



“LEGGED ROBOTS MARATHON” CONTEST RULES

Version 1.2 dated August 30, 2016

1. General provisions

1.1. Objective of the contest

1.1.1. The objective of the contest is to develop the robot, and, in particular, the special design of the legs for movement on the assigned trajectory by step, jogging or jumping.

1.2. Field

1.2.1. The field represents the flat surface of a white cast banner with a drawn on it black line indicating the trajectory.

1.2.2. Length of the distance is about 11 m.

1.2.3. Width of the black line is 50 mm.

1.2.4. Minimum curvature radius of the black line is 30 mm.

2. Robot specifications

2.1. Restrictions on the geometry and control

2.1.1. The maximum size of the robot at the start area shall not exceed 40 x 40 cm. There are no restrictions on the height of the robot.

2.1.2. There are no restrictions on the robot geometry (including dimensions) robot after the start¹.

2.1.3. Weight of a robot should not exceed 3 kg.

2.1.4. The robot must be fully self-sustained.

2.1.5. Robot must contain controller and power supply.

2.1.6. Remote control by an operator is prohibited, except for the moments of the start and stop of the robot (that is, robot can be started and stopped by pressing the button on the radio remote control).

2.2. Specifications of legs and joints

2.2.1. Robot must have at least one leg. The number of robot legs is not limited.

2.2.2. Each leg should contain at least two joints and demonstrate the relative motion between the joints for a walk.

2.2.3. Robot should touch the surface of the landfill only with legs.

¹ Start is the time when any part of the robot cross the start line.



- 2.2.4. Joints of the robot should include means of controlled movement for the walking, jogging and/or jumping. Here are some examples of designs that are not legs:
1. Whirling spoked wheels or wheels with other radially sticking out elements for creation of a semblance of legs;
 2. Traction straps with spikes or roller chain with "feet", fixed in any direction;
 3. "Leg" with fulcrum which does not performing reciprocating movements and just rotates around a point which is fixed relative to the robot' corpus.
 4. "Leg" with fulcrum which does not performing any movements relative to the robot' corpus.
- 2.2.5. It is prohibited to use robots with any limbs in contact with the floor using wheels.
- 2.2.6. Location of each foot the robot cannot be higher than the related attachment point.

3. Contest

3.1. Procedure

- 3.1.1. Robot starts from a fixed start position. Front legs of the robot shall be aligned with the start line. The robot can follow along the line by step, jogging, jumping, or any other non-wheel way of movement.
- 3.1.2. Robot in motion should follow the marked trajectory at the marked route.
- 3.1.3. The task completion time must not exceed 5 minutes.

3.2. Determination of the winner

- 3.2.1. The best result out of all attempts is evaluated when determining the winner.

4. History of modifications

4.1. Version 1.2

- 4.1.1. Version 1.1 is created based on the previous version (1.0) of this Regulation. Below is the list of changes.
- 4.1.2. Changes were introduced to the par. 2.2.1.

4.2. Version 1.1

- 4.2.1. Version 1.1 is created based on the previous version (1.0) of this Regulation. Below is the list of changes.
- 4.2.2. Paragraph 3.1.3 added.

4.3. Version 1.0

- 4.3.1. Version 1.0 of the Regulation was drawn up on March 06, 2015.