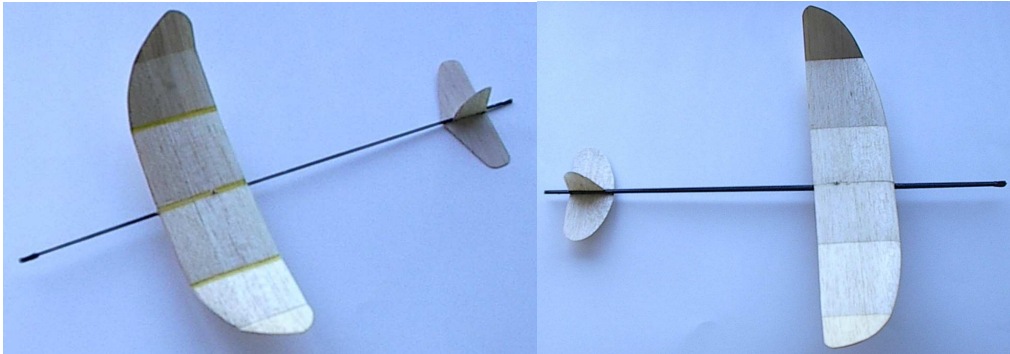




Aeronautical Society of South Africa 2010 Indoor Model Glider Challenge



Introduction

The format of the Challenge is that of an **indoor free flight glider competition** and is open to teams from one to a maximum of four competitors.

General Rules:

- A maximum of **three** models per team is permitted
- All models must be presented for scrutiny before the competition starts
- Repairs to the models are permitted at all times during the competition but the allocated times slots within which you fly will not be extended – bring super glue!

Model Rules:

- The **maximum span of any wing or tail is limited to 50 cm** measured in a straight line at right angles to the fuselage in plan view from left wing tip to right wing tip
- This does not mean that your model has to be 50 cm, smaller models such as the Simple Simon [1] in the picture on the right are welcome



- The wing and tails must be constructed out of either solid balsa wood or open (ribbed) construction consisting largely of balsa and may be covered with a thin sheeting of paper or plastic
- The fuselage may be constructed of any material typically hard balsa, aluminium or carbon tubes
- There is no fuselage length limitation
- The maximum allowable glider mass is 100 g including any nose weight
- The mass of the glider may not be altered during launch or flight
- The models are allowed to have **ground adjustable** control surfaces
- No remote control is allowed
- The nose of the glider **must be rounded** or covered with something soft (usually modelling clay) for safety reasons – the judges have the right to refuse entry if the model is deemed to be unsafe to others

Catapult Launching

- The models are to be launched by the energy in stretched elastic band(s), one end of which should be firmly attached to a launching handle
- The handle shall consist of a rigid dowel or similar device
- The launching handle (including the attachments for the elastic) shall not exceed 200 mm in length, measured along the longest dimension
- The handle may use padding or contoured grips for flier comfort
- There is no limit to the length or sizes of the elastic bands as the ceiling will limit launch height
- All launching apparatus must remain firmly attached to either the handle or the model during launch
- There is no limit to the number of **launching handles** a contestant may use to complete his/her flights

Competition Rules:

- The competition will be flown indoors where there is a relatively large open level space with a relatively small chance of flying into objects
- The task to be flown is one of maximising **flight duration**
- The duration time attained is measured from the issuing of a launch command to when the glider **touches any ground-based object except the ceiling and roof trusses**

- The glider **should** be launched by the hand held elastic catapult, if you think you can through higher you are welcome to try
- A maximum of **three launch attempts** are permitted per model per task
- Launches will be carried out in task groups whose size will be determined on the day.
- Five minutes will allowed for each group to make their three attempts
- The top score of the three attempts counts towards the total score
- The team whose glider wins the task scores 1000 points for that task
- The remainder of the contestants will be rewarded a pro-rata score based on their glider's best duration score
- If **more** than three complete rounds are flown, the lowest duration score may be discarded
- The winning team is that which has the highest **combined score** for the rounds flown
- In the event of a tie, the teams would share the 1st place

Model information

Information on the type of models and construction tips can be found at the following links. Please note that we are not following the AMA rules

[1] <http://www.schnable.net/hosted/amaglider/assets/indoor-gliders/standard-catapult-gliders/simple-simon.html>

[2] <http://www.members.shaw.ca/climber/ff/ffcatapult.html>

[3] <http://www.schnable.net/hosted/amaglider/index.html>

[4] <http://www.schnable.net/hosted/amaglider/assets/indoor-gliders/unlimited-catapult-gliders/unlimited-catapult-glider-flight-videos.html> (link includes a video).

Venue

The flights will take place in Hangar 14 at the Swartkops Air Force Base starting at 15h00 on October 22nd 2010.

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