



Hover Rugby

Pool Event, Open to all

Points: 50

Ever fascinated by the wrestling giants competing against each another for honor, pride and glory! And the speed of a rugby player to achieve his aim. If so, then this is the event for you. Here it will be your hovercraft that will do the talking. So get up, design the most efficient quick wrestling hovercraft that you have ever imagined!!!

Problem Statement:

Each pool has to design and fabricate 2 hovercrafts that are light-weight, easily maneuverable, quick and strong. They must out-throw their opponent in a match of hovercraft rugby. Also they must enter the goal area to score points.

Rules and Regulations:

1. A hovercraft is a vehicle which floats on a cushion of high pressurized air and propels itself on this air-cushion using a thrust producing mechanism.
2. Control is generally achieved by the use of rudders, though it is not the only solution.
3. The overall hovercraft dimensions must not exceed 50cmX50cmX50cm. It must fit in a square of 50cmX50cm in its direction of motion.
4. The model can be fabricated using foam, wood, coroplast (sunpack) or any other material with permission from the coordinators which will not damage electronic components of bots like knives , pointed pencils , iron rods etc.
5. Participants must make all parts of the craft themselves.
6. Usage of readymade kits is strictly prohibited. Use of readymade actuators/motors, remote controls and propellers is allowed.
7. The use of IC engines is prohibited. Only electrical motors are allowed.
8. A team has to use 2 models at a time throughout the competition. However, spare models can be fabricated, if material permits. In case of any damage to the craft, small modifications are allowed.
9. The potential difference between any two points on the hovercraft must not exceed 12V.
10. Specified electronics will be provided to pool, in case any electronic malfunctions we won't provide extra electronics unless justified properly (need to be discussed during event with referee and event coordinators)

If anyone is found not following above rules, they will be disqualified.

Arena:

The overall arena is a flat surface, with 2 goal posts. The surface in some part of arena will be **rough** and **some obstacles at the center**.



Event Structure:

Each match between two opponents will contain three sets of 3 min time duration each.

- Each team will play matches against every other team, thereby producing the overall result, thereby producing 3rd, 4th directly and the 2 finalists.
- **In case of tie in a match i.e. both the pools have exactly same score at the end of a particular match, the method of "GOLDEN GOAL" will be followed.**
- **In case any three pool win 2-2 matches each or 1-1 match each then following method will be followed**

For example pool (A, B, C, D):

1. If pool A wins all the 3 matches it will directly go in the final round. Now, for deciding 2nd, 3rd then if Pool B wins against Pool C but losses against D and A, then the points for the Pool B will be calculated as follows-

X1= Score of Pool B – Score of Pool C (in a match in which B defeats C)

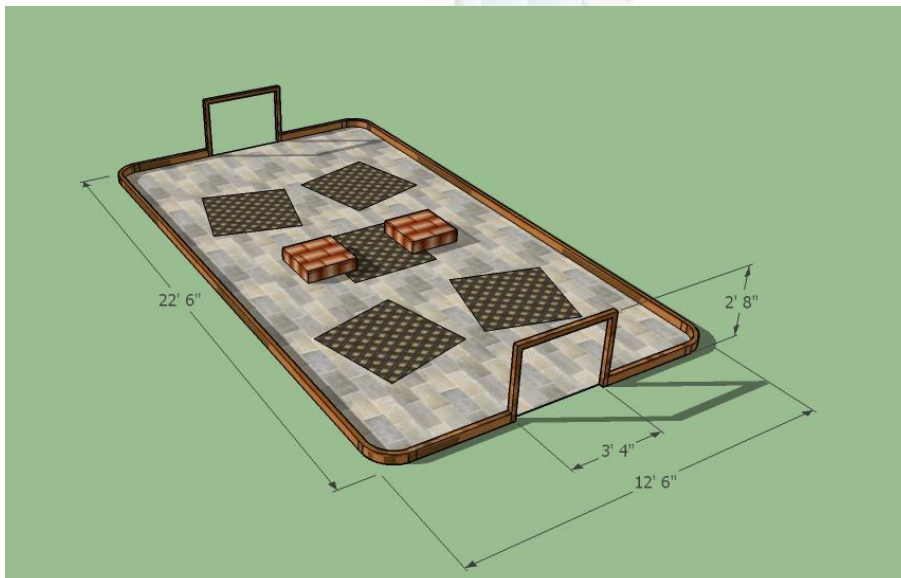
X2=Score of Pool B – Score of Pool A (in a match in which A defeats B) [X2 will be negative in this case]

X3= Score of Pool B – Score of Pool D (in a match in which D defeats B) [X3 will be negative in this case]

Final score of Pool B= **X1+X2+X3**,

Similarly final score of Pool C and D will be calculated. Note that in this case to calculate the final score of a pool, the points scored during the golden goal would not be counted.

2. Similar criterion will be followed for the 'Final Score' of other Pools



3. If, **X1+X2+X3** will be also be same then the winner will be decided by the "GOLDEN GOAL".

- Your craft has to enter the opponent's goal area between the 2 poles.
- Both the crafts can also attack at the same time.



- Score for each craft will be summarized separately, then added with its partner to give the total score for a team in that set.
- The scores of each set will be independent, the team winning more number of sets will be the winner of the match.
- In case of tie after 3 sets, there will be golden goal, i.e. the team scoring the first goal will win.

Match Rules:

- Each successful goal will lead to a +5 for that particular craft.
- There are no negative points if hovercraft touches the boundary. Human intervention will lead to -2 points.
- A set will not stop until the 3 min duration, irrespective of how many goals are scored or how many times the crafts fall.
- Once the attacking craft scores a goal and lands on the OAT surface, it has to restart from its home goal area.
- If the defender falls from the incline and can come up without any manual interference (touching, etc.) no points will be deducted. If manually it is put onto the arena, 2 points will be deducted for that hovercraft.
- If a craft falls from the edge, it has to be manually put back onto the pitch from that boundary position with the deduction of 2 points.
- Each team is allowed to take 2 timeouts of 45 seconds each in each set.
- If a controller continues to run his hovercraft after referee whistle, then it will lead to -2 points penalty. Also if because of this any electronics get damaged then that controller will be eliminated.

Activities allowed:

- Hitting the other craft
- Dragging the other craft to the edge
- Any other thing you may imagine!!!
- Using any kind of fire, spray, liquid or any other activity that may cause serious damage to the arena or the electronics (as per coordinators discretion) is not allowed.

Components:

- Below are the components that will be provided to each pool. Apart from these, each pool is authorized to purchase any other materials required at the expense of their respective pool budgets, on proper verification of bills by us.

The materials provided to you at the event venue include:

- 4 electric motors
- Two 9gm servos
- 4 propellers
- 4 ESC
- Batteries, receiver & transmitter will be provided during practice slots only.



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Note:

**** In case of any disputes, the decision of the coordinators would be final and binding to all.**

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