

## RCJ Rescue Line Entry & Rescue Maze Entry SuperTeam Rules

<https://2024.robocupjunior.eu/superteam-rescue>

Version 1.0, June 15 (Sat), 13:00

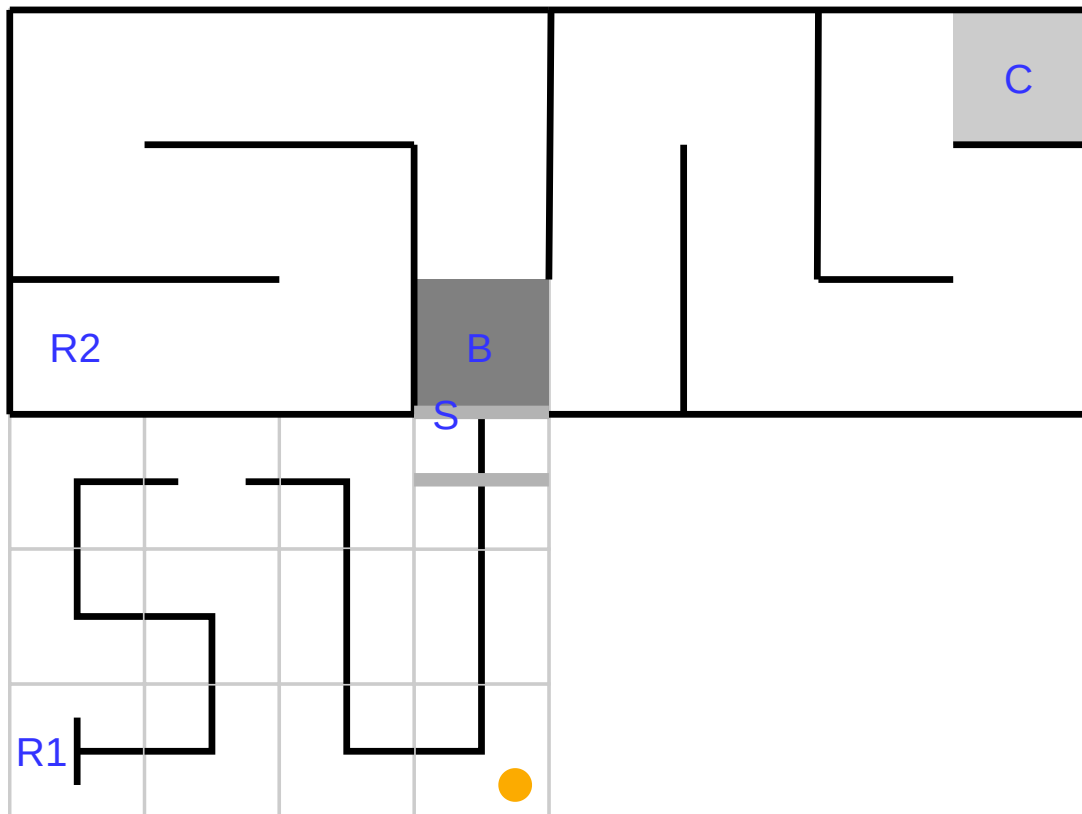


In general, the official rules (e.g., robot construction, or modifying the robot during a scoring run being prohibited) still apply.

### Robots

- Two or more teams form a SuperTeam (at least one Rescue Line Entry team and at least one Rescue Maze Entry team)
- In a scoring run, exactly two robots (from different teams) have to be on the field

### Field



- As shown in the drawing, the field consists of a maze and a line course

- A line leads from a starting tile (R1) to a vertical silver tile (S), which the first robot may push so that it falls down on a neighboring black tile (B)
- The tile before the vertical silver tile is a straight line with a silver tape strip on it (roughly in the middle of the tile)
- The black tile can be reached through the maze (only linear walls)
- From the black tile, a silver/checkpoint tile (C) can be reached through the maze (only linear walls)
- The line consists of only a black line, gaps, and speed bumps (i.e., no obstacles, seesaws, intersections, ...)
- There may be speed bumps in the maze
- The layout of the black tile (B), its four neighboring tiles and walls, as well as the vertical silver tile (S) will be exactly as shown in the drawing
- All other elements may be different in a scoring run and are only shown as an example

## Play

- The SuperTeam has a maximum of 8 minutes for their run (incl. time for calibration)
- The first robot is placed on starting tile R1, and the second robot is placed on starting tile R2
- The first robot has to follow the line until the vertical silver tile (S) and push it so that it covers
- The second robot has to navigate through the maze until reaching the black tile (B), where it has to wait for the first robot to push the silver tile
- Once the silver tile has been pushed over by the first robot, the second robot has to continue via this tile through the maze until reaching the final checkpoint tile (C), where it has to stop
- After the second robot proceeded via the silver tile, the first robot has to enter the silver tile and stop there
- Lacks of progress of the two robots are independent of each other
- A lack of progress occurs when:
  - a team captain declares a lack of progress
  - the first robot loses the black line without regaining it by the next tile in the sequence
  - the first robot reaches a line that is not in the intended sequence
  - the second robot visits the black tile (more than half of the robot is inside the tile when looking from above)
- If a lack of progress occurs (R1), the first robot must be positioned on the previous checkpoint tile (or the starting tile)
- If a lack of progress occurs (R2):
  - the second robot must be positioned on the starting tile
  - or, if the first robot has already pushed the vertical silver tile **AND** the second robot successfully passed it, the second robot must be positioned on the tile right after the silver tile (it serves as a checkpoint tile but is not specifically indicated as such on the field)
- Scoring is as follows:
  - Robot 1 reaches a checkpoint on the 1st / 2nd / 3rd / 4th+ attempt: 60 / 40 / 20 / 10 points
  - Robot 1 stops (at least 5 seconds) on the pushed-over silver tile on the 1st / 2nd / 3rd / 4th+ attempt: 60 / 40 / 20 / 10 points
  - Robot 2 reaches the tile right before the black tile on the 1st / 2nd / 3rd / 4th+ attempt: 30 / 20 / 10 / 5 points
  - Robot 2 passes the pushed-over silver tile and reaches the subsequent tile on the 1st / 2nd / 3rd / 4th+ attempt: 30 / 20 / 10 / 5 points/victim

- Robot 2 stops (at least 5 seconds) on the final silver tile on the 1st / 2nd / 3rd / 4th+ attempt: 60 / 40 / 20 / 10 points
- Attempts are counted from the starting tile or the last visited checkpoint
- After 5 minutes, the teams may decide to place the second robot manually behind the black tile, if the first robot is unable to push the silver tile; in this case, the first robot will be stopped and cannot score any additional points
- The scoring run ends when:
  - the 8 minutes of allowed game time expire
  - both team captains call the end of the game
  - both robots have stopped at their respective silver tiles for at least 5 seconds to end the game

## **Competition**

- There will be multiple rounds
- Only the best round is used to determine the best SuperTeam (most points, smallest time)