

The 2003 FIRST Robotics Competition
TEAM UPDATE #3

Date: **January 10, 2003**

PLEASE DISTRIBUTE THIS TO OTHER TEAM MEMBERS!

FIRST will provide rules updates and other important information to teams via the FIRST web site at:

<http://www.usfirst.org/robotics/2003/docs.htm>

Please check the team updates portion of the web site on a regular basis to insure that your team does not miss critical information about the 2003 FIRST Robotics Competition. FIRST recommends assigning at least one team member the duty of keeping up to date on all team updates. This person or group should be responsible for distributing information contained in team updates to the appropriate team members.

<u>QUESTIONS?</u>

MESSAGE BOARD

In order to post questions on our message board at:

<http://jive.ilearning.com/index.jsp>

- You **must** reference the particular section of the manual you are questioning or your question will not be answered. This will help us give you the most accurate answer possible.
- Limit each message board submittal to ask only 1 question at a time. This will allow us to categorize your question and will enhance our ability to respond in a timely manner.
- **Please state your inquiry as a question. Some submittals have been lengthy and we have had a great deal of trouble trying to find the question buried within.**
- Do **not** reply to posted messages. FIRST is the only official source for answers. Your replies to posted questions slow down the moderating of this forum. Replies other than from FIRST will be deleted.

AUTODESK, INC.

All inquiries, please refer to:

www.first.enteries.autodesk.com

<u>THE GAME</u>

We have had many questions regarding the use of tethers, mini-robots, mice, mini-me's, etc. Last year, tether rules were inconsistent and a nightmare. Here's what we will allow for the 2003 competition:

It is impossible to define entanglement or predict what might potentially cause entanglement so we are not going to even try. Last year, for those of you that participated, there were

tethers of all shapes, sizes, materials, and capabilities and, much to everyone's amazement, there were very few entanglements... but tethers, in general, were a nightmare.

For 2003, we will allow tethers; however, no electrical wires may be used as tethers, i.e., electrical wires would have to be completely protected in a rigid enclosure. Tape, helical wire wrap, etc., does not qualify as adequate protection. **BY USING A TETHER, YOU OPEN YOUR TEAM UP TO INCREASED RISK OF SAFETY VIOLATIONS AT INSPECTION AND ENTANGLEMENT DURING PLAY, EITHER OF WHICH COULD RESULT IN DISQUALIFICATION.** While the referees are well versed on the rules, individual referees may view and interpret game play differently. Entanglement to one referee may not be entanglement to another. If you use a tether, be prepared for your successes associated with its deployment and of the potential negative consequences of its use.

PAGE 10, RULE SC8

This rule continues to be somewhat confusing as the many forum questions indicate. Before the rule is clarified, some comments:

- In a zone full of containers that have been pushed, thrown, hit, upended, etc., finding a nice, neat, countable pile of containers may be nearly impossible.
- The idea of a "stack" has been diluted; we now are looking for the tallest legal place/location/point in a scoring zone.

Replace Rule SC8 with the following, which has additional clarification imbedded throughout:

When determining the base score for the alliance, the referees will evaluate the containers with the following criteria:

- ❑ The height of the tallest stack (tallest place/location/point) located in the scoring zone (the "multiplier stack") is measured in whole Stack Height Units (as defined in SC9);
- ❑ The total number of containers "in" a Scoring Zone will be counted and assigned one point each. A container or robot will be determined to be "in" a scoring zone if at least some part of the container or robot is touching the colored carpet that defines a scoring zone or is supported exclusively by:
 - Other containers "in" that zone (note: this means that if one container rests entirely in the gray "no score zone" and another container is stacked on top of it that overhangs the scoring zone, neither container will be considered to be "in" the scoring zone; ***the converse is true that if one container is touching a Scoring Zone and another container is stacked on top of it and overhangs the "no score zone", both containers will be considered to be "in" the Scoring Zone***);
 - An opponent's robot "in" the scoring zone. ***This means that an opponent's robot holding a container in the air would count. This bullet is worth reading several times as there are some subtle and very interesting results and consequences.***
- ❑ The height of the tallest stack located in the scoring zone (the "multiplier stack"), measured in whole Stack Height Units (as defined in SC9) is subtracted from the total number of containers to establish the "base score." Containers in additional stacks of the same height will be scored normally;
- ❑ If ANY parts of your own alliance's robots are in contact with ANY container ***in your own Scoring Zone*** in a stack (alone or in a multi-container stack), ALL containers in that stack will be worth zero points. ***This bullet is worth reading several times. Any***

container you touch that is touching any container, etc., will be worth zero points.

TIP: Get away from your containers.

- ❑ Opponent robots in contact with containers in the alliance scoring zone will not affect the determination of the base score;
- ❑ A container may touch the field border.

PAGE 11, RULE SC11

- Similar to the containers, if a robot from your own alliance or the opposing alliance is on top of a robot and neither robot violates this rule, then each robot scores 25 points;
- If a RED robot is in scoring position on the top platform and an approaching BLUE robot on the ramp pushes part of the RED robot into the air, the RED robot scores 25 points unless the BLUE robot has moved the RED robot into a position at the end of a match that violates this rule;
- If a RED robot is in scoring position on the top platform and the match ends with this robot being touched by the other RED robot that is not in scoring position, neither robot scores 25 points.

THE ROBOT

PAGE 25, RULE K3

- ❑ There have been many questions on figuring the total cost of additional components, particularly with regards to labor from a machine shop. If a machine shop is a team partner, i.e., the shop's name is part of the team's name, their labor can be excluded from the cost of the robot. Conversely, if the machine shop is not a team partner:
 - You must include their labor charges;
 - If they donate their labor, you must include the fair market value of their labor.
- ❑ Additional components can be bought from any supplier unless specifically restricted.
- ❑ Regarding accounting for glue, lubricants, nails, nuts, bolts, washers, and other fasteners, typically this may be excluded from the cost of the robot; however, any bolts, threaded rod or specialty fasteners that cost more than \$1.00 each must be accounted for. Containers of glue and containers or cans of lubricant are excluded.

PAGE 25, RULE K5

- ❑ There is **no** 2003 requirement to contain your custom circuits in a "BUD" box.
- ❑ In order to facilitate the use of custom circuits (see Section 3.2.7 in The Robot), you may buy or make printed circuit boards with no components and account for the cost of the boards as part of the \$3,500 total cost of the robot (Rule K3). Additional electronic components placed on the boards must be accounted for as per Rule K5.

KIT OF PARTS

MISSING OR BROKEN

For any missing parts or broken parts, please contact us at:

freparts@usfirst.org

LATE SHIPMENT – More Information

The following items will be shipped to teams sometime during the week of 1/13/2003. **The 40A breakers are not yet available. If FIRST does not have them soon, the remaining items below will be shipped.**

1. SMC pneumatic parts:
 - Double Solenoid Base Ported Valve
 - Flow Control
 - Fitting, Straight ¼” Tube
 - Fitting, 90 Elbow ¼” Tube
 - Fitting, Tee Union ¼” Tube
 - Fitting, Male Run T 1/8 NPT ~ ¼” Tube
 - ¼” OD Tubing
2. Metric key stock; fits the shaft on the CIM (Chiaphua/Atwood) motor only; size is 0.079” x 0.094” x 1”; 2 pieces
3. Reflexite retro-reflective tape, 8” sample
4. Various decals/stickers.
5. 40A Snap Action circuit breakers.

SUPPLIER LIST including special parts made for FIRST

The supplier list is now available on the FIRST website at:

<http://www.usfirst.org/robotics/2003/docs.htm>

<u>FIELD / CORRECTIONS</u>

There are none for this update.

<u>AUTODESK</u>

There are none for this update.