

# Team Update 13

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## General

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*A note from the FRC Director:*

You will note a few important changes in this Team Update. These are the result of our observations at the Week Zero event over the weekend.

We noted that occasionally Power Cubes were not sensed consistently in the Vault if the logo side of the cube was up, so we are recommending they be placed in the Vault logo side down. It's not a penalty to put them logo side up, but it also won't be considered an Arcade Fault if a cube placed logo side up is not sensed properly. Along with this manual change, we intend to remind teams during drivers' meetings at events that it's best if the put the cubes in the Vault logo side down.

Also, we are giving teams a little more leeway in G09 when it comes to where they may launch power cubes without penalty. We're trying to minimize nuisance penalties while still keeping the game safe. There is no perfect solution to this, but we think this change brings a better balance between competing desires.

## Rules & Expectations for *FIRST* Robotics Competition Events

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No changes.

## Game and Season Manual

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### Section 3.6.3 VAULT

The VAULT is an aluminum and plastic structure used by HUMAN PLAYERS to turn POWER CUBES in to POWER UPS. There are three (3) columns within the VAULT. Each column is 1 ft. 1-1/2 in. (~34 cm) wide by 3 ft. 3-1/4 in. (~100 cm) tall with the bottom located 1 ft. 3-1/2 in. (~39 cm) above the carpet. Each of the three (3) columns in the VAULT correspond to a POWER UP. When standing in the ALLIANCE STATION and facing the open columns of the VAULT the column to the left is the FORCE POWER UP, the center column is the LEVITATE POWER UP and the column on the right is the BOOST POWER UP.

POWER CUBES placed logo-side-up may result in POWER CUBES not being sensed consistently by the FIELD.

Figure 3-19: Blue ALLIANCE VAULT



Caution, there may be orientations where all three (3) POWER CUBES will not fit in a VAULT column, but if HUMAN PLAYERS place POWER CUBES logo side up **down** they'll fit with room to spare.

## Section 7.2 ROBOT Restrictions

**G09. Launching POWER CUBES is okay, but keep it short.** A ROBOT is not permitted to launch POWER CUBES except:

- A. When any part of its BUMPERS are inside its ALLIANCE'S NULL TERRITORY, and it's attempting to place a POWER CUBE on the SCALE PLATE in its ALLIANCE'S NULL TERRITORY, or
- B. when any part of its BUMPERS are contacting a FENCE or any part of the ROBOT is intersecting the vertical planes defined by the SWITCH FENCE, and it's attempting to place a POWER CUBE on the nearest PLATE of that FENCE'S SWITCH, or
- C. when any part of its BUMPERS are inside its ALLIANCE'S EXCHANGE ZONE, and it's attempting to place a POWER CUBE in its ALLIANCE'S EXCHANGE tunnel.

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

## Section 7.6 Human Action Rules

**H14. POWER CUBES stay in the VAULT.** POWER CUBES may not be removed from the VAULT.

Violation: FOUL. If strategic (i.e. re-used in a different column) within the VAULT or introduced to the FIELD), RED CARD.

A POWER CUBE is considered in the VAULT when the LEDs in the corresponding column indicate its presence.

## Section 10.8 MATCH Replays

POWER CUBES not detected because of logo-side-up placement in the VAULT, per Section 3.6.3 VAULT, do not result in an ARCADE FAULT.

Note that an ARCADE FAULT that does not affect MATCH outcome in the judgement of the Head REFEREE does not lead to a MATCH replay. Examples include, but are not limited to:

- A. a piece of FIELD plastic falls into the FIELD, far away from any human or ROBOT activity, and in such a way that it does not affect MATCH outcome
- B. delay in the playing of an ARCADE sound
- C. mismatch between the timer on the Audience Screen and the FIELD Timer
- D. any adjustment or delay in assignment of a penalty (including those made after the MATCH)

