

The Rules of Collegiate Robotic Football

This document sets forth rules of the game of Collegiate Robotic Football. These rules are subject to change in accordance with the evolution of the competition. Except as noted below, the competition follows all NCAA rules, including coin tosses, referee guidelines, unsportsmanlike conduct (by either machine or human), late hits, and so on. Referees shall treat the robot Players as humans for the purpose of application of the NCAA rules of collegiate football.

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A. Players and Teams

1. **Overview:** The game is played by two opposing teams, each consisting of remotely controlled robots, referred to as Players, and the people driving them, referred to as Human Operators.
2. **Player Limit:** No more than 8 Players from a Team are allowed on the playing field during a play, i.e. the game is 8-on-8. A delay of game penalty is assessed for having an excess of Players on the field at the beginning of a play, resulting in a 5' penalty marked from the line of scrimmage.
3. **Field Layout:** Each Team will have a sideline area on one-half of the field (See the Event Layouts document for playing field orientation). The direction of play will remain the same for the entire game, with a team's sideline area being on their offensive side of the line of scrimmage. Human Operators controlling the Players and engineers providing service to Players are restricted to this area except as noted in [Rule B.2](#).
4. **Human Interaction:** Humans are not allowed to intentionally touch any of the Players on the field of play with the following exceptions. One individual from the offensive team is allowed to:
 - a. Place the ball over the body of the center or on the floor in front of the center before an offensive play.
 - b. Place the ball on the kicking tee before a kicking play and prepare the Player to kick.

This person must make a sincere effort to be off the field before the play starts. Once intentionally touched by a human, a Player is considered injured/damaged and cannot participate in the next play unless the team calls a time out. If the play starts with such a player on the field, a 5' delay of game penalty results.
5. **Power and Safety:** Locomotion of Players must be DC powered, with a 24v maximum circuit voltage. Other stored energy sources can be used to power Player accessories as long as they are safely engineered. Any lead acid batteries must be sealed.
6. **Human and Robot Safety:**
 - a. Players must have a kill-switch mounted externally on their top surface, easily reached. When activated, the switch disconnects the main power to the system. Additional details are provided in the Technical Appendix.

- b. Every Team must have their own fire extinguisher at every CRFC event.
 - c. A Team will receive a first-time warning for a runaway robot due to loss of control. In the event that the same Player has a second control failure, that Player is ejected from the game.
 - d. PPE Regulations at CRFC Events
 - i. Every person within 10' of the perimeter of conference events, or within 10' of robots being maintained is required to wear Z87 safety glasses.
 - ii. Steel Toe Boots and shin guards are highly recommended for all people near to the field of play.
7. **Robot Control:** All Players will be positioned on the field by remote control. Teams may not interfere with the signals broadcast from the opposing Team.
8. **Tackle Sensor:** A specified digital accelerometer (Tackle Sensor) is required to sense if an upsetting event has occurred. The Tackle Sensor must be rigidly mounted in a horizontal orientation to a horizontal interior surface of each Player's base plate in a manner that enables a Human Operator to manually activate the reset button on the Tackle Sensor within 10 seconds and a cable to be attached to reload the Tackle Sensor software within 1 minute. The Tackle Sensor must also be mounted so that when the unit faces directly downfield, the Tackle Sensor is square to the end zone.
- a. Any unit that carries the ball will be required to have a Tackle Sensor regardless of that unit's functional designation. Any violation of this rule results in an "Ineligible Player" violation and a 5' penalty.
 - b. Only Players with Tackle Sensors may advance the ball.
9. **Uniforms:** Players do not have to wear "jerseys," but each team must have a unique color prominently displayed on all four sides. The unique color will be assigned by the CRFC. This can be executed by bright LED lights, a covering such as fabric or contact paper, or paint; however, a team must choose only one method for all robots on their team. LEDs are still required on units requiring a tackle sensor, but all units must also have the uniform color. These uniforms will be checked for eligibility at the Fall Combine (November 16, 2024). Please contact the CRFC for your school's unique color.

10. **LEDs:** At least 4 multi-color, high-intensity LED lights, viewable from all directions with one on each side of the robot, are to be used when installing LEDs.
 - a. If a team is using LEDs for their uniform color, they must use the new Tackle Sensor design in order to set their ineligible LEDs to the pulsing setting.
 - b. If a team is not using LEDs for their uniform color, they must leave their Ineligible Players dark.

11. **Tackle Sensor Checks:** At their discretion, the referees may verify that any Player has a functioning Tackle Sensor at any dead ball. If a ball carrier goes out of bounds or into the End Zone and the referees determine immediately afterward that the Tackle Sensor is not functioning properly, a 15' penalty from the original Line of Scrimmage and loss of down will be assessed and the Player will be removed from play until it is repaired. For non-ball carriers, the penalty will be just the 15' penalty without loss of down.

12. **Base Plate Requirements:** A Player's base plate must be solid and made of HDPE not thinner than $\frac{1}{2}$ inch. A reasonable number of clearance holes for component mounts, component clearance, fasteners, wheels, and wires are allowed. The outside of the base plate must be completely ringed with a bumper (specifications in the Technical Appendix) that can be directly contacted from any horizontal direction by another Player's bumper-covered base plate. This requires that no fixed/permanent part of a Player may protrude beyond a vertical prism projected up and down from the base plate's bumper.

13. **Stiff Arms:** Stiff-arming is not allowed. Violation of this rule results in stoppage of play, loss of down and 15'. Stiff-arming is defined as the extension of any material beyond the perimeter of the base plate that impedes the ability of an opponent to contact a Player's base plate and thus block or tackle a Player. If an appendage is deployed by a Player who is carrying the ball, upon simple contact by an opponent with the deployed appendage, the referee will call a touch-tackle and the play will be dead and the penalty enforced.

14. Kicker Specifications: The Kicker will perform a kick by striking the ball with a solid object. Stored mechanical energy may be used to power the device that kicks the ball. Punting and place-kicking (kickoff, field goal and point-after touchdown) are nominally identical. The kicking tee, upon which the ball can be manually placed, can elevate the lowest portion of the ball no more than 3 inches above the playing surface. The kicking tee may be an integral part of the Kicker or may be physically separate.

15. Kicking Notification: When a Team elects to either punt or kick a field goal, it must verbally notify the referee and opponent which action it is taking prior to the placement of the ball on the Kicker/tee.

16. Pre-Game Measurements:

- a. Tackle Sensor Kick Test - Officials will "kick test" each robot with a Tackle Sensor to ensure its Tackle Sensor is functionally wired. A robot cannot take the field if its LED light does not illuminate during the kick test. The conference will have a supply of Tackle Sensors available for any failure, but it is the responsibility of the team to install a new Tackle Sensor.
- b. Base Plate & Bumper Height - Both the centerline of the base plate and the bumper must be located from 2-13/16" to 3-3/16" (3" plus or minus 0.2") above the playing surface when the unit is at rest. This distance can also be measured at any point during play by a referee, and if the Player is out of tolerance, the Player is no longer eligible to play.
- c. Light Inspection - Each robot with a Tackle Sensor shall be tested that its LED light is clearly visible from all angles and sides. A robot that fails this test will not be allowed to compete.
- d. Quarterbacks and Kickers can weigh no more than 45 pounds, and all other Robots can weigh no more than 30 pounds.
- e. There are no restrictions on the shape of a base plate or Player, but all Players, except the Center and the Kicker, must fit within a 16 inch square, 24 inch tall box at the beginning of any play (bumpers included from 2019 on). Only the Center may reach out from beyond this footprint before a play to deliver the ball to another Player. The Kicker may be rectangular and must fit within a 16 inch by 24 inch rectangle, and not be more than 24 inches tall.
- f. Tires must be mounted on rigid, solid, wheels. Plastic is an acceptable material. Foam tires are allowed, but they can be no thicker than 1/2 inch and no softer than 20 Shore. Pneumatic tires are not allowed. Suspensions

and shock absorbing systems are not permitted.

- g. Players, other than the center to which this rule does not apply, can have no more than 2 extensible arms consisting only of rotational joints.
- h. No more than two robots per team are allowed to be powered on in the same room as an ongoing game.

B. Player and Ball Positioning

1. **Offensive Line Formation:** A team is required to field at least 3 Offensive Linemen (the Center is included in this count) and they must be positioned on the Line of Scrimmage. They will be indicated by their lights or lack of lights as defined in [A.10](#). Failure to do so results in a 5' illegal formation penalty.
2. **Human Operator Positioning:**
 - a. Offensive Human Operators can enter the playing field between plays to facilitate positioning their Players on the line of scrimmage prior to the snap of the ball. Once the offensive Players are positioned, all but three of the offensive Human Operators must return to their sideline prior to the snap of the ball.
 - b. The Human Operator to whom a designed run is intended must not remain on the field. This includes the RB, WR, QB or any other robot who the offense plans to run the ball with. According to the judgment of the referee, a loss of down and 10' penalty will be assessed for having the ball-carrying Human Operator of a designed run on the field.
 - c. A referee will stand on the hash mark, 10' from the line of scrimmage on the offensive side of the line of scrimmage creating a Safety Boundary. The offensive Human Operators who are on the field cannot move any closer to the line of scrimmage as governed by [Rule F.6.a](#). Doing so is an offsides penalty, assessed by a 5' penalty marked from the line of scrimmage. If the Player with the ball or the ball itself approaches their location, they must make an obvious effort to retreat or leave the playing surface.
 - d. Defensive Human Operators are restricted to their designated sideline areas at all times.
3. **Spotting the Ball:**
 - a. After each play, the referee spots the forward progress of the ball with a

“toe-spot”, marking the new line of scrimmage.

- i. If yardage was gained in the previous play, the ball will be toe-spotted at the point of maximum forward progress of the ball.
 - ii. If yardage was lost, the ball will be toe-spotted at the point where the ball was located when the Player was tackled.
 - iii. If the play ends outside of the hash marks, the ball will be spotted on the hash marks closest to the side of the field where the play ended.
- b. The referees shall call forward progress when a ball carrier is so held that its forward progress is stopped. The ball is spotted where the ball carrier was located at the moment of the whistle.
 - c. If the play clock has been stopped, it will restart when the referee has spotted the ball on the field.

4. **Center - Ball Interaction:**

- i. The Human controller of the Center may reorient the ball on the floor with no penalty as long as the ball does not change position on the field.
- ii. The Center will line up with its leading edge on the line of scrimmage indicated by the referee's spot but may extend a reasonable amount over the ball if the handoff is to occur without human intervention.

5. **First Down:** A first down is realized when a one-third span of the field is covered within 4 plays (See the Event Layouts document for first down lines).
6. **Out of Bounds Specification:** Because its wheels are not easily viewed by the referees, a Player is considered out of bounds when any portion of its footprint crosses the inside of a sideline or endline.
7. **Touchdown Specification:** A touchdown occurs once the entire body of the robot crosses the leading edge of the Goal Line. This rule obviates the need for referees to see where the ball is located as it breaks the plane of the End Zone.

8. **Fumbles:** Loss of the football by a robot shall presumptively be called a fumble unless the fumble is the result of an illegal hit. The team that first touches a fumbled ball gains possession. If the Player who touches the fumbled ball can take possession of it in accordance with Rule [Rule B.10.c](#), that Player may advance the ball.
9. **Extra Point Kicks:** A kicked Point After Touchdown (PAT) is spotted at the 10' mark. The Defense cannot rush the kicker and the offense is not required to line up during the attempt.
10. **Kickoffs:**
 - a. At the beginning of each half, after a touchdown, and after a field goal, the defending team kicks off to the receiving team from the one-third field mark of their own territory. The kicking team may place the ball anywhere between the hash marks for their kickoff. The clock is started and play is initiated when the Kicker contacts the ball. Since the receiving team is effectively the offense, three humans may be in or behind the receiving End Zone as specified in [Rule B.2.a](#).
 - b. On kickoff, the receiving team must line up behind the midfield line or marker. If the ball does not pass the midfield line or marker on the kick-off, only the receiving team may take possession of the kicked ball. During kick-off, if the ball passes the midfield line or marker, it will be considered live and may be recovered by either team.
 - c. Any kick is caught by the first Player touching the kicked ball. If that Player can take possession of the ball before advancing it more than 10', before being tackled by an opponent, and before a second Player touches the ball, the Player may advance the ball if it has a Tackle Sensor.
 - d. If the kicking team has an inoperable kicker, a QB may substitute and throw the ball to the opposing team. However, the throw must be made from the PAT line and cannot result in the kicking team recovering the ball. The throw must result in a change of possession.
 - e. On kickoff, if a ball is kicked out of bounds, the receiving team has the option to: (1) take possession of the ball from the point on the field where the out of bounds occurred, or (2) take possession of the ball at the midfield line. If a kicked ball crosses the plane of the Goal Line, the Receiving Team takes possession of the ball at the one-third field mark of their territory.

11. Punts:

- a. On a punt, the Defense cannot rush the kicker. The Team receiving a punt will take possession at the point where one of its Players touches the ball. If that Player can take possession of the ball in accordance with the same standards as [Rule B.10.c](#), the ball may be advanced. If the ball goes out of bounds, it is spotted at the point it goes out of bounds.
- b. On a punt, if the ball crosses the plane of the Goal Line into the End Zone at any point and then comes to rest prior to coming into contact with any Player, or if the ball is punted out of the back of the End Zone, the Receiving Team takes possession of the ball at the one-third field mark of their territory. However, the Receiving Team does have the option of taking possession of the ball in the End Zone and advancing the ball in accordance with the same standards as Rule [Rule B.10.c](#).

12. Kicking Play Operation:

- a. Kicker Ball Placement: After driving the kicker remotely onto the field of play, the kicking team may elect either option:
 - i. Human Operator may place the ball on the kicking tee, manually release any safety mechanism, and then move the kicker remotely 5' to the final kicking position.
 - ii. Human Operator may first drive the robot 5' into its final kicking position, place the ball without touching or moving the robot, and then remotely release any safety mechanism.Either option above prohibits all human-to-robot physical contact after the robot has been remotely moved to its final position. If human-to-robot contact is detected, the referee shall call a 5' illegal procedure penalty.
- b. The referee initiates any kind of kicking play by blowing a whistle following an indication from the kicking team's coach that the Kicker is ready.

C. Game Timing

1. Pre-Game Activities:

- a. Before every game, a coin toss will take place at midfield involving the referees and at least one representative from each team.
- b. Before the Championship Game, the singing/playing of the national anthem will take place prior to the coin toss.

2. **Overall:** The game consists of two 20-minute halves and a brief halftime (5-10 minutes). All games must be finished within 1 hour and 15 minutes of actual time. The game clock is subjected to the following guidelines:
 - a. The running clock only stops after touchdowns, field goals, changes of possession, or timeouts called by either team or the referee. The clock restarts on the referee whistle.
 - b. During the final two minutes before the end of either half, the clock shall also stop after running out-of-bounds, incompletions, penalties, turnovers, or first downs. The clock restarts on the referee whistle after first downs and penalties, but the clock will restart when the ball is snapped in all other cases.
 - c. **NOTE:** The Officials have authority to switch to a full running clock (can only be stopped by timeouts) for the remainder of the game in the event that either team is inefficient in their use of time during the first half.
3. **Play Clock:** The offense has 25 seconds, indicated by the play clock, from the time the referee spots the ball to initiate a play. The ball must leave the Center's control before the 25-second play clock expires. If the play clock buzzer sounds before a hand-off is complete, a 5' delay of game penalty will be assessed, marked from the line of scrimmage. The referees shall also call a false start penalty if a robot is jiggling or otherwise moving to finish the handoff to the QB.
4. **Play Initiation:** Plays that begin in the possession of the Center are initiated the moment the Center releases the ball (not simply moves it).
5. **Timeouts:** Each Team is allowed 2 timeouts per half. Any member of a team may call a timeout, by saying "timeout," forming a "T" with their hands, and showing it to the referee. Each timeout lasts 1 minute. The 25-second play clock is started after the 1 minute has expired. A delay of game penalty results from a timeout called after all timeouts have been used, resulting in a 5' penalty marked from the line of scrimmage.
6. **Overtime:** In case of a draw at the end of the game, NCAA rules for overtime are observed with each offense taking possession at the one-third line.

D. Offense

1. **Eligibility:** All Players with Tackle Sensors are eligible to run down field and catch passes.
 - a. **Illegal Robot Downfield:** An Ineligible Receiver (defined in Rule [A.10](#)) may not materially cross the line of scrimmage on a pass play until the ball has crossed the line of scrimmage. Failure to comply results in a 5' penalty assessed on the Offense.
 - b. **Ineligible Receiver:** If an Ineligible Receiver (defined in Rule [A.10](#)) retains a forward pass, a 5' penalty shall be assessed against the Offense.
 - i. Simple contact with an Ineligible Receiver, is considered a deflection and will not be penalized
2. **Returning Ball to Referees:** After each play, a Referee must be able to remove the ball from any Player without touching that Player or lifting that Player off the ground so as to spot it for the start of the next play. This rule does not apply to Quarterbacks unless the Quarterback advances the ball by rushing past the line of scrimmage, and it does not apply to Kickers or Defensive Players who do not advance the ball following a turnover. If a referee cannot freely access the ball, after one warning per half, that Player will be ejected from that game only.
3. **Pass Catch Definitions:**
 - a. A pass is caught when any part of a Player contacts the ball before the ball touches the ground, this is referred to as a Touch Catch.
 - b. If that Player retains possession of the ball and is equipped with a Tackle Sensor, the Player can advance the ball, this is referred to as a Retained Catch.
4. **Scoring Kick Results:**
 - a. A field goal or kicked PAT is scored when the kicked ball passes over the goal post crossbar and between the goal posts.
 - b. If a field goal attempt is missed, the defending team takes possession of the ball at the point of the field goal attempt.
5. **Wildcat Plays:** A Running Back or Wide Receiver may receive the ball directly from the Center (effectively running a Wildcat play) as long as the Quarterback is lined up as a receiver on the field. Violations will result in an "illegal formation" penalty, assessed by a 5' penalty marked from the line of scrimmage.

6. Missing Robot Scenarios/Penalties:

- a. Case 1:
 - i. Scenario: Teams may run out of operational robots and are unable to field a line of 8 on Offense or Defense. In the event that all Quarterbacks and/or Centers are unavailable on Offense, Rules 6.b-6.d apply where appropriate.
 - ii. Penalty: Offenses are restricted to 1 Quarterback and 1 Center on all plays. Defenses cannot use Quarterbacks or Centers on any play. The Team can still compete but is limited to the number of available Players that are safe to operate.
- b. Case 2:
 - i. Scenario: Teams may elect to have the ball start on the Quarterback in the event of Center malfunction.
 - ii. Penalty: This results in the loss of 1 Player (Center) on that play and the inability to earn any Robot Points or Automatic First Downs on retained catches for the remainder of the current drive (See Scoring Document for details).
- c. Case 3:
 - i. Scenario: Teams may elect to have the ball start on a Running Back or Wide Receiver due to both the Center and QB being inoperable.
 - ii. Penalty: This results in the loss of 2 Players (Center and QB) on that play and the inability to earn any Robot Points for the remainder of the current drive (See Scoring Document for details).
- d. Case 4:
 - i. Scenario: Teams may elect to have the ball start on a Running Back or Wide Receiver due to the Center being inoperable and the Offense running a Wildcat play.
 - ii. Penalty: This results in the loss of 1 Player (Center), the QB must be lined up as a receiver on the field per [Rule D.5](#), and the inability to earn any Robot Points for the remainder of the current drive (See Scoring Document for details).

In all situations with no Center snap, the robot starting with the football must line up in the Quarterback position as if the Center were still present (a Lineman can move into the position to protect the QB/RB/WR from pass rush). The Human Operator of the QB/RB/WR must yell "SNAP!" prior to initiating play. Failure to comply with any of these requirements will result in an "illegal formation" penalty, assessed by a 5' penalty marked from the line of scrimmage. NOTE: The Officials are authorized to assess this penalty if they feel the Human Operator is not clearly initiating the play as directed.

7. **Time Management Plays:** When an offensive Human Operator yells “KNEEL”, the ball will be called ‘down’ by the refs with the clock running. Likewise, when an offensive Human Operator yells “SPIKE” the refs will stop the clock as if the offense threw an incomplete pass.

E. Defense

1. Defensive Player Positioning:

- a. Exactly 3 defensive Players must line up within 2’ of the line of scrimmage and within 3’ on either side of the ball.
 - b. Two additional defensive Players referred to as Rovers may line up anywhere on the defensive side of the ball so long as they are not directly opposite any offensive Player.
 - c. The remaining 3 defensive Players must be at least 10’ back from the line of scrimmage until the play begins, at which time full rush is allowed.
 - d. Violations will result in an “illegal formation” penalty, assessed by a 5’ penalty marked from the line of scrimmage.
2. **Tackle Rule:** A tackle is defined as a triggering of the sensor light and contact by a Defensive Player. If the sensor light on the ball carrier turns on for any other reason, the referee shall not stop the play.
 3. **Interceptions and Deflections:** Passes contacting the Defensive Players will be considered deflected and not intercepted unless the Player retains the football and is equipped with a Tackle Sensor. In this scenario, the Player can advance the ball.

4. Pass Interference:

- a. No significant contact is allowed between the offensive pass receiver and a defender, where “significant” will be judged by the Referees to mean anything that impedes the free movement of either Player. The Player initiating the significant contact will be charged with pass interference. Defensive pass interference results in an automatic first down and a 10’ penalty marked from the spot of the foul. Offensive pass interference results in a loss of down and a 15’ penalty marked from the original line of scrimmage. Pass interference penalties will only be called on plays in which the ball starts in or is transferred to the Quarterback, so run

blocking that results in a tackle will not constitute an interference penalty.

- b. A Defensive Rover cannot initiate contact with any Wide Receivers inside the 10' buffer zone. Any contact initiated by the Defensive Rover or caused by their positional alignment will result in a Defensive Pass Interference penalty providing the Offense with an automatic first down and 10' from the spot of the foul. Any Offensive robot that is Eligible (defined by A.8.b) and positioned less than 2' away (measured horizontally) from an offensive lineman will not be considered a Wide Receiver and will be considered a Tight End.

F. Additional Offensive and Defensive Penalties

1. **Offsides Penalty:** There is a 4" neutral zone on either side of the line of scrimmage. The only Player allowed in the neutral zone before a play is initiated is the Offensive Center. A Lineman is offside when it breaks the neutral zone prior to the snap, even if no contact is made with the opponent. The penalty is assessed by a 5' penalty marked from the line of scrimmage, and the down is replayed.
2. **Center False Snap Penalty:** If the Center retains the ball after the first attempt to snap it to the intended Player, a 5' false start penalty shall be assessed.
3. **Illegal Formation Penalty:** The Offense must have at least 4 Players within 1' of the line of scrimmage at the start of the play. The 4 Players can be anywhere on the field laterally. Violations will result in an "illegal formation" penalty, assessed by a 5' penalty marked from the line of scrimmage.
4. **Illegal Hit Penalties:** Illegal Hits will result in a 5' penalty and automatic first down (or replay of down if committed by the Offense) under the following circumstances:
 - a. **General Roughing:** A "roughing" penalty occurs when the offended Player is physically damaged. **NOTE:** The Officials have authority to disqualify an equivalent Player on the offending team or require the offending team to forfeit the game in extreme situations (e.g. continuous targeting and destruction of opposing robots).
 - b. **Roughing the Passer:** After the ball is released by the Quarterback, there may be no significant contact between the Defense and the Quarterback as result of the motion of the Defensive Player.
 - c. **Loss of Control:** A Player has been driven at full speed into a barrier or wall or the referee determines that a Player has been operated without regard to safety. Intent does not have to be established. This Player is also issued a warning and subject to Rule [A.6.c](#).

5. **Unsportsmanlike Conduct Penalties:** Taunting or verbal abuse by humans will not be tolerated. The first offense results in a warning to the individual. A second offense results in a 20' penalty for unsportsmanlike conduct. A third offense results in immediate ejection from the game.

6. **Safety Violation Penalties:** To protect the Human Operators on the field, a Safety Violation penalty of 5' against the offending team and replay of down will be assessed under the following safety violations:
 - a. Any of the Human Operators on the field or any robot crossing the Safety Boundary shall be called for a Safety Violation. (See [Rule B.2](#))

 - b. If a Defensive Player gets closer than 5' to an Offensive Human Operator on the field, the Defense shall be called for a safety violation.

 - c. If Human Operators on Offense venture into the Defensive side of the ball, thereby interfering with the defensive line, the referee shall first issue a warning. If occurring a second time, the Offense shall be called for a Safety Violation.

 - d. If Human Operators fail to clear the area when the ball comes near their area of the Safety Boundary, the Offense shall be called for a Safety Violation.
 - i. Note that Human Operators are allowed to move behind the goal posts in order to clear the area.

G. Technical Appendix

The following pieces of equipment are required items:

1. **Football:** Robotic Football games, competitions, and events are played using a Micro Mini Football, which shall be inflatable, measure 6-7" in length, and not be made of hard plastic or solid rubber. The ball may not be significantly modified and must be pressurized within the range stated on the ball. For CRFC competitions, standard footballs will be provided for both teams to use. Referees may confirm that the ball is unaltered and properly inflated at any dead ball.

2. **Kill Switch:**
 - a. It is recommended that you use a lever type battery cut-off switch made for automotive applications, though push-button switches are allowed. The kill-switch must be readily identifiable and colored red. A good example can be found at

<http://www.pegasusautoracing.com/productdetails.asp?RecId=4913>.

- b. The switch cannot have a removable key, such as in the kill-switch found at <http://www.pegasusautoracing.com/productdetails.asp?RecID=1465>.

3. Base-Plate Bumper Material:

This will consist of a hollow bulb P-strip of extruded Ethylene Propylene Rubber (EPDM) acquired from Wefco Rubber Manufacturing Company, Inc. The part number is #4134, and the detailed dimensions can be found at http://wefcorubber.com/extrusions_industrial_pstrips.asp. The nominal stem thickness is 3/32 inch, and the nominal bulb diameter is 9/16 inch. The stem of the bumper must be bolted in a rigid fashion to the top or bottom of the base plate such that the hollow bulb is in direct contact with the 1/2-inch thick outside surface of the base plate. In this way, the hollow bulb will be the contact material for any contact with other Players. Bolts must be placed at least every 3.25 inches as measured along the perimeter of the base plate and may not be threaded directly into the base plate (thru holes and nuts must be used).