S10 Editor's report

Proposed Section 10 amendments 2015

S10 Editor
Rob HUGHES

S10 Committee
Jose-Luis ESTEBAN
Richard MEREDITH-HARDY
Carlos TRIGO

October 2015 v1

S10 Editor's report, October 2015

- S10 Editor has made some editorial changes to S10; these include spelling corrections and updating links to the FAI website.

- S10 Editor proposes that CIMA rules are split into S10 (main body) and then 7 separate annexes.

  - 1) Conformation requirements
  - 2) Guide for Championship organisers
  - 3) Model Local Regulations
  - 4) Task Catalogue
  - 5) Notes for Directors, officials, observers
  - 6) GNSS Flight recorders
  - 7) Paramotor Slalom LRs (if proposal 13 is approved)

- The S10 panel in 2016 will be asked to oversee the creation of the following documents:

  - Guides for Jury, Monitor and Steward - duties and responsibilities
  - Jury report template
  - Results sheet template

- 15 S10 amendment proposals were received, either through the CIMA WIKI or directly to S10 Editor.

- Experience from 2015 Championships show that organisers and participants are not familiar with CIMA rules and that CIMA rules were not followed in several situations. The solution is easy - read the rules!

- Competition Directors must use the model local regulations and model task catalogue unless changes are approved by CIMA. This ensures a satisfactory standard of task setting and avoids numerous problems.

- Several of the 2015 proposals involve complaints; it is clear that championship results must be accurate and everyone involved in a championship must do what they can to ensure accurate results. This does not include tactical complaints.

- The voting guide for Sub-Committee Chairmen has been included in this report to help the Microlight and Paramotor Sub-Committee Chairmen.

- Sub-Committee Chairmen; please fill out the enclosed voting sheet and give it to S10 Editor as soon as possible after the end of your meeting.

Sub-committee voting guide

For Sub-committee Chairman

1. Votes must follow FAI rules

Paramotor and Microlight sub-committees shall vote on S10 proposed amendments, according to a decision taken during the CIMA 2013 plenary. These votes therefore have to be conducted according to FAI statutes and by-laws.

2. Votes are limited to S10 amendments

Votes are limited to S10 proposed amendments according to the list provided by the S10 Editor. Any new items must receive 2/3 majority support before being discussed. Any issue affecting CIMA in general must be raised during a plenary session and be voted on accordingly.

3. Eligible votes only

Only those who are eligible to vote will have their votes counted. SC Chairmen **must** ensure that only valid votes are counted. These will include (for example):

NAC Delegates
NAC Alternate Delegates if the Delegate is not present
NAC Voting Representatives if neither the Delegate nor the Alternate is present.
Proxies, if they have been accepted by the FAI office.

The FAI representative can confirm who is eligible and will provide country panels which should be distributed to eligible voters.

4. Record all decisions

All votes (and any amendments or other relevant comments) **must** be recorded. The SC Chairmen should ask someone to act as a meeting secretary and take Minutes. Any votes not recorded in Minutes are not valid. These Minutes shall be published and distributed to CIMA Delegates before the start of the Plenary sessions.

The Minutes can be short - just a list of the votes. Any further amendments or clarifications should be included in the Minutes. The Minutes should be sent out via the CIMA email lists as soon as the meetings have finished.

Rob Hughes
October 2015

Proposal 1

Microlight and Paramotor

Sporting Licence requirement for Colibri proficiency badges

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

02 Requirements for Colibri Proficiency Badges

Existing text

Sec. 10
2.3.4.8 A Sporting Licence is not required for badge flights.

New text

2.3.4.8 A Sporting Licence is ~~not~~ required for badge flights.

Reason

The entire Colibri system is run by the FAI and its national members, the NACs. Without holding an FAI SL there is no proof of the membership of the applicant. To avoid an application from pilots who are not members of an FAI member-NAC this change is necessary.

Proposal 2

Microlight and Paramotor

Clarification of scoring systems

Proposal from

José Luis Esteban, ESP Delegate

Proposal title

Clarify that the scoring system must be approved by CIMA.

Existing text

Section 10, main body:
4.34 SCORING
4.34.1 The scoring system to be used shall be approved by CIMA and attached to the local regulations.

New text

4.34 SCORING
4.34.1 The scoring system to be used shall be approved by CIMA and attached to the local regulations. The scoring must be performed by strictly applying the procedures and formulas found in the approved task catalogue.

Reason

Since 2012 all task definitions must be approved by CIMA as part of the Task Catalogue. The purpose of this rule is to prevent changes in the nature of the approved tasks, allowing pilots to train on a common ground. Changing the scoring formula in a task sheet is a change in the scoring system that changes the task's nature and is, therefore, prohibited.

This is not new, but seems to need additional clarification.

Proposal 3a

Microlight and Paramotor

Complaints against another competitor's score (alternative 1)

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

No complaints against other pilot results

Existing text

4.35 COMPLAINTS
(Ref. GS, Chapter 5)
4.35.1 A competitor who is dissatisfied on any matter may, through his team leader, make a complaint in writing to the director.

New text

4.35 COMPLAINTS
(Ref. GS, Chapter 5)
4.35.1 A competitor who is dissatisfied on any matter may, through his team leader, make a complaint in writing to the director. Complaints may not be made against another competitor's score.

Reason

In the spirit of championships complaining against another competitor or his results is a kind of a tactical complaint and should be not allowed.

Proposal 3b

Microlight and Paramotor

Complaints against another competitor's score (alternative 2)

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

No complaints against other pilot results

Existing text

4.35 COMPLAINTS
(Ref. GS, Chapter 5)
4.35.1 A competitor who is dissatisfied on any matter may, through his team leader, make a complaint in writing to the director.

New text

4.35 COMPLAINTS
(Ref. GS, Chapter 5)
4.35.1 A competitor who is dissatisfied on any matter may, through his team leader, make a complaint in writing to the director. Complaints may not be made against another competitor's score. General scoring queries are permitted.

Reason

To find a solution for the problem, this is an alternative to Proposal No. 3a. The intention is not to avoid the correction of scoring errors, but to minimize discrediting or blacken someone.

Proposal 4

Microlight and Paramotor

Time for complaints; results published on the last day

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

Shortened time for complaints on the last day

Existing text

4.35 COMPLAINTS
(Ref. GS, Chapter 5)
…
4.35.2 Complaints must be presented not later than 6 hours after the respective provisional score sheet has been published, not counting the time between 22:00 and 07:00, except for the tasks of the last competition day, or for provisional score sheets published on or after the last competition day, when the time limit is 2 hours.

New text

4.35 COMPLAINTS
(Ref. GS, Chapter 5)
…
4.35.2 Complaints must be presented not later than 6 hours after the respective provisional score sheet has been published, not counting the time between 22:00 and 07:00, except for the tasks for which the results are published on the last competition day, or for provisional score sheets published on or after the last competition day, when the time limit is 2 hours.

Reason

It has happened several times in past championships, that results from the second to last day become available on the last competition day. If there are any changes due to complaints involved, the new complaint time is still 6 hours and could be longer than the time for complaints against the very last task of this day.

Proposal 5

Microlight and Paramotor

Reason for Complaints

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

Reason for complaints

Existing text

A3 1.9.7 COMPLAINTS
A competitor who is dissatisfied on any matter may, through his team leader, make a complaint in writing to the Director.

Complaints shall be made, and dealt with, without delay but in any case must be presented not later than 6 hours after the respective Provisional Score sheet has been published, not counting the time between 22:00 and 07:00, except for the tasks of the last competition day, or for Provisional Score sheets published on or after the last competition day, when the time limit is 2 hours.

A complaint that could affect a task result must be dealt with and answered in writing before any official score sheet is issued. All complaints and their responses must be published on the official notice board. (S10 4.36)

New text

A3 1.9.7 COMPLAINTS
A competitor who is dissatisfied with a decision of the director or with his result/ scoring ~~on any matter~~ may, through his team leader, make a complaint in writing to the Director.

Complaints shall be made, and dealt with, without delay but in any case must be presented not later than 6 hours after the respective Provisional Score sheet has been published, not counting the time between 22:00 and 07:00, except for the tasks of the last competition day, or for Provisional Score sheets published on or after the last competition day, when the time limit is 2 hours.

A complaint that could affect a task result must be dealt with and answered in writing before any official score sheet is issued. All complaints and their responses must be published on the official notice board. (S10 4.36).

Reason

To avoid tactical complaints/protests, the complaint should be only done in regards of a team. If Proposal No. 4 is accepted, this change will have to be done.

Proposal 6

Microlight and Paramotor

Publication of Complaints

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

No obligation of publication for complaints and answers

Existing text

Sec. 10, 4.35.3 Complaints shall be made and dealt with without delay. A complaint that could affect a task result, must be dealt with and answered in writing before any official score sheet is issued. The complaint and its response must be published on the official notice board.

New text

4.35.3 Complaints shall be made and dealt with without delay. A complaint that could affect a task result, must be dealt with and answered in writing before any official score sheet is issued. ~~The complaint and its response must be published on the official notice board.~~

Reason

With an average of 20 - 30 complaints during a championship, there is never enough space on the official notice board. If complaints are only related to teams or the complainant, it is sufficient to answer the team leader.

If accepted, Sec. 10, Annex 3 must be changed accordingly.

Proposal 7

Microlight and Paramotor

Separate result sheet per class

Proposal from

Wolfgang Lintl, GER Delegate

Proposal title

Result sheet Sec. 10, Annex 3, 1.14.1 GENERAL

Existing text

A3 1.14.1 GENERAL
[…]
The scoring system to be used shall be approved by the FAI Microlight Commission and attached to the Local regulations.
Score sheets shall state the date for the task and the date and the time when the score sheet was issued, the task number, classes involved, competitors name, country, competition number and score.
Score sheets shall be marked Provisional, and Official, or if a protest is involved, Final. A Provisional score sheet shall only become Official after all complaints have been answered by the Director. Scores shall not be altered when the Provisional sheet is made Official. (S10 4.34.3)
[…]

New text

A3 1.14.1 GENERAL
[…]
The scoring system to be used shall be approved by the FAI Microlight Commission and attached to the Local regulations.
Score sheets shall state the date for the task and the date and the time when the score sheet was issued, the task number, classes involved, competitors name, country, competition number and score.
Each valid class shall be scored on a separate score sheet.
Score sheets shall be marked Provisional, and Official, or if a protest is involved, Final. A Provisional score sheet shall only become Official after all complaints have been answered by the Director. Scores shall not be altered when the Provisional sheet is made Official. (S10 4.34.3)
[…]

Reason

All classes on one result sheet causes problems, if results for only one class has to be recalculated. If all results are on one sheet, ALL results become again provisional for a period of time.

Proposal 8

Microlight and Paramotor

Move ‘backtracking’ from A3 to S10 main text

Proposal from

José Luis Esteban, ESP Delegate.

Proposal title

Move the definition of backtracking from Annex 3 to the main body of Section 10.

Existing text

Section 10, Annex 3
1.10.9 COLLISION AVOIDANCE
\[...\]
During a navigation along a leg, competitors must not backtrack along the track line agains the direction of the task. If there is a need to backtrack, competitors must leave the track line and fly back well clear of it before rejoining the track line at an earlier point.
Backtracking is defined as flying with an angle of greater tha 90 degrees in respect to the intended flight direction. This limitation is extended to the corridor defined by the width used to score gates in the task.
Section 10, main body.
None

New text

Section 10, Annex 3
1.10.9 COLLISION AVOIDANCE
\[...\]
During a navigation along a leg, competitors must not backtrack along the track line against the direction of the task. If there is a need to backtrack, competitors must leave the track line and fly back well clear of it before rejoining the track line at an earlier point.
Backtracking is defined as flying with an angle of greater than 90 degrees in respect to the intended flight direction. This limitation is extended to the corridor defined by the width used to score gates in the task.
Section 10, main body.
4.24 FLIGHT SAFETY
4.24.5 During a navigation along a leg, competitors must not backtrack along the track line against the direction of the task. Backtracking is defined as flying with an angle of greater than 90 degrees in respect to the intended flight direction. This limitation is extended to the corridor defined by the width used to score gates in the task.
Current points 4.24.5 and beyond should be re-numbered.

Reason

The definition of backtracking was introduced as a clarification to solve many discussions raised during competitions. However, as it is defined in Annex 3, it is possible to write a Local Regulations where the provision is deleted. Being an important security concern, this shouldn't be a topic of discussion during the approval process of each Local Regulations.

Proposal 9

Microlight and Paramotor

Refund policy for entry fees

Proposal from

Rob HUGHES, S10 Editor and GBR Delegate

Proposal title

Refund policy for entry fees to be added to A3 Model Local Regulations

Existing text

None.

New text

A3 1.5
Refund of entry fees
1.5.1 If a CAT1 event is cancelled or does not take place, all entry fees that have been paid shall be returned in full and no CIMA sanction fees are due.

1.5.2 If a CAT1 event is stopped by Jury decision or by force majeure, a portion of the entry fees, to be determined by the CIMA Bureau, shall be returned. In this instance, CIMA sanction fees shall be paid in full.

Withdrawal from a CAT1 event
1.5.3 Participants who withdraw from a CAT1 championship before the start of the official practice period shall be entitled to a refund of part of their entry fees according to the scale below. In this instance, no CIMA sanction fees are due.

30 days (or more) before = 100% *
29 days (or less) before = 50% *

Participants who withdraw after the start of the official practice period shall receive no refund and CIMA sanction fees shall be paid in full.

Subsequent paragraphs to be re-numbered.

* Note:

To avoid very many proposals suggesting every possible alternative refund, this scale of refunds may be discussed and changed during the CIMA Plenary.

Reason

There is currently no refund policy and this leads to confusion when team members can no longer take part in a championship. This policy will provide clarity and fairness for participants and the organisers.

The policy is based on refund policies of other FAI sporting codes.

Proposal 10a

Paramotor only

Slalom Scoring Formulae

Proposal from
Barney Townsend, GBR Alt Delegate (with agreement from GBR Delegate)

Proposal title
09 - Sec 10 A4 Slalom Scoring Formulae

Existing text
S10 A4 3.C5
PRECISION CIRCUIT IN THE SHORTEST TIME ('Clover leaf slalom')
Scoring
tpen: = t_pil + m * v_pen
Q: = Ln(3 * t_best / (t_pen -- t_best + 3))
Where
tpil = the measured pilots time (seconds)
m = the number of missed targets
vpen = the time penalty for each missed target (seconds)
tpen = the pilots time (after penalties for missed targets)
tbest = the best time (after penalties for missed targets)
Q = the task value before normalization
Note: Spreadsheet formulas:
tpen: = *t*pil + m * v_pen_
Q: = LOG(3 * t_best / (t_pen -- t_best \+3))
And same in S10 A4 3.C6, S10 A4 3.C7, S10 A4 3.C9, S10 A4 3.C10

New text
S10 A4 3.C5
PRECISION CIRCUIT IN THE SHORTEST TIME ('Clover leaf slalom')
Scoring
tpen: = t_pil + m * v_pen
~~Q: = Ln(3 * t_best / (t_pen -~~ t_best + 3))-
Q: = (Tbest/Tpen)
Where
tpil = the measured pilots time (seconds)
m = the number of missed targets
vpen = the time penalty for each missed target (seconds)
tpen = the pilots time (after penalties for missed targets)
tbest = the best time (after penalties for missed targets)
Q = the task value before normalization
Note: Spreadsheet formulas:
tpen: = *t*pil + m * v_pen_
~~Q: = LOG(3 * t_best / (t_pen -~~ t_best \+3)) -
Q = (Tbest/Tpen)
And similar in the other slalom tasks: S10 A4 3.C6, S10 A4 3.C7, S10 A4 3.C9, S10 A4 3.C10

Reason

Summary of Reasons:

1. Pilot safety is being put deliberately at risk in order to provide an exciting spectacle for the few spectators who may attend this amateur competition by deliberately incentivising risk-taking by competitors. Our proposal removes the incentive to take risks, introduced in 2009.
2. The current formula denies points to pilots who successfully complete the course later than some arbitrary multiple of the fastest time. All Pilots who complete a task should receive points. Our proposal ensures all pilots who complete the slalom course without incurring penalties will receive some points.
3. It is the fundamental nature of the classic paramotor competition that it should be composed of many tasks. And that these tasks be diverse in nature and that a parity of scoring be applied across all that diversity. The current formula for scoring slalom is unique in the way it deliberately distorts the points distribution and so does not match the principle under which all other tasks in precision, navigation and economy are scored. The proposal remedies this distortion of the slalom task scores.

{*}Detail of Reasons: *

Reason 1:

In the interests of Pilot Safety

The reason for bringing in the log based formula in 2009 was given as:

At WPC 2009 we discovered a fundamental flaw in current slalom scoring when there is a small number of competitors in class.

"This formula generates an asymptotic curve which:

a) Encourages pilots to fly for the fastest time rather than be conservative; not excessive risk to miss a stick.

b) Works equally well with a large class or a small class.

For a full explanation see Option 6 in the attachment slalom_scoring_options.xls *"*

The proposed formula is also asymptotic, as can be seen from the graph of its Task Score distribution (figure 1 below) The proposed formula is not "linear" as has been claimed. The asymptote simply is removed from the fastest time and placed at zero. This is a reasonable value for the asymptote because a zero time is the logical place for an infinite score. The current formula places the asymptote one second faster than the fastest score. This is a deliberate distortion put in place to disproportionately reward marginally better times with exaggerated points to encourage life-threatening risk-taking. The 2009 formula gives an infinite score at one second faster than the fastest time. Why one second? Why not two seconds or half a second? The choice of asymptote is completely arbitrary. It was placed at one seconds faster than the fastest time to give an exaggerated score to the fastest pilots as an incentive to take risks. It was modified to three seconds in 2010 without any further justification.

The supporting philosophy given by the Chairman of CIMA can be summarised as being:

"If a linear scoring system is applied to a task which is part of a competition composed of many tasks, then the reward does NOT increase with the risk, pilots are therefore incentivised to fly conservatively."

It is the fundamental nature of the classic competition that it should be composed of "many tasks". And that these tasks be diverse in nature and that a parity of scoring be applied across all that diversity.

We propose that the organisers' desire for pilots to take risks in tasks flown, in close proximity to the ground, in order to maximise their advantage under the log based formula, is now in direct conflict with the imperative to encourage safe flying and with parity of scoring across all diverse tasks..

The current scoring formula was introduced in 2010, brought as a proposal by ESP. This merely changed the arbitrary constant **\+1** to a new arbitrary constant **\+3**. The current formula remains deliberately constructed to encourage risk-taking by pilots flying in close proximity to the ground. This encouragement of risk taking is

leading to and has lead to serious injury and fatality to pilots engaged in performing and practising for this task.
This proposal is intended to reduce the incentive to take such risks and at the same time return parity of points distribution across all diverse tasks in a competition.
One supporting argument to introduce the Log based formula for deriving Q was given as
"there was a flaw discovered in the existing formula when there is a small number of competitors."
No explanation was given of what that flaw was and this assertion was not challenged at CIMA sub-committee or plenary. The formula in this proposal works equally well for any number of competitors and is consistent with the scoring principles of all other tasks.

A second supporting argument for the introduction of the current formula was to introduce an incentive for pilots to take risks. This is a dangerous stance for competition organisers to adopt in the light of recent serious injuries and fatalities to pilots engaged in competing in and practising for this task. It should be at the discretion of pilots whether to fly conservatively in any task and points should not be awarded to encourage risk taking particularly in flight in close proximity to the ground.

A third argument that was given was that the current formula
"Encourages pilots to fly for the fastest time rather than be conservative; ***not excessive risk to miss a stick."***
Now that most slalom tasks do not involve kicking sticks but use timing gates and pylons, the element of precision of striking a stick is no longer present to moderate the risk-taking incentive. For this reason alone the current formula (and its entire supporting philosophy) is flawed and a new system must be implemented for pilot safety. The proposed formula allows the pilot to determine the level of risk to take without undue reward for high risk-taking but gives proportionate reward for faster times.
This policy of the CIMA committee of deliberate encouragement to pilots to take risks is justified by its author as follows:
"For reasoning, best to look back at the proposals which introduced them; it has changed several times, but the basic philosophy is as follows:_ _
After watching a few people doing a slalom almost anyone can tell the difference between a 'hot-shot' performance and a 'mediocre' one. The original scoring (up to about 2005) was linear, but it was becoming rather clear that the difference in 'risk' between flying a clover-leaf in, say, 45 seconds and 46 seconds was not reflected in the scoring. People (especially team leaders) were looking at their global score and deciding that there was nearly no loss, and much to gain, by flying these tasks relatively conservatively. Since these tasks are interesting to spectators more than any other, then you can say they are the single most important element in any effort to expose our activities to a wider audience. This is considered a desirable objective for our sport in general, so it is important to have a scoring system which encourages 'hot-shot' performances._ _
And that comes down to somehow measuring, or simulating that 'risk' I already mentioned, and inserting it in the scoring so it can be advantageous for pilots to attempt 'hot-shot' performances, and various complicated ways of doing this have been tried.
My argument is not whether a particular mathematical formula is fair or not, or is an accurate replication of that risk thing, but much more simply: the sheer complication and obscurity of it is self-defeating because no spectator understands it, which is the original purpose of it. I then go on to argue that the whole way of traditionally scoring tasks is completely spectator unfriendly, so I produced an alternative look at the whole way of doing it in the form of the ABG rules which de-couples a 'task score' (which is what a spectator is interested in) from the global score, and puts the incentive in the latter in a very simplified form which even the thickest team leader can understand. And actually it works quite well."
Richard

We propose that seeking to make slalom into a "spectacle" by deliberately encouraging risk-taking is using the competition for the wrong purpose. Competitions attract few spectators anyway and, as an amateur competition, pilots are entering for their own entertainment and not to excite and titillate spectators. Slalom is now a discipline in its own right with specialised equipment and dedicated competitions, which themselves do not even use log-based scoring formulae. There is therefore now even less reason to promote slalom above navigation or economy in classic competition. To do so distorts the competition and encourages the designers of wings to place more emphasis on slalom favouring designs for general purpose wings. This distorts the wing designs that general pilots will be offered and takes the encouragement of risk taking beyond competition to the general sports pilot.
We propose that this entire philosophy is completely wrong and damaging to classic competition and the sport.

Reason 2:

In the interests of equity in participation for all competitors in all three elements of classic competition; Navigation, Economy and Precision.
In 2009 the formula Q: = LOG(3 * t_best / (t_pen -- t_best **\+1)**) was introduced. This formula denies a proportion of pilots any score at all even if they complete the course with no penalties.
In 2010 ESP proposed an amendment to the 2009 formula to change the constant to **\+3**. This formula narrows the advantage to the top few pilots by a bit less than half but still gives zero points to pilots whose times are slower than an arbitrary multiple of the fastest time.
The reasons given by ESP for the introduction of the \+3 constant were:
This scoring formula was introduced in 2009 but, unfortunately, there has been no opportunity to use it in any international championship.
During the last Nationals in Spain the formula was applied and a long discussion followed. The conclusions were:

- *·Replace \+1 by \+3 in the formula*
- *·The recommended penalty for missing a target (Vpen) is 5 seconds*

A typographical error in the spreadsheet formula is also corrected.
No detail was given of that discussion, held by a national team of pilots, only the conclusion that \+1 be replaced by \+3 was given. It is not appropriate to introduce changes to a rule merely because one nation's pilots want it. A full explanation of the imagined benefits and discussion of the disadvantages should be had before an arbitrary constant is altered in an already arbitrary function. No explanation has ever been proposed that shows the correlation between the risk taken and the points awarded. No study has ever been undertaken to demonstrate any such correlation exists. Indeed the original proposer of this scoring system states:
"My argument is not whether a particular mathematical formula is fair or not, or is an accurate replication of that risk thing, but much more simply: the sheer complication and obscurity of it is self-defeating because no spectator understands it, which is the original purpose of it."
Richard Meredith-Hardy
acknowledging the arbitrary nature of the formula and the lack of any connection with the reality of risk\!
It is not equitable to deny points to pilots who have successfully completed a task with no penalties. If there is to be a cut off point for points distribution it should be a time limit within which a task must be completed not an arbitrary constant in the scoring formula. A time limit will depend on the length of the course and should be set for each course by the meet director, it cannot be set in the section 10 rules and remain fair where courses are of variable length.
The use of an arbitrary constant in this formula is unjust. Pilots whose skill or equipment is more tailored to Navigation or Economy or other Precision tasks may be denied scores in this single Precision element even if they complete the course, whereas pilots whose skill and equipment is more suited to slalom are never denied

points in the Navigation or Economy or other Precision task scoring provided they complete those tasks. This situation is unjust.
Below is a graph derived from the spreadsheet, (linked to above), created by the proposer of the current system of scoring in 2009. To it has been added the formula of this proposal to demonstrate the inequity of the arbitrary application of this logarithmic function to the scoring of this task.
The modified spreadsheet can be found here. slalom_scoring_optionsFBR2.xls
http://www.jfdiuk.com/pilotNotes/slalom_scoring_optionsFBR2.xls

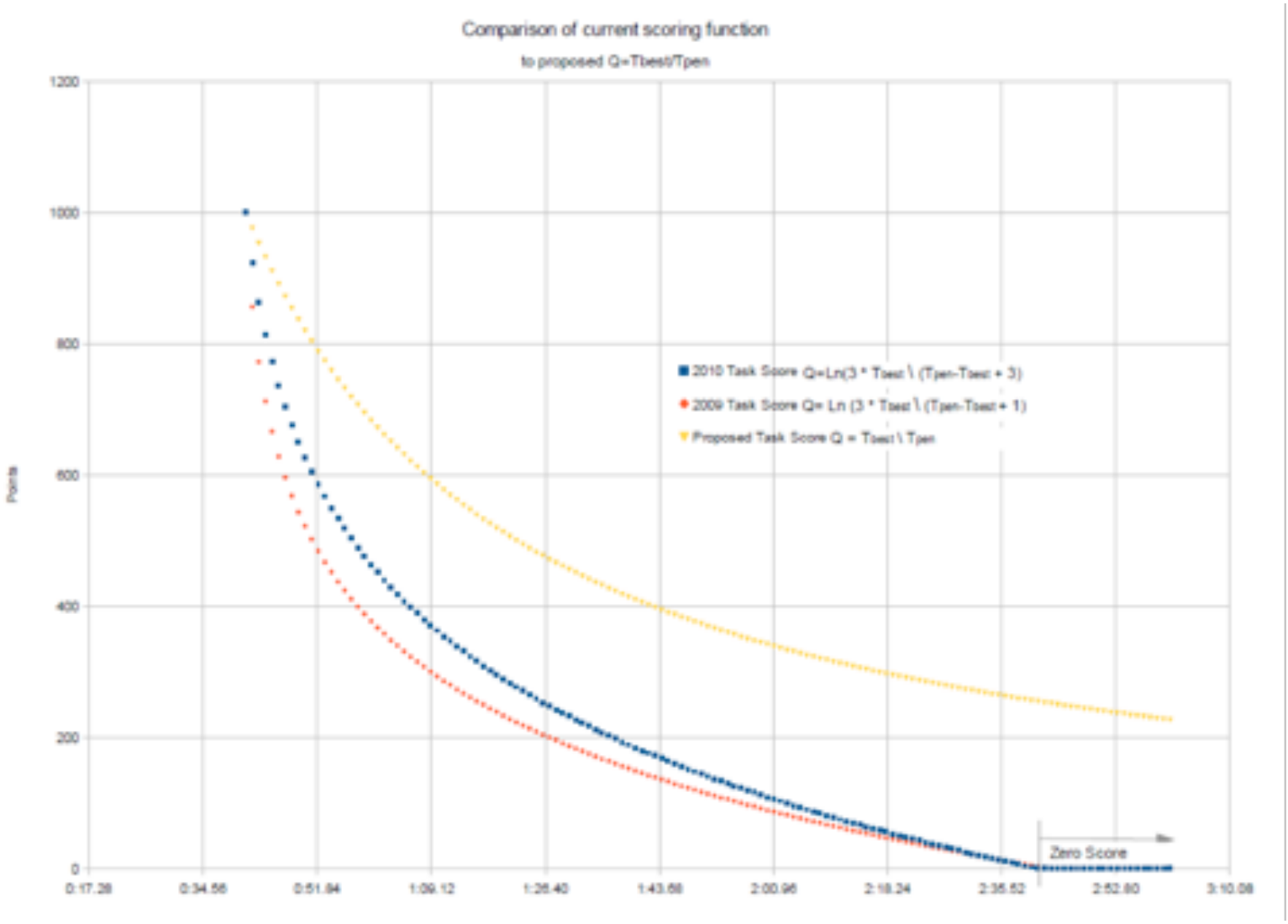


Figure 1.
The graph shows that the log based formulae, which uses an arbitrary asymptote value close to the the fastest time, has a similar curve to the proposed Q=Tbest/ Tpen The proposed formula also has provides an increasing gap between points for the pilots as times decrease.
The proposed improvements to the scoring formula are:

1. the spread of the points across the field of competitors is consistent with all other task scoring.
2. the reward of points is given to all pilots who successfully complete the task.
3. the asymptote is placed in its logical (real-world) location at "infinite points for zero time".

Reason 3:

In the interests of parity of point distribution across all three elements of the competition.

Section 10, 4.29.3 states that

"Tasks shall, as far as practicable, conform to the following guidelines in standard championships:

For Paramotor aircraft classes PF and PL:

A) Navigation: 33% of the total value of the tasks flown.

B) Economy: 33% of the total value of the tasks flown.

C) Precision: 33% of the total value of the tasks flown."

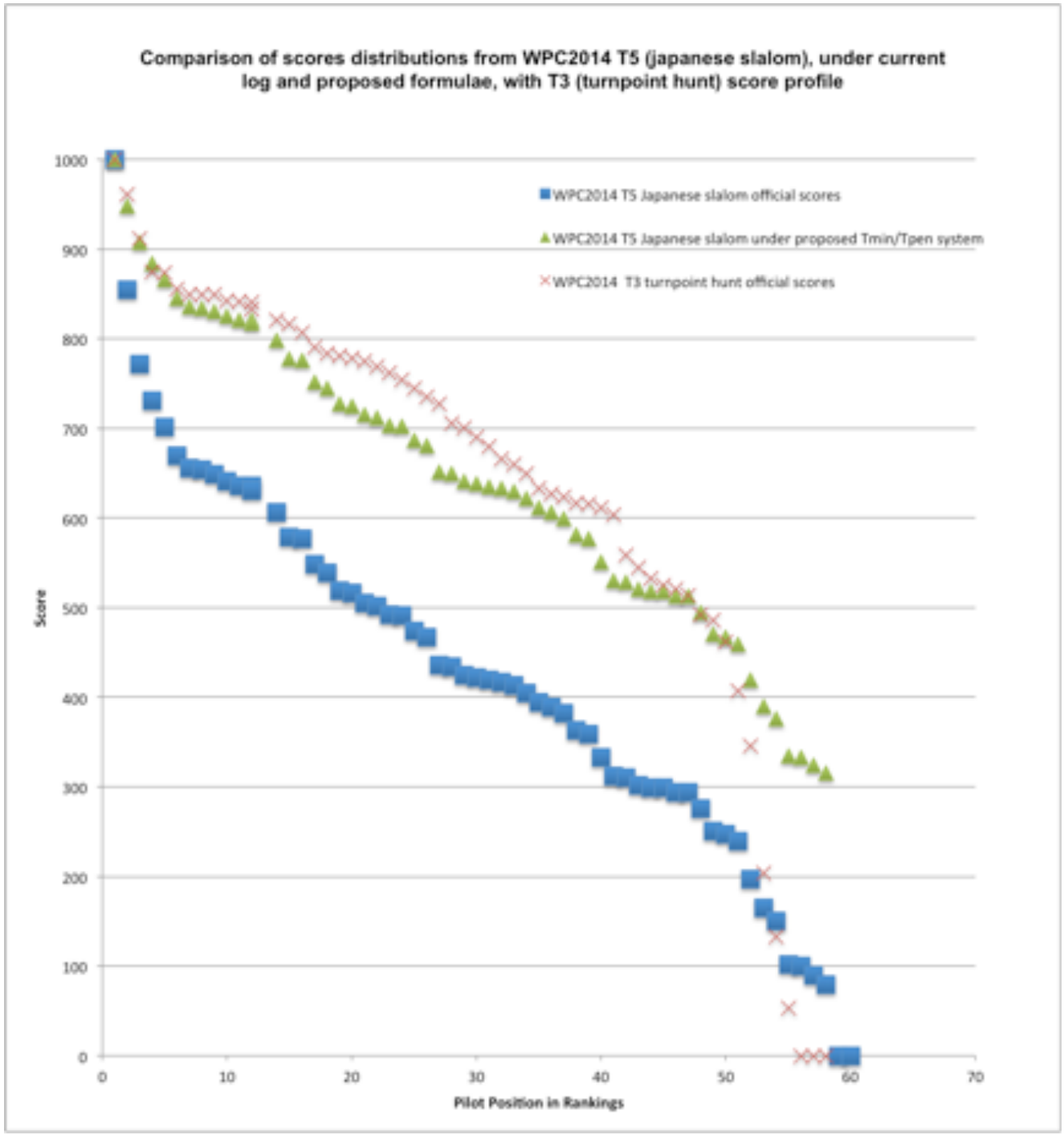
This rule is correctly in place to ensure complete fairness to all pilots across the range of equipment choice and skill level and to encourage the development of good "all-round" wing and motor designs. A balance of skill in differing flying situations and a balance of capabilities of wings and motors, speed range, agility, weight, fuel efficiency etc. A range of conflicting requirements balanced to produce the best general purpose flying machine.

The current scoring formula for slalom tasks is too punitive to all but the top few pilots, giving them a massive disadvantage in the overall competition rankings. We claim this is in direct contravention of the spirit of rule 4.29.3. In order to be consistent in the method of spread of points we are proposing that the task is scored in fair proportion to the times recorded as it is with all other tasks which are scored using this principle. In the overall competition score Slalom scoring should not contain special advantages to pilots who do better at slalom flying than other Precision tasks, Navigation tasks or Economy tasks.

A number of different formulae have been tried , but none have been ideal, and the current one is directly unfair. We therefore propose a formula that is demonstrably fairer to all pilots.

The best or simplest way to compare the scores distribution between two different types of task, e.g. navigation and slalom, is graphically, by plotting the scores against pilot ranking in the task.

The following graph (Figure 2) shows the current log-based formula scores from the Japanese Slalom, task 5 at the WPC2014, directly compared against what the pilots would have scored if our proposed Q=Tmin/Tpen formula had been used instead. It also shows the distribution of points by pilot ranking for a pure navigation task - in this case the turn-point hunt from task 3 in WPC2014. It can be clearly seen that our proposed formula removes the disproportionate advantage that the top few slalom pilots gained under the current log based formula, and makes the distribution of slalom points comparable to those that can be gained from other precision and navigation tasks.


Comparison of scores distributions from WPC2014 T5 (japanese slalom), under current log and proposed formulae, with T3 (turnpoint hunt) score profile
WPC2014 T5 Japanese slalom official scores
WPC2014 T5 Japanese slalom under proposed Tmin/Tpen system
WPC2014 T3 turnpoint hunt official scores
Score
Pilot Position in Rankings
0
100
200
300
400
500
600
700
800
900
1000
0
10
20
30
40
50
60
70

Proposal 10b

Paramotor only

Navigation Scoring Formulae

Proposal from

Barney Townsend, GBR Alt Delegate (with approval from GBR Delegate)

Proposal title

09 Sec. 10 Annex 4: Navigation scoring formulae

Existing text

S10 A4 3.A1
PURE NAVIGATION
Scoring
PILOT SCORE = 1000 x (NBp / 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.
And similar in S10 A4 3.A2, S10 A4 3.A3, S10 A4 3.A4, S10 A4 3.A5, S10 A4 3.A6

New text

S10 A4 3.A1
PURE NAVIGATION
Scoring

~~PILOT SCORE = 1000 x (NBp / NBmax)~~
Q: = Ln(3 * NBp / (NBmax -- NBp + 3))
Where
Q = the task value before normalisation
And 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.
Note: Spreadsheet formula:
Q: = Ln(3 * NBp / (NBmax -- NBp + 3))
And the same principle applied to scoring in S10 A4 3.A2, S10 A4 3.A3, S10 A4 3.A4, S10 A4 3.A5, S10 A4 3.A6 where applicable.

Reason

IMPORTANT NOTE: This proposal is presented as an alternative option to our proposal, '10a Slalom Scoring'. It should be considered only if the plenary votes against the 'Slalom Scoring' proposal. If that proposal is approved then this proposal is to be withdrawn.

Summary of Reasons:

1. Encouragement of pilots to take risks in order to gain additional turnpoints or distance in navigation takes with a view to encouraging 'hot shot' performances.
2. It is the fundamental nature of the classic paramotor competition that it should be composed of many tasks. And that these tasks be diverse in nature and that a parity of scoring be applied across all that diversity. The current formula for scoring slalom is unique in the way it deliberately distorts the points distribution. The proposal remedies this distortion of the slalom task scores by applying the same scoring system to navigational scoring

Reason 1

In the interests of encouraging 'hot shot' performances at navigation tasks.
In 2009, a log based formula was introduced for slalom scoring with a view to reducing the incentive for pilots to fly tasks conservatively. This proposal applies the same logic and argument to the scoring of navigation tasks.
The following text is adapted to the current proposal from the original supporting argument for the introduction of the log based formula in slaloms:
In slaloms, the difference between a 'hot\- shot' performance and a 'mediocre' one can be easily seen by spectators. Although not so easily visible from the ground, such differences are also present in navigation tasks. For the same reasons as were argued in 2009 for slalom scoring, it is clear that the difference in 'risk' between flying a turnpoint hunt to gather, say, 30 turnpoints instead of 29 turnpoints is not reflected in the current scoring system for navigation. People (especially team leaders) are looking at their global score and deciding that there is nearly no loss, and much to gain, by flying these tasks relatively conservatively. Such gains include reducing the risk of engine failure through prolonged high revs, running out of fuel (both of which can result in a 0 score for the task) and the imposition of penalties for arriving late at the finish gate. Although navigation tasks are not as interesting to spectators as slaloms, they are equally as important to the pilots as any other task, particularly in classic competitions that have a mandate for equal balance of point scoring between task types. Where 'hot-shot' performances in slaloms bring advantages for the sport in general through spectator engagement, 'hot-shot' performances in distance navigation encourage manufacturers to develop better and safer 'all-rounder' wings, also for the (albeit less direct and immediate) benefit of the sport in general. If such a scoring system is in place for slalom, it is important therefore to have a comparable scoring system which encourages 'hot-shot' performances in navigation.
And that comes down to somehow measuring, or simulating that 'risk' already mentioned, and inserting it in the scoring so it can be advantageous for pilots to attempt 'hot-shot' performances, and various complicated ways of doing this have been tried.
This argument is not whether a particular mathematical formula is fair or not. It simply proposes to accept the same formula that has been used in slalom scoring for the last six years (with appropriate adaptations) and to apply it to navigation scoring.
It is the fundamental nature of the classic competition that it should be composed of "many tasks". And that these tasks be diverse in nature and that a parity of scoring be applied across all that diversity; this proposal furthers that objective.

The current scoring formula was introduced in 2010 for slaloms, brought as a proposal by ESP. This merely changed the arbitrary constant **\+1** to a new arbitrary constant **\+3**. The current formula was deliberately constructed to encourage risk-taking by pilots in order to achieve higher scores.
Another argument that was given when introducing the current formula to slaloms was:
"Encourages pilots to fly for the fastest time rather than be conservative; ***not excessive risk to miss a stick."***
This proposal again applies the same argument to navigation:
"Encourages pilots to fly for the highest number of turnpoints (or distance) rather than be conservative; ***not excessive risk to miss a turnpoint***

As described above, going for one extra turnpoint at the end of a navigation task incurs a high risk with (currently) little gain in the scoring. This proposal intends to increase the pilot incentive to take that risk.

Reason 2

In the interests of parity of point distribution across all three elements of the competition.

Section 10, 4.29.3 states that

"Tasks shall, as far as practicable, conform to the following guidelines in standard championships: For Paramotor aircraft classes PF and PL:

A) Navigation: 33% of the total value of the tasks flown.

B) Economy: 33% of the total value of the tasks flown.

C) Precision: 33% of the total value of the tasks flown."

This rule is correctly in place to ensure complete fairness to all pilots across the range of equipment choice and skill level and to encourage the development of good "all-round" wing and motor designs. A balance of skill in differing flying situations and a balance of capabilities of wings and motors, speed range, agility, weight, fuel efficiency etc. A range of conflicting requirements balanced to produce the best general purpose flying machine.

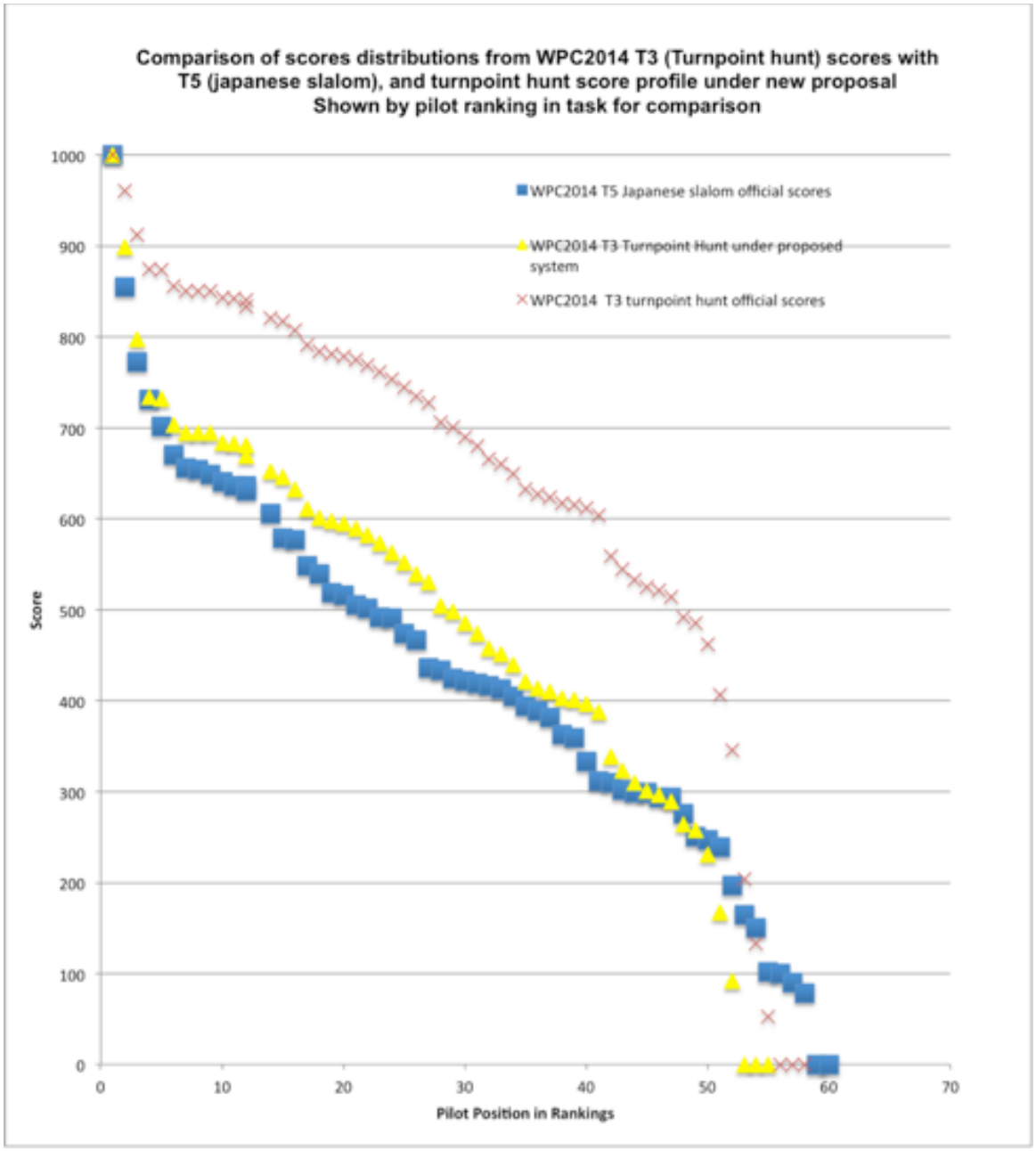
The current scoring formula for slalom tasks is punitive to all but the top few pilots, giving them a massive advantage in the overall competition rankings. We contend this is in direct contravention of the spirit of rule 4.29.3. In order to be consistent in the method of spread of points we are proposing that the scoring system for navigation tasks is brought into line with all other tasks which are scored using the log-based principle of slalom. Slalom scoring should not contain special advantages in the overall competition to pilots who are better at slalom flying than other Precision tasks, Navigation tasks or Economy tasks.

A number of different formulae have been tried, but none have attracted universal support; this proposal does not dispute the validity or fairness of the current slalom formula in itself. What is directly unfair is that a different scoring system is used for different task types.

By way of example, the score profiles between slalom and navigation tasks can be compared graphically. The best or simplest way to compare the scores distribution between two different types of task, e.g. navigation and slalom, is graphically, by plotting the scores against pilot ranking in the task.

The graph in Figure 1 below below shows a comparison between the score profiles received for PF1 class in the World Paramotor Championship 2014, task 3 (Turnpoint Hunt) and Task 5 (Japanese Slalom). The difference in reward between slalom and navigation for the risk taken by the top pilots can be clearly seen. Also plotted on this graph is how the scores for Task 3 (Navigation) would look under this proposal. This proposed score profile is much closer to that of the slalom scoring, making the whole system more fair and true to S10, 4.29.3.

Figure 1.


Comparison of scores distributions from WPC2014 T3 (Turnpoint hunt) scores with T5 (japanese slalom), and turnpoint hunt score profile under new proposal Shown by pilot ranking in task for comparison
WPC2014 T5 Japanese slalom official scores
WPC2014 T3 Turnpoint Hunt under proposed system
WPC2014 T3 turnpoint hunt official scores
Score
Pilot Position in Rankings
0
100
200
300
400
500
600
700
800
900
1000
0
10
20
30
40
50
60
70

Proposal 11

Paramotor only

Precision Wing Control - new task

Proposal from
Barney Townsend, GBR Alt Delegate (with approval from GBR Delegate)

Proposal title
Precision Wing Control - New precision task

Existing text
None

New text
S10 A4 3.C14 PRECISION WING CONTROL

Objective
Land and display precise control of the wing before taking off again.

Description
This task will normally be flown in wind conditions in which a reverse launch is possible.
A straight course consisting of two sticks is laid out facing approximately into wind. The precise distance between the sticks is arbitrary but they should be a minimum of 100m apart.
The pilot enters the course into wind. They must kick the first stick to start their time. They must then land in between the two sticks, bringing the wing completely to rest on the ground with the lines seen to be slack.
When a marshal has confirmed that the lines are slack, they will show a green flag as a signal that the pilot may take off again.
The pilot will then launch and kick the second stick to stop the timer.

Special rules
A valid strike on a stick is:
EITHER one where the pilot or any part of the Paramotor has been clearly observed to touch it.
OR when electronic 'kick stick' sensors which have been shown to meet the standard tests are used, a valid strike is one which is recorded by the device.
- The clock starts the moment the pilot kicks the first stick and stops the moment he kicks the second stick.
- The pilot may have 3 attempts at kicking each stick.
- If the pilot relaunches the wing before being shown a green flag by the marshal they will incur 100% penalty for the task.
- If a launch fails the pilot may make as many attempts as they need to relaunch the wing, within the specified time limit.
- The maximum time allowed for a pilot to complete the course is 3 minutes.

Scoring
Q: = (Tbest/Tpil)
Where
Tpil = the pilots time
Tbest = the best time
Q = the task value before normalization

Reason

We need more options for tasks that offer pilots the chance to demonstrate precision skills without the requirement for high speed and high energy turns in order to make precision tasks safer in classic competitions.
This task has been tested in UK championships in 2014 and proved to work well in windy conditions.

Proposal 12

Paramotor only

Precision Wing Control (ground handling) - new task

Proposal from

Barney Townsend, GBR Alt Delegate (with approval from GBR Delegate)

Proposal title

14 Sec. 10 Annex 4 Precision Wing Control - ground handling

Existing text

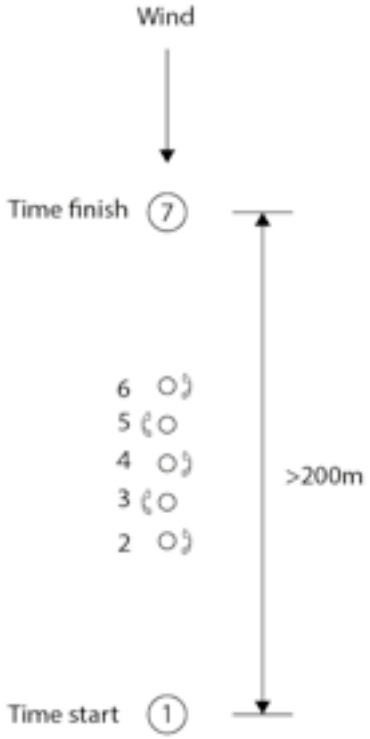
None

New text

S10 A4 3.C15
PRECISION WING CONTROL - GROUND HANDLING

Objective

Land and display precise control of the wing before taking off again.



Description

A straight course consisting of two sticks is laid out facing approximately into wind. The precise distance between the sticks is arbitrary but they should be a minimum of 200m apart.
At the center point between the sticks a minimum of five pins are placed in line with the sticks, 2m apart from each other. The pins are small plastic cones of the type used in sports training.

The pilot enters the course into wind. They must kick the first stick to start their time. They must then land before the first pin, keeping the wing flying in the air above them.
Whilst kiting the wing, they should walk or run through the course of pins, turning in alternate directions around each one to follow a slalom course. The body of the pilot must be clearly observed to pass outside of the line of pins when making each turn, and they must not touch any of the pins.
After the pilots has passed the final pin, they will then launch as quickly as possible and kick the second stick to stop the timer.

Special rules

- A valid strike on a stick is:
EITHER one where the pilot or any part of the Paramotor has been clearly observed to touch it.
OR when electronic 'kick stick' sensors which have been shown to meet the standard tests are used, a valid strike is one which is recorded by the device.
- The clock starts the moment the pilot kicks the first stick and stops the moment he kicks the second stick.
- The pilot may have 3 attempts at kicking each stick.
- The pilot may turn either to the left or to the right when rounding the first of the pins, so long as they alternate the turn direction on each subsequent pin.
- If the wing drops to the ground whilst the pilot is running through the slalom course they may relaunch it as many times as they need within the specified time limit.
- The maximum time allowed for a pilot to complete the course is 3 minutes
- Each pin that is touched by the body of the pilot in the course counts as a missed target.
- Each time the pilot fails to turn outside the line of pins it counts as a missed target.

Scoring

tpen: = t_pil + m * v_pen
Q: = (Tbest/Tpen)
Where
tpil = the measured pilots time (seconds)
m = the number of missed targets
vpen = the time penalty for each missed target (seconds)
tpen = the pilots time (after penalties for missed targets)
tbest = the best time (after penalties for missed targets)
Q = the task value before normalization
{panel}

Reason

We need more options for tasks that offer pilots the chance to demonstrate precision skills without the requirement for high speed and high energy turns in order to make precision tasks safer in classic competitions.
This task has been tested in UK championships in 2014 and proved to work well in windy conditions.
Precise ground handling of a wing is an essential pilot skill and this task measures that ability.
This is also a good task for spectators to watch.

Proposal 13

Paramotor only

Separate LR for Paramotor Slalom

Proposal from
FRA, Joel Amiable & Jose Ortega) and POL, Wojtek Domański

Proposal title
Separate Local Regulations for Paramotor Slalom Championship to be added as a new annex to S10.

Existing text
None

New text
See document – available at http://wiki.fai.org/x/M4FsAQ

Reason
As per 2013 Plenary minutes: http://wiki.fai.org/display/cimaPlenaries/2013+meeting+minutes

18 2) For Slalom Championships there will be a separate Local Regulations and Task Catalogue to be added as a new annex to SC Sec. 10.
A Working Group to be established to do this work consisting of Patrice Girardin, Wojtek Domanski and members of the Sec.-10-sub committee, to produce a draft version for approval by the 2014 meeting.
Safety amendments included in the attached document were discussed during Team Leaders Safety Meeting organised during 2nd World Paramotor Slalom Championship in Legnica, and cover the following topics:

- penalty for touching the ground or water
- penalty for touching the pylon
- penalty for getting the wing collapse (any size)
- cancellation of one, worst pilot's result in qualification round
- extending the slalom course with 30m before the opening gate, and 30m after the closing gate
- flying twice all tasks in final rounds

The amendments are to refrain competing pilots from too risky and too aggressive flying on the edge (or even over) of flying equipment limits.
These and analogical amendments were successfully tested during Polish Nationals 2015, and French Nationals 2015.
See also http://wiki.fai.org/x/UIFsAQ written for the 2014 CASI meeting regarding the management of justice in knockout tournament style competitions.

Documents
Available at http://wiki.fai.org/x/M4FsAQ

Reason

These local regulations are based upon experience in organisation of two World Paramotor Slalom Championships (in France and Poland), and one European Slalom Paramotor Championship in France.
The proposed text includes amendments whose aim is to increase safety of paramotor slaloms.

Refer to local regulations for http://wiki.fai.org/display/cima/2013+WPSC+Aspres+sur+Buech
and http://wiki.fai.org/display/cima/2014+EPSC+Couhe

Proposal 14

Paramotor only

Fast / Slow scoring

Proposal from
Ott Maaten - EST Alt Delegate (with approval from EST Delegate)

Proposal title
Fast/Slow Speed scoring

Existing text
[S10 Editor's note: See A4 3.C9]

New text
To add the proposal to drop off the slowest and fastest scoring in the formula and keep only the scoring of speed difference.

[S10 Editor's note: final version to be confirmed as part of the approval process]

Reason

The formula used in Fast/Slow Speed scoring has been controversial. The current scoring formula is punitive to pilots with faster wings because fastest speed score and slowest speed score are calculated on proportional basis and has bigger proportional difference on lower speeds. This could be argued to be in direct contravention of the spirit of rule 4.2.1.
Take an example:
The pilot with slow wing flies slow part 25km/h and fast part 50km/h
The pilot with fast wing flies slow part 35km/h and fast part 60km/h
Both are performing equally and they equally manage the speed difference of the wings. Their skills are on equal. But the scoring (500 points formula) gives that the pilot with slow wing has 481 points and the pilot with fast wing has 464 points (962 and 929 points in 1000 points formula).
There is absolutely no justification that slower pilot gets more points in this kind of situation: the best pilot in this task should be the pilot who gets the biggest speed difference with his/her wing and equipment and therefore only this result must be scored

The proposal is to drop off the slowest and fastest scoring in the formula and keep only the scoring of speed difference.

If the event/competition organiser wants to give extra points to fastest and the slowest pilot it could be done by adding some bonus points to the task but it should not be decided by proportional formula.

Proposal 15a

Paramotor only

Fly Paramotor Slalom over water

Proposal from

Paap Kolar, EST Delegate

Proposal title

Obligation to fly paramotor slalom tasks over water.

Existing text

None

New text

All CAT1 Paramotor slalom (pylon) competition tasks shall be flown over water.

Organisers shall provide adequate water rescue service and reliable rafts or pontoons to hold pylons securely.

The recommended water depth for Slalom Championships is between 1 and 1.5 metres.

Competitors shall wear personal automatic rescue floatation devices and carry rescue knives.

[S10 Editor's note: final wording and placing of text to be decided]

Reason

This draft text is meant as an addition to the FAI CAT1 Paramotor Slalom Championships Local Regulations, starting from 2016.

Other effective means for safety improvement should be discussed and decided as well (for example smoke pylons, hologram pylons etc. to eliminate physical obstacles on the path of slalom tasks completely) but flying over the water should be the first and primary step towards safer slalom competitions and saving pilots' lives.
Low level flying is dangerous, especially in maneuvering and at high speeds. Serious danger to the life of a pilot appears not only in competitions but even more in training, becuse every motivated pilot is trying to practice pylon flying in similar conditions to competitions.
Instead of attracting more pilots and countries to FAI competitions, present, fundamentally disabled and life threatening regulations will disclose more and more pilots from this sport, but also put future of the slalom format in question, not to mention overall damage to FAI and CIMA image and reputation.
Results
Proposed new safety standard will create a positive incentive to follow, to carry out all pylon competitions and trainings on the water, which saves lives, prevents serious injuries, offers new perspective to the whole slalom format, contributes towards safe development of the sport and improves CIMA reputation as well.

Proposal 15b

Paramotor only

Cancel all CAT1 Paramotor Slalom tasks

Proposal from

Paap Kolar, EST Delegate

Proposal title

Cancel all CAT1 Paramotor Slalom tasks until further notice.

Existing text

None

New text

[S10 Editor’s note: To be confirmed. See the reasoning below]

Reason

If proposal 15a is rejected, this alternative proposal is to postpone or to stop completely all paramotor slalom CAT1 championships because of their failed format until the correct, comprehensive and safe regulations and technical solutions are worked out and accepted by pilots, organisers and the whole paramotor community.