30 days. Also, the web booth will have an inbound email address that anyone can use.

FIRST applauds Raytheon Deep Thunder for making these services available to all the teams at the National Championship.

## **GM POWERTRAIN SPONSORS SATELLITE BROADCAST OF NATIONAL CHAMPIONSHIP ON APRIL 29**

GM POWERTRAIN / Pontiac Northern High School (Team 65) has arranged for a one hour national satellite broadcast of the 1999 FIRST Robotics Competition National Championship. This broadcast will include introductory information on the purpose of FIRST, a description of the competition rules, and highlights from regional competitions, national qualifying matches, and the national tournament.

This satellite broadcast will take place on Thursday, April 29, 1999 from 5-6 PM at your local participating Buick, Cadillac, Chevrolet, GMC, Oldsmobile, Pontiac & Saturn dealerships. To find out if the dealer in your local area is participating in the broadcast, how to ask dealers to participate in the broadcast, and for additional information, please see <http://www.huskiebrigade.com>.

FIRST thanks the Huskie Brigade for this opportunity for all teams to relive the nationals and promote the message of FIRST.

### **ACE SCHOLARSHIPS**

The American Computer Experience (ACE) is offering 12 scholarships to FIRST teams to have one student from the selected teams attend a one week computer camp at any one of 65 locations across the U.S. For additional information on these computer camps, please see <http://www.computercamp.com>.

Each FIRST team will be given a ballot at the 1999 National Championship and they will vote for a team that deserves to have a team member participate in this one week summer camp. The twelve selected teams will be announced at the National Championship, and each selected team can then select one team member to attend the one week ACE program.

**NOTE: Voting will take place on Thursday and Friday, April 22 & 23, 1999. Voting ends at 4:00pm on Friday. The scholarship winners will be announced at the Opening Ceremonies on Saturday, April 24, 1999.**

### **U.S. COAST GUARD ACADEMY MINORITY INTRODUCTION TO ENGINEERING FIRST SCHOLARSHIP**

The U.S. Coast Guard Academy is offering 12 scholarships to FIRST teams for one student to attend a Minority Introduction to Engineering program at the Coast Guard Academy in New London, CT this summer. The one week program will be held during two separate weeks in July. Each FIRST Team will be given a ballot at the Nationals and they will vote for a team that deserves to have a team member participate in this one week summer program. Teams should evaluate one another to determine which team demonstrates the high level of teamwork and interest in engineering that is the basis of the USCGA MITE program. The twelve selected teams will be announced at the National Championship, and each selected team can then select one team member to attend the one week MITE program. The scholarship covers all costs for attending the program, including travel.

If you are a junior in high school interested in Engineering or Marine science, then you may be interested in visiting New London, CT for a fabulous summer program. The Minority Introduction To Engineering (MITE) Program is a one week, all expenses paid trip to the Coast Guard Academy to explore the engineering field and its career possibilities. You will be exposed to Civil Engineering, Mechanical Engineering, Electrical Engineering, Marine Engineering, and Marine & Environmental sciences, as well as see what life is like at the nation's smallest federal military academy. You will be with students just like you, from all over the country. But this week will be more than just classrooms. You will go out on boats, play sports, and have fun... all while learning more about engineering. Typical MITEsters have just completed the 11<sup>th</sup> grade, are in the top 25% of their class and have a B+ or higher average.

For more information about the MITE program, take a look at:  
<http://www.cga.edu/admiss/mite> or call the USCGA MITE Director, Dulani Woods at 800-883-8724.

**NOTE: Voting will take place on Thursday and Friday, April 22 & 23, 1999. Voting ends at 4:00pm on Friday. The scholarship winners will be announced at the Opening Ceremonies on Saturday, April 24, 1999.**

## **FIRST/PRESIDENTIAL CLASSROOM LEADERSHIP SCHOLARSHIP PROGRAM**

*Promoting greater future involvement of students from historically under-represented groups in leadership roles in the formulation of public policy related to science and technology.*

### Purpose

The purpose of the FIRST/Presidential Classroom Leadership Scholarship Program is to promote greater future involvement of students from historically under-represented groups in leadership roles in the formulation of public policy related to science and technology.

This collaboration between FIRST and Presidential Classroom will enable selected students who have experienced the hands-on dimensions of technology through the FIRST Robotics Competition to explore the public policy implications of technology through their participation at Presidential Classroom's Science, Technology and Public Policy Program held each year in Washington, DC. More information regarding Presidential Classroom can be obtained from their website at <http://www.PresidentialClassroom.org>.

### Selection Process

A panel of at least 5 FIRST/Presidential Classroom Leadership Scholarship Program judges will interview teams at the FIRST Robotics Competition National Championship at Epcot. The judges will designate up to five teams that best meet the selection criteria described below. Interviewing will take place between noon and 9:00pm on Thursday, April 22 and between 9:30am and noon on Friday, April 23. The selected teams will be

announced at the awards ceremony to be held on Saturday morning of the National Championship.

After a team has been selected by the judges, members of the team will then vote to select the student to receive the scholarship from among the team's current sophomores and juniors. The selection of the individual student recipient is to be communicated to Presidential Classroom by the team's teacher coordinator within one week of the competition.

#### Team Selection Criteria

- The team's selection will enhance accomplishment of the purpose of the FIRST/Presidential Classroom Leadership Scholarship Program stated above; and
- Team members have demonstrated leadership in identifying and overcoming the obstacles to their participation in the FIRST Robotics Competition while at the same time maintaining a focus on learning in the areas of science and technology.

#### Funding of Scholarships

Each scholarship will be in the amount of \$1,420 to include the cost of Presidential Classroom tuition for one student and the expense of that student's travel to and from Washington DC. The Presidential Classroom tuition covered by the scholarships includes lodging, meals, materials, and events.

Funding for the 1999 FIRST/Presidential Classroom Leadership Scholarships is provided by Ethicon, Inc., a Johnson & Johnson company.

**NOTE: The scholarship winners will be announced at the Opening Ceremonies on Saturday, April 24, 1999.**

### **WPI SCHOLARSHIP BALLOTS DUE**

**Teams should turn in their WPI Scholarship Ballot no later than 4:00pm on Friday, April 23, 1999 at the WPI Information table located in the team pit area. Only one ballot per team is permitted. Ballots are available in your competition manual on page 35 of the Awards Appendix section. The winning team, who will then select a team member to receive this scholarship, will be announced at the Opening Ceremonies on Saturday, April 24, 1999.**

### **DELPHI "POWER TO SIMPLIFY" AWARD**

The Delphi "Power to Simplify" Award will be given to the team that can succinctly describe the most elegant and advantageous feature of their robot in a standardized one page document (see format below). The submission can be on any aspect of the robot, from the minute detail to large scale design. All aspects of engineering elegance are eligible (e.g. mechanical design, wiring methods, design for assembly/maintenance/service, material selection/usage, programming techniques, manufacturing methods, etc.). The winning team will be announced at the Award Ceremony on Saturday, April 24, 1999 at Epcot.

**NOTE: This one page document will need to be turned in on Thursday, April 22, 1999 by 12:00pm, at the pit administration desk at EPCOT. Please do not turn in a computer disk or CD; only a standard 8 1/2"x11" one page paper will be accepted.**

In addition to this written submission, each team is encouraged to post their award submission on their team's website after the National Championship. If you do so, please contact FIRST's webmaster@usfirst.org after April 24, 1999 so that FIRST may establish a link to your team's website. If your FIRST team does not have a website, please contact webmaster@chiefdelphi.com after April 24, 1999 and they will post your team's submission on their site.

#### Submission Format

Submit one standard 8 1/2" x 11" page only. You must include your team information at the top of your submission page (list your Team # first, then your Team Name, then your team City/State in the top left corner of the page).