

NH RL

EVENT
EVENT RULES
RULES



230118

TOURNAMENT FORMAT

In 2023, NHRL will run most events under a new format, which we're calling NHRL Live.

All competitors' first fights (with some exceptions) will be in a preliminary round. Then, all competitors will be slotted into a single-elimination bracket based on the result of their preliminary round fight. Winning a preliminary round fight will generally give a competitor an easier path in the single-elimination bracket.

A few hours into the day, we will open NHRL Freestyle Fights, which is a series of grudge fights that eliminated competitors can take part in. You may choose to register for Freestyle Fights only, but your bot must still pass safety.

THE PRELIMINARY ROUND

The preliminary round's seeding will be livestreamed about 10 days before the event. You will be seeded by NHRL rank. Bots with no NHRL rank will be seeded next, starting with bots that have fought outside NHRL, followed by new bots from experienced builders, and finally followed by new bots from new builders.

Most single-elimination brackets have some number of byes. The highest-seeded bots will get automatic byes. The next-highest-ranked bots will have to win their preliminary round fight to get a bye. Some bots may not get byes, whether they win or lose their preliminary round fight. That said, the result of your preliminary round fight will determine your path in the bracket. If you win your preliminary round fight, you will generally face lower seeds in the single-elimination fight.

Unlike previous years, we will not necessarily split bots from the same team or builder into different spots in the bracket. If you are bringing multiple bots, you should prepare for the possibility of fighting your own bot.

If you are present at the event but forfeit your preliminary round fight, it will count as a loss in your statistics and rankings. Exception: If you are an individual builder and both of your bots are set to fight each other in the preliminary round, you may forfeit one of them without incurring a loss.

THE SINGLE-ELIMINATION BRACKET

All bots will be placed into the single-elimination bracket according to how they did in the preliminary round.

At this point, the event will run with standard single-elimination brackets. All brackets will have an additional fight between the losers of each semifinal fight to determine third place.

QUALIFICATION FOR THE NHRL WORLD CHAMPIONSHIPS

The top 4 bots of each bracket will qualify for the NHRL World Championships at the end of the year.

If a bot that has already qualified earlier in the year makes it into the top 4 again, the highest-ranked bot (using rankings from before the event started) will qualify.

If there is a tie in the rankings, then the bot that lost to the already-qualified bot will qualify.



Important: You may choose to forfeit a qualification slot. However, you may not gift your slot to another builder.

NHRL FREESTYLE FIGHTS

Freestyle fights are a series of grudge fights run throughout the day that ensure that every builder gets to fight as much as they can.

All bots that participate in the Freestyle fights must pass safety.

Many Freestyle Fights will happen in the Titanium area at NHRL. This area allows for 3lb and 12lb Sportsman fights. Note that we reserve the right to decline a fight to certain 12lb Sportsman bots if we feel they're a hazard to the cage.

MATCH READINESS

All entrants are guaranteed a certain amount of repair time between the end of any given fight and the start of the next fight. The exact amount of time depends on whether you have just finished your preliminary round fight, or if you have won a single-elimination bracket fight.

| Weight class | Preliminary Round | Single-elimination bracket |
|--------------|---------------------|----------------------------|
| 3lb | At least 60 minutes | At least 20 minutes |
| 12lb | At least 60 minutes | At least 25 minutes |
| 30lb | At least 60 minutes | At least 30 minutes |

At the end of your allotted repair time, you MUST check in with Pit watch for a status update. In certain circumstances, additional time may be available to builders before their next match, however, this is ultimately determined by match schedule and queuing time.

Builders who are not prepared for their upcoming match at the end of their 20 minute repair window may be forfeited at the discretion of Pit Watch, Referees or an Event organizer.

Disclaimer: Any builder bringing multiple robots will be expected to manage their repair time effectively. NHRL does not guarantee extra time for builders who bring multiple robots, nor do we guarantee that repair windows will not overlap.

Due to scheduling and bracket structure, we cannot guarantee that any competitor will have the same amount of repair time as their opponent, only that each robot will have at least 20/25/30 minutes of repair time dependent upon their weight class.

MATCH QUEUING, CAGE LOAD-IN, AND UNLOADING

When queuing for, loading and unloading from your match, follow the instruction of event staff. Failure to comply may result in unnecessary scheduling delays, confusion or hazards and may be penalized via the demerit system in extreme cases. If you are unsure what to do or where to go, seek out the proper







personnel for assistance or inquire at the “Pit Watch” desk. For more information on our queueing, load-in and unloading procedures, see our ‘Event Operations’ Manual (coming soon).

EVENT SAFETY

At NHRL, Safety is our #1 priority at all times when it comes to robot combat. While combat may look dangerous and exciting in the cage, we work hard to ensure that that excitement stays in the cage. Our safety rules extend to a variety of processes and locations including but not limited to safety inspection, pit behavior, and match load-in and unloading. Failure to comply with safety rules and procedures may result in a penalty via demerit system at least, all the way up through forfeiture from an event, or a ban period.

At NHRL, we use an escalating system of consequences, known as the Demerit system. Typically one infraction results in one demerit. However, Referees, Pit-watch staff, Safety officials or Event organizers may assign multiple demerits at their discretion depending on the severity of the infraction. Demerits are recorded by team, not by builder or robot. Demerits accrued reset after each event.

-  1st infraction: Yellow Card - Warning
-  2nd infraction: Orange Card - Match forfeit
-  3rd infraction: Red Card - Event forfeit
-  4th infraction: Black Card - Year forfeit

Each infraction recorded is accompanied by a debrief, during which a referee or safety official will discuss the incident and how to improve safety. We understand that accidents happen, especially in high stress environments. If you receive a demerit, don’t panic- it is not a personal slight. We will do everything in our power to ensure a safe environment for all competition attendees, and will work together to correct the safety issues in question.

Demerits may also be given out for unsportsmanlike behavior. At NHRL we strive to create a competitive, comfortable, and fun environment.

SAFETY INSPECTION

At the beginning of every event, robots must pass a safety inspection, during which a safety official will ensure your robot is in compliance with all design and safety rules. Robots that do not pass safety inspection will be unable to compete. **Safety inspection may only be open for a limited period of time**, so be sure to get your robot checked as early as possible. Contact pit watch, safety officials or an event organizer for specifics on inspection availability.



This process includes:

- Robot weigh-in
- Including alternate configurations and spare robots.
- Weapon Lock/Weapon cover checks
- Radio Fail-safe Testing for weapon and drive systems
- Demonstration of general design requirements:
- Active weapon and controlled motion
- Switch/removable link operation
- Any other functional, weight or design requirements specific to the robots design or weapon type (see Robot Design Rules for specifics)

After successful completion of safety inspection, your team captain or robot driver will be given a robot badge to attach to their builder ID. This must be kept with you at all times, as demerit marks are recorded on it.

THE PITS & ROBOT REPAIR

In order to ensure a safe environment for both builders and staff, it is imperative that builders are not only aware of, but fully compliant with our pit safety rules. Just because your bot isn't actively fighting doesn't mean it, or the environment around it, is not hazardous!

Though alcohol is served at NHRL, it is **never** allowed in the pits or workshop, nor is any active competitor or team member allowed to drink. Alcohol and power tools do not mix.

BATTERY CHARGING

- Any time a battery is charging, it must be attended by a builder or team member.
- Any Lithium chemistry battery must be charged using balance leads.
- If a battery catches fire or presents a safety hazard, make the situation as safe as possible and alert NHRL staff immediately.
- Though not required, it is good practice to have a lipo-safe bag and fireproof resistant gloves nearby when charging.

HAND AND POWER TOOLS

Safety glasses and other appropriate PPE must be worn while working with power tools in the pits or machine shop. See a member of pit watch, safety inspection, or workshop staff if you are unsure what qualifies as appropriate PPE.

- **Power tools that produce sparks, dust, or shrapnel** may only be used in the workshop or in the designated "cutting and grinding" area in the pit.
- **Power tools that produce flames or lasers** may only be used in the workshop shop.
- 3D printers are allowed, but may not be left running overnight.



WEAPON LOCKS

A weapon lock is defined as a mechanism or component that will keep your weapon from being dangerous when your robot is not in the ring. Weapon locks are required during loading and unloading into the ring or test boxes. All robots with an active weapon must have a weapon lock. Failure to follow rules will result in a penalty via the demerit system.

When a weapon lock must be used:

- During robot load-in and unloading from a cage or test box.
- Any time your robot is in transit from one location to another.

Anytime your robot is powered on at NHRL, unless otherwise instructed by a referee, cage manager, pit-watch staff, or safety official.

WHAT WORKS WELL AS A WEAPON LOCK:

- A metal pin, plug or stop that prevents any rotating or translating weapon from spinning, ideally painted or marked with a bright color.
- A plastic or foam cover (such as a pool noodle) over sharp edges, forks or lifters.

WHAT ISN'T GREAT AS A WEAPON LOCK:

- Your hand or any other part of your body
- Anything that can easily fall out or be dislodged.
- Tools such as vice-grips, screw drivers, or clamps

Weapon locks should be a dedicated safety measure and not something that can be misplaced, misconstrued or used for another purpose.

TESTING YOUR ROBOT

All robot testing must be done in a test box! The only exception to this rule is 'Wheels-up' testing for robots with a second dedicated switch for their weapon system.

Robots and/or minibots may not be driven on the floor of the pits, around the competition venue, or outside the test box, regardless of their weapon status.



ROBOT HAZARD STATION

The Robot Hazard Station is an extension of our pit safety efforts. It ensures that potentially hazardous processes are done in a controlled and safe environment outside of the pits. The station is conveniently located by the load-in dock, en-route between the pits and cages. It's marked with appropriate signage and is blocked off by black and yellow stanchions. Failure to use the hazard station appropriately may result in a penalty via the safety demerit system.

The Robot Hazard Station is designed and equipped for two purposes:

- Firstly, it provides a designated location for builders of robots with flamethrowers, pneumatics, hydraulics, internal combustion engines, jets, rocket engines, ramset charges or airbags to safely load, fill, pressurize and depressurize their systems. Robots fitting into one of the listed archetypes **MUST** perform tasks here. Certain exceptions may be made depending on the weapon type and materials used.
- Additionally, it serves as designated post-fire robot inspection and clean-up station in the event that a robot is rushed out of the building after a match.

HAZARD STATION RULES

- No more than 3 teams with 2 representatives each may work in the station at a time.
- Use appropriate PPE when working in the station.
- Return all tools to the cart/cabinet.
- Clean any spills or messes created while working.
- Do not charge batteries in the Hazard Station.
- If recovering from a fire, talk to the hazard station attendant for a check-in.

If you have any questions about the Robot Hazard Station, hazardous robot types or best practices, please reach out to **safety@nhrl.io**.

