



# Technical Regulations and Competition Rules & Procedures

## What's New, What's Changed

---

### TECHNICAL REGULATIONS

#### 1.0 INTRODUCTION

##### 1.3.1 SWPA BotsIQ Teams

- A Qualified Youth Organization may enter up to two Teams into a SWPA BotsIQ competition. (Old rule did not specify a limit to the number of teams)

#### 2.0 GENERAL REQUIREMENTS

##### 2.1 Weight Limits

- Removed the minimum weight limit requirements. Maximum weight is 15.000 pounds even if the Bot is a Walker. (Old rules had a minimum weight of 10 lbs and allowed walkers to be up to 20 lbs)

##### 2.5 Safety Covers

- Clarifies that safety covers and restraints are considered to be part of the overall Bot design but are not part of the official weight.
- Under 2.5.1, it was added that cardboard or any material easily pierced is not allowed as a safety cover or restraint.

##### 2.6 External Lighting

- Clarifies that all external lighting other than incandescent light needs to be approved by SWPA BotsIQ Official at least one month before competition.

##### 2.7.2 Autonomous Bots and Components

- Changed the amount of time that each autonomous function will automatically disable itself from 4 minutes to 30 seconds.

#### 3.0 RADIO CONTROL

##### 3.3 Bluetooth Controllers

- Added new rules and regulations for Teams utilizing Bluetooth Controllers

##### 3.4 Crystal-Based Radio Control Equipment

- This section has been removed from the new Technical Regulations

#### 4.0 ACTIVATION AND DEACTIVATION

##### 4.1 Robot Operating States

- Removed the minimum requirement of Pneumatic actuation components are depressurized.

##### 4.3 Spinning Parts

- Changed the amount of time when a part is required to spin down to a full stop after power is removed from 90 seconds to 45 seconds.

#### 5.0 ELECTRICAL POWER

##### 5.2 Voltage Limitations

- Added that Electrical Capacitors are not allowed unless approved by SWPA BotsIQ Official.



## Technical Regulations and Competition Rules & Procedures

### What's New, What's Changed

---

#### **5.3** *Electrical Power Sources*

- Under Allowed Battery Types, it was added that if the original label on the cells are obscured by packaging, a new label containing the cell description must be secured to the outside of the battery pack so it can be seen by the Inspectors.
  
- Other additions
  - o Lithium-Ferric Phosphate batteries were added to the allowed list.
  - o Electrical connections that must be unsoldered, cut, or untwisted shall not be permitted.
  - o Tape, Velcro, duck tape or glue shall not be deemed as adequate to contain the battery again becoming dislodged.

#### **5.4** *Electrical Systems Requirements*

- Clarifies that tape, Velcro, wire ties or glue shall not be considered as meeting the requirement of securing the master switch.



# Technical Regulations and Competition Rules & Procedures

## What's New, What's Changed

---

## COMPETITION RULES & PROCEDURES

### 2.0 GENERAL REQUIREMENTS

#### 2.7.2 *No Unruly Behavior*

- Bullying was added to the list of unruly behavior and abusive physical contact is not allowed with any BotsIQ participant, not just a BotsIQ Official.

### 3.0 PIT AND TESTING AREA RULES

#### 3.1.5 *Pit Access*

- Family and friends of Team members must sign all required paperwork, an official nametag and shatterproof safety glasses in order to enter the Pit Area.

#### 3.2.1 *Eye / Face Protection*

- The penalties for the failure of a Team member to wear safety glasses in the Pit Area are described in detail.

#### 3.2.2 *Adult Supervision*

- The student Team members are responsible for the handling and all work done in the Pit Area. If an adult supervisor or technical advisors works on the Bot in the Pit Area without prior approval from a BotsIQ Official, the Team will be assessed a 10-second non-movement penalty for the beginning of their next Bout. The Team will not be allowed to move their Bot from their home base for the first 10-seconds of the Bout while the other Team Bot is free to engage.

#### 3.2.4 *No Welding/Drilling/Grinding/Sanding*

- No drilling is allowed in the Pit Area.

#### 3.3 *Working Pit*

- Note: The Working Pit Area is not to be used for large scale manufacturing of a Bot before, during or after the competition. This area is only to be used for minor repairs that are not allowed to be done in the Pit Area for safety reasons.

### 4.0 RADIO OPERATION RULES

- This section was simplified and refers the Teams to review the BotsIQ Technical Regulations on radio control equipment.

### 5.0 BOT SAFETY RULES

#### 5.4.1 *Internal Inspection*

- It was added that the Safety Plan, Bill of Materials and Component Descriptions documents must be present during the inspections.

### 6.0 MATCH DEFINITIONS

#### 6.4.3 *Stuck Bots*

- Each team now receives one unstuck per competition



# Technical Regulations and Competition Rules & Procedures

## What's New, What's Changed

---

### **6.4.5 Time Between Bouts**

- The post-match interview or for post-match inspection/weighing are a part of the 20 minute between Bout period.

### **6.4.6 Match Postponement**

- Teams are allowed one postponement for the Preliminary Competition only. No postponements are allowed at the Finals Competition.

### **6.5 Grudge Matches**

- Teams are allowed to Tap-Out during a Grudge Match.

### **6.8.2 Referees' Duties**

- Referees are responsible for the coordinating the movement and safety of the Bots near and inside the Arena.

## **7.0 MATCH PROCEDURES**

### **7.4.4 Single Bot Stuck**

- Changed the time that a Bot must free itself from 20 to 10 seconds.

### **7.4.6 Incapacitation**

- Changed the time that a Referee will allow a Team to demonstrate that a Bot is responsive from 20 to 10 seconds.

### **7.4.7 No Contact**

- This rule has been changed. In the Finals if both Bots cannot engage with each other, then both teams will be issued a loss and move to the losers bracket. These two teams will then compete in the loser's bracket. If both teams fail to engage in this bout, then both teams are out.
- In the Prelims, teams may use their delay (if they still have one) to avoid the loss or elimination.

### **7.5.2 Incapacitation**

- The Referee has the authority to determine which Bot was the last to be incapacitated and declared the winner by Knock-Out.

### **7.8 Head Referee Decision**

- The Head Referee may at any time during a Match, disqualify any Bot that he or she believes to have committed a safety or technical violation.

## **9.0 APPEALS**

### **9.1.1 Right to Appeal**

- A Team may only file an Appeal for disqualifications due to repeated warnings, safety violations or a technical violation during re-weigh/re-inspection.
- There are no appeals or protests allowed for the outcome of matches.



# Technical Regulations and Competition Rules & Procedures

## What's New, What's Changed

---

### **Part2: COMPETITION PROCEDURES**

- Please review the entire Competition Procedure section. Modifications have been made to each part of this section.

#### ***Special Note: C.7 Unnecessary Pit Personnel***

- To minimize pit crowding, no more than 6 Team members are allowed in the Pit Area. This participant number includes Adult teachers and advisors.