

February 1, 2011

TEAM UPDATE #7

GENERAL NOTICES

Windows 7 license and activation update:

The procedure, **Windows 7 Activation Procedure, Rev 0**, to activate the Windows 7 installation distributed via the USB keys at Kickoff has been posted at www.usfirst.org/frc/kitofparts.

In order to activate the copy of Windows 7, teams must download this tool and run the application. Please note that Microsoft has donated Windows 7 to be used by *FIRST* teams for use on the 2010 and 2011 Classmate PC's. Other uses or distribution violate the terms of the donation and may jeopardize such donations in the future (if a team has purchased a new Classmate, using the donated software is within the terms of the donation and is okay).

Classmate drive space recovery procedure update:

An updated **Classmate drive space recovery procedure** and associated files have been posted at www.usfirst.org/frc/kitofparts. This update fixes a program bug.

Section 1 – Introduction

Section 1 – Introduction, Rev D, was revised to include the following edit:

HANGING – a GAME PIECE is HANGING when it is fully supported by a PEG through its center hole and released by the POSSESSING ROBOT. ~~Once a GAME PIECE has been released by the POSSESSING ROBOT (even momentarily) and is HANGING (e.g. it is fully supported by the PEG), it is considered to be HANGING until the end of the match.~~ If a GAME PIECE on the floor is preventing a GAME PIECE that has been hung on a bottom PEG from becoming fully supported (that is, if the floor GAME PIECE was not there, the hung GAME PIECE would be scored) then that GAME PIECE will still be counted as scored.

Section 2 – The Arena

No changes.

Section 3 – The Game

An image of the hook that will be used by FIELD crew to remove MINIBOTS from the TOWER has been posted under **Section 3 – The Game** at www.usfirst.org/frc/competitionmanual.

Section 3 – The Game, Rev G, was revised to include the following edits:

<G22> HOSTBOTS may not contact their ALLIANCE'S MINIBOT ~~once~~ while any part of it has climbed is above the DEPLOYMENT LINE. *Violation: TOWER is disabled.*

<G39> ROBOTS and FEEDERS may not SCORE on their opponent's PEGS, ~~or de-score~~ their opponent's GAME PIECES, or interfere with their opponent's TOWERS. *Violation: RED CARD*

Section 4 – The Robot

The **Inspection Bill of Material (BOM) Template** is now available under Section 4 of the FRC Game Manual at

Section 4 – The Robot, Rev G, was revised to include the following edits:

Section 4.2:

References to specific rules within the manual are indicated with a bracketed reference to the rule (e.g. “Rule <SR01>”).

<R18> All items and materials used in the construction of a **HOSTBOT ROBOT** and their associated costs, shall be recorded (in US dollars) in a consolidated Bill Of Materials (BOM). **KoP items must be recorded, but are accounted as an additional cost to of \$0.00 as this material is either donated or purchased by FIRST and supplied to each team.** The BOM must use the *FIRST*-approved template available for download at www.usfirst.org/frc/competitionmanual. Please refer to Rule <R82> in **Section 3.4.3.13 - Robot Inspection** for information regarding submission of the BOM.

All KOP items used on the ROBOT must be included in the BOM. The source for each of the KOP items should be listed as “KOP” and the indicated cost should be listed as “\$0.00.”

A note about the change to Rule <G59>: We did not intend to indicate in *Team Update 6* that MINIBOTS that are not able to descend the TOWER would be punished. We have further updated the rule to more properly convey our intent.

Although it greatly behooves teams to design a MINIBOT that descends itself (to avoid the possibility of damage), MINIBOTS that do not descend themselves will be pulled down by field personnel using a hook device. If they cannot remove the MINIBOT safely (or if they need to use additional equipment) then the TEAM will be warned, and likely receive a YELLOW CARD in future matches if attempts have not been made to mitigate the retrieval safety issue.

Although we are not in the business of designing MINIBOTS for teams, we do wish to point out that there are many, many ways to have a MINIBOT descend the pole after TRIGGERING the target. To name a few: mechanically reducing the friction against the pole upon hitting the target; turning off the motors using a wall switch or NXT logic; reversing the motors using a 4-way switch or NXT logic. We are sure you will think of many more.

~~<G59> TEAMS must retrieve MINIBOTS from the TOWER quickly and safely without special equipment and while standing on the floor after each MATCH. MINIBOTS must be removable from the TOWER quickly and safely after each MATCH; this may be done by TEAMS while standing on the floor without special equipment, or by field crew using a retrieval hook. Violation: The FIELD crew will retrieve the MINIBOT. A second violation may result in a YELLOW CARD. The field crew will not be responsible for accidental MINIBOT damage. If the field crew cannot safely pull the MINIBOT down using their hook, a warning will be issued to the TEAM, after which repeated violations may result in a YELLOW CARD.~~

<R75> The Driver Station software provided on the FRC website (www.usfirst.org/frc/kitofparts) is the only tool permitted to **specify and communicate the operating mode (i.e. Auto/Teleop) and operating state (enable/disable)** and ~~collate driver/operator inputs and communicate them~~ to the ROBOT. The Driver Station software must be revision 01.05.11.00 or newer.

<R82> At the time of inspection, teams must submit an electronic copy of their Bill Of Materials (BOM) of all items used in the construction of their **HOSTBOT ROBOT**, and their associated costs, to the inspector (see Rule <R18>). BOMs must be transferred to inspectors at the event via USB drive (inspector or team provided)

A note about the recent contradiction in the GDC Q&A answers regarding welding on the MINIBOT: The vision of a MINIBOT has always been an FTC-like machine – its insertion into LOGO MOTION was part

of a greater attempt to give exposure to the entire lineage of *FIRST* competitions. Given the constraints of the challenge at the starting point, we altered the rules to facilitate a shift to a slightly more open design space; one that is slightly beyond a typical FTC machine. Rule <R92> was intended to convey the materials and fastening methodologies allowed beyond the TETRIX kits, but excluded welding in its intent – consistent with the FTC platform.

We mistakenly answered two Q&A questions about welding with conflicting answers. While the edit in Rule <R92> below is not consistent with the original intent to have MINIBOTS much like FTC robots, we believe it's more important to honor our initial answer. We sincerely apologize for the inconsistency and subsequent confusion.

<R92> The following items are the only permitted materials for use on the MINIBOTS:

- A. TETRIX components that are not in violation of any other rules, (Tetrix components are listed in **Approved Tetrix Parts** at www.usfirst.org/frc/competitionmanual),
- B. no more than two motors (PN W739083/W739023) and an unlimited number of Tetrix servos),
- C. no more than one 12V rechargeable NiMH battery pack identical to those supplied in the FTC kit of parts (PN W739057) except the 20A fuse may be replaced with an equivalent type of lower amperage,
- D. No more than one HiTechnic DC motor controllers,
- E. No more than one NXT controller with the Bluetooth functionality disabled,
- F. Polycarbonate,
- G. Polycarbonate glue,
- H. Raw aluminum **welding rod**, sheet, 90° angle, u-channel, tube, bar that is not sold in pre-perforated or pre-punched form.
- I. rivets,
- J. non-metallic rope or cord,
- K. wire nuts, solder, and crimps,
- L. cable ties,
- M. limit switches,
- N. no more than two common household light switches,
- O. electrical hookup wire,
- P. non-slip pad,
- Q. PVC or CPVC pipe and fittings,
- R. PVC cement or cleaner,
- S. Mechanical fasteners (e.g. screws, bolts, etc),
- T. Loctite or similar thread-locking product,
- U. Rubber bands,
- V. Surgical tubing,
- W. Electrical tape and shrink tubing,
- X. PWM extension cables,
- Y. Universal security clips to hold the PWM connectors together,
- Z. Hook and loop fastener (may not be used as tape),
- AA. Magnets,
- BB. NXT compatible sensors and related connectors/cables,
- CC. Grease, and
- DD. Non-functional decorations.

<R96> Deleted.

Section 5 – The Tournament

Section 5 – The Tournament, Rev A, was revised to include the following edit:

<T14> At the conclusion of a MATCH, all players shall remain in their assigned locations until the Head Referee issues the “field-reset” signal. Once the Head Referee issues this signal, the “match-reset” period will begin. The ARENA must be cleared of ROBOTS, MINIBOTS, and OPERATOR CONSOLES from the MATCH just ended, and the ROBOTS, MINIBOTS, and OPERATORS CONSOLES for the following MATCH must be placed in position and ready to start before the expiration of the “match-reset” period. Field Attendants will reset the ARENA elements during this time.

Teams are expected to use utmost care in removing MINIBOTS from the TOWERS and mitigate risk of a MINIBOT falling uncontrollably. If a MINIBOT is seen as unsafe, the REFEREE may consider it a violation of Rule **<G26>** ~~<S04>~~. MINIBOTS seen as egregious threats to safety may earn the TEAM a YELLOW or RED CARD.

The Kit of Parts

No change.