



AUSTRALIAN PARACHUTE FEDERATION

Competition Rules – Formation Skydiving and Vertical Formation Skydiving



**VERSION 01-2024
Status: Mandatory**

Warning

Parachuting and flying in parachuting aircraft can be dangerous.

Version Control

It is important that members refer to the current version of this document. Current Version number is shown on the front cover and in the below table.

Current versions of these rules and any associated documents can be found on the APF website. Significant changes made from the previous version are shown in Amendments.

These rules are based on the relevant International Skydiving Commission (ISC) competition rules. Variations from those rules are indicated by italic text.

CURRENT VERSION	RELEASE DATE
01-2024	28 February 2024

PREVIOUS VERSIONS	REPLACED BY
10-2023	01-2024
09-2021	10-2023


AMENDMENTS

VERSION	AMENDMENT DETAILS
01-2024	Re-numbered and updated to conform to ISC rules.
10-2023	Taken from previous version of Sporting Code, separated into own document.

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<p>This document is offered as a free download to APF members. Alternatively, contact the APF Office for a paper copy at a cost of \$5.00</p>	
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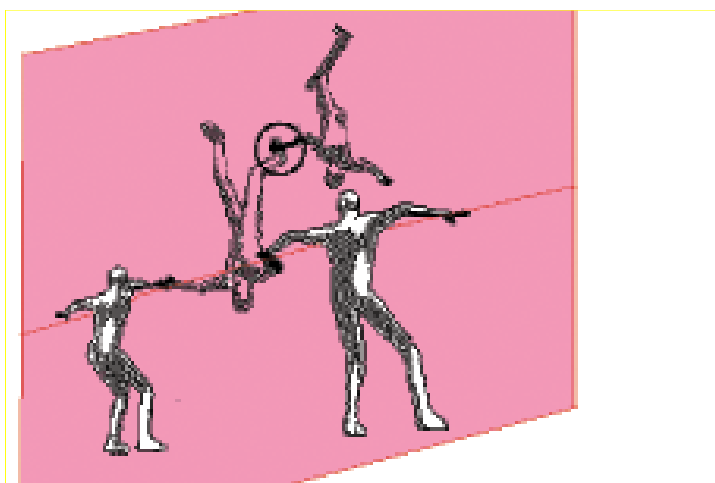
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1 APF AUTHORITY

The competition will be conducted under the authority granted by the APF, according to the regulations of the APF Sporting Code and these rules.

2 DEFINITIONS OF WORDS AND PHRASES USED IN THESE RULES

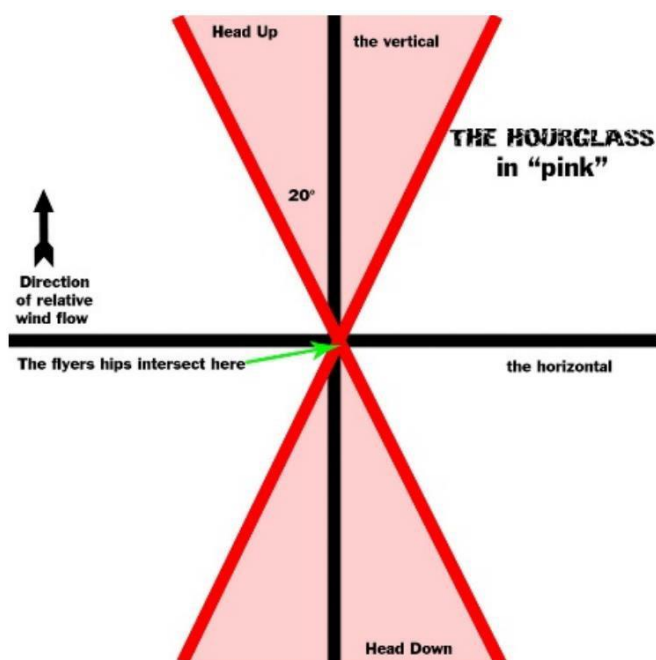
- 2.1 Formation: consists of competitors linked by grips. For VFS with each competitor in the correct orientation.
- 2.2 Grip: consists of stationary contact between any part of the palm side of the hand and/or fingers, and an arm leg or foot of another jumper as shown in 7.2.
- 2.3 Grip line: This is 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 Pool Diagrams available on the APF website.
- 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 Sub-group's centerpoint: is one of the following:
1. The defined grip, or the geometric centre of the defined grips within a sub-group 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. Working time starts the first moment any team member other than the videographer separates from the aircraft, as determined by the Judges and terminates a number of seconds later as specified in 0.
- 2.15 NV: formations, inters or total separations not visible on screen due to meteorological or solar conditions, or factors relating to the Videographer's freefall 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 flyer’s spine, from the centre of the flyer’s hips through the centre of the flyer’s 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 3,200 meters/10,500 feet AGL. Working Time is 35 seconds.
- 3.1.2 VFS Events: Exit altitude is 3,960 meters/ 13,000 feet AGL. Working Time is 35 seconds.
- 3.1.3 8-Way Events: Exit altitude is 3,960 meters/13,000 feet. Working time is 50 seconds.
- 3.1.4 For meteorological reasons only, and with the consent of the *APF* Controller and the Chief Judge, the Meet Director may change the exit altitude and/or working time and continue the competition. In this case the following conditions will apply:

3.1.5.1 The working time will be:

- 20 or 35 seconds for the *2-Way and 4-Way* events.
- 30 or 50 seconds for the *8-Way* events.

The reduced working time must be used if the exit altitude is lowered. The next round must commence if working time is changed.

3.1.5.2 The minimum exit altitude will be:

- 2,290 metres/7,500 feet AGL for the *4-Way FS* events.
- 2,750 metres/9,000 feet AGL for the *VFS* and *8-Way* events.

The maximum exit altitude will be 3,960 metres/ 13,000 feet for all events. Changing of exit altitude should only be considered if it is unlikely that the event(s) will reach completion within the time allowed in the program.

- 3.1.5 Where possible the Meet Director will attempt to schedule *4-Way 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 placing's 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 described in the dive pools of the appropriate annexes, 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 of turn 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 sub-group's centre-point to be presented to the centre-point(s) of the other sub-group(s). For judging purposes, the approximate degrees and direction of turn of sub-groups centre-point will be assessed using only the two-dimensional video evidence as presented. Degrees of turn must be in a single direction.
- 3.3.6 Contact is allowed between sub-groups 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 sub-groups are shown, they must remain intact as a sub-group 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 sub-group 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.

4.2 The Draw

4.2.1 The Draw of the sequences will be 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. *A computer may be used to create the Draw.*

4.2.2 Event draws: All the "Block Sequences" (numerically identified), and the "Random Formations" (alphabetically marked) shown in the appropriate *dive pool* will be singularly placed in one container. Individual withdrawal from the container (without replacement) will determine the sequences to be jumped in each round. The number of scoring formations drawn for each round is shown below.

- *4-Way FS Open, 4-Way VFS Open and 8-Way FS Open events:
Each round will be drawn so as to consist of five or six scoring formations, whichever number is reached first.*
- *2-Way VFS Open, 4-Way FS AA and 8-Way FS Inter events:
Each round will be drawn so as to consist of four or five scoring formations, whichever number is reached first.*
- *2-Way VFS Intermediate, 4-Way VFS Advanced and 4-Way FS A events:
Each round will be drawn so as to consist of three or four scoring formations, whichever number is reached first.*
- *4-Way FS Blast event:
Each round will be drawn so as to consist of three scoring formations.*

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, the dive pool for these additional rounds 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 are drawn without completing the required number of scoring formations for a 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 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 jumps which occurs after a completed round where practical.

4.5 Video Transmission and Recording

- 4.5.1 Each team shall provide the video evidence required to judge each round. *Only one of the team may jump on each jump as a Videographer.* Each freefall Videographer must use the video transmission system if provided by the Organiser.
- 4.5.2 For the purpose of these rules, “freefall video equipment” shall consist of the complete video system(s) used to record the video evidence of the team's freefall performance, including the camera(s), recording media and battery(ies). The freefall video equipment must be able to deliver a High Definition 1080 type digital signal with a minimum frame rate of 50 frames per second, through a compatible video connection approved by the Video Controller. The videographer is responsible for ensuring the compatibility of the freefall video equipment with the scoring system.
- 4.5.3 As soon as possible after each jump is completed, the freefall videographer must deliver the freefall video equipment (including the tape(s) used to record that jump) for dubbing at the designated dubbing station. The video evidence must remain available for viewing or download until all scores are posted as final.
- 4.5.4 Only one video will be dubbed and judged. Secondary video evidence may only be used in NV situations.
- 4.5.5 The dubbing station will be as close to the landing area as possible.
- 4.5.6 A Video Controller will be appointed by the *Organiser*, prior to the start of *the official training jumps*. The Video Controller may inspect a team's video equipment to verify that it meets the competition requirements as determined by them. Inspections may be made at any time during the competition which does not interfere with a team's performance, as determined by the Chief Judge. If any video equipment does not meet the requirements determined by the Video Controller, this equipment will be deemed to be unusable for the competition.
- 4.5.7 A Video Review Panel will be established prior to the start of the official Training Jumps, consisting of the Chief Judge, the President of the Jury and the APF Controller. Decisions rendered by the Video Review Panel shall be final and shall not be subject to protest or review by the Jury.
- 4.5.8 If the Video Review Panel determines that the freefall video equipment has been deliberately tampered with, the team will receive no points for all competition rounds involved with this tampering.

- 4.5.9 The Organizer must provide the teams with a way of identification of the team showing the team number to be recorded by the Videographer just before exit. The recording should continue with the jump without a stop in recording.

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. 0), 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 Rejumps

- 4.8.1 In an 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 rejump will be offered unless the Video Review Panel determines that there has been an intentional abuse of the rules by the team, in which case no rejump 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 rejump.
- 4.8.3 Adverse weather conditions during a jump is not grounds for protest. However, a rejump 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 rejump.

- 4.8.5 *In the event of a dive that is partly non-judgeable, teams are allowed to accept the score that can be evaluated or take the rejump. This decision to accept the score or rejump must be made within 30 minutes of being informed of eligibility for rejump.*

4.9 Training Jumps

- 4.9.1 Each team in each event *may* be given the option of at least 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.
- 4.9.4 *On the joint decision of the Meet Director, Chief Judge and DZSO, the Formation Skydiving competition rounds may start even if training jumps have not been completed.*

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 APF 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

At least three, and where possible five Judges, must evaluate each team's performance.

At a National Championship, the judging panel should have a majority of Judges who are Nationals- endorsed for Formation Skydiving.

5.4 Viewings/Review of the Video Evidence

The Judges will watch the video evidence of each jump 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 will

be conducted at normal or reduced speed between 50 - 90 percent of normal speed. At the request of the Event Judge a 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 the Competition the percentage of reduced speed to be used for the different Events. 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 if nominated in accordance with 5.4. If the review results in a minimum four to one decision (for a five judge panel) or unanimous (for a three judge panel) 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 *may* use *an* 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 Judges' evaluations will be published.

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.

5.6 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 EVENT

6.1 Title of the Competition

National Championships of Formation Skydiving

6.2 Aims of the Competition

- To determine National Champions in each of the Formation Skydiving events
- To establish Formation Skydiving and Vertical Formation Skydiving National 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
- To allow participants to share and exchange experience, knowledge and information,
- To improve judging methods and practices.

6.3 Team Composition

Each team may have the following number of members:

- 8-Way Team: Eleven competitors
- 4-Way Team: Six competitors
- 2-Way Team: Four competitors

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.

Composition of teams 4.1

The Videographer is one of any of the competitors. The Videographer may be part of more than one team in any event.

Intermediate 8-Way Event: To be eligible to enter this event, four of the team must not have won Inter or competed in the Open 8-Way event at the National level during the last five years. The other four members and the videographer have no restrictions.

6.4 Program of Events

6.4.1 *The Australian Open Formation Skydiving Championships will be comprised of the following rounds:*

6.4.1.1 *8-Way Open and all 4-Way events up to ten rounds*

6.4.1.2 *In 2-Way VFS and 8-Way Intermediate events up to six rounds*

6.4.2 Time must be reserved before the end of competition to allow for the completion of the tie-break round.

6.5 Determination of Champions

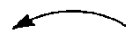
The 2-Way VFS (Open and Intermediate), 4-Way (VFS, VFS Advanced, FS Open, AA, A, and Blast), 8-Way (Open and Intermediate) Australian Champions are the teams with the highest scores in the completed rounds. (ref. 0).

7 DEFINITIONS OF SYMBOLS IN THE DIVE POOL

7.1 Coding in the Dive Pool **annexes** is as follows:

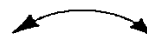
7.1.1

Indicates direction of turn by the sub-group



7.1.2

Indicates turn by the sub-group in either direction



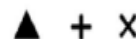
7.1.3

Indicates turns by all sub-groups



7.1.4 a)

Indicates clarification of intent (VFS)



7.1.4.b)

Indicates clarification of intent (FS)



Visualisation for grip positions:

