



# **International Bodyflight Association**

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## **Competition Rules**

### **4-Way Formation Indoor Skydiving**

*2016-2017 Edition  
Effective 01 June 2016*

## International Bodyflight Association

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The IBA would like to thank the International Parachuting Commission (IPC) for granting permission to adapt the IPC competition rules and the United States Parachute Association (USPA) for dive pool graphics.

## TABLE OF CONTENTS

QUICK GUIDE	4
1 INTRODUCTION	4
1.1 The IBA Authority	4
1.2 Objective of the Event	4
2 DEFINITIONS OF WORDS AND PHRASES USED	4
3 GENERAL RULES	6
3.1 Performance Requirements	6
3.2 Composition of Teams	7
3.3 Flight Order	7
3.4 The Draw	7
3.5 Use of Skydiving and Tunnel	7
3.6 Rounds	7
3.7 Working Time	8
3.8 Video Recording	8
4 JUDGING	
4.1 Judge Requirements	9
4.2 Scoring	9
4.3 Evaluation	10
4.4 Re-flights	10
4.5 Ties	11
ADDENDUM A : Definition of Symbols	12
ADDENDUM B: Random Formations Dive Pool	13
ADDENDUM C: Block Sequences Dive Pool	14
ADDENDUM D: Dive Pool Adjusted for Tunnel Sizes	17

## Quick Guide

Time on the clock is 1 minute and formations are scored within a working time window of 35 seconds. Working time begins based on class: For Rookie and Intermediate when first grip is broken and for Advanced and Open when both feet of a team member leave the floor of the antechamber and enter the wind. *[ref 3.7]*

It is the team's responsibility to present start of working time, scoring formations, and total separations. *[ref 3.1.2]*

Draw will be done via the IBA Draw Generator and announced at least 60 minutes before the start of competition. *[ref 3.4]*

A standard number of formations are drawn for each class with the following number of points possible:

For Rookie class: 3

For A (Intermediate) class: 3 to 4

For AA (Advanced) class: 4 to 5

For AAA (Open) class: 5 to 6

*[ref Addendum D]*

No 'fun' or practice flights are allowed after the release of the official draw. *[ref 3.5]*

Every team receives an official practice round before the start of round 1 in order to determine their appropriate speed setting. Taking grips during the practice round is grounds for disqualification from the competition. *[ref 3.6.2]*

A minimum of three official judges are required. Judging can either be live or through video recording. *[ref 4.1]*

## 1 Introduction

### 1.1 The IBA Authority

The competition will be conducted under the authority granted by the IBA, according to the regulations of the IBA and these rules. All participants accept these rules and the IBA regulations as binding by registering in the competition.

### 1.2 Objective of the Event

The objective of the event is for each team to complete as many formations as possible within the working time, while correctly following the sequence for

the round. The accumulated total of all rounds completed is used to determine the placing of the teams.

## **2 Definitions of Words and Phrases Used in These Rules**

### **2.1 Formation**

A formation consists of flyers linked by grips.

### **2.2 Grip**

A grip consists of a handhold on an arm or leg of another flyer. At a minimum, a grip requires stationary contact.

### **2.3 Body**

The body consists of the entire competitor and his or her equipment.

### **2.4 Dive Pool**

The dive pool consists of the random formations and block sequences depicted in the addenda of these rules.

### **2.5 Subgroup**

The subgroup is the individual flyer, or linked flyers, required to complete a designated manoeuvre during the inter of a block sequence.

### **2.6 Subgroup Centerpoint**

A subgroup's centerpoint is one of the following:

1. The defined grip or the geometric center of the defined grips within a subgroup of linked flyers.
2. The geometric center of an individual's torso.

### **2.7 Total Separation**

Total separation occurs 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.

### **2.8 Inter**

An inter is an intermediate requirement within a block sequence which must be performed as depicted in the dive pools.

### **2.9 Sequence**

The sequence is the series of random formations and block sequences which are designated to be performed on a flight.

### **2.10 Scoring Formation**

A scoring formation is one 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

entry, must be preceded by a correctly completed and clearly presented total separation or inter, as appropriate.

## 2.11 Infringement

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.

## 2.12 Omission

An 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.

## 2.13 Flight Time

Flight time is the period of time, as specified in 3.6.1, during which a team performs one round.

## 2.14 Working Time

Working time is the period of time within the flight time during which a team is scored and terminates a number of seconds later, as specified in 3.76.1.

# 3 General Rules

## 3.1 Performance Requirements

- 3.1.1 Each round consists of a sequence of formations depicted in the dive pools of the appropriate addendum, as determined by the draw.
- 3.1.2 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. Judges are asked to do their best to look for points but it is ultimately the competitors' responsibility to show the points to the judges.
- 3.1.3 Scoring formations need not be perfectly symmetrical, but they must be performed in a controlled manner with stationary contact.
- 3.1.4 Mirror images of random formations and whole block sequences are permitted.



- 3.1.5 In sequences, total separation is required between block sequences, between random formations, and between block sequences and random formations.
- 3.1.6 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.
- 3.1.7 Contact is allowed between different subgroups during the inter of a block sequence.
- 3.1.8 Where subgroups are shown, they must remain intact as a subgroup with only the depicted grips on other flyers in that subgroup.
- 3.1.9 Assisting handholds on other bodies in a scoring formation are not permitted.
- 3.1.10 Handholds by the flyer on his or her own body within a subgroup or a scoring formation are permitted.
- 3.1.11 Minimum time between rounds shall be no less than five minutes.

### **3.2 Composition of Teams**

- 3.2.1 Teams may consist of four (4) competitors plus one (1) alternate of either or both sexes, except in the Female event where all competitors must be female.

### **3.3 Flight Order**

- 3.3.1 The flight order for the competition will be determined by a draw prior to the start of the competition.

### **3.4 The Draw**

- 3.4.1 The draw of the sequences will be done via the IBA Draw Generator on [tunnelflight.com](http://tunnelflight.com) and announced publicly to all participants.
- 3.4.2 Teams will be given no less than 60 minutes knowledge of the results of the draw before the start of competition round one (1).
- 3.4.3 As outlined in Addendum D, a separate draw will be made for each class, with variations in available block sequences and randoms formations and the number of formations to be drawn for each round.

### **3.5 Use of Skydiving and Tunnel**

- 3.5.1 Competitors are not allowed to skydive (freefall from an aircraft) nor use a wind tunnel for practice after the draw has been made.

### **3.6 Rounds**

- 3.6.1 All rounds consist of a series of 4-way formations to be flown against the clock with flight time lasting no more than 1 minute and a working time of 35 seconds.
- 3.6.2 Each team will receive one official practice round prior to round one.

- 3.6.3 The competition wind tunnel and configuration will be used for the official training flight.
- 3.6.4 In the Practice round - The nominated team captain shall communicate with the tunnel instructor to request the speed to be increased, reduced or to confirm that it is ok. The speed reached will be used as the default speed for the team. The tunnel driver shall select the default speed for each team prior to that team entering the tunnel. If no signals are given then the default speed is assumed by the tunnel driver to be satisfactory.

- 3.6.4.1 No grips of any kind are to be taken between team members during the practice round.

- 3.6.5 A minimum of 3 rounds constitutes a competition wherein a winner can be determined.
- 3.6.6 Total number of rounds is determined by event organizer and released no less than 60 days prior to the competition.

### 3.7 Working Time

- 3.7.1 The driver will apply the proper speed setting for each team. When set, the driver will signal the instructor that the airspeed is correct for that team. The driver will then place flight time of 1 minute on the clock and the instructor will allow the team to enter.
- 3.7.2 Working time of 35 seconds will commence based on class:
  - 3.7.2.1 *For Rookie and Intermediate:* Teams begin each round in a 4-way Star formation prior to beginning the planned sequence for that round. The working time will start at the first sign of a break from the star formation. If the draw calls for the first point of a round to be a Star, the Star formation will be moved from the beginning to the end of the sequence.
  - 3.7.2.2 *For Advanced and Open:* Teams must perform door entrances. The working time will start when both of a team member's feet leave the antechamber floor and enter the wind. Competitors can be leaning into the wind with one foot inside the tunnel without the working time starting as long as one foot is still on the floor of the antechamber.
- 3.7.3 The chronometer will be operated by the person appointed by the chief judge and/or event organizer.
- 3.7.4 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. Judges are asked to do their best to look for points but it is ultimately the competitors' responsibility to show the points to the judges.

### 3.8 Video Recording

- 3.8.1 Video evidence is required for each flight.
- 3.8.2 For the purpose of these rules, "video equipment" refers to the equipment installed by the hosting wind tunnel or by the event organizer specifically for the competition. No other video is allowed for judging.



- 3.8.3 Video is to come from either a top-down or plenum camera wherein the entirety of the flight chamber is in view and approved by the chief judge.
- 3.8.4 Camera must record all video in high definition 1080 with 25 frames per second.
- 3.8.5 A video controller will be appointed by the event organizer prior to the start of the event. The video controller is responsible for the functionality of the video equipment to ensure it is usable for the competition.
- 3.8.6 A video review panel will be established prior to the start of the practice flights, consisting of the chief judge and the IBA controller. Decisions rendered by the video review panel shall be final and shall not be subject to protest or review by the jury.
- 3.8.7 If the video review panel determines that the video equipment has been deliberately tampered with, the team will receive no points for all competition rounds involved with this tampering.

## **4 Judging**

### **4.1 Judge Requirements**

- 4.1.1 A panel of three (3) judges must evaluate each team's performance.
- 4.1.2 Judging shall be undertaken either live or through video recording. The event organizer will determine which method is to be used prior to the start of competition and all teams must be judged using the same method.
- 4.1.3 Live judging will be undertaken on the flight deck with full view of the flight chamber.
- 4.1.4 Judging from video recording must be undertaken using approved cameras as established in 3.8.3. Judging from video recording can occur in real time.
  - 4.1.4.1 Judges will watch the video evidence of each flight once at normal speed to determine points in time.
- 4.1.5 If a video review is needed by a team being judged either live or from video recording, there is a maximum of three viewings with slow motion review allowed. 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 flight in question be reviewed. If the review results in a unanimous decision by the judges on the part(s) of the performance in question, the score for the flight will be adjusted accordingly. Only one review is permitted for each flight.
- 4.1.6 Judges shall have previous experience competing and coaching FS events, or be currently certified to judge at the FAI level or National in FS events, and who are acceptable to the meet director.

### **4.2 Scoring**

- 4.2.1 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. Each random

correctly performed within the allotted working time will receive one (1) point. Each block correctly performed within the allotted working time will receive two (2) points.

- 4.2.2 For each omission three (3) 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.
- 4.2.3 If an infringement in the scoring formation of a block sequence is carried into the inter, 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.
- 4.2.4 Any incorrectly performed or non-judgeable Random will result in zero (0) points. Any Random performed while either competitor is touching the net will result in zero (0) points.
- 4.2.5 Any incorrectly performed or non-judgeable Block will result in zero (0) points. If the top or bottom of a block is performed incorrectly, but the rest is performed correctly the team will receive one (1) point for the portion performed correctly. If the inter is performed incorrectly the team will not receive a point for the bottom of the Block. Touching the net during any portion of the block will result in a zero (0) for that portion of the Block.
- 4.2.6 Total separation is required between Blocks and Random formations. Failure to meet the requirement of total separation will result in an incorrectly performed formation. If the formation is a Random, the team will get a zero (0) for the formation. If the formation is a Block, the team will not get a point for the top of the Block.
- 4.2.7 If a team member makes contact with the net or the tunnel walls and the majority of the judging panel deem this contact to be intentional, one point will be deducted from the aggregate points scored for each such contact made.
- 4.2.8 The minimum score for any round is zero (0) points.

#### 4.3 Evaluation

- 4.3.1 If required by the event organizer, the judges will use an electronic scoring system to record their evaluation of the performance. At the end of the scoring 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 flight 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.

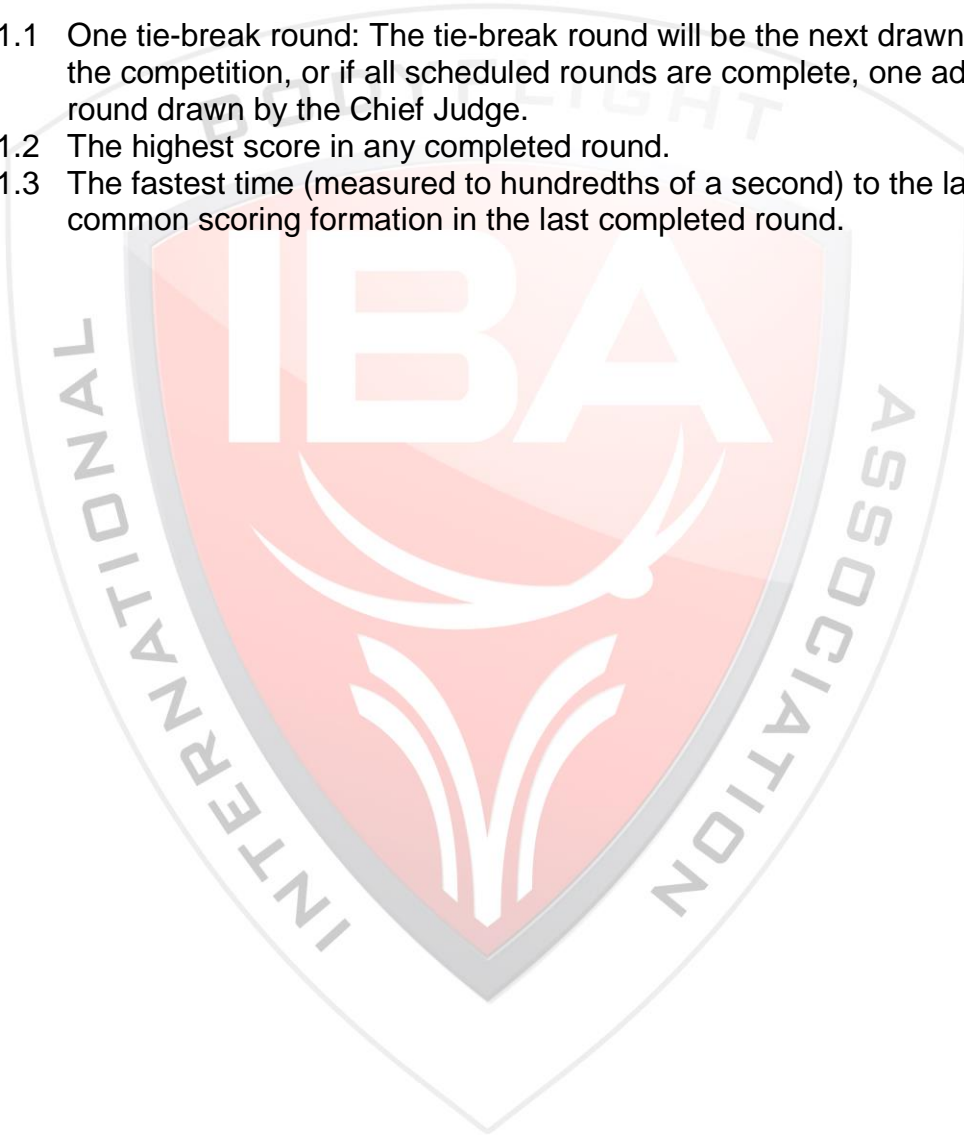
#### 4.4 Re-flights

- 4.4.1 In a situation where 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-flight 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 reflight will be granted and the team's score for that flight will be zero (0).





- 4.4.2 Contact or other means of interference between competitors in a team and the flight-chamber shall not be grounds for the team to request a re-flight.
- 4.4.3 Problems with a competitor's equipment shall not be grounds for the team to request a re-flight.

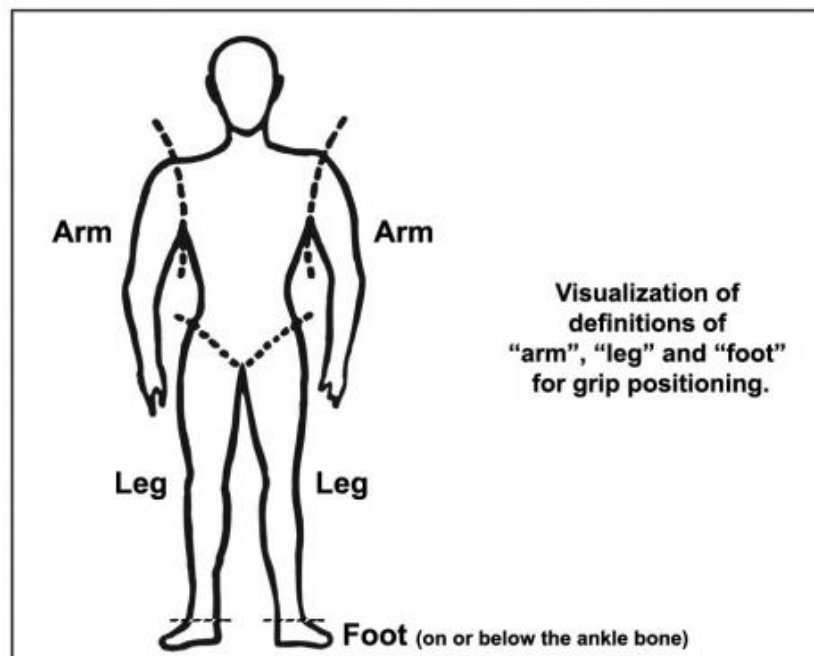
#### 4.5 Ties

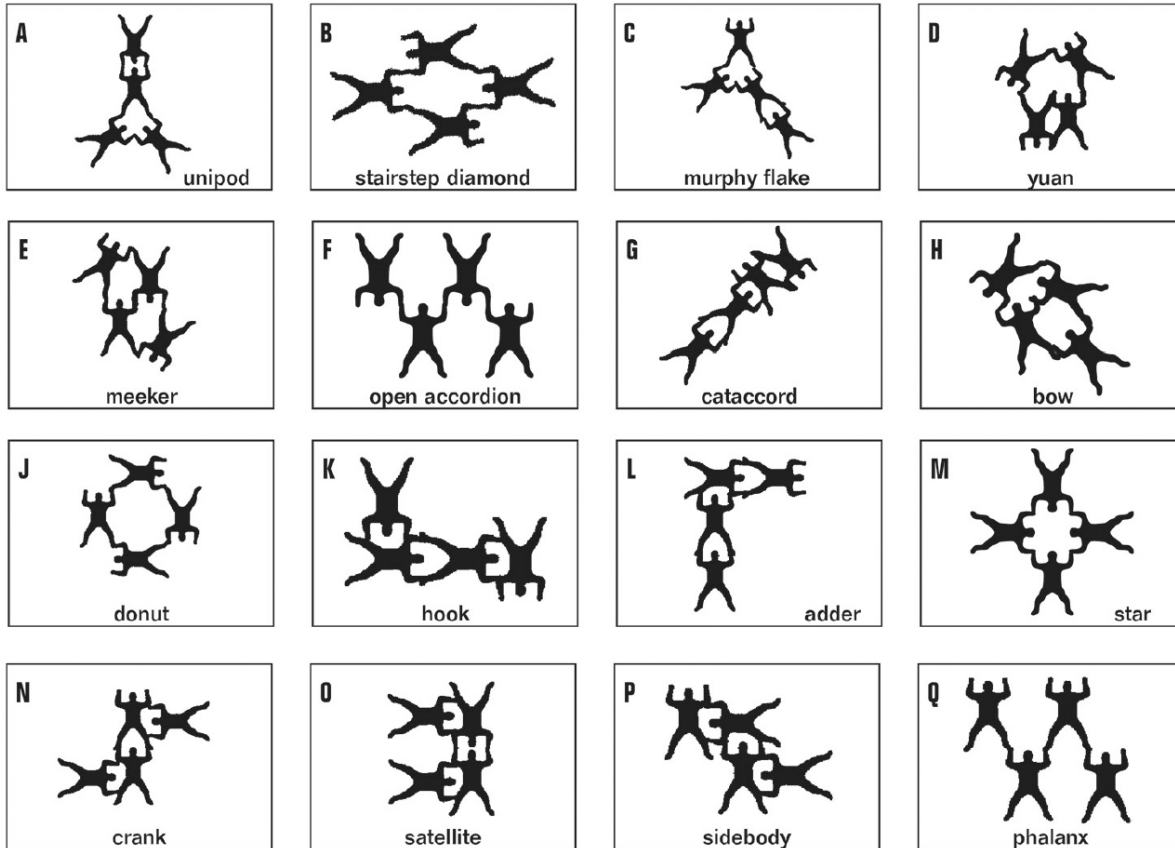
- 4.5.1 If two or more teams have equal scores, the following order of procedures will be applied until the first three placings are determined:
  - 4.5.1.1 One tie-break round: The tie-break round will be the next drawn round of the competition, or if all scheduled rounds are complete, one additional round drawn by the Chief Judge.
  - 4.5.1.2 The highest score in any completed round.
  - 4.5.1.3 The fastest time (measured to hundredths of a second) to the last common scoring formation in the last completed round.



## ADDENDUM A - Definitions of Symbols

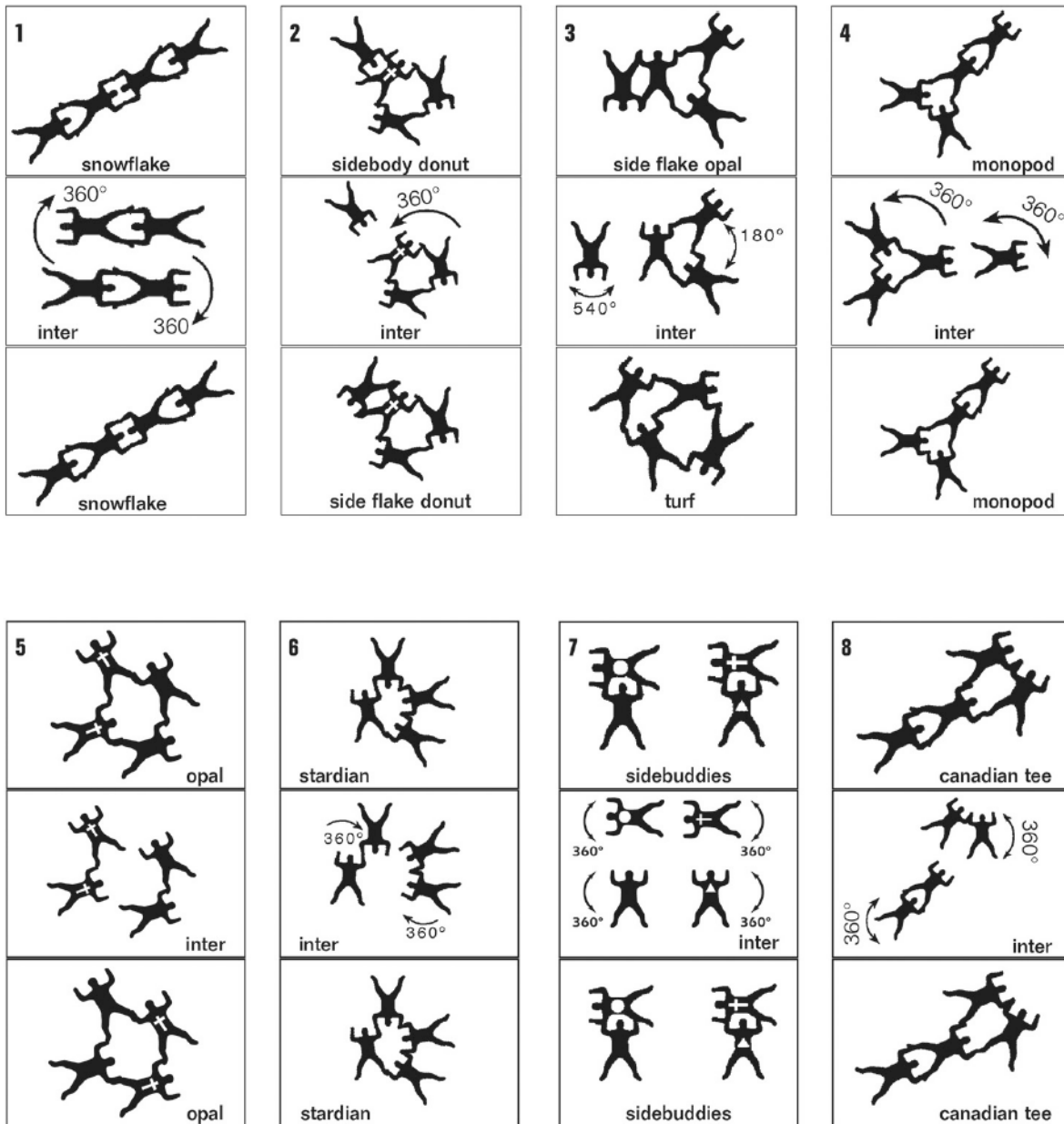
	Indicates direction of turn by a sub-group.				
	Indicates turn by sub-group in either direction.				
	Any side body link-up requires an arm grip and a leg grip on the same person.				
	Indicates clarification of intent.				
<table><tr><td>90°</td><td>180°</td></tr><tr><td>270°</td><td>360°</td></tr></table>	90°	180°	270°	360°	Indicates approximate degrees of turn to show intent of the transition maneuver.
90°	180°				
270°	360°				



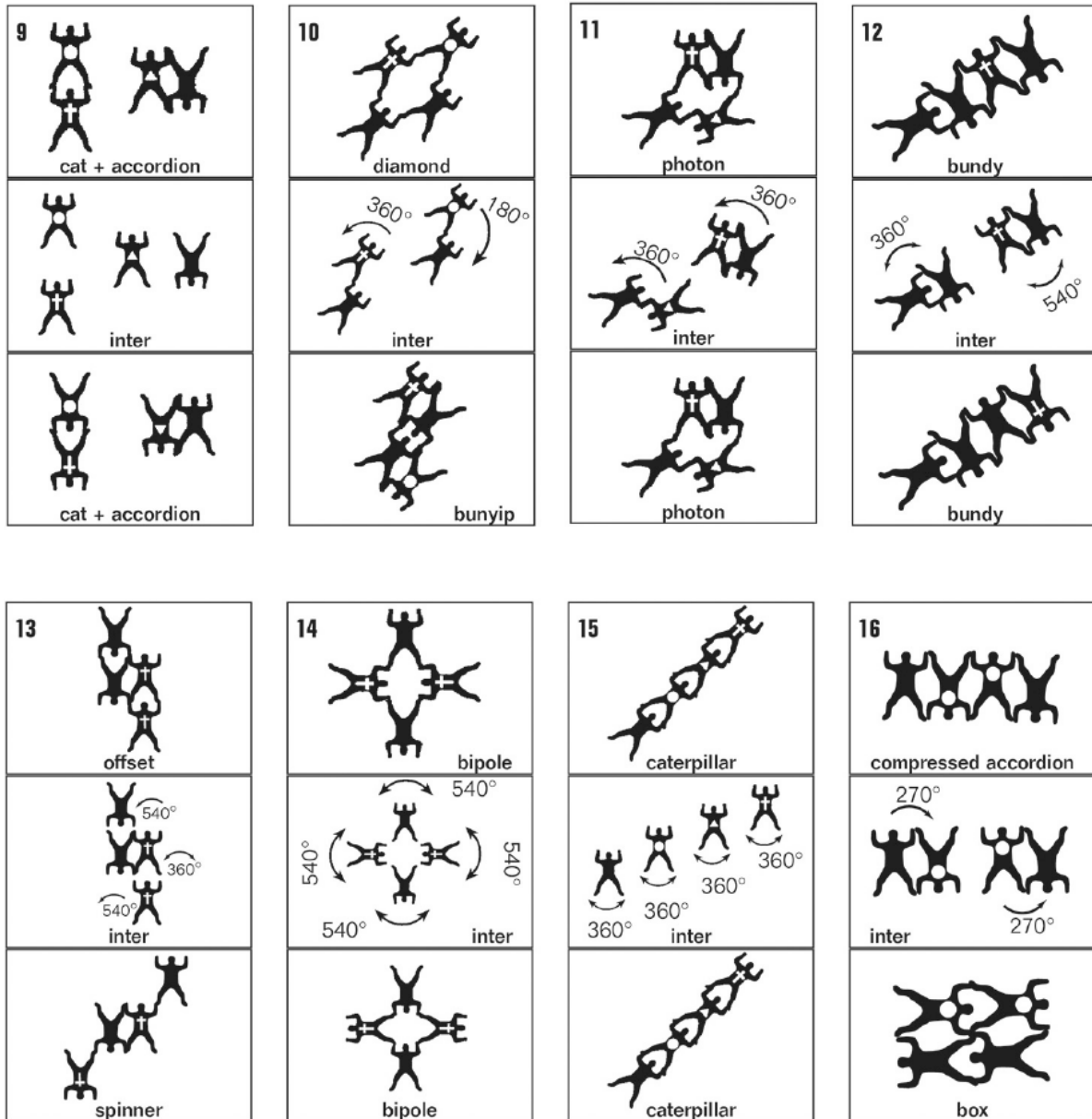
**ADDENDUM B - 4-Way FS Random Formations Dive Pool**

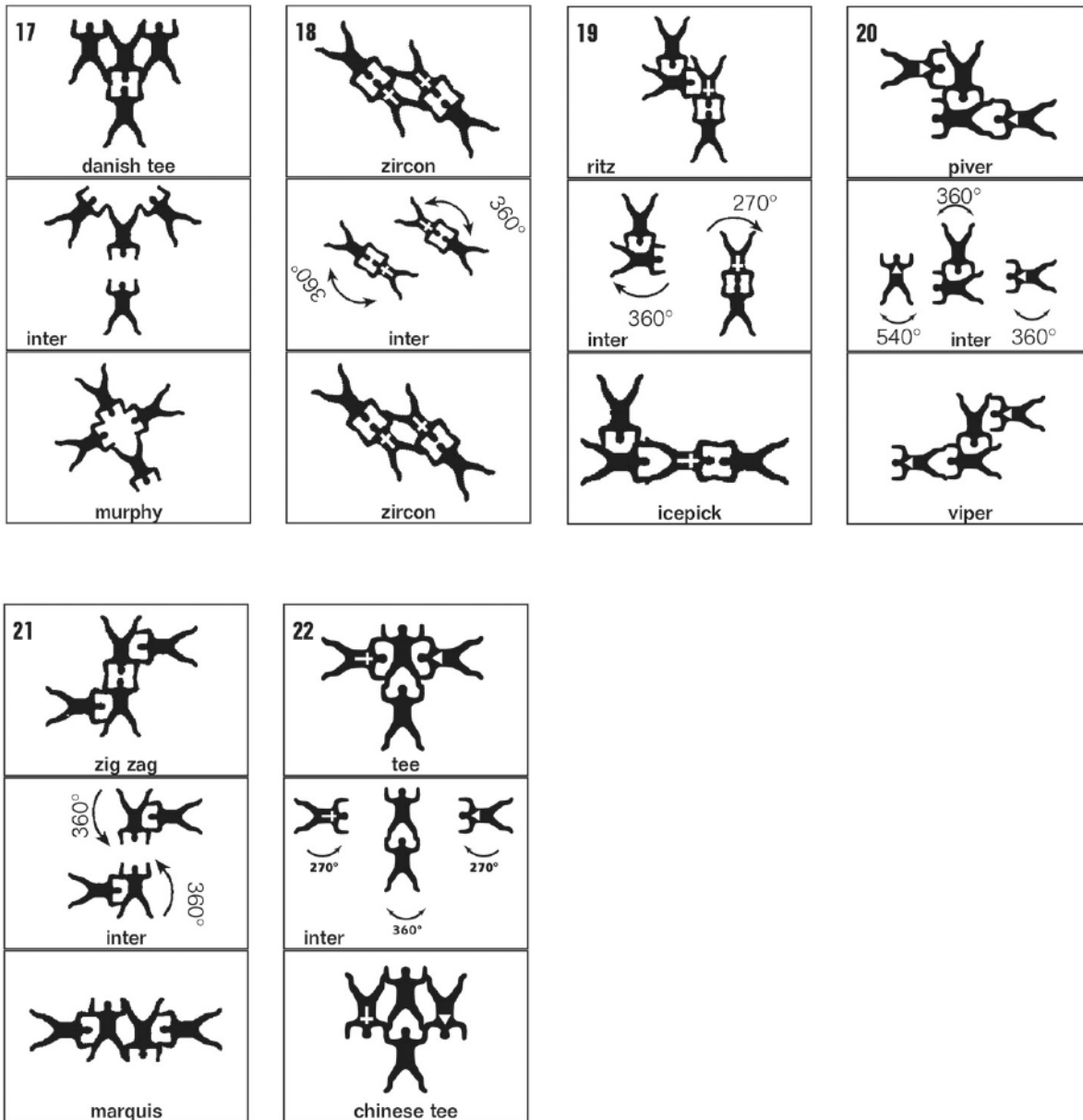


## ADDENDUM C – 4-Way FS Block Sequences Dive Pool



## ADDENDUM C – 4-Way FS Block Sequences Dive Pool



**ADDENDUM C – 4-Way FS Block Sequences Dive Pool**

## ADDENDUM D – 4-Way FS Dive Pool Adjusted for Tunnel Sizes

The dive pool for 4-Way Formation Indoor Skydiving changes based on the the size of the wind tunnel for the matters of practicality and safety. The IBA has created the following chart to outline what Random Formations and Block Sequences (Y-axis) are possible in each class for each typical tunnel size (X-axis).

You will notice that Random Formations A-Q are possible in every class except for Rookie class flown in 12' (3.66m) tunnels. Block Sequences, due to their high-level of maneuvering, are more restricted and thus you will see only AAA class flyers flying in 16' (4.88m) tunnels are able to potentially perform all 22 sequences in competition. For all other classes, specific blocks are recommended.

A standard number of formations are drawn for each class with the following number of points possible:

For Rookie class: 3

For A (Intermediate) class: 3 to 4

For AA (Advanced) class: 4 to 5

For AAA (Open) class: 5 to 6

The IBA Draw Generator (found at [www.tunnelflight.com/drawgenerator](http://www.tunnelflight.com/drawgenerator)) automatically creates dive flows following these rules. Utilize the Draw Generator tool to produce random rounds for both practice and competition.

	12' (3.66m)				14' (4.27m)				16' (4.88m)			
	Rookie	A	AA	AAA	Rookie	A	AA	AAA	Rookie	A	AA	AAA
RANDOM FORMATIONS	B	A	A	A	A	A	A	A	A	A	A	A
	D	B	B	B	B	B	B	B	B	B	B	B
	E	C	C	C	C	C	C	C	C	C	C	C
	F	D	D	D	D	D	D	D	D	D	D	D
	H	E	E	E	E	E	E	E	E	E	E	E
	J	F	F	F	F	F	F	F	F	F	F	F
	M	G	G	G	G	G	G	G	G	G	G	G
	O	H	H	H	H	H	H	H	H	H	H	H
	P	J	J	J	J	J	J	J	J	J	J	J
	Q	K	K	K	K	K	K	K	K	K	K	K
		L	L	L	L	L	L	L	L	L	L	L
		M	M	M	M	M	M	M	M	M	M	M
BLOCK SEQUENCES		N	N	N	N	N	N	N	N	N	N	N
		O	O	O	O	O	O	O	O	O	O	O
		P	P	P	P	P	P	P	P	P	P	P
		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
	6	6	3		4	2	2		2	1	1	
	7	7	5		6	4	3		4	2	2	
	9	9	6		7	6	4		6	4	3	
		14	7		9	7	5		7	6	4	
		15	9		21	9	6		8	7	5	
			11			11	7		9	8	6	
			14			13	9		19	9	7	
			15			14	10		21	11	8	
			16			15	11			13	9	
			17			18	13			14	10	
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