

WINGSUIT FLYING COMMITTEE

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OPEN MEETING AGENDA – 2018

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1. Introduce Committee, present and absent
2. Chairman's Report
3. 2nd FAI World Cup of Wingsuit Flying, Overton, USA: - Video and Stills
4. Rule Clarifications for Performance as a result of lessons learnt at Overton: - To clarify the definitions of Exit procedure and Designated Flight Paths: - Viz. 3.3.3, 3.4.4, 3.5.1 to 3.5.5. Also, to Clarify the definition of official Training Jumps; 5.3.1 to 5.3.3.
5. To discuss a Rule change for Acrobatic: That is Acrobatic in an "Altitude Window". This would be a Major rule change, involving new Scoring Systems (see item 7) and potentially teams requiring different Wingsuits. If decided to change to an Altitude Window, then, to discuss an implementation strategy. Please see the Norwegians Acro Teams Paper, on this subject attached as an Annex.
6. To discuss any other Rule Clarifications arising out of Committee discussions in the 2 Months after writing this agenda.
7. Presentation of a Paralog scoring system for Acro in an Altitude Window or can be used also for Working time. (Klaus Rheinwald to present). NB an invitation has also been sent to "In Time" to present their Scoring system for both Wingsuit Performance and Acrobatic, if it is developed by Sofia. Also, for info, Omniscores system for Performance has been approved by the Judges Committee at Overton. To discuss if required.
8. Update on the Wingsuit Flying World Championships, Prostejov, Czech Republic August 26th – September 2nd 2018.
9. To discuss any Bids (none received at the time of writing this agenda) for a World Cup in 2019. Also, to discuss a bid received from Russia for a Mondial in 2020, to include Wingsuit Flying and ALL other disciplines.
10. Wingsuit records: - To amend SC-5 in coordination with the R & R committee and the IPC Records officer; if required. Randy Connell (IPC Records Officer and Vice Chair of the Wingsuit Committee to advise).
11. AOB: - To discuss any issues arising in the 2 Months after this Agenda had to be published, given the Wingsuit WC was in November.
12. Confirm members of the 2018 Wingsuit Flying Committee to plenary. Dennis Werenskiold to lead as Chairman elect.

IPC Wingsuit Flying Committee – Chairman’s Report - 2017-12-07

Committee: - John Smyth, Chair (GB); Randy Connell, Deputy Chair (USA); Dennis Werenskiold (DEN); Klaus Rheinwald (GER); Sergey Panteleev (RUS); Sandro Boehme (GER); James Hayhurst (USA); Henne Wiggers (NL).

The effective 2017 Committee as above, was not the one that was voted in by Plenary. Jackie Harper (GB) resigned. However, we are grateful to Buzz Bennett (CAN) who assisted greatly during the year especially in his area of expertise, formulating rules. Buzz was also Chief Judge at the 2nd FAI World Cup of Wingsuit Flying Held at Skydive Fyrosity, Overton, Nevada, USA, between the 1st to the 9th of November 2017. On which I will now report. We are also very grateful to Michael Cooper (Flysight) for his invaluable contributions in the area of Tech support, scoring systems and rules.

So, to Overton. This was the first FCE to be held at this DZ. Indeed, it was the first major competition of any sort. A steep learning curve for the Owners; Sammy & Iva Vassilev, better known to you all as also the owners of ‘Skydive TV’. I was also FAI Controller for this World Cup and as such I was involved in the preparation right from the start. I have to say, from day 1, it was beset by problems, that tested the resolve of the hosts to the extreme and indeed me, in my role as FAI controller. It is not the purpose of this report to chronologically list them all but suffice to say, many were imposed by outside agencies, events and dynamics, that were beyond the control of the Hosts. I will mention a few that perhaps FAI/IPC and indeed potential Hosts for future FCE’s, can learn lessons from, going forward. A huge debate with FAI about something as simple as the logo that took weeks to resolve, set the tone. In the end resolved by the return to the FAI office, from leave, by the person actually responsible for approving logos. Then a protracted debate about the Organiser Agreement, that went on and on bouncing between the Hosts, USPA & FAI. In my opinion, this was an unnecessary distraction as it appeared to me, the hosts just wanted clarification on a few paragraphs, that had not been changed from the generic FAI OA, for many years. The intent was to bring the FAI generic OA’s into the 21st Century. I respectfully ask FAI to re-examine their OA policy. As this protracted debate cast doubt on whether the WC would go ahead, especially when another concern became very apparent.

That concern was the number of countries participating and indeed whether the World Cup in Acro could even go ahead, given IPC’s own rules reference the number of Countries. Or indeed whether the number of participants in Performance warranted the WC to continue (Albeit the number of countries was not a problem) I think it is fair to say Sammy came very close to cancelling this FCE and accepting the loss of his deposit. With two hats on, (Chair of the Committee and FAI Controller) I resolved to work hard with Sammy to avert this potential outcome as I believe that if we had not had this WC, it would have set the disciplines development back years. So, after weeks of negotiation with Bureau, reference Acro, and the number of countries to warrant an WC, in that event and a lot of work, by me, to get Countries and Individuals to commit to both events; What did we end up with? In Acro we had 7 Teams from 4 Countries. I was so relieved to get an E Mail from Espen Fadnes informing me that the 3 Norwegian Performance competitors would also do Acro. That made four countries and saved the WC. In Performance, we had 38 Competitors from 11 Countries. With 7 Performance jumpers also doing Acro and 14 Acro jumpers only doing Acro, this meant a total of only 52 Competitors. Well down on last year’s WPC & WC in Z Hills, which had 64 Competitors from 22 Countries in Performance and 8 Teams from 6 Countries in Acro; Allowing for some doing both events there was a total of 88 competitors in Z Hills. So why the decline? Well is this something IPC need to examine for all disciplines? We know that World Cups allow for more Teams and more Individuals from each Country. So, it may be a reasonable assumption that one would expect more competitors from each Country for World Cups. The trend, in all disciplines, indicates the exact opposite is the case. I ask, is this just simply that most Countries only offer some form of funding for WPC’s and therefore Athletes chose to concentrate their limited funds on WPC’s? Or is there more to it. That is the perception of the importance of WC’s to IPC/FAI. Has their value been eroded? I believe it is worth a discussion because very soon potential Hosts may reconsider even bidding for WC’s altogether if it means they sustain a significant Financial loss. Which is exactly what happened to Skydive Fyrosity and Sammy, at this WC. I tried to allay his sense of grievance about this by saying “before this WC, very few people had heard of Skydive Fyrosity, now you are on the Worlds Map, what price for that? I fear, small comfort, to Sammy.

Despite all that and many other hurdles, e.g. at the last minute the local council insisting on an insurance policy that reflected an Air Show!! At more massive cost, this WC did go ahead, Excellent facilities, no injuries, World Cup Winners declared and 2 new World Records and numerous Continental and National Records. Congratulations to Amber Forte from Norway on a new Female Speed World Record and Travis Mickle from USA on a new speed World record. Pictures and Videos speak a thousand words so I will show both at this stage in the open meeting to show how standards have improved in just the last 12 Months and to recognise the Medal Winners.

2nd FAI World Cup in Wingsuit Flying

Performance Flying



Gold Medal	Chris Geiler	USA
Silver Medal	Alexey Galda	USA
Bronze Medal	Travis Mickle	USA

2nd FAI World Cup in Wingsuit Flying

Acrobatic Flying



Gold Medal	"Wicked Wingsuits A-Team" Travis Mickle, Anthony Zerbonia, Wes Sandler	USA
Silver Medal	"Flat Spin" Mark Kransinski, Jeffrey Harrigan, Sarah Chamberlain	USA
Bronze Medal	"Sky Republic" Andrei Lurosch, Sergei Kistaichev, Igor Volkov	Russia



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Also, there was a very successful FAI Judges Training course held at this WC. We have 9 new FAI Wingsuit Judges. Special mention must be made of Randy Connell, who ran this course. I received nothing but praise from all the participants. So well done Randy. Martin Dlouhy from Prostejov was also at this WC and spent a lot of time with Jimmy Hayhurst the MD and Buzz Bennet the CJ with his panel, to learn for next year's WPC. Thanks, to all, for this, the future looks good.

At the end, we had a Competitors Meeting. One of the longest I have ever been part of. We tried something innovative at this meeting. A live video feed on you tube and an attempt to record it all, by Sammy and Skydive TV. Many very valuable points were raised and we identified the need to clarify many rules, especially in Performance & relating to lane discipline, before next year's WPC in Prostejov. As I write this, the committee are working very hard to achieve this. I think this work will continue for the next 2 months, and all through the open meetings, to Plenary. But I am confident we will achieve it. However, as we had such a late WC and I am required to write this and the agenda now, I am sure you can understand why the attached agenda is non-specific, at this early stage, to allow the committee more flexibility.

Finally, on Overton, I must state that the Media coverage was absolutely superb. Given that this is also the home of Skydive TV, not surprising really but Sammy has certainly set a benchmark for the coverage of future IPC FCE's. I hope IPC/FAI can support him on that journey. While talking about Sammy and his Team at Fyrosity. On behalf of all the Wingsuit Community; thank you all very much for facing up to the huge challenges that were thrown at you. It would have been easy to walk away but you did not. You overcame and in the end, gave us a very successful World Cup as the Discipline of Wingsuit Flying continues to evolve within the IPC/FAI Family.

I am not a Wingsuit Competitor or Judge and because of IPC regulations, I was happy to step up and take on the Chair of the Committee when no other delegate was available. However, I always said that whenever Delegates, who were either Competitors or Judges came to the fore I would step down and concentrate on the disciplines I have competed in. That time has come. It has been a steep learning curve for me but I genuinely believe that the current competitors are Pioneers in a discipline which will grow and grow. It is very exciting what is currently being developed. The true "Dream of Flight" I just wish I was 30 years younger because I know what I would be doing!!

So, the Committee have agreed to hand over the Chair to Dennis Werenskiold, the Delegate from Denmark and Wingsuit Competitor representing Denmark, after I stand down at the end of Plenary in Bulgaria. Subject of course to Plenary approval. He will then announce his Committee for, 2018, at Plenary.

John Smyth
Chairman: IPC Wingsuit Flying Committee



*Fédération
Aéronautique
Internationale*



COMPETITION RULES

FOR

WINGSUIT FLYING

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¹ FAI Statutes, Chapter 1, para. 1.6

² FAI Sporting Code, General Section, Chapter 3, para 3.1.3.

³ FAI Statutes, Chapter 1, para 1.8.1

⁴ FAI Statutes, Chapter 2, para 2.1.1

⁵ FAI Bylaws, Chapter 1, para 1.2.1

⁶ FAI Sporting Code, General Section, Chapter 3, para 3.4

⁷ FAI Bylaws, Chapter 1, para 1.2.3

⁸ FAI Statutes, Chapter 5, para 5.2

⁹ FAI Sporting Code, General Section, Chapter 3, para 3.1.7

¹⁰ FAI Sporting Code, General Section, Chapter 1, paras 1.2. and 1.4

¹¹ FAI Statutes, Chapter 5, para 5.2.3.3.7

¹² FAI Bylaws, Chapter 1, para 1.2.2

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Addendum B: Acrobatic Wingsuit Flying Compulsory Sequences

Addendum C: Acrobatic Wingsuit Flying Judging Criteria

Addendum D: Judging Scoring Sheet

Addendum E: Performance flying, The DFP, DL and penalties scheme.

1 FAI AUTHORITY

The competition will be conducted under the authority granted by the FAI, according to the regulations of the Sporting Code of the FAI, General Section, and Section 5 as approved by the IPC and validated by the FAI, and these rules. All participants accept these rules and the FAI regulations as binding by registering in the competition.

2 DEFINITIONS OF WORDS AND PHRASES

Performance Event:

Competition window: A vertical 1000 meter window, starting at 3000 m (9843ft) Geometric Altitude and ending at 2000 m (6562ft) Geometric Altitude, in which the performance of the wingsuit flyer is evaluated. The first crossing of the upper window boundary starts the evaluation process, which **stops** at the first crossing of the lower window boundary.

Position logging device (PLD): A device used to record the real-time, three-dimensional (3D) position of the wingsuit flyer, which is mounted on the wingsuit flyer's body or equipment.

Spherical error probability (SEP): The horizontal and vertical accuracy specifications of a PLD expressed in terms of a sphere of given radius; for example, "real-time accuracy <10 meters SEP."

Flight Director: a person appointed by the Meet Director to act as in-flight liaison to coordinate jump runs and facilitate exits.

Geometric Altitude: The height, as measured by a Global Navigation Satellite System, optical methods or radar, above ground level. The ground level for the competition site will be determined by the Meet Director and will be made known at the pre-event competitors' meeting.

Designated Flight Path: the **straight** ground track between a point on the competitor's flight path reached 5 seconds after exit and a designated **ground reference point**, which is given to the competitor by the Meet Director **using a detailed map or aerial photograph of the area prior to the jump.**

Designated Lane: a lane which is centered on the Designated Flight Path with a width of 600 metres

Acrobatic Event

Compulsory routine: a routine composed of compulsory sequences chosen at random from Addendum B by the Chief Judge.

Free routine: a routine composed of manoeuvres chosen entirely by the Team.

Grips

~~1) A **grip** is a recognizable stationary contact, performed in a controlled manner, of the hand(s) of one Performer on a specified part of the body of the other Performer.~~

- 1) A **hand grip** consists of a **controlled stationary** handhold on the hand or wrist. The **handhold grip** must be on or below the wrist.
- 2) A **leg grip** consists of a **controlled stationary** handhold on the leg below the hip.
- 3) A **grip** on the surface of any wingsuit without also **achieving stationary contact a controlled stationary** handhold on a specified part of the body as defined in 1) and 2) ~~and 3)~~ above is specifically excluded from the definition of a grip.

Manoeuvre: a change in body position or a rotation around one or more of the three (3) body axes or a static pose

Normal Flight; The performer is in a belly-to-earth stable position

Omission

- 1) a manoeuvre or grip **is** missing from the drawn sequence or
- 2) there is no clear intent to perform the chosen manoeuvre or
- 3) an attempt at a grip is seen and another manoeuvre or grip is presented and there is an advantage to the team resulting from the substitution.

Routine: ~~a sequence of compulsory sequences~~ or manoeuvres performed during the working time.

Team: an Acrobatic Wingsuit Flying Team is composed of two (2) Performers and a Videographer, **all three of whom are Team Members**

Working time: the period of time during which Teams may perform a routine during a jump. Working time starts the instant any Team Member separates from the aircraft, **as determined by the judges**, and terminates after **the interval designated in 4.3.2 and 4.3.3.**

3 THE PERFORMANCE EVENT

3.1 Objective

- 3.1.1 The objective is to fly a single wingsuit in three separate tasks to demonstrate a combination of best lift (time task), best glide (distance task) and least drag (speed task).
- 3.1.2 Each round of the event is comprised of the three tasks.
- 3.1.3 Each task is performed on a separate flight.

3.2 Tasks

- 3.2.1 Time Task: The wingsuit flyer is to fly with the slowest fall rate possible through the competition window. The result for this task will be the time **spent in taken-to-fly through** the competition window, expressed in seconds, rounded to one decimal place.
- 3.2.2 Distance Task: The wingsuit flyer is to fly as far as possible through the competition window. The result for this task will be the straight-line distance flown over the ground while in the competition window, expressed in meters, rounded to whole numbers.
- 3.2.3 Speed Task: The wingsuit flyer is to fly as fast as possible horizontally over the ground through the competition window. The result for this task will be the straight-line distance flown over the ground while in the competition window divided by the time spent in the competition window, expressed in meters per second, rounded to one decimal place.

3.3 Program

- 3.3.1 A competition shall consist of three rounds, with three tasks in each round, for a total of nine flights.
- 3.3.2 At least one round must be completed to determine rankings and declare winners
- 3.3.3 The minimum exit altitude is 12,000ft Geometric Altitude. The maximum exit altitude (at the start of jump run) is 12,500ft Geometric Altitude. **The pilot will monitor the jump run altitude using a PLD.**

3.3.4 For meteorological and/or Air Traffic Control reasons only, and with the consent of the Chief Judge, the Meet Director may lower the exit altitude to 10,000ft Geometric Altitude and continue the competition. The Competition Window does not change; i.e. it stays 3000-2000m. If the exit altitude is lowered it must apply for a complete task for all competitors

3.3.5 The order of tasks will ~~shall~~ be Distance, Speed, Time, unless exceptional circumstances require a ~~variation~~ change in the order, as determined by the Meet Director.

3.4 JUMP RUN AND EXIT ORDER

3.4.1 The jump run should be perpendicular to the wind line upwind of the designated landing area, which is established by the Meet Director ~~and Chief Judge~~.

3.4.2 The starting order of the first task of jumping shall be in reverse order of the standings at the most recent FCE, Competitors that did not participate in the most recent FCE will jump at the beginning of the task with the order determined by a random draw made by the Meet Director.

3.4.3 A Flight Director must be placed aboard an aircraft larger than eight places to assist competitors with identification of ground reference points and landmarks.

Under no circumstances will such a Flight Director direct a competitor to exit. That decision is solely the responsibility of the competitor.

3.4.4 The number of competitors to exit on a single pass of the aircraft and the spacing of those exits will be determined by the Meet Director. The horizontal spacing must be no less than 600m. This will be expressed to the competitors as a time, in seconds, between exits. Immediately after exit, each competitor will turn directly towards his designated flight path.

3.4.5 Exit procedure: There are no limitations on the exit other than those imposed by the Chief Pilot for safety reasons. If a competitor exits in a manner deemed unsafe, the matter will be referred to the Safety Panel (SC5, 4.8).

3.5 Flight Pattern

3.5.1 The first exit point on an aircraft pass will be determined by the Meet Director ~~and Chief Judge~~. The aircraft pilot will signal the competitors when they are clear to exit. All the competitors will be briefed on the specific exit signals at the pre-event competitors' meeting.

3.5.2 The Designated Flight Path of each competitor using a ground reference point will be determined by the Meet Director and will be given to that competitor using a detailed map or aerial photograph of the area.

~~3.5.3 A competitor must not cross another competitor's designated flight path, nor deviate more than 30 degrees from his designated flight path at any time. Violation of this rule, as determined by the panel of judges, will result in a score of zero for that jump. This decision shall not be grounds for protest.~~

A competitor must not leave his Designated Lane (DL). Violation of this rule during the time period from 5.0 sec after exit to deployment of the parachute, as determined by the panel of judges, will result in the following reduction of the score otherwise determined in 3.9.1:

- if less than 150 m outside the DL, a 10% reduction;
- if 150-300 m outside the DL, a 20% reduction;
- if more than 300 m outside the DL a 50% reduction for the first such infringement or a 100% reduction for any such infringement on a subsequent jump.

The distance referred to will be measured at right angles to the DL boundary

~~3.5.4 At no time from exit to opening shall competitor(s) come within 250m of any other competitor(s). Violation of this rule, as determined by the panel of judges, will result in a score of zero for that jump. This decision shall not be grounds for protest. To be decided~~

A competitor must not deviate more than 30 degrees away from the DFP. Violation of this rule during the time period from 5.0 sec after exit to deployment of the parachute, as determined by the panel of judges, will result in the following reduction of the score otherwise determined in 3.9.1 adjusted by any penalty assessed in accordance with 3.5.3:

- a 50% reduction for the first infringement or a 100% reduction for an infringement on any subsequent jump.

~~3.5.5 At no time from exit to deployment of the parachute shall a competitor(s) come within 250m of any other competitor(s). Violation of this rule, as determined by the panel of judges, will result in a 100% reduction of the score for that jump. This decision shall not be grounds for protest.~~

3.5.6 Any violation of 3.5.3, 3.5.4 or 3.5.5 that results in endangering other competitors shall be considered a serious endangerment and will be referred to the Safety Panel (SC5, 4.8).

3.5.7 The final score for a jump may not be less than zero.

3.6 GENERAL RULES

3.6.1 The deployment altitude for each competitor will be pre-determined by the Meet Director ~~and Chief Judge~~ and must not exceed 5000ft AGL.

3.6.2 Any violation of 3.6.1 that results in endangering other competitors shall be considered a serious endangerment and referred to the Safety Panel (SC5, 4.8).

3.6.3 All jumps for each task of a round should be made from the same, or back-to-back loads, in order that competitors jump in similar winds.

3.7 Equipment

3.7.1 Competitors shall not carry additional or removable weight on their body or equipment. They must be weighed by the FAI Controller, or a person appointed by the FAI Controller for the purpose, at the start of the competition wearing all their normal jump equipment to establish a baseline weight. The FAI Controller, or a person appointed by the FAI Controller for the purpose, must conduct subsequent random weight checks, which may fluctuate from the baseline weight by no more than +/- 2kg before requiring an inspection. If the addition or removal of weight is detected, the score for that jump will be zero. This decision shall not be grounds for protest.

3.7.2 Competitors shall not use propulsion systems. If any propulsion system is used, the score will be zero for that jump.

3.7.3 A competitor shall not wear any other electronic device or wires closer than 2.54cm from the official PLD as measured by the judging staff. However, a second identical PLD unit may be worn without regard to this separation requirement. If any such electronic device affects the PLD system, and the source of the interference is not obvious and beyond the reasonable control of the jumper, a rejump may be granted by the Chief Judge, ~~without respect to~~ in which case 3.6.3. will not apply

- 3.7.4 Each competitor must wear a functioning audio altitude warning device on every jump. Failure to do so will result in a score of zero for that jump.
- 3.7.5 The same wingsuit, without any changes or modifications of its parts, must be used ~~for all tasks in a round throughout the competition~~. In exceptional circumstances, a wingsuit may be changed ~~between rounds~~ with the consent of the Chief Judge, ~~e.g., if the original suit gets damaged and cannot be made airworthy by the next round.~~
- 3.7.6 Wingsuits will be inspected and marked by a Judge. Only marked suits may be used for the ~~competition event~~. Using an unmarked suit will result in a score of zero for that jump.
- 3.7.7 Each competitor shall wear one PLD issued by a Judge. The device will be attached on the jumper's equipment with the antenna having a clear view of the sky, located and positioned to the satisfaction of the Judge. This decision ~~shall not be grounds for a protest~~.
- 3.7.8 The PLD will be attached and sealed in its location by a Judge.
- 3.7.9 The PLD will be turned on and off by a Judge or by the competitor if instructed to do so ~~by any Judge~~.
- 3.7.10 Immediately after landing, the competitor shall return the PLD used on that jump to a Judge.
- 3.7.11 If the seal is found to be broken after the jump, and if in the opinion of a Judge this was not caused by circumstances beyond the control of the competitor, then no rejump will be awarded and the competitor will receive a score of zero for that jump. This decision ~~shall not be grounds for a protest~~.
- 3.7.12 If the PLD malfunctions and, in the opinion of a Judge, the malfunction was not caused by action or interference by the competitor, then the competitor will be given the option of making a rejump, ~~in which case 3.6.3. will not apply~~, or receiving a score of zero for that jump.
- 3.8 Position Logging Device (PLD)**
- 3.8.1 The PLD must record real-time three-dimensional (3D) data with a resolution of at least 5Hz and a position accuracy (SEP) of less than 10 meters.
- 3.8.2 The PLD must not require any action by the competitor in order for it to function, and it must activate its recording function automatically.
- 3.8.3 Once attached to the competitor, the settings on the device must not be capable of being altered by the competitor, nor must it be possible for the competitor to delete the data without this being easily evident to the Judges. Tampering with the device will result in a score of zero for the jump. This decision is not grounds for protest.
- 3.8.4 The data recorded by the PLD must be downloaded and saved as soon as possible after the competitor has handed in the devices, and before the PLD is used again
- 3.9 Determination of the Winners**
- 3.9.1 Each task in each round will be scored based on the top score of the task performed in that round. The top result will be scored ~~as~~ 100%. The other results will be scored as a percentage of the top score.
- 3.9.2 ~~The score calculated in 3.9.1 for all rounds for each separate task, adjusted by any penalties arising from 3.5.3, 3.5.4 and 3.5.5 All rounds for each task~~ will be averaged for each competitor for an intermediate result of the task.
- 3.9.3 The three intermediate results for each task for each competitor are added and rounded to one decimal place to give the total result for the competitor.

- 3.9.4 The total result for the competitor determines the ranking.
- 3.9.4.1 In the event of a tie in the first three places, the following tie-break rules apply:
- 3.9.4.2 A tie-break jump will be made. The task shall be drawn at random by the Chief Judge.
- 3.9.4.3 If the tie cannot be broken ~~by the tie break jump~~, the competitors concerned shall ~~have equal placement~~ ~~be declared co-medalists~~.
- 3.9.4.4 ~~Any other ties in the standings shall have equal placement.~~

4 THE ACROBATIC EVENT

4.1 Objective

- 4.1.1 The objective is for a team to perform a sequence of manoeuvres (compulsory or free routine) in wingsuit flight.
- 4.1.2 There is no distinction as to gender.

4.2 Program

- 4.2.1 The competition will consist of seven rounds – five initial rounds followed by two final rounds. The minimum number of rounds for a valid competition will be one (1) round.
- 4.2.2 The seven (7) rounds shall consist of:
- Four (4) Compulsory Routine rounds
 - Three (3) Free Routine rounds
- 4.2.3 The order of the routines shall be five (5) initial rounds F-C-C-F-C and two (2) final rounds C- F (C = compulsory; F = free).
- 4.2.4 The five (5) initial rounds will be used as the selection rounds for the final two (2) rounds. If all five rounds are not completed at the stated starting time for the final rounds, the final rounds will start based on the standings from the completed rounds.
- 4.2.5 The top eight (8) teams will jump in the final rounds. The drawn compulsory sequence and order of routines remain unchanged for the final rounds.
- 4.2.6 If two (2) or more teams have equal scores for entry into the final rounds the following procedure for selection into the finals will be applied:
- 4.2.6.1 the best score, then the second best score, of any completed free rounds.
- 4.2.6.2 the best score, then the second best score, of any completed compulsory rounds.

4.3 Exit Altitude and Working Time

- 4.3.1 Unless otherwise specified in this section, the maximum exit altitude is 12,500ft AGL.
- 4.3.2 Unless otherwise specified in this section, the working time is 65 seconds.
- 4.3.3 For meteorological and/or Air Traffic Control reasons only, and with the consent of the Chief Judge, the Meet Director may lower the exit altitude to 10,000 ft. AGL with a working time of no less than 55 seconds and continue the competition. However, if the exit altitude is lowered it must apply for a complete ~~task of a~~ round for all ~~competitors~~ ~~teams~~.

4.4 General Rules

- 4.4.1 The deployment altitude for each team will be pre-determined by the Meet Director ~~and Chief Judge~~ in order to maximize team separation and may not exceed 5000ft AGL.
- 4.4.2 Equipment: competitors must jump the same model wingsuit throughout the event.

In exceptional circumstances, a wingsuit model may be changed between rounds with the consent of the Chief Judge, e.g., if the original suit gets damaged and cannot be made airworthy by the next round.

If a different wingsuit model is used on any jump without the consent of the Chief Judge, the score for that jump will be zero.

- 4.4.3 Competitors may change their role in the team from jump to jump; however, they may only perform one role (Performer A, Performer B, Videographer) during a jump
- 4.4.4 The performer (defined as Performer A, Performer B) who executes the first manoeuvre in each compulsory routine is defined as Performer A; this establishes the performer's role in the sequences (described in Addendum B) for the remainder of the routine
- 4.4.5 The starting order of the first round of jumping shall be in reverse order of the standings at the most recent FCE. Teams that did not participate in the most recent FCE will jump at the beginning of the round with the order determined by random draw made by the Meet Director.
- 4.4.6 Representation:
- 4.4.6.1 A team may **only** represent **only** one (1) NAC.
- 4.4.6.2 Each participant may **only** be a member of **only** one team.
- ~~4.4.7 Refusal to jump: a team may choose to abort a jump for any pertinent reason and may descend with the aircraft (SC-5, 5.2.8). If a jump run is aborted and the Meet Director decides the reason is pertinent, the jump must then be made at the earliest opportunity as determined by the Meet Director.~~
- 4.5 Compulsory Routines**
- 4.5.1 The Compulsory Routines consist of two (2) Compulsory Sequences as described in Addendum B.
- 4.5.2 The Compulsory sequences may be repeated until the end of working time.
- 4.5.3 The Compulsory Sequences to be used on each jump are determined via a random draw
- 4.5.4 The draw of all compulsory round sequences will be done publicly and supervised by the Chief Judge. Teams will be given not less than two hours' knowledge of the results of the draw before the competition starts.
- 4.5.5 Sequences shown in **Addendum B** will be **individually singularly** placed in one container. Individual withdrawal from the container, (without replacement), will determine the sequences to be jumped in each round. A sequence, once drawn, will be put aside and may not be used again. **However, if all available sequences have been used and the draw is not complete, the process will be re-started until the draw is complete. Upon exhaustion of the pool, if the draw is not complete, all sequences will be returned to the initial pool and the draw continues.**
- 4.5.6 The order of the compulsory sequences is determined by the order in which they are drawn.
- 4.6 Free Routines**
- 4.6.1 The content of the Free Routine(s) is chosen entirely by the Team and may or may not include grips.
- 4.6.2 The Team may perform the same Free Routine in each Free Round.

- 4.6.3 Teams are encouraged to deliver a description of their Free Routine(s) to the Chief Judge before the start of the competition, using a standard form provided by the Chief Judge. Not providing this information shall **have no bearing on** ~~not influence~~ the team's score. Deviation from the described Free Routine shall **have no bearing on** ~~not influence~~ the scoring.

4.7 Air-to-air video recording

- 4.7.1 For the purpose of these rules, "air-to-air video equipment" shall consist of the complete video system used to record the evidence of the team's performance, including camera(s), recording media, cables and battery. The air-to-air video equipment must be able to deliver a High Definition (HD 1080i / 1080p) digital signal through a compatible video connection approved by the Video Controller.
- 4.7.2 The videographer is responsible for assuring the compatibility of the air-to-air video equipment with the scoring system.
- 4.7.3 The camera must be fixed by a static mount to the helmet. No roll, pitch or yaw movements of the camera, mechanical and/or digital zoom adjustment, or any digital effects (excluding "steady shot" or other image stabilization feature) may be used during competition jumps. Failure to meet any of these requirements will result in a score of zero (0) points.
- 4.7.4 A Video Controller will be appointed by the Chief Judge prior to the start of the judges' conference. The Video Controller may inspect a team's air-to-air video equipment to verify that it meets the performance requirements. Inspections may be made at any time during the competition which does not interfere with a team's performance, as determined by the Event Judge. If any air-to-air video equipment does not meet the performance requirements as determined by the Video Controller, this equipment will be deemed to be unusable for the competition.
- 4.7.5 Video Review Panel (VRP). A VRP will be established prior to the start of the official training jumps, consisting of the Chief Judge, the President of the Jury, and the FAI Controller. The VRP may enlist the help of the Video Controller. Decisions rendered by the VRP shall be final and shall not be subject to protest or review by the Jury.
- 4.7.6 The Organizer shall provide the teams with a way of identification showing the team and round number, to be recorded by the videographer just before exit.
- 4.7.7 The team's video recording must continue from team/round identification through the exit and the jump without interruption. Failure to meet this requirement will result in a score of zero (0) points.
- 4.7.8 The videographer shall provide the video evidence required to judge each jump and to show the team's performance to relevant third parties. It is the responsibility of the videographer to show the start of working time. **If, in the opinion of the Panel of judges, the start of working time is not clearly shown a penalty of 20% shall be deducted from the team's score for that jump as determined in 5.2.8.3**
- 4.7.9 As soon as possible after each jump, the videographer must deliver the air-to-air video equipment for dubbing at the designated station. The video evidence must remain available for viewing or dubbing until all scores are posted as final.
- 4.8 Rejumps**
- 4.8.1 In a situation where the video evidence is considered insufficient for judging (**NV – see 5.2.6.6**) by a majority of the judging panel, the air-to-air video equipment will be handed directly to the VRP for assessment and a determination as follows:
- 4.8.2 If the VRP determines that there has been an intentional abuse of the rules by the team, no rejump will be granted and the team's score for that jump will be zero (0).

- 4.8.3 In the case the VRP determines the insufficiency of the video evidence is due to a factor that could be controlled by the team, no rejump will be granted and the team will receive a score based on the video evidence available.
- 4.8.4 If the VRP determines the insufficiency of the video evidence is due to weather conditions or a cause beyond the control of the team, a rejump will be given.
- 4.8.5 Contact or other means of inference between performer(s) and/or the videographer in a team shall not be grounds for a rejump.
- 4.8.6 Problems with a competitor's equipment (excluding air-to-air video equipment) shall not be grounds for a rejump.
- 4.8.7 Adverse weather conditions during a jump are not grounds for a protest. However, in circumstances not covered by 4.8.1, a rejump may be granted due to adverse weather conditions, at the discretion of the Chief Judge.
- 4.9 Determination of Winners**
- 4.9.1 The winners (1st, 2nd and 3rd) are the teams with the three highest total scores for all completed rounds.
- 4.9.2 ~~In the event of a tie in the first three places, a tie-break Free Routine jump will be made.~~
- 4.9.3 ~~If the tie cannot be broken by the tie-break jump, the procedure described in paragraph 4.2.6 above will apply until a clear placing is determined.~~
- 4.9.4 Any other ties in the standings shall have equal placement.

5 JUDGING & SCORING

5.1 Performance Event

- 5.1.1 Scoring will be supervised by at least four FAI Wingsuit Judges.

5.2 Acrobatic Event

- 5.2.1 Once any team member has left the aircraft, the jump shall be evaluated and scored.
- 5.2.2 The evaluation of each sequence will take place during the full working time but may cease before the end of working time if the team abandons the performance requirements for the required routine. ~~Teams may continue scoring by continually repeating the sequences in the required order.~~
- 5.2.3 Judging procedures:
- 5.2.3.1 The jumps shall be judged using the video evidence as provided by the videographer.
- 5.2.3.2 A panel consisting of five (5) judges must evaluate each team's routine. Where possible, a complete round shall be judged by the same panel.
- 5.2.3.5 Judges may view the jump a maximum of three (3) times. A fourth viewing may be allowed at the discretion of the Event Judge.
- 5.2.4 All viewings must be at normal speed.
- 5.2.5 The judges will use the electronic scoring system to record the evaluation of the performance. At the end of working time, freeze frame will be applied on each viewing, based on the timing taken from the first viewing only. The judges may correct their evaluation record after the jump has been judged. Corrections to the evaluation record may only be made before the Chief Judge signs the score sheet.

5.2.6 Scoring Compulsory Routines:

- 5.2.6.1 The Routine is evaluated using three (3) criteria: style, number of grips and camerawork.
- 5.2.6.2 ~~The judges will assign give the style and camerawork a point score between from 0.0 to no greater than 10.0 zero-and-ten (between 0 and 10, up to one decimal point, based on the guidelines in Addendum C.~~
- 5.2.6.3 For each manoeuvre omission, ~~as determined by a majority of the judges,~~ 1.5 points will be deducted from the style point score otherwise given ~~by each judge.~~
- 5.2.6.4 ~~Judges give~~ One point will be assigned for each scoring grip correctly performed in the routine within the working time of each round, ~~as determined by a majority of the judges. The score given for grips shall be in whole integers only Teams may continue scoring by continually repeating the sequences.~~
- 5.2.6.5 For each grip omission one (1) point will be deducted from the total determined in 5.2.6.4. If an infringement in the scoring formation of a manoeuvre is carried into to the next grip this will be considered as one infringement only, provided that the intent of the manoeuvre requirements for the next formation is clearly presented.
- 5.2.6.6 A majority of Judges must agree ~~in the evaluation~~ in order to determine an NV situation.
 NV = Formations or sequences not visible on the screen due to meteorological Conditions, due to problems with the videographer's equipment or due to the failure of the videographer to provide the required video evidence. :
~~credit the scoring grips, or assign an omission, or~~
 5.2.6.5.2 ~~The score given for grips shall be in whole integers only.~~
- 5.2.6.7 If, after the viewings are completed, and within fifteen seconds of the knowledge of the result, the Chief Judge, Event Judge or any Judge on the panel considers that an absolutely incorrect assessment of a grip has occurred, the Chief Judge or Event Judge will direct that only that part(s) of the jump in question be reviewed. If the review results in a four to one decision by the Judges on the part(s) of the performance in question, the assessment of that grip will be adjusted accordingly. Only one review is permitted for each jump.
- 5.2.6.8 The minimum score for any of the criteria is zero points.
- 5.2.7 Scoring Free Routines:
- 5.2.7.1 The Routine is evaluated using three (3) criteria: style, dive plan and camerawork.
- 5.2.7.2 Judges will give each of the above three criteria a score from zero to ten (between 0 and 10, up to one decimal point), based on the guidelines in Addendum C.
- 5.2.8 Score Calculation:
- 5.2.8.1 The team's score for a round for each of the criteria in 5.2.6 and 5.2.7, ~~other than grips,~~ is calculated by discarding the high and low scores and averaging the three remaining scores, rounded to one decimal place.
- 5.2.8.2 The team's score ~~(calculated in 5.2.8.1) for grips (compulsories);~~ for style (all rounds), dive plan (free round) and camera (all rounds) ~~as calculated in 5.2.8.1~~ and for grips (compulsories) ~~as calculated in 5.2.6.4 and 5.2.6.5,~~ will be weighted 0% to 100% for each ~~criterion~~ for all teams for that round, the highest score ~~defining being weighted~~ 100% (100), and a zero score being weighted 0% (0). The total score of a team for a round is then calculated by adding the three weighted percentage scores for that round.

5.2.8.3 The team's final score for the event is the sum of the total scores from all completed rounds as calculated in 5.2.8.2.

5.2.9 All scores for each judge will be [made public](#).

5.3 **Training Jumps:**

5.3.1 One day will be set aside prior to the start of the competition for each Acrobatic team and each Performance competitor to have the opportunity to make two (2) official training jumps, which will be scored by the judges. The aircraft and the judging and scoring systems to be used in the competition will be used for these official training jumps.

5.3.2 If a team or competitor chooses to make less than the two official jumps permitted or it is not possible to make the two official training jumps scheduled due to weather conditions or other circumstances, this shall not be grounds for a protest.

5.3.3 Prior to the start of official training jumps, an Acrobatic team may present a free routine description to the Chief Judge so that it can be scored by the judges, as per 5.3.1

5.4 **Other Judging responsibilities – Performance and Acrobatic**

5.4.1 One or more individuals, supervised by the Chief Judge (or trainees under the supervision of the Chief of Judge Training) may support the judges in equipment, device and data management.

5.4.2 One or more qualified individuals, supervised by the Meet Director **Chief Judge**, must observe the competitors during their descent and on opening. The observer must check for any conditions or incidents that might constitute grounds for a re-jump and/or disqualification for safety reasons. A written record must be made of any unusual observations or incidents.

5.4.3 The Chief Judge and/or Meet Director may interrupt the event if they determine the meteorological conditions are not safe for the conduct of the event. This decision is not grounds for a protest.

6 TITLE OF THE COMPETITION

"The ___ FAI World Wingsuit ___ Flying Championship, (location), (year)" or,
 "The ___ FAI World Cup of Wingsuit ___ Flying, (location), (year)" or,
 "The ___ FAI World Wingsuit Flying Championship, (location), (year)" or,
 "The ___ FAI (continent) Wingsuit ___ Flying Championship, (location), (year)" or,
 "The ___ FAI (continent) Cup of Wingsuit ___ Flying, (location), (year)."

6.1 **Aims of the Competition**

6.1.1 To determine the Champions (1st, 2nd, 3rd) of Wingsuit Performance Flying.

6.1.2 To determine the Champions (1st, 2nd, 3rd) of Wingsuit Acrobatic Flying.

6.1.3 To promote and develop Wingsuit Flying training and competition.

6.1.4 To establish new World and Continental Wingsuit Performance Flying competition records.

6.1.5 To present a visually attractive image of the competition jumps and timely standings (scores) for competitors, spectators and media.

6.1.6 To exchange ideas and strengthen friendly relations between wingsuit flyers, judges and support personnel of all nations.

6.1.7 To allow participants to share and exchange experience, knowledge and information.

6.1.8 To improve judging methods and practices.

6.2 **Composition of Delegations**

6.2.1 Each delegation may be comprised of:

6.2.1.1 One Head of Delegation.

6.2.1.2 One Team Manager/Coach

6.2.1.3 One Interpreter.

6.2.1.4 A maximum of eight (8) performance competitors for a World Championships.

6.2.1.5 A maximum of twelve (12) performance competitors for a World Cup or Continental Regional Championships

6.2.1.6 A maximum of two (2) acrobatic teams for a World Parachuting Championships.

6.2.1.7 A maximum of four (4) acrobatic teams for a World Cup or Continental Championship

6.2.1.8 Accompanying persons and additional support personnel at the discretion of the event organizer.

6.3 **Prizes and Awards**

6.3.1 Medals are awarded to the first three performance competitors with the highest overall ranking.

6.3.1.1 Diplomas are awarded to the top ten performers in the Performance event.

6.3.1.2 The flags of the first, second and third-placed performance competitors shall be flown and the national anthem of the first-place winner played.

6.3.2 Medals are awarded to the first three acrobatic teams.

6.3.2.1 The flags of the countries of the first, second and third-placed acrobatic teams shall be flown and the national anthem of the first-place team played.

6.3.2.2 In the event an FAI International acrobatic team is among the first three places, the flag of the FAI shall be flown for that team. In the event the international team wins first place, the FAI anthem will be played.

6.3.3 The title of World or Continental Champion is awarded to the first placed competitor or team in a FAI World/Continental Parachuting Championships.

6.3.4 The title of World Cup Winner is awarded to the first placed competitor or team in a FAI World Cup.

ADDENDA A, B, C, D

Addendum A: ~~Basic orientations, body positions and~~ Definitions

Addendum B: Acrobatic Wingsuit Flying Compulsory Sequences

Addendum C: Acrobatic Wingsuit Flying Judging Criteria

Addendum D: Judging Scoring Sheet

Addendum E: Performance flying. The DFP, DL and penalties scheme.

**Addendum – A
Definitions****A. Basic rotational actions****A-1 Barrel Roll**

A barrel roll is a 360 degree rotation about the body head-toe axis, when that axis is aligned with the direction of flight. The rotation of a barrel roll may be performed in either direction (~~left or right~~). (clockwise or anti-clockwise)

A-2 Back Loop

A back loop is a loop where the rotation is initiated about the body left-right axis with the torso rotating backwards.

A-3 Front Loop

A front loop is a loop where the rotation is initiated about the body left-right axis with the torso rotating forwards.

A-4 Half barrel Roll

A half barrel roll is a 180 degree rotation about the body head-toe axis, when that axis is aligned with the direction of flight. The rotation of a half barrel roll may be performed in either direction (clockwise or anti-clockwise)

Addendum - B Acrobatic Wingsuit Flying Compulsory Sequences

- Compulsory sequences may be broken down into separate elements during execution, but will result in lower scoring on style.
- The last position of each Compulsory sequence leads into the beginning position of the next Compulsory sequence, and is counted as one grip.
- Performers are defined as Performer A and B.
- ~~Online compulsory sequences with animations may be found at <http://www.wingsuitcompetition.com/divepool.php>~~
- Any change in vertical orientation may be in either direction
- Other than for the first grip of the jump, a valid grip must be preceded by clear total separation, which is when the performers show at one point in time that they have released the grip and no part of their arms have contact with the other performer;

Sequence A: Up and Over

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then Performer A transitions over Performer B to the other side.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then Performer B transitions over Performer A to the other side.
- Performers take a hand grip in normal flight.

Sequence B: Rock and Roll

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then Performer A performs a barrel roll.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then Performer B performs a barrel roll.
- Performers take a hand grip in normal flight.

Sequence C: Revolutions

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A transitions over Performer B to the other side and then transitions back under Performer B to the original starting position.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B transitions over Performer A to the other side and then transitions back under Performer A to the original starting position.
- Performers take a hand grip in normal flight.

Sequence D: Roll Over

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A performs a barrel roll over Performer B to the other side.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B performs a barrel roll over Performer A to the other side.
- Performers take a hand grip in normal flight.

Sequence E: Fruity Loops

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A performs a front loop.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B performs a front loop.
- Performers take a hand grip in normal flight.

Sequence F: Duck and Roll

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A performs a barrel roll under Performer B to the other side.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B performs a barrel roll under Performer A to the other side.
- Performers take a hand grip in normal flight.

Sequence G: Déjà vu

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A transitions over Performer B to the other side.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A transitions over Performer B back to the other side.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B transitions over Performer A to the other side.
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B transitions over Performer A back to the other side.
- Performers take a hand grip in normal flight.

Sequence H: Yin Yang

- Performers are in normal flight with a hand grip.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A transitions to inverted flight.
- Performers take a hand grip in mixed orientation.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer A transitions to normal flight .
- Performers take a hand grip in normal flight.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B transitions to inverted flight.
- Performers take a hand grip in mixed orientation.
- Performers ~~release the grip~~ show total separation and then release the grip and Performer B transitions to normal flight.
- Performers take a hand grip in normal flight.

Sequence I: Back to Back

- Performers are in normal flight with a hand grip.

- Performers **release the grip show total separation and then** release the grip and both transition to inverted flight.
- Performers take a hand grip in inverted flight.
- Performers **release the grip show total separation and then** release the grip and both transition to normal flight.
- Performers take a hand grip in normal flight.

Sequence J: Pancakes

- Performers are in normal flight with a hand grip.
- Performers **release the grip show total separation and then** release the grip and Performer A transitions to inverted flight over Performer B to the other side.
- Performers take a hand grip in mixed orientation.
- Performers **release the grip show total separation and then** release the grip and Performer A transitions back to normal flight over Performer B to the other side.
- Performers take a hand grip in normal flight.
- Performers **release the grip show total separation and then** release the grip and Performer B transitions to inverted flight over Performer A to the other side.
- Performers take a hand grip in mixed orientation.
- Performers **release the grip show total separation and then** release the grip and Performer B transitions to normal flight over Performer A to the other side.
- Performers take a hand grip in normal flight

Sequence K: Reversed Pancakes

- Performers are in normal flight with a hand grip.
- Performers **release the grip show total separation and then** release the grip and Performer A transitions to inverted flight under Performer B to the other side.
- Performers take a hand grip in mixed orientation.
- Performers **release the grip show total separation and then** release the grip and Performer A transitions to normal flight under Performer B to the other side.
- Performers take a hand grip in normal flight .
- Performers **release the grip show total separation and then** release the grip and Performer B transitions to inverted flight under Performer A to the other side.
- Performers take a hand grip in mixed orientation.
- Performers **release the grip show total separation and then** release the grip and Performer B transitions to normal flight under Performer A to the other side.
- Performers take a hand grip in normal flight .

Addendum - C Acrobatic Wingsuit Flying Judging Criteria

C-1 Scoring Grips

Grip scoring is only required for the Compulsory Routines

- Each completed grip at the start of, during, and between each Compulsory sequence will be added up to create a total number of grips.
- If multiple grips are taken during and between each Compulsory sequence, only one grip will be counted.
- A grip that cannot be seen, or is considered not to meet the definition in Section 2 by a majority of the Judges, will not be included in the total number of grips Compulsory Routines have to be made in the correct sequence. A Compulsory sequence omitted in the sequence will result in one point being subtracted from the total number of grips for that routine. This **result** may not be less than zero.

C-2 Scoring Style

Judges give a score for the Team (between 0 and 10, up to one decimal point) for Presentation and for each of the four (4) Compulsory Rounds and three (3) Free Rounds, using the following guidelines:

- 10 points - Manoeuvre is performed flawlessly with no noticeable mistakes.
- 8 points - Manoeuvre is performed with some small mistakes.
- 5 points - Manoeuvre is performed with several medium mistakes.
- 3 points - Manoeuvre is performed with several major mistakes.
- 0 points – Manoeuvres are not performed or identifiable

Examples of style:

- Body position: the performers' posture should present clean and defined arm and leg position ideal for flight.
- Grips: each grip is made smooth and fully in control.
- Control: all movements made by the performers are precise and deliberate, without a lot of 'nervous' movement in the arms, legs and body or heading.
- Leveling: the performer is adjusting fall rate and level accordingly during each manoeuvre, allowing the other pilot to remain static. The less changes the static performer has to make to accommodate the active performer making a manoeuvre, the higher the score.
- Proximity: the performers stay close together, never moving more than one body distance apart.
- Transitions: more complex manoeuvres are made according to the intended figures, rather than broken down into two or more simpler elements.

Small mistake examples:

- Manoeuvre: finish slightly off heading, slight wobble, etc.
- Manoeuvre: arms bent down or forward, knees bent
- Manoeuvre: grips made resulting in tension and movement

Medium mistake examples:

- Manoeuvre: significantly off heading, wobble, not enough rotation, etc.
- Manoeuvre: grips made with considerable force, not fully in control

Major mistake examples:

- Manoeuvre: completely missing required elements or performed so poorly that the manoeuvre is barely recognizable.
- Not generating forward movement (using aerodynamic properties of the Wingsuit).
- Manoeuvre: grips made with considerable force, resulting in out of control flying by one or both Performers.

C-3 Scoring Camera

Judges give a score for camera work as a sum of two parts: Quality (between 0 and 7, up to one decimal point); and Progressive Work (between 0 and 3, up to one decimal point) for each of the four (4) Compulsory Sequences and three (3) Free Rounds, using the following guidelines:

Quality

- 7 points - Camerawork is flawless with no noticeable mistakes **and creative flying**
- 6 points - Camerawork has some small mistakes.
- 4 points - Camerawork has several medium mistakes.
- 2 points - Camerawork has with several major mistakes.
- 0 points - Camerawork show no Performer Routines.

Progressive Work

- 3 points – Creative flying with 2 or more different progressive successful manoeuvres
- 2 points - Creative flying with 2 or more same progressive successful manoeuvres
- 1 point - Creative flying with 1 progressive successful manoeuvre
- 0 points - No progressive manoeuvres and no intention **to show any progressive manoeuvres**

Examples for good camerawork video quality:

- Video is smooth and does not bounce around.
- Performers occupy most of the video and remain centered
- Cameraman remains within a consistent distance of the Performers.
- Utilizes advanced flying techniques (i.e. Carving around the performers, back flying) resulting in creative angles without loss of framing or proximity.

Examples for Progressive Work:

- Backflying
- Carving
- Multi-axis views

Small mistake examples:

- Momentary loss of framing or focus, occasional minor distance errors, etc.

Medium mistake examples:

- Momentary loss of image, framing, focus, or distance errors for about 20 % or more of the Compulsory Sequence, etc.

Major mistake examples:

- Contact with one or both performers
- Loss of control, resulting in in lost framing of the performers or no video
- 50% or more of Compulsory Routine or Free Routine cannot be judged. .

C-4 Scoring Dive Plan

Dive plan scoring is only required for the free routine rounds. Judges give the following judging criteria a score, between 0 and 10 expressed as a number up to one decimal point, taking into account the following guidelines:

Technical:

- Difficulty: The degree of difficulty of all set sequences and transitions in the routine.
- Flying Skills: Ability to manoeuvre smoothly or fly in any orientation (vertically, horizontally, back flying, etc.).
- Precision, control: Ability of the Team to demonstrate body control and smoothness of transitions.
- Team Work: The ability to for the team to perform movements together to create a unified performance.

Examples for Technical:

- The two (2) Performers maintain proper proximity throughout each sequence.
- All flying surfaces and/or flight angles are used (i.e. belly to earth and back flying, steeper angles)
- A constant interaction and teamwork is displayed.
- The routine shows a wide variety of set sequences that vary by complexity.
- Team separation after each set sequence.
- Grip complexity, if present.

Presentation:

- Visual Excitement: Routine should hold the viewer's attention throughout, dynamic variety, entertaining without being unnecessary.
- Originality: Creative choreography in variety.
- Team Work: Routines that demonstrate combined skills of all Team Members.
- Grips performed in a controlled manner.

Examples for Presentation:

- The routine has a defining beginning and end.
- Working time is utilized to the fullest extent possible.
- The routine has a high level of creativity that contains new manoeuvres, and flows from one set sequence to the next.
- The routine is enjoyable and aesthetically pleasing to watch.



History:

Acrobatic Wingsuit-flying has the potential to become the most aesthetic and thrilling FAI discipline. The cutting edge of acrobatic wingsuit flying is closely connected to the latest wingsuit models. The evolution is moving fast. 10 years ago we used small wingsuits giving less than 90 seconds free-fall while doing acrobatics. Today we see dynamic and acrobatic moves done next to parachutes on vertical speeds as low as 50 kph. But in FAI, because of the 65 second window teams are using 10 year old wingsuit technology to perform these moves. The only way the discipline of acrobatic wingsuit-flying can represent the development of wingsuits is to use an "altitude" window instead of "time" for judging.

From 2008 Jarno Cordia has been using an altitude window to establish a working time for individuals/teams during acro competitions. Practically this has been done using an alti-track. This would be worn by one person in the team. After the jump this alti-track was given to the judges so that they could figure out how much time it took the team to fall to 7500ft. This time would then be applied to the video to find an accurate working time.

During the competitors meeting after the World Championships in Zhills it was voted by the majority of competitors to use an altitude derived working time. At the subsequent Plenary in Faro at the beginning of this year the Wingsuit Committee chose not to implement the will of the competitors 'due to technical reasons'. Michael Coopers explanation referred to the current lack of technical capability of synchronising fly-sight data with video.

Jarno's discussions with L&B established that the altitude window would begin when the alti-track showed a reading of 8m/s. So, this would be when the altitude window would begin. By then finding the time from this to 7500ft below you can determine a working time. The reading from the alti-track and the video does not need to be synchronised. The time is only to be used when watching the video as a reference to the working "time".

New solution:

For the UK Nationals it was tested by using both alti-tracks and fly-sights to gain comparative data. They used the manual method to extract the time from the alti-tracks which took about 30secs. They used a bespoke application written by Eric Dangoor who is one of the Flight Junkies team. This app gave them the working time along with some other information i.e. exit altitude, end of window, horizontal accuracy etc. They measured from exit to 7500ft (to be precise, when vertical velocity exceeded 8m/s after exit) for all rounds including free round. This works nicely and allows teams to choose how they use their altitude without having to fill a predetermined time.

The fly-sights MUST have GPS connection before leaving the aircraft. As the reading must come directly after exit. This is not the case in performance as you have a window from exit to 3000m where it can gain connection.

Michael Cooper from Fly-sight can implement a working time calculator in Fly-sight Viewer and Klaus Reinwalt in Paralogs will introduce this into his software if the FAI want it. Klaus actually did this at UK Nationals a few years back and he's working on including Acro judging into Paralogs also.

Attached is a visual representation that may be useful as sometimes a picture paints a thousand words.

Lets make a game changer that might lift the upcoming official wingsuit events to the level where it belongs: The spectacular human dream of truly flying.

Working Time Assessment



Exit Altitude established when PLD vertical velocity exceeds threshold i.e. 8m/s
This starts the Working Time Assessment.



End of Working Altitude calculated as Exit
Altitude minus 7500ft. This ends the
Working Time Assessment.

Video Judging



Working Time starts when team exits as
seen in video.



Judging stops when Working Time ends.