

# 7 THE TOURNAMENT

[This section includes all modifications through Team Update 14]

## 7.1 OVERVIEW

Each Regional Competition and the Championship will be played in a Tournament format. Each Tournament will consist of three sets of rounds called Practice Rounds, Qualifying Rounds and Elimination Rounds. The purpose of the Practice Rounds is to allow each Team a chance to run its Robot on the Playing Field prior to the start of the competition matches. The purpose of the Qualifying Rounds is to allow each Team to earn a Ranking that may qualify them for participation in the Elimination Rounds. The purpose of the Elimination Rounds is to determine the event Champions.

For the Championship Event, teams will be split into four Divisions. Each Division will play exactly like a Regional Event and produce a Division Champion Alliance. Those four Alliances will then proceed to the Championship Rounds to determine the Grand Champion Alliance.

### 7.1.1 Robot Starting Positions

When discussing Robot Starting Position, the white lines will be designated "right" or "left" based on the view of looking at an alliance station from the stationary goal of the same color. As an example, in the top photo in section 4.1, for the Red Alliance this would make the white line at the top of the photo the "left" line and the white line at the bottom of the photo the "right" line.

#### 7.1.1.1 Qualification Matches

In Qualifying Matches, each alliance must declare which robot will start on the left or right line as they are checked in to the "on deck" area before their match. Once the alliance has declared left or right, these starting positions may not be changed under any circumstance.

#### 7.1.1.2 Elimination Matches

In Elimination Matches a slightly different system will be used. In odd numbered matches (1, 3) the lower ranked alliance (in this example they are the # 8 alliance) must declare first which robot will start on the left and right. This placement can NOT be changed once declared under any circumstance. The higher ranked (in this example they are the # 1 alliance) will get to choose which of their two robots in that match will start on the left or right side AFTER they have seen (or been notified) what starting positions the other alliance has declared. In the even numbered matches (2, and 4 if there is a need for a 4th match) the order is reversed and the higher ranked alliance must declare first while the lower ranked alliance gets to choose their starting positions second.

## 7.2 PRACTICE ROUNDS

### 7.2.1 Schedule

The Practice Rounds will be played all day Thursday. Each team will randomly be assigned an equal number of Practice Rounds.

## 7.3 QUALIFICATION ROUNDS

### 7.3.1 Schedule

The Qualification Rounds will be played all day Friday and continue Saturday morning.

The Qualifying Rounds will consist of a series of Matches, with an Arena Reset between each Match.

### 7.3.2 Match Assignment

The Scoring System will randomly assign each team an Alliance Partner for each Qualifying Match played. All teams will play the same number of Qualifying Matches and receive their match schedule for all qualifying matches on Friday morning. If the number of teams in attendance is not divisible by four, the

Scoring System will randomly select some teams to play an extra Match. For purposes of scoring, those teams will be called Surrogates for the extra Match.

### **7.3.3 Match Qualification Points and Ranking Points**

At the completion of each Qualification Match, each team will receive a win, loss or tie depending on the final score. Each team on the winning Alliance will receive two Qualifying Points. Each team on the losing Alliance will receive zero Qualifying Points.

In the event of a tie Match Score, all four teams will receive one Qualifying Point.

All four teams will receive a number of Ranking Points equal to the Match Score of the losing alliance or their alliance score in the case of a tie. A Surrogate team will receive zero qualifying Points and will not receive any Ranking Points.

A team is declared a no-show if no member of the team is in the alliance station at the start of the match. Teams that do not show up for a scheduled qualification match will receive zero (0) Qualifying Points (QP's) and zero (0) Ranking Points.

A disqualified team will receive zero Qualifying Points and zero Ranking Points. In the very unlikely case that both teams on an Alliance are DQ'd, both teams on the winning Alliance would get their own score as their Ranking Points for that match.

### **7.3.4 Qualifying Score**

The total number of Qualifying Points earned by a team throughout their Qualification Rounds summed together will be their Qualifying Score.

### **7.3.5 Ranking Score**

The total number of Ranking Points earned by a team throughout their Qualification Rounds, divided by the number of Matches played, then truncated to two decimal places, will be their Ranking Score.

### **7.3.6 Highest Match Score**

The Scoring System will keep track of the Highest Match Score earned by each team during the Qualification Rounds but this score will not be displayed.

### **7.3.7 Qualification Ranking**

All teams in attendance will be ranked during the Qualification Rounds. If the number of teams in attendance is 'n', they will be ranked '1' through 'n', with '1' being the highest ranked team and 'n' being the lowest ranked team.

The Scoring System will use the following Ranking Method:

- Teams will be broken into Tiers based on their Qualifying Score.
- Within each Tier, teams will be sorted by their Ranking Score.
- If any teams within a Tier have the same Ranking Score, they will be sorted by their Highest Match Score.
- If any teams within a Tier have the same Ranking Score and the same Highest Match Score, then the Scoring System will sort those teams based on a Random Electronic Coin Toss.

## **7.4 ELIMINATION ROUNDS**

At the end of the Qualification Rounds, the top eight ranked teams will become the Alliance Leads. The top ranked Alliances will be designated, in order, Alliance One, Alliance Two, etc., down to Alliance Eight. Alliances One through Eight may invite any team below them in the rankings, that has not already declined an invitation, to join their alliance. The Alliance Selection Process will consist of two rounds so that each of the eight playoff alliances consists of three teams.

### **7.4.1 Alliance Selection Process**

Each of the Alliance Leads will designate a student to be the Alliance Captain. Each remaining team will choose a student to act as Team Representative. Each Alliance Captain and Team Representative will proceed to the Playing Field at the designated time to represent his or her team. In ascending order, each Alliance

Captain will invite a team ranked below them in the standings, which has not already accepted or declined an invitation, to join their Alliance. The invited Team Representative will step forward and either Accept or Decline the invitation. If the team accepts, it is moved into that Alliance. If the team declines, it is not eligible to be picked again and the Alliance Captain extends another invitation to a different team. If an invitation from a top eight alliance team to another top eight alliance team is accepted, the team currently ranked ninth will move up to become the number eight alliance. The process continues until Alliance Eight makes a successful invitation. The same method is used for each Alliance Captain's second choice. Any teams remaining after Alliance Eight makes their second choice will not compete in the Elimination Rounds.

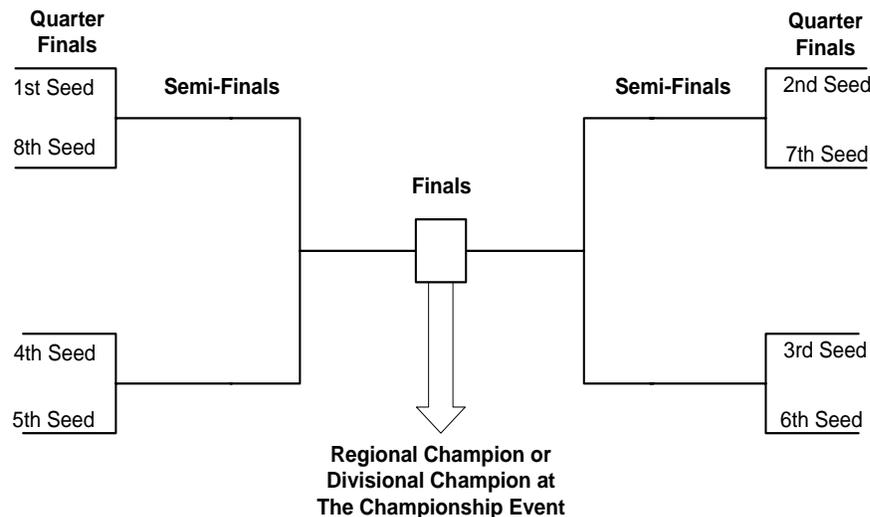
Only 2 teams play in an alliance at a time. ***The third team in the 1<sup>st</sup> match must play in the 2<sup>nd</sup> match, with no exceptions.*** Teams should consider the robustness of the robots when picking alliance partners.

## 7.4.2 Schedule

The Elimination Rounds take place on Saturday afternoon and will consist of a series of Matches, with an Arena Reset between each Match.

## 7.4.3 Match Ladder

The Elimination Rounds will play in a ladder format as follows:



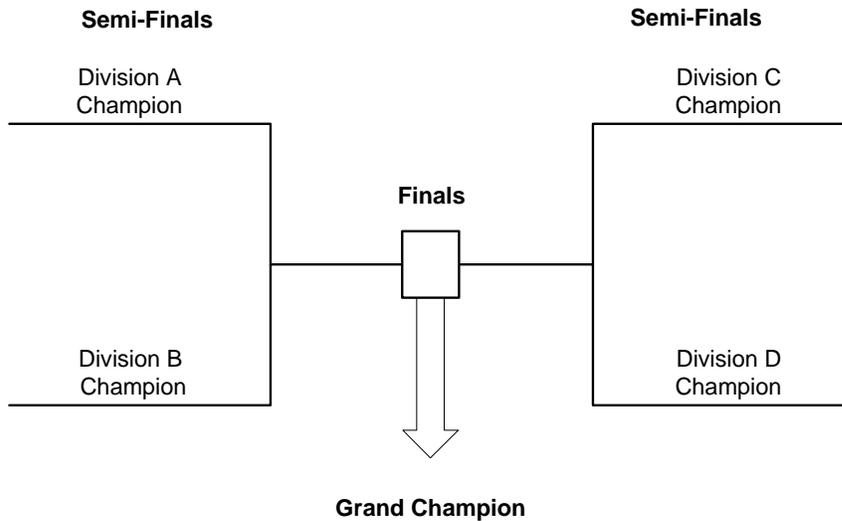
## 7.4.4 Elimination Scoring

In the Elimination Rounds, teams do not get “points (2, 1, 0)”; they get a win, loss or tie.

Within each bracket of the Elimination Match Ladder, Matches will be played to determine which Alliance advances, as follows:

- The first Alliance to win two matches advances.
- Any tied matches will be replayed until an Alliance has two wins.

## 7.5 CHAMPIONSHIP ROUNDS



The Championship Rounds will play exactly like the Semi-Finals and Finals of the Elimination Rounds.

## 7.6 TOURNAMENT RULES

- <T01> Referees have ultimate authority during the competition. THEIR RULINGS ARE FINAL! The referees will not review any recorded replays.
- <T02> There are no time outs in the Qualifying Rounds; in the Elimination Rounds, each Alliance will be allotted one time out of no more than 6 minutes. The matches must progress according to schedule. If a robot cannot report for a match, the queuing manager shall be informed and at least one member of the team should report to the field for the match.
- <T03> During the elimination rounds, alliances will have at least four minutes between scheduled matches.
- <T04> Robots may not intentionally:
- Detach Parts (no connection at all to a robot);
  - Damage another robot;
  - Tip over another robot;
  - Attach themselves to the vertical supports of the pull-up bar system;
  - Attach themselves to the railings/walls of any field structure.
- <T05> Robot Field power will not be re-enabled after a match; however, teams may use the tether feature to make any necessary adjustments to the robot in order to release from each other. For information on using the tether, please refer to the control system documentation from Innovation First. Robots **MAY NOT** interact with the drill-driven mechanism that raises and lowers the bar.
- <T06> Robots that become entangled in the field barriers, platforms or other robots will not be freed until after the match has finished unless the entanglement represents a safety hazard. Any entangled robot may be disabled if a referee deems it necessary.

- <T07> The qualification match schedule will be available Thursday evening or Friday morning. This schedule will indicate alliance partners and match pairings. It will also tell the alliance its color, RED or BLUE, for each match. The color is used to determine the placement of each team's robot, students, and coach around the playing field.
- <T08> Special clothing and/or equipment will only be allowed on the playing field for those who demonstrate a need based on a physical disability.

## **7.7 TOURNAMENT SAFETY RULES**

- <T09> Teams are responsible for providing their own safety glasses at each event. All team members, including coaches, must wear safety glasses while in the Pit or alliance stations during matches. Safety glasses must also be worn during the building of the Robot
- <T10> All team members must wear sneakers or appropriate footwear while in the Pit area or competing on the field. No bare feet, sandals, or open-toed footwear are allowed.
- <T11> Wireless/radio control mode of robot operation is not permitted in any of the Pit areas. Robots may only be operated via the tether when not competing on the field.
- <T12> Always keep the main circuit breaker in the OFF position. Turn it on only when you wish to operate the robot.
- <T13> Do not allow anything to come into contact with exposed electrical terminals other than the wires that are supposed to be connected to them. Periodically check your robot's wiring for loose connections and broken or cut insulation.