2025 RoboCup Junior China Rules

Mini Rescue Basic
(Final)

2025RoboCup Technical Committee for RoboCup Junior China Rescue Competition

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1. Summary

The robot must deliver a medical kit through a hazardous path, avoid obstacles, clear roadblocks, and rescue a hostage. Tasks include climbing a 30-degree slope (60×60cm platform) and placing the hostage in a color-coded safe zone.

2. Competition Overview

The Mini Rescue Basic league is divided into middle school and elementary school divisions. On-site competition consists of two rounds per team, conducted under the published rules. The competition field layout is randomized for each round.

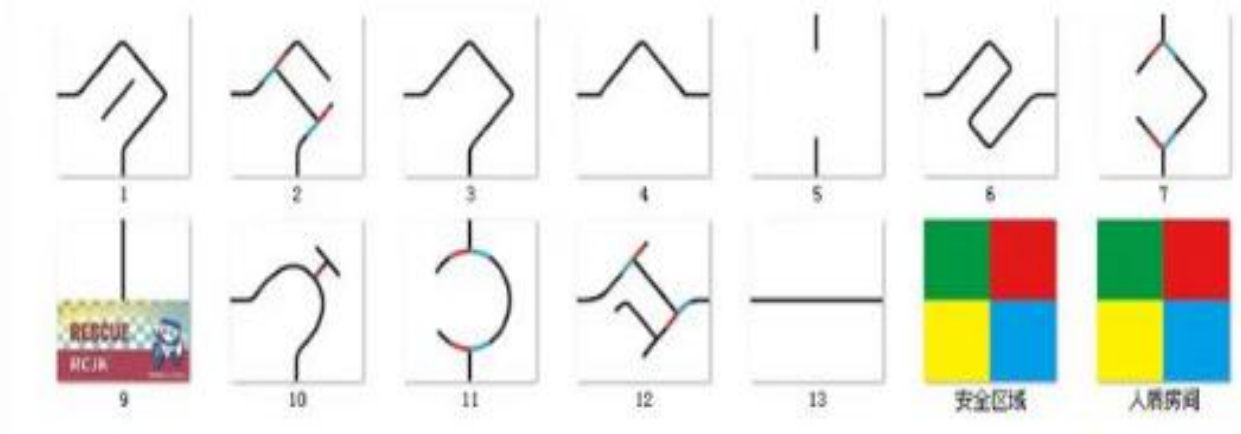
Single-day competition: Teams are permitted only one calibration and testing session. The field layout remains unchanged for both rounds. After completing the first round, robots are sealed and proceed directly to the second round.

Two-day competition: Robots must be disassembled

into their minimal components and rebuilt on-site. A calibration and testing period is provided, and the field layout for the second round may be adjusted based on actual conditions.

3. Competition Rules

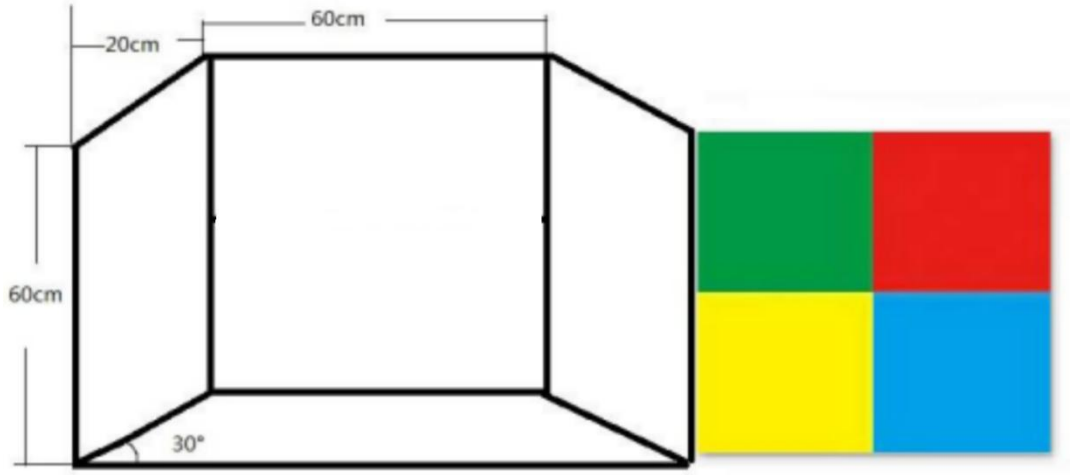
3.1 Fields



- The field consists of interconnected, non-deforming panels forming rooms constructed from modular 60×60cm (±0.5cm) panels.
- Starting room and safe zone are fixed; other rooms are randomly arranged.
- Slope: ⩽30-degree incline, 60cm width, 20cm length, with a safe area behind it. The slope has no navigation lines.
- Hostages: Aluminum-wrapped empty cans. The hostage room has four color zones (red, green,

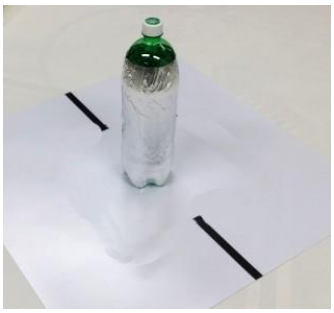
blue, yellow). The referee announces the hostage's color zone before each round.

● The safe room is the last room with a slope (⩽ 30 degrees) and a safe area with four color zones. The safe color zone matches the hostage's color zone in the current round. The safety zone is randomly placed in each round.



● Obstacles: Heavy aluminum-wrapped objects (e.g., 1.5-2L plastic bottles) that robot must avoid. Robots can touch but not push obstacles out of the room. If an obstacle is found outside its

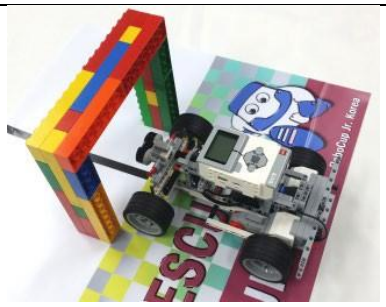
designated room after the competition concludes, no points will be awarded for that room.



● Lines: Black (safe), red (blocked), and blue (safe) lines (1-2cm width).

● Speed Bumps: Three speed bumps(≤2cm diameter) are randomly placed on black lines in a random room per round.

● Gates: Each room has a gate with three pillars (two on the sides, one on top, ⩾30cm height, ⩾30cm width) . After departure, the robot must successfully pass through the gate. If the robot touches the gate, it must restart from the starting position without stopping the timer.



- Environmental Condition: Teams should ensure their robots are adaptable to venue lighting conditions. Lighting and magnetic fields may vary across the competition arena. The field will be subject to geomagnetic influences (e.g., from floor-embedded wires and metal objects). Teams should optimize their robots for ease of operation. While the organizing committee and referees will minimize the impact of external lighting variations, audience camera flashes cannot be entirely prevented.
- Roadblocks (6×6×6cm cubes): Roadblocks clearance is required. If it doesn't touch the passable line, it's considered successfully removed.
- Medical kit (3×3×3cm): Prior to the robot's departure, the medical kit must be securely placed on the robot and remain entirely off the ground. During the search for the hostage, the

medical kit must not make contact with the ground; any such contact will result in the kit being deemed dropped. Upon locating the hostage, the medical kit must be deposited in its entirety within the designated color zone corresponding to the hostage's position.

3.2 Robot

- Dimensions: ⩽30cm × 30cm × 30cm (L × W × H).
- Autonomy: Fully autonomous; remote control prohibited.
- Components:

a. 1 controller, ⩽4 motors, ⩽4 sensors.

b. Disassembled entry; onsite assembly required.

c. No pre-programmed navigation/obstacle detection modules.

- Safety: No lasers; Bluetooth 2.3 or ZigBee only for wireless communication.
- If you have questions regarding your robot's eligibility for the competition, submit the

relevant technical documentation to the RCJ Rescue Committee China for verification.

3.3 Play

- Teams: Each team has a team leader, members, and coach. Parents cannot participate.
- Preparation: Practice is allowed with referee's permission. Teams must submit required programming software in advance.
- Time Limit: 3 minutes per round.
- Scoring:

a. 20 points per room traversed.

b. 40 points for slope completion, 80 points for hostage extraction, 40 points for roadblock clearance.

c. 30/10 points for medical kit placement (correct/incorrect zone).

d. Time bonus (1 point/second remaining).

- The robot's wheels must be positioned on both sides of the navigation line; otherwise, the robot will be deemed to have left the room. In

rooms containing obstacles, the robot is permitted to deviate from the line. If the robot leaves the line before the competition time expires, the team leader may retrieve and reposition it to the starting point. However, no points will be awarded repeatedly for the same room.

- Penalties: 20/50/80 points per reset (max 3 resets).
- Violations:Unauthorized devices, coaching interference, or damage to the field result in disqualification.
- Termination: Competitions end when the hostage is rescued, the robot exits the field, or the captain requests termination.

4. Conflict Resolution

a. Final decisions rest with the Technical Committee (TC) or referees.

b. Appeals must be submitted by the team leader within 2 hours post-competition.

5. Code of Conduct

a. Teams must uphold RCJ values (fairness, respect, no external assistance).
b. Prohibits interference with other robots or the field.
c. Coaches must not enter competition areas or assist with robot repairs/programming.
d. Violations: Disqualification for disruptive behavior, cheating, or unauthorized modifications.

Mini Rescue Basic On-Site Competition Scoring Table

2025RoboCupJunior China											
Name of Team: _____							Division:				
1st Round											
Mini Rescue Basic On-Site Competition Scoring Table											
Room Traversed 20/Room	Bidirectional Slope Completion 40	Hostage Extraction 80	Roadblocks removal 40	Hostage Placement 60	Medical Kit Placement 30/10	Time Remaining	RCJ Spirit 60	Number of Resets	Total	Time	Signatures of All Team Members
Signatures of Referee:											
2nd Round											
Mini Rescue Basic On-Site Competition Scoring Table											
Room Traversed 20/Room	Bidirectional Slope Completion 40	Hostage Extraction 80	Roadblocks removal 40	Hostage Placement 60	Medical Kit Placement 30/10	Time Remaining	RCJ Spirit 60	Number of Resets	Total	Time	Signatures of All Team Members

The final total score for the designated mission competition will be determined by the highest score from the two rounds.

Note: By signing this document, team members acknowledge their acceptance of the competition results and waive the right to dispute.