

# COMPETITION RULES

«The Crucible»  
Indoor Skydiving  
Tournament

**2020 Edition**

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## Participation

1. All participants accept the Crucible Tournament rules and the AXIS Flight School®, LLC regulations as binding by registering in the competition.
2. Body-flight Requirements

Every participant needs to demonstrate

- that they have the skill to perform the 2-way discipline of their choice and
- that they understand safe tunnel practices prior to the event.

Demonstrating one’s readiness can be accomplished by:

- having flown/received coaching from an AXIS coach,
- showing videos of your skills to the meet director,
- verifying your skill through the [IBA flyer chart](#).

Necessary IBA sign-offs per event are as follows:

- FS (all belly) - All Flyer Level 1 and all Formation Level 2 sign offs.
- HFS (belly & back) - All Flyer Level 1, 2, and all Formation Level 2 sign offs.
- MFS (belly, back, head-up, head-down) - All Flyer Level 1 and 2, Static progression 3 and 4, as well as all Formation Level 2 sign offs.

Those interested in receiving [IBA sign offs](#) can do so through [AXIS Flight School](#).

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## Chapter 1. Definitions of Words and Phrases used in these Rules

3. **Formation:** consists of competitors linked by grips. For HFS and MFS with each competitor in the correct orientation.
4. **Grip:** consists of a handhold on an arm, leg, foot, or head of another jumper as shown in 7.2. As a minimum, a grip requires stationary contact.
5. **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.
6. **Body:** consists of the entire competitor and his or her equipment.
7. **Dive Pool:** consists of the Random Formations and Block Sequences depicted in the addenda to these rules.
8. **Subgroup:** is an individual competitor or competitors linked by grips required to complete a designated maneuver during the Inter of a block sequence.
9. A subgroup's **center-point** is one of the following:
  - 9.1. The defined grip or the geometric center of the defined grips within a subgroup of competitors linked by grips.
  - 9.2. The geometric center of an individual competitor's torso.
10. **Total Separation:** is when all competitors show at one point in time that they have released all their grips and no part of their arms have contact with another competitor's body.
11. **Inter:** is an intermediate requirement within a block sequence, which must be performed as depicted in the dive pools.
12. **Sequence:** is a series of random formations and block sequences which are designated to be performed.
13. **Scoring formation:** is a formation which is not an infringement and 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.
14. **Infringement:** is one of the following:
  - 14.1. An incorrect or incomplete formation which is followed within working time by either
    - a total separation, or
    - an inter, whether correct or not.

- 14.2. A correctly completed formation preceded by an incorrect inter or incorrect total separation.
- 14.3. A formation, inter, or total separation not clearly presented.
15. **Omission:** is one of the following:
  - 15.1. A formation or inter missing from the drawn sequence.
  - 15.2. 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 pair resulting from the substitution.
  - 15.3. If both the inter and the second formation in a block sequence are omitted, this will be considered as only one omission.
16. **Entrance:**
  - 16.1. Pairs must enter the tunnel using the designated doorway.
  - 16.2. For FS entrances: The working time will start when both feet of one of the flyers leave the antechamber floor and the flyer enters the tunnel.  
Flyers may lean into the air flow with one foot inside the tunnel without the working time starting as long as one foot remains on the floor of the antechamber and any foot inside the tunnel does not use the net for launch.
  - 16.3. For HFS and MFS entrances: Flyers must enter the tunnel and remain standing up on the net in center of the airflow. The working time will start when both feet of any flyer leave the net.
  - 16.4. Flyers are not required to launch the first point of the sequence. They may utilize a “fire and forget” strategy.
17. **Working Time:** is the period of time during which a pair is scored on a performance which starts when both feet of one of the flyers have left the antechamber floor (FS) or tunnel net (HFS and MFS) in order to enter the tunnel and terminates a number of seconds later as specified in Chapter 2-1.
18. **Antechamber:** the area used by a pair as a waiting and staging area for entrance into the wind tunnel. This chamber is separated from the public viewing area and is for the exclusive use of the pairs on call.
19. **Judgement Call:** An assessment by the judges of a formation, infringement or omission that is not unanimous.
20. **Orientation:**  
Orientation is a mechanical alignment between a flyer’s torso and the oncoming relative wind. A body-pilot is able to fly in two modes using six fundamental body-flight

orientations.

*Horizontal Modes*



Fig. 1a: Belly



Fig. 1b: Back

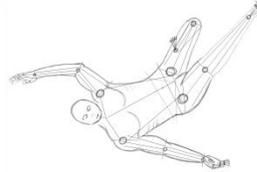


Fig. 1c: Right Edge

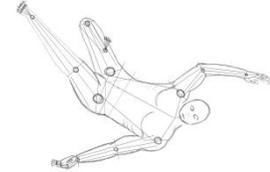


Fig. 1d: Left Edge

*Vertical Modes*



Fig. 2a: Head-Up



Fig. 2b: Head-Down

21. **Speed Maze Number Pads (Pads):** There are ten pads attached to the tunnel walls numbered 1 to 10. These are to be prominently displayed as they serve as the course for the Speed Maze.

## Chapter 2. The Tournament

1. The Tournament will consist of up to three disciplines:
  - 1.1. 2-Way Formation Skydiving (FS),
  - 1.2. 2-Way Horizontal Formation Skydiving (HFS), and
  - 1.3. 2-Way Mixed Formation Skydiving (MFS).
  - 1.4. Participants can choose to participate in multiple disciplines.
2. Tournament Description:
  - 2.1. The formation rounds will be bracketed by Speed Maze rounds.
  - 2.2. Athletes are provided 60 seconds per round to set-up, enter, execute the dive flow (actual working time) and exit the flight chamber.
  - 2.3. Actual working time (definition see 1-15) is 35 seconds per round.
3. Objectives of the Tournament (per discipline):

- 3.1. **Speed Maze:** The objective of the Speed Maze portion of the tournament is for the individual competitor to touch as many pads (1-20) as possible within the working time, while correctly following the numerical sequence 1 to 10, restarting the sequence as many times as possible.
    - 3.1.1. **Points:** In order to score points, athletes need to make stationary contact to the pads using their hands and/or their feet.
    - 3.1.2. **Incorrect Sequence or No Contact:** An incorrect sequence or no contact yields a 2-point deduction from the final score per penalty incurred.
    - 3.1.3. Non-stationary contact: No point is awarded.
    - 3.1.4. **Orientation Requirements** (definitions see 1-19):
      - 3.1.4.1. **FS:** Both rounds are flown on the belly.
      - 3.1.4.2. **HFS:** First round is on the belly; last round is on the back.
      - 3.1.4.3. **MFS:** First round is horizontal; last round is vertical
  - 3.2. **Formations Skydiving:** The objective of the formation skydiving portion of the tournament is for the flyers to complete as many scoring formations as possible within the working time, while correctly following the sequence for the round.
  - 3.3. The accumulated total of all rounds completed (speed maze and formations) is used to determine the placing of the competitors. Only one completed round is required to declare a champion.
  - 3.4. If two or more flyers have equal scores the following order of procedures will be applied to determine the final placings:
    - i. Highest Total in the Formation Rounds.
    - ii. Highest Total in the Speed Maze Rounds.
    - iii. Highest Score in a Formation Round.
    - iv. Highest Score in a Speed Maze round.
    - v. Highest Score in the second Speed Maze round.
    - vi. Highest Score in the first Speed Maze round.
4. Performance Requirements
    - 4.1. Each round consists of a sequence of formations, depicted in the dive pools of the appropriate addendum, as determined by the draw.
    - 4.2. It is the responsibility of the pair to clearly present the start of working time, correct scoring formations, inters and total separations to the judges.

- 4.3. 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.
- 4.4. In sequences, total separation is required between block sequences, between random formations, and between block sequences and random formations.
- 4.5. Where degrees are shown, (180°, 270°, 360°, 540°, etc.), 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 center-point to be presented to the center-point(s) of the other subgroup(s). For judging purposes, the approximate degrees and direction of turn of subgroups center-points will be assessed using only the two-dimensional video evidence as presented.
- 4.6. Contact is allowed between different subgroups during the **Inter** of a block sequence.
- 4.7. Where subgroups are shown, they must remain intact as a subgroup with only the depicted grips on other competitors in that subgroup.
- 4.8. Assisting handholds on other bodies in a scoring formation are not permitted.
- 4.9. Handholds by the competitor on their own body within a subgroup or a scoring formation are permitted.
- 4.10. For HFS and MFS no grip line (ref. 2.3) may cross another grip line within a formation.

### Chapter 3: General Rules

1. **Composition of Pairs:** Pairs are created using the Crucible round-configuration-system. Therefore, pairs may consist of competitors of either or both sexes, and varying levels of skill and experience.
2. **The Draw:** The draw of the sequences for all disciplines will be done privately before the start of the tournament supervised by the Director. Athletes will be given no less than 30 minutes knowledge of the results of the draw before the competition starts.
3. All the «Block Sequences» (numerically numbered) and the «Random Formations» (alphabetically marked) shown in the appropriate addenda will be drawn using the AXIS Flight School®, LLC [DrawGenerator](#). The computer-generated draw will determine the sequences to be flown in each round. Each round will be drawn so as to consist of either a) three or four or b) four or five scoring formations (tournament director's choice), whichever number is reached first.

4. **Use of Dive Pool:** Each block or formation will be drawn for the scheduled rounds of each competition. In the event that additional rounds are necessary, due to the tie-breaking “fly-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.
5. Practice jumps or Wind tunnel time: Competitors are not allowed to make a parachute jump of any kind nor use a wind tunnel for practice after the draw has been made.
6. Performance Order: The performance order is determined by the Crucible round-configuration-system.
7. Scoring
  - 7.1. A pair will score one point for each scoring formation performed in the sequence within the allowed Working Time of each round. Pairs may continue scoring by continually repeating the sequence.
  - 7.2. For each omission three points will be deducted from the aggregate points scored in accordance with 3-4.17.1.
  - 7.3. If an infringement in the scoring formation of a block sequence is carried into the inter (ref. 1-8.), 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.
  - 7.4. The minimum score for any round is zero (0) points.
8. Re-performances
  - 8.1. No re- performance will be given unless the Tournament Director deems it necessary.
  - 8.2. Contact or other means of interference between flyers and between flyers and the floor screen or the tunnel walls shall not be grounds for the pair to request a re-performance.
  - 8.3. Problems with a competitor’s equipment shall not be grounds for the pair to request a re-performance.
9. Warm-up Round: Each flyer in each discipline will be given 30seconds prior to the first Speed Maze to determine appropriate air-speed settings.

## Chapter 4: Judging

1. **Judging Procedure**  
The performances will be judged live by the Tournament Director. Video evidence may be recorded but has no bearing on the Tournament Directors final decision.
2. **Number of Judges**  
A minimum of one (1) judge must evaluate each pair's performance.
3. **Evaluation:** The Director will use an electronic scoring system to record their evaluation of the performance. Corrections to the evaluation record can only be made before the Tournament Director. All evaluations will be published.
4. **The Tournament Director's evaluation includes:**
  - credit the speed maze,
  - credit the scoring formation,
  - assign an infringement, and or
  - assign an omission
5. **Start of Working Time:** The chronometer will be operated by the Tournament Director or by a person(s) appointed by the Tournament Director and will be started as determined in 1-15.

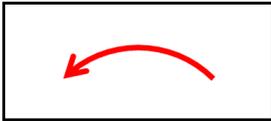
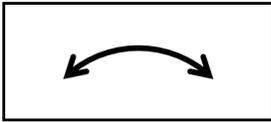
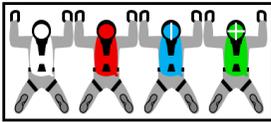
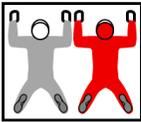
## Chapter 5: Rules Specific to the Competition

1. The last Tournament of each year is called "The Forge". It is an exclusive invitational event, where the Crucible Champions in the disciplines FS, HFS, and MFS are crowned. Participation in "The Forge" can only be earned.
2. "The Crucible" Tournaments are satellite competitions for "The Forge". The three highest scoring flyers in each discipline of the Crucible Tournaments qualify for and receive an invitation to "The Forge"
3. Athletes may compete in multiple Crucible Tournaments each year.
4. Any Competitor that competes in two different events must register for each separate event.
5. **Program of Events:**
6. The Crucible Indoor Tournament is comprised of a set number of rounds determined by the number of participants. There has to be an even number of participants per discipline totaling no less than 6, and no more than 12.  
The following applies to all disciplines: FS, HFS, and MFS.

Each competitor will fly with every other flyer twice. The time amount flown by each competitor including the Warmup and two Speed Maze rounds totals

- 12.5 minutes for six participants (modified double round robin).
- 9.5 minutes for eight participants (modified single round robin).
- 11.5 minutes for ten participants (modified single round robin).
- 13.5 minutes for twelve participants (modified single round robin).

## Chapter 6: Definitions of Symbols

	Indicates direction of turn by a sub-group.			
	Indicates turn by sub-group in either direction. Sub-group can only accumulate the necessary degrees in the initially committed direction.			
	 Indicates clarification of intent.			
<table border="1" data-bbox="381 1050 652 1171"> <tr> <td>180°</td> <td>270°</td> </tr> <tr> <td>540°</td> <td>720°</td> </tr> </table>		180°	270°	540°
180°	270°			
540°	720°			
	Indicates approximate degrees of turn to show intent of the transition maneuver.			

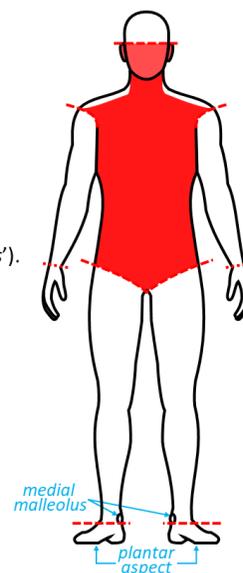
## Definitions for Building a Formation

### Scoring Zones

- Head* Above the ears.
- Arm* Below a line from the tip of the shoulder to the armpit, including the hand, excluding the shoulder.
- Hand* Wrist to finger tips.
- Leg* Below a line from hip joint to crotch, including the foot.
- Foot* Below the ankle (slight protrusion of the 'medial malleolus').
- Sole* Underside ('plantar aspect') of the foot.

'same' (arm, leg, foot): left to left -or- right to right

'opposite' (arm, leg, foot): left to right -or- right to left



<h3>Legend for Point of View</h3> <p>A dart will orient itself parallel to the relative wind, with it's tip towards the oncoming wind. We have chosen three different views of a dart to indicate from which point of view the formation was drawn.</p>	
	<p>Only the flight and shaft can be seen. This symbol indicates a view from <b>above</b>.</p>
	<p>All parts of the dart can be seen. This symbol indicates an <b>edge-on</b> view.</p>
	<p>Only the point, barrel and parts of the flight can be seen. This symbol indicates a view from <b>below</b>.</p>
<h3>Legend for INTER Moves</h3>	
	<p><b>Turn:</b> a rotation around the vertical axis which can be executed left or right. The person's location relative to the center of the formation does not change.</p>
	<p><b>Flip:</b> a pitch transition (rotation around the lateral axis) which can be executed front or back. The person's location relative to the center of the formation does not change.</p>
	<p><b>Vertical:</b> while maintaining orientation, two or more flyers translate past one another on the vertical plane (off-level).</p>
	<p><b>Carve:</b> involves a turn combined with horizontal translation (change of a person's location relative to the center of the formation).</p>
	<p><b>Loop:</b> involves a flip combined with a horizontal translation (change of a person's location relative to the center of the formation). A <b>Half Loop</b> is also indicated by an added «180°».</p>

## Addenda — Links to Dive Pools

- Addendum A: [Current Formation Skydiving 2-Way Dive Pool](#)
- Addendum B: [Current Indoor Horizontal Formation Skydiving 2-Way Dive Pool](#)
- Addendum C: [Current Indoor Mixed Formation Skydiving 2-Way Dive Pool](#)