SPARC Judging Guidelines v1.3

21 September 2025

If an event chooses to use non-standard rules they will make the alterations clear and publicly available prior to the event.

The Judges will be located close enough to the referee/arena marshal that communication will not be hindered by the noise levels typical to a robot combat event.

When a match does not end in the elimination of one of the Combatants as defined by the Match Rules the winner shall be determined by a Judges' Decision. In a Judges' Decision the points awarded to the Combatants by the panel of judges are totaled and the robot with the majority of points is declared the winner.

Judges' decisions are final.

Judging Guidelines:

Two sets of judging criteria are provided to allow individual events to choose which format they would like to use based upon the desired complexity and emphasis of the scoring system. The Damage and Engagement criteria entirely replaces the simplified judging criteria from prior revisions of this document. The “Standard Judging Criteria” has been renamed to the “Damage, Control, and Aggression Criteria” for consistency.

Damage and Engagement Criteria

Damage - 4 Points

Damage is about what is left at the end of the fight. Judges should note pre-existing damage and ignore it when it comes to rating the level of damage at the end of the match. The exception to this is damage that, if ignored, prevents an entry from reaching the maximum achievable damage grade. Typically this will only apply to drive functionality.

- **A Tier**: No damage, cosmetic damage, or minor damage to purely ablative armor
- **B Tier**: Significant damage to purely ablative armor, minor damage to mobility systems that do not noticeably hinder movement, damage to structure or armor that does not significantly hinder function.
- **C Tier**: Damage to the mobility system or weapon system(s) that moderately hinders function, or damage that significantly impairs the function of a robot's structure or armor.
- **D Tier**: Significant impairment of drive or weapon systems
- **E Tier**: Significant impairment of drive and weapon systems

To qualify as “purely ablative” armor an element must be clearly designed to serve the sole purpose of being damaged or destroyed to absorb damage to protect the main structure of the robot.

Significant impairment of the drive is classified as crab walking (appears to be translating via one drive side) or worse. Significant impairment of the weapon is all weapon system elements being rendered non-functional.

For robots that rely on their weapon systems for mobility damage to the weapon system such that it impacts their mobility will be considered damage to both systems.

For robots with independently powered weapons wedges, plows, forks, and other similar elements will be considered part of their structure or armor. For robots without independently powered weapons whichever feature they attack with will be treated as their weapon system.

For multibots the damage level should be averaged between all segments that participated in the match. If the average lands between grades the final grade should be rounded down. (Between C and D would become C)

Damage Scoring

- 2-2: 0-1 grades of separation.
- 3-1: 2 grades of separation.
- 4-0: 3+ grades of separation.

Engagement - 5 points

Engagement is about which robot takes charge of the flow of the match. Robots that score well in engagement will bring the fight to their opponent.

Engagement Examples

Actions that positively contribute to engagement

- Attacking the opponent

		Bot 2				
		A	B	C	D	E
Bot 1	A	2-2	2-2	3-1	4-0	4-0
	B	2-2	2-2	2-2	3-1	4-0
	C	1-3	2-2	2-2	2-2	3-1
	D	0-4	1-3	2-2	2-2	2-2
	E	0-4	0-4	1-3	2-2	2-2

- Pinning the opponent
- Getting the opponent stuck/high centered
- Chasing the opponent
- Inverting the opponent if it significantly impacts their ability to engage with the opponent

Actions that negatively contribute to engagement

- Sitting in one area waiting for the opponent to attack
- Fleeing from the opponent
- Performing anything from the positive contribution section to your own entry instead of your opponent

Actions that are neutral with respect to engagement

- Brief disengagements to prepare/reset/spin up your weapon
- Self righting attempts
- Inversion that does not impact a robots ability to fight
- Missed attacks

For scoring engagement in fights involving multibots you should look at how the entry as a whole influenced the flow of the match.

A robot being slower should not directly impact its engagement score. Focus on what the robot is doing, not how fast it is doing it.

Engagement Scoring

- 3-2
    - This robot spent a slightly larger portion of the match dictating the flow of the fight
    - Throughout the fight this robot consistently maintained a slight edge on directing the flow of the match
- 4-1
    - This robot spent a large portion of the match dictating the flow of the fight
    - This robot consistently maintained a significant edge on directing the flow of the match
- 5-0
    - This robot spent most or all of the match dictating the flow of the fight

Damage, Control, and Aggression Criteria

1.1. Point Scoring System

Points are awarded in 3 categories:

- Aggression - 5 points
- Control - 6 points
- Damage - 6 points

All points must be awarded - each judge will determine how many points to award each Combatant in each category, according to the Judging Guidelines (see below). The maximum possible score a Combatant receives is 17 * (number of judges). Thus, a single judge will award a total of 17 points, and a 3 judge panel will award a total of 51 points.

1.2. Judging Guidelines

1.2.1. Scoring Aggression

Aggression scoring will be based on the relative amount of time each robot spends attacking the other.

Attacks do not have to cause damage to count for aggression points, but a distinction will be made between chasing a fleeing opponent and randomly crashing around the arena.

Points will not be awarded for aggression if a robot is completely uncontrollable or unable to do more than turn in place, even if it is trying to attack.

Sitting still and waiting for your opponent to drive into your weapon does not count for aggression points, even if it is an amazingly destructive weapon. Robot must show translational movement toward their opponent for it to be counted as aggression.

Awarding Aggression Points

- 5-0: a 5-0 score shall be awarded only when one of the robots never attempts to
- attack the other, and the other consistently attacks.
- 4-1: a score of 4-1 shall be awarded in the case of significant dominance of attacks
- by one robot, with the other only attempting to attack a few times during the match.
- 3-2: a 3-2 score shall be awarded when
    - Both robots consistently attack the other.
    - Both robots only attack the other for part of the match.
    - Both robots spend most of the match avoiding each other. In this case it will be up to the judge's discretion to decide which robot made more attempts to attack the other.
    - A Combatant who attacks a full-body spinner (e.g. intentionally drives within the perimeter of the spinning weapon) is automatically considered the aggressor and awarded a 3-2 score in the case where either robots consistently attack, or both robots consistently avoid each other.
    - There can be no ties in aggression. Judges must decide that one robot is more aggressive than the other.
- Note: a Combatant is considered a "full body spinner" if the robot cannot be attacked without moving within the perimeter of the spinning weapon.

1.2.2. Scoring Control

Control scoring will be based on the relative amount of time each robot spends in control of the fight.

The primary means of scoring points in this category involves using elements of the robot or arena against the opponent in a manner that doesn't directly involve the weapon system of the robot causing damage. This would include utilizing any arena hazards to cause damage to the opposing robot.

Examples of control include:

- A grabbing/lifting/wedge robot making guiding contact with the opposing robot and
- delivering them to an arena hazard or hitting them against the combat surface and/or
- arena walls.
- Flipping over the opposing robot.
- Immobilizing or otherwise stalling the opponents weapon.
- A spinning robot being able to get its weapon to full speed.

Awarding Control Points

- 6-0: a 6-0 score shall be awarded only when one robot completely controls the momentum of the match. Examples of this would include: A wedge or ramming robot preventing a spinning weapon from ever reaching full speed, A grabber or crusher consistently grabbing and manipulating its opponent with little to no offense from the opponent, a flipper reliably flipping its opponent without frequent missed flips, and a spinner being able to consistently and repeatedly get its weapon back to speed after hitting the opponent.
- 5-1: a score of 5-1 shall be awarded in the case of significant dominance by one competitor. The competitor receiving 5 points should frequently exhibit the relevant behaviors noted in the control example section with only short periods of the opposing robot gaining the upper hand.

- 4-2: a score of 4-2 shall be awarded in the case of slight dominance by one competitor. The competitor receiving 4 points should exhibit the relevant behaviors noted in the control example section for a clear majority of the match.
- 3-3: a 3-3 score shall be awarded when both robots are either able to demonstrate control for a significant portion of the match or neither robot are able to reasonably demonstrate control during a match.

1.2.3. Scoring Damage

Judges should be knowledgeable about how different materials are damaged. Some materials such as Titanium will send off bright sparks when hit but are still very strong and may be largely undamaged. Other materials such as Aluminum will not send off bright sparks when hit. Judges should not be influenced by things like sparks, but rather how deep or incapacitating a "wound" is.

Judges should be knowledgeable about the different materials used in Bot construction and how damage to these materials can reduce a Bot's functionality. Judges should not to be unduly influenced by highly visual damage that doesn't affect a Combatant's functionality effectiveness or defensibility. For example, a gash in a Combatant's armor may be very visible but only minimally reduce the armor's functionality.

Judges should look for damage that may not be visually striking but affects the functionality of a Combatant. For example:

- A small bend in a lifting arm or spinner weapon may dramatically affect its functionality by preventing it from having its full range of motion
- Bent armor or skirts can prevent the Combatant from resting squarely on the floor, reducing the effectiveness of the drive train
- A wobbly wheel indicates that it is bent and will not get as much traction.
- Cuts or holes through armor may mean there is more damage inside.

Trivial:

- Flip over (or being propelled onto bumper, ramp, or other obstacle) causing no loss of mobility or loss of weapon functionality, except where flipping causes full loss of mobility and robot is unable to show translational movement.
- Direct impacts which do not leave a visible dent or scratch.
- Sparks resulting from strike of opponent's weapon
- Being lifted in the air with no damage and no lasting loss of traction.

Cosmetic:

- Visible scratches to armor.
- Non-penetrating cut or dent or slight bending of armor or exposed frame.
- Removal of non-structural, non-functional cosmetic pieces (dolls, foliage, foam, or "ablative" armor).
- Damage to wheel, spinning blade, or other exposed moving part not resulting in loss of functionality or mobility.

Minor:

- Flip over (or being propelled onto bumper or other obstacle) causing some loss of mobility or control or making it impossible to use a weapon.
- Intermittent smoke not associated with noticeable power drop.
- Penetrating dent or small hole.

- Removal of most or all of a wheel, or saw blade, spike, tooth, or other weapon component, which does not result in a loss of functionality or mobility.
- Slightly warped frame not resulting in loss of mobility or weapon function.

Significant:

- Continuous smoke, or smoke associated with partial loss of power of drive or weapons.
- Torn, ripped, or badly warped armor or large hole punched in armor.
- Damage or removal of wheels resulting in impaired mobility
- Damage to rotary weapon resulting in loss of weapon speed or severe vibration
- Damage to arm, hammer, or other moving part resulting in partial loss of weapon functionality.
- Visibly bent or warped frame/weapon that results in partial impairment to the function of the damaged system.

Major:

- Smoke and visible fire.
- Armor section completely removed exposing interior components.
- Removal of wheels, spinning blade, saw, hammer, or lifting arm, or other major component (including wedges/plows) resulting in total loss of weapon functionality or mobility.
- Frame warping causing partial loss of mobility or complete loss of functionality of weapon system.
- Internal components (batteries, speed controller, radio, motor) broken free from mounts and resting or dragging on the arena floor.
- Significant leak of hydraulic fluid.
- Obvious leaks of pneumatic gases.
- Apparent complete loss of weapon system function.

Massive:

- Armor shell completely torn off frame.
- Major subassemblies torn free from frame.
- Loss of structural integrity - major frame or armor sections dragging or resting on floor.
- Total loss of power.

Post-Match Inspection

Judges may request the combatant's to demonstrate operability of their robot's drive train and/or weapon following the end of the match, before the arena doors are opened.

Judges may inspect the Combatant's robot after a match to determine how best to award damage points. If a judge needs to examine one or both of the Combatants robot's before awarding damage points, he or she will notify the Stage Manager or other designated official immediately after the end of the match. The inspection will be conducted by the entire panel. The judges will not handle the Combatant's robot. The driver or a designated team member will handle the Combatant's robot. A member of the opponent's team will be present during any such inspection.

Awarding Damage Points

Scoring of damage points is based on relative grading of each robot's damage.

- 6-0: a 6-0 score shall be awarded when:
    - One robot suffers nothing more than trivial damage, and the other is at least significantly damaged
    - One robot has suffered major or massive damage and the other is no more than cosmetically damaged.
- 5-1: a 5-1 score shall be awarded when:
    - One robot suffers at least minor damage and the other suffers major or worse damage
    - One robot has suffered cosmetic damage and the other has suffered at least significant damage.
- 4-2: a 4-2 score shall be awarded when:
    - Both robots have suffered nearly the same level of damage but one is slightly more damaged than the other
    - One robot has suffered trivial or cosmetic damage and the other has suffered minor damage
- 3-3: a 3-3 score shall be awarded when:
    - Both robots have suffered the same level of damage, or
    - Neither robot has even cosmetically damaged the other

Damage that is self-inflicted by a robot's own systems and not directly or indirectly caused by contact with the other robot or an active arena hazard will not be counted against that robot for scoring purposes.