

January 22, 2010

TEAM UPDATE #4

GENERAL NOTICES

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No changes.

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

Section 6 – The Arena, Rev D has been updated to include the following edits:

6.2.5 The GOALS

The GOALS are located at the corners between the ALLIANCE WALL and the Guardrail System. The GOAL is a 48-inch wide by 24-inch tall opening in the ALLIANCE WALL through which the BALLS can exit from the FIELD. A 8-inch tall dihedral ramp extends out in front of the GOAL opening. There is a 2-inch tall

lip on the exterior edge at the top of the ramp. A set of chains hangs from the top of the opening down to 11 inches above the top of the ramp. The chains and the lip on the ramp help keep the BALLS from bouncing back onto the FIELD once they have passed through the opening in the ALLIANCE WALL. BALLS that have passed through the GOAL opening enter an asymmetric funnel that routes them to the BALL COUNTER. The BALL COUNTER contains quadrature-encoded photodetectors to automatically detect and score BALLS as they pass through. BALLS exit from the BALL COUNTER and come to rest in the CORRAL.

Section 7 – The Game

Section 7 – The Game, Rev D has been updated to include the following edits:

<G37> Permitted ROBOT to ROBOT Contact - *Breakaway* is a highly interactive game. Robust construction of ROBOTS will be very important in this high-speed competition. ROBOTS should be designed to withstand the contact that will occur during the MATCH. Appropriate contact is allowed under the following guidelines for which no PENALTY will be assigned:

- a. High speed accidental collisions may occur during the MATCH and are an expected part of the game.
- b. Incidental contact, both inside and outside the BUMPER ZONE, is to be expected and is generally acceptable.
- c. Contact outside the BUMPER ZONE is an expected part of the game during the following scenarios:
 - i. for ROBOTS on a RAMP or BUMP,
 - ii. for ROBOTS that have been tipped and are not attempting to right themselves,
 - iii. for ROBOTS that have exceeded their NORMAL CONFIGURATION volume to right themselves or an ALLIANCE partner as permitted by Rule <G30> and have either exceeded the 10-second grace period permitted by Rule <G32> or completed the righting operation,
- iv. for ROBOTS that have exceeded their NORMAL CONFIGURATION volume to interact with a BALL as allowed by Rule <G30-a>, and
- v. for ROBOTS in the process of being ELEVATED or SUSPENDED prior to the FINALE.

Please note that a ROBOT that is ELEVATED before the FINALE is not protected from contact by opponent ROBOTS. Any FIELD damage or BALL RETURN damming caused by the ELEVATED ROBOT before the FINALE will be considered the fault of the ELEVATED ROBOT, regardless of whether or not the motion originated with an opponent ROBOT.

<G45> Active BALL control - ROBOTS may not control BALL direction with active MECHANISMS above the BUMPER **ZONE**. *Violation: PENALTY.*

MECHANISMS are considered “active” if they are in motion relative to the ROBOT while in contact with the BALL. Resetting or moving MECHANISMS while not in contact with a BALL is permitted as the MECHANISMS are not considered “active.”

Section 8 – The Robot

Section 8 – The Game, Rev D has been updated to include the following edits:

<R82> Teams are permitted to connect a portable computing device (Laptop computer, PDAs, etc.) to the DRIVER STATION for the purpose of displaying feedback from the ROBOT while participating in competition MATCHES. Portable computing devices may only connect to the DRIVER STATION through one of the USB ports or through the First Touch I/O module (or a carrier board for the First Touch I/O module) ~~the breadboard~~ – they shall not connect to the DRIVER STATION through any other port. Portable computing devices may only connect to the DRIVER STATION – they must not directly connect to any ARENA ports or equipment. Please note that **AC power will not be available at the PLAYERS STATIONS so these devices will have to run on internal batteries or be self-powered.**

Section 9 – The Tournament

No changes.

Section 10 – The Kit of Parts

The **2010 KOP Checklist, Rev B** has been updated to reflect the correct part numbers for the AndyMark “slick” and “stick” wheels (they were reversed in previous versions).

- 8” diameter “slick” wheel = PN am-0494
- 8” diameter “stick” wheel = PN am-0420