

*Chicago Robotics Invitational
Premier Event*

CRI Team Update 1

This Team Update tracks modifications to the CRI competition manual from V1 to V2.
For full context please see the complete CRI Competition Manual and the traditional
Competition Manual.

1 Introduction

1.9 CRI Modifications and Updates

Any updates to the CRI Competition Manual after initial release are indicated using the following formatting **will come with an accompanying Team Update Document detailing the changes included within. A summary of these changes will also be present in the Revision History table above. Inside of these Team Updates, changes are indicated using the following formatting:**

- Additions are in bold blue text. **This is an example.**
- Deletions are indicated with bold blue text and a strikethrough. ~~**This is an example.**~~

6 Awards

This section is entirely new and is not included in this Team Update. Please see the full new Competition Manual for these updates.

8 Game Overview

During the remaining 2 minutes of the MATCH, human drivers take control of their ROBOT. ROBOTS collect and sort SAMPLES from under the SUBMERSIBLES in the center of the FIELD. The yellow SAMPLES are scored in the BASKETS and the ALLIANCE SPECIFIC (i.e., elements owned or associated with a specific ALLIANCE) red and blue SAMPLES are returned to **the an** OBSERVATION ZONE for the HUMAN PLAYERS to collect.

HUMAN PLAYERS can pick up SAMPLES delivered to the **an** OBSERVATION ZONE and add a hanging CLIP to create a SPECIMEN. SPECIMENS can then be returned to **the an** OBSERVATION ZONE on the FIELD where ROBOTS can pick them back up and score them on the CHAMBERS located on the **a** SUBMERSIBLE. **Each CHAMBER awards points for the number of SPECIMENS on it, as well as whichever ALLIANCE has the most SPECIMENS scored on it at the end of each MATCH period.**

As time runs out, ROBOTS can either PARK in **the an** OBSERVATION ZONE or race back to climb the RUNGS on the SUBMERSIBLES so they can ASCEND out of the deep.

9 Arena

9.1 FIELD

More information about the field can be viewed with on the field CAD, hosted on Onshape [here](#).

9.2 Areas, Zones, & Markings

- OBSERVATION ZONE: an infinitely tall 4-sided polygon which is 36.6 in. (92.9 cm) at the widest point by 13.1 in. (33.3 cm) long **isosceles** trapezoid that has parallel sides that are **25 (63.5 cm) 12 in. (63.5 cm)** long and **25 (63.5 cm) 12 in. (63.5 cm)** long along the FIELD wall **that extends to with a depth of 10 in. from the next TILE seam** bounded by ALLIANCE colored tape and the adjoining FIELD wall (see [Figure 9-1](#)). The OBSERVATION ZONE includes the taped lines. **There are two adjacent OBSERVATION ZONES per ALLIANCE.**

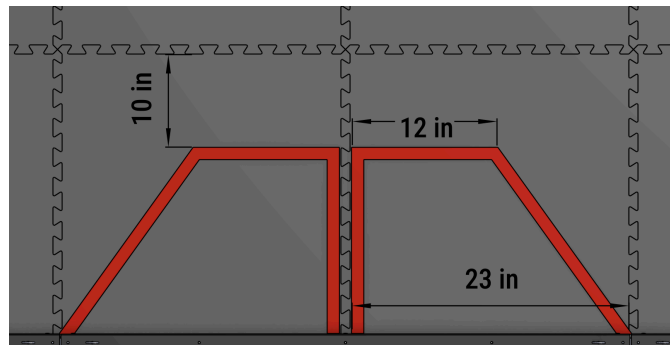


Figure 9-1 CRI OBSERVATION ZONE sizing

9.10 Event Management System

For the purposes of score tracking in the *FIRST* event management system, each BASKET and CHAMBER location is referred to as detailed in [Figure 9-2](#).

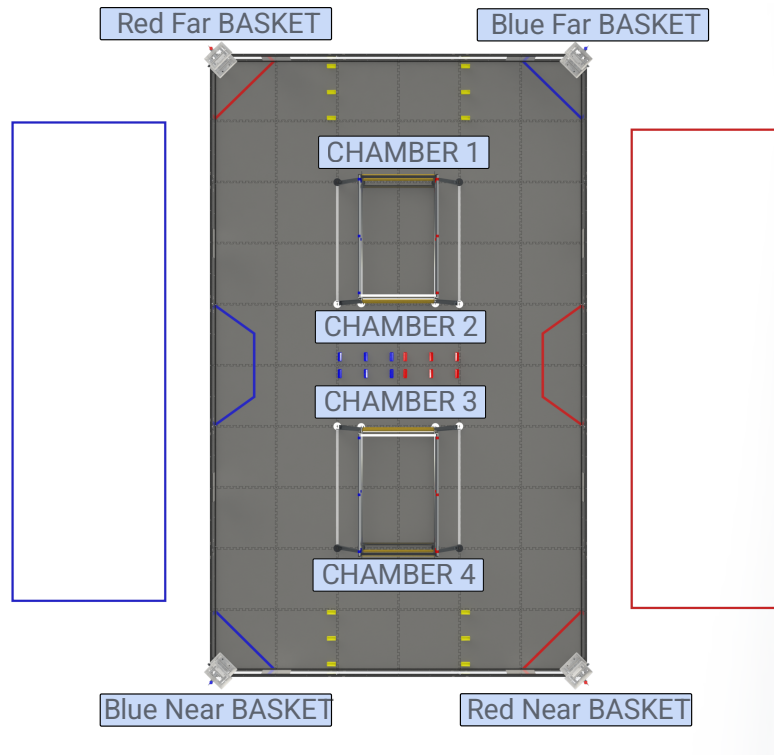


Figure 9-2: Scoring locations

10 Game Details

10.5 Scoring

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ALLIANCES are rewarded **MATCH** points for accomplishing tasks through the course of a **MATCH**, including:

- **PARKING** in the **an** **OBSERVATION ZONE**
- scoring **SAMPLES** in the **NET ZONE** and **BASKETS**
- scoring **SPECIMENS** on their **CHAMBERS**, and
- **ASCENDING** their **RUNGS**

10.5.3 ROBOT Scoring Criteria

A **ROBOT** receives **PARKING** points when the **ROBOT** is fully or partially inside the **one or both** **OBSERVATION ZONES** at the end of a **MATCH** period.

NOTE: PARKING in two OBSERVATION ZONES concurrently will score the same as PARKING in a single OBSERVATION ZONE.

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11 Game Rules (G)

11.2 Pre-MATCH

G210 *Do not expect to gain by doing others harm. Actions clearly aimed at forcing the opponent alliance to violate a rule are not in the spirit of *FIRST* Tech Challenge and not allowed. Rule violations forced in this manner will not result in an assignment of a penalty to the targeted alliance.

Violation: Minor foul plus major foul if repeated. The alliance that was forced to break a rule will not incur a foul.

This rule does not apply for strategies consistent with standard gameplay, for example:

- A. a red alliance ROBOT ASCENDING in their ASCENT zone in the final 30 seconds of the MATCH contacts a blue alliance robot
- B. a red ROBOT attempts to enter their net zone to place a SPECIMEN and pushes a blue ROBOT that was less than 1 TILE away into the NET ZONE.

This rule requires an intentional act with limited or no opportunity for the team being acted on to avoid the penalty, such as:

- A. trapping an opposing ALLIANCE ROBOT in your ALLIANCE'S ASCENT ZONE during the last 30 **20** seconds of the MATCH.
- B. pushing an opposing ALLIANCE ROBOT into **one of** your ALLIANCE'S OBSERVATION ZONE intentionally or from more than 1 TILE away.
- C. placing ~~your ALLIANCE-SPECIFIC~~ **any** SAMPLE or SPECIMEN in an opposing ALLIANCE'S ROBOT.
- D. a ROBOT becomes pinned in their opposing ALLIANCE'S OBSERVATION ZONE by the opposing ALLIANCE ROBOT

G219 Watch Out For Humans. A ROBOT may not:

- A. enter **the an** OBSERVATION ZONE while a HUMAN PLAYER is in **the that** OBSERVATION ZONE.
- B. contact a SCORING ELEMENT, either directly or transitively, that is controlled/possessed by a HUMAN PLAYER.

Violation: MINOR FOUL per occurrence plus YELLOW CARD if the ROBOT contacts the a HUMAN PLAYER.

G224 *Do not use strategies intended to shut down major parts of gameplay. A ROBOT or ROBOTS may not, in the judgment of a REFEREE, isolate or close off any major element of MATCH play for a greater-than-MOMENTARY duration.

Violation: MINOR FOUL plus an additional MINOR FOUL for every 5 seconds in which the situation is not corrected.

Examples of violations of this rule include, but are not limited to:

- A. shutting down access to all SCORING ELEMENTS,
- B. quarantining an opponent to a small area of the FIELD,
- C. quarantining all unscored SCORING ELEMENTS of one or more types (e.g., neutral SAMPLES) out of the opposing ALLIANCE'S reach,
- D. blocking all access to opponent's BASKETS, NET ZONE, CHAMBERS, or both OBSERVATION ZONES, and
- E. blocking all access to SCORING ELEMENTS of one or more types in any the SUBMERSIBLE ZONE, and
- F. blocking all access to a set of CHAMBERS.

ROBOTS attempting offensive tasks (i.e., collecting SAMPLES, scoring) are not considered blocking a NET ZONE, BASKET, CHAMBER, etc. until the offensive task is complete or their actions are determined to be strategically defensive.

Blocking an element of MATCH play requires an opposing ROBOT to attempt offensive MATCH play with that element.

More actions

G231 HUMAN PLAYERS manipulate SCORING ELEMENTS within limits. Only the a HUMAN PLAYER may introduce SCORING ELEMENTS into or retrieve SCORING ELEMENTS from the an OBSERVATION ZONE.

- A. any number of SCORING ELEMENTS can be manipulated by the a HUMAN PLAYER at a time.
- B. SCORING ELEMENTS may be placed in any orientation and/or in contact with other SCORING ELEMENTS.
- C. HUMAN PLAYERS may only place and/or retrieve SCORING ELEMENTS into the an OBSERVATION ZONE during the AUTO and TELEOP periods of the MATCH.
- D. HUMAN PLAYERS may not be in contact with a SCORING ELEMENT, either directly or transitively, that is possessed/controlled by a ROBOT.

- E. HUMAN PLAYERS may reintroduce SCORING ELEMENTS to **the an** OBSERVATION ZONE that have left the FIELD as a result of a ROBOT attempting to collect it from **the an** OBSERVATION ZONE or FIELD wall within **the an** OBSERVATION ZONE, as long as no other rules are violated (e.g. rule G428).
- F. HUMAN PLAYERS may manipulate opposing ALLIANCE SCORING ELEMENTS that have been placed into **one of** their ALLIANCE'S OBSERVATION ZONES. The opposing ALLIANCE SCORING ELEMENTS may not be removed from **the OBSERVATION ZONES**, but may be moved within the OBSERVATION ZONES.

*Violation: MINOR FOUL per occurrence plus YELLOW CARD if **the a** HUMAN PLAYER contacts the ROBOT.*

SPECIMENS hung from the FIELD wall in **the an** OBSERVATION ZONE are still considered in **the an** OBSERVATION ZONE and may be manipulated by **the an** HUMAN PLAYER.

G419 and G431 do not stack. One FOUL should be called per occurrence of the violation per ALLIANCE. For example, two FOULS would be called in the case where the ROBOT and HUMAN PLAYER are on separate ALLIANCES. **Additionally, two FOULS would be called in the case where both HUMAN PLAYERS from an ALLIANCE are in an OBSERVATION ZONE when a ROBOT from the same ALLIANCE enters it.**

With two distinct adjacent OBSERVATION ZONES for each ALLIANCE, the intent is that a HUMAN PLAYER and a ROBOT should never be in the same OBSERVATION ZONE at any given time. Therefore:

- A. A HUMAN PLAYER may enter one of the OBSERVATION ZONES for their ALLIANCE as long as there is not a ROBOT in that OBSERVATION ZONE – a ROBOT may be in the other OBSERVATION ZONE for the ALLIANCE.
- B. A HUMAN PLAYER may place a SCORING ELEMENT such that it is in both OBSERVATION ZONES.
- C. Either HUMAN PLAYER for the ALLIANCE may be in either of the ALLIANCE's OBSERVATION ZONES – they are not constrained to one OBSERVATION ZONE for the MATCH.
- D. Both HUMAN PLAYERS can be in one OBSERVATION ZONE at once.
- E. Multiple ROBOTS can be in one of the OBSERVATION ZONES at once.
- F. If a ROBOT is in both of an ALLIANCE's OBSERVATION ZONES, no HUMAN PLAYER should be in either OBSERVATION ZONE and vice versa.

G232 Watch out for ROBOTS. A HUMAN PLAYER cannot break the vertical plane of the FIELD wall **to access an OBSERVATION ZONE** when a ROBOT is in the **that** OBSERVATION ZONE. The only exceptions are:



- A. The ROBOT in the OBSERVATION ZONE has been declared DISABLED by a REFEREE.

Violation: MINOR FOUL per occurrence plus YELLOW CARD if the HUMAN PLAYER contacts the ROBOT.