

January 13, 2009

## TEAM UPDATE #3

### GENERAL NOTICES

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#### General Notes from *FIRST* Headquarters:

2009 FRC Suggestions (formerly known as *Tips, Guidelines, and Good Practices*) is now available on the *Documents and Updates* section of the *FIRST* website (<http://www.usfirst.org/community/frc/content.aspx?id=452>).

#### Section 0 - Introduction

No changes.

#### Section 1 - Communication

No changes.

#### Section 2 – Team Organization

No changes.

#### Section 3 – At the Events

No changes.

#### Section 4 – Robot Transportation

No changes.

#### Section 5 – The Awards

No changes.

#### Section 6 – The Arena

The weight of the trailer is 36 lbs on earth (but only 6 lbs on the moon).

The *Basic Field Assembly Diagram*, posted at <http://www.usfirst.org/community/frc/content.aspx?id=11624>, has been updated to include details about the Payload Specialist seat at the Outpost.

Product information about the 36" tongs used at the Fueling Stations is available at [http://www.ungerglobal.com/retail/products/specialty\\_tools/#nabber](http://www.ungerglobal.com/retail/products/specialty_tools/#nabber).

## Section 7 – The Game

*Section 7 – The Game*, Rev C, includes the following edits:

**<G07>** Scores are determined based on the state of the GAME PIECES at the end of the MATCH. Scores will be assessed after all objects in motion when the arena timer displays zero seconds come to rest.

- A. The final score of a MATCH is the total of points assigned due to SCORED GAME PIECES, less any assigned PENALTIES.
- B. If a TRAILER tips over, the points SCORED for that TRAILER at the time it was tipped will be preserved for the remainder of the MATCH.

**<G14>** CELL Count Modification – If the assigned ALLIANCE score, before penalties, for the last non-surrogate MATCH played by the TEAM was more than twice (2x) the opposing ALLIANCE score, before penalties, then one EMPTY CELL or SUPER CELL will be withheld from the initial set of GAME PIECES made available to the PAYLOAD SPECIALIST for the TEAM. If the assigned ALLIANCE score, before penalties, for the last non-surrogate MATCH played by the TEAM was more than triple (3x) the opposing ALLIANCE score, before penalties, then a second EMPTY CELL or SUPER CELL will be withheld from the initial set of GAME PIECES made available to the PAYLOAD SPECIALIST for the TEAM.

**<G18>** Causing PENALTIES – The actions of an ALLIANCE shall not cause an opposing ALLIANCE to break a rule and thus incur penalties. Any rule violations committed by the affected ALLIANCE shall be excused, and no penalties will be assigned.

**<G20>** Handling MOON ROCKS – MOON ROCKS are the primary GAME PIECE used to SCORE in the TRAILERS of the opposing ALLIANCE.

- A. MOON ROCKS can be SCORED by ROBOTS or PAYLOAD SPECIALISTS.
- B. PAYLOAD SPECIALISTS can enter MOON ROCKS into play by launching them over the Alliance Station Wall, launching them over/through the OUTPOST shield, or using the provided tongs to pass them backwards through the FUELING PORT/AIRLOCK. MOON ROCKS can not enter the CRATER by being thrown around the end of the Alliance Station Wall. A violation will cause a PENALTY to be assigned.
- C. MOON ROCKS can be recycled to the PAYLOAD SPECIALISTS by passing them over/through the AIRLOCK and through the FUELING PORT in the Alliance Station Wall, or by passing them through the port in the OUTPOST shield. MOON ROCKS can not be recycled to the PAYLOAD SPECIALISTS via any other paths (e.g. over the OUTPOST shield or Alliance Station Wall). A violation will cause a PENALTY to be assigned.

**<G23>** SUPER CELL scoring – During the last 20 seconds of the MATCH, the PAYLOAD SPECIALIST may enter a SUPER CELL into play by removing it from the CELL RACK. They may then enter it into the CRATER, either over the Alliance Station Wall or through the FUELING PORT. A ROBOT or PAYLOAD SPECIALIST can SCORE any SUPER CELL that has been entered in play. If a SUPER CELL is removed from the CELL RACK before the last 20 seconds of the MATCH, then two (2) PENALTIES will be assigned to the offending ALLIANCE: under such conditions, the SUPER CELL may still be entered into play and subsequently SCORED.

**<G24>** Handling EMPTY CELLS – EMPTY CELLS are typically used as “exchange units” to obtain SUPER CELLS (see Rule <G22>). Alternately, they may be SCORED in a manner similar to MOON ROCKS.

A. ROBOTS may be in POSSESSION of a maximum of one EMPTY CELL, or may HERD a maximum of one EMPTY CELL at one time. A ROBOT may not be in POSSESSION and HERD EMPTY CELLS at the same time. A violation will cause a PENALTY to be assigned.

B. EMPTY CELLS can be SCORED by ROBOTS or PAYLOAD SPECIALISTS.

C. EMPTY CELLS can be recycled to the PAYLOAD SPECIALISTS by passing them over/through the AIRLOCK and through the FUELING PORT in the Alliance Station Wall, or by passing them through the port in the OUTPOST shield. EMPTY CELLS can not be recycled to the PAYLOAD SPECIALISTS via any other paths (e.g. over the OUTPOST shield or Alliance Station Wall). A violation will cause a PENALTY to be assigned

**<G40>** GAME PIECE Interaction – With the exception of PAYLOAD SPECIALISTS, no TEAM member may manipulate GAME PIECES at any time during the MATCH. Violations will result in a PENALTY.

A. At the start of the MATCH, the PAYLOAD SPECIALIST shall not be in possession of any GAME PIECE. Violations will result in a PENALTY.

B. At any time after the start of the MATCH, a PAYLOAD SPECIALIST may enter a GAME PIECE into play (e.g. launch a MOON ROCK into the CRATER or pass an EMPTY CELL through the port in the OUTPOST shield to a ROBOT).

C. PAYLOAD SPECIALISTS retrieving GAME PIECES passed from the CRATER through the AIRLOCK / FUELING PORT must use the provided tongs to pick up the GAME PIECE from the floor. Failure to do so will cause a PENALTY to be assessed.

D. The PAYLOAD SPECIALISTS is permitted to reach through the FUELING PORT with the provided tongs to manipulate GAME PIECES in the “dead space” between the AIRLOCK and the FUELING PORT. However, any contact with a ROBOT while doing so will be considered a violation of Rule <S02>.

## Section 8 – The Robot

Section 8 – The Robot, Rev C, has been updated to with the following changes:

### <R53>, Part B

The gearboxes for the Fisher-Price and Globe motors are not considered “integral” and may be separated from the motors.

<R59> The control system is designed to allow wireless control of the ROBOTS. The Driver Station, cRIO Mobile Device Controller, digital sidecar, breakout boards, power distribution module, speed controllers, relay modules, wireless bridge, batteries, and battery charger shall not be tampered with, modified, or adjusted in any way (tampering includes drilling, cutting, machining, gluing, rewiring, disassembling, etc.), with the following exceptions:...

## Section 9 – The Tournament

No changes.

## Section 10 – The Kit of Parts

The *Where to get more* document is posted on the *Additional Technical Resources* page on the *FIRST* website (<http://www.usfirst.org/community/frc/content.aspx?id=452>). The document includes information for teams about getting additional Kit Of Parts items.