

Team Update 14

General

ROBOT PERIMETER interactions and expansion limits

In [Team Update 13](#), we highlighted the application of R106 and G413 to ROBOT components holding FUEL. While we have been aware since Kickoff of the likelihood that many teams would instead include these components as part of their BUMPER, we had not fully thought through all of the implications on enforcement of G413, G415, and G416.

This update relaxes the application of G413 to flexing ROBOT components and makes modifications to G415 and G416 to allow consistent REFEREE enforcement regardless of whether these components are part of the BUMPER or not. While we understand this may be frustrating for teams who have put substantial effort into complying with the rules as they have been since Kickoff, we felt that this direction was the best choice for consistent enforcement and to avoid teams feeling forced to move components onto their BUMPERS.

Playing Field Webpage

The [Field Dimension Drawings](#) have been updated to add details on gate locations and dimensions when opened.

The Field Acceptance Checklists have been posted to the [Playing Field Webpage](#).

The [Field Manual](#) has been updated to V3.

Q&A

The response to [Q77](#) has been updated to reflect changes made in [Team Update 13](#).

Game Manual

5.1 Dimensions and Accuracy

The specification for the REBUILT FIELD can be retrieved from a few locations:

- The FIELD Acceptance Checklists ~~(coming soon)~~ for the [welded FIELD](#) and for the [AndyMark FIELD](#) includes the controlled dimensions (with relevant tolerances) which will be checked by event staff a few times throughout the event. The FIELD is expected to change during MATCH play. Teams can ask the FTA to re-check specific measurements if they believe something is out of spec prior to a MATCH beginning.

5.4 HUB

Table 5-3: HUB Lighting

Color	Pre-MATCH	MATCH	Post-Match
ALLIANCE color at 100% brightness	N/A	HUB active	N/A
ALLIANCE color pulsing		HUB deactivation warning. Starts 3 seconds before and continues until deactivation or end of MATCH.	
ALLIANCE color with white chase		During the TRANSITION SHIFT, Indicates the ALLIANCE HUB that will be inactive in ALLIANCE SHIFT 1. HUB is active.	
Purple		N/A	FIELD is safe for FIELD STAFF.
Green			FIELD is safe for all.
White			Post MATCH 3 Second Scoring Assessment Period
Off	MATCH ready to start.	HUB is not active.	N/A

5.7 DEPOT

A DEPOT is a 42.0in (1.07m) wide, 27.0in (68.6cm) deep structure located along the ALLIANCE WALL. There is 1 DEPOT per ALLIANCE. DEPOTS are made up of 3.0in (7.62cm) wide, 1.0in (2.54cm) tall steel barriers. The DEPOT is secured to the carpet using hook fastener which increases the height to approximately 1.125in (2.86cm).

7.3 Pre-MATCH

G303 *Start your ROBOTS. A ROBOT must meet all following MATCH-start requirements:

ROBOTS may be asked to move if at least 1 of the FIELD gates for each ALLIANCE are not able to open/close when the ROBOT is in its starting location. Teams are encouraged to have multiple AUTO starting locations. Locations for FIELD gates can be found in the [Field Dimension Drawings](#).

G408 Don't catch FUEL.

Violation: MINOR FOUL. If strategic, MAJOR FOUL and VERBAL WARNING. If subsequent strategic violations during the event, MAJOR FOUL and YELLOW CARD.

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Examples of interaction which would be considered strategic include, but are not limited to:

- C. intentionally sitting under the HUB to collect a large quantity of FUEL,
- D. intentionally sitting under the HUB in order to redirect FUEL into your ALLIANCE ZONE.

Violations of this rule are per instance and not per FUEL CONTROLLED. Generally, an instance is considered for each time a ROBOT is catching or redirecting a quantity of FUEL from the HUB. Any time flow of FUEL into the robot has stopped would be considered a separate instance. Generally, any action which attempts to exploit the definition of an instance of any rule in order to gain benefit will likely be a violation of G211 and would quickly escalate to a RED CARD.

7.4 In-MATCH**7.4.3 ROBOT**

G413 Expansion limits. A ROBOT may not extend beyond any of the horizontal or vertical expansion limits described in [R105](#), [R106](#), and [R107](#).

Exceptions to this rule:

- A. If the over-expansion that violates [R105](#) or [R107](#) is due to visible damage and not used for strategic benefit, no penalty is imposed.
- B. If an expansion that contributes to a violation of [R106](#) is due to visible damage the team may extend a different component in a different direction, and no penalty is imposed.
- C. If the over-expansion is MOMENTARY and is not used for strategic benefit, no penalty is imposed.
- D. If an expansion that contributes to a violation of [R106](#) is due to flex of ROBOT components and is within 1.5in of the ROBOT PERIMETER, the team may extend in a different direction, and no penalty is imposed.

Examples related to exception C include the following:

G. A ROBOT has a hopper that when filled with FUEL extends out multiple sides of the ROBOT. This action is used for strategic benefit so a violation of MAJOR FOUL is issued.

For both examples F and G, the ROBOT will likely need to take corrective action before being allowed to compete in subsequent MATCHES.

7.4.4 Opponent Interaction

G415 ***Stay out of other ROBOTS.** A ROBOT may not use a COMPONENT outside its ROBOT PERIMETER (except its BUMPERS) to initiate contact with:

- A. an opponent ROBOT inside the vertical projection of the opponent's ROBOT PERIMETER, or
- B. with the opponent's BUMPER backing or mounting.

Contact with an opponent in an opening of their BUMPERS or in the space above the BUMPER opening are exceptions to this rule.

G416 ***This isn't combat robotics.** A ROBOT may not damage or functionally impair an opponent ROBOT in either of the following ways:

- A. deliberately.
- B. regardless of intent, by initiating contact, either directly or transitively via a SCORING ELEMENT CONTROLLED by the ROBOT:
 - a. inside the vertical projection of an opponent's ROBOT PERIMETER, or
 - b. with the opponent's BUMPER backing or mounting.

Contact between the ROBOT'S BUMPERS or COMPONENTS inside the ROBOT PERIMETER and COMPONENTS inside an opening of an opponent's BUMPERS or in the space above the BUMPER opening are exceptions to this rule.

7.4.5 Human

G427 **The OUTPOST has a storage limit.** Off-FIELD FUEL may only be stored in the CHUTE and the CORRAL. Excess FUEL, defined as the CHUTE & CORRAL being full, must immediately be entered onto the FIELD.

HUMAN PLAYERS holding up to 2 FUEL or making a good-faith effort to immediately move or enter additional FUEL is an exception to this rule.

Violation: MINOR FOUL, and if CONTINUOUS, a MAJOR FOUL is assessed.