

V1.2.0

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The M5003 Assembly Kit includes several
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The 25th China University Robot Competition

ROBOMASTER 2026

University League

Rule Manual

Prepared by RoboMaster Organizing Committee

Released in January, 2026

Intellectual Property Statement

The RoboMaster Organizing Committee (RMOC) encourages and promotes technical innovation and open-source technology and respects the intellectual property rights of participating teams. All rights related to the intellectual property developed during the competition are owned by individual teams. The RMOC will not participate in the handling of intellectual property disputes within the team. The participating teams must properly handle all aspects of intellectual property rights among internal school members, company members, and other members of the team.

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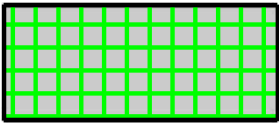
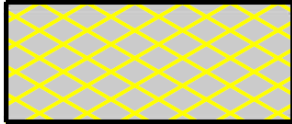
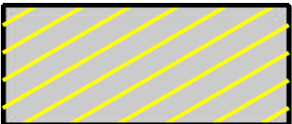
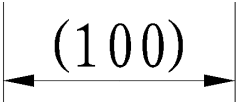
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For suggestions regarding open-source materials, please refer to: <https://bbs.robomaster.com/article/4820?source=1>.

Using this Manual

The RoboMaster competition is a robotics event aimed at cultivating youth engineers. Documents related to the competition may contain sensitive terms, names, operations, and technical content. These do not reflect any existing technologies or actions in reality, nor do they intend to involve any specific country, organization, or individual. This manual is intended solely to explain the rules of the RoboMaster competition and must not be used for any other purposes. It should not be interpreted as being associated with any real events or entities.

Legend for Battlefield Drawings

		
Buff point for both sides	Buff point for one side	Penalty zone for both sides
		
One side penalty zone	The plane on which the battlefield is located is its lowest plane	Dimensions are for reference only

Release Notes

Date	Version	Revisions
January 13, 2026	V1.2.0	1. Fixed several known errors. 2. Added parameters and precautions regarding the Tech Core and Energy Unit. 3. Updated drawings related to the Tech Core. 4. Revised the penalties in R32 regarding non-compliant installation of the Referee System On-board Module.
December 9, 2025	V1.1.0	1. Corrected several known errors. 2. Revised the definition of Pit Crew and the scope of Operators. 3. Revised the dimensions of the Elevated Ground in the 3v3 competition. 4. Revised the drawings and mechanisms related to the Engineer Challenge. 5. Supplemented the pre-match procedure descriptions. 6. Supplemented penalties related to energy units. 7. Supplemented penalties related to Captain's responsibilities.
October 21, 2025	V1.0.0	First release

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1. Foreword

1.1 About the Competition

RoboMaster University League (RMUL), under China University Robot Competition, is organized by local academic institutions and universities, and engages nearby universities. The aim is to promote robotic technology exchanges among regional universities, foster a strong academic atmosphere, and boost regional technology innovation.

RMUL is dedicated to cultivate excellent youth engineers. Participating team members are encouraged to put what they have learned into practice and achieve continued growth during the process.

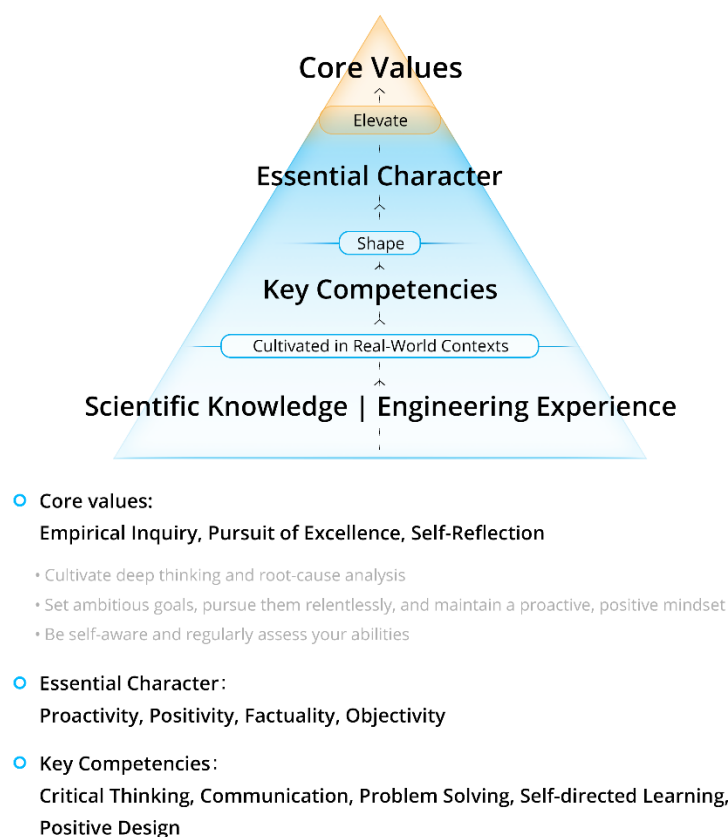


Figure 1-1 Talent Development Philosophy

The RMUL 2026 comprises three formats: 3V3 Match, Infantry Match, and Engineer Challenge.

- For 3V3 Match, both teams must independently develop their own Hero, Infantry, and Sentry Robots, and conduct tactical combat on the Battlefield by controlling the robots to launch projectiles against the opponent's robots. At the end of the match, the winner will be the team with overwhelming advantage.
- For Infantry Match, both teams must independently develop their own Infantry, and engage in 1V1 battles on the Battlefield by controlling their robots to launch projectiles. The winner at the end of the Match will be the

team with the higher Infantry remaining HP.

- For Engineer Challenge, each team must independently develop an Engineer Robot to assemble Energy Units within the designated area. Teams will be scored and ranked based on assembly difficulty and speed.

1.2 About the Competition Rule Documents

The competition rule documents include the Rule Manual, Participant Manual, Robot Specification Manual, Communication Protocol, and supplements to these documents. The competition rule documents are applicable to all participating teams, referees, competition staff, and other partners.

The RMOC reserves the right to update the competition rule documents outside of the competition period as necessary.

The RMOC reserves the right of final interpretation over the competition rule documents. During the event, only the Chief Referee can answer queries on the competition rule documents on behalf of the RMOC. Any questions related to the competition rule documents may only be directed to the Chief Referee for consultation.

For more reference materials on RMU, please refer to the “[Rules/Resource Hub](#),” a site built and maintained by the RMOC that provides all the official materials required for participation, enabling teams to access information more efficiently. Materials on this site include:



- Rulebooks: rule manual, robot specification manual, participant manual, communication protocol
- Event Products: Referee System (including on-board modules and the RoboMaster Champion), robot kits & accessories, RM Assistant product details, downloads, purchase & after-sales policies
- Technical Assessment: assessment criteria, instructions for each stage
- Event Promotion Kit: promotional material package
- Event Sponsorship Guide: sponsorship guidelines
- Learning Labs: participation guide, course salon, open-source materials

1.3 Q&A

Any participating team or other relevant personnel who have questions about the competition rule documents may submit them through our official channel. The RMOC will reply to them through the following Q&A process.

1. To submit questions about the competition rule documents, please complete a questionnaire available at:
<https://qingflow.com/f/c5rf6rkkbs02>
2. The RMOC will respond at:

<https://qingflow.com/appView/c5rf6rkkbs02/shareView/c5rf6slgbs02>

Notes about timeliness:

- Questions submitted during the Competition Period will be answered by the RMOC within one calendar day.
 - Questions submitted during the Preparation Period will be answered by the RMOC within five business days.
-

- Competition Period: From the check-in day of the event until the end of the final competition day.



- Preparation Period: Any time outside of the competition period.

Note: The Preparation Period and Competition Period are calculated separately for different events and stages.

The Rules Q&A is considered as authoritative as the competition rule documents. In the case of any discrepancy between the Q&A and the competition rule documents, the latest document shall prevail. The Q&A for a given season applies only to that season.

2. Key Terms

In this chapter, we will provide a list of commonly used terms in the competition rules. For details on each term, please refer to the relevant chapter using associated keywords.

Table 2-1 Overview of Key Terms

Term	Definition
Robot	
A Robot's Main States	● Alive: The Referee System Main Control Module is normally connected to the Referee System server and the robot's HP is not zero. ● Defeated: The robot's HP drops to zero. (Reasons include: Armor Module suffering damage from attacks or collision, Referee System On-board Module disconnection, and robot ejection.) ➢ Ejected: A robot is issued a Red Card. ➢ Temporarily Activated: A robot's chassis and gimbal is powered on temporarily after it has been defeated or ejected. The Launching Mechanism of the robot is powered off in this period. ● Abnormal Disconnection: The Referee System Main Control Module is disconnected from the Referee System server during the competition, due to a power outage on the robot or other reasons. Note: After a robot is defeated, the Referee System will cut off the power supply to the robot (except for the Mini PC).
Referee System	It is an electronic penalty system integrating computation, communication, and control features. It includes the On-board modules, as well as the RoboMaster Champion (Server, Referee's Client, Player's Client) installed on the PC. It can monitor robots' power, projectile launches, and damage, and automatically determine the outcome according to competition rules.
Inter-robot Communication	It is an interactive method for robots to communicate with one another through the Referee System Serial Port.
Robot Chassis	It is a mechanism that carries the robot propulsion system and its accessories; a mechanism that supports the body of a robot.

Term	Definition
Chassis Power	The power of the system that enables robots to move horizontally and rotate; for details, please refer to the definition of Chassis Power in the “Referee System Mounting Specifications” section of the RoboMaster 2026 University Series Robot Specification Manual .
Launching Mechanism	It is a mechanism capable of launching a projectile from a robot on a fixed trajectory and at a certain initial speed.
Locking of the Launching Mechanism	A locked Launching Mechanism is powered off.
Unlocking of the Launching Mechanism	If the Launching Mechanism is unlocked, it will be powered on or off depending on its Projectile Allowance.
Launch	A robot’s action of firing projectiles. “Launch” mentioned in the following “Competition Mechanism” section is considered valid when a launch action is detected by the Referee System.
Initial Launching Speed	The velocity detected by the relevant modules of the Referee System after a projectile has completed its acceleration.
Barrel Heat	Barrel heat accumulates as a robot launches projectiles. It is used to limit continuous projectile firing.
Projectile Allowance	The quantity of projectiles each robot is allowed to launch currently.
Initial HP	The HP value set by the Referee System for a robot at the start of the competition.
Current HP	A robot’s real-time HP.
Maximum HP	The maximum value to which a robot’s HP can be restored.
Invincible	A state in which a robot is immune to a projectile attack or impact.
Attack	A robot’s behaviour in launching projectiles.
Destroy	Where a robot attacks the Armor Module of the opponent’s robot until the latter’s HP drops to zero.

Term	Definition
Occupy	It refers to a situation where an alive robot has reached a Buff Point, its RFID Interaction Module has detected the RFID Interaction Card in the area or has met other conditions, and it has obtained certain special effects.
Entanglement	Mechanisms of robots are entangled with one another during the competition, i.e., one robot remains connected to the other robot and is pulled with said robot whichever direction it moves.
Collision	An active act of collision by a robot during the competition.
Battlefield	
Buff Point	A zone that, once occupied by a robot during the competition, will generate a special effect.
Penalty Zone	An area into which a robot's entry is forbidden.
Battlefield Component	Composite elements of the Battlefield.
Personnel	
Arbitration Commission	A body consisting of the Chief Referee and other members of the RMOC, responsible for handling appeals.
Referee	Personnel responsible for maintaining the order of the competition and enforcing its rules.
Chief Referee	The person with the final right of interpretation over the competition rule documents during the competition.
Head Referee	The lead referee responsible for maintaining the order of the competition and enforcing its rules.
Head Inspector	The referee responsible for leading and assigning pre-match inspection tasks, with the final right of interpretation over the inspection standards.
Participants	Individuals who have registered and been recorded in the registration system for the current competition season.
Participating Teams	The teams that have registered and been recorded in the registration system for the current competition season.
Pit Crew	Regular Member, Reserve Member, Team Advisor, and Supervisor who have registered for this Season and have been entered into the registration system, can enter the Staging Area and Competition Area.

Term	Definition
	Note: Member role assignments vary between event categories; please refer to the “ RoboMaster 2026 University League Rule Manual ” for details.
Operator	The Pit Crew members responsible for controlling robots during the competition.
Offending Team	A participating team that violates the competition rules.
Offender	Participants that violate the competition rules.
Competition Process	
Round	A complete competition that includes the Setup Period, the Referee System Initialization Period, a Five-Second Countdown Period, and the competition round.
Match	Depending on the Competition System, a match may contain several rounds.
Official Technical Timeout	A Technical Timeout initiated by the Head Referee during the Setup Period or Referee System Initialization Period.
Team Technical Timeout	A Technical Timeout requested by a Participating Team during the Setup Period.
Regular Battle Damage	During a Setup Period between rounds or during a round of a match, a Referee System On-board Module experiences a fault.
Victory Determination	
Attack Damage	The HP a robot loses when the robot is hit by projectiles. Note: HP Loss caused by the imposition of penalty for the violation of one side’s robot is included in the opponent’s Attack Damage.
Non-attack Damage	HP lost as a result of collision on an Armor Module or Referee System On-board Module disconnection.
Total Remaining HP	The total remaining HP of one’s alive robots at the end of each round.

3. 3V3 Match

During a five-minute round, both teams control their robots to engage in tactical combat in the core competition area: the Battlefield. The team that gains greater control over the Battlefield can cause their opponent to lose Victory Points. The team that reduces the Opponent's Victory Points to zero first wins.

3.1 Robot and Operator

RoboMaster requires robots to fight together as a team with good coordination and teamwork. For the robot specifications, please refer to the [RoboMaster 2026 University Series Robot Specification Manual](#).

The roster of Robots and Operators is as follows:

Table 3-1 Robot and Operator Roster for 3V3 Match

Robot Type	No.	Quantity (set)	Operator Roster
Hero	1	1	1 Operator/Robot
Infantry	3	1	1 Operator/Robot
Sentry	7	1	0 Operator/Robot



- The minimum roster for the first round of each match is two robots.
- Operators may only be Pit Crew from the team's current delegation, excluding Supervisors.
- After each round, teams may substitute the operator with another Pit Crew member present at the venue, excluding Supervisors.

3.1.1 Hero

Hero is the only robots that can launch 42 mm projectiles on the Battlefield.

Table 3-2 Key Features of Hero

Key Feature	Description
Initial Zone	Starting Zone
Operating Mode	No restrictions. Up to one remote controller and one custom controller.
Inter-robot Communication	Allowed
Launching Mechanism	One Launching Mechanism (42 mm projectile)
Performance	● Initial HP/Maximum HP: 350 ● Chassis Power Limit: 100 W ● Initial Launching Speed Limit: 12 m/s ● Barrel Heat Limit: 200 ● Barrel Heat Cooling Rate: 24/second
HP Loss and Penalty for Exceeding Limit	● Exceeding the Initial Launching Speed Limit: applicable ● Exceeding Barrel Heat Limit and Cooling: applicable ● Exceeding Chassis Power Consumption Limit: applicable ● Attack Damage or Collision: applicable ● Referee System On-board Module Disconnection: applicable ● Penalty Damage: applicable See details in “3.3.1 HP Loss and Penalty for Exceeding Limit”.
HP Recovery and Respawn Mechanism	● HP Recovery Method: Occupy the Resupply Zone for HP Recovery ● Respawn Method: Progressive Respawn See details in “3.3.2 HP Recovery and Respawn Mechanism”.
Projectile Loading and Reloading	During the Three-Minute Setup Period, 42 mm projectiles can be preloaded. The Initial Projectile Allowance is 0.

Key Feature	Description
Buff Point Occupation	● Buff Point in the Control Zone (see “3.3.4 Control Zone and Victory Point Mechanism“) ● Buff Point in the Resupply Zone (see “3.3.2 HP Recovery and Respawn Mechanism“)

3.1.2 Infantry

Infantry can launch 17 mm projectiles.

Table 3-3 Key Features of Infantry

Key Feature	Description
Initial Zone	Starting Zone
Operating Mode	No restrictions. Up to one remote controller and one custom controller.
Inter-robot Communication	Allowed
Launching Mechanism	One Launching Mechanism (17 mm projectile)
Initial Launching Speed Limit (m/s)	25
Performance	After the beginning of the Setup Period, the operator of the Infantry can choose a Chassis Type (HP-focused or Power-focused) and a Launching Mechanism Type (Burst-focused or Cooling-focused). Once the round has begun, the robots' chassis and launching mechanism types, once selected, cannot be changed during the entire round. If the chassis or launching mechanism types are not selected, after the start of the round, the chassis type will be automatically set to “HP-focused”, and the launching mechanism type will be automatically set to “Cooling-focused”. Chassis Type ● Power-focused: ➤ Initial HP/Maximum HP: 300 ➤ Chassis Power Limit: 90 W ● HP-focused: ➤ Initial HP/Maximum HP: 350

Key Feature	Description
	➤ Chassis Power Limit: 75 W Launching Mechanism Type ● Burst-focused: ➤ Barrel Heat Limit: 230 ➤ Barrel Heat Cooling Rate: 14/second ● Cooling-focused: ➤ Barrel Heat Limit: 88 ➤ Barrel Heat Cooling Rate: 24/second
HP Loss and Penalty for Exceeding Limit	● Exceeding the Initial Launching Speed Limit: applicable ● Exceeding Barrel Heat Limit and Cooling: applicable ● Exceeding Chassis Power Consumption Limit: applicable ● Attack Damage or Collision: applicable ● Referee System On-board Module Disconnection: applicable ● Penalty Damage: applicable See details in “3.3.1 HP Loss and Penalty for Exceeding Limit”.
HP Recovery and Respawn Mechanism	● HP Recovery Method: Occupy the Resupply Zone for HP Recovery ● Respawn Method: Progressive Respawn See details in “3.3.2 HP Recovery and Respawn Mechanism”.
Projectile Loading and Reloading	During the Three-Minute Setup Period, 17 mm projectiles can be preloaded. The Initial Projectile Allowance is 0.
Buff Point Occupation	● Buff Point in the Control Zone (see “3.3.4 Control Zone and Victory Point Mechanism”) ● Buff Point in the Resupply Zone (see “3.3.2 HP Recovery and Respawn Mechanism”)

3.1.3 Sentry

Sentry must operate fully automatically and can launch 17 mm projectiles.

Table 3-4 Key Features of Sentry Robots

Key Feature	Description
Initial Zone	Starting Zone
Operating Mode	Autonomous, up to one remote controller for commissioning
Inter-robot Communication	Not allowed
Launching Mechanism	One Launching Mechanism (17 mm projectile)
Initial Launching Speed Limit (m/s)	25
Performance	● Initial HP/Maximum HP: 400 ● Chassis Power Limit: 100 W ● Barrel Heat Limit: 260 ● Barrel Heat Cooling Rate: 30/second
HP Loss and Penalty for Exceeding Limit	● Exceeding the Initial Launching Speed Limit: applicable ● Exceeding Barrel Heat Limit and Cooling: applicable ● Exceeding Chassis Power Consumption Limit: applicable ● Attack Damage or Collision: applicable ● Referee System On-board Module Disconnection: applicable ● Penalty Damage: applicable See details in “3.3.1 HP Loss and Penalty for Exceeding Limit”.
HP Recovery and Respawn Mechanism	● HP Recovery Method: Occupy the Resupply Zone for HP Recovery ● Respawn Method: Progressive Respawn See details in “3.3.2 HP Recovery and Respawn Mechanism”.
Projectile Loading and Reloading	● During the Three-Minute Setup Period, 17 mm projectiles can be preloaded. ● During the Five-Minute Round, the Initial Projectile Allowance is 750 and cannot be increased during the match.

Key Feature	Description
Buff Point Occupation	● Buff Point in the Control Zone (see “3.3.4 Control Zone and Victory Point Mechanism”) ● Buff Point in the Resupply Zone (see “3.3.2 HP Recovery and Respawn Mechanism”)

3.2 Competition Area

3.2.1 Battlefield Overview



- Unless otherwise specified, all dimensional tolerances described in this document are within $\pm 10\%$, Battlefield structure angular tolerances are within $\pm 3^\circ$, Battlefield Component angular tolerances are within $\pm 1^\circ$, and dimensional errors for structures smaller than 100 mm are within ± 5 mm. All dimensional parameters in Battlefield Instruction drawings are indicated in mm. To ensure the stability and safety of the battlefield, adjustments may be made to specific dimensions and workmanship during actual construction. For battlefield elements or dimensions not explicitly specified in the drawings, please refer to the actual battlefield.
- The Battlefield has a centrally symmetrical layout. All descriptions and illustrations of Battlefield modules in this text will be based on the Red Team, with the same applying to the Blue Team. The Battlefield has a complex environment that may feature non-uniform magnetic fields, air conditioner winds, and other environmental conditions that are not fully symmetrical.

The core competition area of the 3V3 Match is called the Battlefield. The Battlefield is 12 m x 8 m (L x W) in size. The interior features a wooden structure with a 3 mm PVC flooring surface, and certain areas are reinforced with a metal protective layer. There are Resupply Zones and Control Zones within the area.

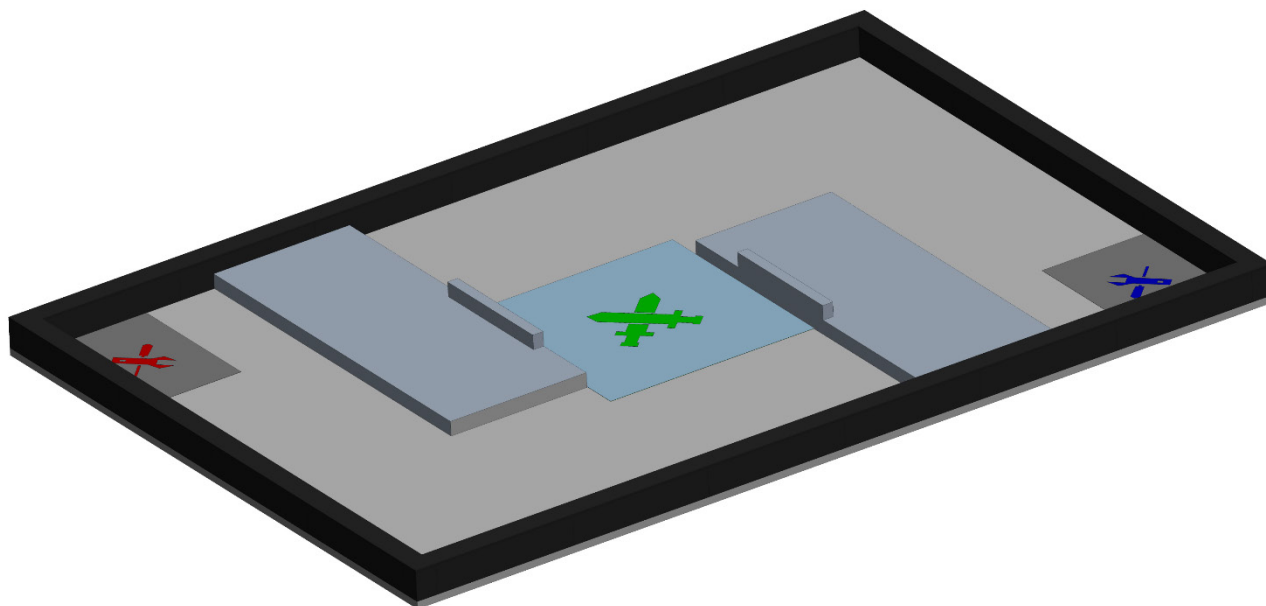
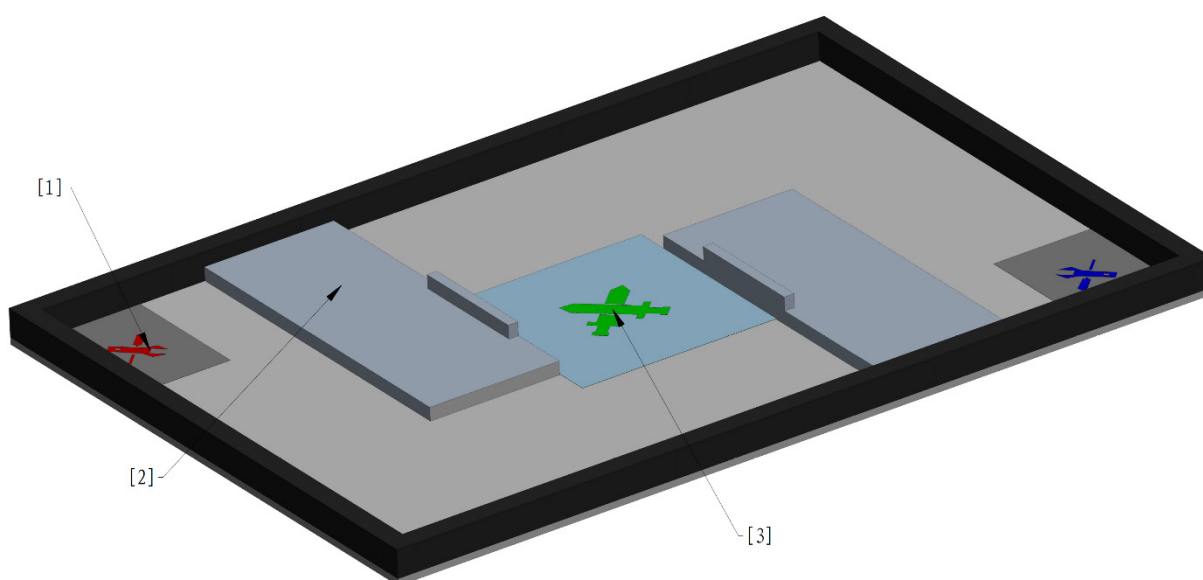


Figure 3-1 Axonometric View of 3V3 Match Battlefield



[1] Resupply Zone [2] Elevated Zone [3] Control Zone

Figure 3-2 3V3 Match Battlefield Modules

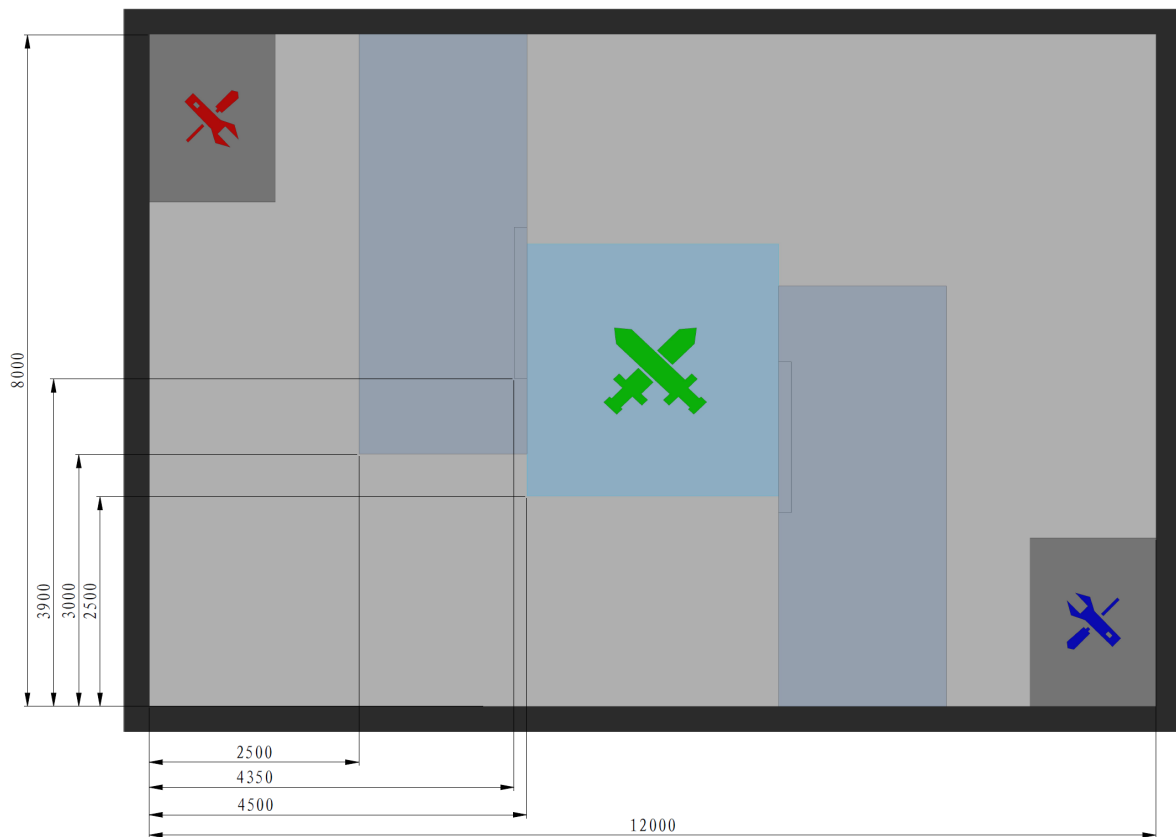


Figure 3-3 3V3 Match Battlefield Dimensions

3.2.2 Starting Zone and Resupply Zone

The Starting Zone is where robots are placed before a match. The Starting Zone is also used as the Resupply Zone, an important area for projectile allowance exchange and robot HP recovery, and is overlaid with RFID Interaction Cards.

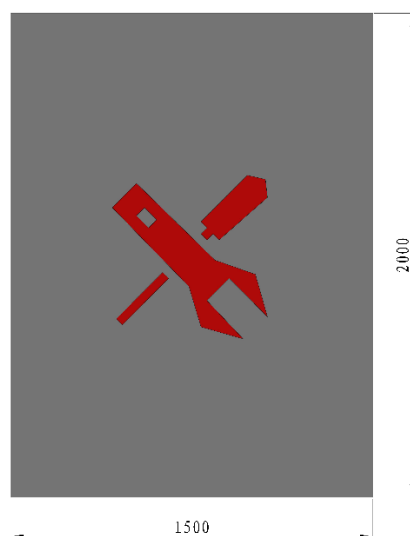


Figure 3-4 Starting Zone and Resupply Zone

One team's Resupply Zone is considered the Resupply Penalty Zone for the Opponent's robots.

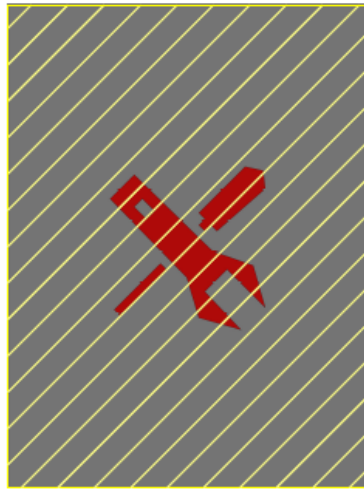


Figure 3-5 Starting Zone and Resupply Penalty Zone

3.2.3 Elevated Zone

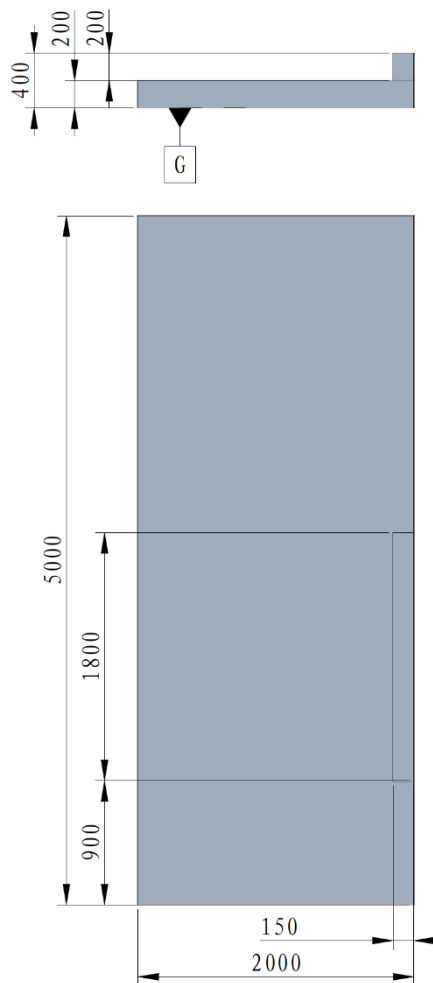
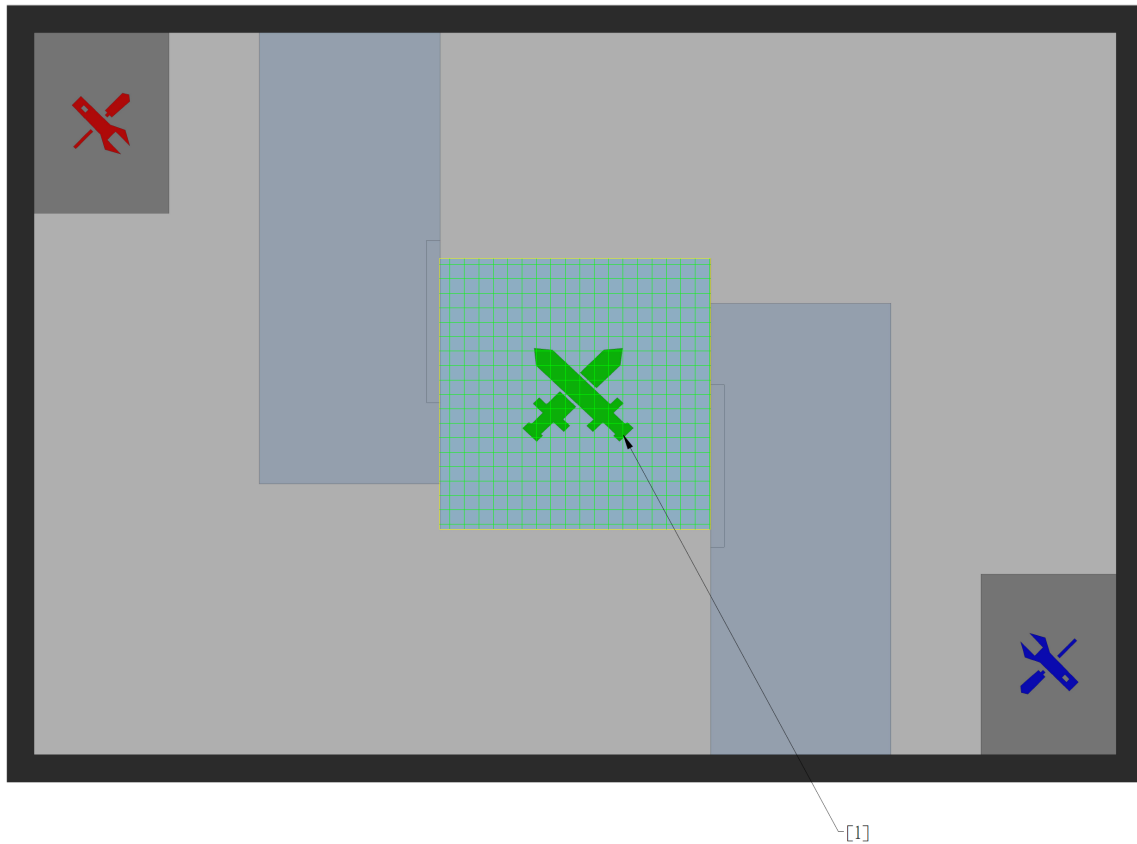


Figure 3-6 Elevated Zone

3.2.4 Control Zone

The Control Zone is located at the center of the Battlefield and is overlaid with RFID Interaction Cards.



[1] Control Zone

Figure 3-7 Control Zone

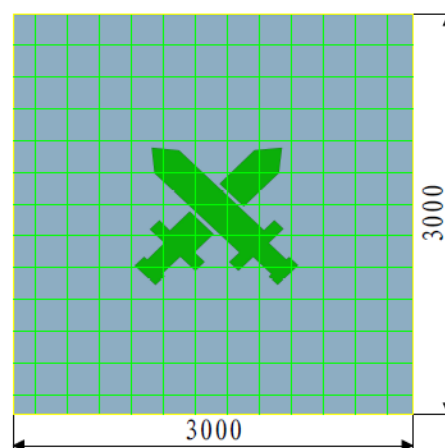
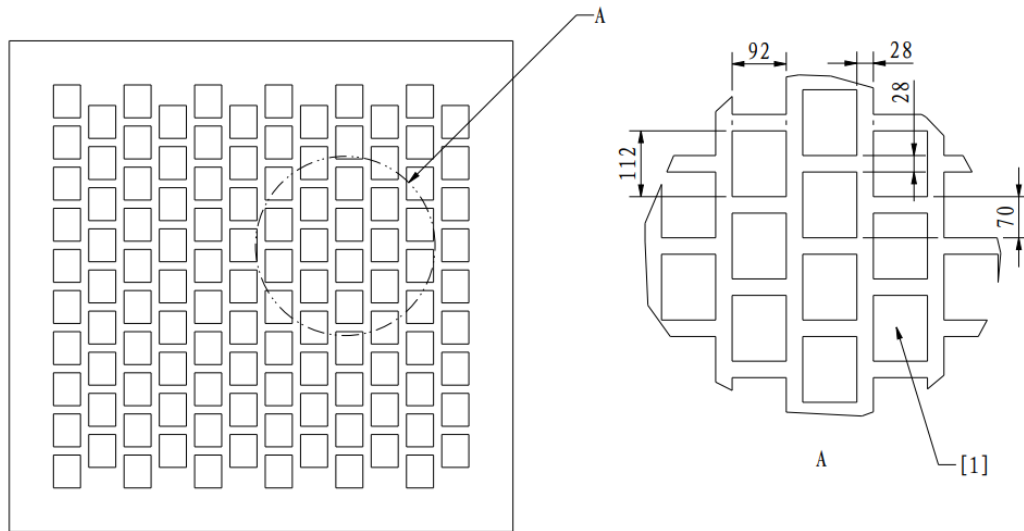


Figure 3-8 Control Zone Dimensions



[1] Locations where RFID Interaction Cards are lodged

Figure 3-9 Layout of RFID Interaction Cards



- There may be deadbands for the RFID Interaction Cards in the Control Zone and the Resupply Zone. The teams have to adjust on their own.
- An additional layer of PVC flooring surface will be installed above the existing PVC flooring surface in the Control Zone and Resupply Zone, specifically on top of the RFID Interaction Cards.

3.2.5 Miscellaneous

3.2.5.1 Projectiles

Robots deal damage by firing projectiles to attack Armor Modules. The parameters and scenarios of use for projectiles in the competition are as follows:

Table 3-5 Projectile Parameters and Scenarios of Use

Type	Appearance	Color	Dimensions	Weight	Shore Hardness	Material	Scenarios of Use
42 mm projectile	Similar to a golf ball	White	42.5 mm ± 0.5 mm	41 g ± 1 g	90 A	Plastic (TPE)	3V3 Match
17 mm projectile	Sphere	Yellow -green	16.8 mm ± 0.2 mm	3.2 g ± 0.1 g	90 A	Plastic (TPU)	3V3 Match and Infantry Match

3.2.5.2 Operation Room

The Operation Room is equipped with the required number of computers, and each computer comes with its own display, mouse, keyboard, Video Transmitter Module (Receiver) and its mounting bracket, three USB Type-A

receptacle ports, one RS232 plug port, and other official equipment.

3.3 Competition Mechanism

3.3.1 HP Loss and Penalty for Exceeding Limit

3.3.1.1 Attack Damage or Collision

Hero, Infantry, and Sentry Robots may lose HP when their Armor Modules are attacked or collide with other objects. The mechanism is as follows.

An Armor Module can detect projectile attacks. The shortest detection interval for an Armor Module is 50 ms (when an Armor Module is hit with a 42 mm projectile, the detection interval can be extended to a maximum of 200 ms).

The projectile needs to come into contact with the impact surface of the Armor Module at a certain speed in order to be successfully detected. The speed ranges in which Armor Modules can effectively detect different types of projectiles are as follows:

Table 3-6 Speed Ranges of Different Types of Projectiles for Effective Detection by Armor Modules

Armor Module	17 mm Projectile	42 mm Projectile
Large Armor Module, Small Armor Module	Higher than 12 m/s	Higher than 10 m/s



- In an actual match, the normal speed of a projectile that touches the Armor Module attack surface is different from its Projectile Speed due to the projectile's speed decay and its incident angle not being normal to the Armor Module attack surface. Damage detection is based on the normal component of the projectile's speed upon contact with the Armor Module attack surface.
- If a Hero does not launch a 42 mm projectile for four consecutive seconds, the Armor Modules of the opponent's robots will become immune to 42 mm projectile damage until the Hero launches a 42 mm projectile again.
- The Referee System will round off the HP loss to the nearest integer when calculating the HP.

The Armor Modules of a robot can probably register collision as projectile damage. However, causing damage through collision (including ramming with robots or throwing objects) is not allowed.

Without buffs, the original damage shall be as follows:

Table 3-7 Attack Damage and HP Loss Mechanism

Damage Type Target	42 mm projectile	17 mm projectile	Collision
Robot Armor Module	200	20	2

3.3.1.2 Exceeding the Initial Launching Speed Limit

The Launching Mechanisms of Hero, Infantry, and Sentry will be locked for a certain duration if the robots exceed the Initial Launching Speed Limit. The duration does not accumulate.

Locks and unlocks due to exceeding the Initial Launching Speed Limit are independent from locks and unlocks caused by other reasons. Assume the Initial Launching Speed Limit is V_0 (m/s), and the actual speed detected by the Referee System is V_1 (m/s). The specific lock durations are shown in the table below.

Table 3-8 Penalty Mechanism for Exceeding the Initial Launching Speed Limit

17 mm Projectile	42 mm Projectile	Lock Duration
$0 < V_1 - V_0 < 5$	$V_0 < V_1 \leq 1.1 * V_0$	15 seconds
$5 \leq V_1 - V_0 < 10$	$1.1 * V_0 < V_1 \leq 1.2 * V_0$	20 seconds
$10 \leq V_1 - V_0$	$1.2 * V_0 < V_1$	The remainder of the current round

3.3.1.3 Exceeding Barrel Heat Limit and Cooling

The Launching Mechanisms of Hero, Infantry, and Sentry will be locked when the robots exceed the Barrel Heat Limits. Locks and unlocks due to exceeding the Barrel Heat Limits are independent from locks and unlocks caused by other reasons. The calculations are performed as follows:

Set Q_0 as the Barrel Heat Limit and Q_1 as the current Barrel Heat. For each 17 mm projectile detected by the Referee System, the current Barrel Heat Q_1 is increased by 10 (regardless of the 17 mm projectile's initial speed). For each 42 mm projectile detected, the current Barrel Heat Q_1 is increased by 100 (regardless of the 42 mm projectile's initial speed). The Barrel Heat cools at a frequency of 10 Hz. The cooling value per detection cycle is equal to the cooling rate/10.

When $Q_2 > Q_1 > Q_0$, the First-Person-View (FPV) visibility of the robot operator's computer will be reduced, and the Launching Mechanism of the robot will be locked. These restrictions will remain in place until $Q_1 = 0$.

When $Q_1 > Q_2$, the Launching Mechanism of the robot will be locked for the remainder of the current round.

For the 17 mm Launching Mechanism, $Q_2 = Q_0 + 100$.

For the 42 mm Launching Mechanism, $Q_2=Q_0+200$.

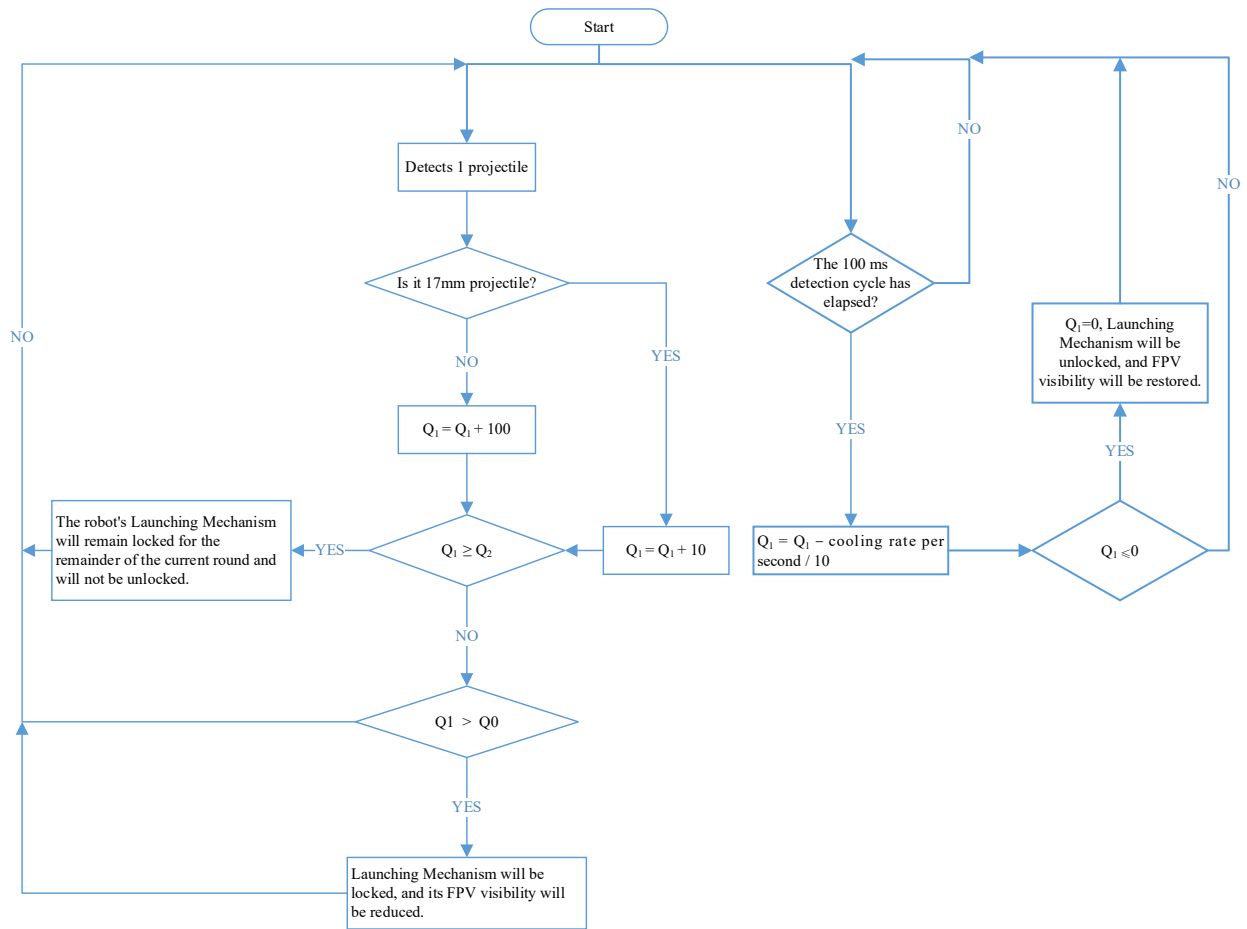


Figure 3-10 Barrel Overheat and Cooling Mechanism

3.3.1.4 Exceeding Chassis Power Consumption Limit

The chassis power of robots will be continuously monitored by the Referee System, and the robot chassis needs to run within the Chassis Power Limit. Hero, Infantry, and Sentry will have their buffer energy deducted when they exceed the Chassis Power Consumption Limit. Upon the exhaustion of buffer energy, if the chassis power is still above the limit, the chassis will be powered off for 5 seconds. The Referee System calculates chassis power consumption at a frequency of 10 Hz.

Set Z as the buffer energy, Q as the Buffer Energy Limit (60 J), P_r as the instantaneous chassis output power, and P_l as the power limit.

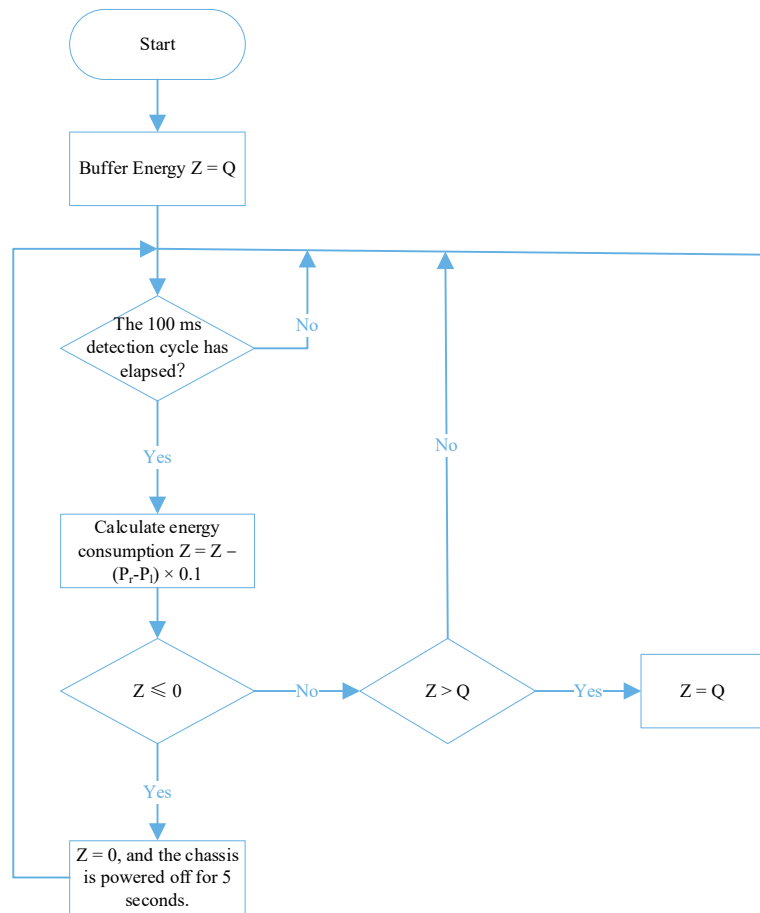


Figure 3-11 Robot Chassis Power Detection and Penalty for Exceeding Limit

3.3.1.5 Referee System On-board Module Disconnection

Participating teams must mount the corresponding Referee System On-board Module on their robots in accordance with the requirements of the [RoboMaster 2026 University Series Robot Specification Manual](#), and ensure stable connection between each module of the Referee System and the server throughout the competition. The Referee System server detects the connectivity of each module at a frequency of 2 Hz.

3.3.1.5.1 Abnormal Disconnection

If the Main Control Module of the robots becomes disconnected during the match and enters the “Abnormal Disconnection” state, it can reconnect to the competition.

Table 3-9 Penalty Mechanism for Robots in Abnormal Disconnection Status

Robot Type	Consequences of Abnormal Disconnection
Hero, Infantry, and Sentry	● The Launching Mechanism, Gimbal, and Chassis are powered off, and 5% of the Maximum HP is dealt for each second elapsed until it drops to zero. ● The RFID Interaction Module is disabled. ● The robot no longer detects any damage caused by collision and projectile hits and any HP Loss. ● The respawn process stops. ● The inter-robot communication disconnects.

3.3.1.5.2 Armour Module or Super-capacitor Management Module Disconnection

If the design or structural issues of a Hero, Infantry or Sentry cause the disconnection of its Armor Module or Supercapacitor Management Module, the robot will lose HP.

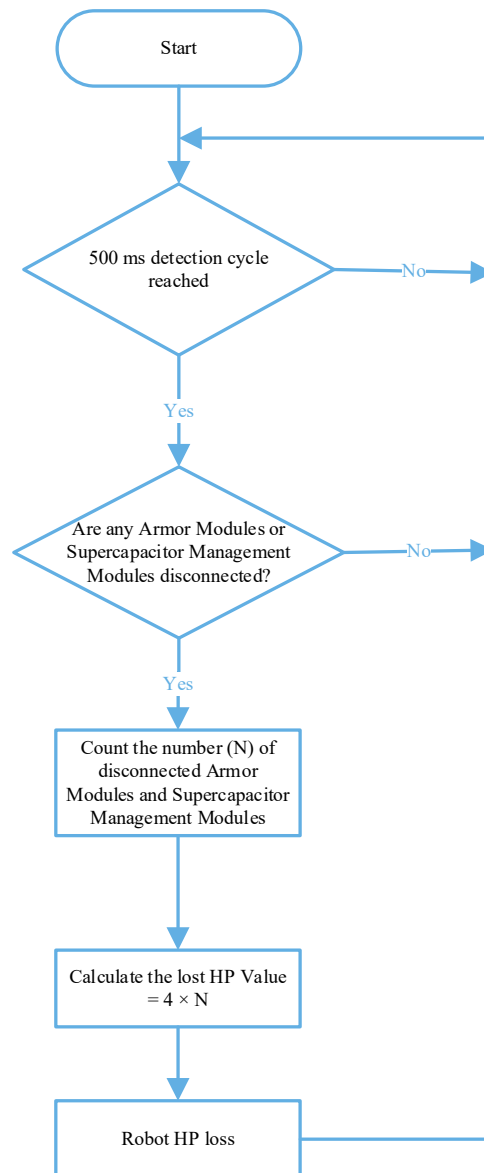


Figure 3-12 HP Loss Mechanism for Armor Module and Supercapacitor Management Module Disconnection

3.3.1.5.3 Speed Monitor Module Disconnection

If a Speed Monitor Module (17 mm or 42 mm projectile) mounted on a Hero, Infantry, or Sentry goes disconnected, the robot's Launching Mechanism (17 mm or 42 mm projectile) will be powered off immediately.

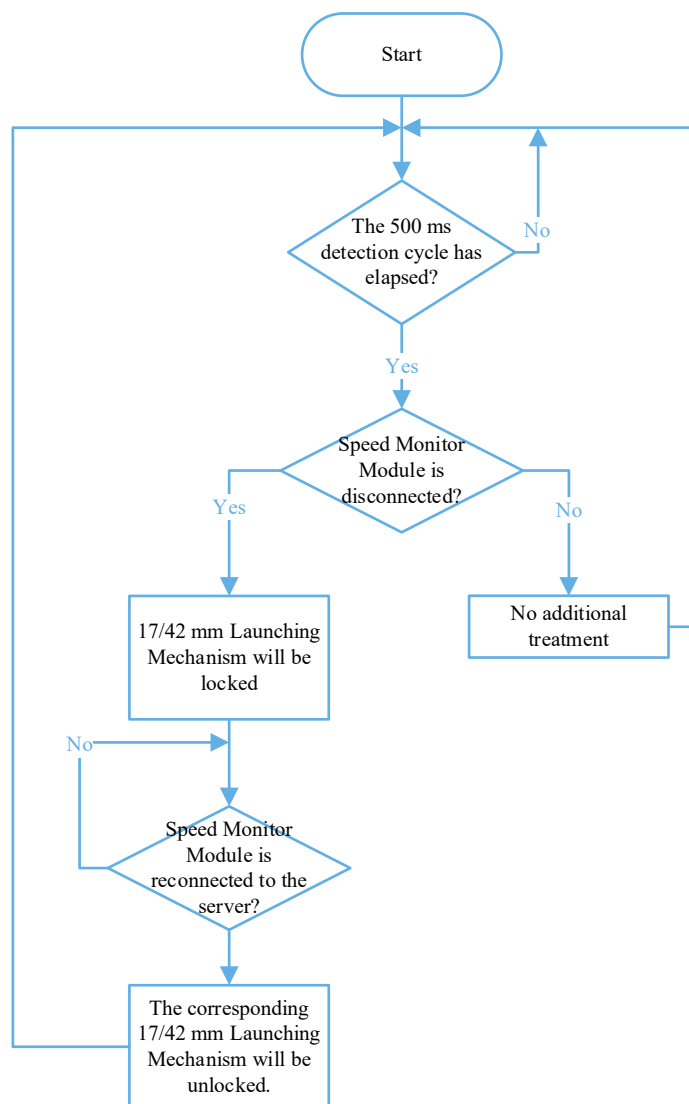


Figure 3-13 Power-off Mechanism for Speed Monitor Module Disconnection

3.3.1.6 Penalty Damage

When a Hero, Infantry, or Sentry receives penalties such as a Yellow Card or Red Card, the robot may lose HP. For details, refer to “7.1 Penalty System”.

3.3.2 HP Recovery and Respawn Mechanism

Except when in an Abnormal Disconnection state or after being ejected, Ground Robots can recover their HP and respawn.

3.3.2.1 HP Recovery Mechanism

When occupying their side's Resupply Zone, the Hero, Infantry, and Sentry may restore up to 25% of maximum HP per second.

3.3.2.2 Respawn Mechanism

When a robot is defeated, its Barrel Heat will be reset to 0, and Buffer Energy will be reset to its upper limit. Defeated ground robots must complete the respawn timer in order to be automatically respawned. While robots are automatically respawned, the respawn time progresses 1 point per second. The respawn timer for a robot after its first defeat is 5. That value increases by 5 each time after the same robot is defeated again.

After a robot respawns, its HP will be restored to 20% of its maximum, it became temporarily invincible for 30 seconds, and it entered a "Weakened" state. Robots in the "Weakened" state have the following characteristics:

- The Launching Mechanism is locked
- Unable to occupy the Control Zone

Afterward, when the RFID Interaction Card in the own side's Resupply Zone is detected, both the "Weakened" and "Invincible" states will be removed.

3.3.3 Economy System

At the start of a round, each side receives a set amount of starting Gold Coins. As the match progresses, both sides will receive Gold Coins at regular intervals. Gold Coins may only be used to redeem permitted ammunition. The specific coin increment rules are shown in the table below:

Table 3-10 Passive Gold Coin Gains

Game Countdown	Red Team	Blue Team
04:59	200 (initial)	200 (initial)
03:59	200	200
02:59	200	200
01:59	300	300
00:59	300	300

When the difference between two teams' Victory Points reaches 70 or 140 for the first time, the team with fewer

Victory Points can get 200 Gold Coins. In each round, one team's robots are allowed to procure a maximum of 400 Gold Coins. For details on the Victory Points mechanism, see "3.3.4 Control Zone and Victory Point Mechanism".

Table 3-11 Exchange Rules

Exchange Items	Exchange Ratio
17 mm projectile	10 Gold Coins/10 rounds
42 mm projectile	10 Gold Coins/1 round

For every round of projectiles fired by a robot, the Projectile Allowance corresponding to the type of projectiles fired is reduced by 1 round.

In the following special circumstances, the Armor Modules of the opponent's robots will become immune to 42 mm projectile damage until the Hero is alive and has a Projectile Allowance greater than 0:

1. Three seconds after the Hero becomes defeated or abnormally disconnected
2. When the Hero launches a 42 mm projectile despite having a Projectile Allowance of 0 (it launches more projectiles than its allowance)
3. After the Hero launches the third 42 mm projectile after it is defeated

When a Hero or Infantry occupies the Resupply Zone, the Operator can use the Referee System Player's Client to exchange for 42 mm and 17 mm Projectile Allowance, respectively.

3.3.4 Control Zone and Victory Point Mechanism

At the start of the round, each team receives 200 Victory Points. The Control Zone activates after the competition starts. At any given time, the Control Zone can only be occupied by one side (one or multiple robots). If robots from both teams enter the Control Zone simultaneously, the side that arrives first will occupy the zone. The calculations are performed as follows:

- Each time when a robot occupies the Control Zone, the opponent team will lose 1 Victory Point per second.
- Each time when a robot is defeated, that team will lose 20 Victory Points.



If a robot does not detect the RFID Interaction Card of the Control Zone, the occupation will expire in two seconds.

3.3.5 Match Format and Winning Criteria

The 3V3 Match consists of the Group Stage and the Knockout Stage. The competition format of Group Stage is BO2, and that of Knockout Stage is BO3 or BO5.

The winning criteria for a single round are described below:

1. When one team's Victory Points drop to 0, the current round ends immediately, and the team whose Victory Points are not 0 wins.
2. If a round has ended and both teams have more than 0 Victory Points, then the team with the higher Victory Points wins.
3. If a round has ended, the two teams tie on Victory Points, and neither team has zero Victory Points, then the team that inflicts greater Attack Damage wins.
4. If a round has ended, the two teams tie on Victory Points, neither team has zero Victory Points, and the two have inflicted the same Attack Damage, then the team with higher total robot remaining HP wins.
5. If none of these criteria is met, the round shall be considered a draw. A draw in the Knockout Stage leads to an immediate tie-breaker round until a team wins.

4. Infantry Match

During a Two-Minute Round, the robots from both teams engage in a shooting battle on the Battlefield. The team that destroys the other's robots will be the winner.

4.1 Robot and Operator

The roster of Robots and Operators is as follows:

Table 4-1 Robot and Operator Roster for Infantry Match

Type	No.	Quantity (set)	Operator Roster
Infantry	3	1	1 Operator/Robot



- Operators may only be Pit Crew from the team's current delegation, excluding Supervisors.
- After each round, teams may substitute the operator with another Pit Crew member present at the venue, excluding Supervisors.

4.2 Infantry

Infantry can launch 17 mm projectiles.

Table 4-2 Key Features of Infantry

Key Feature	Description
Initial Zone	Starting Zone
Operating Mode	No restrictions. Up to one remote controller and one custom controller.
Inter-robot Communication	Not applicable
Launching Mechanism	One Launching Mechanism (17 mm projectile)
Initial Launching Speed Limit (m/s)	25
Performance	● Initial HP/Maximum HP: 200 ● Barrel Heat Limit: 80

Key Feature	Description
	● Barrel Heat Cooling Rate: 12/second ● Chassis Power Limit: 120 W
HP Loss and Penalty for Exceeding Limit	● Exceeding the Initial Launching Speed Limit: applicable ● Exceeding Barrel Heat Limit and Cooling: applicable ● Exceeding Chassis Power Consumption Limit: applicable ● Attack Damage or Collision: applicable ● Referee System On-board Module Disconnection: applicable ● Penalty Damage: applicable See details in “3.3.1HP Loss and Penalty for Exceeding Limit”.
HP Recovery and Respawn Mechanism	Not applicable
Projectile Loading and Reloading	● During the Two-Minute Setup Period, 17 mm projectiles can be preloaded. ● During the Two-Minute Round, the Initial Projectile Allowance is 200 and cannot be increased during the match.

4.3 Competition Area

The core competition area of the Infantry Match is called the “Battlefield”. The Battlefield is a 5 m x 5 m area that contains the Starting Zones and Bunkers for both the blue and red teams. For details about projectiles and the Operation Room, please refer to “3.2.5.1 Projectiles” and “3.2.5.2 Operation Room”.

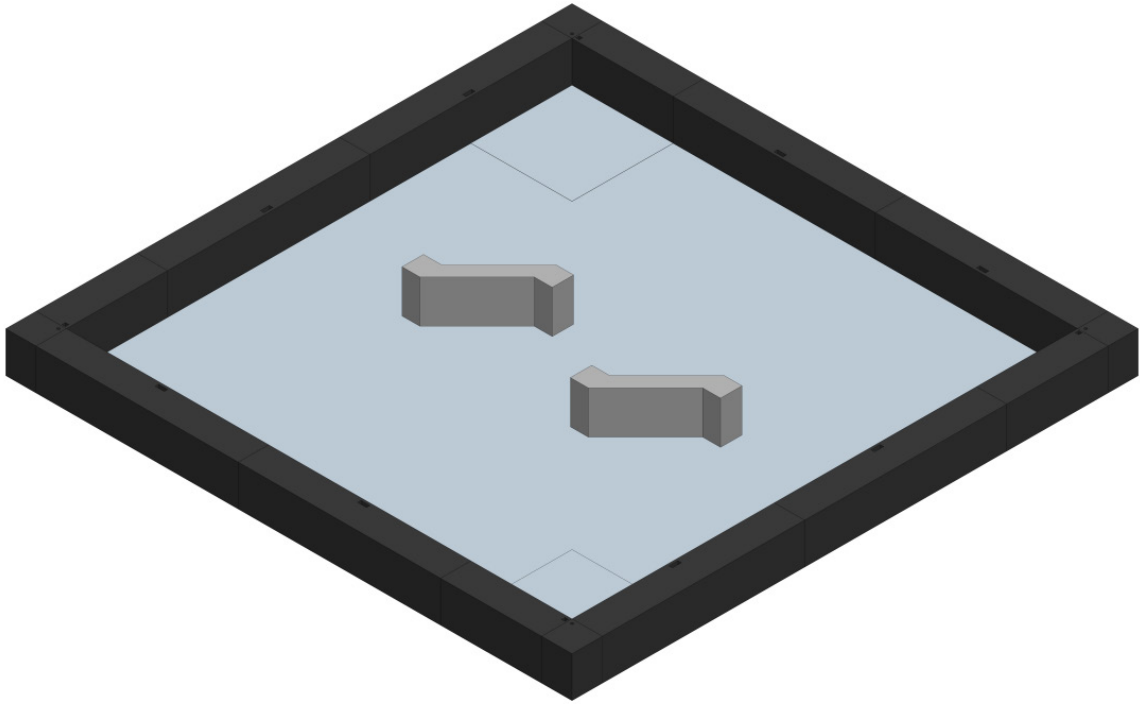
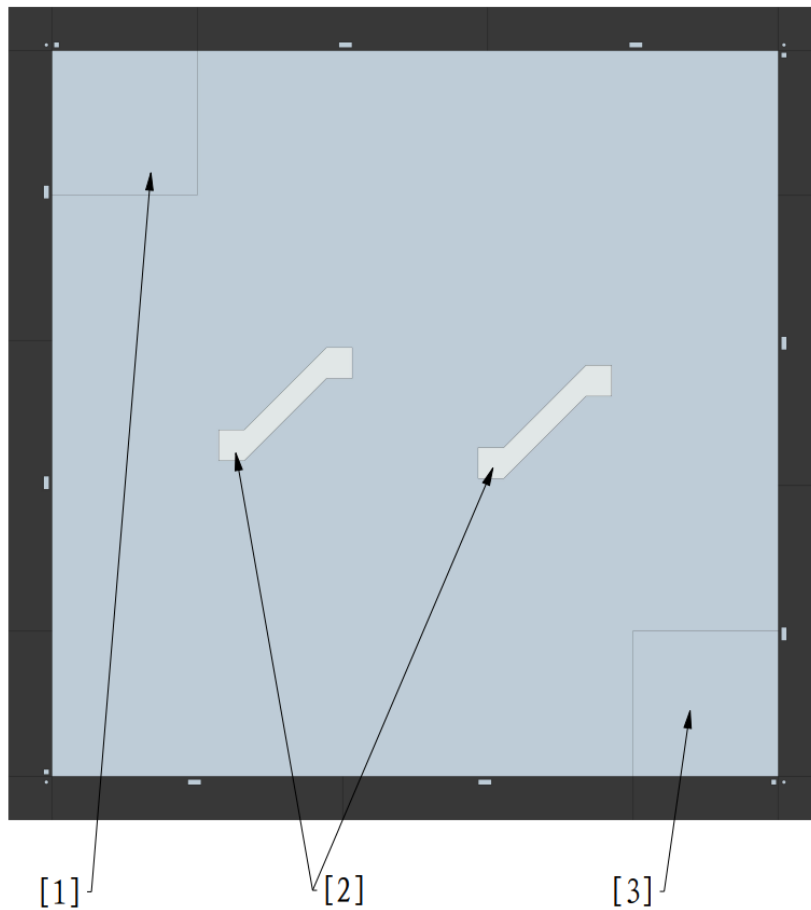


Figure 4-1 Axonometric View of Infantry Match Battlefield



[1] Red Team's Starting Zone [2] Bunker [3] Blue Team's Starting Zone

Figure 4-2 Top View of Infantry Match Battlefield

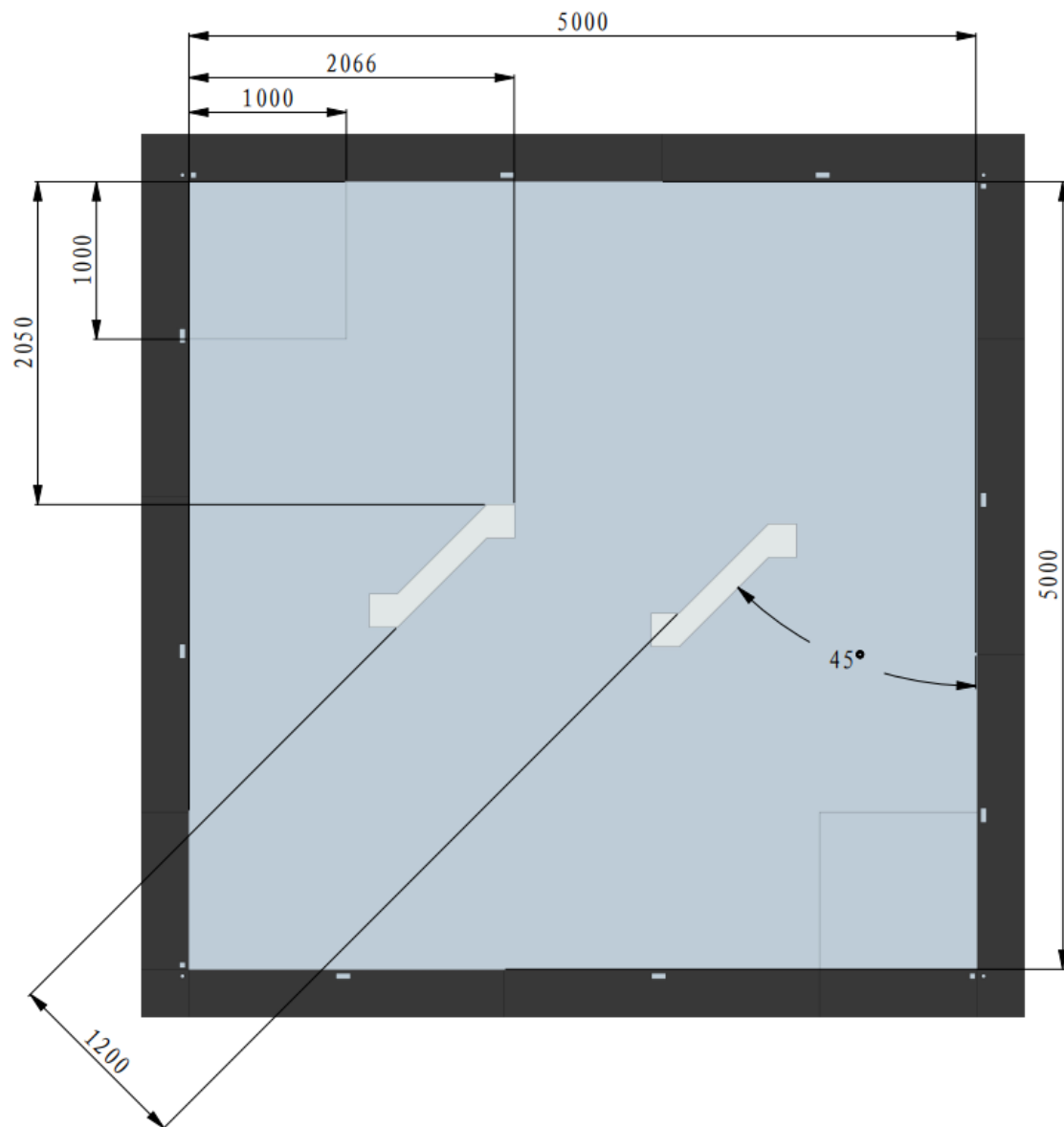


Figure 4-3 Infantry Match Battlefield Dimensions

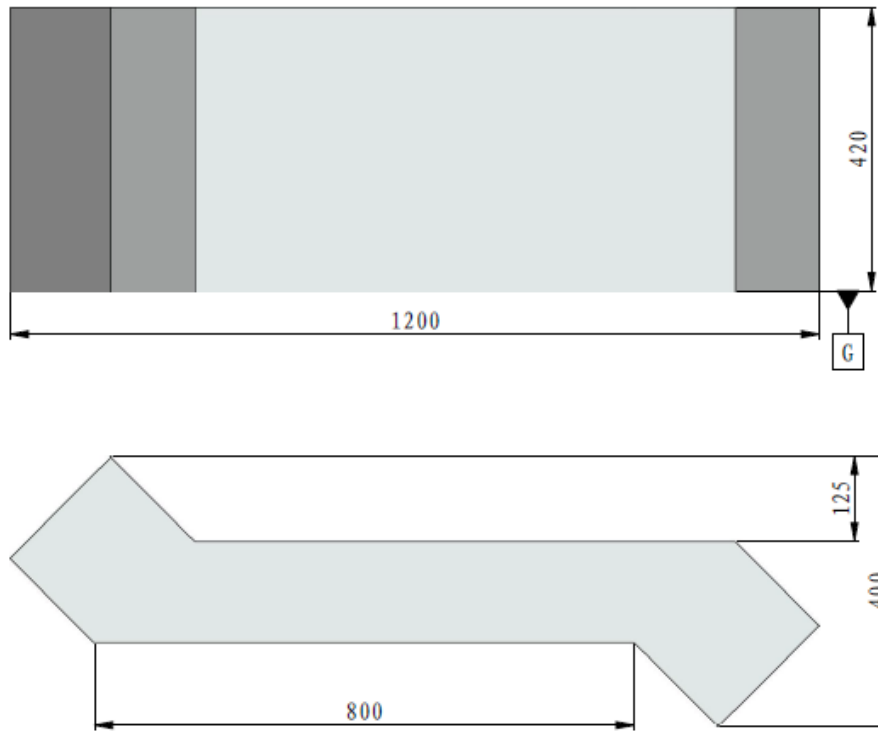


Figure 4-4 Bunker

4.4 Competition Mechanism

4.4.1 HP Loss and Penalty for Exceeding Limit

See Infantry-related mechanisms in “3.3.1 HP Loss and Penalty for Exceeding Limit”.

4.5 Match Format and Winning Criteria

The Infantry Match consists of the Group Stage and the Knockout Stage. The competition format of Group Stage is BO2, and that of Knockout Stage is BO3.

The winning criteria for a single round are described below:

1. When one team's HP drops to 0, the current round ends immediately, and the opponent team wins.
2. If a round has ended and neither team's HP is 0, then the team with higher Remaining HP wins.
3. If a round has ended and both teams have the same Remaining HP (not 0), then the team whose Lost HP occurred later wins.
4. If a round has ended and both teams are at full HP, then the team with higher total projectile count wins.
5. If a round has ended and both teams are at full HP and have the same total projectile count, then the team that fired the first projectile earlier wins.
6. If none of these criteria is met, the round shall be considered a draw.

5. Engineer Challenge

During the Three-Minute Round, the Engineer acquires and assembles Energy Units in the core competition area. Teams with higher scores are ranked higher.

5.1 Robot and Operator

The roster of Robots and Operators is as follows:

Table 5-1 Robot and Operator Roster for Engineer Challenge

Type	No.	Quantity (set)	Operator Roster
Engineer	2	1	1 Operator/Robot



- Operators may only be Pit Crew from the team's current delegation, excluding Supervisors.
- Up to one remote controller and one Custom Controller can be configured for an Engineer.

5.2 Competition Area

The core Battlefield for the Engineer Challenge is a $5\text{ m} \times 5\text{ m}$ ($L \times W$) area, consisting mainly of the Starting Zone, Resource Zone, and Assembly Zone. For Operation Room, see “3.2.5.2 Operation Room”.



The barrier between Tech Cores serves solely as a physical isolation measure to prevent robots from crossing the boundary. Due to varying field setup conditions at different venues, the barrier height is a non-standard parameter (up to 500 mm) and may vary.

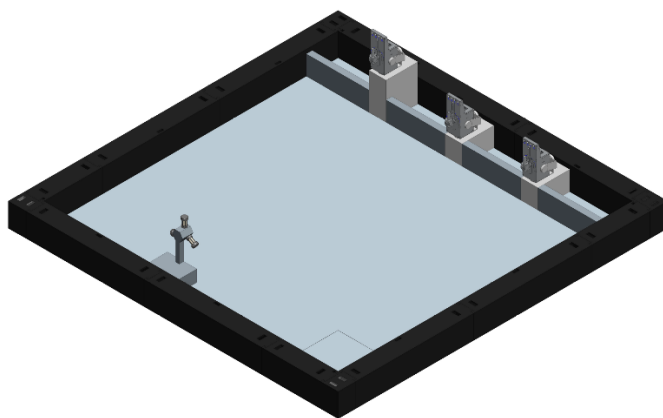
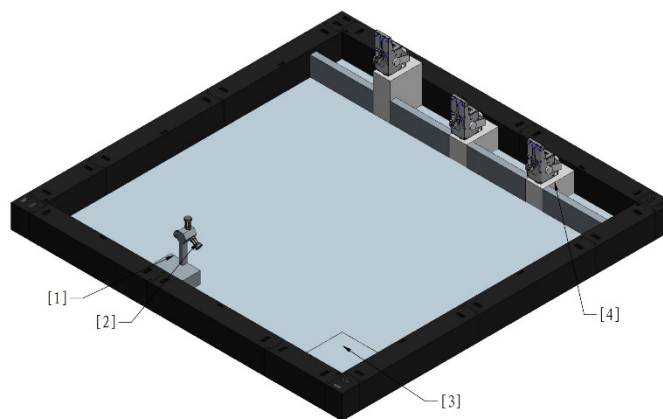


Figure 5-1 Axonometric View of the Engineer Challenge Field



- | | |
|-------------------|-----------------|
| [1] Resource Zone | [2] Energy Unit |
| [3] Starting Zone | [4] Tech Core |

Figure 5-2 Engineer Challenge Field Modules

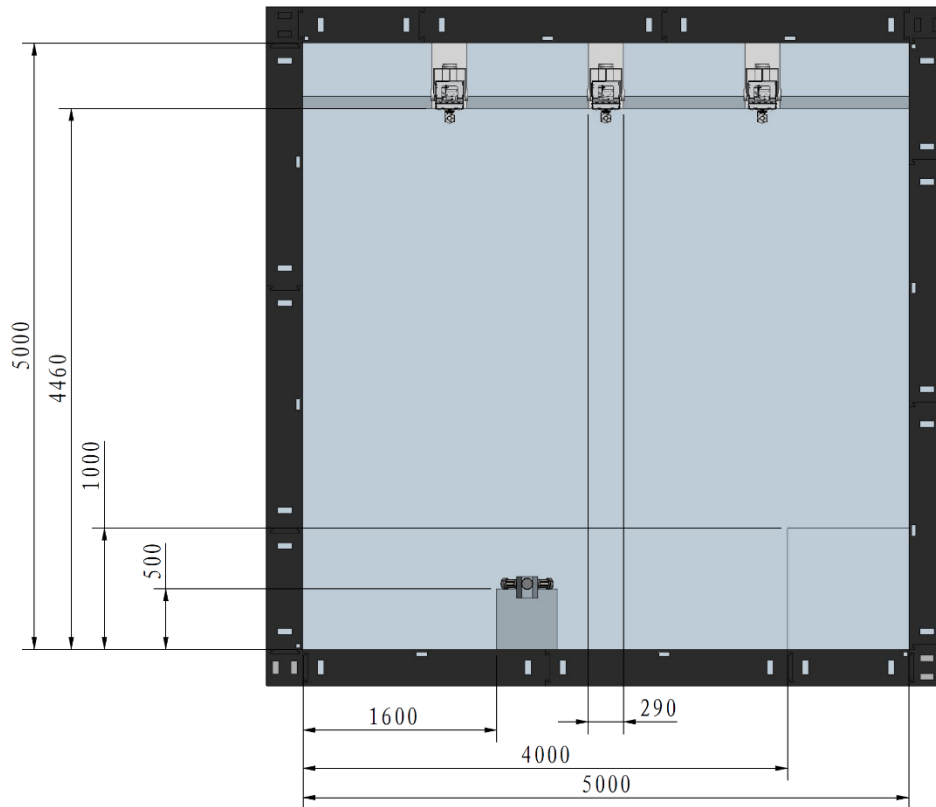


Figure 5-3 Engineer Challenge Field Dimensions

5.2.1 Starting Zone

The Starting Zone is where the Engineer is placed before a match.

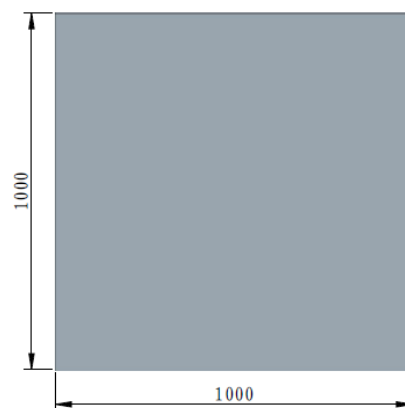


Figure 5-4 Starting Zone

5.2.2 Resource Zone

Three Energy Units are located in the Resource Zone, all magnetically fixed within the Energy Unit Placement Area. The Engineer Robot must extract the Energy Unit along its axis of rotational symmetry. During this process, in addition to the Energy Unit's own gravity, an additional force of no more than 25 N is required to overcome the magnetic force.

The Energy Unit is an asymmetric hollow cylinder; the end with the larger radius is referred to as the Large End Face, and the end with the smaller radius as the Small End Face. The Energy Unit weighs approximately 400 ± 50 g and is made of engineering plastic. Due to the manufacturing process, the surface roughness of the Energy Unit may vary significantly; the reference value for the surface roughness of the top surface of the Large End is 20-50 μm .



As the competition progresses, the surface of the Energy Unit may exhibit minor wear or dust accumulation; participating teams are required to adapt to these conditions. However, severely damaged or soiled Energy Units will not be used in official matches.

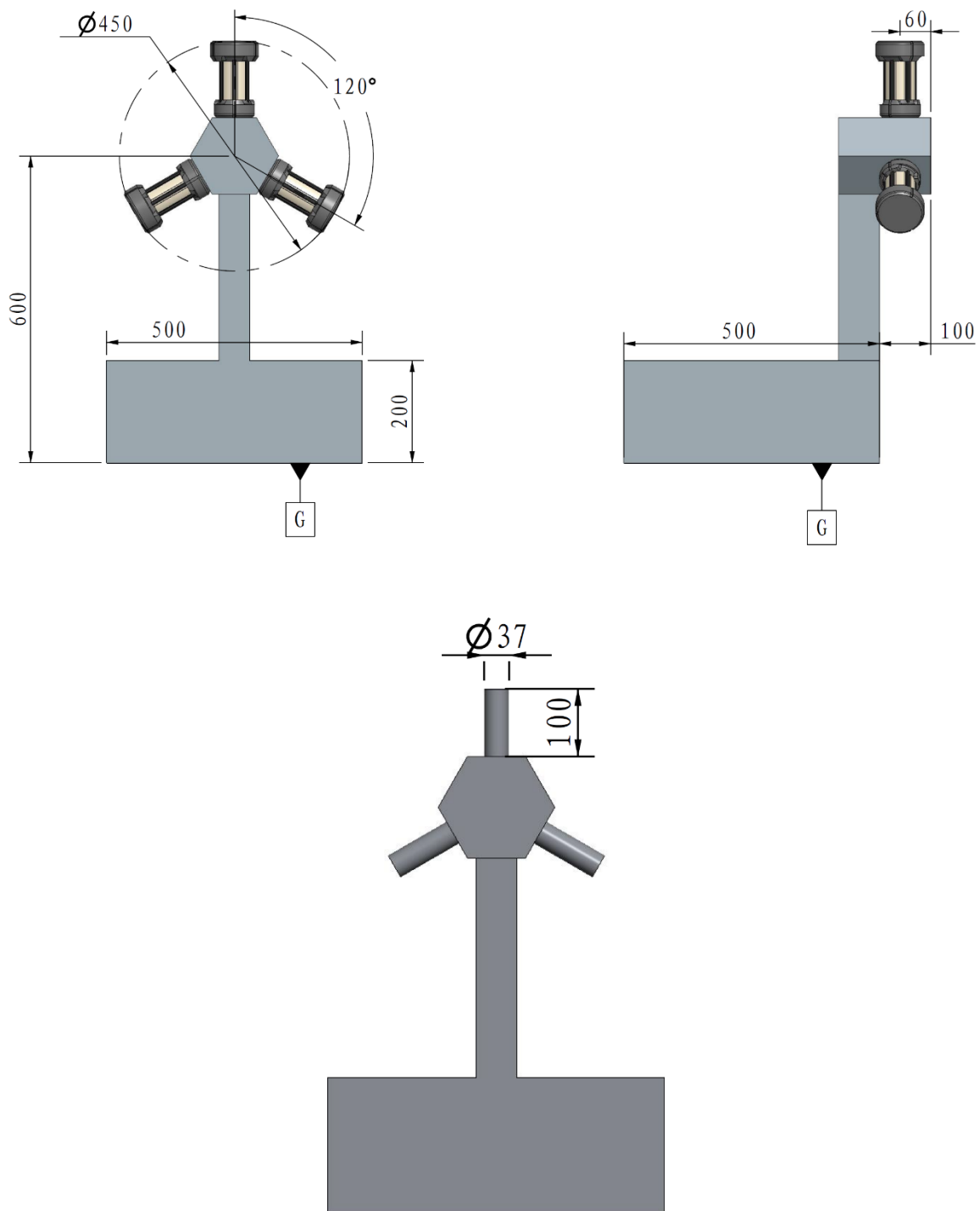
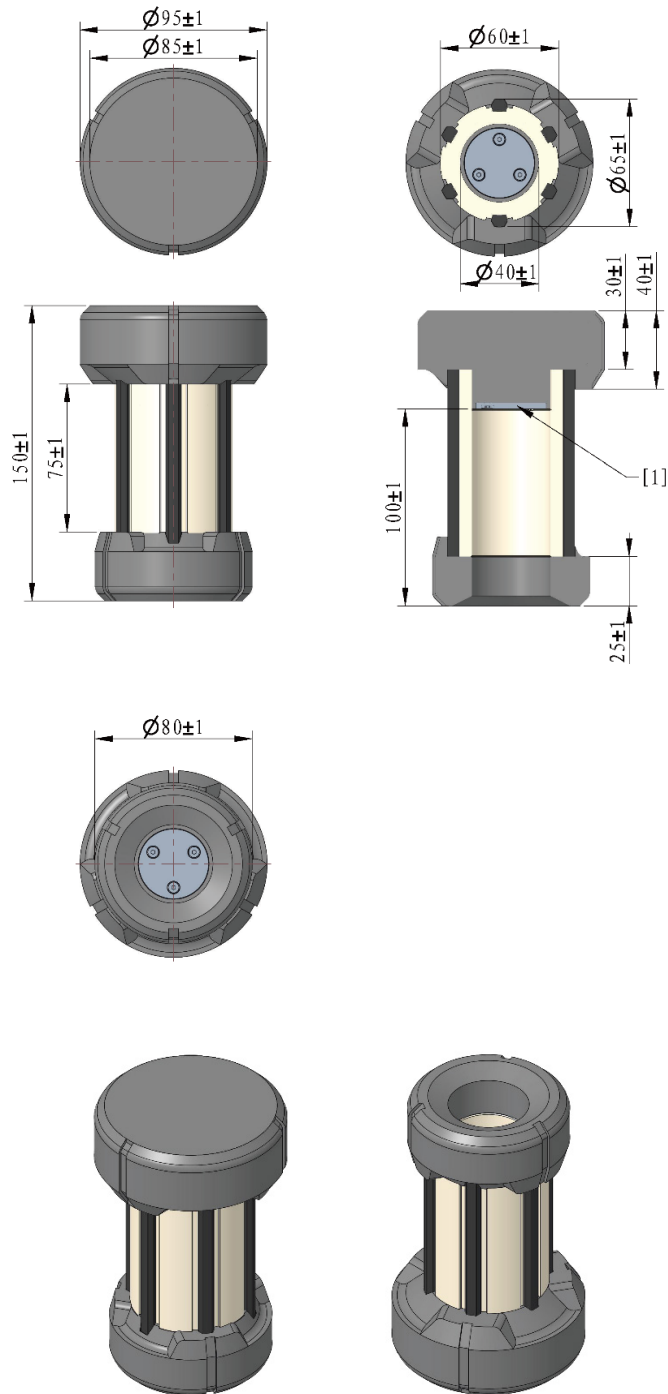


Figure 5-5 Resource Zone



The actual mounting position of the Energy Unit may deviate angularly around the cylinder's axis compared to the diagram. The diagram is for reference only; please refer to the actual placement.



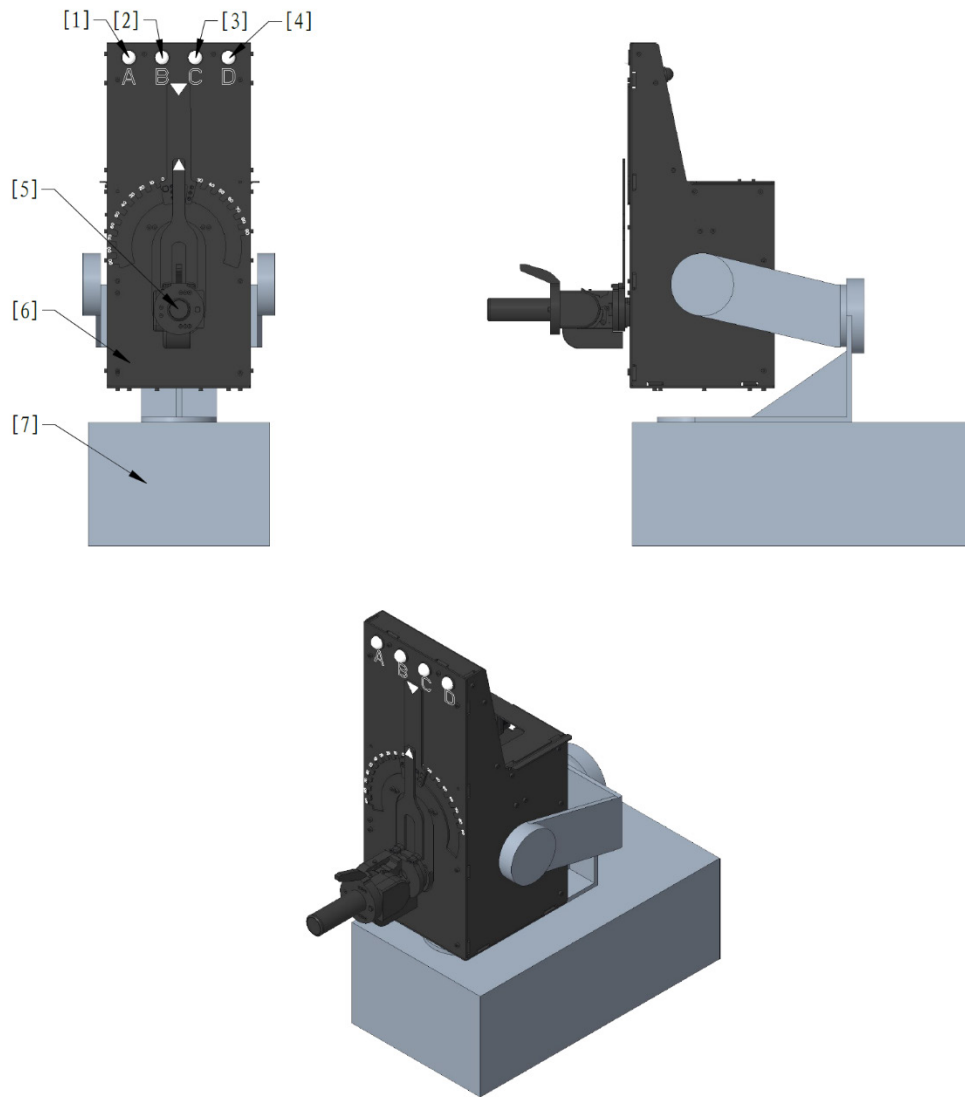
[1] Iron plate

Figure 5-6 Energy Unit

5.2.3 Assembly Zone

The Assembly Zone is the area where robots assemble Energy Units. The Assembly Zone contains 3 independent Tech Cores, each with a distinct pose. For each Tech Core, the midpoint of the line where the front face of the base

intersects the field surface is the origin O. The X-axis is established along the normal of the base front face, with its positive direction as shown in “Figure 5-8 Tech Core Coordinates and Dimensions”. The Z-axis positive direction points vertically upward. A right-handed Cartesian coordinate system named OXYZ (the assembly coordinate system) is thus defined. A right-handed Cartesian coordinate system EX'Y'Z' is established with origin at the center of the front surface of the Energy-Unit Assembly Post (point E). The X', Y', and Z' axes are parallel to and share the same positive directions as X, Y, and Z, respectively. The unit normal vector of the front surface of the Assembly Post is denoted $\vec{e}$. Based on the EX'Y'Z' frame, a spherical coordinate system (r, θ , φ) is defined where θ is the angle between the projection of $\vec{e}$ onto the X'Y' plane and the positive X' axis, with $\theta \in [-90^\circ, 90^\circ]$; and φ is the angle between $\vec{e}$ and the positive Z' axis, with $\varphi \in [0^\circ, 90^\circ]$. An additional angle α is defined as the rotation about the $\vec{e}$ axis, taken positive for counter-clockwise rotation, with $\alpha \in [-45^\circ, 45^\circ]$. The coordinates of point E in the OXYZ frame are (x,y,z). The combination of E's Cartesian coordinates (x,y,z), the spherical orientation of $\vec{e}$ (θ, φ), and the rotation α about $\vec{e}$ (x,y,z, θ, φ, α) constitutes the pose of the Tech Core.

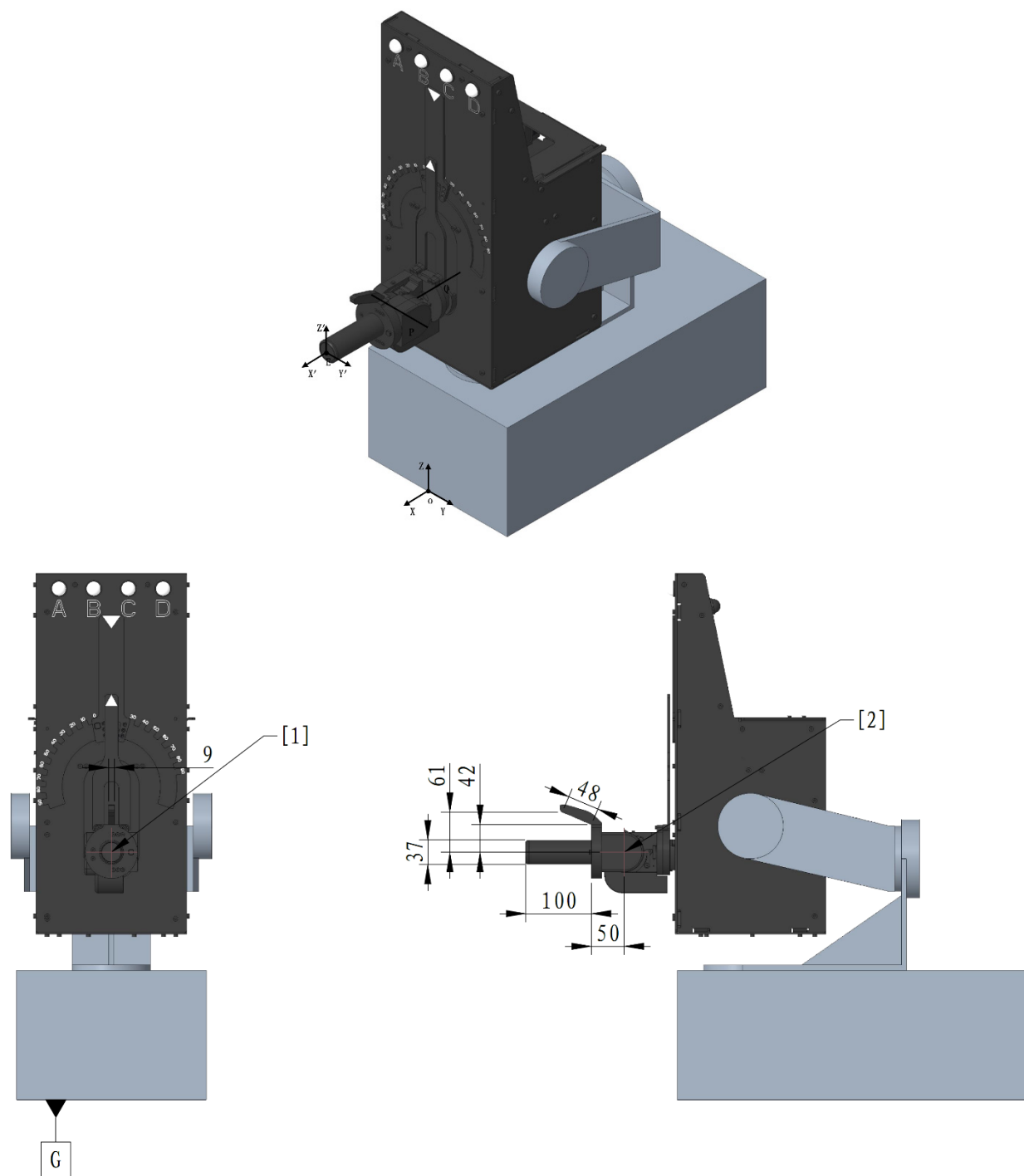


- | | | | | | |
|-----|------------------|-----|------------------|-----|------------------|
| [1] | Step 1 indicator | [2] | Step 2 indicator | [3] | Step 3 indicator |
| [4] | Step 4 indicator | [5] | Assembly Post | [6] | Tech Core |
| [7] | Tech Core base | | | | |

Figure 5-7 Tech Core



The letter labels (A, B, C, D) under the Step 1, 2, 3, and 4 indicator lights may be presented as Arabic numerals (1, 2, 3, 4); please refer to the actual product.



[1] Q-axis

[2] P-axis

Figure 5-8 Tech Core Coordinates and Dimensions

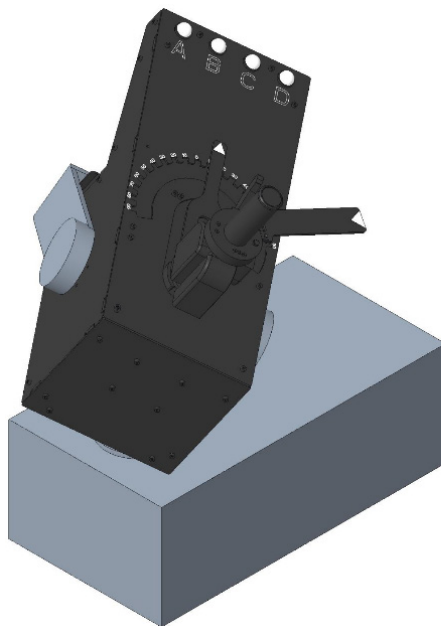


Figure 5-9 Illustration of a Tech Core Pose

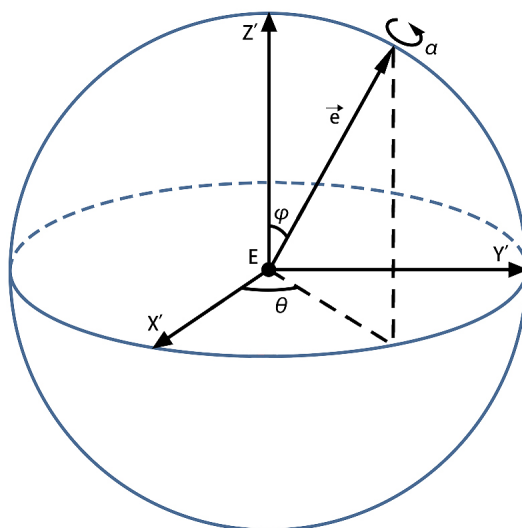


Figure 5-10 Spherical Coordinate System

Table 5-2 Pose Value Ranges and Assembly Requirements for Different Tech Cores

Tech Core	x	y	z	θ	φ	α	Translation Requirements	Rotation Requirements
A	231	0	800	0	90	0	No translation requirements	No spinning requirements
B	[-100,240]	[-340,340]	[370, 760]	0	[0,90]	[-45,45]	100 mm translation after insertion	No rotation requirements

Tech Core	x	y	z	θ	φ	α	Translation Requirements	Rotation Requirements
C	[-100,240]	[-340,340]	[370, 760]	[-90,90]	[0,90]	[-45,45]	100 mm translation after insertion	After completing the translation, rotate it about the Q axis (see “Figure 5-8 Tech Core Coordinates and Dimensions”) to the specified angle within the permitted 180° range, with a 5° precision.

- In the actual match, the Tech Core poses and required assembly angles are randomly determined within the ranges specified in “[Table 5-2 Pose Value Ranges and Assembly Requirements for Different Tech Cores](#)”.
- The above steps assume the Tech Core pose is $\theta=0$, $\varphi=90$, $\alpha=0$. If the actual pose differs from the illustrations, the directional instructions in the assembly steps must be adjusted accordingly.
- In the Engineer Challenge, the Engineer must assemble the Energy Unit onto the Tech Core's mounting post and complete the task by manipulating the Energy Unit to drive the mechanism. The Engineer Robot is prohibited from bypassing the Energy Unit to directly contact or manipulate the Tech Core's movable structures or other body structures. If a violation involving direct manipulation of the Tech Core causes damage to field props, the referee will issue corresponding penalties based on the severity of the impact.



To fully complete an energy-unit assembly, the following steps are required:

1. The Engineer aligns the opening at the bottom of the Energy Unit with the Assembly Post, then inserts it 100 mm along the negative X direction. When it reaches the bottom and the first green light illuminates, Step 1 is complete.

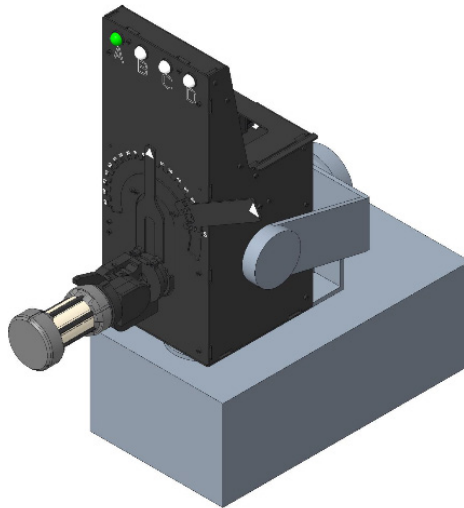


Figure 5-11 Assembly Step 1

2. The Engineer moves the Energy Unit, now secured to the Assembly Post, 100 mm along the positive Y direction. When it reaches the 100 mm position and the second green light illuminates, Step 2 is complete.

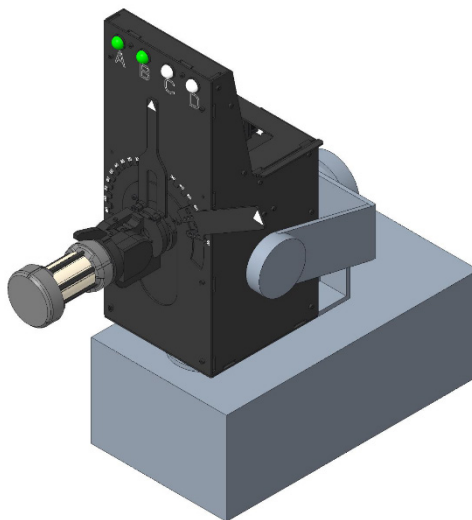


Figure 5-12 Assembly Step 2

3. The Engineer rotates the Energy Unit upward about the P axis by 90° . When it reaches 90° and the third green light illuminates, Step 3 is complete.

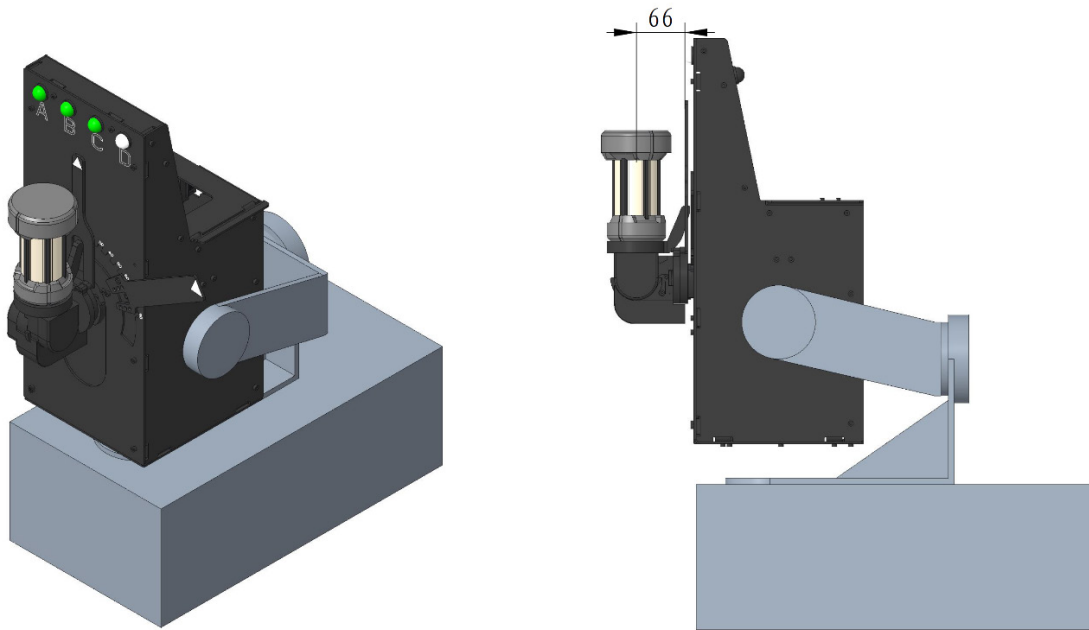


Figure 5-13 Assembly Step 3

4. The Engineer rotates the Energy Unit around the Q-axis to the specified angle and rotates it around the P-axis in the direction away from the robot by approximately 5° until the fourth green light turns on, marking the completion of Step 4.

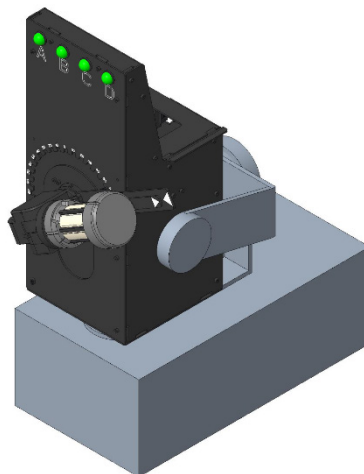


Figure 5-14 Assembly Step 4



- During the assembly of the Energy Unit, for each step, the Tech Core only enables the degrees of freedom corresponding to that specific step.

- The mechanical resistance characteristics during the assembly process are as follows (values represent static torque with no external force applied):
 - Torque required to rotate around the mounting post is $< 1 \text{ N}\cdot\text{m}$.
 - Torque required to rotate around the P-axis or Q-axis is $< 1.5 \text{ N}\cdot\text{m}$.
 - Due to the mechanical limit structure of the Energy Unit's mounting post, the Engineer Robot must observe the following precautions to avoid mechanical interference:
 - After completing Step 3, the Engineer must not prematurely rotate the Energy Unit around the P-axis; otherwise, it will be impossible to proceed to the subsequent rotation step.
 - When executing Step 4, the Engineer must first rotate the Energy Unit around the Q-axis to the specified angle. During this process, strictly avoid simultaneously applying inward rotational torque (away from the robot) around the P-axis; otherwise, the mechanism will jam, preventing the completion of subsequent steps.
-

For Tech Core A, completing Step 1 constitutes a successful assembly.

For Tech Core B, completing Steps 1 and 2 constitutes a successful assembly.

For Tech Core C, completing Steps 1 through 4 constitutes a successful assembly.

5.3 Mission

Engineer stands by in the Starting Zone before the match.

After the round begins, Engineer Robots must retrieve Energy Units from the Resource Zone and assemble them into the Tech Core as required. The match ends after all the Energy Units have been successfully assembled and the robot returns to the Starting Zone, or when the match time runs out.

Scoring Rules

The Energy Units in Tech Cores A, B, and C are scored separately using different rules. Details are as follows:

- Tech Core A: 1 point for successful assembly
- Tech Core B: 10 points for successful assembly
- Tech Core C: 100 points for successful assembly
- If all three Energy Units are successfully assembled before the time of the match runs out, 1 additional point is awarded for each second remaining in the match.

- When the match time runs out, if the robot is outside the Starting Zone, the last successfully assembled Energy Unit will not be counted for scoring.
-



If, when match time expires, one or more energy units complete assembly at the same instant, whether those assemblies are counted as successful shall be determined by the on-site referees in conjunction with video replay/evidence.

Ranking Rules

Each team can attempt the challenge twice and take the highest total score out of the two attempts as its final score. Teams with higher scores are ranked higher.

Award Criteria & Eligibility

Engineer has successfully assembled at least one Energy Unit.

6. Competition Process



- In the Engineer Challenge, each challenge is called a match.
- Descriptions related to projectiles do not apply to the Engineer Challenge.

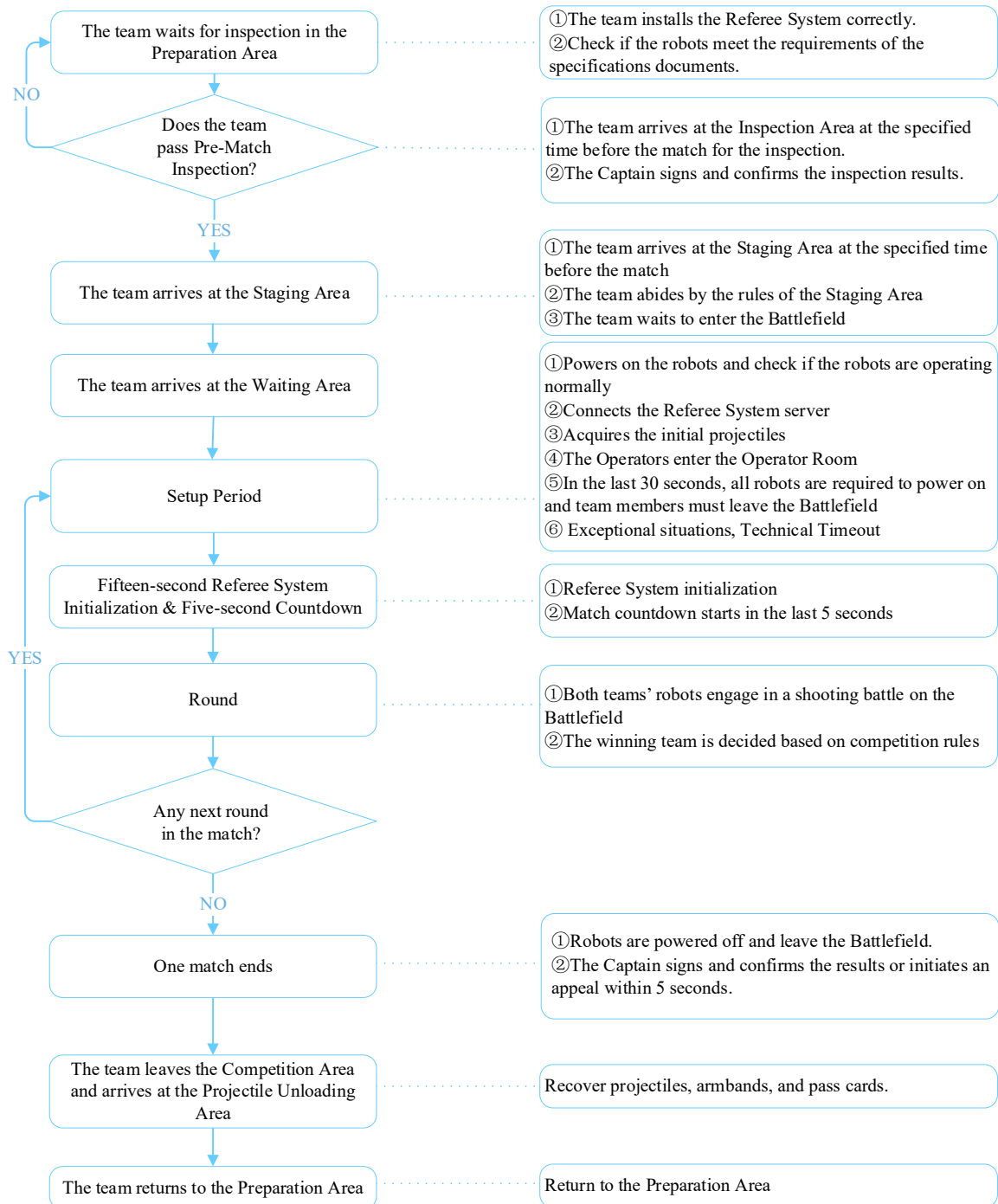


Figure 6-1 Process of a Single Match

6.1 Pre-Match Inspection



- The inspection results of the Mock Inspection and Practice Match are for reference only and are not taken into account for the inspection in the actual competition.
- The inspection results during the competition are only applicable to the current match.
- Passing of inspection only means that the robot meets the standards at the time of inspection. Teams are required to ensure that their robots fulfill the requirements of the Building Specifications Manual at all times.

To ensure that the Robots built by the Participating Teams comply with the requirements outlined in the [RoboMaster 2026 University Series Robot Specifications Manual](#), participating Teams in the 3V3 Match, Infantry Match, and Engineer Challenge are required to arrive at the Inspection Area 60 minutes, 40 minutes, and 30 minutes prior to their respective matches for Pre-Match Inspection. The inspection process is as follows:

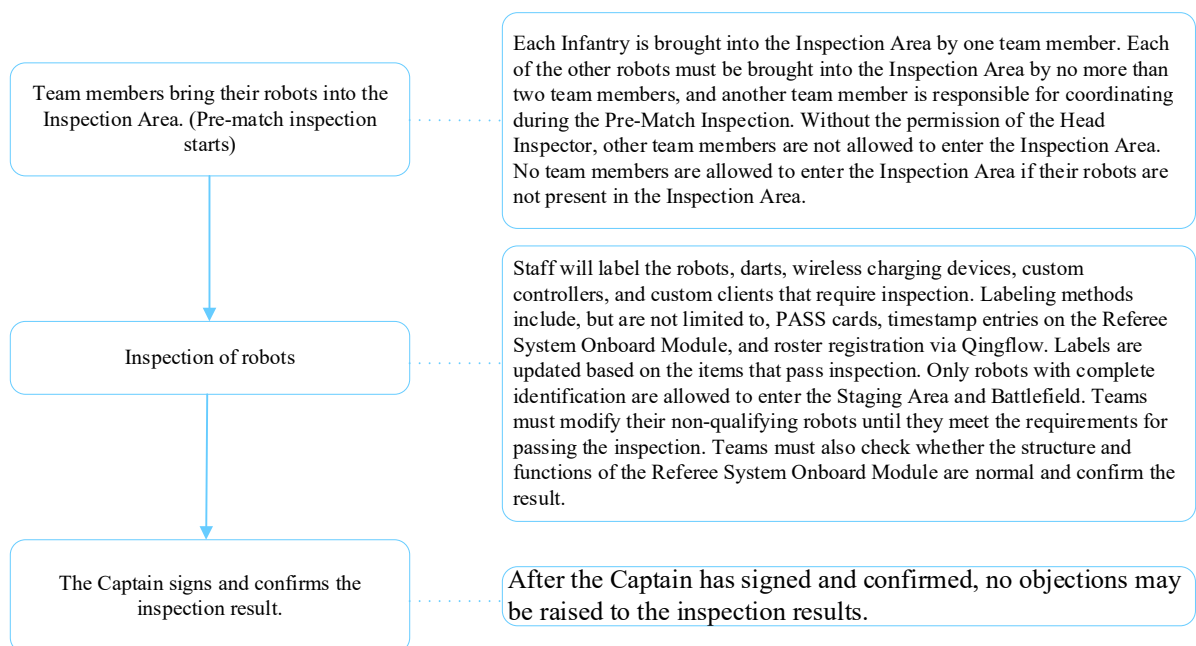


Figure 6-2 Pre-Match Inspection Flowchart

The rules regarding backup robots are as follows:

- Each team can carry no more than one backup robot for each round of competition.
- Team members are required to declare the types of backup robots they are carrying during the Pre-Match Inspection. The backup Hero must have an Armor Sticker affixed in the Inspection Area. If the backup robot needs to enter the field as an Infantry or Sentry, the Pit Crew must promptly obtain the appropriate Armor

Sticker from the Referee. Armor stickers must be affixed in accordance with the requirements stated in the [RoboMaster 2026 University Series Robot Specifications Manual](#).

For all RMUL events, each team can borrow at most one backup robot's Referee System.

6.2 Staging

After the Pre-Match Inspection, the teams should arrive at the Staging Area at least 10 minutes before the start of each round. In a 3V3 Match, each team is allowed to have a maximum of 8 Pit Crew members. In an Infantry Match or Engineer Challenge, each team is allowed to have a maximum of 4 Pit Crew members. One Pit Crew Member should wear the "Captain" armband and undertake the Captain's role. If any team needs to repair its robots after entering the Staging Area, they must obtain the permission of the referee. A robot may leave the Staging Area for repair only after the staff at the Staging Area have removed the Pass Card on the robot. When repair is finished, the robot needs to be brought back to the Inspection Area for another Pre-Match Inspection before re-entering the Staging Area. If the team is unable to arrive at the Staging Area in time as a result of this delay, the robot will not be able to enter the match, and the team will bear the consequences.



Captain Armband: Any Pit Crew member that wears the Captain armband performs the Captain role during the match. The Captain is responsible for leading the team in the competition process, confirming results, and requesting for Team Technical Timeouts, appeals, etc.

After leaving the Staging Area, the participating teams will enter the waiting area of the competition area to place their robots. With the permission of the referee, the participating teams will wait at the entrance of the Battlefield with their robots for further instructions. The referee will follow the competition process and open the door and lead the team members into the competition area. The countdown for the Setup Period will begin when the doors are opened.

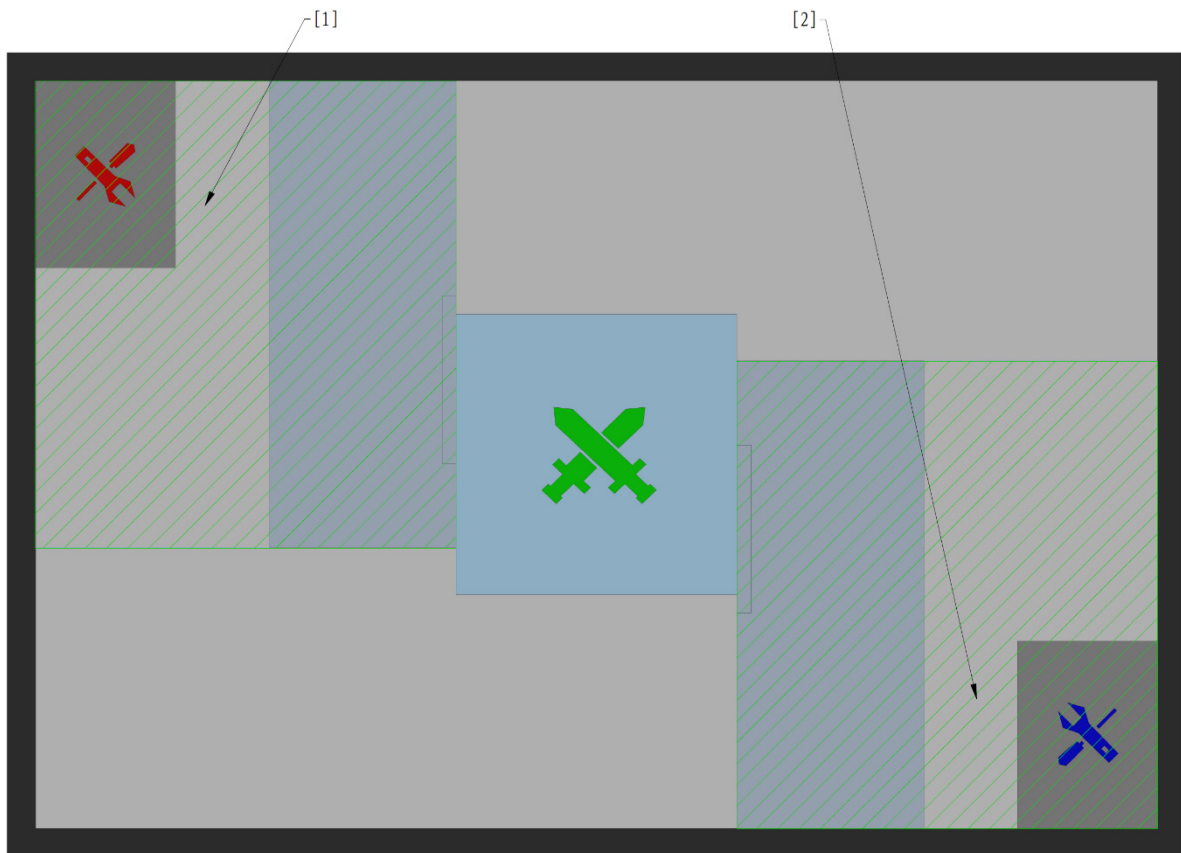
6.3 Setup Period



After the end of the second and fourth round of a BO5 match, both teams have five minutes to commission their robots. When five minutes run out, the Setup Period of the next round begins.

The Setup Period for a 3V3 Match is three minutes, and two minutes for an Infantry Match and Engineer Challenge. During the Setup Period, Pit Crew members need to place their robots in their respective Initial Zones, check whether their Referee Systems are operating normally, and preload the robots with projectiles. Pit Crew members may repair robots or replace equivalent parts, provided the requirements of the specifications documents are met. For 3V3 Match, Pit Crew members must debug their robots in the team's designated robot debugging area (see figure below). For the Infantry Match and the Engineer Challenge, Pit Crew members are only allowed

to perform debugging inside the Starting Zone. Each team is permitted to have only one Pit Crew member leave the Starting Zone to assist with debugging.



[1] Red Team Debugging Area

[2] Blue Team Debugging Area

Figure 6-3 Debugging Areas

- Equivalent Part: Standard modules or components having the same material, form and functions, for example, motors of the same model and self-built friction wheel modules. The main structure supporting the robot's body, such as a robot's chassis or the body of a Drone, cannot be replaced as equivalent parts.



- If the equivalent part includes Referee System On-board Modules, the participating team must ensure that the Referee System On-board Modules work properly, including version number, sensor calibration, and mounting specifications. When any Referee System On-board Module in the equivalent part experiences an abnormality, it will not trigger an Official Technical Timeout.

When there are 1 minute and 30 seconds remaining in the Setup Period, it is recommended that Operators enter the Operation Room to complete the commissioning of keyboards and mice (both of which may be brought by

themselves). The USB keyboard and mouse connected to the Operation Room computer must be produced by qualified manufacturers with proper certification and comply with the USB HID protocol. Operators should check to confirm that the control of the Robots and the official equipment are functioning normally. If any official equipment does not operate normally, the Pit Crew members must raise the issue before entering the final 15 seconds of the Setup Period. Otherwise, no Technical Timeout will be allowed by the referee. Except for the Operators of the robots on the Battlefield, the Pit Crew are not allowed in the Operation Room.

When the Setup Period is down to 30 seconds, all robots in the Battlefield must be powered up, robots that are not powered up must be removed from the Battlefield, and the staff in the Battlefield should leave the Competition Area in an orderly manner. After the end of the Setup Period, Pit Crew must place the Sentry's remote controller in the designated area at the Battlefield entrance.

6.3.1 Official Technical Timeout

During the Setup Period, if the Referee System or equipment inside the Operation Room malfunctions (for details, see the table below), or the robot needs temporary Pre-Match Inspection, the Head Referee can announce an Official Technical Timeout and pause the setup countdown. The starting time of the Timeout is decided by the Head Referee based on the situation.

During an Official Technical Timeout, Pit Crew members cannot fix the malfunctions of the Referee System or other official equipment unless the fix is required by the referee. If a replacement is needed for a malfunctioning Referee System, replace the Referee System On-board Modules within the time limit specified in the [RoboMaster 2026 University Series Robot Specification Manual](#). When the relevant malfunctions of the Referee System or official equipment have been eliminated and the Head Referee has resumed the countdown, Pit Crew members are required to follow the set procedures for the Three-Minute Setup Period and leave the Battlefield within the specified time.

Table 6-1 Malfunctions

Regulation	Description
1	A fault occurs with the official equipment in the Operation Room, and any key competition component in the Battlefield experiences structural damage or functional irregularity.
2	During the Setup Period of the first round, a Referee System On-board Module experiences faults, such as damage to the Armor Module, Speed Monitor Module disconnection, etc.
3	During the Setup Period, the main controller of the Referee System is unable to connect to the server or a robot cannot transmit images to the Operation Room.

4	Other situations where the Head Referee deems it necessary to call an Official Technical Timeout.
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As it is impossible to determine whether the malfunction stems from the Referee System On-board Module itself, flaws in the robot's electrical or structural design, or damage caused during previous matches, an Official Technical Timeout will not be called for regular battle damage, except for the situations mentioned in Rule 3 above. The referee will provide backup Referee System On-board Modules. Participating teams may request a "Team Technical Timeout" to repair their robots.

If the referee determines that the malfunction referred to in Rule 2 and 3 above is caused by the team, the referee will explain the situation and end the Official Technical Timeout.

6.3.2 Team Technical Timeout

If the mechanical structure of a robot, a software system, the keyboard or mouse in the Operation Room or other equipment experiences any faults, the team Captain may make a request to the referee in the Battlefield or Operation Room for "Team Technical Timeout" only before the 15-second countdown in the Setup Period, and indicate the requested timeout length and reasons for the request. Team Technical Timeout once requested and conveyed to the Head Referee, this Timeout cannot be cancelled or revised.

After the Team Technical Timeout is confirmed by the Head Referee, the Referee will notify both teams at the same time regardless of which team initiated the timeout.

The Head Referee may end the Technical Timeout once they determine that the teams are ready. Even if the participating team does not enter the Battlefield or ends the Technical Timeout early, the opportunity consumed is still the opportunity corresponding to the time declared by the participating team when applying for the timeout.

To ensure that subsequent matches begin on time, only one Team Technical Timeout is allowed in each Setup Period on a first-come-first-served basis. The Technical Timeout usage is recorded in the Match Results Confirmation Form.

During a 3V3 Match or Infantry Match, each team has 2 two-minute Technical Timeout opportunities. During an Engineer Challenge, each team has one two-minute Technical Timeout opportunity. A team cannot request Team Technical Timeout once their opportunities have been used up.

6.4 15-Second Referee System Initialization Period

After the Setup Period, the match enters a 15-Second Referee System Initialization Period. During the Initialization Period, the Referee System server automatically detects the connection status of the Referee System Player's Client, the status of Referee System On-board Modules, the status of Battlefield Components, and reset the HP of all robots

to ensure their HP is full when the match officially begins.

6.5 5-Second Countdown

After the 15-Second Referee System Initialization Period, the match enters a 5-Second Countdown. At this time, the Referee System Player's Client will not respond to control commands from robots (including Custom Controllers). Once the countdown ends, the keyboard is unlocked and the competition starts.

6.6 Competition Stage

3V3 Match and Infantry Match

Robots from both teams engage in a shooting battle on the Battlefield.

Engineer Challenge

Engineer completes the mission.

6.7 End of Round

3V3 Match and Infantry Match

When the time of one round of competition runs out or one team triggers the winning criteria in advance, this round of competition ends. The match is over when a winner has emerged or all rounds have ended.

Engineer Challenge

A match ends when its time has run out or teams fulfill the criteria for ending the challenge early.

6.8 Result Confirmation

During a match, the referee will record on the Match Results Confirmation Form the penalties issued for each round, the key competition data at the end of the match, the winning teams, the use of Team Technical Timeout opportunities by the teams, and other relevant details.

Within 5 minutes after the end of a match, the Captains of both teams must sign and confirm the match results. If a team Captain does not sign and confirm the results within 5 minutes or has not requested an appeal, it is deemed that the team agrees with the match results.

6.9 Exit the Field

After a match is over, members from both teams in the 3V3 Match must power off all their robots, remove them

from the Battlefield, and proceed to the Projectile Unloading Area to unload their projectiles. At the Projectile Unloading Area, teams must follow the instructions from the staff and return all armbands and pass cards, empty the projectiles in their robots, and return all projectiles used in the competition. Teams participating in the Infantry Match and Engineer Challenge should perform the aforementioned exiting operations in the Battlefield.

7. Violations and Penalties

In order to ensure the fairness of the competition and maintain competition discipline, the participating teams, participants, and participating robots must strictly follow the competition rules. If there is a violation, the referee will give a corresponding penalty for the violation. Some violation penalties issued before the official start of the competition will be enforced after the official start of the competition. Serious violations and all appeals in the competition will be publicized.

Penalty for violation stated in this chapter will be determined by the Head Referee according to the actual situation. If an event that affects competition fairness happens during the competition but it does not involve penalty rules or serious violations, the Head Referee will make a decision based on the actual situation.



If a team's actions have directly caused the other team to commit a violation, the other team is not penalized but must cease its violating behavior immediately.

7.1 Penalty System

7.1.1 Forms of Penalties

During a match, the referee may issue penalties against participants and robots that have failed to comply with competition rules. The forms of penalties are as follows:

Table 7-1 Forms of Penalties

Forms of Penalties	Description
Automatic penalties by the Referee System	All HP losses in “3.3.1 HP Loss and Penalty for Exceeding Limit“, except those caused by attacks or collision and the penalty damage, are automatic penalties by the Referee System.
Manual penalties through the Referee System	Penalties issued by the referee through the server against robots for violation of rules.
Manual penalties by human referees	Where penalties cannot be issued through the Referee System, for example issuing a Verbal Warning or disqualifying a team.

7.1.2 Types of Penalties

The types of manual penalties are as shown below:

Table 7-2 Types of Penalties

Types of Penalties	Description
A Verbal Warning	A Verbal Alert
A Yellow Card	● One team receives a Yellow Card: ➤ If the offending robot is a Sentry, its chassis is powered off for 2 seconds while the operating interface of other alive robots is blocked for 2 seconds. ➤ If the offending robot is not a Sentry, the operating interface for the offending robot is blocked for 5 seconds and those for other robots are blocked for 2 seconds. ➤ The Referee System will automatically deduct the offending robot's HP by 15% of its current Maximum HP, while the remaining alive robots will have their HP deducted by 5% of their current Maximum HP. If the robot receives a Yellow Card again within 30 seconds after it receives a Yellow Card, the percentage of their current Maximum HP lost will be twice that of the previous loss for that robot, and 5% for the other alive robots on the team. ➤ In each round, a robot that has been issued three Yellow Cards in total will receive a Red Card. ● Both teams receive a Yellow Card: The interface of all operators is blocked for 2 seconds and all robots lose 5% of their maximum HP, without taking into account the cumulative number of Yellow Cards received by one robot. ● If a robot receives successive Yellow Cards, the time that the operation interface is blocked will add up accordingly. The 30-second period will be reset. ●  If a robot's remaining HP is less than or equal to that needs to be deducted from penalty, this robot's HP reduces to 1. ● The duration of chassis power off, blockage of the operation interface, and other such situations caused by violation penalties is independent from the Competition Mechanism and will not be combined.
Red Card (Ejection)	● Ejection of robots:

Types of Penalties	Description
	➤ If a robot is ejected before entering the 15-Second Referee System Initialization Period, the offending robot will not be allowed to enter and must be removed from the Battlefield, nor can it be replaced by other robots in any round of the current match. ➤ If a robot is ejected during the 15-Second Referee System Initialization Period, the Red Card should be issued after the competition starts. ➤ If a robot is ejected during the competition, the robot's HP will turn zero and the transmitted images will become monochrome. ● Pit Crew members ejected by a referee must leave the Competition Area immediately and cannot be replaced by other Pit Crew for all rounds in the current match. All robots controlled by an ejected Operator must also be ejected for the current round, and will not be allowed to join the Battlefield nor can they be replaced by other robots for all rounds in the current match.
Forfeiture	● If a Forfeiture is issued for a round (hereinafter referred to as "Round Forfeiture"), the following rules shall apply. 3V3 Match: ➤ If a Forfeiture is issued before the Five-Minute Round (including during the Setup Period and Referee System Initialization Period), the offending team's Victory Points will be zero, its robots (except the rule-violating one) will be at full HP, and the opponent team's Victory Points and robots' HP will be full. ➤ If a Forfeiture is issued during the Five-Minute Round, the round will end immediately. The offending team's Victory Points will be zero, and the team's robots (except the rule-violating one) will maintain their HP levels at the end of the round. The opposing team's Victory Points and robots' HP will remain at the levels when the round ends. ➤ If a Forfeiture is issued after a Five-Minute Round, the offending team's Victory Points will be zero, and the team's robots (except the rule-violating one) will maintain their HP levels at the end of the round. The opposing team's Victory Points and robots' HP will remain at the levels when the round ends. Infantry Match:

Types of Penalties	Description
	➤ If a Forfeiture is issued before the Two-Minute round (including the setup period and Referee System Initialization Period), the HP of the offending team's robot will become zero, and the HP of the other team's robots will be full. ➤ When a Forfeiture is issued during the two-minute match, this round of the match ends immediately. The HP of both teams' robots will be recorded as it is when the round ends. ➤ When a Forfeiture is issued after the two-minute match, the HP of both teams' robots will be recorded as it is when the round ends. ● If a Forfeiture is issued in a match (hereinafter referred to as "Match Forfeiture"), it applies to all rounds in the match, and the HP for each round should be calculated according to the above descriptions.
Exclusion from Awards	● Participants are excluded from awards. ● Participating teams are excluded from awards.
Disqualification from the competition	● The team member is disqualified from the current season. ● The team is disqualified from the current season, but its results in the season will be maintained as a basis for other teams' advancement.

7.2 Penalty Rules

This section introduces the Penalty Rules. The rules numbered R# clearly specify the regulations that Participating Teams, Participants, and Robots must follow.

7.2.1 Personnel

7.2.1.1 General Rules

R1 Participating Teams must comply with the requirements outlined in the [RoboMaster 2026 University League Participant Manual](#).

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

R2 Participants and their actions must not interfere with the normal operation of the Official Equipment, competition processes, or the regular work of the RMOC staff.

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

- R3 Teams must not set up their own wireless networks or communicate with team members using walkie-talkies in the relevant competition areas (including but not limited to the Preparation Area, Inspection Area, Staging Area, and Competition Area).

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

- R4 Teams must not damage any official equipment (including but not limited to equipment in the Competition Area, Staging Area, Preparation Area, and Inspection Area).

Penalty: The highest penalty that can be imposed on the offending team is disqualification and compensation as per the price.

- R5 Apart from Pit Crew members who have entered the Staging Area and Competition Area due to match-related reasons, no participants are allowed inside either area without special reasons.

Penalty: The highest penalty that can be imposed on the offender is disqualification.

- R6 Any Pit Crew member who has entered the Staging Area and Competition Area for competition may not leave either area or be replaced by another Pit Crew member without the permission of the referee.

Penalty: Offenders are not allowed to enter the Staging Area and Competition Area. The highest penalty that can be imposed is disqualification from the competition.

- R7 Except for the projectiles preloaded in the Inspection Area, participating teams are not allowed to bring any projectiles intended for use in the competition into the Staging Area or Competition Area.

Penalty: Confiscation of projectiles and Verbal Warning. If the warning is ineffective, the offender may be disqualified as the highest penalty.

- R8 After a match is over, the Pit Crew must power off all their robots, remove them from the Competition Area and empty all projectiles inside the robots at the projectile unloading area.

Penalty: The offending robot will be detained in the Projectile Unloading Area, until its projectiles are cleared.

- R9 After a match ends, Pit Crew must return all projectiles used in the competition to the Projectile Unloading Area.

Penalty: Confiscation of projectiles and disqualification of the offender from subsequent matches held at the same competition site. The highest penalty that can be imposed on the offender is disqualification.

- R10 Except for emergency situations, teams must be present at the Inspection Area before the start of each match (see “6.1 Pre-Match Inspection”) for Pre-match Inspection. The team must stand by at the Staging Area 10 minutes before each match.

Penalty: The highest penalty is an immediate Round Forfeiture.

R11 Without the permission of the referee, a team may not power on and commission or repair a robot in areas outside the Battlefield from the time the robot passes an Inspection to the end of a match.

Penalty: The highest penalty is an immediate Round Forfeiture.

R12 The identities and number of personnel of each team entering designated areas such as the Preparation, Inspection, Staging, and Competition Areas must meet the relevant requirements.

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

R13 One member of a Pit Crew must wear the “Captain” armband, which must not be covered.

Penalty: The highest penalty that can be imposed on the offender is disqualification.

R14 Without the permission of the referee, Pit Crew members entering the Battlefield must not communicate with anyone from the outside.

Penalty: Verbal Warning. If the warning is ineffective, the offender may be disqualified as the highest penalty.

R15 Pit Crew members are not allowed to power their equipment using the power supply for official equipment in the Competition Area. However, they may bring their own power supply.

Penalty: Verbal Warning. If the warning is ineffective, the offender will be issued a Red Card. The highest penalty that can be imposed on the offending team is disqualification.

R16 Except for special circumstances, Pit Crew are prohibited from wearing slippers into the Competition Area.

Penalty: The offender may receive a Red Card as the highest penalty.

R17 The team that makes an appeal must provide valid evidence or the specifications or rules in the official documents they are citing.

Penalty: The highest penalty that can be imposed on the offender is disqualification.

R18 The team captain is responsible for management and must ensure during preparation and competition that:

- All competition robots pass the inspection of the finished robot assembly and comply with the open-source robot usage guidelines.
- Team Advisors, Reserve Members, and any other personnel who are not eligible for awards do not commit any rule violations during the event.
- Any other violations are stopped promptly.

Penalty: The Captain’s managerial responsibility is determined according to the nature and severity of any violations. The offender may be disqualified as the highest penalty.

7.2.1.2 Battlefield Regulations

R19 Participants must wear goggles when inside the Battlefield (except for Engineer Challenge).

Penalty: The offender will be barred from the Battlefield.

R20 During an Official Technical Timeout, Pit Crew members are not allowed to fix faults other than those in modules related to the Referee System.

Penalty: Verbal Warning. If the warning is ineffective, the offender will be issued a Red Card.

R21 After the end of the Setup Period, Pit Crew members must return to the designated area outside the Battlefield. During the competition, Pit Crew are not allowed to leave the area without the permission from the referee.

Penalty: Verbal Warning. If the warning is ineffective, the offender will be issued a Red Card.

R22 After the preparation phase ends, the pit crew must place the commissioning remote controller for the Sentry at the battlefield entrance, and may not use the remote controller to commission the Sentry after the five-second countdown has begun.

Penalty: If the violation is committed before the five-minute round, a Verbal Warning will be issued. If the warning is ineffective, the offending robot will be issued a Red Card; if it is during the five-minute round, the offending robot will be issued a Red Card.

R23 After the Five-Second Countdown, the Pit Crew must not operate remote controllers located outside the Operation Room that correspond to deployed robots.

Penalty: The offending robot will be issued a Red Card, with the highest penalty being a Round Forfeiture.

R24 Pit crew members must ensure their robots are operating safely and will not cause harm to any person or equipment in the Competition Area.

Penalty: The offending team must bear the corresponding responsibility.

7.2.1.3 Operation Room Regulations

R25 Except for the Operators of the robots on the Battlefield, the Pit Crew are not allowed in the Operation Room.

Penalty: Verbal Warning. If the warning is ineffective, the offender will be issued a Red Card.

R26 Operators must operate the relevant robot control equipment in the relevant Operation Room during the 15-Second Referee System Initialization Period and the Five-Minute Round, and must remain in their location after the Setup Period, unless otherwise permitted by the referee.

Penalty: Verbal Warning. If the warning is ineffective, the offender will be issued a Red Card.

R27 During the competition, each operator is equipped with at most one remote controller and one custom controller.

Penalty: Verbal Warning. If the warning is ineffective, the offender will be issued a Red Card.

R28 Operators are not allowed to use their own headphones or computers in the Operation Room.

Penalty: Verbal Warning. If the warning is ineffective, the team will be issued a Round Forfeiture.

R29 USB keyboards and mice that are produced by unqualified manufacturers, modified, homemade, or do not comply with the USB HID protocol are not allowed to be connected to the Operation Room computer.

Penalty: Verbal Warning and prohibition of using the violating device. If the warning is ineffective, the offender will be issued a Red Card.

7.2.2 Robot

R30 Robots and custom controllers to be deployed in a match must pass the Pre-Match Inspection.

Penalty: Round Forfeiture.

R31 In the first round of a match, the robots must meet the minimum battle team roster.

Penalty: Match Forfeiture.

R32 Robots must meet the requirements in the [RoboMaster 2026 University Series Robot Specification Manual](#).

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

- The RMOC will conduct random checks on robots.
 - Any report made against a robot for not complying with the robot building specifications manual must be supported by the relevant evidence.
 - If the Speed Monitor Module is not installed according to requirements during the match, it will be considered disconnected.
-



R33 Before the 15-Second Referee System Initialization Period, armor stickers that meet the requirements in the specifications documents must be attached to robots equipped with Armor Modules.

Penalty: Verbal Warning. If the warning is ineffective, the offending robot will be issued a Red Card.

R34 When waiting in the Staging Area, team members are not allowed to bring robots out of the Staging Area without permission.

Penalty: Verbal Warning. If the warning is ineffective, the offenders and robots will be issued a Red Card, with the highest penalty being disqualification.

R35 Robots must not have, or develop, any safety hazards, including but not limited to short circuits, crashes, smoke,

open flames, falling to the ground, or gas cylinder explosions. If any safety hazard is identified, participants must cooperate with the referee to carry out the necessary actions.

Penalty: If it happens before the start of a match, the Pit Crew need to resolve the safety issue as required by the referee. Otherwise, the offending robot will not be allowed to appear on the Battlefield. If it is during the competition, a Verbal Warning shall be issued. If the warning is ineffective, the offender or the offending robot will be issued a Red Card. Any incident involving serious safety hazards must be handled by the Head Referee in accordance with “8 Irregularities”.

R36 Robots are not allowed to launch projectiles off the Battlefield.

Penalty: Verbal Warning. If the warning is ineffective, the offending robot will be issued a Red Card.

R37 During the Setup Period and the 15-Second Referee System Initialization Period, robots in the Battlefield are not allowed to leave their corresponding Initial Zones.

Penalty: The offending robot may be issued a Red Card as the highest penalty.

R38 If any projectile needs to be launched during the Setup Period, it must be launched into the projectile clearance bag offered by the referee.

Penalty: The offender and the offending robot may be issued a Red Card as the highest penalty.

R39 During the competition, the robot is not allowed to disintegrate into sub-robots or sub-systems connected by multiple flexible cables, and must not cast or launch their own parts.

Penalty: The offending robot will be issued a Red Card.

R40 During the competition, alive robots are not allowed to block any of its Armor Modules with its body or transform beyond its maximum expansion size.

Penalty: Warnings are issued against the offending team based on their subjective intention. If the blocking was intentional, a Yellow Card will be issued along with a Verbal Warning. If the Verbal Warning is ineffective, a Red Card will be issued. If the blocking was passive in nature, the offender will be issued a Yellow Card.

R41 During the setup period, replacement modules or parts used on robots must comply with the requirements for “Equivalent Parts.” For details, please refer to “6.3 Setup Period”.

Penalty: The offending robot may be issued a Red Card as the highest penalty.

7.2.3 Interaction

7.2.3.1 Interaction between Robots

R42 A robot may not use any of its body structures to strike an opponent robot in collision. If a defeated robot is

blocking a key path, the robot can be slowly pushed away.



In any collision between robots, the offending robot will be deemed by the referee as the initiator.

Penalty: Warnings shall be issued against the offending robot based on their subjective intention and the degree of collision.

Table 7-3 Collision Violation Penalty Standards

Violation Level	Description
A Yellow Card	● Actively causing frontal and high-speed collision ● Active pushing that causes the other team's robot to move noticeably ● Active pushing that impedes the normal movement of the other team's robot
A Red Card	● Actively causing high-speed, repeated, and intense frontal collision ● Active pushing that causes the other team's robot to move for a longer distance ● Active pushing that seriously impedes the normal movement of the other team's robot

If a collision causes serious damage to the opponent's robot or compromises the fairness of the match, then in the next match of the same competition stage the offending robot (i.e., the specific robot number only) is prohibited from competing, and no other robot is allowed to substitute for it.

R43 A robot must not get stuck together with any other robot due to active interference, blocking, or collision.

Penalty: Counting from when an entanglement is determined, warnings should be issued against the offending robot based on the length of the violation. If it exceeds 10 seconds, a first Yellow Card will be issued. Thereafter, each 20 seconds will incur a further Yellow Card. This should carry on until the offending robot is ejected. Regardless of whether the offending robot is alive, if the violation lasts longer than 90 seconds, the offending team may be issued a Round Forfeiture, which is the highest penalty, based on their subjective intention.

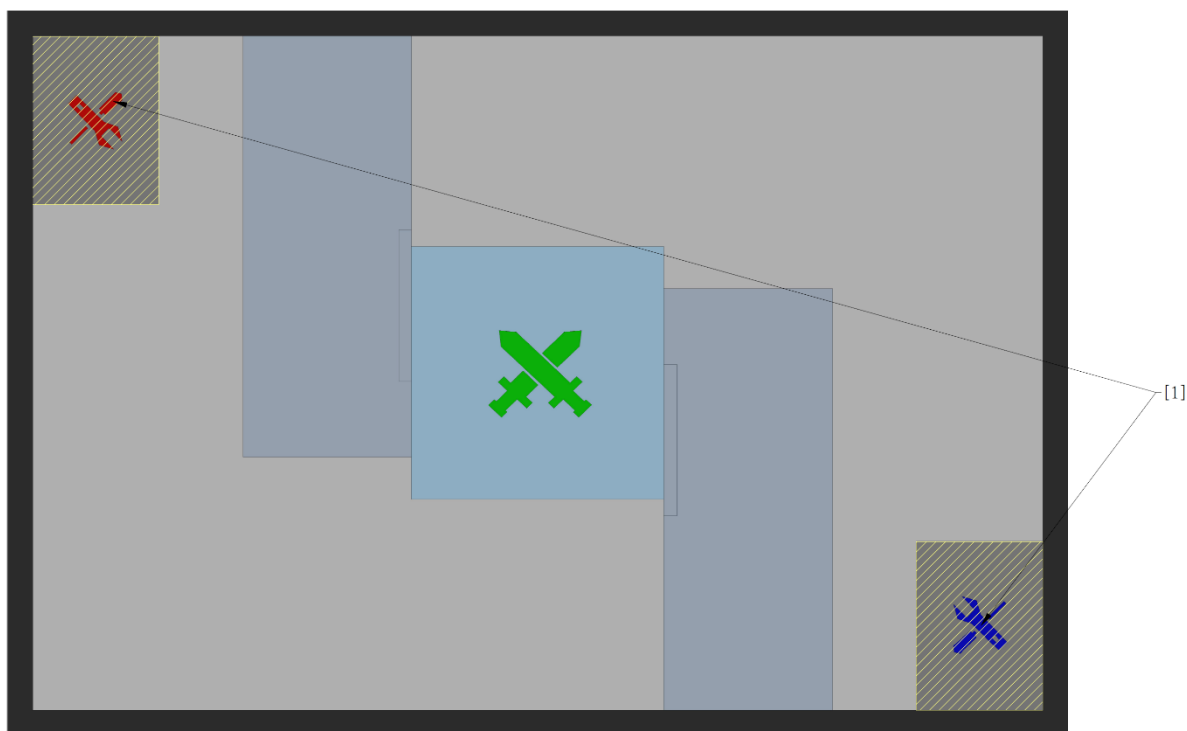
R44 A robot must not interrupt any opponent robot's regular HP recovery by any means of contact.

Penalty: The offending robot will be issued a Yellow Card.

7.2.3.2 Interaction between Robots and Battlefield Components

To ensure the fairness of the competition and that robots in the Battlefield are able to receive buffs and reloads effectively, Resupply Penalty Zones have been set up in the Battlefield where the robots of one or both teams are forbidden from entering, as shown below. The Resupply Zone of one team is the Resupply Penalty Zone for the

other.



[1] Resupply Penalty Zone

Figure 7-1 Battlefield Penalty Zone

R45 Robots are not allowed to enter the Resupply Penalty Zone.

Penalty: Warnings will be issued against the offending team based on how long the robot remained in the Penalty Zone and the impact of its violation. If the violation lasts longer than 3 seconds, a Yellow Card warning will be issued for the first time. Thereafter, a Yellow Card warning will be issued every 10 seconds until the robot is defeated or goes Abnormal Disconnection. An offending robot that causes serious damage to an opponent robot by remaining in a Penalty Zone will be issued a Red Card.

R46 Teams are not allowed to bring Energy Units intended for use in the match into the competition area. During matches, robots may use only the official projectiles and Energy Units that the RMOC provides on the field.

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

R47 During the competition, robots are not allowed to destroy the Battlefield Components or projectiles nor affect the normal function of the Battlefield Components.

Penalty: The highest penalty that can be imposed on the offending team is disqualification.

7.3 Serious Violations

The following actions are considered serious violations of rules. The highest penalty the RMOC may impose on an offending team for serious violations is disqualification. In the event of any violation of local laws and regulations, the RMOC will fully cooperate with the relevant authorities to hold the offender legally responsible.

Table 7-4 Types of Serious Violations

Regulation	Type
1.	Malicious destruction of the Battlefield, Battlefield Components, other official equipment, or the robots or equipment of other teams.
2.	Falsification, impersonation, or other dishonest behaviour during the competition.
3.	Tampering with or damaging the Referee System, or interfering with any detecting function of the Referee System through technical means.
4.	Circumstances that violate the specifications documents and are determined by the Chief Referee as a serious violation.
5.	Disobedience over penalties, refusal to cooperate, deliberate delay, disrupting the competition, forfeiting without valid reasons, boycotting, or other behavior that hinders the competition.
6.	Match throwing or manipulation.
7.	Providing property to others or illegally soliciting or accepting property from others for the purpose of obtaining an unjust competition outcome or improper benefits.
8.	Uncivilized and immoral conduct involving defamation, verbal abuse, rude gestures, malicious heckling, or malicious throwing of objects.
9.	Publishing, spreading, or disseminating to the media false or irresponsible remarks.
10.	Deliberately attacking or colliding with others in a manner that endangers themselves or others.
11.	Carrying hazardous items or contrabands.
12.	Other behaviour that violates the spirit of the competition and are deemed a serious violation.
13.	Other conduct that violates core socialist values, sports ethics, public order and norms, the culture and discipline of the competition, laws and regulations, or that causes an adverse impact on society.

8. Irregularities



There will be a certain delay in the referee's manual penalties and handling of abnormal situations. If it has a major impact on the result of the competition, the Chief Referee will determine the final result according to the actual situation.

If any of the following anomalies occur during the competition, it will be handled according to the corresponding process, to which both teams cannot object. The handling process is as follows:

- When a serious safety hazard or abnormality has occurred, such as: a battery explosion, stadium power outage, explosion of a compressed gas cylinder, or interpersonal conflict, the Head Referee will notify both teams' operators after discovering and confirming the emergency, and eject all robots through the Referee System. The result of the round will be invalidated. The round will restart after the safety hazard or abnormality has been eliminated. The RMOC will give priority to addressing safety issues and will make every effort to protect Robots within reasonable limits. However, it cannot guarantee that Robots will be entirely unaffected, and any loss or impact resulting from safety measures shall be borne by the participating teams.
- If non-key Battlefield Components are damaged during a match (e.g., damage to the PVC Flooring) and the damage does not affect the fairness of the match, the match will proceed as usual.
- The competition will carry on despite any anomaly with a robot's armor light effects or light indicator effects or any damage to an Armor Module Sticker.
- If key Battlefield Components experience logical or structural faults, for example, where the network connections are disrupted causing a robot to disconnect or a Battlefield Component does not operate normally, the referee will solve the problem manually through the Referee System. If the failure cannot be dealt with manually, the referee will notify the operators of both sides and eject all robots at the same time. The competition will end immediately, and the result of the competition will be invalid. When problems are solved, there will be a rematch.
- During a match, if there is structural damage or malfunction of key Battlefield Components that affects the fairness of the competition but the Head Referee did not confirm and end the competition round in time, and as a result, a round that should have ended continues and has a winner, the results of the round will be invalidated once the Chief Referee has confirmed the issue within five minutes after the end of the round, and a round of rematch will be held.
- In the case of a serious violation that would clearly have triggered a penalty of forfeiture, and the Head Referee did not confirm and execute it in time, the results for the round shall be invalidated once the Head Referee has

made a determination to that effect within five minutes after the end of the round, and the offending team will be issued a forfeiture.

- During the competition, if any situation has occurred that may affect the fairness of the competition, the Chief Referee shall notify the Captains of both teams of the situation and suspend the results confirmation process within five minutes after the end of the match, and shall make a determination within 60 minutes and notify both Captains of the final course of action. The handling outcome is final and cannot be challenged by both teams.

9. Appeal

Each team has one opportunity to appeal in each event of each competition site during the RMUL 2026. Such opportunities cannot be accumulated. If an appeal is successful, the team involved retains its right to appeal again in future matches. If it is unsuccessful, the team will have exhausted its one opportunity to appeal. When a team has exhausted its opportunity to appeal, the Arbitration Commission will no longer accept any appeal from the team. After the appeal is accepted, the Arbitration Commission will deliberate on the appeal materials and relevant evidence. On behalf of the Arbitration Commission, the Chief Referee will then communicate the appeal decision to both teams. The Arbitration Commission has the right to final interpretation of the appeal decision.

The following situations do not constitute a basis for appeal:

- Verbal Warnings and Yellow and Red Cards issued as penalties for violations.
- The types and processes of Technical Timeouts initiated.
- “Regular battle damage” occurred at the Referee System On-board Modules.
- Human timing error in Engineer Challenge.

No appeal is allowed five minutes after a Match Results Confirmation Form has been signed or a match has ended.

9.1 Appeal Process

Teams filing an appeal need to follow the procedures as shown below:



Figure 9-1 Appeal Process

9.2 Appeal Materials

Each file submitted by participating teams as appeal materials must not exceed 500 MB in size. No more than 10 files can be submitted.

9.3 Appeal Decision

Appeal Decisions include: Maintaining the original match results, Forfeiture against the respondent, and Rematch between both teams. After the Arbitration Commission confirms the appeal decision, neither team is allowed to challenge it.



- Successful appeal: Forfeiture against the respondent, Rematch between both teams
- Appeal failed: Maintaining the original match results

If the communicated appeal decision is a rematch, but neither team is willing to accept a rematch, the appeal will be deemed failed and the original match results will be maintained.



- Provided it does not affect the schedule of the entire competition, the rematch will in principle be held on the same day after all the other matches, depending on the actual situation.
- The flow of the rematch will be the same as regular matches. Both teams are required to compete according to the time stipulated by the RMOC and comply with relevant rules.

If the round involved in the appeal decides the final winner of a match, the match winner must be re-decided.

Example: In a BO3 match with a result of 1:2, the Red Team wins the first round, while the Blue Team wins the second and third rounds. After the end of round, the Red Team files an appeal regarding the second round, and the appeal decision is a rematch between both teams. If the Red Team wins the rematch round, the final match result becomes 2:0; if the Blue Team wins the rematch round, the final result remains 1:2.

Appendix: Pre-match Procedures

Pre-inspection

The pre-inspection is a check conducted before the formal inspection. It aims to help teams identify and resolve robot issues in advance.

The RMOC assists teams to diagnose and handle robot faults during the pre-inspection and Practice Session, but pre-inspection results do not substitute for formal inspection. If a robot fails to meet the inspection standards during the formal inspection, that robot is not permitted to compete.

Robot limits for pre-inspection

- 3V3 Matches: Each team may bring up to 4 robots for pre-inspection.
- Infantry Match and Engineer Challenge: For each event, each team may bring up to 2 robots for pre-inspection.

Practice Session

Practice Session gives teams an opportunity to debug and adapt before the official competition. Its primary purposes are:

- To familiarize teams with the competition environment and procedures.
- To test and adjust robot status and strategies.

Duration and opportunities:

- 3V3 Match: Total duration is 15 minutes, comprising one match and free debugging time.
- Infantry Match: Total duration is 15 minutes, comprising one match and free debugging time. Teams that participate in both 3V3 and Infantry Match are allowed to attend only the 3V3 Practice Session.
- Engineer Challenge: Total duration is 10 minutes, comprising one challenge and free debugging time.

Practice Session rules:

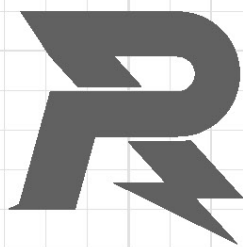
- The schedule is tight and focuses on debugging; absent a major official equipment failure, the session does not pause by default.
- If the Referee System On-board Modules malfunction, the RMOC may grant an Official Technical Timeout of up to 2 minutes to address the issue; this timeout counts toward the total Practice Session time.
- The RMOC does not provide Team Technical Timeouts during Practice Session.

Free debugging phase:

- When conducting projectile tests, teams may request a clearing bag from the referee and must fire only into the clearing bag.
- The competition state during the free debugging phase is “Not Started”; teams must independently adapt to and familiarize themselves with stage transitions and requirements.

Participation eligibility and limitations:

- Robots that fail to pass inspection on time or that present safety hazards are not allowed to participate in Practice Session.
- Robots that fail formal inspection due to serious noncompliance are allowed to participate only in the free debugging phase of Practice Session.
- The number of robots participating in Practice Session must not exceed the maximum robot roster specified for each event.



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