MRCA Ruleset

The MRCA ruleset has 4 components:

- **MRCA League General Rules:** General conduct and Rules
- **MRCA Robot Construction Specifications:** Everything you need to know about building a robot for a MRCA event.
- **MRCA Match Rules:** Details about how events work, including match procedures and event format information.
- **MRCA Event And Organizer Requirements:** What you need to know to run a MRCA event.

MRCA League General Rules

Purpose

Midwest Robot Combat Association was born from proposals of joining a few Midwest Discord servers together. Regardless of how competitive this league gets, it is our intent that “fun” is never forgotten and we can still keep this community a welcoming place. The competitive side effects of this league are intended to push more boundaries and keep things interesting for everyone involved. The intent is NOT to discourage newcomers or people who don’t have the resources to build a robot up to a certain standard.

Competitor Expectations

Competitors are free to build as many robots as they want, but they can only pick any two to drive at a time during a qualifier event. Finals qualification strategies that employ clones or very similar robots are extremely frowned upon by the MRCA. These strategies are not viable for everyone’s set of resources, and they take variety away from the league. We have some ways to ensure this doesn’t happen.

Team members must stay on their team for the entirety of the MRCA season. This means they cannot drive for other teams. A team can be just one person if that’s desired. Members can also be added to a team later in the MRCA season (provided they haven’t driven on another team).

Within a team, no robots are allowed to be too similar. Our official ruling is that no more than 50% of any two robots can have interchangeable parts, but if the robots are still obviously too similar, MRCA reserves the right to prevent a robot from competing. There are cases where, for example, two four-wheel drive vertical spinners could have slightly different frame mounting

(and not be interchangeable) along with different internals to make it eligible under our ruling. However, if the two robots look basically identical sitting next to each other, you're probably not within the spirit of the league. Don't take it too far and force us to shut you down.

Ranking

The MRCA will maintain a robot ranking system for the antweight (1lb) and beetleweight classes. The ranking system will be based on the Elo system commonly used in chess. This system adjusts each robot's rating after a fight, with a larger adjustment if a match is a more unexpected outcome (a low rated robot defeating a high rated robot) than an expected outcome (a high rated robot defeating a low rated robot).

In the MRCA Elo ranking system, the type of victory will determine the scoring outcome used in the mathematical formula.

- A knockout counts for a 100% win/0% loss.
- A pit out or similar result counts for a 100% win/0% loss.
- A judges' decision counts for a 100% win/0% loss.

The MRCA Elo ranking system results will apply to a robot indefinitely; they will not be erased at the end of any time frame. The results will apply to a robot, regardless of the driver. A robot that changes substantially but keeps the same name may be asked to change the name if this is deemed an attempt to take advantage of a previous design's high ranking. A robot that has not undergone a significant change since competing may not change names and start a new rating to avoid the consequences of poor previous results.

The formula used for the MRCA Elo ranking system can be provided upon request to MRCA administrators. It will not be changed unless a specific concern or issue requires a change. Changes may only occur after the MRCA finals tournament and before the next qualifier tournament. Any change will be announced, with an explanation of the purpose and mathematical change implemented. The change will be applied to all previous results, and there will be no bias allowed in making the change.

Weight Verification

Before a match, any competitor can request a weight check. If either robot is found to be overweight, they will have 5 minutes to get within weight or they forfeit the match. If both robots are overweight the competitors will be given the same 5 minute countdown. If both competitors exceed the 5 minute timer the first one to get in weight will be awarded the victory regardless of robot function.

Unsportsmanlike Conduct

Unsportsmanlike Conduct includes but is not limited to: Post fight contact, sabotage, distraction of opposing robot operators, blatant early movement, etc.

Mistakes happen and we'll be sure to verbally warn people and correct these honest mistakes. Everyone is here to have fun, and a lot of grace goes with that. If something unsportsmanlike is clearly and intentionally done, any event organizer within MRCA has the ability to forfeit your matches, robots, deny qualification for finals, and even deny participation in future events.

MRCA Robot Construction Specifications

v1.40 - 20 November 2024

1. General

1.1. All participants build and operate robots at their own risk. Combat robotics is inherently dangerous. There is no amount of regulation that can encompass all the dangers involved. Please take care to not hurt yourself or others when building, testing and competing.

1.2. If you have a robot or weapon design that does not fit within the categories set forth in these rules or is in some way ambiguous or borderline, please contact the event organizer. Safe innovation is always encouraged, but surprising the event staff with your brilliant exploitation of a loophole may cause your robot to be disqualified before it ever competes.

1.3. Each event has safety inspections. It is at their sole discretion that your robot is allowed to compete. As a builder, you are obligated to disclose all operating principles and potential dangers to the inspection staff.

1.4. Cardinal Safety Rules: Failure to comply with any of the following rules could result in expulsion or, worse, injury and death.

1.4.1. Radios that do not operate using spread spectrum technology may not be turned on at or near events for any purpose without obtaining the appropriate frequency clip or explicit permission from the event.

1.4.2. Proper activation and deactivation of robots is critical. Robots must only be activated in the arena, testing areas, or with expressed consent of the event and its safety officials.

1.4.3. All robots must be able to be FULLY deactivated, which includes power to drive and weaponry, in under 60 seconds by a manual disconnect.

1.4.4. Locking devices: Moving weapons that can cause damage or injury must have a clearly visible locking device in place at all times when not in the arena. It is strongly recommended that locking devices are painted in neon orange or another high-visibility color. Locking devices must be clearly capable of stopping, arresting or otherwise preventing harmful motion of the weapon and must securely affix in place on the robot such that they cannot easily come loose or fall off without intent.

1.4.5. Weapon locking pins must be in place when weapon power is applied during a robot's power-on procedure. This includes all powered weapons regardless of the power source.

1.4.6. It is expected that all builders will follow basic safety practices during work on the robot at your pit station. Please be alert and aware of your pit neighbors and people passing by.

1.5. Unsportsmanlike Conduct

1.5.1. Unsportsmanlike Conduct includes but is not limited to: Post fight contact, sabotage, distraction of opposing robot operators, blatant early movement, etc.

1.5.2. Mistakes happen and we'll be sure to verbally warn people and correct these honest mistakes. Everyone is here to have fun, and a lot of grace goes with that. If something unsportsmanlike is clearly and intentionally done, any event organizer within MRCA has the ability to forfeit your matches, robots, deny qualification for finals, and even deny participation in future events.

2. Weight And Size

2.1. This ruleset has been modified and written to apply only to Antweight and Beetleweight combat robots.

2.2. The MRCA finals event does not have any size limit, but qualifier events may implement a size limit based upon the event organizer's discretion. Any size limit must be stated in the event details on the registration site, and any other place full details are listed.

2.3. Some MRCA qualifier events have steel floors. Robots **cannot** use permanent or electromagnets for additional downforce on steel floor arenas.

2.4. Weight Limits

Weight bonuses will be evaluated on a year by year basis.

2.4.1. There will be no beetleweight weight bonuses in the year 2025.
The following bonuses (2.4.3-2.4.6) are for antweights only.

2.4.2. Wheeled Robots: Robots that use rolling motion must weigh less than or equal to 1.00lb (454g) for antweights and 3.00lbs for beetleweights (1361g).

2.4.3. Shufflers and other forms of non-wheeled locomotion not covered in 3.1.4 must weigh less than or equal to 1.25lbs (567g).

2.4.4. Almost Walking Robots: Robots that use non-wheeled motion but do not qualify as a walking robot must weigh less than or equal to 1.5lb (680g). See 3.1.2 for a definition of a non-wheeled robot.

2.4.5. Walking Robots: Robots that walk must weigh less than or equal to 2.00lb (907g). See 3.1.3 for a definition of a Walking robot.

2.4.6. Weight Verification, All robots must be within the weight limit before each match. any competitor can request a weight check before a match. If either robot is found to be overweight, they will be forced to take their 20 minute postponement to get within weight or they forfeit the match. If both robots are overweight the competitors will be forced to take their 20 minute postponement. If both competitors exceed the 20 minute timer the first one to get in weight will be awarded the victory regardless of robot function. If a competitor has already used their postponement, they will be forced to forfeit the match.

2.5. Multiple robots can be run together under one name if their combined weight is under the standard weight limit for their movement type. These are commonly referred to as “clusters.”

2.5.1. All robots in a cluster bot must be of the same drive type to receive any weight bonus.
The combined weight of clusters where all robots employ rolling motion must weigh less than or equal to 1lb (454g) for antweights, 3lb (1361g) for beetleweights.
The combined weight of clusters where all robots employ shuffling motion as in 3.1.3 or other non-wheeled locomotion not covered in 3.1.2 must weigh less than or equal to 1.25lbs (567g)
The combined weight of clusters where all robots employ locomotion as described in section 3.1.2 must weigh less than or equal to 1.5lb (680g)
The combined weight of clusters where all robots employ walking as described in section 3.1.4. must weigh less than or equal to 2lb (907g).

2.6. Modular Robot: Robots can have multiple attachments or weapon modules.

2.6.1. Non-Modular portion must exceed 50% of total robot weight

2.6.2. Each chassis must be able to accept all other modules. I.e. if your wedge configuration chassis/body gets destroyed, you must be able to attach your wedge to the fork configuration and vice versa.

3. Mobility

3.1. All robots must have easily visible and controlled mobility in order to compete. Methods of mobility include but are not limited to:

3.1.1. Rolling (wheels, tracks or the whole robot)

3.1.2. Almost Walking Robots, Non-Traditional

Bristle/Torque Drive: Vibration or torque reaction of a powered system to generate motion

Gyro Walker: Gyroscopic forces used in conjunction with a rotating arm that tilts a portion of the robot to generate motion

Ground effect air cushions (hovercrafts)

Jumping and hopping may be allowed at some events, contact the event organizer if you're intending on using this as a method of locomotion.

Flying (airfoil using, helium balloons, ornithopters, etc.)may be allowed at some events, contact the event organizer if you're intending on using this as a method of locomotion.

3.1.3. Shuffling (rotational cam operated legs)

3.1.4. Walking: Walking robots have no rolling elements in contact with the floor and no continuous rolling or cam operated motion in contact with the floor, either directly or via a linkage. Motion is "continuous" if continuous operation of the drive motor(s) produces continuous motion of the robot.

3.1.5. All robots must meet the minimum movement requirement. Each robot must be able to translate corner to corner of the arena in under 30 seconds.

4. Robot Control Requirements

4.1. Tele-operated robots must be radio controlled, or use an approved custom system.

4.1.1. Radio systems that stop all motion in the robot (drive and weapons), when the transmitter loses power or signal, are required for all robots with active weapons. This may be inherent in the robot's electrical system or be part of programmed fail-safes in the radio.

4.1.2. If you are using a home built control system, or a control system not covered here, you must first clear it with the event you plan to attend.

4.1.3. Toy radio systems are allowed, but the robot must failsafe or have no active weapon.

4.2. Tethered control is not allowed.

5. Batteries and Power

5.1. The only permitted batteries are ones that cannot spill or spray any of their contents when damaged or inverted. This means that standard automotive and motorcycle wet cell batteries are prohibited. Examples of batteries that are permitted: gel cells, Hawkers, NiCads, NiMh, dry cells, AGM, LIon, LiFe, LiPoly, LIHV, etc. If your design

uses a new type of battery, or one you are not sure about, please contact the event you're planning to attend.

5.2. All onboard voltages above 48 Volts require prior approval from this event. (It is understood that a charged battery's initial voltage state is above their nominal rated value)

6. Pneumatics

6.1. Pneumatic systems on board the robot must only employ non-flammable, non-reactive gases (CO2, Nitrogen and air are most common). It is not permissible to use fiber wound pressure vessels with liquefied gases like CO2 due to extreme temperature cycling.

6.2. You must have a safe and secure method of refilling your pneumatic system.

6.3. For pneumatic systems, the maximum actuation pressure is 250 PSI and all components must be used within the specifications provided by the manufacturer or supplier. If the specifications aren't available or reliable, then it will be up to the EO to decide if the component is being used in a sufficiently safe manner. For pneumatic systems above 250psi all pressurized components must be certified or hydrotested to a factor of safety of 2.

7. Hydraulics

7.1. Hydraulic systems are allowed with pre-approval by Event Organizers. Event Organizers reserve the right to disqualify any hydraulic system deemed to be unsafe. Furthermore, You will also be expected to clean any hydraulic fluid that leaks into the arena.

8. Internal Combustion Engines (ICE) and Liquid Fuels

8.1. These need pre-event approval depending on the ventilation and safety procedures of the event.

9. Rotational Weapons

Rotational or full body spinning robots are allowed, however:

9.1. Spinning weapons must come to a full stop within 60 seconds of the power being removed using a self-contained braking system.

10. Forbidden Weapons And Materials

The following weapons and materials are absolutely forbidden from use:

10.1. Weapons designed to cause invisible damage to the other robot. This includes but is not limited to:

10.1.1. Electrical weapons

10.1.2. RF jamming equipment, etc.

10.1.3. RF noise generated by an ICE. (Please use shielding around sparking components.)

10.1.4. EMF fields from permanent or electro-magnets that affect another robot's electronics.

10.1.5. Entangling weapons or defenses: these are weapons or defenses that can reasonably be expected to stop drivetrain and/or weapon motion by being wrapped around rotating parts. This includes nets, tapes, strings, and other entangling materials or devices.

10.1.6. Weapons or defenses that can reasonably be expected to stop combat completely of both (or more) robots.

10.2. Weapons that require significant cleanup, or in some way damage the arena to require repair for further matches. This includes but is not limited to:

10.2.1. Liquid weapons. Additionally, a robot may not have liquid that can spill out when the robot is superficially damaged.

10.2.2. Liquid foams, gels, and liquefied gases,

10.2.3. Powders, sand, ball bearings, and other dry chaff weapons

10.3. Un-tethered projectiles (see tethered projectile description in Special Weapons section 12.1)

10.4. Weapons with an open flame are not allowed.

10.4.1. Flammable liquids or gasses

10.4.2. Explosives or flammable solids such as:

10.4.2.1. DOT Class C Devices

10.4.2.2. Gunpowder / Cartridge Primers

10.4.2.3. Military Explosives, etc.

10.5. Light and smoke based weapons that impair the viewing of robots by an Entrant, Judge, Official or Viewer. (You are allowed to physically engulf your opponent with your robot however.)

10.6. Hazardous or dangerous materials are forbidden from use anywhere on a robot where they may contact humans, or by way of the robot being damaged (within reason) contact humans. Contact the event you plan to attend if you have a question.

11. Special weapon descriptions allowed within MRCA:

11.1. Tethered Projectiles are allowed.

11.1.1. Tethered projectiles must have a tether or restraining device that stops the projectile and is no longer than 4 feet.

11.2. Heat based weapons are allowed.

11.2.1. Heat based weapons cannot be preheated before a match. They can only be powered during the duration of the match. The exception is a match pause that the heat based weapon robot was not responsible for.

11.2.2. At their maximum temperature, a heat based weapon has no limit

11.2.3. It is expected that the operator will do their best to keep heating elements off of and away from the polycarbonate or other vulnerable sections of the arena. This is to avoid expensive damage to the arena, as well as the potential of a dangerous arena breach.

MRCA Match Rules

v1.2 - [20 November 2024]

(Based on SPARC Match Rules v1.5)

Robot Load In and Activation

The least dangerous robot gets priority for load in.

Use the following process to activate a robot:

1. Place the robot in a stable position on the combat area with the drive wheels oriented so that when they come in contact with the combat area the direction of travel will be away from other robots, persons, and entry doors. If the robot has a weapon that is aimable, aim it toward the wall furthest from the arena entry door.
2. Remove any weapon covers.
3. Turn on the transmitter.
4. Turn on the main power.
5. If separate, turn on the weapon power. This applies to both separate power loops and non-electrical power systems. (ie. pneumatics)
6. Remove any weapon locks.

Once both robots are activated the arena access point(s) will be closed. Once the access point(s) are closed, each operator shall move their robots to their starting position and will be allowed a brief weapon/drive system test if either operator desires. No weapon testing or driving of any sort will be allowed prior to the access point(s) being closed.

After this, the referee will ask both operators if they are ready and the match will begin.

Post Match Activities

At the end of the match both robots are to cease movement and, if applicable, allow their weapon systems to de-energize. Once the weapon systems have de-energized, the

judges may request that one or both robots demonstrate that their drive and/or weapon system is still functional. If the robot's drive or weapon systems have ingested debris from the opponent or arena, the operator may request the debris to be removed prior to the drive or weapon systems check. The referee has the final decision about debris removal.

Once this is completed, the robot deactivation and load out procedure can begin.

Robot Deactivation And Load Out

The most dangerous robot gets priority for load out.

Use the following process to deactivate a robot:

1. Disable the weapon system. This includes any applicable weapon locks, power cut off, and/or venting. The exact order of this procedure will be at the discretion of the builder as differing designs may necessitate different safe shutdown procedures.
2. Turn off the main power.
3. Turn off the transmitter.
4. Reinstall any weapon covers.

Emergency Deactivation Procedure

In the event of an emergency (for example: one or more robots on fire), the standard procedure does not apply.

In the event of emergency deactivation, both competitors must make their robots as safe as possible as quickly as possible so that the arena can be entered. This should include spinning down weapons and stopping movement immediately, as well as turning your transmitter off to engage the failsafe.

The referee must start an emergency deactivation in the event of any battery fire in any robot. The other most common situation requiring emergency deactivation is a robot going rogue and being uncontrollable. The match must be declared over at the time of emergency deactivation. An uncontrollable robot may be subject to count out at the discretion of the referee.

Emergency Match Stoppage Procedure

In the event of an arena breach, damage to the arena that renders it unsafe, or any other event that is otherwise judged a safety risk by event staff, the referee shall immediately halt the match.

If a competitor continues to match after the referee has called for the match to be stopped, they will forfeit the match. Repeated infractions, or an egregious infraction, will result in removal from the tournament. It is the responsibility of the operator to ensure that they respond promptly to the call to stop fighting.

Once fighting has ceased, the operators must deactivate the robots according to the emergency deactivation procedure. The deactivated robots may be left in place or moved to a safe location

in or around the arena until a determination about the status of the match is made. No work may be done on the robots during this time. The source of the safety issue will then be inspected to determine the appropriate action. Once the issue has been resolved, a determination will be made as to whether or not the match will resume. If possible to resume safely, the match will resume from the point where it was paused. If resuming the match is determined to not be possible due to a safety concern or other issue, the match will be judged based on the results up until the point where it was stopped.

The safety of the crowd, competitors, and crew must always be considered when determining if any additional measures need to be taken beyond resolving the immediate safety issue.

Tournament Format

MRCA events can use Modified Swiss, Round Robin, double elimination, **or other formats pre-approved by the board**

Match Frequency

All MRCA events robots will be given a minimum of a 20 minute repair time from removing the robot from the arena at the end of the previous match until beginning to load the robot into the arena at the start of the next match. A forfeit may be declared at any time if a robot is not ready to fight after 20 minutes of repair time. The match coordinator should make every effort to apply consistent leniency and expectations to all robots, and exceptions should only be made if time constraints or other external factors require a change in expectations.

Postponements

At all MRCA events each robot will be allowed (1) 20 minute postponement of additional repair time. Only 1 postponement of each match is allowed.

Match Duration

All MRCA events employ 2:00 min matches. It is up to the event organizer to determine when or if hazards activate within that time period.

Un-sticks

Matches will be paused to separate robots in the event that they become stuck together in the arena. Robots that become stuck together will be allowed 10 seconds to attempt to separate. If they are not able to do so, an un-stick will be called for by the referee. An unstick can be requested for by the operators or referee, and the referee has the final say on whether or not the unstick will be granted. No modifications or repairs are allowed during an unstick.

Arena Unstick definition: As a competitor, you assume the playing field is indestructible. If you embed yourself in the arena and become immobile by causing damage to something that should be assumed indestructible, you are granted one arena unstick per match. This is different from getting propped up against a wall, “doing the thing”/becoming balanced on a

non-driveable side of the robot, or becoming stuck on a piece of debris from another robot. If a piece of debris detaches from the arena during a match and causes a robot to get stuck, you are allowed one arena unstick because this wouldn't have happened with an indestructible arena. The arena is a hazard. Be warned and use it to your advantage.

Knock-outs

When a robot has ceased moving in a controlled manner but has not tapped out, the referee will request motion and begin a 10-second countdown out loud. If the robot is unable to demonstrate controlled translational movement before the countdown ends, it will be declared the loser by knockout. If, during this time, the robot is able to show controlled translational movement or if the opposing robot attacks it, the countdown will stop. This means that a "dead" robot will not be counted out should the opposing robot continue to attack, and the match will not end until the match timer expires, one robot taps out, or a new countdown is completed.

A robot with one side of its drivetrain disabled will not be counted out if it can demonstrate controlled translational movement. Controlled translational movement is defined as being able to traverse in a manner such that the net movements of the robot are in a linear direction.

In the case of multi-bots, the countdown will begin when all portions are not moving.

In the event of a simultaneous knock-out, the match will go to a judges' decision. This same ruling will apply even if one robot ends up in a push-out and the other is considered knocked out.

Should the battery of a robot become uncontained, the match will be halted and the robot with the uncontained battery will lose by knockout. If both robots have an uncontained battery, the match will go to a judges' decision.

Pits/Push-outs

If the arena is equipped with a pit, push-out, or similar hazard, a robot that fully falls into this area will result in the end of the match and a loss for the robot that first entered the area. If both robots enter the area and it's difficult to determine which robot entered first, the match will be determined by judge's decision. The definition of a robot fully falling into the pit is at the referee's discretion.

For a multi-bots to be pitted, all of its mobile parts must fall into this area.

Pinning/Corralling/Lifting

Any robot performing a pin, corral, or lift is limited to 5 seconds. After the designated time has elapsed, the robot in control must release the opposing robot. If the robot in control is not able to release the opposing robot, the match will be halted and the robots will be separated.

"Release" is defined as complete physical separation such that all robots are able to freely move away from their current location. It is preferred if the releasing operator backs away enough to let the match resume in the center of the arena. Backing away and pinning your opponent again in the same corner may be beneficial, but the spirit of this rule is to keep things entertaining and avoid excessive capitalization on a single exchange.

Refusal to comply with the referee's request to release the opponent when the robots are not stuck together will result in forfeit of the match.

Tapping Out

At any time during a match, the robot operator may choose to tap out. Once an operator has tapped out, combat will cease and the opposing robot will be declared the winner. Tapping out is done either by informing the referee that you are tapping out verbally or by using a designated tap out button if it exists. Literally hitting the polycarbonate can also be used to alert a referee in some cases. If the referee is unsure if a tapout has occurred, the referee should request clarification immediately. If a referee declares a tapout in error, the referee may restart the match from the point it was ended as long as the confusion does not completely alter the outcome. (For example, a robot stops fighting due to the perceived tapout and is damaged significantly afterward.)

MRCA Event And Organizer Requirements

Events must meet non-negotiable minimum safety requirements to host a MRCA qualifier event. The following requirements are minimums for the antweight and beetleweight class, the only class's currently ranked for MRCA events.

Critical Safety Requirements

- For antweight arenas, a nominal ¼" (6mm) thickness of polycarbonate must be used on all transparent sections of the arena. This can be two ⅛" (3mm) sheets or a single ¼" (6mm) sheet.
- For antweight arenas, non-transparent walls, ceilings, floors, and doors must be made from a minimum nominal thickness of ¾" MDF. Stronger materials (such as plywood) and/or thicker boards are strongly encouraged if feasible.
- For beetleweight arenas, a nominal 3/8" (9-10mm) thickness of polycarbonate must be used on all transparent sections of the arena. This can be two 3/16" (5mm) sheets, a ¼" (6mm) sheet and ⅛" (3mm) sheet, or a single ⅜" (9-10mm) sheet. Recommended is 1/8" polycarbonate + 1/4" air gap + 1/4" polycarbonate
- For beetleweight arenas, non-transparent walls, ceilings, floors, and doors must be made from a minimum nominal thickness of ½" plywood. Stronger materials and/or thicker boards are strongly encouraged if feasible.
- The arena must be fully sealed (including pits/pushout zones) so that all debris from robots is fully contained during matches.
- Arena doors (including pit/pushout doors) must have a method of being locked in place securely during matches. To facilitate rapid reactions to emergency situations, arena doors also must be able to be opened in under 5 seconds.
- A metal bucket or container of sand for use in smothering lipo and electrical fires must be provided cageside. Expect most antweights to fall under 12" in all directions, but a bigger container is preferable for especially unique robots. For example, a 6 gallon steel trash can would be suitable

(https://www.homedepot.com/p/Behrens-6-Gal-Galvanized-Steel-Round-Trash-Can-with-Locking-Lid-00108/202264761).
- Access to a fire extinguisher is required. If the venue has fire extinguishers, ensure you know their locations. If the venue does not have fire extinguishers, here are some options:
- CO2 extinguisher (highly recommended): https://a.co/d/cFxTQRI
- ABC dry chemical extinguisher https://a.co/d/c0RHv9A
- Event organizers are expected to enforce MRCA robot construction rules, including weapon safety and failsafe requirements.
- It is highly recommended that EO's get event insurance for their competitions.

Non Safety-related Requirements

- For antweight competitions, the arena must have at least 12 square feet of floor space to fight in. The minimum wall length is 3.5ft. The minimum ceiling height is 18” Recommended is 6'x6' nominal with 36" ceiling height.
- For beetleweight competitions, the arena must have at least 30 square feet of floor space to fight in. The minimum wall length is 5.5ft. The minimum ceiling height is 18”. Recommended is 8'x8' nominal with 48" ceiling height
- In most cases, arena doors must allow for side access to the arena. Top-down access doors can be considered for arenas that are low to the ground if they’re easy to use, but they will need to be reviewed and approved by the MRCA board.
- For judging, there are multiple acceptable options depending on the quantity of dedicated judges available for the event. In order from most to least desirable, these are:

1. Three dedicated judges who can give their undivided attention to every match. This is strongly preferred.
2. Two dedicated judges, plus an event organizer or commentator who is watching all matches and can deliver a tiebreaker judgment.
3. If neither of the above are feasible, one dedicated judge with no additional tasks is the minimum requirement. If you are having trouble finding judges, please contact us and we can assist you.

- Events must create and fill out a bracket for the event on https://challonge.com/.
- Events must provide their judges with official MRCA score cards that are to be filled out after each match that ends without a KO or pit out. Cards will be available for download here after the format is confirmed.
- Events must collect participant information (at minimum, name and email address) so participants that qualify for finals can be contacted.
- Events must provide at minimum a small token or trophy identifying the top 3 winners. (This can be as simple as a poker chip).
- Registration Fees:
- Qualifying Events will be added on a quarterly basis and must be paid for the quarter prior with a flat cost of $100 for an antweight event and $50 for a beetleweight event. (1st quarter ends april 1st, 2nd quarter ends july 1st, 3rd quarter ends october 1st and 4th quarter ends january 1st. example: if you wish to host an event in november the fee must be payed by july 1st. This allows for sufficient time to add the event to our list and promote it.) This money will go towards a finals prizepot and any remainder will go towards growth of the community to aid EO’s in arena improvements and construction. Note: an exception will be made for the 1st 2 quarters of 2024 while this new system is being implemented. (if you wish to host an event but are having trouble with the funds

please contact the board either through discord or through the MRCA email (midwestrobotcombatassociation@gmail.com)

- Event organizers are free to set any registration fee they deem acceptable in order to defray the costs of running the event.
- MRCA does not take any money from registrations from non-ranked weight classes such as plastic antweights, fairies, or hobbyweights.
- A minimum of 16 signup slots for antweight robots is required.
- Event organizers are responsible for video recording of the event. Streaming video is preferred, but at a minimum, video must be uploaded after the event or provided to MRCA for upload.
- If you wish to host an event please fill out this form.

  All attendees must sign accident waivers acknowledging the risks inherent in participating or spectating. A simple template is available to be modified at your own discretion here.