

“RELAY RACE” CONTEST RULES

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Based on the version 2.1 robofinist.ru

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1. General provisions

1.1. Field

- 1.1.1. Polygon color is white.
- 1.1.2. Line color is black, the color of the exchange zone lines are black.
- 1.1.3. Line width is 50 mm; width of the line restricting the exchange zone is 30 mm.
- 1.1.4. Minimum curvature radius of the line is 30 mm.
- 1.1.5. Exchange zone length is 600 mm; its width is 300 mm.
- 1.1.6. See the Fig. 1 for a sample of the field. Real field may differ from that presented in the figure.
- 1.1.7. There may be obstacles on the line: curbs, slides, etc.

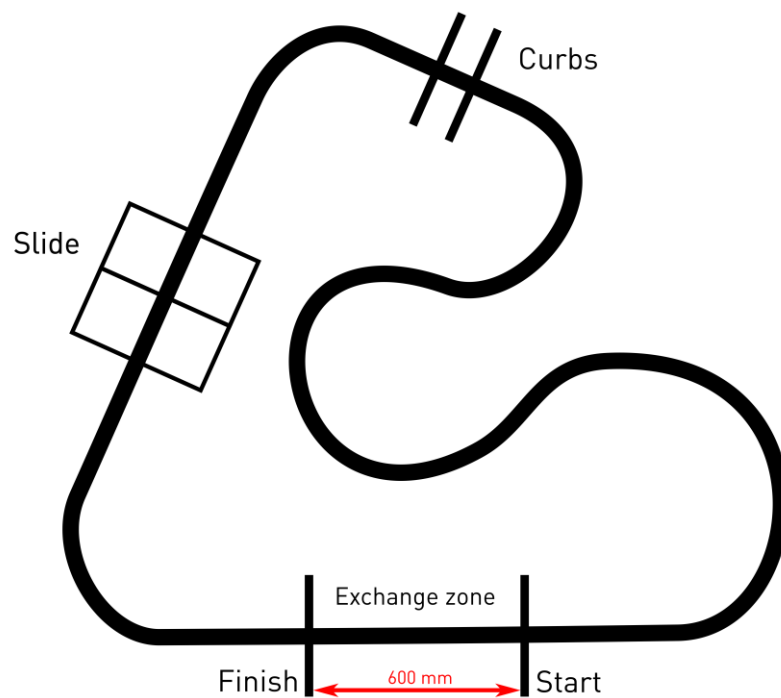


Fig. 1. Field sample

1.2. The baton

- 1.2.1. White cylinder is used as a baton (see Fig. 2).
- 1.2.2. Cylinder diameter is 60-65 mm; its height is 100-135 mm.
- 1.2.3. Material of the cylinder side surface is wood or paper.
- 1.2.4. Cylinder weight is up to 75 g.

2. Requirements to robots

2.1. Main specifications

- 2.1.1. Two robots participate in the relay race. Robots shall have mechanisms to pass the baton.

- 2.1.2. When starting, robot dimensions shall be 30×30 cm max. During the movement the robot can increase its size to 50×50 cm. The robot's height is not limited.
- 2.1.3. The robot weight is no more than 3 kg.
- 2.1.4. The robot must be fully self-sustained.

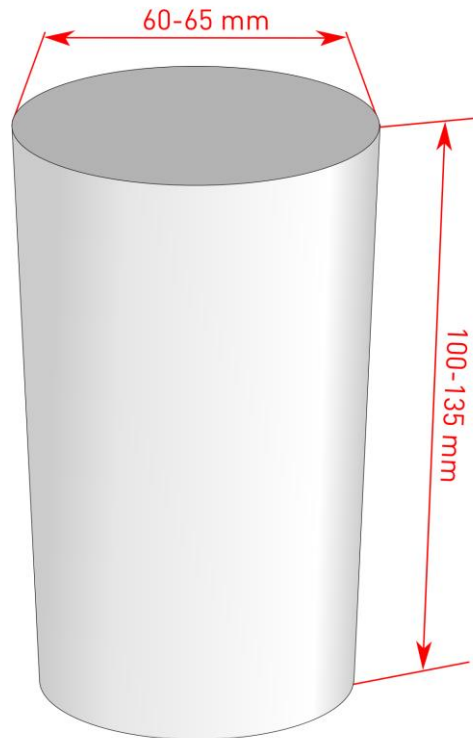


Fig. 2. The baton

3. Game

3.1. The objective of the game

- 3.1.1. During 5 minutes two robots of the same team shall drive the maximum number of laps with a relay baton passing it every time in the exchange zone.

3.2. Start

- 3.2.1. At the start both the robots should be in the exchange zone.
- 3.2.2. When starting, the relay baton should be outside the line limiting the relay zone before the robot which starts to move along the black line first.
- 3.2.3. After starting up the robot shall drive along the specified black line and when got back to the exchange zone pass the relay baton to the next robot.
- 3.2.4. During competition the participants are not allowed to touch the robot body and the baton.

3.3. Relay baton passing and loosing

- 3.3.1. Relay baton passing is permitted only in the exchange zone.
- 3.3.2. In the exchange zone the relay baton may be any amount of the specified time.

- 3.3.3. The robot which passed the relay baton shall stay in the exchange zone.
- 3.3.4. Relay baton loosing can occur only outside the exchange zone.
- 3.3.5. The relay baton is considered to be lost if no part of the robot touches the relay baton for more than 5 seconds and the relay baton is outside the robot's contour.
- 3.3.6. It necessary to restart robots in case of losing the relay baton (see details in paragraph 3.4)
- 3.3.7. During the exchange the baton should touch the surface of the field.

3.4. Restart

- 3.4.1. Robot movement stops in the following situations:
 - 3.4.1.1. If the robot loses the relay baton (see details in par. 3.3);
 - 3.4.1.2. If the robot leaves the exchange zone without rely baton;
 - 3.4.1.3. If the operator touches the robot body or the relay baton;
 - 3.4.1.4. If any robot loses the line for more than 5 seconds;
 - 3.4.1.5. If the robot which passed the relay baton leaves the exchange zone after the other robot receives the relay baton.
- 3.4.2. It is permitted to restart the game within the specified time. For this purpose it is necessary to repeat the actions that were made at the start (for more information see paragraph 3.2).
- 3.4.3. During restart the referee does not stop the game clock.

3.5. Finish

- 3.5.1. Attempt ends after 5 minutes passes from the first cross of the start line by the robot or on the referees command.

4. Scoring

- 4.1.1. The team gets one point per each full lap correctly finished by the robots with the relay baton.
- 4.1.2. The lap is considered to be finished correctly if one robot crosses the start line with the relay baton, passes it to another robot after finish line and the second robot with the relay baton crosses the start line.
- 4.1.3. If there were several restarts during the attempt only one start is scored with the maximum number of points.
- 4.1.4. In case there were several attempts, each of them is counted separately and the attempt with the maximum points is scored.
- 4.1.5. With an equal number of points at two robots the number of successful starts is counted. If this number is also the same the time of the first successful finished lap is counted from this attempt.

5. Change Log

5.1. Version 2.2

5.1.1. Changes were introduced to the par. 3.2.2 on the position of the relay baton before the start.

5.2. Version 2.1

5.2.1. In version 2.1 of the present regulations is added par. 3.3.7 on requirement of the baton touching the ground.