

# 2004 FIRST Robotics Competition

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## → Special Notices ←

Parts that teams had to buy to replace kit parts not received need not be accounted for, i.e., should not be charged against the \$3,500 robot limit.

## → General Notices ←

### Documents and Updates

FIRST will provide important information to teams via the FIRST web site at:

[http://www.usfirst.org/robotics/doc\\_updt.htm](http://www.usfirst.org/robotics/doc_updt.htm)

Please check the team updates portion of the web site on a regular basis to insure that your team does not miss critical information about the 2004 FIRST Robotics Competition.

Our schedule to publish Team Updates is:

- Tuesday by 5PM and Friday by 10AM. We work hard to meet these commitments. Unexpected circumstances may, on occasions, delay their publication.
- Additional updates may be released if required.

### Question & Answer System

The Question & Answer System is found at: <http://www.usfirst.org/robotics/2004/qa.htm>

1. Please ask one question at a time.
2. Questions are limited to 240 characters.

### The Manual

#### Updates

Information that was documented in Team Updates 01 - 10 was incorporated into the manual and posted on the FIRST website on Monday, 02/16/2004.

Information documented in Team Updates will be incorporated into the manual and is scheduled to happen weekly / bi-weekly. After this process has taken place, you will be able to access:

- .pdf files with “track changes” **turned on** so teams can see all changes applied;
- .pdf files with all “track changes” **incorporated** = an up-to-date manual.

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## Section 1. Introduction

No changes.

## Section 2. Communication

No changes.

## Section 3. The Arena

- ❖ **Modify 3.1.1** as below. The new/modified text is bolded and italicized and/or ~~lined out~~.

All official dimensions are on the following drawings:

- ~~2004 Arena Layout and Marking~~
- ~~2004 Field Elements – Center Structure – Part A~~
- ~~2004 Field Elements – Center Structure – Part B~~
- ~~2004 Field Elements – Center Structure – Part C~~
- ~~2004 Field Elements – Mobile Goal~~
- ~~2004 Field Elements – Ball Release, Ball Chute~~
- ~~2004 Field Elements – Tees / Corral / Paddle~~
- 2004 Field Elements – Ball Corral –1
- 2004 Field Elements – Ball Corral –2
- 2004 Field Elements – Ball Release –1
- 2004 Field Elements – Ball Release –2
- 2004 Field Elements – Center Structure –1
- 2004 Field Elements – Center Structure –2
- 2004 Field Elements – Mobile Goal –1
- 2004 Field Elements – Mobile Goal –2
- 2004 Field Elements – Stationary Goal –1
- 2004 Field Elements – Stationary Goal –2
- 2004 Field Elements – Stationary Goal –3
- 2004 Field Elements – Stationary Goal –4
- 2004 Field Elements – Tees and Guard
- 2004 Field – Diamond Plate and Frame mods –1
- **2004 Field – Diamond Plate and Frame mods –2**

~~As indicated on the drawings, all dimensions are +/- 1 inch.~~ Where surfaces are indicated as flush, there may be variations either direction of as much as 1/4 inch. This is not considered abnormal and is part of the game challenge. The reasons for these variations are numerous; different arenas are manufactured at different sites, set up by different volunteers, and undergo different temperature extremes. Volunteers and FIRST staff at each competition site will do their best to make the Arena and its elements as close to nominal as reasonably possible.

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The balls are made of rubber and are expected to undergo a lot of robot and person handling. They are likely to become misshapen and may become ovular instead of round. Because of a variety of environmental conditions at various competition sites, their resilience and elasticity are expected to vary. Because of these reasons, balls will be inflated at each site to their stated 13" dimension measured at their Equator (the manufacturing seam of the ball). Since misshapen balls are expected, they are considered to be part of the game challenge.

## Section 4. The Game

- ❖ **Modify G11 as below. The new/modified text is bolded and italicized and/or lined-out.**

<G11> At the beginning of a match, each ROBOT must not exceed a 30 inch by 36 inch footprint by 60 inches tall, must STRADDLE the white line on the playing field floor, and touch the diamond plate on the Wall. *An offending robot will be removed from the match at the Head Referee's discretion.*

A ROBOT can start in either Alliance starting position; drivers must setup under their team number.

- ❖ **Modify G13 as below. The new/modified text is bolded and italicized and/or lined-out.**

<G13> No team member may pass the Starting Line in their Team Zone until the conclusion of the AUTONOMOUS PERIOD. All team members must stay within their alliance's designated Team Zone during the match.

*A team that passes the Starting Line before the autonomous period ends, except to save their controls from a violent collision of a robot into the diamond plate, or leaves their Team Zone during the match, will be assessed a 10-pt penalty unless such action was deemed by the referee to be so serious to have affected the outcome of the match, in which case the team will be disabled and DQ'd.*

- ❖ **Modify G14 as below. The new/modified text is bolded and italicized and/or lined-out.**

<G14> Team members may not touch any balls during the AUTONOMOUS PERIOD. HUMAN PLAYERS may use any balls in the Team Zone once the AUTONOMOUS PERIOD ends. *If a ball is touched during the autonomous period, the team will be assessed a 10-pt penalty.*

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- ❖ **Modify G19** as below. The new/modified text is bolded **and italicized** and/or **lined out**.

<G19> If an alliance ROBOT assists any SMALL ball into either of their goals, the referee will throw a red ***or blue 10-pt*** penalty flag ***for each occurrence*** ~~and the alliance's final score will be decreased by twice the value of that SMALL ball.~~

- ❖ **Modify G20** as below. The new/modified text is bolded **and italicized** and/or **lined out**.

<G20> ROBOTS cannot GOALTEND either the Mobile or Stationary Goals. If a ROBOT GOALTENDS or de-SCORES any SMALL ball, the referee will throw a ***red/green or blue/green 10-pt*** penalty flag ***for each occurrence*** ~~and the opponent's final score will be increased by twice the value of that SMALL ball.~~

- ❖ **Modify G26** as below. The new/modified text is bolded **and italicized** and/or **lined out**.

<G26> A ROBOT can only block 1 Ball Chute at a time. ***A referee will throw a 10-pt penalty flag for violating this rule and has the option of throwing additional penalty flags if the robot continues to violate this rule.***

- ❖ **Add new rule G30** as below.

<G30> During a match, the robots may be remotely operated only by the students and/or by software running in an on-board control system. If a coach touches his/her team's controls anytime during a match, that team will be disabled and DQ'd.

- ❖ **Add new rule G31** as below.

<G31> A referee may disable a robot that has damaged the playing field / carpet, barriers or another robot, if the referee feels that further damage is likely to occur. The referees may require a corrective action, such as eliminating a sharp edge, before the robot will be allowed to compete in subsequent matches. Repeat offenses will result in that team being disqualified.

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❖ Add new rule G32 as below.

<G32> Strategies aimed solely at the destruction, damage, tipping over or entanglement of robots are not in the spirit of the FIRST Robotics Competition and are not allowed. Accidental tipping over of a robot is not considered damaging and may be allowed at the discretion of the referees. Intentional stabbing, cutting, etc., is illegal. If a breach of this rule occurs, the team will be disqualified for that match. Repeated offenses could result in a team being disqualified from the remainder of the regional competition and/or championship event.

## **Section 5. The Robot**

No changes.

## **Section 6. The Kit**

No changes.

## **Section 7. The Tournament**

No changes.

## **Section 8. The Awards**

No changes.

## **Section 9. Team Organization**

No changes.

## **Section 10. At The Events**

No changes.