2018 "VEX Worlds" Update

The scheduled April 5th, 2018 Game Manual update included the following clarifications:

Section 2 – The Game

<G12> Strategies aimed solely at the destruction, damage, tipping over, or *Entanglement* of *Robots* are not part of the ethos of the VEX Robotics Competition and are not allowed. However, *VEX Robotics Competition In the Zone* is an interactive game. Some incidental tipping, *Entanglement*, and damage may occur as a part of normal game play. If the tipping, *Entanglement*, or damage is ruled to be intentional or egregious, the offending *Team* may be disqualified from that *Match*. Repeated offenses could result in a *Team* being *Disqualified* from the remainder of the competition.

VEX Robotics Competition In the Zone is intended to be an offensive game. *Teams* that partake in solely defensive strategies will undergo extra scrutiny in regard to <G12>. In the case where referees are forced to make a judgment call on interaction between a defensive and offensive *Robot*, the referees will err on the side of the offensive *Robot*. A *Robot* that is legally encompassing or interacting with an opposing *Alliance*'s *Mobile Goal(s)* has chosen to undergo a solely defensive strategy, and has waived the protection offered by <G12>. These *Robots* should be prepared to withstand vigorous interaction from offensive *Robots* attempting to retrieve their *Mobile Goals*.

A *Team* is responsible for the actions of its *Robot* at all times, including the *Autonomous Period*. This goes for *Teams* that are driving recklessly and potentially causing damage, but also goes for *Teams* that drive around with a small wheel base. A *Team* should design its *Robot* such that it is not easily tipped over or damaged by minor contact.

Certain interactions with opposing Mobile Goals are, and have always been, legal. However, robots which encompass or otherwise control an opponent's Mobile Goal (i.e. a "cage-bot") must acknowledge that they take on a significant amount of risk in doing so. There is no penalty for tipping, entangling, or otherwise destructively interacting with a "cage-bot".

If an interaction with an offensive robot results in a situation which would be considered a violation for the defender, such as extending beyond 36" (<SG14>), contacting an opponent's 10 Point Zone (<SG10>), or removing an opponent's Stacked Cones (<SG5>), the defending robot will be considered "at fault".

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Section 3 – The Tournament

Tournament Rules

<T06> At the 2018 VEX Robotics World Championship, violation of the following rules may result in Disqualification from a current match, upcoming matches, or the entirety of the event.

- **a.** <R1>, especially:
  - **i.** Using multiple robots for a single team.
  - **ii.** Using a single robot for multiple teams.
  - **iii.** Using a robot that has competed under a different team number during the season.
- **b.** <R2>, especially:
  - **i.** Making a major modification without being re-inspected in the new configuration. A "major modification" could include (but is not limited to) adding or removing a robot mechanism, modifying robot functionality, or replacing electronic components.
- **c.** <R15>, especially:
  - **i.** Any internal motor modification (other than those explicitly allowed by <R15>). This could include, but is not limited to, any modification to the internal PTC, adding thermal paste, etc.
  - **ii.** Any internal modification to the VEX ARM® Cortex®-based Microcontroller. This could include, but is not limited to, any modification to the internal PTC's or other circuitry.
- **d.** <G1>, especially:
  - **i.** Egregious disrespect or incivility towards event staff, volunteers, or fellow competitors, either from Students or from any adults associated with a Team.
- **e.** <G4>, especially:
  - **i.** Students acting as Drive Team Members for multiple Teams at the same event.

The REC Foundation, the GDC, and VEX Robotics want to be perfectly clear regarding the potential penalties for these violations at the World Championship event. The goal is to ensure the most level playing field for the most teams possible.

These rules are not new to the VEX Robotics Competition. They should not come as a surprise to teams. These rules are being specifically highlighted as a reminder, in advance, to minimize penalties during the event for the few teams who would be tempted to violate them.

As in previous years, teams should expect manual verification by event staff, such as on-field PTC checks, to enforce these rules. Teams that respect the integrity of the rules, as written, should have no reason for concern.

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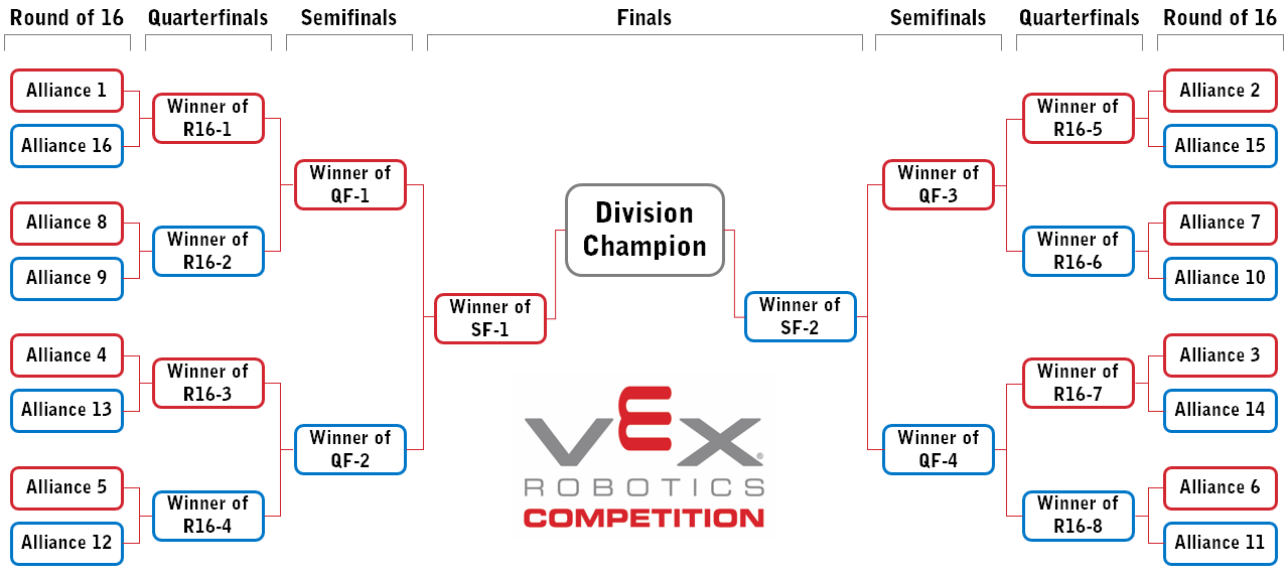
Section 3 – The Tournament (cont'd)

Event Modifications

VEX Worlds 2018: At VEX Worlds 2018, the tournament will be played as follows:

- Each division will use a 16-Alliance Elimination Match Ladder, as shown below.
- Each Alliance will have two Teams. In VEX U, Alliances will have one Team.
- Within each bracket of the Elimination Match Ladder, the first Alliance to win a single Match will advance to the next round.
  - Any ties will be replayed until a winner is established.
- In the VRC High School divisions, the Division Champions will then play a 6-Alliance Round Robin tournament to determine the two Tournament Finalists. Details can be found in the Round Robin Criteria document.
  - In the VRC Middle School and VEX U divisions, the two Division Champions will be considered the two Tournament Finalist Alliances.
- The two Tournament Finalist Alliances will then play a "best of three" Finals round to determine the World Champion Alliance.
  - The first Alliance to win two matches will be the World Champion.
  - Any ties will be replayed until a Champion has been established.



This change from the traditional 8-alliance bracket will enable additional teams to play in Elimination Matches, assist in managing event schedules, ensure a more seamless audience viewing experience, and help place greater emphasis on consistent robot performance.

We are excited to pilot this format at VEX Worlds 2018, with the intent of rolling it out to all standard tournaments in the 2018-2019 season. This format will give Event Partners the flexibility to provide more match play for all teams. With single elimination and 8 alliances, there is time for extra qualification matches. With single elimination and 16 alliances, more teams play in the elimination rounds.

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Section 4 – Robot Rules

<R1> Only one (1) robot will be allowed to compete per team in the VEX Robotics Competition. Though it is expected that teams will make changes to their robot at the competition, a team is limited to only one (1) robot. As such, a VEX robot, for the purposes of the VEX Robotics Competition, has the following subsystems:

Subsystem 1: Mobile robotic base including wheels, tracks, legs, or any other mechanism that allows the robot to navigate the majority of the flat playing field surface. For a stationary robot, the robotic base without wheels would be considered Subsystem 1.
Subsystem 2: Power and control system that includes a VEX legal battery, a VEX control system, and associated motors for the mobile robotic base.
Subsystem 3: Additional mechanisms (and associated motors) that allow manipulation of game objects or navigation of field obstacles.

Given the above definitions, a minimum robot for use in any VEX Robotics Competition event (including skills challenges) must consist of 1 and 2 above. Thus if you are swapping out an entire subsystem of either item 1 or 2, you have now created a second robot and are no longer legal.

- **a.** Teams may not compete with one robot, while a second is being modified or assembled.
- **b.** Teams may not switch back and forth between multiple robots during a competition. This includes using different robots for Skills Challenge and Qualification / Elimination Matches.
- **c.** Multiple teams may not use the same robot during a competition.
- **d.** If a robot has competed under multiple team numbers during the competition season, this robot is not eligible for use at the World Championship.

Like <T06>, the intent of these clarifications to <R1> is to ensure an unambiguous level playing field for all teams. Teams are welcome (and encouraged) to improve or modify their robots between events, or to collaborate with other teams to develop the best possible game solution.

However, a team who brings and/or competes with two separate robots at the same tournament has diminished the efforts of a team who spent extra design time making sure that their one robot can accomplish all of the game's tasks. A multi-team organization that shares a single robot has diminished the efforts of a multi-team organization who puts in the time, effort, and resources to undergo separate individual design processes and develop their own robots.

If you are having trouble determining if a robot is a "separate robot" or not, use the Subsystem definitions found in <R1>. Above that, use common sense as referenced in <G2>. If you can place two robots on a table next to each other, and they look like two separate (legal/complete) robots, then they are two separate robots. Trying to decide if changing a screw, a wheel, or a microcontroller constitutes a separate robot is missing the intent and spirit of this rule.

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