

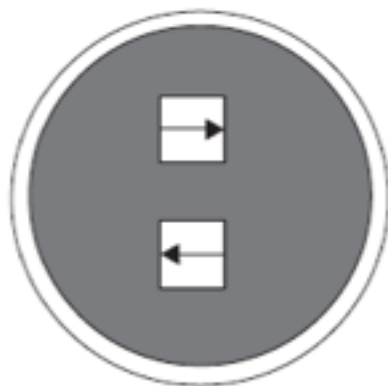
# Mini Sumo Tethered

Effective December 7, 2015

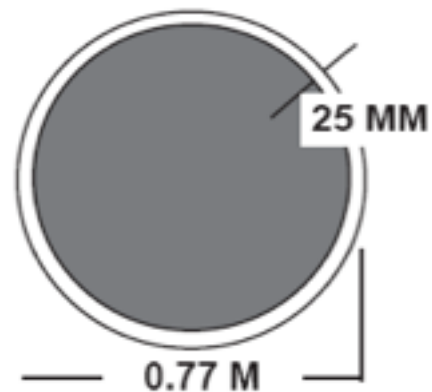
Code: MSR, MS2, MS3  
 Control: Tethered  
 Open to: MSR first time entrants with an MRG kit, MS1 up to Gr 6, MS2 up to Gr 9 and MS3 up to Gr 12 (see chart below)  
 Max Robot Size: No size limit  
 Weight limit: 500 grams  
 Size of Playing Field: 0.77 meters (see details below)  
 Explanation: The object is for two robots to try to push each other out of the ring.

For robot size, weight, ring diameter and competitor eligibility [Top Grade Limit], consult the following table:

Type	Class	Group	Max Size	Max Weight	Top Gr Limit	Ring Dia.
Mini Sumo Rookie	Tethered	MSR	No size limit	500 g	Gr 9	0.77 m
Mini Sumo	Tethered	MS1	No size limit	500 g	Gr 6	0.77 m
Mini Sumo	Tethered	MS2	No size limit	500 g	Gr 9	0.77 m
Mini Sumo	Tethered	MS3	No size limit	500 g	Gr 12	0.77 m



Starting Positions



Preface:

The Manitoba Robot Games (MRG) has opted not to follow the official FSI All Japan Robot Sumo Tournament (FSI-AJRST) rules. This has been done in order to tailor competitions to available components and facilitate greater competitor participation.

MSR Eligibility:

**MSR (Rookie version only)** is open to any student up to and incl. grade 8 entering the Mini Sumo competition for the **first time** and is limited to those using a **stock MRG MiniSumo Kit** built robot powered by **2 AA alkaline batteries**.  
 Stock MRG MiniSumo Kit = Tamiya Double gearbox, Tamiya Sport tires/wheels, and MRG controller.

Match Definition:

**A match** shall be a competition between two robots. Each robot must have a designated driver, and an alternate driver if the driver is entered into other competitions. The driver may not be changed within a match unless they are injured or become ill and cannot physically continue. Each robot competes to push its opponent beyond the perimeter of the defined Sumo Ring (playing field).

- Playing field:** **The** diameter of the playing field is as specified in the above table. The border consists of a 2.5 cm white border at the edge and within the diameter of the playing field.  
**The** interior of the playing field is black in colour. The surface of the playing field is made of Sintra (foamed PVC) and sits 5 cm above ground level.
- Robot Specifications:** **There** are no restrictions to size of the robot.  
**The** maximum weight including accessories excluding the hand controller and tether, must be less than or equal to that specified in the above table as weighed on the scale provided by the MRG for registration for the competition. (It is highly recommended that a method be incorporated into the robot design to adjust the weight if the intention of the team is to attain the maximum weight at registration).  
**Any robot** found losing its body parts will also lose the match except for screws or nuts (each no more than one cubic centimeter) falling off.
- Restrictions MS1, 2 & 3:** **Power** may be contained within the hand controller; but to a maximum 6 volts.  
**No** Fuel Cells allowed.  
**Lithium** Ion, or Lithium Polymer may be used under the following strict conditions.  
**All** Lithium based batteries must be commercially available battery packs, unaltered, and identifiable to the judges (have the original label visible).  
**If using** Lithium based batteries, the robot is to be fitted with a removable fuse. (See “MRG General Rules 2016” page 3 for more information or online at [mrobotgames.ca](http://mrobotgames.ca) & search = “Lithium”)  
**Only** one Lithium based battery pack can be used on the robot at a time, although you may have replacement batteries if stored in a safe manner.(see General Rules)  
**Lithium** based battery packs are to be placed on or in the robot in such a way as to avoid direct contact by another robot or against any chance of being punctured or shorted.  
**The** charging of all Lithium based batteries shall be performed in the charging area provided. A volunteer will be available to monitor for excessive heat, leakage or eruption of the batteries but will not be responsible for theft. If any charging battery is deemed to be in danger of eruption, the supervising volunteer will cover the battery with sand and remove it from the building, therefore we recommend the battery be removed from the robot for charging if possible.
- Care** must be taken to ensure that the tether conductors can safely handle the current without heating either the conductors or hand controller to dangerous levels.  
**Radio** controlled robots must use authorized RC land-use frequencies.  
**All** radio controlled robots should have incorporated into their design the provision for a change of frequency without the use of soldering equipment.
- Restrictions All, MSx:** **The** robot shall not contain parts that could break or damage the playing field.  
**The** robot shall not contain devices that can store solids, liquid, powder, or air and throw it at your opponent.  
**The** robot shall not contain any inflaming devices.  
**The** robot shall not contain any sucking devices or glue to stick the robot down onto the playing field.
- Robot Identification:** **The** MRG identification sticker(s) (as supplied while registering in the contest) must be easily readable on the robot's body while the robot is in competition.
- Game Principles:** **Each** match consists of up to three rounds with a total time of three minutes.  
**Each** round starts at the judge's command and continues until a team pushes the opponent off the playing field or time expires.  
**The** first team to win two points within the time limit is awarded the match.  
**When** neither team can push the other off the playing field the winner will be decided by the judges. However, if no obvious superiority exists and a winner cannot be determined, an extra one minute match may be played.  
**The** judges will decide when a point is scored.
- Game Procedure**
- Beginning of the Game:** **At the** judge's instruction, the robots are placed in the playing field 10 to 15 cm apart and equal distance from the centre of the playing field .The robots are set down parallel to each other and facing opposite directions.  
**The** team to place their robot in the playing field first shall select the direction their robot is

to face (if both robots are facing the same direction, the second robot placed within the playing field will be required to be replaced facing the opposite direction).

**When** both contestants are ready, the judge will signal the start of the three minute match at which time the robots may be activated. No movement must occur before the official start (no posturing).

**A team** may halt the start, just once, no later than 10 seconds upon the start of one round without penalty. This allows for last moment emergencies like forgetting to plug in a battery. The start can be delayed not longer than 60 seconds.

End of the Game: **The match** ends when the judge announces so.

Cancellation/Rematches: **The** round stops and resumes when a judge announces so. The round may also be cancelled and a rematch called for by the judges when:

**Both** robots are in a clinch and stop movements for 5 seconds, or move in the same orbit for 5 seconds with no progress being made.

**Both** robots move without making progress, or stop (at the exact same time) and stay stopped for 5 seconds without touching each other. If one robot stops its movement first, after 5 seconds it shall be considered not having the will to compete.

**If both** robots touch the outside of the playing field at about the same time, and it cannot be determined which touched first, a rematch may be called.

A successful round: One point shall be given when:

**You** have legally forced the body of your opponent's robot to touch the space outside the playing field. A robot whose body, wheel, or other support hangs over the edge is not considered outside the playing field until it physically tips or touches the surface beyond the playing field perimeter.

**Your** opponent's robot has touched the space outside the playing field, on its own.

**Either** of the above takes place at the same time that the End of the Match is announced.

**Your** opponent's robot is disqualified or has had more than one violation or warning.

**Your** opponent's robot become disabled (flipped on its back or side, for instance) and is unable to move in the playing field.

**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.

**Attitude** of the players during the match.

**Which** robot exhibited the best effort.

Warnings:

**Contests** WILL start within a reasonable time, once announced.

A contestant who takes any of the following actions will receive a warning...

- In the event a contestant fails to respond to the announced start time.
- They enter into the playing field during the match, except when the team does so to bring the robot out of the playing field upon the judge's announcement of a point or after the round/match is stopped. To enter into the playing field means a part of a team member's body is in or directly above the playing field.
- Halts the start of a round more than the one time allowed for.
- A robot moves before the judges start signal.
- Tether control wire contact the playing field surface or the competitor's robot.
- Tether is tugged or pulled to assist the robots progress. In the event that this is done to keep the robot within the playing surface, the opponent will be awarded the point as if the round is lost.

**When a** contestant receives two warnings, the contestant's opponent will be awarded one point.

MRG General Rules:

**Failure** to follow the MRG General Rules may result in the following:

**Warning** being issued, or

**Disqualification** and loss of the pull, or

**Disqualification** from competition and or event.