


# Team Update 05

## General

- **Cost Accounting Worksheet (CAW) Template Published:** An example [CAW Template](#) is now linked from the [FIRST POWER UP Game & Season Materials page](#).
- **Crate Sizes:** The manufacturer of the POWER CUBE crate employs two different molds to make the standard crate for general distribution which vary in size by  $\sim\frac{1}{4}$  in. The crates shipped in/with Kickoff Kits, distributed via *FIRST* Choice, being sold by AndyMark, Innovation First, and Rev Robotics, that will be used at official *FIRST* events were all made with the smaller of the two molds. If the size variance matters to your team and you're placing an order with Farm Plast directly, please reference "for *FIRST* Robotics" in the comment section upon checkout or, if ordering over the phone (973-287-6070), let them know that the order is "for *FIRST* Robotics."
- **Kickoff Kit Checklist Update:** The [Black Tote Checklist](#) has been updated with the following edit.

<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
	<b>Power Cube: crate</b> White, square, HDPE, 13 in. x 13 in. x 11 in.	Farm Plast LLC	Cubecrate	1	<a href="http://www.milkcratesdirect.com/square-milk-crates-4-gallon-16-quart/white-square-milk-crate">http://www.milkcratesdirect.com/square-milk-crates-4-gallon-16-quart/white-square-milk-crate</a> (specify "for <i>FIRST</i> Robotics" in comments at checkout or verbally if via phone) <a href="http://www.andymark.com">www.andymark.com</a> <a href="http://www.revrobotics.com">www.revrobotics.com</a> <a href="http://www.vexrobotics.com">www.vexrobotics.com</a>	

- **Team Drawings Update:** TE-18001 has been corrected to fix the orientation of the TE-18001-01 piece.

## Rules & Expectations for *FIRST* Robotics Competition Events

No changes.

## Game and Season Manual

### Section 8.4 Budget Constraints & Fabrication Schedule

**R11.** The total cost of all items on the ROBOT shall not exceed \$4000 USD. All costs are to be determined as explained in [Section 8.4 Budget Constraints & Fabrication Schedule](#). Exceptions are as follows:

- individual COTS items that are less than \$5 USD each, as purchased, and
- KOP items

### Section 8.5 BUMPER Rules

**R28.** Team numbers must be displayed and positioned on the BUMPERS such that an observer walking around the perimeter of the ROBOT can unambiguously tell the Team's number from any point of view and meet the following additional criteria:

- consist of Arabic numerals at least 4 in. ( $\sim 11$  cm) high, at least  $\frac{1}{2}$  in. ( $\sim 12.7$  mm) in stroke width, and be either white in color or outlined in white with a minimum  $\frac{1}{16}$  in. ( $\sim 1.6$  mm) outline

The  $\frac{1}{2}$  in. stroke width requirement applies to the majority of the stroke. Font elements less than  $\frac{1}{2}$  in. such as serifs, rounded edges, small

hairlines or gaps, etc. are permitted as long as the majority of the stroke meets the sizing requirement and the numbers are unambiguous.

## Section 8.10 OPERATOR CONSOLE

**R100.** The OPERATOR CONSOLE must not

- B.** be longer than 60 in. (~152 cm)
- C.** be deeper than 14 in. (~35 cm) (excluding any items that are held or worn by the DRIVERS during the MATCH)
- D.** extend more than 6 ft. 6 in. (~198 cm) above the floor
- E.** attach to the FIELD ARCADE (except as permitted by G19)

