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Skimmer Olympics Track Description & Scoring Guide



AWIM EEB
SAEINDIA The Engineering Society
For Advancing Mobility
Land Sea Air and Space
Society of Automotive Engineers **INDIA**

Distance

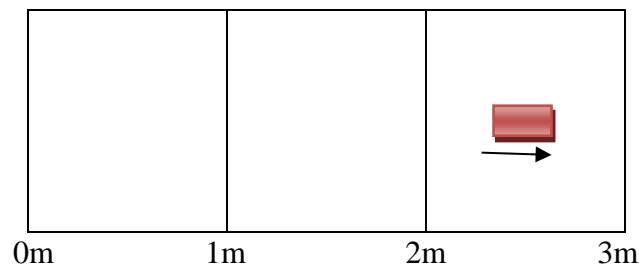
Objective: Student design teams will construct a Skimmer that can travel as far as possible.

- Track Specs 3m long x 2m wide
- Teams must release Skimmer from the Skimmer Dock that is located 30cm in front of the fan
- Skimmer must stay on track and should not tip-off for trial to be valid (if Skimmer leaves the track, points are rewarded at point of exit)
- Skimmer fan must be turned on high before Skimmer is released (The teams may decide to change the fan speed, however the fan speed MUST be the same for all three trials.)

Scoring

- Design teams get three trials.
- Distance will be measured by the judge using the measuring tapes from the furthest point of travel (i.e. most distant point), reference-Hull front edge (most distant point)
- Measurement is taken when the Skimmer stops for > 3 seconds
- If the Skimmer tips, the measurement is taken for the point where the tip begins
- Final score is based on average of the 3 trials.

Distance Track :



The Skimmer stopped 50cm beyond the 2m line, the point value of this trial is $(2.5 \times K) = 7.5$

Where $K = 3$ (multiplying factor used during scoring)

Weight

Objective: Student design teams will construct a Skimmer that can carry a specific amount of weight.

- Track Specs 3m long x 2m wide
- Teams must release Skimmer from the Skimmer Dock that is located 30cm in front of the fan
- Skimmer must stay on track and should not tip-off for trial to be valid (if Skimmer leaves the track, points are rewarded at point of exit)
- Skimmer fan must be turned on high before Skimmer is released (The team may decide to change the fan speed, however the fan speed MUST be the same for all three trails.)
- Skimmer weight = 1 for W1 / 2 for W2 washers with total weight of 16 / 32 gm (± 5 gm)

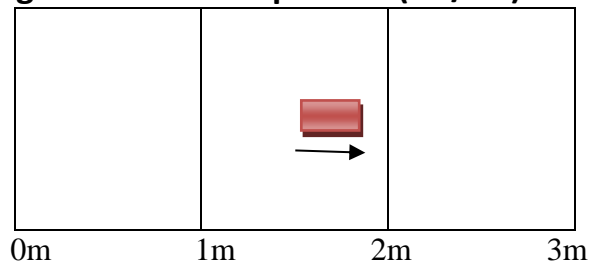
Scoring

- Design teams get three trials.
- Each trial distance will be measured by the judge using the meas. tapes from the furthest point of travel (i.e. most distant point), reference-Hull front edge (most distant point)
- Measurement is taken when the Skimmer stops for > 3 seconds
- If the Skimmer tips, the measurement is taken for the point where the tip begins
- Final score is based on average of the 3 trials.
- Skimmer weight = washer

Group 1 = 1 washers (16gm, ± 5 gm) – score is measured of distance (in cm)

Group 2 = 2 washers (32gm, ± 5 gm) – score is measured of distance (in cm) x 2

Weight Track – Group 1 or 2 (G1/G2)



G1 : The Skimmer stopped 80cm beyond the 1m line, the point value of this trial is $(1.8 \times K) = 5.4$
Where $K = 3$ (multiplying factor used during scoring)

G2 : The Skimmer stopped 80cm beyond the 1m line, the point value of this trial is $(1.8 \times K) \times 2 = 10.8$
Where $K = 3$ (multiplying factor used during scoring)

Accuracy


Objective: Student design teams will construct a Skimmer that can travel a specific distance.

- Track Specs 3m long x 2m wide
- Teams must release Skimmer from the Skimmer Dock that is located 30cm in front of the fan
- Skimmer must stay on track and should not tip-off for trial to be valid (if Skimmer leaves the track, points are rewarded at point of exit)
- Skimmer fan must be turned on high before Skimmer is released (The team may decide to change the fan speed, however the fan speed MUST be the same for all three trails.)

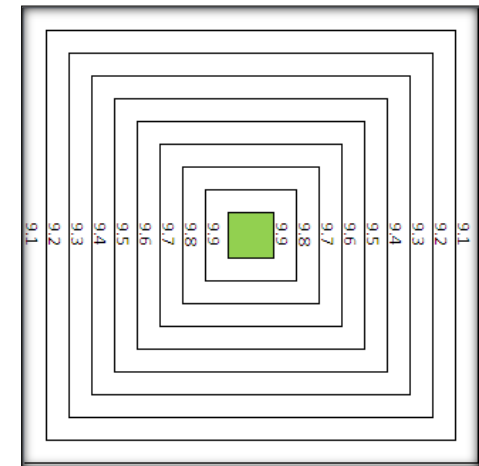
Scoring

- Design teams get three trials.
- Final score is based on average of the 3 trials.
- Point are awarded by determining the scoring box and adding the total cm traveled in the Point Box.
- Measurements are taken from the furthest point of travel (i.e. most distant point), reference-Hull front edge; if Skimmer lands in target square the points are determined by square where 50% + of Skimmer stops - target square begins at 9.1 points; increases by a tenth of a point, target at 10 points; decreases by tenths beyond center.

Accuracy Track :

0 Point	4 Points	9 Points	
2 Points	5 Pts 	10 Points	
0 Point	4 Points	9 Points	
0m	1m	2m	3m

If the skimmer stops anywhere in the block, the team gets marks as defined in the adjacent block



Turn


Objective: Student design teams will construct a Skimmer that can turn left or right at a specific distance.

- Track Specs 3m long x 2m wide
- Teams must release Skimmer from the Dock that is located 30cm in front of the fan
- Skimmer must stay on track and should not tip-off for trial to be valid (if Skimmer leaves the track, points are rewarded at point of exit)
- Skimmer fan must be turned on high before Skimmer is released (The team may decide to change the fan speed, however the fan speed **MUST** be the same for all three trails.)

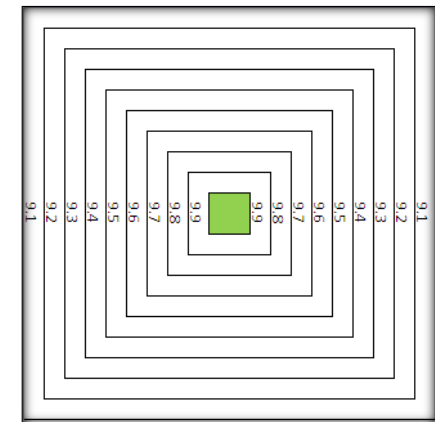
Scoring

- Design teams get three trials.
- Final score is based on average of the 3 trials.
- Measurements are taken from the furthest point of travel (i.e. most distant point), reference-Hull front edge; if Skimmer lands in target square the points are determined by square where 50% + of Skimmer stops - target square begins at 9.1 points; increases by a tenth of a point, target at 10 points; decreases by tenths beyond center.

Turn Track :

2 Points	10 Points	5 Points
0 Points	1 Pt 	2 Points
2 Point	10 Points	5 Points
0m	1m	2m

If the skimmer stops anywhere in the block, the team gets full marks as defined for the block



Speed

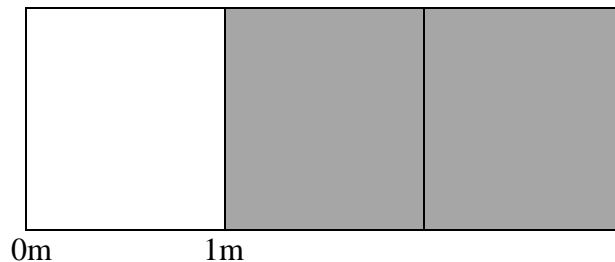
Objective: Student design teams will construct a Skimmer that can travel as fast as possible over a 1m distance.

- Track Specs 1m long x 2m wide
- Teams must release Skimmer from the Dock that is located 30cm in front of the fan
- Skimmer must stay on track and should not tip-off for trial to be valid (if Skimmer leaves the track, points are rewarded at point of exit)
- Skimmer fan must be turned on high before Skimmer is released (The team may decide to change the fan speed, however the fan speed **MUST** be the same for all three trails.)
- Track judge will time the team's trials using a stopwatch or an automated sensor based measurement system.
 - Time starts when Skimmer is released
 - Time stops when Skimmer passes the 1m mark

Scoring

- Design teams get will get designated time to run 3 trails
- Final score is based on the best of 3 trials.

Speed Track :



The Skimmer crosses the 1m line with the best time/speed among all participating is declared as category winner

- **Artistic Design**

- **Objective:**

- Student design teams will construct a Skimmer that is functional and artistically designed.

- **Scoring:**

- Overall competition will be evaluated by Jury panel to designate the Skimmer they believe to be the best Artistic Design as well as on the Concept.

- **Presentations**

- **Objective:**

- Student design teams will present their Skimmer design.

- **Scoring**

- Presentations will be evaluated by a Jury panel for placement.