

Competition Rules

Formation Skydiving and Vertical Formation Skydiving



2024 Edition

Effective 1 March 2024

Copyright 2024

All rights reserved. Copyright in this document is owned by the Fédération Aéronautique Internationale (FAI). Any person acting on behalf of the FAI or one of its members is hereby authorised to copy, print, and distribute this document, subject to the following conditions:

- 1. The document may be used for information only and may not be exploited for commercial purposes.
- 2. Any copy of this document or portion thereof must include this copyright notice.
- 3. Regulations applicable to air law, air traffic and control in the respective countries are reserved in any event. They must be observed and, where applicable, take precedence over any sport regulations

Note that any product, process or technology described in the document may be the subject of other Intellectual Property rights reserved by the Fédération Aéronautique Internationale or other entities and is not licensed hereunder.

RIGHTS TO FAI INTERNATIONAL SPORTING EVENTS

All international sporting events organised wholly or partly under the rules of the Fédération Aéronautique Internationale (FAI) Sporting Code are termed FAI international sporting events. Under the FAI Statutes, FAI owns and controls all rights relating to FAI international sporting events. FAI Members shall, within their national territories, enforce FAI ownership of FAI international sporting events and require them to be registered in the FAI Sporting Calendar.

An event organiser who wishes to exploit rights to any commercial activity at such events shall seek prior agreement with FAI. The rights owned by FAI which may, by agreement, be transferred to the event organiser include, but are not limited to advertising at or for FAI events, use of the event name or logo for merchandising purposes and use of any sound, image, program and/or data, whether recorded electronically or otherwise or transmitted in real time. This includes specifically all rights to the use of any material, electronic or other, including software, that forms part of any method or system for judging, scoring, performance evaluation or information utilised in any FAI international sporting event.

Any person or legal entity that accepts responsibility for organising a FAI Sporting event, whether or not by written agreement, in doing so also accepts the proprietary rights of FAI as stated above. Where no transfer of rights has been agreed in writing, FAI shall retain all rights to the event. Regardless of any agreement or transfer of rights, FAI shall have, free of charge for its own archival and/or promotional use, full access to any sound and/or visual images of any FAI Sporting event. The FAI also reserves the right to arrange at its own expense for any and all parts of any event to be recorded.



Link for FAI Statutes and By Laws

TABLE OF CONTENTS

This document, the Competition Rules for Formation Skydiving and Vertical Formation Skydiving, 2024 Edition, takes effect on the 1st March 2024. The 2024 Edition differs from the 2023 Edition in those paragraphs with a vertical bar in the margin.

1	FAI AUTHORITY	5
2 2.1	DEFINITIONS OF WORDS AND PHRASES USED IN THESE RULES Formation	5 5
2.2	Grip	5
2.3	Grip line	5
2.4	Body	5
2.5	Dive Pool	5
2.6	Subgroup	5
2.7	A subgroup's centerpoint	5
2.8	Total Separation	5
2.9	Inter	5
	Sequence	6
	Scoring formation	6
	Infringement	6
	Omission	6
	Working Time	6
	NV	6
	Judgement Call	6
	VFS Orientation	6
2.18	VFS Orientation	7
3	THE EVENTS	7
3.1	Event Descriptions	7
3.2	Objective of the Events	8
3.3	Performance Requirements	8
4	GENERAL RULES	9
4.1	Composition of Teams	9
4.2	The Draw	9
4.3	Use of Wind Tunnel	9
4.4	Jump Order	9
4.5	Video Transmission and Recording	10
4.6	Exit Procedure	10
4.7	Scoring	10
4.8	Re-jumps	10
4.9	Training Jumps	10
5	JUDGING	11
5.1	Judging Procedure	11
5.2	Order of Judging	11
5.3	Number of judges	11
5.4	Viewings/Review of the Video Evidence	11
5.5	Evaluation	11
5.6	Evaluation (cont.)	11

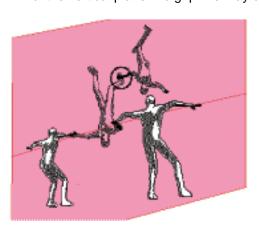
5.7	Start of Working Time	12	
6	RULES SPECIFIC TO THE COMPETITION	12	
6.1	Title of the Competition	12	
6.2	Aims	12	
6.3	Composition of Delegations	12	
6.4	Program of Events	13	
6.5	Medals	13	
7	DEFINITION OF SYMBOLS	14	
7.1	Coding in the Dive Pool annexes	14	
7.2	Visualisation for grip positions	14	
ANN	IEXES	15	
Curr	ent Formation Skydiving 4-Way Block Pool	16	
Curr	ent Formation Skydiving 4-Way Random Pool	19	
Current Formation Skydiving 8-Way Block Pool			
Curr	ent Formation Skydiving 8-Way Random Pool	23	
Current Vertical Formation Skydiving 4-Way Block Pool			
Curr	ent Vertical Formation Skydiving 4-Way Random Pool	27	

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 ISC 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

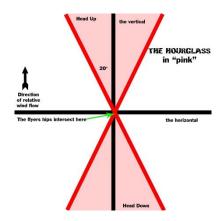
- 2.1 Formation: consists of competitors linked by grips. For VFS with each competitor in the correct orientation.
- 2.2 Grip: consists of stationary contact between any part of the palm side of the hand and/or fingers, and an arm leg or foot of another jumper as shown in 7.2.
- 2.3 Grip line: This is the line linking the torsos of two competitors via their arms or legs and feet and the grip that joins them.
 - 2.3.1 For VFS Clarification regarding random O) There is an imaginary vertical plane passing through the handgrips, with outside competitors having hand grips on one side of the vertical plane and the competitor taking the leg grip on the other side of the vertical plane. No grip line may cross the vertical plane within the formation.



- 2.4 Body: consists of the entire competitor and their equipment.
- 2.5 Dive Pool: consists of the Random Formations and Block Sequences depicted in the addenda to these rules.
- 2.6 Subgroup: is the individual jumper, or linked jumpers, required to complete a designated manoeuvre during the inter of a block sequence.
- 2.7 A subgroup's centerpoint: is one of the following:
 - 1. The defined grip or the geometric centre of the defined grips within a subgroup of linked jumpers.
 - 2. The geometric centre of an individual's torso.
- 2.8 Total Separation: is when all competitors show at one point in time they have released all their grips and no part of their arms have contact with another body.
- 2.9 Inter: is an intermediate requirement within a block sequence which must be performed as depicted in the dive pools.

- 2.10 Sequence: is a series of random formations and block sequences which are designated to be performed on a jump.
- 2.11 Scoring formation: is a formation which is correctly completed and clearly presented either as a random formation or within a block sequence as depicted in the dive pool, and which, apart from the first formation after exit, must be preceded by a correctly completed and clearly presented total separation or inter, as appropriate.
- 2.12 Infringement: is one of the following:
 - 1. An incorrect or incomplete formation which is followed within working time by either
 - a total separation or,
 - an inter, whether correct or not.
 - 2. A correctly completed formation preceded by an incorrect inter or incorrect total separation.
 - 3. A formation, inter, or total separation not clearly presented.
- 2.13 Omission: is one of the following:
 - 1. A formation or inter missing from the drawn sequence.
 - 2. No clear intent to build the correct formation or inter is seen and another formation or inter is presented and there is an advantage to the team resulting from the substitution.
- 2.14 Working Time: is the period of time during which teams are scored on a jump which starts the first moment any competitor (other than the Videographer) separates from the aircraft, as determined by the Judges, and terminates a number of seconds later as specified in 3.1.
- 2.15 NV: Formations, inters, or total separations not visible on screen due to meteorological conditions (such as rain, clouds, sun etc), or factors relating to the Videographer's video equipment that cannot be controlled.
- 2.16 Judgement Call: An assessment by the judges of a formation, infringement or omission that is not unanimous.

2.17 VFS Orientation:



- 2.17.1 "The Vertical": An imaginary line running parallel to the relative wind (see diagram)
- 2.17.2 "The Horizontal": An imaginary line running perpendicular to the relative wind (see diagram)
- 2.17.3 "The flyer's Line": An imaginary, straight line of infinite length, roughly following the flyers spine, from the center of the flyer's hips through the center of the flyers head and beyond.

- 2.17.4 "The Hourglass": The acceptable range of deviation from The Vertical that a flyer's Line may take when meeting an orientation requirement (head up or head down). A flyer's orientation shall be judged with The Vertical and The Horizontal intersecting at the flyer's hips.
- 2.17.5 "Head up": The flyer's Line must fall within, and remain within, the upper portion of the Hourglass
- 2.17.6 "Head down": The flyer's Line must fall within, and remain within, the lower portion of the Hourglass
- 2.17.7 "Bellyflying" or "Belly to Earth" orientation requires that the competitor's torso is in a horizontal (prone) position, with the front of the torso toward the earth. ("Bellyflying" is not currently used in VFS formations)
- 2.17.8 "Backflying" orientation requires that the competitor's torso is in a horizontal (prone) position, with the back of the torso toward the earth. ("Backflying" is not currently used in VFS formations).
- 2.18 Zenith: Point of the celestial sphere located vertically above the head of an observer.

3 THE EVENTS

3.1 Event Descriptions

The discipline will be comprised of the following events:

- 3.1.1 4-Way FS Events: Exit altitude is 3200 meters / 10500 feet AGL. Working Time is 35 seconds.
- 3.1.2 4-Way VFS Event: Exit altitude is 3960 meters / 13000 feet AGL. Working Time is 35 seconds.
- 3.1.3 8-Way Event: Exit altitude is 3960 meters / 13000 feet AGL. Working Time is 50 seconds.
- 3.1.4 For meteorological reasons only, and with the consent of the FAI Controller and the Chief Judge, the Meet Director may lower (for any event) or raise (for 4-way FS events) the exit altitude and/or working time and continue the competition. In this case the following conditions will apply:
 - 3.1.4.1 The working time will be
 - 20 or 35 seconds for the 4-Way FS and VFS events, and
 - 30 or 50 seconds for the 8-Way event

The reduced working time must be used if the exit altitude is lowered (ref 3.1.1, 3.1.2 and 3.1.3). The exit altitude and/or working time may only be changed for one or more whole rounds.

- 3.1.4.2 The minimum exit altitude will be
 - 2290 meters / 7500 feet AGL for the 4-Way FS events,
 - 2750 meters / 9000 feet AGL for the 4-Way VFS event and the 8-Way event.

The maximum exit altitude will be 3960 meters / 13000 feet AGL for all events.

3.1.5 Where possible the Meet Director will attempt to schedule VFS rounds at times when the sun is not within 20 degrees of the zenith to allow the team videographer to clearly video their team. Consideration should also be given to aircraft run in for all events to minimise sun interference on exit.

3.2 Objective of the Events

- 3.2.1 The objective of the event is for the team to complete as many scoring formations as possible within the working time, while correctly following the sequence for the round.
- 3.2.2 The accumulated total of all rounds completed is used to determine the placing of teams. Only one completed round is required to declare champions.
 - 3.2.2.1 If two or more teams have equal scores the following order of procedures will be applied to determine the final placings:
 - i. one tie break round, if possible (for the first three placings only). The tie break round will be the next drawn round of the competition,
 - ii. the highest score in any completed round,
 - iii. the highest score starting with the last completed round and continuing in reverse order, round by round until the tie is broken,
 - iv. the fastest time (measured to hundredths of a second) to the last formation scored without infringement by both teams in the last completed round. Starting time must be that used for original evaluation of the jump.

3.3 Performance Requirements

- 3.3.1 Each round consists of a sequence of formations depicted in the dive pools of the appropriate Annexe, as determined by the draw.
- 3.3.2 It is the responsibility of the team to clearly present the start of working time, correct scoring formations, inters and total separations to the judges.
- 3.3.3 Scoring formations need not be perfectly symmetrical, but they must be performed in a controlled manner. Mirror images of random formations and whole block sequences are permitted. For VFS, mirror images are only permitted when set in a vertical plane.
- 3.3.4 In sequences, total separation is required between block sequences, between random formations, and between block sequences and random formations.
- 3.3.5 Where degrees are shown, (180°, 270°, 360°, 540°), this indicates the approximate degrees and direction of turn required to complete the inter as intended. The degrees shown are approximately that amount of the circumference of the subgroup's centerpoint to be presented to the centerpoint(s) of the other subgroup(s). For judging purposes, the approximate degrees and direction of turn of subgroups centerpoints will be assessed using only the two dimensional video evidence as presented. Degrees of turn performed must be in a single direction.
- 3.3.6 Contact is allowed between different subgroups during the inter of a block sequence. If an inter requires an orientation change by a subgroup, no grip may

be taken between that subgroup and any other subgroup during the orientation change.

- 3.3.7 Where subgroups are shown, they must remain intact as a subgroup with only the depicted grips on other jumpers in that subgroup. For VFS, where a subgroup is not required to change its orientation, the orientation must be maintained throughout the inter.
- 3.3.8 Assisting handholds on other bodies in a scoring formation are not permitted.
- 3.3.9 Handholds by the jumper on their own body within a subgroup or a scoring formation are permitted.
- 3.3.10 For VFS no grip line (ref. 2.3) may cross another grip line within a formation.

4 GENERAL RULES

4.1 Composition of Teams

Teams may consist of competitors of either or both sexes, except in the female event where (except for the videographer) all competitors must be female (see 6.3.5)

- 4.2 The Draw
 - 4.2.1 The draw of the 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.
 - 4.2.2 Event Draws: All the «Block Sequences» (numerically numbered) and the «Random Formations» (alphabetically marked) shown in the appropriate annex will be singularly placed in one container. Individual withdrawal from the container, (without replacement) will determine the sequences to be jumped in each round. Each round will be drawn so as to consist of five or six scoring formations, whichever number is reached first.
 - 4.2.3 Use of Dive Pool: Each block or formation will be drawn only once for the scheduled rounds of each competition. In the event that additional rounds are necessary, due to the tie-breaking jump-off, the dive pool for this round will consist of the blocks and formations which were not drawn for the scheduled rounds. In the event that all of the remaining blocks and formations do not complete the tie breaking round, the draw will continue from an entire original dive pool in that event, excluding any blocks or formations which have already been drawn for that round.
- 4.3 Use of Wind Tunnel

Competitors are not allowed to use a wind tunnel (freefall simulator) after the draw has been made.

- 4.4 Jump Order
 - 4.4.1 The jump order for the first competition round of each event will be in the reverse order of the first ten placings in that event at the most recent ISC sanctioned World Parachuting Championships of the relevant Event. All teams not covered by this procedure will jump at the beginning of the round, with their jump order determined by a draw.

4.4.2 An updated order of jumping in reverse order of placing shall be implemented after every break in the competition which occurs after a completed round where practical.

4.5 Video Transmission and Recording

Details for video transmission and recording can be found in SC5 5.2.6 as they are common across multiple disciplines.

4.6 Exit Procedure

- 4.6.1 There are no limitations on the exit other than those imposed by the Chief Pilot for safety reasons.
- 4.6.2 Teams will be responsible for their own exits once the aircraft has commenced the jump run and the team has been cleared to exit.

4.7 Scoring

- 4.7.1 A team will score one point for each scoring formation performed in the sequence within the allotted Working Time of each round. Teams may continue scoring by continually repeating the sequence.
- 4.7.2 For each omission three points will be deducted. If both the inter and the second formation in a block sequence are omitted, this will be considered as only one omission.
- 4.7.3 If an infringement in the scoring formation of a block sequence is carried into the inter (ref. 2.9.), this will be considered as one infringement only, provided that the intent of the inter requirements for the next formation is clearly presented and no other infringement occurs in the inter.
- 4.7.4 The minimum score for any round is zero points.

4.8 Re-jumps

- 4.8.1 In a NV situation, the video evidence will be considered insufficient for judging purposes, and the Video Review Panel will assess the conditions and circumstances surrounding that occurrence. In this case a re-jump will be given unless the Video Review Panel determines that there has been an intentional abuse of the rules by the team, in which case no re-jump will be granted and the team's score for that jump will be zero.
- 4.8.2 Contact or other means of interference between competitors in a team and/or their Videographer shall not be grounds for the team to request a re-jump.
- 4.8.3 Adverse weather conditions during a jump are no grounds for protest. However, a re-jump may be granted due to adverse weather conditions, at the discretion of the Chief Judge.
- 4.8.4 Problems with a competitor's equipment (including freefall video equipment) shall not be grounds for the team to request a re-jump.

4.9 Training Jumps

4.9.1 Each team in each event will be given the option of one official training jump before the draw is made.

- 4.9.2 The aircraft type and configuration, plus the judging and scoring systems to be used in the competition will be used for the official training jump.
- 4.9.3 Two drawn rounds will be made available for teams use. Teams can perform a sequence of their own choice instead and receive an evaluation from the judges. In this case, teams must provide the sequence to the judges with the video.

5 JUDGING

5.1 Judging Procedure

The official training jump and competition jumps will be judged as the Videographer provides the video evidence. The Chief Judge may modify this procedure with the consent of the FAI Controller.

5.2 Order of Judging

The judging will, as far as practical circumstances allow (landings out, re-jumps etc), be judged in the reverse order of placing. The Event Judge may vary this to attempt to ensure that teams receive their scores prior to performing their next rounds.

5.3 Number of judges

Five Judges must evaluate each team's performance.

5.4 Viewings/Review of the Video Evidence

The Judges will watch the video evidence of each jump (1) one time at normal speed to determine points in time. The moment of freeze frame at the end of working time will be determined at the first viewing. If a judgement call occurs, a second viewing of the jump or part(s) of the jump will be conducted at normal or reduced speed between 50-90 percent of normal speed. At the request of the Event Judge a (3rd) third view of part(s) of the jump can be conducted at normal or reduced speed. The speed of the second- and third viewings (normal or reduced) will be determined by the Event Judge. The Chief Judge will decide prior to the start of each round the percentage of reduced speed to be used for the round. The freeze frame from the first viewing will be applied on each viewing.

5.4.1 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 has occurred, the Chief Judge or Event Judge will direct that only that part(s) of the jump in question be reviewed at reduced speed in accordance with 5.4. If the review results in a minimum four to one judge decision by the Judges on the part(s) of the performance in question, the score for the jump will be adjusted accordingly. Only one review is permitted for each jump.

5.5 Evaluation

The Judges will use the electronic scoring system to record their evaluation of the performance. The Judges may correct their evaluation record after the jump has been judged. Corrections to the evaluation record can only be made before the Chief Judge signs the score sheet. All individual judge's evaluations will be published.

- 5.6 A majority of Judges must agree in the evaluation in order to;
 - credit the scoring formation, or
 - · assign an infringement, or
 - assign an omission, or
 - determine an NV situation.

5.7 Start of Working Time

The chronometer will be operated by the Judges or by a person(s) appointed by the Chief Judge and will be started as determined in 2.14. If Judges cannot determine the start of the working time, the following procedure will be followed. Working time will start as the videographer separates from the aircraft and a penalty equal to 20% (rounded down) of the score for that jump will be deducted from the score for that jump.

6 RULES SPECIFIC TO THE COMPETITION

- 6.1 Title of the Competition: "___th FAI World/Continental Formation Skydiving Championships" or ""___th World Cup of Formation Skydiving".
- 6.2 Aims of World/Continental Parachuting Championships and World Cups
 - 6.2.1 To determine World/Continental Champions or World Cup Winners of Formation Skydiving in the:
 - 4-Way FS Event,
 - 4-Way FS Female Event,
 - 4-Way VFS Event
 - 8-Way Event,
 - 6.2.2 and
 - To determine the world standings of the competing teams,
 - To establish Formation Skydiving and Vertical Formation Skydiving world records,
 - To promote and develop Formation Skydiving and Vertical Formation Skydiving,
 - To present a visually attractive image of the competition jumps and standings (scores) for competitors, spectators and media,
 - To exchange ideas and strengthen friendly relations between the sport parachutists, judges, and support personnel of all nations,
 - To allow participants to share and exchange experience, knowledge and information,
 - To improve judging methods and practices.
- 6.3 Composition of Delegations:
 - 6.3.1 Each delegation may be comprised of:
 - One (1) Head of Delegation,
 - One (1) Team Manager,
 - Freefall videographers as in 6.3.4 and
 - 6.3.2 At a World/Continental Championship:
 - One 4-Way FS team consisting of up to: Five (5) 4-Way FS Competitors
 - One female 4-Way FS team consisting of up to: Five (5) female 4-Way FS Competitors
 - One 4-Way VFS team consisting of up to: Five (5) 4-Way VFS Competitors
 - One 8-Way team consisting of up to:
 Ten (10) 8-Way Competitors
 - 6.3.3 At a World Cup:

- Any number (to a maximum of 4) teams per event (composed as for a World Championship) to be decided by the Organiser and announced in the bulletins.
- 6.3.4 Videographers must be entered for each team as part of the delegation and must be a member of the Delegation's NAC. A Videographer may be replaced at any time during the competition (with the agreement of the FAI Controller). The evaluation process for the video evidence will be the same for any Videographer. This competitor is to be considered as a team member for the purposes of awards and medals.
- 6.3.5 No Competitor (including Videographers) may compete in more than two Formation Skydiving events (including Vertical Formation Skydiving). In addition, no competitor may compete in both the FS 4-Way Open event and FS Female 4-Way event.
- 6.3.6 Any Competitor that competes in two different events must be listed separately on the entry form for each event.

6.4 Program of Events:

- 6.4.1 The World/Continental Championships or World Cup is comprised of up to 10 rounds for Formation Skydiving and Vertical Formation Skydiving events.
- 6.4.2 Time must be reserved before the end of competition to allow for the completion of the tie break round.
- 6.4.3 The competition will be organised during a maximum time frame of 5 competition days. Exceptions may be made where a bid is received for multiple FCE competitions at one time.

6.5 Medals are awarded as follows:

All team members in the events will be awarded medals if placed First, Second or Third.

7 DEFINITION OF SYMBOLS

7.1 Coding in the Dive Pool annexes is as follows:

7.1.1

Indicates direction of turn by the subgroup

7.1.2

Indicates turn by the subgroup in either direction

7.1.3

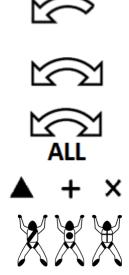
Indicates turns by all subgroups

7.1.4 a)

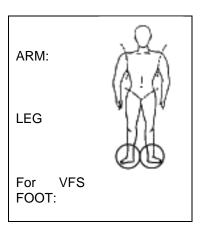
Indicates clarification of intent VFS

7.1.4 b)

Indicates clarification of intent FS



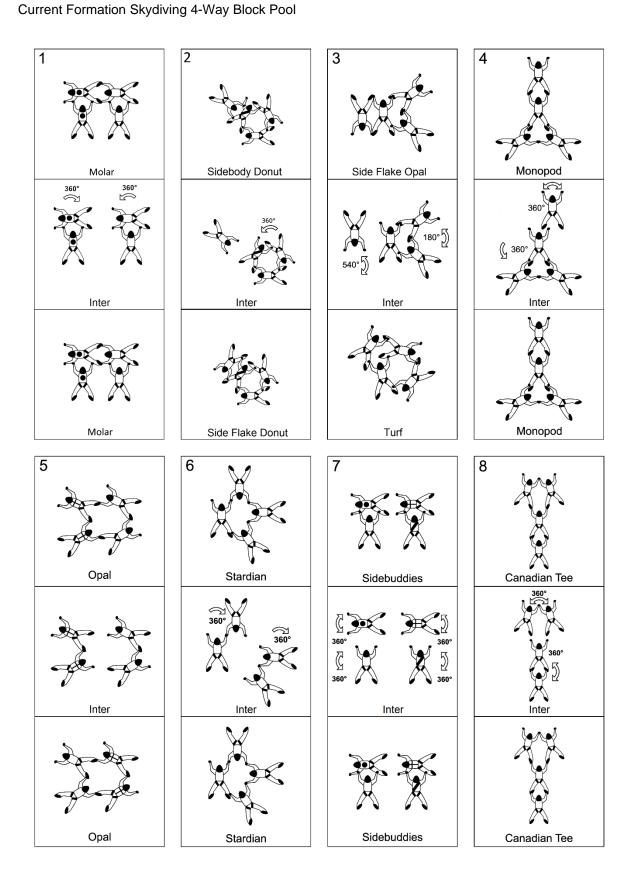
7.2 Visualisation for grip positions, ref 2.2

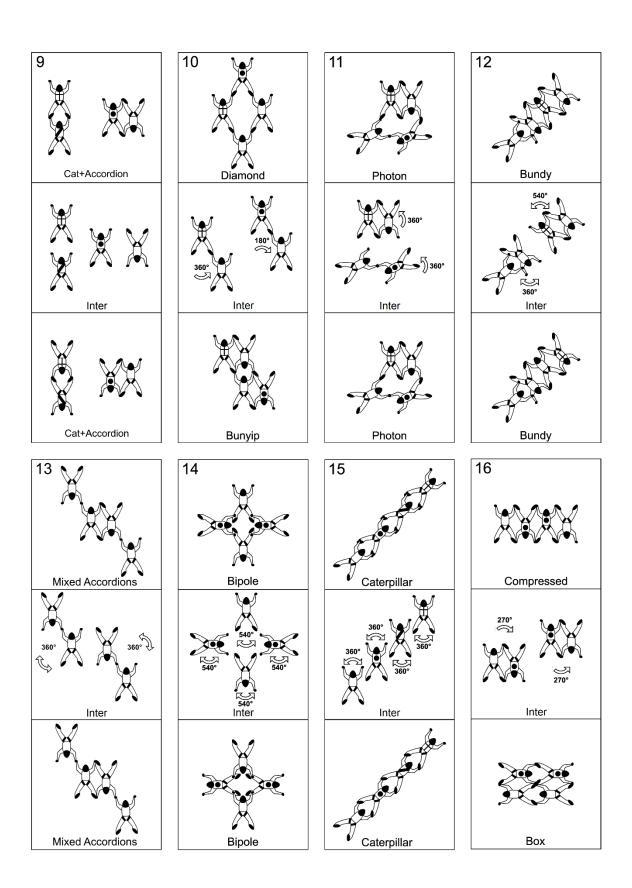


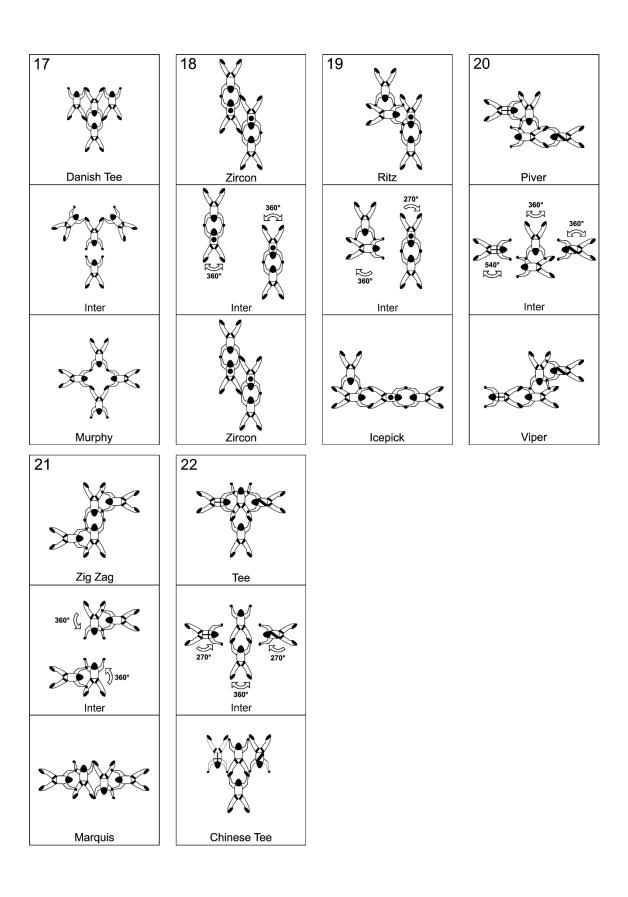
ANNEXES

- Annexe A: Current Formation Skydiving 4-Way Block Pool
- Annexe B: Current Formation Skydiving 4-Way Random Pool
- Annexe C: Current Formation Skydiving 8-Way Block Pool
- Annexe D: Current Formation Skydiving 8-Way Random Pool
- Annexe E: Current Vertical Formation Skydiving 4-Way Block Pool
- Annexe F: Current Vertical Formation Skydiving 4-Way Random Pool

ANNEXE – A





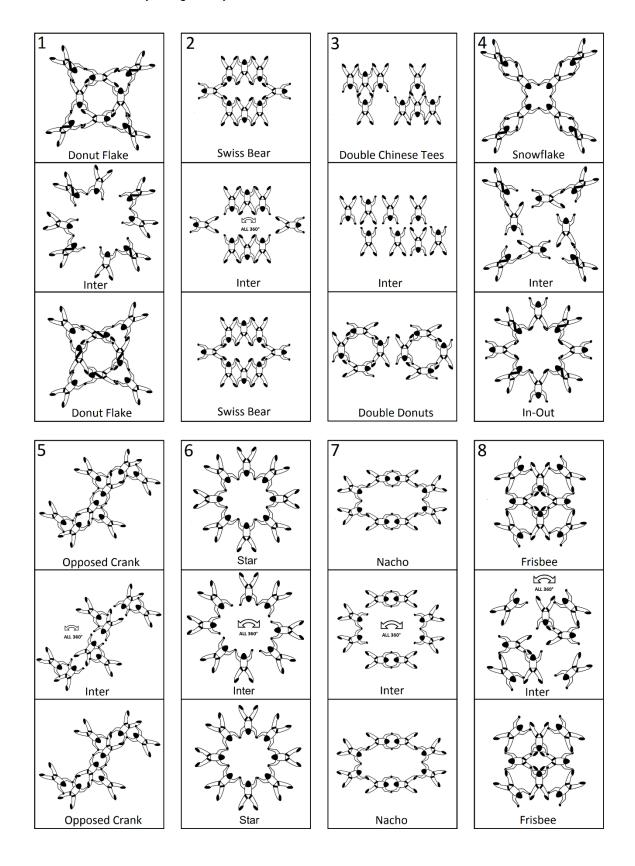


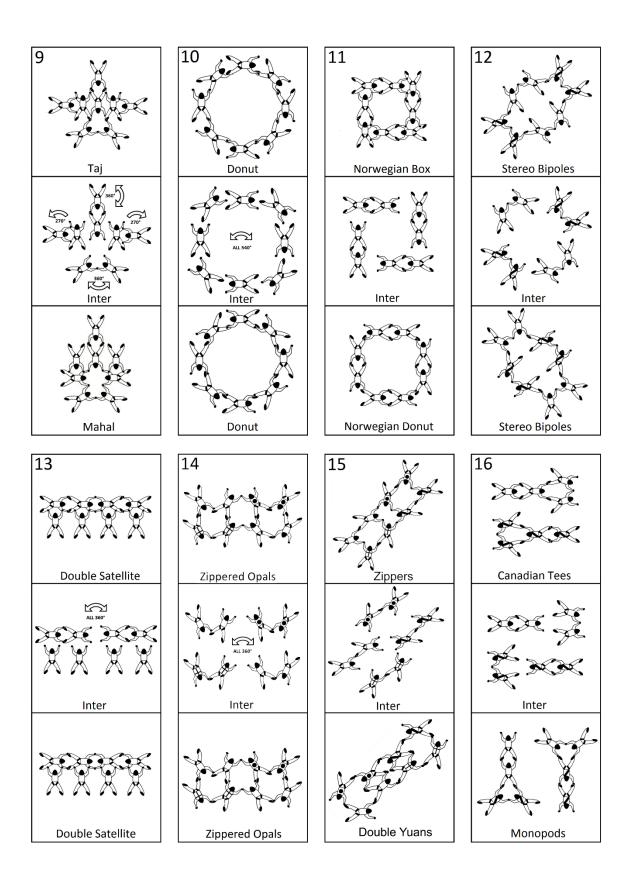
ANNEXE – BCurrent Formation Skydiving 4-Way Random Pool

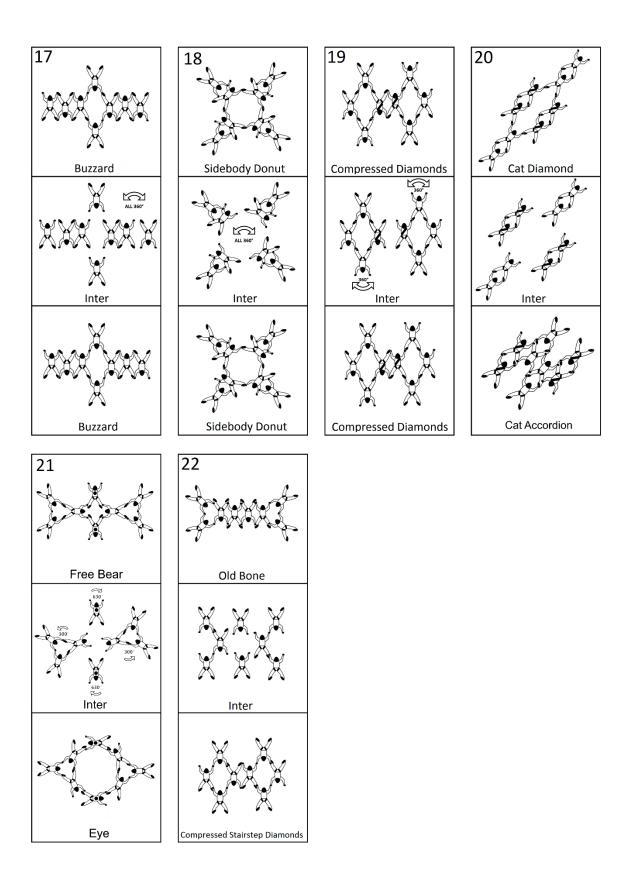
A Unipod	B Stairstep Diamond	C Murphy Flake	D Yuan
E Meeker	F Open Accordion	G Cataccord	H
J Donut	K Hook	L Adder	M
N	0	P	Q
Crank	Satellite	Sidebody	Phalanx

ANNEXE - C

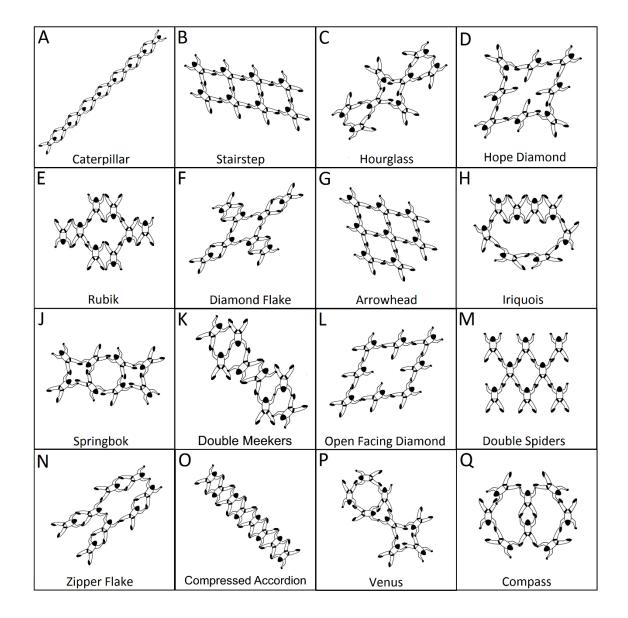
Current Formation Skydiving 8-Way Block Pool



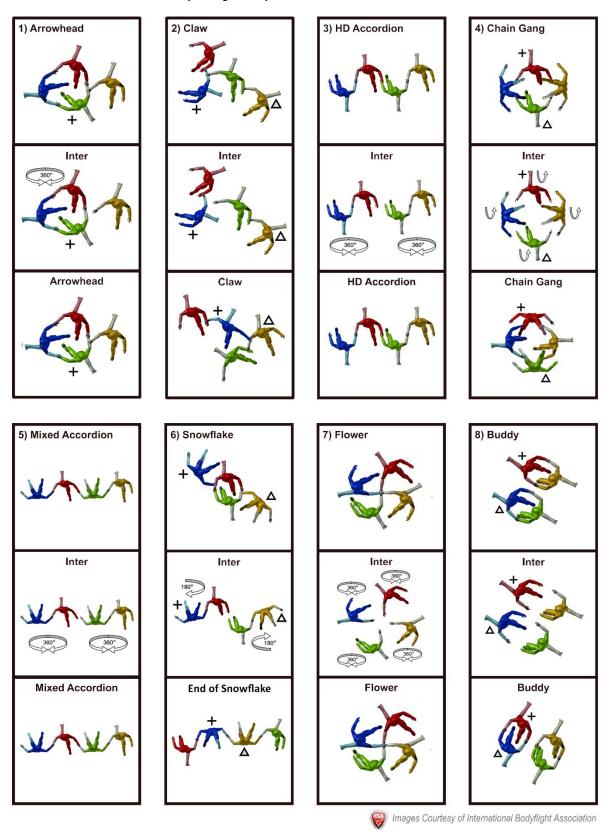


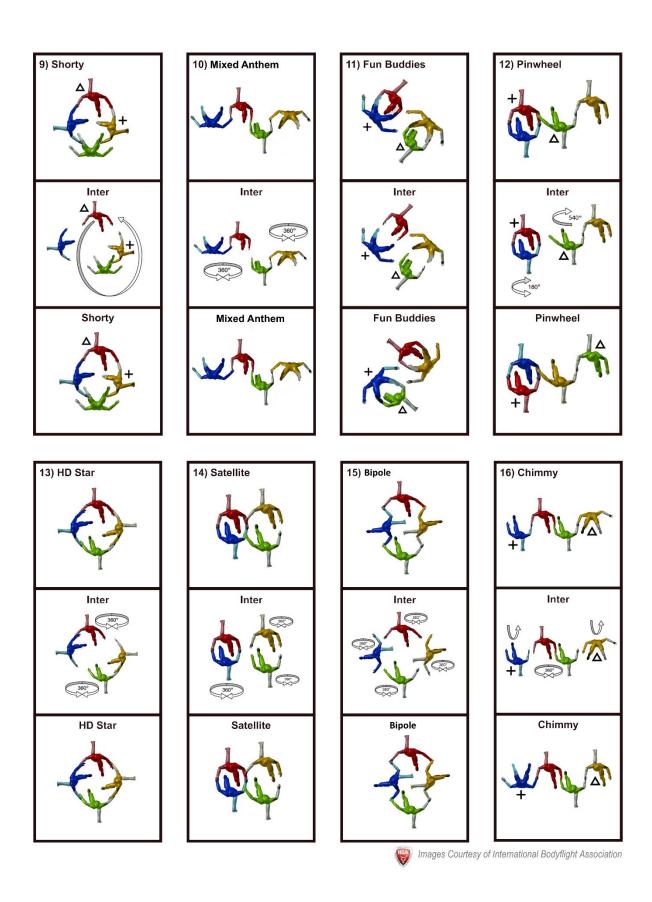


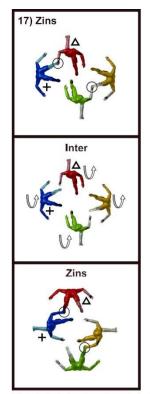
ANNEXE – DCurrent Formation Skydiving 8-Way Random Pool

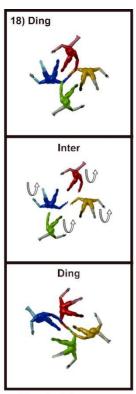


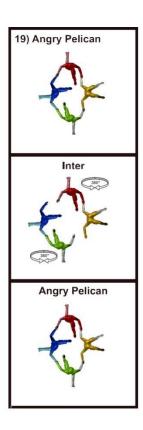
ANNEXE – ECurrent Vertical Formation Skydiving 4-Way Block Pool

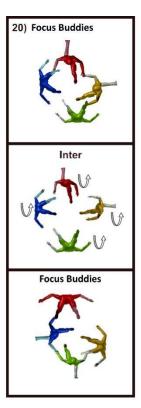




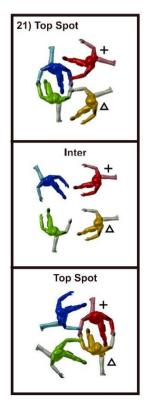


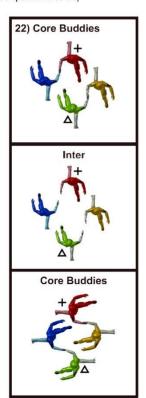






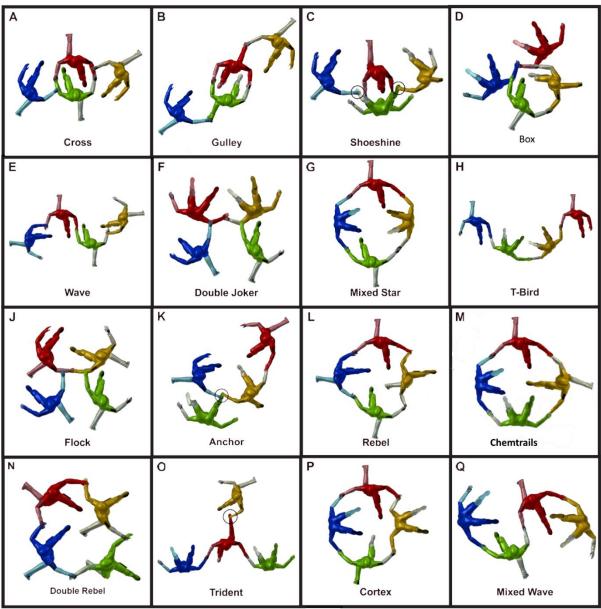
Note: A circle denotes a foot grip (ref. Competition rules 2.2)







ANNEXE - FCurrent Vertical Formation Skydiving 4-Way Random Pool



Note: A circle denotes a foot grip (ref. Competition rules 2.2)

images courtesy of International Bodyflight Association



Fédération Aéronautique Internationale Avenue de Rhodanie 54 CH-1007 Lausanne Switzerland

Tel: +41 21 345 10 70 Fax: +41 21 345 10 77

www.fai.org info@fai.org