USPA National Wingsuit Flying Championships Competition Rules

Chapter 13

United States Parachute Association®

USPA AUTHORITY

The competition will be conducted under the authority granted by the United States Parachute Association, according to the regulations of the Skydiver's Competition Manual, as approved by the Board of Directors. All participants accept these rules and the USPA regulations as binding by registering in the competition.

Chapter 13: USPA National Wingsuit Flying Championships Competition Rules

Table of Contents

WINGSUIT FLYING

1 INTRODUCTION

1.1 Purpose of the Competition

- To determine the Champions of Wingsuit Flying.
- To promote safety and develop wingsuit flying training and competition.
- To allow participants exchange experience, knowledge, and information.
- To improve judging methods and practices.

2 PERFORMANCE EVENT

2.1 Objective

2.1.1 The objective is to fly a single wingsuit in three separate tasks to demonstrate a combination of best lift (time task), best glide ratio (distance task) and least drag (speed task).

2.1.2 Each round of the event is comprised of one each of the three tasks.

2.1.3 Each task is performed on a separate flight.

2.2 Classes

2.2.1 Open Class: permitted entry of any wingsuit.

2.2.2 Advanced Class: permitted entry of any wingsuit,.

- This class will not be used for selection of the US Team.

2.3 Tasks

2.3.1 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 taken to fly through the competition window, expressed in seconds, rounded to one decimal place.

2.3.2 Distance Task—The wingsuit flyer is to fly as far horizontally 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.

2.3.3 Speed Task—The wingsuit flyer is to fly as fast horizontally over the ground 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 divided by the time spent in the competition window, expressed in meters per second (m/s), rounded to one decimal place.

2.4 Program

2.4.1 A competition shall consist of three rounds, with three tasks in each round, for a total of nine flights.

2.4.2 At least one round must be completed to determine rankings and declare winners

2.4.3 The minimum exit altitude is 12,000 ft. Geometric Altitude. The maximum exit altitude (at the start of jump run) is 12,500 ft. Geometric Altitude.

2.4.4 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 10,000 ft. Geometric Altitude and continue the competition. The course remains 3000 – 2000 m Geometric Altitude. If the exit altitude is lowered it must apply for a complete task of a round for all competitors.

2.4.5 The order of tasks will be determined by a random draw conducted by the meet director during the competitor briefing. This order may be changed by the meet director for meteorological or air traffic control reasons.

2.5 Jump Run and Exit Order

2.5.1 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 based on drop zone safety considerations and local aviation/airspace regulations.

2.5.2 The starting order of the first task of jumping shall be in reverse order (including guests) of standings at the most recent USPA Nationals, subject to the discretion of the meet director and chief judge based on safety considerations. Competitors that did not participate in the most recent USPA Nationals will jump at the beginning of the task with the order determined by random draw made by the meet director.

2.5.3 Flight Directors may be placed aboard aircraft larger than eight slots to assist competitors with identification of ground reference points and landmarks. Under no circumstance will such Flight Directors direct a competitor to exit. That decision is solely the responsibility of the competitor.

2.5.4 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 600 m. This will be expressed to the competitors as time, in seconds, between exits. Immediately after exit, each competitor will turn directly towards his designated flight path.

2.5.5 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.

2.6 Flight Pattern

2.6.1 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.

2.6.2 The Designated Flight Path (DFP) 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.

2.6.3 A competitor must not leave his Designated Lane (DL). Violation of this rule during the time period for 5.0 seconds 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 5.1.1:

- 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 score of zero for any such infringement on a subsequent jump.
- The distance referred to will be measured as right angles to the DL boundary

2.6.4 A competitor must not deviate more than 30 degrees away from the DFP. Violation of this rule during the time period from 5.0 seconds 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 5.1.1 adjudged by any penalty assessed in accordance with 2.6.3:

- A 50% reduction for the first infringement or a score of zero for an infringement on any subsequent jump.

2.6.5 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 score of zero for that jump. This decision shall not be grounds for protest

2.6.6 Any violation of 2.6.3, 2.6.4, or 2.6.5 that results in endangering other competitors shall be considered a serious endangerment and referred to the Safety Panel (2.7.2).

2.7 General Rules

2.7.1 The deployment altitude for each team will be pre-determined by the meet director and chief judge and must not exceed 5000 ft. AGL.

2.7.2 For safety violations referenced in these rules, the Safety Panel shall consist of the USPA Controller, meet director, and chief judge.

2.7.2.1 Decisions of the Safety Panel are final and not subject to protest.

2.7.3 Any violation of 2.7.1 that results in endangering other competitors shall be considered a serious endangerment and referred to the Safety Panel.

2.7.4 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.

2.7.5 The maximum ground winds for the event shall be 9 m/s.

2.8 Equipment

2.8.1 Competitors shall not carry additional or removable weight on their body or equipment. Competitors must be weighed by the USPA Controller, or person appointed by the USPA Controller for that purpose at the start of the competition wearing all their normal jump equipment to establish a baseline weight. The USPA Controller (or designee) must conduct subsequent random weight checks, which may fluctuate by +/- 2 kg (4.4 lb.) before requiring an inspection. If the addition or removal of weight is detected, the score will be zero for that jump. This decision shall not be grounds for protest.

2.8.1.1 The use of parachute equipment (e.g., a tandem rig or student equipment) to add weight as described in 2.8.1 is not permitted, as determined by the chief judge. This decision shall not be grounds for protest.

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

2.8.3 A competitor shall not position any electronic device or wires closer than 2.54 cm 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 properly positioned other electronic device affects the PLD system and the source of interference is not obvious and beyond the reasonable control of the jumper, then a rejump may be granted by the chief judge, without respect to 2.7.4.

2.8.4 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.

2.8.5 The same wingsuit, without any changes or modifications of its parts, must be used throughout the competition. In exceptional circumstances, a suit may be changed with the consent of the chief judge, e.g., if the original suit is damaged and cannot be made airworthy before the next round.

2.8.6 Wingsuits will be inspected and marked by a judge. Only marked suits may be used for the competition. Using an unmarked suit will result in a score of zero for that jump.

2.8.7 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 is not grounds for protest.

2.8.8 The PLD will be attached and sealed in its location by a judge.

2.8.9 The PLD will be turned on and off by a judge, or by the competitor if instructed to do so.

2.8.10 Immediately after landing, the competitor shall return the PLD used on that jump to a judge.

2.8.11 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 is not grounds for a protest.

2.8.12 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 2.7.4 shall not apply, or receiving a score of zero for that jump.

2.9 Position Logging Device (PLD)

2.9.1 The PLD must record real-time three-dimensional (3D) data with a resolution of at least 5 Hz and a position accuracy (SEP) of less than 10 m.

2.9.2 The PLD must not require any action by the competitor in order for it to function, and it must activate its recording function automatically.

2.9.3 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.

2.9.4 The data recorded by the PLD must be downloaded as soon as possible after the competitor has handed in the devices, and before the PLD is used again.

2.9.5 If the data from the PLD is downloaded for analysis to a computer after landing, then that data must be recorded and saved when it is downloaded.

3 ACROBATIC EVENT

3.1 Objective

3.1.1 The objective is for a team to perform a sequence of *maneuvers* (compulsory or free routine) in wingsuit flight.

3.1.2 There is no distinction as to gender.

3.2 Program

3.2.1 The competition will consist of seven (7) rounds. The minimum number of rounds for a valid competition will be one (1) round.

3.2.2 The seven (7) rounds shall consist of:

- Compulsory Routines: Four (4) rounds
- Free Routines: Three (3) rounds

3.2.3 The order of the routines shall be F-C-C-F-C-C-F (C = compulsory routine and F = free routine).

3.3 Exit altitude and Working Time

3.3.1 Unless otherwise specified in this section, the exit altitude is 12,500 ft. (3810 m) AGL.

3.3.2 Unless otherwise specified in this section, the working time is 65 seconds.

3.3.3 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. (3048 m) 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 round for all teams.

3.4 General Rules

3.4.1 There will be a maximum of four (4) teams per exit pass, but this may be reduced by the meet director and chief judge taking into consideration the aircraft size and type, the dropzone, meteorological conditions and ATC or airspace restrictions.

3.4.2 Deployment altitude for each team will be pre-determined by the meet director and chief judge in order to maximize horizontal and vertical separation and may not exceed 5000 ft. AGL.

3.4.3 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.

3.4.4 The performer (defined as Performer A, Performer B) who executes the first *maneuvers* in each compulsory routine is defined as Performer A; this establishes the performer's role in the sequences (described in Appendix C) for the remainder of the routine.

3.4.5 The starting order of the first round of jumping shall be in reverse order (including guests) of standings at the most recent USPA Nationals, subject to the discretion of the meet director and chief judge based on safety considerations. Teams that did not participate in the most recent USPA Nationals will jump at the beginning of the round with the order determined by random draw made by the meet director.

3.4.6 Refusal to jump: A team may choose to abort a jump for any pertinent reason and may descend with the aircraft. If a jump-run is aborted and the meet director decides the reason is pertinent, the jump must be made at the earliest opportunity as determined by the meet director.

3.4.7 The maximum ground winds for the event shall be 9 m/s.

3.5 Compulsory Routines

3.5.1 The Compulsory Routines are routines composed of two (2) Compulsory Sequences from Appendix C.

3.5.2 The Compulsory sequences may be repeated until the end of working time.

3.5.3 The Compulsory sequences to be used on each jump are determined via a random draw.

3.5.4 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 competition starts.

3.5.5 Sequences shown in the Appendix C will be 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. Upon exhaustion of the pool, if the draw is not complete, all sequences will be returned to the initial pool and the draw continues.

3.5.6 The order of the compulsory sequences is determined by the order in which they are drawn.

3.5.7 After completion of the draw as determined in 3.5.5, the chief judge will determine whether a tie break jump will be a Free Round or Compulsory Round using the following procedure:

3.5.7.1 One Free Round and one Compulsory Round marker will be placed in one container. One marker will be drawn from the container in order to determine the type of tie break round.

3.5.7.2 If the tie break round determined in 3.5.7.1 is a Compulsory Round, the Sequences will be drawn in accordance with 3.5.5. and 3.5.6.

3.6 Free Routines

3.6.1 The content of the Free Routine(s) is chosen entirely by the Team and may or may not include grips.

3.6.2 The Team may perform the same Free Routine in each Free Round.

3.6.3 Teams are encouraged to deliver a description of their free routine(s) to the chief judge before the start of the competition. Not providing this information shall not influence the team's score. Deviation from the described Free Routine shall not influence the scoring.

4 JUDGING & SCORING

4.1 Performance Event

4.1.1 At least two USPA National wingsuit judges will supervise scoring.

4.2 Acrobatic Event

4.2.1 Once any team member has left the aircraft, the jump shall be evaluated and scored.

4.2.2 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 repeated the sequences in the required order.

4.2.3 Judging procedures:

4.2.3.1 The jumps shall be judged using the video evidence as provided by the videographer.

4.2.3.2 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.

4.2.3.3 Judges may view the jump a maximum of three (3) times. A fourth viewing may be allowed at the discretion of the Event judge.

4.2.4 All viewings must be at normal speed.

4.2.5 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.

4.2.6 The chronometer will be operated by the judges or by (a) person(s) appointed by the chief judge, and will be started when a Team Member leaves the aircraft. If judges cannot determine the start of the working time, then the working time starts when the Videographer separates from the aircraft. A penalty of 20% (rounded down) of the score will be deducted to produce a final score for that jump.

4.2.7 Scoring Compulsory Routines:

4.2.7.1 The Routine is evaluated using three (3) criteria: Number of Grips, Style, and Camerawork.

4.2.7.2 Judges will give the style and camerawork a point score between zero and ten (between 0 and 10, up to one decimal point) based on the guidelines in Appendix D.

4.2.7.3 For each maneuver omission 1.5 points will be deducted from the style point score otherwise given by each judge.

4.2.7.4 One point will be assigned for each 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.

4.2.7.5 For each grip omission one (1) point will be deducted from the total determined in 4.2.7.4. If an infringement in the scoring formation of a maneuver is carried into the next grip this will be considered as one infringement only, provided that the intent of the maneuver requirements for the next formation is clearly presented.

4.2.7.6 A majority of judges must agree in the evaluation in order to:

- Credit the scoring grips, or
- Assign an omission, or
- Determine an NV situation.

4.2.7.7 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 than 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.

4.2.7.8 The minimum score for any of the criteria is zero points.

4.2.8 Scoring Free Routines:

4.2.8.1 The Routine is evaluated using three (3) criteria: Dive Plan, Style, and Camerawork

4.2.8.2 Judges will give each of the above three measures a score from zero to ten (between 0 and 10, up to one decimal point) based on the guidelines in Appendix D.

4.2.9 Score Calculation.

4.2.9.1 The team's score for a round for all criteria, except grips, in 4.2.7 and 4.2.8 is calculated by discarding the high and low scores and averaging the three remaining scores, rounded to one decimal place.

- The score given for grips shall be in whole integers only.

4.2.9.2 The team's score (calculated in 4.2.9.1) for grips (compulsories), style (all rounds), dive plan (free round) and camera (all rounds) will be weighted 0% to 100% for each criterion between all teams for that round, the highest score defining 100% (100), and a no-score being 0% (0). A total score for a round is then calculated by adding the three weighted percentage scores for that sound.

4.2.9.3 The team's final score for the event is the sum of the total scores from all completed rounds as calculated in 4.2.9.2.

4.2.10 All scores for each judge will be published.

4.3 Other Judging Responsibilities

4.3.1 One or more individuals, supervised by the chief judge (or trainees under the supervision of a judge Examiner) my support the judges in equipment, device and data management.

4.3.2 One or more qualified individuals, supervised by the meet director, 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.

4.3.3 The chief judge and/or the 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.

5 CLASSIFICATION OF FINAL RESULTS

5.1 Determination of Winners—Performance Event

5.1.1 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.

5.1.2 The score calculated in 5.1.1 for all rounds for each separate task, adjusted by any penalties arising from 2.6.3, 2.6.4, and 3.6.5 will be averaged for each competitor for an intermediate result of the task.

5.1.3 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.

5.1.4 The total result for the competitor determines the ranking.

5.1.4.1 In the event of a tie in the first three places, the following tie-break rules apply:

5.1.4.2 A tie-break jump will be made. The task shall be drawn at random by the chief judge.

5.1.4.3 If the tie cannot be broken, the competitors concerned shall be declared co-medalists.

5.1.5 All other ties in the standings shall be ranked equally.

5.2 Determination of Winners—Acrobatic Event

5.2.1 The winners (1st, 2nd and 3rd) are the Acrobatic Wingsuit Flying Teams with the three highest total scores for all completed rounds.

5.2.2 If two (2) or more Teams have equal scores, and if time permits, the first three (3) places will be determined by the procedure described in 3.5.7.

5.2.3 If the tie cannot be broken by the tie-break jump, the following procedure will be applied until a clear placing is determined:

5.2.3.1 The best score, then the second-best score, of any completed free rounds.

5.2.3.2 The best score, then the second-best score, of any completed compulsory rounds.

5.2.4 All other ties in the standings shall be ranked equally

5.3 National Championships Title Classifications

5.3.1 National Acrobatic Wingsuit Flying Champions—1st, 2nd, 3rd

5.3.2 National Performance Wingsuit Flying Open Champions—1st, 2nd, 3rd

5.3.3 National Performance Wingsuit Flying Intermediate Champions—1st, 2nd, 3rd

APPENDIX A: DEFINITIONS OF WORDS & PHRASES

competition window—A vertical 1000 m window, starting at 3000 m (9843 ft.) Geometric Altitude and ending at 2000 m (6562 ft.) 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 is stopped at the first crossing of the lower window boundary.

compulsory routine—A *routine* composed of compulsory sequences chosen at random from Appendix C by the chief judge.

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 prior to the jump to the competitor by the meet director using a detailed map or aerial photograph of the area. The map and/or photograph must be acceptable to the USPA controller

designated lane: A lane which is centered on the Designated Flight Path with a width of 600 meters

Flight Director—A person appointed by the meet director to act as in-flight liaison to coordinate jump runs and facilitate exits.

free routine—A *routine* composed of *maneuvers* chosen entirely by the *team*.

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 competitor's meeting.

grips

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

heading—The direction in which the Performer is flying.

judgment call—An assessment by the judges of a formation, infringement or *omission* that is not unanimous.

maneuver—A change in body position, and/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

not visible —formations, *maneuvers* or *grips* not visible on screen due to meteorological conditions, or factors relating to the videographer's freefall video equipment that cannot be controlled.

NV— See *not visible.*

omission

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

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.

routine—A sequence of *maneuvers* performed during the *working time.*

spherical error probable (SEP)—The horizontal and vertical accuracy specifications of a PLD expressed in terms of the radius of a sphere; for example, "real-time accuracy <10 meters SEP".

team—An Acrobatic Wingsuit Flying Team is composed of two (2) performers and a videographer.

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 and terminates after the interval designated in 3.3.2 and 3.3.3.

APPENDIX B: BASIC ROTATIONAL ACTIONS

B.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).

B.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.

B.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.

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

Sequence B: Rock and Roll

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

Sequence C: Revolutions

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

Sequence F: Duck and Roll

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

- Performers take a handgrip in normal flight.

Sequence G: Déjà vu

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

Sequence I: Back to Back

- Performers A and B are in normal flight with a hand grip.
- Performers show total separation and both transition to inverted flight.
- Performers take a hand grip in inverted flight.
- Performers show total separation and both transition to normal flight.
- Performers take a hand grip in normal flight.

Sequence J: Pancakes

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

APPENDIX D: ACROBATIC WINGSUIT FLYING JUDGING CRITERIA

D-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 the majority of the judges, will not be included in the total number of grips.
- Compulsory Routines must 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 may not be less than zero.

D-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 four (4) Free Rounds, using the following guidelines:

10 points - Maneuver is performed flawlessly with no noticeable mistakes.
8 points - Maneuver is performed with some small mistakes.
5 points - Maneuver is performed with several medium mistakes.
3 points - Maneuver is performed with several major mistakes.
0 points – Maneuver 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 maneuver, allowing the other pilot to remain static. The less changes the static performer has to make to accommodate the active performer making a move, the higher the score.
- Proximity: the performers stay close together, never moving more than one body distance apart.
- Transitions: more complex maneuvers are made according to the intended figures, rather than broken down into two or more simpler elements.

Small mistake examples:

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

Medium mistake examples:

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

Major mistake examples:

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

D-3 Scoring Camera

judges give a score for the Camerawork 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
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 shows no Performer Routines.

Progressive Work
3 points- Creative flying with 2 or more different progressive successful maneuvers
2 points- Creative flying with 2 or more same progressive successful maneuvers
1 point- Creative flying with 1 progressive successful maneuvers
0 points- No progressive maneuvers and no intention

Examples for Quality:

- Video is smooth and does not bounce around.
- Utilizes available landmarks, clouds and/or lighting to enhance video.
- 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.
- The ability for the cameraman to mask or compensate for any movement of both Performers to help create an illusion of not sliding or falling

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:

- Unintentional 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.

D-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 maneuvers and transitions in the routine.
- Flying Skills: Ability to move 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 maneuvers that vary by complexity.
- Team separation after each maneuver.
- Grip complexity, if present.

Presentation:

- Visual Excitement: Routine should hold the viewer's attention throughout, dynamic variety, entertaining without being unnecessary.
- Originality: Creative maneuvers 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 maneuvers, and flows from one maneuver to the next.
- The routine is enjoyable and aesthetically pleasing to watch.

APPENDIX E: PERFORMANCE FLYING; DFP, DL, PENALTIES