

1. Rules for the Line Follower competition

1.1 Line Followers must be self contained, and not externally operated by wire or by remote radio control during the race.

1.2 Except for the battery pack, the handler shall not make any addition, removal, replacement or change to the hardware of a Line Follower during a contest. It is however permissible to make minor repairs.

1.3 A Line Follower shall not exceed 25 cm in overall length, 25 cm in overall width and 20 cm in overall height.

2. The Line Follower racetrack

2.1 The track is laid out using white 19mm tape on a matt-black base – typically MDF and blackboard paint. Tracks may consist of small tiles or large boards. Refer to Fig. 1 for the range of shapes that will be used to build the track. Fig. 2 is an example of a possible competition racetrack.

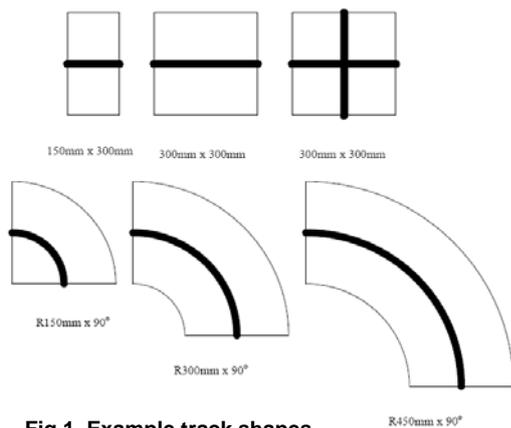


Fig.1. Example track shapes

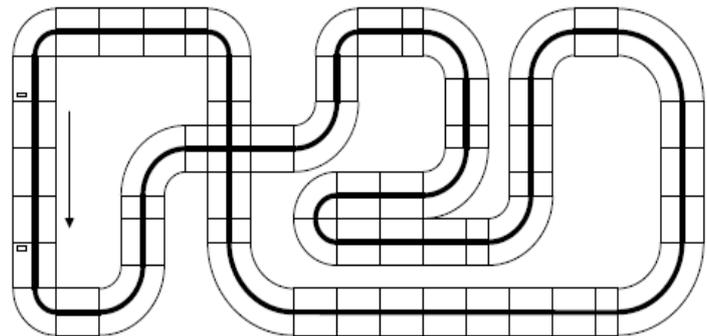


Fig.2. Example racetrack – corner markers not shown

2.3 The racetrack shall comprise of straight lines and arcs within the confines of the base-board(s). The base board must be large enough to contain a 1.5m start straight.

2.4 The radius of the arc shall be fixed at 15 cm, (19 cm,) 30 cm and 45 cm. The angle of the arc shall be 90, 180 or 270 degrees.

2.5 The length of a straight shall not exceed 6 metres.

2.6 Crossovers are permitted, but will be at right-angles only. Line Followers shall not turn left or right at a crossover.

2.7 The starting line and the finishing line are to be located in the straight section of the circuit. The finishing line is to be located 1m behind the starting line. A starting marker and finishing marker are to be affixed at the starting line and the finishing line on the right side of the track pointing in the direction of the race. The area between the starting and finishing line shall be called the "start-finish area". See Fig. 3.

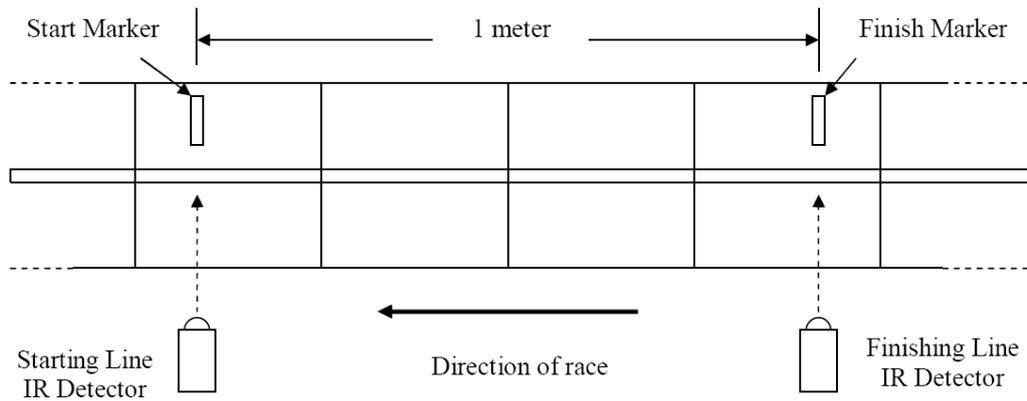


Fig. 3 Start – Finish Area

2.8 The track shall be straight for 25cm either side of the start-finish area, and either side of a crossover.

2.9 A corner marker shall be affixed on the left side of the track in the direction of the race at each point where the curvature of the track changes (beginning and end of the arc). See Fig. 4 and Fig. 5.

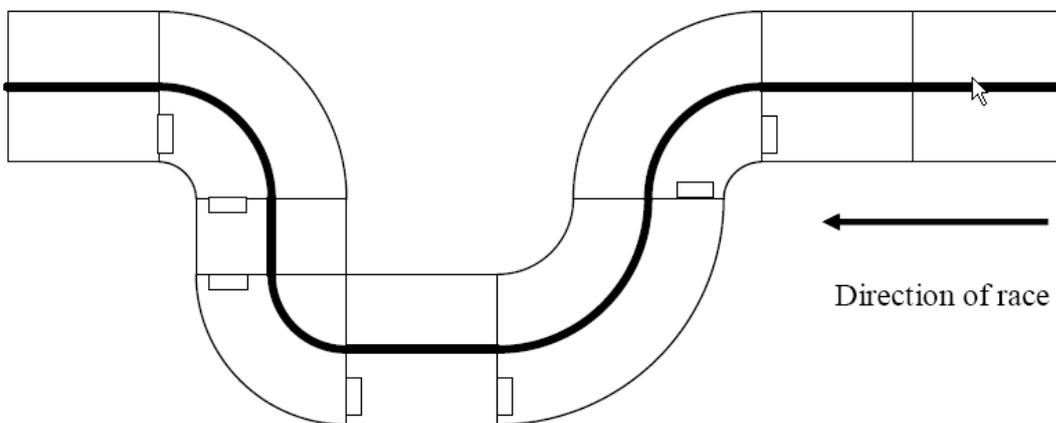


Fig. 4 Corner Markers Indicating Change of Curvature

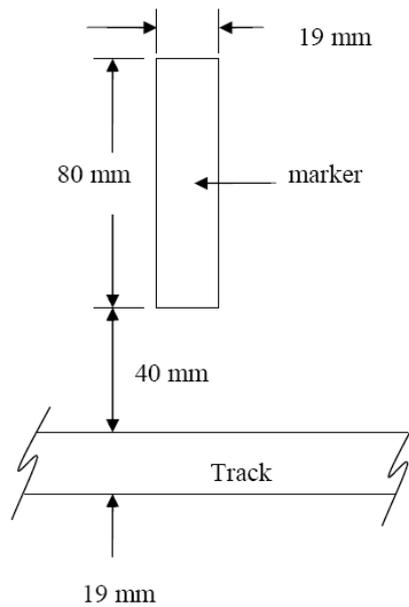


Fig. 5 Marker Position and Dimension

2.10 A track may have arcs with different curvatures linked continuously.

2.11 The surface of the racetrack shall normally be level, however:

- portions of the track may be inclined at a maximum of 5 degrees.
- differences in level of up to 2 mm may exist at the joints between modules.
- gaps of up to 2 mm may exist at the joints between modules.

2.12 Complaints about the grip on the track surface will not be entertained.

3. Timing of laps

3.1 The time it takes for a Line Follower to make the circuit of a track shall be the recorded lap time.

3.2 To determine the lap time of the Line Follower, the period from the time the sensor at the starting line detects part of the Line Follower body to the time the sensor at the finishing line detects part of the body of the same Line Follower shall be clocked.

However, no measured lap time shall be regarded as valid unless the entire body of the Line Follower passes through the finishing line.

3.3 The Line Follower shall have a specified maximum number of attempts to run the track within a stipulated time limit (typically 3 to 5 minutes and from 3 to 4 attempts to be decided by the organizer on the day of the race). If the performance time limit is reached and the Line Follower is in the midst of a run, the Line Follower will be allowed to complete the run and the lap time will be valid if the run is successful.

3.4 Within the given performance time, the handler is allowed to replace batteries and/or upload new program parameters to the Line Follower.

3.5 Line Followers shall start anywhere within the defined start-finish area, and shall go in the specified direction. After crossing the finishing line, the Line Follower must automatically come to a complete stop within the start-finish area, and remain stationary for at least two seconds, failing which the lap will be void.

3.6 If a Line Follower leaves the white line, and has not crossed the finishing line, it will be considered to have gone off the track, and that run shall be invalid.

3.7 The organisers will ensure that the track is located within a typical indoor environment in so far as is feasible. No request to adjust the lighting shall be entertained.

3.8 The organisers may demand from handlers such explanation concerning their Line Followers as is deemed necessary, and they may use their discretion to direct handlers to give up racing, disqualify them, and take any other necessary measures.

4. Organisers' Decision

4.1 The organisers reserve the right to make changes to any of the above in the interest of fair play and sportsmanship, and to ensure that all competitors have an enjoyable competition.

4.2 In the event of ambiguity, the organisers' interpretation of any clauses of the rules shall prevail.

Note: The vast majority of the above is from the Singapore rules for Line Follower – deliberately so, as we would like more overseas teams to visit UK Micromouse!