

Team Update 03

GENERAL

- Although there are no specifications for the compressibility of POWER CELLS, please be sure the vent hole is not plugged. For further reference, please watch [the LOADING BAY Field Tour video with Fiona and Malcolm here](#).
- The [Playing Field webpage](#) has updated VR experiences.
 - AutomationDirect.com created an [Oculus Quest experience](#), now added to the [Playing Field page](#).
 - [AutomationDirect.com's VR asset](#) was updated on 1/8/20. Changes include the following:
 - amber stacklights by the control panels can now be turned off and on using the same controls as everything else
 - shield generator stacklights turn off and on depending on whether or not the switches are level
 - ground texture replaced with concrete blocks
 - polishing tweaks (for example built lighting at “production” as opposed to medium and added a few reflection captures)
 - changed the application icon to the “AutomationDirect goahead”

EVENT MANUAL

No changes.

GAME AND SEASON MANUAL

Section 7.2.4 ROBOT Restrictions

G18. Don't overextend yourself. ROBOTS may not extend more than 12 inches (~30 cm) beyond their FRAME PERIMETER.

Violation: FOUL. If egregious, RED CARD.

Examples of compliance and non-compliance of G18 are shown in Figure 7-4.

Yellow bars represent the limits of the FRAME PERIMETER and are drawn in the same orientation of the ROBOT'S FRAME PERIMETER. Green bars represent a measured extension from the FRAME PERIMETER that does not violate G18. Red bars represent a measured extension from the FRAME PERIMETER that exceeds the limit in G18). ROBOTS A and C violate G18, whereas ROBOT B does not.

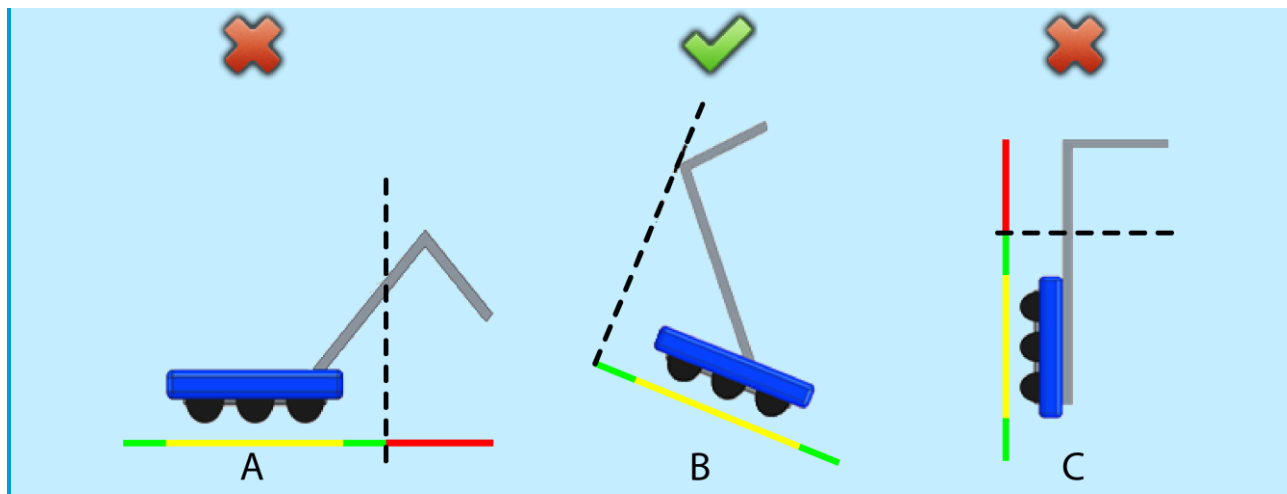


Figure 7-4 Examples of G18 compliance and non-compliance

Egregious examples of G18 violations include:

- extending more than 12 inches (~30cm) beyond the FRAME PERIMETER to score a POWER CELL
- extending more than 12 inches (~30cm) beyond the FRAME PERIMETER to score a HANG
- expanding to block opponent access to a FIELD element, e.g. GENERATOR SWITCH or POWER PORT
- expanding into the BOTTOM PORT to disrupt the scoring mechanism

Section 10 Inspection and Eligibility Rules

I1. It's your team's ROBOT. The ROBOT and its MAJOR MECHANISMS must be built by the FIRST Robotics Competition team.

A MAJOR MECHANISM is a group of COMPONENTS and/or MECHANISMS assembled together to address at least one (1) game challenge: robot movement, game piece control, field element manipulation, or performance of a scorable task without the assistance of another ROBOT.

I1 requires that the ROBOT and its MAJOR MECHANISMS were built by its team, but isn't intended to prohibit or discourage assistance from other teams (e.g. fabricating elements, supporting construction, writing software, developing game strategy, contributing COMPONENTS and/or MECHANISMS, etc.)

Examples of MAJOR MECHANISMS include, but are not limited to, assemblies listed below:

- an assembly used to manipulate a game piece
- an assembly used to position a ROBOT for an end game task
- an assembly used to manipulate a FIELD element
- an assembly used to move the ROBOT around the FIELD

Examples that would generally not be considered MAJOR MECHANISMS, and thus probably aren't subject to I1 include, but are not limited to, the following:

- a gearbox assembly
- a COMPONENT or MECHANISM that's part of a MAJOR MECHANISM
- COTS items

Neither I1 nor the language in its Blue Box define specific thresholds for how much of a MAJOR MECHANISM must be the result of the team's effort. I1 expects and requires the team's honest assessment of whether they built the MAJOR MECHANISMS of their ROBOT.

Attempts to exploit loopholes in the definition of MAJOR MECHANISM in order to bypass this requirement are not in the spirit of I1 or the *FIRST* Robotics Competition. Examples of exploitation include:

- a. assembling pieces of a MAJOR MECHANISM provided by another team, except COTS kits
- b. receiving a mostly complete MAJOR MECHANISM from another team and providing a small piece