Instructions for

Open Saue Cup for powered paragliders

1st – 3rd of May 2009

1. Purposes of the competition

1.1 Draw championship of "Saue Cup 2009" in the category of powered paragliders
1.2 Improve piloting skills of participants
1.3 Popularization of airsports.

2. Terms and place

2.1 Competitions will take place 1st – 3rd of May 2009 at the 21. kilometer of Tallinn-Pärnu road, on the fields beside the road.
2.2 Arrival of participants 08:00 AM, 1st of May 2009..
2.3 Registration until 30.04.2009 in the address OÜ Propeller, Saue, Tähise 7, tel. +372 56 234216 or by Email: info@propeller.ee

3. Organizers of competitions

3.1 Preparing and management by Estonian Airsports Federation (EAF) and OÜ Propeller
3.2 On the place the competition is ruled and managed by the marshals of Estonian Airsports Federation (EAF).

4. Equipment and security

4.1 Every competitors should have a certificate or manufacturer label (or copy of it) of his paraglider.
4.2 Certificate of the paramotor is optional. Paramotor has to correspond the common security standards. Marshals will have the right to cancel the use of paramotors which are evidently dangerous for other participants or public (for example: totally open propcage, paramotor without the propcage at all, paramotor with seriously damaged propeller)
4.3 All participants have the obligation to fulfill elementary security requirements.
4.4 Low flying and dangerous manoeuvers near public are prohibited.

5. Participants

5.1 It is recommended that every competitor has a national or international document proving his ability to fly a powered paraglider.
5.2 All participants fill by arrival "the competitors card"
5.3 Until the begin of competitions every participant has to pay the registration fee of 300 EEK (20 Euros)
5.4 All the fees of participation will paid by the participant. All questions about acommodation and food to be adressed to: info@propeller.ee or +372 56 234216

6. Tasklist

Task 1 – Slow/ fast speed
Task 2 – Pure economy
Task 3 – Japanese Slalom
Task 4 – Precision takeoff and landing
Task 5 – Navigation, precision and speed
Task 6 – "Clover Leaf" slalom

7. Prizing

7.1 1st, 2nd, 3rd place of every task will rewarded with the Diploms of Estonian Airsports Federation and medals

7.2 Winners of 1st, 2nd, 3rd place in overall tasks will rewarded corresponding Diploms of Estonian Airsports Federation, medals and the overall winner will rewarded with a Cup. Overall winners are prized also with the gifts of the event sponsors

8. Tasklist explanation

Task 1

SLOW / FAST SPEED

- **Unlimited fuel**
- **Briefing: 1. May, 09:00**
- **Task start: 9:15 or later when weather allows**
- **Task height: up to 3,00 m AGL**
- **Task closes: 11:00**
- **Takeoff order: Raffle order**

Objective

To fly a course as fast as possible and then repeat the course as slow as possible.

Description

A straight course between 250m and 500m long and 25m wide is laid out with gates at each end.

The pilot makes a timed pass along the first course as fast as possible, returns to the start, and makes a second timed pass in the same direction along the second course as slow as possible.

Special rules

- For each leg, the clock starts the moment the pilot passes the first gate and stops the moment he passes the finish hedge.
- If the pilot or any part of his PPG touches the ground during the first leg: VP1 = zero and EP = zero
- If the pilot or any part of his PPG touches the ground during the second leg: VP2 = zero and EP = zero
- If the pilot zigzags or if the body of the pilot overflies a side of the course: Score zero.
- If the pilot exceeds 3m above ground – score zero. Sharp height changements over 3 m caused by heavy turbulence or thermal activity will not be judged. Pilot must restore the correct height within 5 seconds.
- The maximum time allowed for a pilot between two legs of the course is 3 minutes.

Scoring:

$$\text{Pilot score} = \left(125 \times \frac{Vp1}{Vmax}\right) + \left(125 \times \frac{Vmin}{Vp2}\right) + \left(250 \times \frac{Ep}{Emax}\right)$$

Where:
Vmax = The highest speed achieved in the task, in Km/H
Vp1 = The speed of the pilot in Km/H in the first leg of the task

Vmin = The lowest speed achieved in the task, in Km/H
Vp2 = The speed of the pilot in Km/H in the second leg of the task

Ep = The difference between the pilot's slowest and fastest speeds, in Km/H
Emax = The maximum difference between slowest and fastest speeds, in Km/H

Task 2

PURE ECONOMY

- **2 litres fuel**
- **Briefing: 1. May, 11:30**
- **Task height: up to 1000 m AGL**
- **Fueling window: 11:45 – 12:00**
- **Takeoff window: 12:15 – 12:45**
- **Task closes: 14:30**

Objective
Take-off with a measured quantity of fuel and stay airborne for as long as possible and return to the deck.

Special rules
Free take-off within the time window.
Departure from view of the marshals will incur penalties.
Land outside the competition territory - **score zero**. Land inside the competition territory but outside the landing deck: 20% penalty.

Scoring:

$$\text{Pilot score} = 1000 \times \frac{Tp}{Tmax}$$

Where:
Tp = The pilot's time,
Tmax = The longest time taken to complete the task

FUELING CONTROL
- The time, place and volume of fuelling control will be given at the task briefing.
- Measuring bottles and tape to seal tanks will be provided and marshals will be available to resolve problems but in principle pilots will control themselves.
- Pilots will control themselves in the following order: In current championship order; pilot in position 1 will control pilot in position 2 and vice versa, 3 = 4, 5 = 6 Etc. If the last one has nobody to control him this will be done by a marshal.
- Pilots are reminded that fuel tank must be completely empty of fuel.
- As soon as a machine is fuelled (and/or sealed) the machine must be placed in the secure area.
- Pilots may not re-enter the secure area without explicit permission unless they are going to remove the machine to the deck to start the task. Penalty: Depends on the circumstances but could include disqualification.

- Penalty for not completing fuelling in the time window: 20% task score FOR BOTH PILOTS CONCERNED.
- Immediately after landing at the end of the task the pilot must place his machine in the secure area until it has been controlled by the marshal.

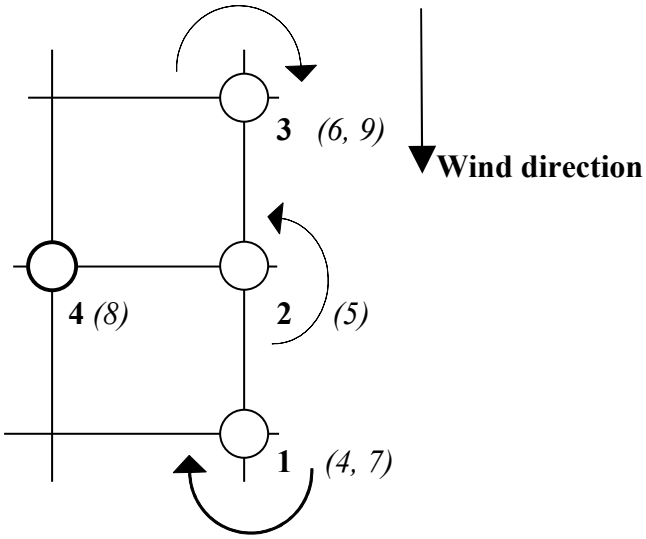
Task 3

JAPANESE SLALOM

- **Unlimited fuel**
- **Briefing: 01. May, 15:00**
- **Task start: 15:15 or later when weather allows**
- **Task closes: 16:30**

Objective
To strike a number of targets laid out in a given order in the shortest possible time and return to the landing deck.

Description



As on the drawing above 4 pylons 2m in height are laid out on a 50m x 50m grid. The pilot enters the course into wind and strikes target 1. At this point the clock starts. The pilot then strikes targets 2 and 3. He then returns to fly clockwise around target 1 (strike 4), anticlockwise around target 2 (strike 5) and clockwise around target 3 (strike 6). He then returns to strike target 1 (strike 7), target 4 (strike 8) and target 3 (strike 9). The clock stops when target 3 (strike 9) is kicked.

Special rules
- A valid strike on a target is one where the pilot or any part of the PPG has been clearly observed to touch it.
- When targets are acting as pylons, to count as a strike, the pilot's body must be clearly seen to round it, pylons 1 & 3 must be rounded in a CLOCKWISE direction and pylon 2 must be rounded in an ANTI CLOCKWISE direction.
- A strike on target 1 starts the clock, a strike on target 9 stops the clock.
- Pilots may have only one attempt at striking each target except for the first and last targets where three attempts at each are permitted.

- Failure to strike the first or last target or touch the ground at any point between them: score zero.

Scoring

$$Q = \frac{NQ^3}{Sp} \qquad \text{Pilot score} = \left(1000 \times \frac{Q}{Qmax}\right)$$

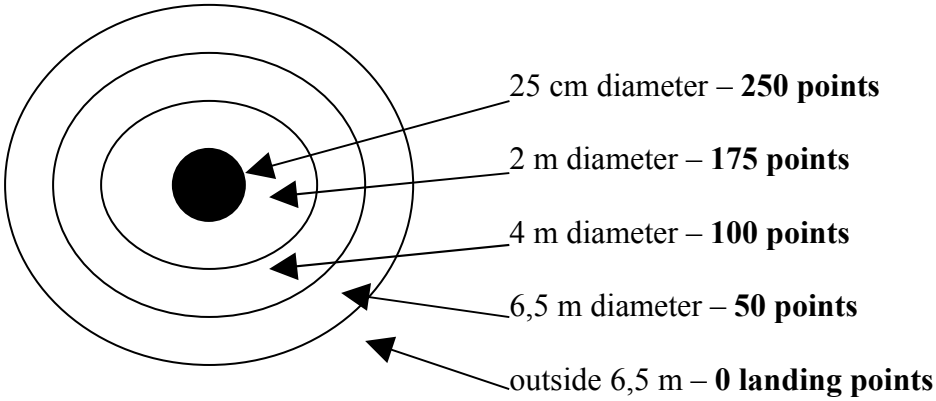
Where:
NQ = The number of targets struck by the pilot
Sp = The pilot's elapsed time in seconds between striking target 1 and target 10
Q = Pilot result

Task 4

PRECISION TAKE-OFF AND LANDING

- **Unlimited fuel**
- **Briefing: 27. April, 8:00**
- **Task start: 8:30 or later when weather allows**
- **Task height: 150 m AGL overhead the target, 45 seconds engine off time before landing**
- **Task closes: 11:00**

Objective
To make a clean take off at the first attempt in the deck, and subsequently land as near as possible to a point.



Description
The pilot is permitted four takeoff attempts, climbs to 150 m overhead the target, cuts the engine and tries to make a first touch as near as possible to the centre of a target consisting of a series of concentric circles.

Special rules, takeoff
- Takeoff in current championship order.
- Pilots should NOT start to take off until they are sure a marshal is watching, knows who they are and has given the signal to start.
- The pilot scores 250 points for a clean take off at the first attempt, 170 for the second, 90 for the third, zero for the fourth.

Special rules, circuit
- The circuit to be flown will be detailed at briefing

- Pilot flies overhead the landing circle and switches engine off overhead the target *w**hilst flying into wind**.*

Special rules, Landing

- The first touch of the ground or the football by the pilot's foot is the point from which the pilot's score will be derived.
- A first touch on the line scores the higher score.
- Engine must be stopped MINIMUM 45 SECONDS before first touch of the ground. (Penalty 20% landing score).

Contestants will be awarded a zero task score for:

• If the pilot or any part of the aircraft touching the ground after the takeoff.

Contestants will be awarded a zero *landing* score for:

• Engine not stopped overhead the landing target.
• Falling over as a result of the landing.

Scoring

Pilot score = (Bto + Bld)

Where:
Bto = Takeoff points
Bld = Landing points

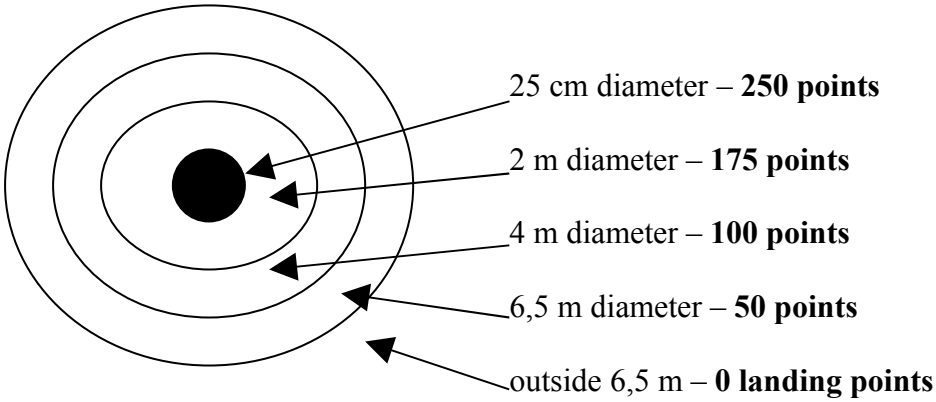
Task 5

NAVIGATION PRECISION AND SPEED

- **Unlimited fuel**
- **Briefing: 27. April, 10:45**
- **Takeoff window: 11:00 – 12:00**
- **Task height: up to 250 m AGL**
- **Task closes: 14:00**

Objective

To make a clean take-off from the deck, to fly a course between as many turn points or markers as fast as possible, and to collect points for precision touch and goes before returning to the landing deck.



Special rules

- The clock starts the moment the marshal makes the signal to take off.
- At the start, the pilot scores 200 bonus points for a clean take off at the first attempt, 100 for the second, 50 for the third, zero for any attempts thereafter.
- The pilot flies to one of the four turnpoints, drops the marker in the circle, returns to the deck and makes a precision **"touch and go"** on the target. First touch scores, engine must be on idle min 5 seconds before touch.
- The pilot then continues to the next turnpoint and returns as above.
- FINAL LANDING is to be made in the landing area imposed in briefing. Landing time will be taken to calculate the speed score.
- Assistance only allowed by starting the engine (PPGs without electric starter).
- Any outside assistance after: Score zero

Scoring:

$$\text{Pilot score} = \left(250 \times \frac{NBp}{NBMax}\right) + Bto + \left(250 \times \frac{Vp}{VMax}\right) + \left(300 \times \frac{Bld}{BldMax}\right)$$

Where:
NBp = The number of ground markers and/or turn points a pilot collects in the task
NBmax = The maximum number of markers and/or turn points collected in the task

Vp = Pilot's speed
Vmax = Fastest pilot's speed

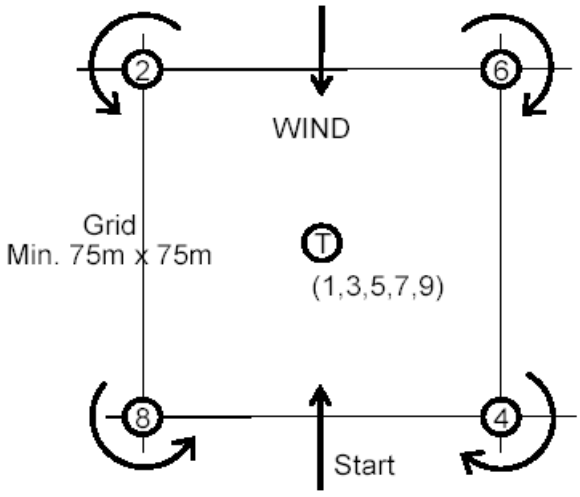
Bto = Pilot's takeoff bonus points
Bld = Pilot's landing bonus points
BldMax = The maximum landing bonus points achieved.

Task 6

"**CLOVER LEAF" SLALOM**

- **Unlimited fuel**
- **Briefing: 01. May, 20:15**
- **Task start: 20:30 or later when weather allows**
- **Task closes: 21:30**

Objective
To strike a number of targets laid out in a given order in the shortest possible time



and return to the deck.

Description

4 pylons 2m in height are laid out at the corners of a 75M square. A fifth target is set at the centre of the square. The pilot enters the course into wind and strikes the target T (strike 1). At this point the clock starts. The pilot flies around pylon 2 and returns to kick the stick T (strike 3), he then flies around pylon 4 and returns to kick the stick T (strike 5). This continues until all four pylons have been rounded. The clock stops when target T is kicked for the last time (strike 9).

Special rules

- A valid strike on the target T is one where the pilot or any part of the PPG has been clearly observed to touch it.
- To count as a strike, the pilot's body must be clearly seen to round each pylon and pylons 2 & 8 must be rounded in an ANTI CLOCKWISE direction and pylons 4 & 6
- must be rounded in a CLOCKWISE direction.
- A strike on target 1 starts the clock, a strike on target 9 stops the clock
- Pilots may have only one attempt at striking each target except for the first and last targets where three attempts at each are permitted.
- Failure to strike the first or last target or round at least one pylon or touch the ground at any point between them: score zero.
- The grid may be opened up to max. 100M x 100M at the briefing if the meterological conditions dictate

Scoring:

$$Q = \frac{NQ^3}{Sp} \qquad \text{Pilot score} = \left(1000 \times \frac{Q}{Qmax}\right)$$

Where:
NQ = The number of targets struck by the pilot
Sp = The pilot's elapsed time in seconds between striking target 1 and target 9
Q = Pilot result