

Team Update 06

General

- **Q&A Update:** [Q116](#) has been updated per edits made in [Team Update 5](#).

Rules & Expectations for *FIRST* Robotics Competition Events

No changes.

Game and Season Manual

Section 3.10 The FIELD Management System

FMS alerts participants to milestones in the MATCH using audio cues. Please note that audio cues are intended to be a courtesy to participants and not intended as official MATCH markers. If there is a discrepancy between an audio cue and the FIELD timers, the FIELD timers are the authority.

- MATCH Start & PLATES randomized: "Startup Sound"
- MATCH-AUTO Start: "Cavalry Charge"
- T=0 for AUTO: Buzzer
- Start of TELEOP: Three (3) Bells
- T-30 seconds in TELEOP: Train Whistle
- T=0 for TELEOP/MATCH end: Buzzer
- MATCH stopped: Foghorn
- POWER UP activated: "Linear Popping"

Section 6 Conduct Rules

C07. Don't expect to gain by doing others harm. Strategies clearly aimed at forcing the opposing ALLIANCE to violate a rule are not in the spirit of *FIRST*® Robotics Competition and not allowed. Rule violations forced in this manner will not result in an assignment of a penalty to the targeted ALLIANCE.

Violation: FOUL. If egregious or repeated, TECH FOUL and YELLOW CARD.

C07 does not apply for strategies consistent with standard gameplay, for example: e.g. contacting an opponent during the ENDGAME while in your PLATFORM ZONE and attempting to CLIMB.

- A. contacting an opponent during the ENDGAME while in your PLATFORM ZONE and attempting to CLIMB.
- B. placing a POWER CUBE on a SCALE PLATE resulting in the opposite PLATE moving upwards into an opponent ROBOT such that the opponent ROBOT ends up violating G25.

C07 requires an intentional act with limited or no opportunity for the TEAM being acted on to avoid the penalty, such as:

- C. placing a POWER CUBE on/in an opponent who's already controlling a POWER CUBE such that they cannot help but violate G22.

- D. forcing an opposing ALLIANCE ROBOT to become wedged under a SCALE PLATE such that they cannot help but violate G16 and/or G25.

Section 7.3 ROBOT to ROBOT Interaction

G10. Don't tear others down to lift yourself up. Strategies aimed at the destruction or inhibition of ROBOTS via attachment, damage, tipping, or entanglements are not allowed.

Violation: FOUL and YELLOW CARD. If harm or incapacitation occurs as a result of the strategy, YELLOW CARD is elevated to a RED CARD

For example, use of a wedge-like MECHANISM to tip ROBOTS is a violation of G10.

MECHANISMS outside the FRAME PERIMETER are particularly susceptible to causing such damage, drawing this penalty, and/or drawing penalties associated with violations of G11.

Teams are encouraged to be cautious in their use of such MECHANISMS when engaging in ROBOT to ROBOT MATCH play.

G14. There's a 5-count on pins. ROBOTS may not pin an opponent's ROBOT for more than five (5) seconds. A ROBOT will be considered pinned until the ROBOTS have separated by at least six (6) feet. The pinning ROBOT(s) must then wait for at least three (3) seconds before attempting to pin the same ROBOT again. Pinning is transitive through other objects. If the pinned ROBOT chases the pinning ROBOT upon retreat, the pinning ROBOT will not be penalized, and the pin will be considered complete.

Violation: FOUL, plus an additional FOUL for every five (5) seconds in which the situation is not corrected. If extended and egregious, RED CARD.

There is no *FIRST*® Robotics Competition specific definition of pin, so a general definition applies; "to prevent or stop something from moving." As a result, contact is not required for pinning to occur. For example, a ROBOT parked right behind an opponent that is against its PORTAL wall could be considered pinning because the wall and the parked ROBOT prevent the opponent from moving.

Generally, pins that exceed fifteen (15) seconds are considered extended and egregious, regardless of a pinning ROBOT's mobility; however circumstances vary and the assessment is open to REFEREE discretion.

Section 7.4 FIELD Interaction

G20. POWER CUBES: use as directed. With the exception of placing a POWER CUBES on PLATES, ROBOTS may not deliberately use POWER CUBES in an attempt to ease or amplify the challenge associated with FIELD elements.

Violation: TECH FOUL per additional POWER CUBE. Repeated or egregious violations of this rule are likely to escalate rapidly to YELLOW or RED CARDS.

Examples include, but are not limited to:

- A. stacking POWER CUBES underneath a PLATE
- B. climbing on POWER CUBES
- C. using POWER CUBES to explicitly impede opponent mobility
- D. Placing a POWER CUBE on the top of the SCALE to block the opponent ALLIANCE RUNGS is an egregious violation of G20.

G21. Keep POWER CUBES in bounds. With the exception of feeding POWER CUBES through the lower opening of the EXCHANGE, ROBOTS may not intentionally eject POWER CUBES from the FIELD.

Violation: FOUL per POWER CUBE. Repeated or extended violations of this rule are likely to escalate rapidly to YELLOW or RED CARDS.

G25. PLATES are moved by POWER CUBES, not ROBOTS. Except via the placement of the weight of placed POWER CUBES, ROBOTS may not affect directly or transitively cause or prevent the movement of PLATES. Incidental contact that does not result in PLATES changing scoring state Movement, or prevention of movement, of PLATES because of momentary ROBOT action resulting in minimal PLATE displacement is not a violation of this rule. A ROBOT forced to affect the position of a PLATE because of contact by an opponent ROBOT either directly or transitively through a POWER CUBE or other ROBOT (e.g. a ROBOT wedged underneath the SCALE by the opposing ALLIANCE either intentionally or accidentally) is not a violation of this rule.

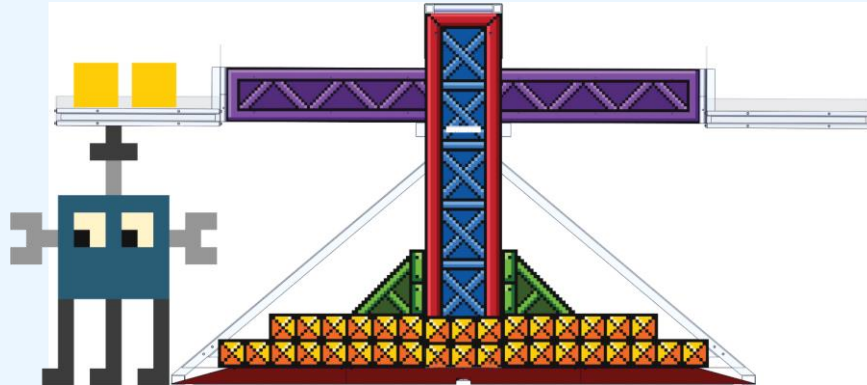
Violation: FOUL per instance plus an additional TECH FOUL for every five (5) seconds in which the situation is not corrected. Repeated or extended violations of this rule are likely to escalate rapidly to YELLOW or RED CARDS.

The intent of G25 is to make it clear that PLATES are to move solely because of POWER CUBE weight and not because of a ROBOT deliberately trying to move PLATES (either by using its own manipulator, or a POWER CUBE as an extension of the ROBOT, to push or hold a PLATE).

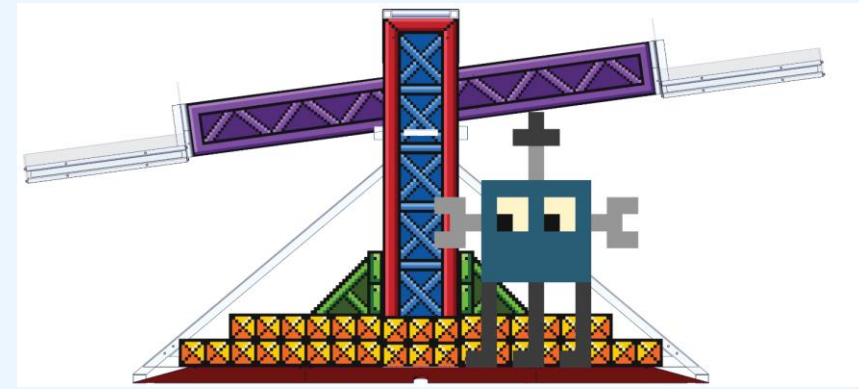
The “momentary” and “minimal” language in G25 is subjective but necessary because ROBOTS may cause PLATE movement (or prevent PLATE movement) as they place POWER CUBES and bump PLATES, get hit, etc.

Generally, “momentary” means near instantaneous, or in other words, contact for less than approximately one (1) second and “minimal” means a displacement of fewer than approximately three (3) in. However, REFEREES are not expected to measure, and be accountable to, real-time PLATE displacement or precise timing from their vantage points.

Example 1: A ROBOT may not hold the SCALE PLATE in a “balanced” state.



Example 2: A ROBOT may not hold a plate up.



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:

- A. individual items that are less than \$5 USD each, as purchased from a VENDOR, and
- B. KOP items

