



# TASK CATALOG

## PARAMOTOR CLASSES

(POWERED PARAGLIDER-PF1  
POWERED PARACHUTE-PL1, PL2)

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3<sup>rd</sup> Place, 8<sup>th</sup> US National Microlight Championships  
POWERED PARAGLIDER (PF1) DIVISION

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# 9th U.S. National Microlight Championship Paramotor Classes Task Catalog

**Powered Paraglider (PF1), Powered Parachute (PL1, PL2)**

Sept 1 – 4 | Marshal, MI | Sponsored by USUA, Hosted by ASC, scoring included on USPPA Rankings

## Introduction

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The purpose of this catalog is to define the skills that will be tested in the Championship classes for Powered Paragliders (PF1), and Powered Parachutes (PL1, PL2). The tasks described are generic in nature and intended only as examples. Actual contest tasks may include combinations of various tasks or portions of tasks. Actual contest task descriptions revealed at the pilot briefing takes precedence over any details in this catalog. Competitors should take care at each task briefing to note the details of scoring and penalties associated with that specific task. *An attempt will be made to include six to eight of the following tasks in the competition.*

## 3.A1 PURE NAVIGATION

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### Objective

To fly a course between as many turn points or markers as possible within the time window and return to the deck.

### Scoring

$$\text{Pilot score} = 1000 \times \frac{\text{NBp}}{\text{NBmax}}$$

Where, according to briefing;

Either:

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

OR

NBp = the distance flown by the pilot in the task.

NBMax = the maximum distance flown in the task.

## 3.A2 NAVIGATION, PRECISION & SPEED

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### Objective

To make a clean take-off from the deck, to fly a course between as many turn points or markers as possible within a given time, and to collect bonus points for landing at designated markers before returning to the deck.

### Special rules

- The clock starts the moment the marshal makes the signal to take off.

- At the start, the pilot scores 300 bonus points for a clean take off at the first attempt, 200 for the second, 100 for the third, zero for any attempts thereafter.
- In the case of landing markers, If the pilot elects to switch off his engine at least 5m above the marker and:

Makes a first touch on the marker: Landing bonus: 200 points

Misses the marker: landing bonus: 50 points

- If the pilot elects to not switch off his engine and:

Makes a first touch on the marker: Landing bonus: 100 points

- If the pilot falls over as a result of a landing: zero landing bonuses for that landing.
- If the pilot obstructs another competitor attempting to land at a landing marker penalties will apply.
- The clock stops the moment the pilot either crosses a line or lands back on the deck.
- Any outside assistance: Score zero.

### Scoring

Pilot score = 


Where, according to briefing;

Either:

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

OR

NBp = the distance flown by the pilot in the task.

NBMax = the maximum distance flown in the task.

AND

Bto = Pilot's takeoff bonus points

Bld = Pilot's landing bonus points

BldMax = The maximum landing bonus points achieved.

## 3.A3 NAVIGATION / ESTIMATED SPEED

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### Objective

To fly a course between any combination of turn points, markers and gates as defined at the briefing having declared estimated flight times or estimated times of arrival as required at the briefing, and return to the deck.

### Special rules

- The value of T, in seconds, will be given at the briefing.

### Scoring

$$\text{Pilot score} = \left( 700 \times \frac{\text{NBp}}{\text{NBMax}} \right) + (300 - T)$$

Where, according to briefing;

Either:

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

OR

NBp = the distance flown by the pilot in the task.

NBMax = the maximum distance flown in the task.

AND

T = The total difference in between pilot's estimated and actual times for all timed sectors. ( $\geq 300 = 300$ )

### 3.B1. PURE ECONOMY

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#### 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 or egress from the permitted flight area will incur penalties.
- Land outside the airfield boundary: Score zero. Land inside the airfield boundary but outside the deck: 20% penalty.

#### Scoring

$$\text{Pilot score} = 1000 \times \frac{T_p}{T_{\max}}$$

Where:

$T_p$  = The pilot's time,

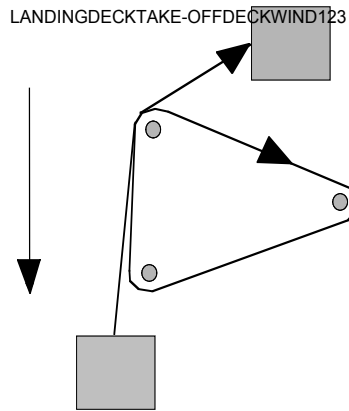
$T_{\max}$  = The longest time taken to complete the task

### 3.B2 ECONOMY & DISTANCE

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#### Objective

To take off from the deck with a given quantity of fuel, fly as many laps as possible around a course not exceeding 1Km in length and land on another deck.



### Special rules

- Pilots must not exceed 200ft height at any time, or 30ft whilst rounding pylons.
- Exceeding the height limitations or failure to round a pylon does not score that lap.
- If the pilot or any part of his PARAMOTOR touches the ground during the task and takes off again, score zero.
- Failure to land in the landing deck: 20% penalty.

### Scoring

$$\text{Pilot score} = 1000 \times \frac{L_p}{L_{\max}}$$

Where:

$L_p$  = The number of whole laps completed by the pilot

$L_{\max}$  = The maximum number of whole laps achieved in the task.

## 3.B4. ECONOMY & PRECISION

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### Objective

To make a clean take-off in the time window with a given quantity of fuel, stay airborne as long as possible within a defined area and land on landing markers situated within the deck before the end of the time window.

### Special rules

- The pilot scores 300 bonus points for a clean take off at the first attempt, 200 for the second, 100 for the third, zero for any attempts thereafter.
- Departure from view of the marshals or egress from the permitted flight area will incur penalties.
- When landing, If the pilot elects to switch off his engine at least 5m above a marker and:

Makes a first touch on the marker: Landing bonus: 200 points

If the pilot elects to not switch off his engine and:

Makes a first touch on the marker: Landing bonus: 50 points

- If the pilot falls over as a result of the landing: zero landing bonus.
- If the pilot obstructs another competitor attempting to land at a landing marker penalties will apply.

### Scoring

$$\text{Pilot score} = \boxed{\text{X}}$$

Where:

TP = The pilot's time

Tmax = The longest time taken to complete the task

Bto = Takeoff bonus points

Bld = Landing bonus points

## 3.B5 SPEED TRIANGLE AND OUT AND RETURN

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### Objective

With limited fuel, to fly around a circuit in the shortest possible time, return to the deck, and then, with the pilots remaining fuel fly in a given direction as far as possible and return to the deck.

### Description

Fuel quantity allowed: (Suggested: 6 litres)

Part 1: Speed; The pilot take off time is noted. The pilot flies to one or more turnpoints and returns to the deck where he is timed.

Part 2: Distance; The pilot then flies in a given direction to a point of pilot choice, the point is recorded by GPS, and the pilot returns to the deck.

### Special rules

- Land out before completing part 1: Score zero.
- Land out before completing part 2: Score zero for part 2.
- Failure to takeoff or land entirely in the deck: 20% penalty.

### Scoring

$$\text{Pilot score} = \left( 500 \times \frac{t_{\text{Min}}}{t_p} \right) + \left( 500 \times \frac{d_p}{d_{\text{Max}}} \right)$$

Where:

$t_p$  = the pilot's time,

$t_{\text{Min}}$  = The best time (Part 1)

$d_p$  = the pilot's distance

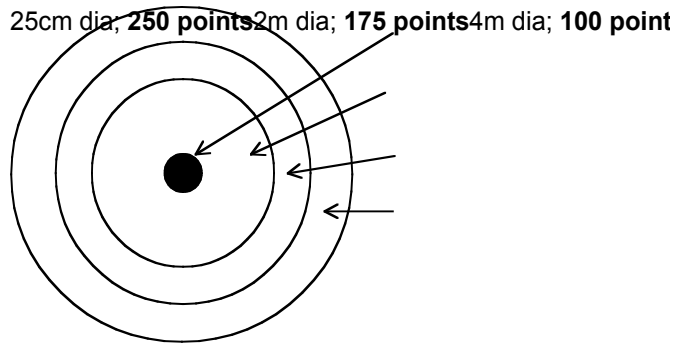
$d_{\text{Max}}$  = the greatest distance (Part 2)

## 3.C1. PRECISION TAKE-OFF AND LANDING

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### 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 500ft overhead the target, cuts the engine before passing through a gate 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

- 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.
- The circuit to be flown will be detailed at briefing.
- The first touch of the ground 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.
- Contestants will be awarded a zero score if the pilot or any part of the aircraft touching the ground outside the deck while undertaking the task.
- Contestants will be awarded a zero landing score for:

Engine not stopped before the gate.

Gate not passed correctly.

Falling over as a result of the landing.

### Scoring

Pilot score = (Bto + Bld)

Where:

Bto = Takeoff points

Bld = Landing points

## 3.C6 SHORT TAKE-OFF OVER A FENCE

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### Objective

To take off and clear a fence from as short a distance as possible. This task is intended to be included as a small element of another task.

### Description

A fence 2m high and 10m long is manoeuvred into a position of pilot choice.

When takeoff permission is granted, pilots takes off and tries to fly over the fence. Maximum distance of pilot's feet on the ground to the fence is scored.

### Special rules

- If the pilot's feet have not left the ground and the line of the fence is not reached at the first attempt then one second attempt is permitted.
- Zero fence score for breaking the fence or weaving.

### Scoring

The scoring should be integrated into the overall task scoring as F. If the pilot fails to clear the fence then the penalty shall be no more than 10% of the overall task score.

$$\text{Pilot score} = \left( 100 \times \frac{F_{\min}}{F_p} \right)$$

Where

$F_{\min}$  = The shortest distance in metres for a takeoff over the fence

$F_p$  = The pilot's takeoff distance to clear the fence.

Notes

A fence may simply be 2 kicking sticks with a plastic tape between.

To prevent unnecessary delay the fence should only be brought to the pilot when he is ready to take off.

The pilot should not be told the distance he is from the fence, the distance should be at the sole visual judgement of the pilot.

The distance measured is the maximum distance the pilot is away from the fence whilst touching the ground, thus if the pilot steps away from the fence during launch then this distance should be included.

The job of holding the two poles supporting the fence can be quite hazardous; it should be entrusted to marshals experienced in PF operations.

## 3.C8. PRECISION CIRCUIT IN THE SHORTEST TIME ('Japanese slalom')

### Objective

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

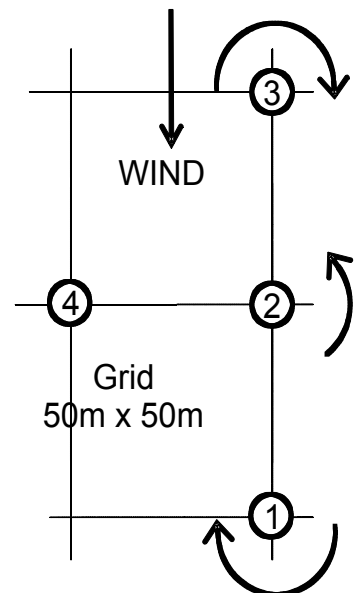
### Description

4 pylons 2m in height are laid out 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 PARAMOTOR 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



Pilot Score =

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

## 3.C10 SLOW / FAST SPEED (variant)

### Objective

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

### Description

A straight course consisting of four equally spaced 'kicking sticks' between 250m and 500m long is laid out facing approximately into wind.

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

### Special rules

- A valid strike on any stick is one where the pilot or any part of the aircraft has been clearly observed to touch it.
- For each leg, the clock starts the moment the pilot kicks the first stick and stops the moment he kicks the fourth stick.
- The pilot may have 3 attempts at kicking the first stick on each run.
- If the pilot misses the second or third stick then he is considered 'too high', penalty 50% leg score for each stick missed.
- The maximum time allowed for a pilot to complete each leg of the course is 5 minutes.

In the slow leg;

- If the pilot or any part of his PPG touches the ground or the fourth stick is missed: VP1 = zero and EP = zero
- If the pilot zigzags: Score zero.

In the fast leg;

- If the pilot or any part of his PPG touches the ground: VP2 = zero and EP = zero
- The pilot may have three attempts at kicking the fourth stick.

$$\text{Pilot score} = \left( 125 \times \frac{V_{p1}}{V_{\max}} \right) + \left( 125 \times \frac{V_{\min}}{V_{p2}} \right) + \left( 250 \times \frac{E_p}{E_{\max}} \right)$$

Where:

$V_{\max}$  = The highest speed achieved in the task, in Km/H

$V_{p1}$  = The speed of the pilot in Km/H in the first leg of the task

$V_{\min}$  = The lowest speed achieved in the task, in Km/H

$V_{p2}$  = The speed of the pilot in Km/H in the second leg of the task

$E_p$  = The difference between the pilot's slowest and fastest speeds, in Km/H

$E_{\max}$  = The maximum difference between slowest and fastest speeds, in Km/H