



Sumo – Masters Mini

Objective:

Within a 10cm square column, build a robot sumo wrestler weighing under 500 grams to compete against other Mini-Sumo Wrestlers in a 77cm ring.

Rules (abridged)

The event judge will apply the rules as they are written on <http://www.robotgames.ca> and have final say in regard to safety. The following is a version of the rules that excludes the technicalities of building, competing and judging.

Competitor Design Parameters:

There is a Qualification that has to be met. All competing robots must be able to push a wood block, $\frac{1}{2}$ of the robot's weight off the ring 2 out of 3 attempts. A safety inspection also must be passed, which involves evaluation for sharp edges and wheel treads that can catch a finger, etc. Officials have final say in regards to safety.

1. A robot must be in such a size that it can be contained in a square tube of 10 cm (width) x 10 cm (depth) x any (height) (3.93"x3.93"x height). The robot can be any shape within this tube.
2. Robot's Weight must be under 500 grams (1.1 lbs) including all the parts and attachments.
3. The robots must be stand-alone, and must start moving without the operator's manual operation, 5 seconds after the operator pushes the start button when Referee announces the start of the match.
4. Any mechanism can be used to control stand-alone robots.
5. Give a name, or number to your robot, for registration purposes.
6. Display this name or number on your robot to allow spectators and officials to identify your robot.

The Competition Platform: The Sumo Ring

Diameter 77 cm (30.3")
Material..... Hard Rubber, Steel under surface
Color
 Inside the ring.....Black
 Start line.....Brown, or equivalent for IR reflection
 Edge.....White
Luminance on the Ring surfaceUnder 1,000 lux

Space:

There should be the space of more than 50 cm wide outside the outer side of the Ring. This space can be of any color except white, and can be of any materials or shape, as long as the basic concept of these rules are observed. This area, with the ring in the middle, is to be called the: "Ring Area". If there are markings or part of the ring platform outside these dimensions, this area will also be considered in the Ring Area.

Don'ts in manufacturing a robot:

- Jamming devices, such as an IR LED intended to saturate the opponents IR sensor, are not allowed. Do not disturb your opponent's radio-control by putting into a robot's body such devices as a jamming device.
- Do not use parts that could break or damage the Ring. Do not use parts that are intended to damage the opponents robot or it's operator. Normal pushes and bangs are not considered intent to damage.
- Do not put into a robot's body devices that can store liquid, powder, or air, in which are thrown at the opponent.
- Do not use any inflaming devices.
- Do not use devices that throw things at your opponent.
- Do not stick a robot down onto the Ring, using sucking devices or glue, or use any type of sticky tires (such as double sticky foam tape) or any device to assist in adding more down force (such as a vacuum device).

How to Carry Sumo Matches:

One match shall consist of 3 rounds, within a total time of 3 minutes, unless extended by the Judges. The team who wins two rounds or receives two points first, within the time limit, shall win the match.

A team receives a point when they win a round. If the time limit is reached before one team can get two points, and one of the teams has received one point, the team with one point shall win. When the match is not won by either team within the time limit, the extended match shall

be fought during which the team who receives the first point shall win. However, the winner/loser of the match may be decided by judges or by means of lots, or there can be a rematch. One point shall be given to the winner when the judges' decision was called for or lots were employed.

Start:

With the chief judge's instructions, the two teams bow in the Outer Ring (For example, stand facing each other, outside the ring platform or "ring area", with ring between), go up to the Ring, and place a robot on or behind the Start line or the imaginary extended Start line. (A robot or a part of a robot may not be placed beyond the front edge of the Start line toward the opponent.). A match starts with the following rules: For remote-controlled robots, start operating a Prop when the chief judge announces the start of a round. For stand-alone robots, be ready to press a start switch. Press the switch when the chief judge announces the start of the round. After 5 seconds, the robot is allowed to start operating, before which players must clear out of the Ring Area.

Point:

One point shall be given when:

- You have legally forced the body of your opponent's robot to touch the space outside the Ring, which includes the side of the ring its self.
- A point is also given in the following cases:
 - Your opponent's robot has touched the space outside the Ring, on its own.
 - Either of the above takes place at the same time that the End of the Match is announced.
- When a robot has fallen on the Ring or in similar conditions, Point will not be counted and the match continues.
- When judges' decision is called for to decide the winner, the following points will be taken into considerations:
 - Technical merits in movement and operation of a robot
 - Penalty points during the match
 - Attitude of the players during the match
- The match shall be stopped and a rematch shall start when:
 - Both robots are in clinch and stop movements for 5 seconds, or move in the same orbit for 5 seconds, with no progress being made. If it is not clear if progress is being made or not, the Judge can extend the time limit for a clinch or orbiting robots up to 30 seconds.
 - Both robots move, without making progress, or stop (at the exact same time) and stay stopped for 5 seconds without touching each other. However, if one robot stops its movement first, after 5 seconds, he shall be considered not having the will to fight, and the opponent shall receive a Point, even if the opponent also stops. If both robots are moving and it isn't clear if progress is being made or not, the judge can extend the time limit up to 30 seconds.
- If both robots touch the outside of the ring at about the same time, and it can not be determined which touched first, a rematch is called.

A player:

- Enters into the Ring during the match, except when the player does so to bring the robot out of the Ring upon the chief judge's announcement of Point or stopping the match. To enter into the Ring means:
 - A part of the player's body is in the Ring, or
 - A player puts any mechanical kits into the Ring to support his/her body.
- Performs the following deeds:
 - Demand to stop the match without appropriate reasons.
 - Take more than 30 seconds before resuming the match, unless the Judge announces a time extension.
 - Start operating the robot before the chief judge announces the start of the match (for remote-controlled robots).
 - Start operating the robot within 5 seconds after the chief judge announces the start of the match (for stand-alone robots).
- Do or say that which should disgrace the fairness of the match.

Have fun, be safe, and practise good sportsmanship.