

January 11, 2010

TEAM UPDATE #1

GENERAL NOTICES

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Classmate Image Notice:

The Issue

The restoration procedure used for both the 2010 and 2011 Classmate PC's creates a 5GB partition on the Classmate's hard drive which is used only during the imaging process. Once imaging is complete, this hard drive space is unavailable to the user.

Solution

There are two possible courses of action:

1. OPTION 1: Do nothing. The issue only affects the available hard drive space on the Classmate PC. This is the recommended option for teams who only intend to use their Classmate PC as a Driver Station. There is sufficient space remaining on the hard drive if updates are issued for the Driver Station software.
2. OPTION 2: Download the updated installation files posted on the Control System section of the [2011 Kit of Parts Website](#) and follow the procedure for replacing the files. This option is best for teams who use their Classmate PC for robot code development, or for teams that choose to access the unused hard drive space.

Section 1 – Introduction

Various typographical errors (duplicate words, missing trademark symbols, incorrect section references, etc.) were corrected. Please refer to **Section 1.7, Revision History**, for details.

Content was changed as follows:

DEPLOYMENT – the act of positioning a MINIBOT on a TOWER. DEPLOYMENT starts when the MINIBOT breaks the vertical projection of the TOWER BASE circumference during the END GAME. **DEPLOYMENT ends when the HOSTBOT is no longer in contact with the MINIBOT.** (Related form, DEPLOY, verb)

ROBOT – the composite electromechanical assembly designed and built by a FRC team to perform specific tasks when competing in the 2011 competition *LOGO MOTION*. The ROBOT must include all the basic systems required to be an active participant in the game – power, communications, control, mobility, and actuation. The ROBOT implementation must obviously follow a design approach intended to play the 2011 FRC game (e.g. a box of unassembled parts placed on the FIELD, or a ROBOT designed to play a different game, would not satisfy this definition). The ROBOT includes both the HOSTBOT and **the one** MINIBOT (ROBOT = HOSTBOT + MINIBOT).

A revision history of the document has been added as **Section 1.7**.

Section 2 – The Arena

No changes.

Section 3 – The Game

Various typographical errors (misspellings, missing trademark symbols, etc.) were corrected. Please refer to **Section 3.4, Revision History**, for details.

Content was changed as follows:

<G19> After DEPLOYMENT, MINIBOTS must remain completely autonomous and move up the POST solely through electric energy provided after DEPLOYMENT by the permitted, unaltered battery and converted to mechanical energy by the permitted unaltered motors (and associated, appropriate circuitry).

Violation: The TOWER on which the MINIBOT is DEPLOYED is disabled. If the MINIBOT is not-deployed DEPLOYED on something other than a TOWER, then the ALLIANCE'S TOWER upon which the highest RACE SCORE was earned will be discounted.

<G19> means that HOSTBOTS are not allowed to launch the MINIBOT up the pole at the TARGET, or otherwise contribute to the vertical movement of the MINIBOT. Energy for vertical movement may not be stored in the MINIBOT before DEPLOYMENT (except that which is contained within the battery and excluding incidental kinetic energy stored in the motors or wheels, but NOT, for example, in a flywheel).

<G65> The PEG SCORE is the sum of points determined by the positions of the GAME PIECES on each SCORING GRID. A LOGO PIECES HANGING in front of an UBERTUBE doubles the points for that SCORING PEG. The table below gives the value for each GAME LOGO PIECE HANGING on a SCORING PEG.

LOGO PIECE:	Alone	Over UBERTUBE
Not HANGING	0 points	0 points
HANGING on bottom ROW	1 point	2 points
HANGING on middle ROW	2 points	4 points
HANGING on top ROW	3 points	6 points

Note that an UBERTUBE acts only as a modifier and carries no point value of its own after the AUTONOMOUS PERIOD.

<G66> If three LOGO PIECES form a LOGO, the assigned points from the SCORING PEGS PEG SCORE in that row of that SCORING GRID are given as an additional LOGO BONUS, effectively doubling the score of the row.

A revision history of the document has been added as **Section 3.4**.

Section 4 – The Robot

Various typographical errors (section references, missing trademark symbols, etc.) were corrected. Please refer to **Section 4.1, Revision History**, for details.

Content was changed as follows:

<R11> During the MATCH, the ROBOT may not exceed the volume constraints of either STARTING or PLAYING CONFIGURATIONS (note: these limits are defined in reference to the ROBOT, not the FIELD).

	Maximum Horizontal Dimensions	Maximum Height	Maximum Weight
STARTING CONFIGURATION	28" x 38" (71.12cm x 96.52cm) rectangular space	60" (152.40cm)	120 pounds (54.43Kg)
PLAYING CONFIGURATION	60"84" (213.4cm) diameter vertical right cylindrical volume	N/A	

<R45> Motors specifically permitted on 2011 FRC ROBOTS include:

- C. one or two additional 2½" CIM motors (part #FR801-001 and/or M4-R0062-12, AM802-001A, and/or PMR25R-45F-1003) in addition to those provided in the KOP. This means that up to four, and no more, 2½" CIM motors can be used on the ROBOT,

<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,
- B. no more than two motors (PN W739083),
- C. exactly one 12V rechargeable NiMH battery pack identical to those supplied in the FTC kit of parts (PN W739057)
- 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. Aluminum sheet, 90° angle, u-channel, tube, bar,
- I. rivets,
- J. non-metallic rope or cord,
- K. wire nuts,

- L. cable ties,
- M. limit switches,
- N. no more than two common household light switches,
- O. wire of appropriate gauge (see Rule <R40>),
- P. non-slip pad,
- Q. PVC or CPVC pipe,
- R. PVC cement or cleaner,
- S. Mechanical hardware (i.e. 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, and
- BB. NXT compatible sensors and related connectors/cables.

A Blue Box has been added to **Section 4.3.15**:

MINIBOT use is independent of the ROBOT inspection. For example, any FTC team can bring a MINIBOT to an event, get it inspected, and if legal, that MINIBOT can compete with any FRC ROBOT (that has passed ROBOT inspection). There are legal HOSTBOTS and legal MINIBOTS; they are independent of each other regarding inspection.

A revision history of the document has been added as **Section 4.1**.

Section 5 – The Tournament

No changes.

Kit of Parts

The **2011 Kit of Parts Checklist, Rev A** has been updated to include the following corrections:

- The quantity of the iglide bearing (provided in the igus bag), PN MTI-10, has been changed from 8 to 4 (it should have been 4, 8 was a typo). Please note that if teams have already submitted their Replacement Parts Request (thank you for doing that already!) and they reported 4 of these bearings missing, these items will be automatically removed from the list as you received the correct number of bearings.
- The part number for the CIM motor was changed from FR801-001 to AM802-001A.
- The quantity of the reflective material sample (provided in the Small Parts Bag in the Black Tote), PN GP010, has been changed from 3 x 1' pieces to 1 x 3' piece. Please note that if teams have already submitted their Replacement Parts Request (thank you for doing that already!) and they reported 2 of these pieces missing, these items will be automatically removed from the list as you received the one 3' piece.

- The quantity of the 2 x 2 x 10mm key (provided in the AndyMark box), PN am-1121, has been changed from 4 to 2. Please note that if teams have already submitted their Replacement Parts Request (thank you for doing that already!) and they reported 2 of these keys missing, these items will be automatically removed from the list as the corrective actions for this issue are listed below.

Please see the message from AndyMark below for more information about the machine key referenced above.

ISSUE:

AndyMark has incorrectly packed only 1 machine key (am-1121, 2x2x10 machine key) within each CIMple box. While this allows an FRC team to use 1 motor on the CIMple Box, this gearbox is designed to use 2 CIM Motors (more motors available at AndyMark, item am-0255). The CIMple Boxes were packed with gears, screws, and retaining rings for 2 CIM Motors, but were erroneously only packed with 1 of these machine keys.

CORRECTIVE ACTIONS:

1. AndyMark will begin packing 2 machine keys into each FIRST Choice kit packed as of noon on Jan. 11th. FIRST Choice orders numbered 15160 and beyond will include a small ziplock bag containing these machine keys.
 2. Teams can email "sales@andymark.com" and request 2 machine keys to be sent to their address. They need to provide their shipping address and contact name within the email. These parts will be sent out via US Postal service.
 3. Teams can email "sales@andymark.com" and request 2 machine keys to be included with their team's AndyMark order. They simply need to include their 5-digit order number, and/or the name of the person who made their team's order. We will then include 2 machine keys with their existing order. Teams can also request these machine keys in the comment area of their order.
 4. For a quick fix, teams can use a segment (1/4-3/8" long) of a nail that is 0.070-0.079" in diameter as a substitute for this machine key.
- Please note that the blue inflatable squares shipped in the Kits of Parts are a darker blue than those that will be used on the field during competition and sold by AndyMark (which will be closer to the blue in the *FIRST* logo). The material, shape, size, and all other dimensions are identical.