VEX ROBOTICS COMPETITION TOWER TAKEOVER

Appendix B: Robot Skills Challenge

Appendix B
The Robot Skills Challenge

Overview

This Appendix describes the combined Robot Skills Challenge rules for *VEX Robotics Competition Tower Takeover*.

Please note that the Robot Skills Challenge may not be offered at all tournaments. Please check with your local Event Partner or www.robotevents.com for more information.

Robot Skills Challenge Description

In this challenge, teams will compete in sixty (60) second long matches in an effort to score as many points as possible. These matches consist of *Driving Skills Matches*, which will be entirely driver controlled, and *Programming Skills Matches*, which will be autonomous with limited human interaction. *Teams* will be ranked based on their combined score in the two types of *Matches*. The playing field will be set up exactly the same as a normal *VEX Robotics Competition Tower Takeover Match*.

Robot Skills Challenge Definitions

Please note that all definitions from "The Game" section of the manual apply to the Robot Skills Challenge, unless otherwise specified.

Driving Skills Match – A *Driving Skills Match* consists of a sixty (60) second *Driver Controlled Period*. There is no *Autonomous Period*. Teams can elect to end their run early, however this will count as an official run.

Programming Skills Match – A *Programming Skills Match* consists of a sixty (60) second *Autonomous Period*. There is no *Driver Controlled Period*. *Teams* can elect to end their run early, however this will count as an official run.

Robot Skills Match – A *Driving Skills Match* or *Programming Skills Match*.

Robot Skills Challenge Rules

Please note that all rules from "The Game" section of the manual apply to the Robot Skills Challenge, unless otherwise specified.

<RSC1> In *Robot Skills Matches*, all *Goal Zones* and *Alliance Towers* considered to be the same color for the purposes of any *Alliance*-specific rules or definitions.

a. *Robots* may start on either side of the field, as long as they fulfill the constraints set forth in <SG1> and <G7> for the chosen *Alliance*'s side.
b. *Robots* may *Score Cubes* in any color of *Goal Zone* for points.
c. *Robots* may utilize either *Alliance Tower* for *Placing Cubes*.
d. Rule <SG3> does not apply.

<RSC2> In *Robot Skills Matches*, all *Cubes* are considered to be the same color.
Placing a *Cube* in a *Tower* affects the point value of all *Cubes*, not just *Cubes* of that physical color.

<RSC3> Prior to the start of *Robot Skills Matches*, the *Robot* must use its one (1) *Cube* available as a *Preload*, per <SG1>. The other three (3) *Preloads*, and the two purple *Match Loads*, are not used in a *Robot Skills Match*.

<RSC4> Rule <SG2> does not apply in *Programming Skills Matches*.

Robot Skills Challenge Scoring

Alliances receive points for each Cube that is Scored in their Goal Zones at the end of a Match. The point value of each Cube is defined by the number of Cubes that are Placed.

Number of Cubes Placed in Towers (regardless of color)	Point Value for Scored Cubes (regardless of color)
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8

Robot Skills Challenge Ranking

- For each *Robot Skills Match*, Teams are awarded a score based on the above scoring rules.
- *Teams* will be ranked based on the sum of their highest *Programming Skills Matches* score and *Driving Skills Matches* score. The Team with the highest sum will be declared the Robot Skills Challenge Winner.
- In the case where two *Teams* are tied for the highest score, the tie will be broken by looking at both *Teams*' next highest *Programming Skills Matches* score. If the Teams remain tied, the tie will be broken by looking at both Teams' next highest *Driving Skills Matches* score. This process will repeat until the tie is broken.
- If the tie cannot be broken (i.e. both Teams have the exact same scores for each *Programming Skills Matches* and *Driving Skills Matches*), then the following ordered criteria will be used to determine which Team had the "best" *Programming Skills Matches*.
    1. Number of *Placed Cubes*.
    2. Number of *Scored Cubes*.
- If the tie still cannot be broken, the same process in the step above will be applied to the *Teams*' best *Driving Skills Match*.
- If the tie still isn't broken, events may choose to allow *Teams* to have one more deciding *Driving Skills Matches*, or declare both *Teams* the Robot Skills Challenge Winner.

Robot Skills Challenge Format

- The Robot Skills Challenge is an optional event. *Teams* who do not compete will not be penalized in the main tournament.
- *Teams* may play *Robot Skills Matches* on a "first come, first serve" basis, or by a pre-scheduled method determined by the *Event Partner*.
- *Teams* will be guaranteed a minimum equal number of both types of *Robot Skills Matches*, as determined by the *Event Partner*.
- *Teams* may also be limited to a maximum equal number of both types of *Robot Skills Matches*, as determined by the *Event Partner*.