February 4, 2003	TEAM UPDATE	# 10

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.

QUESTIONS?

MESSAGE BOARD
In order to post questions on our message board at:

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

- **You <u>must</u> 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.**
- **<u>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.</u>**
- **Do <u>not</u> 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.
For all inquiries, please e-mail:

first.entries@autodesk.com

THE GAME

PRACTICE DAY – THURSDAY AT EACH EVENT

Last season, there was a 10-minute running clock, which was comprised of 6 minutes of driving time and a 4-minute field reset. Each team had 3 practice sessions spread out over the day.

This year we will use a 10-minute running clock (it will not stop all day) again but broken up as follows:

> 3-minute field set-up/reset
> 15-second human player time
> 15-second autonomous period
> 1:45-driver control period
> 2:30-field/robot set-up/reset by team members
> 15-second human player time
> 15-second autonomous period
> <u>1:45</u>-driver control period
> 10 minutes

The human players would NOT have to start or end on the player mats near the gates but this is good practice as 10 seconds to enter and leave the field is not much time. The autonomous period would actually be initiated from the control console at the scorer's table.

Each team would get three (3) 10-minute cycles during the day, which are actually 6 practice matches.

PAGE 7, RULE GM8

Replace GM8 with the following:

During the setup for matches, each team must connect their operator interface to a specific driver station within their alliance station as designated by FIRST. **The Qualification Match schedule distributed to the teams will indicate either a left or right driver position as viewed from the driver station looking toward the ramp.** Teams will be **directed** during queuing to their designated driver station location.

PAGE 10 + 11, RULE SC8 + SC9

Scoring clarification:

Example: 11 boxes in a scoring zone, all legal, no stack, i.e., all of them rest on the carpet. This would be a score of 10 because it is the total number of containers – the number of containers in the tallest stack.

THE ROBOT

PAGE 18, RULE M7
Numbers on robots must conform to the specifications in this rule. While this may seem insignificant in relation to the other rules, referees, judges, and scorekeeper must be able to quickly identify robots.

PAGE 19, RULE M12
Discussion:
In order to facilitate the use of off-the-shelf suction cups, especially those with built-in fittings, connections or supply tubing, additional fittings such as reducers and connectors will be permitted to connect the suction cup to the ¼" tubing supplied in the 2003 Kit of Parts.

Use of suction cups with built-in pumps **is not** permitted. Use of suction cups that use lever action to activate and release **is** permitted.

Vacuum in the suction cup can only be produced by:
- Forcing the cup down to evacuate air;
- Evacuating air by lever action;
- Withdrawing air by producing vacuum with the Kit provided air cylinders.

Replace M12 with the following:
Only items listed under the PNEUMATICS section of the Kit list may be used to store, generate or transmit compressed air or vacuum, with the following exceptions:

- Suction cups may be fabricated from legal Kit parts, as defined in rule K1 below **or purchased as off-the-shelf items;**

- **Additional fittings, such as reducers and connectors, will be permitted to connect the suction cup to the ¼" tubing supplied in the 2003 Kit of Parts;**

- Tubing may be compressed in order to block the flow of air;

- Tubing may not be compressed in order to generate compressed air or vacuum;

- Only the allowed air cylinders **and permitted suction cups** may be used to generate vacuum.

KIT OF PARTS

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

frcparts@usfirst.org

25-PIN SOLDER CUPS
These are not missing from your 2003 Kit of Parts; they were not supplied. If you need one, try Radio Shack or other electronic outlets.

PNEUMATICS
Request from FIRST:
If any teams are not using the pneumatics, we would ask that they be returned to FIRST to be used as replacement parts. We have 790 teams this year and only had 800 sets of pneumatics. Contact frcparts@usfirst.org for instructions on returning them. Thank you.

SKIL-BOSCH DRILL MOTORS
Replacement Drill Motors and Gearboxes:
S-B Power Tool Co. has experienced a large demand from FIRST teams for spare drill motors and gearboxes, which has significantly drawn down its US inventory of these items (in one case, a team wanted to order a dozen drill motors). Because of this, S-B has ordered additional quantities from their manufacturing plants in Germany and Switzerland and they will be arriving at the S-B facility in New Jersey over the next few weeks. In the interim, please limit your orders to quantities that you need for legitimate replacement purposes of the ones put in the Kit. We ask your cooperation so that all teams needing replacements will be able to get them.

FIELD / CORRECTIONS

There are none for this update.

AUTODESK

SERVICE PACKS AVAILABLE FOR AUTODESK INVENTOR 6 AND 3DS MAX
To increase the performance of Autodesk Inventor 6, it is highly recommended that you download the following plug-ins:
- First, download Service Pack #1;
- Second, download Service Pack #2.

For those of you working with both Autodesk Inventor and 3ds max, it is also recommended that you download Service Pack #3, the Viz/Max translator plug-in, which will allow you to import Inventor files into 3ds max. NOTE: you must first install the Inventor Service Packs numbers 1 and 2 before you install number 3.

Service Pack #1 available at: http://support.autodesk.com/getDoc.asp?id=DL403697

Service Pack #2 available at: http://support.autodesk.com/getDoc.asp?id=DL403916

Service Pack #3 : http://support.autodesk.com/getDoc.asp?id=DL403918

INSTRUCTIONS ON COMPRESSORS FOR AUTODESK AWARD FOR VISUALIZATION (ANIMATION AWARD)
Preferred compressors: Cinepak, Intel Indeo or QuickTime.

Notes on all three compressors:

- Cinepak has been a very popular choice and has had good results in most situations. (Codec's have strengths in different situations.) This is a good recommendation.

- Intel Indeo is another one supplied by Windows but is not as popular. Teams may use it if they like.

- The rules also allow for QuickTime. This is another widespread and popular codec, and, in fact, it is included on the 3ds max CD.

The main issue is if the 900-frame animation were compressed to fit on the CD and not lose quality. Without compression, the animation might need 1 and 1/2 CD's!

With the Codec's compression quality slider (0-100%), you can squeeze it down so it's nice and small but a rather poor image. You need to keep it high enough (say, 65%) to get it to look good and small enough to fit on the CD. (This quality slider choice displays as part of the Render options within 3ds max.)

Test! Test!

One tip:
1. Create the original animation and render it out as a series of sequentially number 640x480 Targa files, e.g., Targ0000.tga, Targ0001.tga, Targ0002.tga and Targ0899.tga.

   If necessary, use the Network Rendering feature to help shorten the rendering time. This is covered in the 3ds max Reference Manual and essentially consists of installing 3ds max on several other computers that have a network connection to the master. These other computers can be accessed by the master copy of 3ds max and harnessed to help with the rendering… even without getting licensed!

2. Then clear the scene from 3ds max and select the Targa file sequence as a background image environment. The steps are covered in the Ref Manual about how to choose an

environment background from a bitmap. The sequence of files is something that 3ds max calls an Image File List (IFL) file and that's pretty easy too, once you've done it. The environment Browse window has a checkmark for an option called Sequence. So you choose Targ0000.tga, check the Sequence option, and 3ds max automatically assumes you wish Targ0000.tga and all the other Targ*.tga files after that.

3. The last step is to render the Animation file. This can be a test of, say 50 - 100 frames, to see how the compression settings are going to work out. Testing this way is quicker than rendering the geometry each time for each test. This method only needs 3ds max to convert previously rendered images to an animation file since there's no geometry in this cleared-off scene.

Any clarification regarding this information should be addressed to Autodesk, Inc.

ADMINISTRATIVE/MATERIAL HANDLING/SHIPPING

The site information pages of the manual are now posted on the web site. This section contains site and drayage addresses, directions and other critical event information including a listing of events that will not have a Friday team social. Please download and print the "site info" section for each event you are attending. Go to:

http://www.usfirst.org/robotics/2003/rgevents.htm

The last page of these sections can be copied and used as address labels for your robots crates.