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JetToy Competition

Event / Track Description & Scoring Guide

AWIM EEB

SAEINDIA
The Engineering Society
For Advancing Mobility
Land Sea Air and Space

Society of Automotive Engineers INDIA
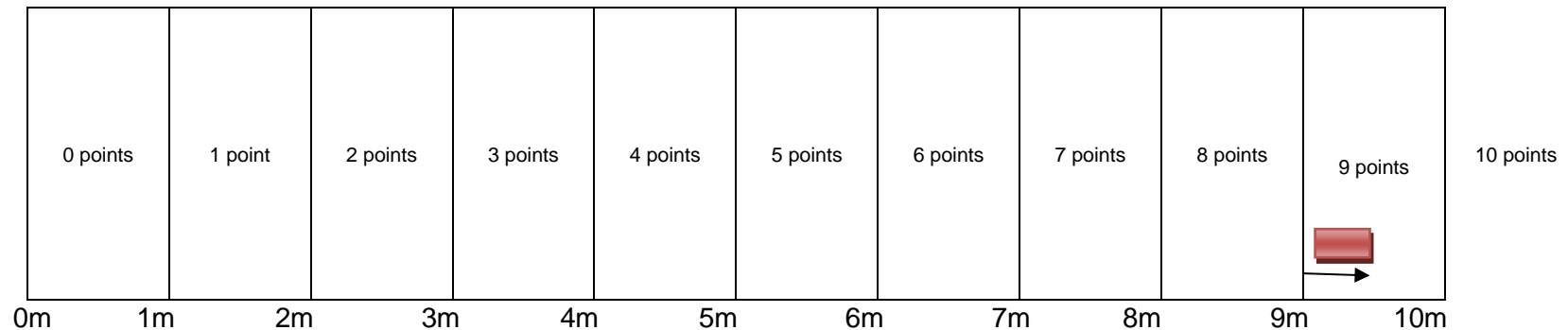
Distance

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

➢ Track Specs : The track will be 10m long x 3m wide
➢ Teams must release JetToy behind the 0m mark
➢ JetToy must stay on track for attempts to be valid (if JetToy leaves the track, points are rewarded at point of exit)
➢ JetToy balloon must be inflated to maximum of 8 inch diameter or less. Track Judges will confirm the balloon diameter before JetToy is released.

Scoring
✓ Design teams get three attempts.
✓ Final score is based on the average of the 3 attempts.
✓ Point total is awarded by judge determining the scoring box and adding the total cm travel in the point box.
✓ Measurements are taken from the furthest point of travel (i.e. most distant point), reference car front edge.

Distance Track –

0 points	1 point	2 points	3 points	4 points	5 points	6 points	7 points	8 points	9 points	10 points

| 0m | 1m | 2m | 3m | 4m | 5m | 6m | 7m | 8m | 9m | 10m |

The JetToy stopped 55cm beyond the 9m line, the point value of this trial is 9.55
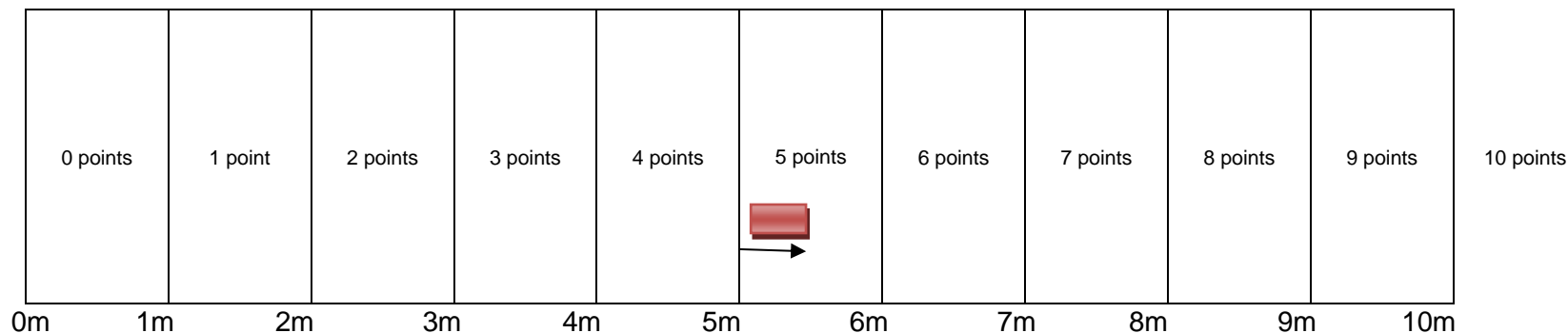
Weight

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

➢ Track Specs 10m long x 3m wide
➢ Teams must release JetToy behind the 0m mark
➢ JetToy must stay on track for attempt to be valid (if JetToy leaves the track, points are rewarded at point of exit)
➢ JetToy balloon must be inflated to maximum of 8 inch diameter or less. Track Judges will confirm the balloon diameter before JetToy is released.
➢ Weights for the event will consist of 3 washers, taped in a cylindrical arrangement provided by Track Judges.

Scoring
✓ Design teams get three attempts.
✓ Final score is based on average of the 3 attempts.
✓ Point total is awarded by judge determining the scoring box and adding the total cm in the Point Box.
✓ Measurements are taken from the furthest point of travel (i.e. most distant point), reference-car front edge.

Weight Track –

0 points	1 point	2 points	3 points	4 points	5 points	6 points	7 points	8 points	9 points	10 points

0m   1m   2m   3m   4m   5m   6m   7m   8m   9m   10m

The JetToy stopped 66cm beyond the 5m line, the point value of this trial is 5.66

Accuracy

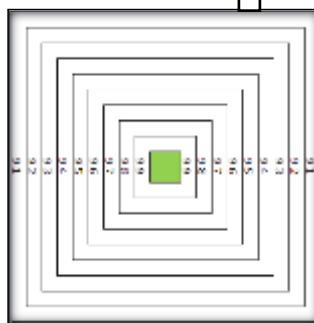**Objective**: Student design teams will construct a JetToy car that can travel a specific distance.
➢ Track Specs 10m long x 3m wide
➢ Teams must release JetToy behind the 0m mark
➢ JetToy must stay on track for attempt to be valid (if JetToy leaves the track, points are rewarded at point of exit)
➢ JetToy balloon must be inflated to maximum of 8 inch diameter or less.

Scoring
✓ Design teams get three attempts.
✓ Final score is based on the <u>average</u> the 3 attempts.
✓ Points awarded are by determining the scoring box and ***adding/subtracting*** the total cm traveled in the Point Box.
✓ Measurements are taken from the furthest point of travel (i.e. most distant point), reference-car front edge; if vehicle lands in target square the points are determined by square where 50% + of vehicle stops. Target square begins at 9.1 points; increases by a tenth of a point each 5 cm to center of target at 10 points; decreases by tenths beyond center.

Accuracy Track

0 points	1 point	3 points	5 points	7 points	8 points	7 points	5 points	3 points	1 point
0 points	2 points	4 points	6 points	8 points	Target 10 points	8 points	6 points	4 points	2 points
0 points	1 point	3 points	5 points	7 points	8 points	7 points	5 points	3 points	1 point

0m   1m   2m   3m   4m   5m   6m   7m   8m   9m   10m

e.g. Case-I :The JetToy stopped 68cm beyond the 3m line, the point value of this trial is 6.68 (red)

e.g. Case-II :The JetToy stopped 68cm beyond the 8m line, the point value of this trial is 6.32 (violet)

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Speed

Objective: Student design teams will construct a JetToy car that can travel as fast as possible over 3m distance.

- ➢ Track Specs 3m long x 3m wide
- ➢ Teams must release JetToy behind the 0m mark
- ➢ JetToy must stay on track for attempt to be valid.
- ➢ JetToy balloon must be inflated to maximum of 8 inch diameter or less. Track Judges will confirm the balloon diameter before JetToy is released.
- ➢ Track judge will time the teams attempt using a stopwatch / or by installing appropriate sensors.
  - ✓ Time starts when <u>nozzle</u> is released on the instruction of Judge.
  - ✓ Time stops when JetToy passes the 3m mark

Scoring
- ✓ Design teams will run 3 trails
- ✓ Final score is based on the <u>Best of</u> the 3 attempts, in case of sensors the indicated speed will be recorded.

Speed Track

| 0m | 1m | 2m | 3m | 4m | 5m | 6m | 7m | 8m | 9m | 10m |
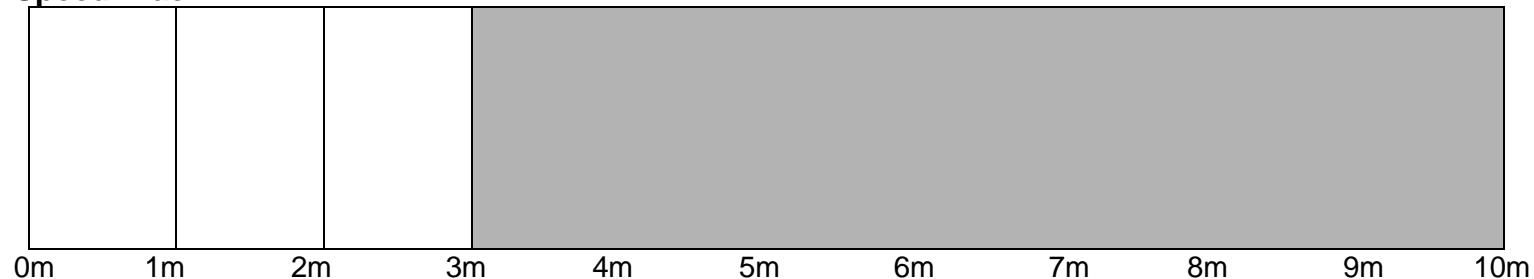
The JetToy crosses the 3m line with the best time/speed among all participating is declared as category winner

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## Longest Travelling Time

Objective: Student design teams will construct a JetToy car that can travel for an extended period of time (longest travel time).

➢ Track Specs 10m long x 3m wide
➢ Teams must release JetToy behind the 0m mark
➢ JetToy must stay on track for attempt to be valid. The Jettoy must be moving and be within the track to clock the maximum points.
➢ JetToy balloon must be inflated to maximum of 8 inch diameter or less. Track Judges will confirm the balloon diameter before JetToy is released.
➢ Track judge will time the teams attempt using a stopwatch or using sensors.
  ✓ Time starts when the Jettoy is released by the test engineer
  ✓ Time stops when JetToy stops moving forward or leaves the confines of the track.

Scoring
  ✓ Design teams get three attempts.
  ✓ Final score is based on the <u>average</u> of the 3 attempts.
  ✓ For awarding refer the JetToy Rule Book.

Time Track

0m   1m   2m   3m   4m   5m   6m   7m   8m   9m   10m

00.15.23
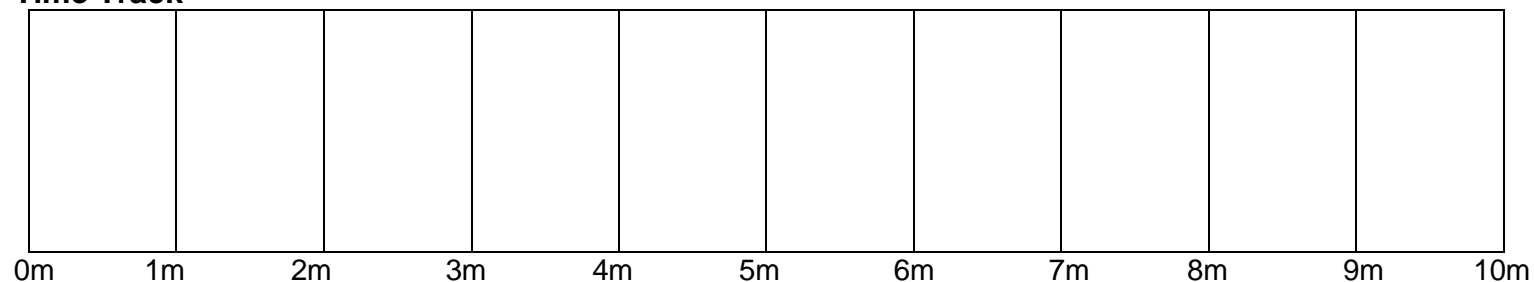
The JetToy stays on track and keeps moving for 15.23 sec., point value of the trial is 15.23.

- **Artistic Design**

    o **Objective:**
    Student design teams will construct a Concept toy that is functional and artistically designed.

    o **Scoring:**
    Overall competition will be evaluated by Jury panel to designate the JetToy they believe to be the best Artistic Design as well as on the Concept

- **Presentations**

    o **Objective:**
    Student design teams will present their JetToy design.

    o **Scoring**
    Presentations will be evaluated by a Jury panel for placement.

Change History:
- No change made with respect to 2018