



*Fédération  
Aéronautique  
Internationale*

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# Indoor Skydiving Competition Rules

For  
**Solo Freestyle**

2015 Edition  
Effective 1<sup>st</sup> March 2015

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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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This document takes effect on the 1<sup>st</sup> of March 2015.

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## **1. FAI Authority**

- 1.1. 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 used in these Rules**

- 2.1. A Solo Freestyle (SFR) competition entry consists of one (1) Performer.
- 2.2. Heading: the direction in which the front of the torso of the Performer faces.
- 2.3. Move: a change in body position, and/or a rotation around one or more of the three (3) body axes, or a static pose. See Addendum B.
- 2.4. Anti-Chamber: area used by Teams as a waiting area for entrance into the flight chamber. This area is separated from public viewing areas and is the exclusive use for Teams on call.
- 2.5. Diffuser: that vertical part of the flight chamber above the transparent viewing section.
- 2.6. Flight: a competitor's performance in the flight chamber.
- 2.7. Routine: a sequence of moves performed during the working time.
- 2.7.1. Compulsory Routine: a routine composed of three (3) Compulsory Sequences, as shown in Addendum A, and other moves at the Performer's discretion. The order in which these Compulsory Sequences and other moves are performed is chosen by the Performer.
- 2.7.2. Free Routine: a routine composed of moves chosen entirely by the Performer.
- 2.8. Working Time:
- 2.8.1. The period of time during which a Performer may perform a routine during a Flight. Working time starts the instant the Performer separates from the flight chamber doorway into the flight chamber, as determined by the Judges, and terminates 60 seconds later.
- 2.8.2. At the end of working time, a visual signal will be given and the Performer will be allowed a maximum of 15 seconds to exit.

## **3. The events**

- 3.1. Discipline: the discipline comprises of Solo Freestyle (SFR). There is no gender separation.
- 3.2. Objective of the Event: The objective for the Performer is to perform a sequence of moves with the highest possible merit.
- 3.3. World Champion:
- 3.3.1. After all completed round(s), the World Champion in Solo Freestyle will be declared.
- 3.3.2. The Solo Freestyle World Champion is the Performer with the highest total score for all completed rounds. If two (2) or more Performers have equal scores, then if time permits, the first three (3) places will be determined by a tie-break Free Round. If a tie still exists, the following procedure will be applied:
- the best score, then the second best score, and then third best score, of any completed free rounds.
  - the best score, then the second best score, of any completed compulsory rounds.
- 3.3.3. Prizes and awards are awarded as follows:
- All Performers in the events will be awarded medals if placed First, Second or Third.
  - The flags of the countries of the Performers in the events placed First, Second and Third shall be flown and the national anthems of the countries of the Performers placed First shall be played.

## **4. General rules**

- 4.1. Equipment: Performers are responsible for outfitting themselves in their own suitable clothing and footwear, including flight suits, helmets, goggles, and ear plugs.
- 4.2. Video Recording.
- 4.2.1. For the purpose of these rules, "video equipment" shall consist of the complete video system used to record the video evidence of the Performer's Flight, including the camera(s), recording media, cables and power source. The video equipment must be able to deliver a High Definition 1080 type digital signal with a minimum frame rate of 25 frames per second through a memory card (minimum class 10), approved by the Chief Judge.

- 4.2.2.** The Organiser shall provide the video evidence required to show the Performer's Flight to third parties. A backup recording of all competition Flights will be made.
- 4.2.3.** The Organiser is responsible for assuring the compatibility of the video equipment with the scoring system.
- 4.2.4.** The camera(s) must be fixed static to the mount and on the same side of the tunnel as the Judges' live viewing gallery location.
- 4.2.5.** The flight chamber doorway that will be used for entry and exit shall be fully shown in the video evidence. The position of the Judges with respect to the flight chamber doorway that will be used for entry and exit will be published not less than 90 days before the start of competition.
- 4.2.6.** The speed setting will be indicated in the tunnel and shall be clearly visible to the Performer prior to entering the flight chamber.
- 4.2.7.** The Organiser must provide the Performers with a way of identification of the Performer to be included in the video evidence.
- 4.3.** Speed Setting and Training Flights:
- 4.3.1.** Speed Setting: Three (3) minutes per Performer will be allocated for speed setting.
- 4.3.2.** Speed Setting and Training Flights may only take place prior to the start of the competition.
- 4.3.3.** Each Performer will be given the option of two (2) official training Flights prior to the competition. The same configuration plus the judging and scoring systems to be used in the competition will be used for the official training Flights.
- 4.3.4.** Before the start of the training Flights, the Performer has the option to explain the delivered Free Routine description sheet(s). If no training Flights are possible, Performers can deliver a maximum of two (2) previous training Flights for scoring and move explanation. For these (previous and official training) Flights, no scores for Presentation will be given.
- 4.4.** Freefall: Performers are not allowed to freefall from any aircraft or use any freefall simulator or wind tunnel, for Flights other than competition Flights, after the commencement of the competition.
- 4.5.** Order of Flights: The order of Flights for the first competition round of each event will be in the reverse order of the placings in that event at the most recent IPC sanctioned World Indoor Skydiving Championships or World Cup of Artistic Events. All Performers not covered by this procedure will fly at the beginning of the round, with their order of Flights determined by a draw. After round five (5), the final rounds will start. The final rounds will be executed by an updated reverse-order-of-flights which shall be implemented after round five (5) and six (6). The relevant order of Flights will be maintained throughout the competition, except for any logistical changes deemed necessary by the Chief Judge and the Meet Director.
- 4.6.** Flight Chamber Entry: Only one (1) doorway leading into the flight chamber will be used for entries and exits. The tunnel will be set to the correct speed decided by the Performer during the Speed Setting time. When the tunnel is at the correct speed, a signal will be given to the Performer.
- 4.7.** Re-flights:
- 4.7.1.** In case of an unforeseen change of environment during performance, a re-flight may be granted.
- 4.7.2.** Contact or other means of interference between the Performer and/or the tunnel walls/cable floor shall not be grounds for a re-flight.
- 4.7.3.** Problems with a Performer's equipment shall not be grounds for a re-flight.
- 4.7.4.** For safety reasons, if a Performer demonstrates inadequate flying skills and/or persistent unsafe flying requiring repeated intervention by a tunnel spotter, FAI Sporting Code, Section 5, Chapter 4.8 SAFETY will apply.

## **5. Rules specific to the event**

- 5.1.** Performers:
- 5.1.1.** A Performer may only represent one (1) NAC.
- 5.1.2.** Each Performer may compete in a maximum of two (2) different Events per First Category Event.
- 5.2.** Routines. The discipline is comprised of Compulsory Routines and Free Routines.
- 5.2.1.** Performers are requested to deliver a description of their Free Routine(s) and the order of the Compulsory Sequences to the Chief Judge before the start of the official Training Flights. For this purpose, the Chief Judge should provide a standard form (see Addendum D).
- 5.2.2.** Failure to provide this information has no influence on the scoring. Deviation from the Free Routine description or the Compulsory Routine description will not influence the scoring.





Major mistake examples

- required elements missing or performed incorrect, turning the wrong direction, etc.

Presentation in the Compulsory Routines is scored for the beginning and the end of the routine, and move(s) performed between the Compulsory Sequences. If the Judges cannot identify any Presentation element, the score for presentation will be zero (0,0) points.

- 6.3.1.** The Judges will only score the Compulsory Sequences they recognize. If an attempt is made for a Compulsory Sequence and the Judges recognize this as such, scoring for that sequence will commence. The judging of each sequence begins when the Judges see the Performer beginning the sequence from the described beginning position (after a transition from the previous move with or without a momentary stop). The judging of each sequence ends when the Judges see the Performer completes or abandons the performance requirements of that sequence.
- 6.4.** Score calculation: The score for each routine is calculated as follows:
- Compulsory Routines: for each Compulsory Sequence and Presentation, the Judges' scores will be averaged separately with no rounding applied. The average scores will be added, and the result will be divided by four (4), then rounded to the first decimal place.
  - Free Routines: for the Technical and Presentation criteria, the Judges' scores of both Technical and Presentation will be averaged separately with no rounding applied. The average scores will be added, and the result will be divided by two (2), then rounded to the first decimal place.
- 6.4.1.** Rounding must be done as follows: intermediate values must be converted from two decimal places to one, by rounding to the nearest tenth, except where the second decimal digit is exactly halfway between the two values, where it must be rounded to the higher of the two.
- 6.4.2.** Total scores for the events are calculated by adding Performer's official scores of all completed rounds.
- 6.4.3.** All scores for each Judge will be published.
- 6.5.** Judging rules:
- 6.5.1** Viewing the Flights: The Judges will view each Performer's Flight from the flight chamber viewing gallery. The Judges will watch each Flight live. A second viewing of the compulsory rounds, using the video evidence, is permitted at the discretion of the Event Judge.
- 6.5.2.** A panel consisting of three (3) Judges must evaluate each Performer's Flight. Where possible a complete round shall be judged by the same panel.
- 6.5.3.** All Judges will evaluate all judging criteria.
- 6.5.4.** The Judges will use an electronic scoring system to record the evaluation of the performance. The Judges may correct their evaluation record after the Flight has been judged. Corrections to the evaluation record can only be made before the Chief Judge signs the score sheet.
- 6.5.5.** The chronometer will be operated by the Judges or by (a) person(s) appointed by the Chief Judge, and will be started when a Performer enters the flight chamber.
- 6.5.6.** At the end of working time, a signal will be given and the Judges will look away from the flight chamber.

## **7. Rules specific to the competition**

- 7.1.** Composition of Delegations: Each Delegation may be comprised of:
- One (1) Head of Delegation
  - One (1) Team Manager
  - A maximum of two (2) Solo Freestyle Performers for a WISC or Continental Indoor Skydiving Championship.
  - The number of Performers for an Indoor Skydiving World Cup will be up to the organiser.
- 7.2.** Competition schedule: The competition will be organised in accordance with one (1) official training day and a maximum time frame of three (3) consecutive competition days. Time must be reserved before the end of the competition to allow for the completion of the final rounds.

### **ADDENDA A, B, C, D**

- Addendum A: Solo Freestyle Compulsory Sequences
- Addendum B: Basic Body Positions, Orientations, Rotations and Pathways
- Addendum C: Difficulty
- Addendum D: Routine Description Form

## **ADDENDUM – A**

### **SOLO FREESTYLE COMPULSORY SEQUENCES PERFORMANCE REQUIREMENTS & JUDGEMENT CRITERIA**

- The order in which these Compulsory Sequences can be performed is determined by the Performer.
- The Performer is requested to submit the order of the Compulsory Sequences at the start of the competition to the Chief Judge. (see para 5.2.1. and Addendum D)
- Each Performer must ensure that clothing and/or their position in the flight chamber do not hinder the ability for Judges to clearly see the performance requirements being met. (E.g. if Judges cannot see straight arms and/or legs then they may assume that the Performer does not have straight arms and/or legs).
- When specified, Toes must be pointed and knees must be straight, otherwise the maximum possible score is 8,0.
- Carving should be round and not elliptical, otherwise the maximum score is 8,0.
- The judging of each sequence begins when the Judges see the Performer beginning the sequence from the described beginning position (after a transition from the previous move with or without a momentary stop).
- The judging of each sequence ends when the Judges see the Performer completes or abandons the performance requirements of that sequence.

### **FIRST COMPULSORY ROUND (ROUND 2)**

#### *SFR-1 360° Centred Compass Spin*

##### Parallel Compass Position

- At the beginning and end, the Performer is in parallel Compass position in head-up orientation, presenting the side of his/her body to the Judges.
- The Performer is in the layout position, without any bend at the waist, with one leg straight down.
- The other leg is raised forward 90° at the hip, with the knee straight and the toes pointed.
- Either leg may be the forward leg.

##### 360° Centred Compass Spin

- A 360° pirouette must be performed.
- Pirouette can be in either direction.
- Pirouette must remain centred in the air column.
- The same parallel Compass position must be maintained throughout the sequence.
- The entire sequence must remain at the same level in the flight chamber.

#### *SFR-2 Double Cartwheel Sequence*

- At the beginning and end, the Performer is in head-up orientation, facing the Judges at the near side of the flight chamber.
- 180° of head-up outface carving must be performed to the far side of the flight chamber.
- With the back facing the Judges, while at the far side of the flight chamber, a full 360° cartwheel must be performed.
- 180° of head-up outface carving must be performed, continuing in the same direction as the first 180° of outface carving, returning to the near side of the flight chamber, facing the Judges.
- While facing the Judges, a second full 360° cartwheel must be performed.
- Each 180° of outface carving must be smooth.
- The two individual 360° cartwheels can be in either direction.
- The entire sequence must remain at the same level in the flight chamber.

#### *SFR-3 Tucked Double Back Loops*

- At the beginning and end, the Performer is in belly-down orientation, facing the Judges.
- Two (2) consecutive back loops in a tucked position must be performed.
- Loops must be around the horizontal axis, without wobbling and without changing heading.
- Loops must be smooth, without stopping.
- The entire sequence must remain at the same level in the flight chamber.

## SECOND COMPULSORY ROUND (ROUND 5)

### *SFR-4 360° Breaker*

- At the beginning and end, the Performer is in head-down outface carving.
- While maintaining the carve, a 360° barrel roll (with the torso horizontal) is performed while passing the far side of the flight chamber from the Judges.

### *SFR-5 Outface Carve with 720° Loose Pike Spin*

- At the beginning and end, the Performer is in head-down orientation, facing the Judges.
- 180° of head-down outface carving must be performed to the far side of the flight chamber.
- Without stopping, a 720° head-down pirouette must be performed in a loose pike position (with a 90-120° angle at the hips) with the legs together and the knees straight.
- 180° of head-down outface carving must be performed, continuing in the same direction as the first 180° of outface carving, returning to the near side of the flight chamber, facing the Judges.
- The entire sequence must remain at the same level in the flight chamber.

### *SFR-6 Thomas Flair into Head-down Split.*

- At the beginning, the Performer is in belly-down orientation.
- One and a half (1,5) Thomas Flair rotations must be performed.
- The toes must be pointed throughout the sequence.

#### Thomas Flair

- For a complete Thomas Flair, the torso must roll through 360° while simultaneously turning through 360° horizontally.
- The torso must be belly-down at the start of the rotation, on its side when 90° of the turn is complete, on its back when 180° of the turn is complete, and on the other side when 270° of the turn is complete.
- Legs must remain straddled apart, with at least 90° between them, with the knees straight.
- The face must remain facing the Judges (Performer looking at the Judges) and maintain the same direction throughout all the rotation.

#### Half Thomas Flair to Head-down Split

- Without stopping, an additional half Thomas Flair is performed into a head-down split.
- At the end, the Performer must show a static (momentary stop) head-down split position, facing the Judges.

## **ADDENDUM B**

### **BASIC BODY POSITIONS, ORIENTATIONS, ROTATIONS AND PATHWAYS**

#### **A. DEFINITION BODY PARTS**

A Body consists of the entire Performer and his/her equipment.

A Performer's Body is defined in specified parts, as follows:

- head: the part of the body above the neck.
- shoulder: the upper part of the body between the neck and the upper arm.
- torso: the body, including the shoulder, but excluding arms, legs, head and neck.
- arm: the whole arm from the shoulder, including upper arm, lower arm, wrist and hand (the shoulder is excluded).
- upper arm: the part of the arm between the shoulder and the elbow.
- lower arm: the part of the arm between the elbow and the wrist.
- hand: the part of the arm past the wrist.
- leg: the whole leg from the pelvis, including the upper leg, knee, lower leg and foot.
- upper leg (thigh): the part of the leg between the pelvis and the knee.
- knee: the part of the leg between the upper leg and the lower leg.
- lower leg: the part of the leg between the knee and the ankle.
- foot: the part of the leg past the ankle.
- sole: that part of the foot on which a person stands.

#### **B. BODY POSITION**

The body can be in an arch, layout or pike position with the limbs in any of various positions. These define the amount of bend at the waist/hips and the angle of the upper legs (thighs) relative to the torso. Additional body positions define positions of the legs. The arms are left free to control the position. For description purposes on heading, torso means the front of the torso.

##### **B-1. Arch Position**

- The torso is arched at the waist/hips, such that the angle between the front of the torso and the thighs is greater than 180° (if viewed from the side).
- If both legs are together with the knees straight, the angle between the front of the torso and both thighs must be greater than 180° (if viewed from the side).
- If the legs are in a creative position, at least one thigh must show an angle greater than 180° from the front of the torso (if viewed from the side).
- The head may be arched back.

##### **B-2. Layout Position**

- The torso is straight, with no bend at the waist/hips (if viewed from the side).
- If both legs are together with the knees straight, both legs must in line with the torso (if viewed from the side).
- If the legs are in a creative position, at least one thigh must be in line with the torso (if viewed from the side).

##### **B-3. Pike Position**

- The torso is bent forward at the waist/hips, such that the angle between the front of the torso and the thighs is less than 180° (if viewed from the side).
- If the legs are both together and straight at the knees or in a creative position, the angle between the front of the torso and the thighs must be less than 180° (if viewed from the side).
- For a Loose Pike, the angle between the front of the torso and the thighs is between 90° and 180° (if viewed from the side).
- For a Tight Pike, the angle between the front of the torso and the thighs is less than 90° (if viewed from the side).

##### **B-4. Tight Tuck Position**

- The torso is bent forward at the waist/hips such that the angle between the front of the torso and the thighs is less than 90° (if viewed from the side).
- The knees are bent, such that the angle between the upper and lower legs is less than 90°. The knees are not necessarily all the way up against the chest.

- The knees may be together or spread apart.
- For a Loose Tuck, the two described angles are between 90° and 180° (if viewed from the side).

**B-5. Sit Position**

- The torso is vertical in a head-up orientation.
- The angle between the front of the torso and thighs is between 90° and 145° (if viewed from the side).
- The knees are bent such that the angle between the upper and lower legs is between 90° and 145°.
- The lower legs are parallel to the torso.
- The knees may be together or spread apart.

**B-6. Stag Position**

- One leg is completely straight at the knee.
- The other leg is flexed forward at the hip and the knee is flexed to place the toe at the knee of the straight leg. The knee is flexed at least 90°.
- The knee of the leg placed in the Stag points forward.
- The body can be in an arched, layout or piked position while in a Stag Position.

**B-7. Straddle Position**

- The legs are split apart, from side to side, with at least a 90° angle between them (if viewed from the front).
- Both knees are straight.
- The body can be arched (Arched Straddle Position), in a layout (Layout Straddle Position) or piked (Piked Straddle Position) with the legs in a Straddle Position.

**B-8. Split Position**

- The legs are split apart from front and back, with at least a 90° angle between them (if viewed from the side).
- Both knees are straight.

**B-9. Tee Position**

- The torso may be straight, with no bend at the waist, or arched.
- One leg is extended in front of the torso, with an angle of 90° between the front of the torso and the thigh (if viewed from the side).
- The other thigh is in line with the torso or has an angle greater than 180° from the torso (if viewed from the side).
- Both knees are straight.

**B-10. Compass Position**

- The torso is in the head-up orientation.
- One leg is in line with the torso.
- For a parallel Compass, the other leg is raised forward, such that the angle between the thigh and torso is 90° or less.
- For a turned-out Compass, the other leg is split to the side with the knee pointed upward, such that the angle between the thigh and torso is 90° or less.
- Both knees are straight.
- The body can be in an arched or layout position with the legs in a Compass.

**C. ORIENTATIONS**

There are six (6) basic orientations (not including diagonal orientations) which a body can have to the wind (or cable floor). These define which way the torso is oriented.

**C-1. Belly-down Orientation**

The torso is horizontal, on its front, facing down towards the wind (or the cable floor).

**C-2. Back-down Orientation**

The torso is horizontal, on its back, facing up, away from the wind (towards the ceiling).

**C-3. Sideways Orientation**

The torso is horizontal, on its side, with either side facing towards the wind (or cable floor). The chest is facing the tunnel wall.

#### **C-4. Head-up Orientation**

The torso is vertical with the head up, directly away from the wind (towards the ceiling).

#### **C-5. Head-down Orientation**

The torso is vertical with the head down, pointing directly down into the wind (towards the cable floor).

### **D. ROTATION AXES**

Most moves involve a form of rotational motion of the body. A total of five (5) axes are used to describe the six (6) possible basic rotational motions.

#### **D-1. Wind Axes**

There are two inertial axes which stay fixed with respect to the wind (or cable floor).

##### **Vertical Axis**

The vertical axis remains parallel to the wind, (pointing from the ceiling to the cable floor). Spins are rotations about the Vertical Axis.

##### **Horizontal Axis**

The horizontal axis is any axis perpendicular (90°) to the wind, (pointing to the tunnel wall). It may have any heading (pointing towards any wall).

#### **D-2. Body Axes**

There are three (3) body axes which stay fixed with respect to each Performer's body.

##### **Body Head-Tail Axis**

The body head-tail axis is oriented lengthwise, pointing from head to tail-bone, normally through the Performer's torso. (In a layout position, the head and feet are in the same line. When the body is bent at the hips, this axis is aligned with the spine and does not include the legs.)

##### **Body Front-Back Axis**

The body front-back axis is oriented forwards and backwards, pointing from front to back, normally through the Performer's belly.

##### **Body Left-Right Axis**

The body left-right axis is oriented sideways, pointing from left to right, normally through the Performer's hips.

### **E. BASIC ROTATIONAL ACTIONS**

There are six (6) basic rotational actions. Twisting combines rotational actions by adding a rotation about the body head-tail axis during a rotation about the body left-right or front-back axis.

#### **E-1. Flat Turns**

Flat turns involve a rotation about the body front-back axis when that axis is aligned with the vertical axis. The Performer's heading is changing. The body can be belly-down or back-down while performing a flat turn.

#### **E-2 Pirouettes**

Pirouettes involve a rotation about the body head-tail axis when that axis is aligned with the vertical axis. The Performer's heading is changing. The body can be head-up or head-down while performing a pirouette.

#### **E-3 Barrel Rolls**

A barrel roll is a rotation about the body head-tail axis when that axis is aligned with the horizontal axis. A barrel roll may begin and end in a belly-down, back-down or sideways orientation.

#### **E-4 Cartwheels**

A cartwheel is a head-over-heels rotation about the body front-back axis when that axis is aligned with the horizontal axis. The body passes through a head-up, sideways and/or head-down orientations during the course of a cartwheel. A cartwheel needs not start nor finish in an exact head-up, sideways or head-down orientation. A cartwheel is considered to be a full cartwheel when the head has travelled 360° around the horizontal axis from the point at which it started. A cartwheel may be performed to the right or left.

#### **E-5. Loops**

A loop is a head-over-heels rotation about the body left-right axis when that axis is aligned with the horizontal axis. The body passes through a head-up, belly-down, head-down and/or back-down orientation during the course of the loop. A loop may begin and end in a head-up, belly-down, head-down and/or back-down orientation. A loop needs not start nor finish in an exact head-up, belly-down, head-down and/or back-down orientation. A loop is considered to be a full loop when the head has travelled 360° around the horizontal axis from the point at which is started. There are two (2) kinds of loops. (Loops are referred to by the direction in which the loop is initiated, since in the case of twisting loops, the direction in which the loop completes may be different from the direction at the start.)

**Back Loop**

A back loop is a loop rotation initiated with the torso rotating backwards.

**Front Loop**

A front loop is a loop rotation initiated with the torso rotating forwards.

**E-6. Side Loops (Loops on the Side)**

A loop in the sideways orientation is a rotation about the body left-right axis when that axis is aligned with the vertical axis. For example, a Pinwheel is a true loop on the side.

**E-7. Twists**

Twisting combines rotational actions by adding a rotation about the body head-tail axis during a rotation about the body left-right or front-back axis, aligned with either the horizontal or vertical axis. There are two (2) basic categories of twists.

**Vertical Twists**

A vertical twist is a head-over-heels rotation about the horizontal axis (loop or cartwheel) combined with a rotation about the body head-tail axis. A single or full twist is defined to be a 360° rotation about the body head-tail axis over the course of a 360° loop or cartwheel. The amount of twist contained within a loop or cartwheel is the amount of twisting rotation completed after a 360° looping or cartwheeling rotation has been performed, when measured from the point in the loop or cartwheel at which the twist was first initiated. Twists may be initiated at any position in the loop or cartwheel and in any direction.

**Horizontal Twists**

A horizontal twist is a rotation about the vertical axis (flat turn or side loop) combined a rotation about the body head-tail axis. A single or full twist is defined to be a 360° rotation about the body head-tail axis over the course of a 360° flat turn or side loop. For example, a Flip Through is a horizontal twist.

**F. CIRCULAR PATHWAYS**

There are two (2) basic types of circular pathways a Performer may follow, which can be performed either infacing or outfacing. Circular pathways may have embedded moves (e.g. Bottom Loop).

**Infacing**

The front of the torso faces inward towards the concave side of the pathway, usually, but not always, towards the centre of the flight chamber.

**Outfacing**

The front of the torso faces outward away from the concave side of the pathway, usually, but not always, towards the wall of the flight chamber.

**F-1. Carving**

The Performer's body traces a circular path in approximately a horizontal plane. Carving is performed while head-down, head-up or in other orientations.

**F-2. Vertical Orbits**

The Performer's body traces a circular path in a vertical plane. Eagles and Reverse Eagles are two (2) common forms of Vertical Orbits that involve also rotating about the Body Left-Right Axis.

**Eagle**

The Performer travels in a Vertical Orbit while continuously leading with the head, passing through the back-down, head-up, belly-down and/or head-down orientation (in that order, if infacing). An Eagle may begin from any orientation in this progression. A Half Eagle is when the Performer has travelled

head first through 180° of vertical orbiting. A Full Eagle is when the Performer has travelled head first through 360° of vertical orbiting.

**Reverse Eagle**

The Performer travels in a Vertical Orbit while continuously leading with the feet (or tail-bone), passing through the back-down, head-down, belly-down and/or head-up orientation (in that order, if infacing). A Reverse Eagle may begin from any orientation in this progression. A Half Reverse Eagle is when the Performer has travelled feet (or tail-bone) first through 180° of vertical orbiting. A Full Reverse Eagle is when the Performer has travelled feet (or Tail-bone) first through 360° of vertical orbiting.



## ADDENDUM – C DIFFICULTY

'Difficulty' is the combined result of several factors. Moves are classified from very easy to very difficult. The overall performance of the Flights (poses, moves and transitions) counts for difficulty. In general, difficulty factors are:

<b>Easier</b>	<b>More Difficult</b>
Fixed orientation with large support base	Fixed orientation with small support base
Horizontal axis rotation with small support base	Horizontal axis rotation through large support base
Stable, easy to balance move	Unstable, difficult to balance move
Moves executed individually	Moves executed in a connected sequence
High drag moves flown with slow tunnel speed	High drag moves flown with fast tunnel speed, the longer the duration of high drag move(s), the more difficult
Low drag moves flown with fast tunnel speed	Low drag moves flown with slow tunnel speed, the longer the duration of the low drag move(s), the more difficult
Random Movements	Precisely Choreographed Movements (including perfect synchronicity with music if performing to music)
Body position lost during move(s)	Ideal body position maintained throughout move(s)
Drifting in flight chamber during static move(s)	Remaining stationary in flight chamber on a constant heading and level during static move(s)
Easy natural body positions	Awkward body position and/or grip(s), such as a hand grip on one's own foot with that grip behind
Move does not require flexibility	Move requires flexibility
Move does not require strength and power	Move requires strength and power
Symmetrical body shape held on heading	Asymmetrical body shape held on heading
Asymmetrical body shape not held on heading	
Basic Move(s)	Move(s) that requires long learning progression
Performing previously seen Move(s)	Performing brand new Move(s)
Rotations on 1 axis	Rotations on more than 1 axis (in which use of 3 axes is more difficult than use of 2 axes)
Performing moves, carving/rotating always in a preferred direction	Performing moves, carving/rotating in both directions
Short duration in rotation (no dizziness)	Long duration in rotation (dizziness)
Performer flying in clean airflow	Performer flying across burble of doorway
Fast transitions through burble of doorway	Performer remaining in burble of doorway for extended time
Transitions between moves with the same axes	Transitions between moves with different axes at a precise heading/orientation
No direction change	Reversal of direction at a precise heading/orientation
Carving/vertical orbits without embedded move(s)	Carving/vertical orbits with embedded move(s)
Complex moves using arms and legs to control flying	Variety of complex moves without using arms or with arms and/or legs in fixed pose or in creative, artistic gestures
Consuming the entire space of the flight chamber, including the diffuser	Deliberate, controlled use of a portion of the available space.
Landing on the cable floor to exit and end routine	Landing exactly in the doorway with a complex move to exit and end routine

Combinations of multiple factors further increase difficulty. Performers are not expected to demonstrate all of the above difficulty factors within one routine. A difficulty factor may sometimes have the opposite effect of making a Move easier, e.g., retracting the arms keeping them fixed to the body may decrease the difficulty of certain moves. Judges are expected to apply additional knowledge and understanding of difficulty.

## ADDENDUM - D SOLO FREESTYLE ROUTINE DESCRIPTION

*Instructions for use:*

Word file (recommended):

- Download the Addendum – D as word.doc on a PC and save it, preferably under your country name and competitor number.
- Fill in the required data. If a selection has to be made delete the data which you don't need and leave the needed ones.
- Add rows in the Free Routine description if needed.
- When done, save it again under a name relating to yourself.
- Print the document and deliver it to the Chief Judge.

PDF file:

- Print the page of the Addendum – D.
- Fill in the required data with pen (black or blue only). If you need to select, circle the appropriate event / round.
- Print the last page with boxes only if you need more rows in the Free Routine description.
- When done, deliver it to the Chief Judge.
- **Do not write out of the boxes, or in the sidelines or edges of the paper.**

Performer #	Performer Name & Country:		
State the order in which the Compulsory Sequences will be performed. The valid sequences are at: <a href="http://www.fai.org/ipc-documents">http://www.fai.org/ipc-documents</a> , then look for « artistic events »			
First Compulsory Round, round 2:			
Second Compulsory Round, round 5:			

The Free Routine description covers the following rounds	<b>ALL - 1 - 3 - 4 - 6 - 7</b>
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Name of move / sequence	Description if appropriate

