

Team Update 18

MANUAL

SECTION 8.2.3

- G9. One (1) defender at a time.** No more than one ROBOT may be positioned such that its BUMPERS break the plane defined by or are completely beyond the opponent's CARGO SHIP LINE.

The exception to this rule is if an additional ROBOT

- A. is forced to cross the opponent's CARGO SHIP LINE by an opponent ROBOT (e.g. it is pushed over the opponent's CARGO SHIP LINE by an opponent in a defensive effort to prevent them from scoring a CARGO in a ROCKET), and
- B. makes a dedicated effort to cross back over the CARGO SHIP LINE until no more than one ROBOT is positioned such that its BUMPERS break the plane defined by or are completely beyond the opponent's CARGO SHIP LINE.

Violation: FOUL, plus an additional FOUL for every five (5) seconds in which the situation is not corrected. If G10 is also being violated, additional FOUL escalates to TECH FOUL.

Only one (1) 'five-count' will be maintained at a time for G9, G10, and G18. For violations of G9/G10, the first count started will be maintained and a FOUL or TECH FOUL will be assessed at each five-second interval depending on whether one or both rules are being violated. If G18 is also violated, REFEREES are instructed to disregard G9/G10 counts to focus on the pin. Attempts to intentionally manipulate this in order to avoid G9/G10 penalties may be subject to YELLOW/RED CARDS for egregious behavior.

- G10. On defense, rein it in.** No part of a ROBOT, except its BUMPERS, may be outside its FRAME PERIMETER if its BUMPERS are completely beyond its opponent's CARGO SHIP LINE.

The exception to this rule is if the ROBOT

- A. is forced to cross the opponent's CARGO SHIP LINE by an opponent ROBOT (e.g. it is pushed over the opponent's CARGO SHIP LINE by an opponent in a defensive effort to prevent them from scoring a CARGO in a ROCKET), and
- B. makes a dedicated effort to reposition itself such that
 - i. its BUMPERS are not completely beyond its opponent's CARGO SHIP LINE or
 - ii. the ROBOT is contained to its FRAME PERIMETER.

Violation: FOUL, plus an additional FOUL for every five (5) seconds in which the situation is not corrected. If G9 is also being violated, additional FOUL escalates to TECH FOUL.

SECTION 10.8

- R73.** The DRIVER Station software, roboRIO, Power Distribution Panel, Pneumatics Control Modules, Voltage Regulator Modules, RSL, 120A breaker, motor controllers, relay modules (per R36-B), Wireless Bridge, and batteries shall not be tampered with, modified, or adjusted in any way (tampering includes drilling, cutting, machining, rewiring, disassembling, painting, etc.), with the following exceptions:

Please note that the DRIVER Station application is a separate application from the Dashboard. The DRIVER Station software may not be modified, while teams are expected to customize their Dashboard code.

- A. User programmable code in the roboRIO may be customized.
- B. Motor controllers may be calibrated as described in owner's manuals.
- C. Fans may be attached to motor controllers and may be powered from the power input terminals.
- D. If powering the compressor, the fuse on a Spike H-Bridge Relay may be replaced with a 20A Snap-Action circuit breaker.



- E.** Wires, cables, and signal lines may be connected via the standard connection points provided on the devices.
- F.** Fasteners (including adhesives) may be used to attach the device to the OPERATOR CONSOLE or ROBOT or to secure cables to the device.
- G.** Thermal interface material may be used to improve heat conduction.
- H.** Labeling may be applied to indicate device purpose, connectivity, functional performance, etc.
- I.** Jumpers may be changed from their default location.
- J.** Limit switch jumpers may be removed from a Jaguar motor controller and a custom limit switch circuit may be substituted.
- K.** Device firmware may be updated with manufacturer supplied firmware.
- L.** Integral wires on motor controllers may be cut, stripped, and/or connectorized.
- M.** Devices may be repaired, provided the performance and specifications of the device after the repair are identical to those before the repair.
- N.** The cover may be removed from the Talon SRX data port.
- O.** Electrical tape may be applied to the aluminum plate inside the Wireless Bridge.
- P.** The input terminal cover from the Power Distribution Panel may be omitted (no other element may be installed using the threaded holes to install something in place of the PDP terminal cover).

Please note that while repairs are permitted, the allowance is independent of any manufacturer's warranty. Teams make repairs at their own risk and should assume that any warranty or RMA options are forfeited. Be aware that diagnosing and repairing COMPONENTS such as these can be difficult.

For more information about modification O, please see [this article](#).

