USPA NATIONAL SPEED SKYDIVING CHAMPIONSHIPS COMPETITION RULES
USPA AUTHORITY

The competition will be conducted under the authority granted by the United States Parachute Association, according to the regulations of the Skydiver’s Competition Manual, as approved by the Board of Directors. All participants accept these rules and the USPA regulations as binding by registering in the competition.
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1  INTRODUCTION

1.1  Purpose of the Competition

- To determine the Champions of Speed Skydiving.
- To promote and develop Speed Skydiving training and competition.
- To allow participants exchange experience, knowledge, and information.
- To improve judging methods and practices.

2  DEFINITIONS

2.1.1  Speed Measuring Device (SMD)

2.1.2  A device used to record the real-time, three-dimensional (3D) position of the wingsuit flyer, which is mounted on the wingsuit flyer’s body or equipment.

2.2  Spherical error probable (SEP)

2.2.1  The horizontal and vertical accuracy specifications of a SMD expressed in terms of a sphere of given radius; for example, "real-time accuracy <10 meters SEP.”

2.3  Geometric Altitude

2.3.1  The height, as measured by a Global Navigation Satellite System, optical methods or radar, above ground level.

2.4  Safety Panel

2.4.1  For safety violations referenced in these rules, the Safety Panel shall consist of the USPA Controller, Meet Director, and Chief Judge. Decisions of the Safety Panel are final and not subject to protest.

2.5  Breakoff Altitude

2.5.1  Breakoff altitude is set at 1700 meters AGL. No speed measurements are taken into account below the breakoff altitude.

2.6  DZ Elevation

2.6.1  The ground level for the competition site will be determined by the Meet Director and will be made known at the pre-event competitors’ meeting.

3  EQUIPMENT

3.1  Speed Measuring Device (SMD)

3.1.1  The SMD must record real-time three-dimensional (3D) data with a resolution of at least 5Hz and a position accuracy (SEP) of less than 10 meters.

3.1.2  The SMD must be capable of gathering data or transmitting real-time data to a ground station or stations, which allows the competitor’s vertical freefall speed between 4115m and 1700m above ground to be displayed to a resolution of one hundredth of a kilometer per hour, and the competitors exit altitude to be determined to an accuracy of 10m. The SMD must also be capable of recording the exit altitude.

3.1.3  The data from an SMD may or may not be required to be downloaded to a computer in order to determine the competitors speed.

3.1.4  The device must not require any action by the competitor in order for it to function, and it must activate its recording function automatically upon exit of the competitor.

3.1.5  If settings on the device can be altered after the device has been attached to the competitor, it must be evident to the judges that this has occurred, any alteration must be easily reversed and must not affect the device’s data gathering or previous data gathered. Alternatively, it must be impossible for the competitor to alter the device settings once the device is attached.
If the device measures altitude from pressure readings, then the altitude is not to be compensated for ambient temperature, and temperature according to International Standard Atmosphere is to be used.

If the analysis software can compensate for ambient temperature, that facility is not to be used, and temperature according to International Standard Atmosphere is to be used.

If the SMD transmits its data to the ground station during the jump, that data must be recorded and saved when it is received.

If the data from the SMD is downloaded for analysis to a computer after landing, then that data must be recorded and saved when it is downloaded.

If the speed result is to be read directly from the SMD after landing, then the result needs to be retained on the SMD for the duration of the competition and recorded on the score sheets.

### Equipment

Competitors shall not use propulsion systems. If any propulsion system is used, the score will be zero for that jump.

Parachutes and equipment will be inspected by the Chief Judge or Meet Director to confirm that they conform to normal weights for that equipment. Chief Judge and Meet Director may delegate this task to a qualified person, such as a Rigger, Senior Rigger or Master Rigger. If, in the opinion of the Chief Judge and Meet Director, the equipment does not conform to normal weights for that equipment, the competitor may be required to demonstrate that the equipment does not contain extra weight. This decision is not grounds for protest.

The use of parachute equipment (e.g., a tandem rig or student equipment) to add weight as described in 3.2.2 is not permitted, as determined by the Chief Judge or Meet Director. This decision shall not be grounds for protest.

Parachutes and equipment will be inspected by the Chief Judge, Meet Director or USPA Controller to confirm that they are safe for the event. Chief Judge, Meet Director or USPA Controller may delegate this task to a qualified person, such as a Rigger, Senior Rigger or Master Rigger. If, in the opinion of the Chief Judge, Meet Director and USPA Controller, the parachute and/or equipment are not safe for the event, the competitor will not be permitted to use it. Inspections that do not interfere with a competitor’s performance may be made at any time during the competition, as determined by the Chief Judge. If any equipment does not meet the requirements as determined by the Chief Judge, Meet Director or USPA Controller, this equipment will be deemed to be unusable for the competition. This decision is not grounds for protest.

Competitors shall not carry additional or removable weight on their body or equipment. They must be weighed by the USPA Controller, or a person appointed by the USPA Controller for the purpose, at the start of the competition wearing all their normal jump equipment to establish a baseline weight. The USPA Controller, or a person appointed by the USPA Controller for the purpose, must conduct subsequent random weight checks, which may fluctuate from the baseline weight by no more than +/- 2kg before requiring an inspection. If the addition or removal of weight is detected, the score for that jump will be zero. This decision shall not be grounds for protest.

If a competitor changes his equipment during competition, the new equipment must be inspected by the Chief Judge, Meet Director or USPA Controller, or a person appointed by the appropriate official for the purpose, according to 3.2.2, 3.2.3, and 3.2.3 before the competitor is allowed to jump with the new equipment.

Each competitor shall wear one SMD provided by the Host and issued by a Judge. The device will be attached on the jumper’s equipment with the antenna having a clear view of the sky, located and positioned to the satisfaction of the Judge. This decision shall not be grounds for a protest.

A competitor shall not wear any other electronic device or wires closer than 2.54cm from the official SMD as measured by the judging staff. However, a second identical SMD unit may be worn without regard to this separation requirement. If any such electronic device affects the SMD system, and the source of the...
interference is not obvious and beyond the reasonable control of the jumper, a re-jump may be granted by the Chief Judge.

3.2.8 Each competitor must wear a functioning audio altitude warning device on every jump. Failure to do so will result in a score of zero for that jump. Two suitable audible altitude warning devices, with visual indications in the goggles/visor, are recommended.

3.2.9 The SMD will be attached in its location by a Judge.

3.2.10 The SMD will be turned on and off by a Judge or by the competitor if instructed to do so by any Judge.

3.2.11 Immediately after landing, the competitor shall return the SMD used on that jump to a Judge.

3.2.12 If the SMD is found to have been tampered with, and if in the opinion of the Panel of Judges, this was not caused by circumstances beyond the control of the competitor, then no re-jump will be awarded, and the competitor will receive a score of zero for that jump. This decision shall not be grounds for a protest.

3.2.13 If the SMD malfunctions and, in the opinion of the Panel of Judges, the malfunction was not caused by action or interference by the competitor, then the competitor will be given the option of making a re-jump or receiving a score of zero for that jump.

4 EVENT DESCRIPTION

4.1 Objective
4.1.1 The objective of the event is for the competitors to fly their body as fast as possible to achieve the highest average vertical speed through a 3 second window.

4.2 Program of Events
4.2.1 The event consists of 8 rounds.
4.2.2 The minimum number of rounds for a valid event is one.

4.3 Performance Requirements
4.3.1 The accumulated total of the competition jumps is used to determine the final placings. The standings will also have a column showing the average speed based on number of rounds completed.

5 RULES SPECIFIC TO THE EVENT

5.1 Order of Jumping
5.1.1 The starting order of the first round shall be in reverse order of the standings at the most recent USPA Nationals. Competitors that did not participate in the most recent USPA Nationals will jump at the beginning of the task with the order determined by a random draw made by the Meet Director.

5.1.2 Time permitting, and at the discretion of the Meet Director, reverse order of ranking may be used for all other rounds.

5.2 Jumping Procedure
5.2.1 The exit point is determined by the pilot in conjunction with the Meet Director. The aircraft pilot will signal the competitors when they are clear to exit. All the competitors will be briefed on the specific exit signals at the pre-event competitors meeting.

5.2.2 The exit delay between competitors must be such so as to ensure safe separation and be at least five (5) seconds.

5.2.3 The first person to exit on a pass goes 90 degrees to the right of the aircraft line of flight, the second goes 90 degrees left, and so on (see Addendum A). If a competitor uses a technique that results in horizontal movement across the ground during the jump, then that competitor must turn to the appropriate direction shortly after exit. If a competitor uses a technique that results in a vertical flight path with little or no
horizontal movement across the ground during the jump, then that competitor may make the turn to the appropriate direction during deceleration after leaving the course.

5.3 Exit Order

5.3.1 For safety reasons, the exit order in a jump run is determined by the personal best of the competitors. The exit order in a jump run is personal best descending.

5.3.2 There will be a maximum of six (6) competitors per exit pass, but this may be reduced by the Meet Director taking into considering the aircraft size and the dropzone area.

5.4 Exit Altitude

5.4.1 Unless otherwise specified in this section, the exit altitude is 3962m/13,000ft AGL.

5.4.2 For meteorological reasons or air traffic circumstances only, and with the consent of the USPA Controller and the Chief Judge, the Meet Director may lower the exit altitude to 3658m/12000ft and continue the competition. If the exit altitude is lowered it must apply for a complete round for all competitors.

5.4.3 The maximum exit altitude for a valid jump is 4115m/13,500 ft. A competitor is not allowed to exit the aircraft from a higher altitude than the maximum exit altitude. If an SMD registers a higher exit altitude than the maximum exit altitude the jump will be considered as not valid and the score for this jump is zero.

5.5 Scoring Speed Skydiving

5.5.1 The score for a Speed Skydiving jump is the average vertical speed in kilometres per hour, to the nearest hundredth of a km/h, of the fastest 3 seconds, which the competitor achieves between exit altitude (as defined in 5.4) and the breakoff altitude (as defined in 2.5).

6 Judging & Scoring

6.1 Scoring the Jump

6.1.1 Each performance shall be assessed by at least two USPA National Speed Skydiving judges. USPA Speed Skydiving Judges in Training, provided they are under the direct supervision of the Chief of Judge Training or his designee, having attended the Judge’s Conference, may be used in addition to the Official Panel of Judges.

6.1.2 One judge conducts the analysis of the jump and determines the appropriate score. The second judge checks the analysis and score before collation of the score sheet.

6.1.3 The data from the SMD is used to obtain the highest 3 second average vertical speed through the course.

6.1.4 If a computer is used to analyze the data to obtain the speed, then the data must be downloaded as soon as possible after the competitor has handed in the devices, and before the SMD is used by another competitor.

6.1.5 If the speed is read directly from the device, then the readings are to be taken when the competitor turns in the SMD, the speeds are to be written directly onto the score sheets, and the competitor is to sign for the two speeds. The SMD may then be used for another competitor.

6.1.6 If the speed is obtained from data transmitted during the jump to a ground station or stations, the SMD may only be used by another competitor once it has been determined that valid data has been obtained.

6.1.7 The scores will not be final until the data have been reviewed. The Chief Judge is responsible for determining a competitor’s final score and placing.

6.2 Collation of the Score Sheets

6.2.1 The scores are collated immediately after the judges have assessed the jump. The results of the collation must be checked by the Chief Judge.

6.3 Determining Placing
6.3.1 At the end of a completed round, the accumulation of the competitor’s single scores is used to determine the competitor’s total result. The total result for the competitor determines the ranking. The competitors are ranked in descending order of their total results.

6.3.2 While a round is in progress, unofficial results may be published. However, if the round does not get completed, the scores from the incomplete round must be discarded and the results must be amended to reflect the scores from the number of completed rounds.

6.4 Other Responsibilities

6.4.1 The Chief Judge may decide to interrupt the event if he considers that the meteorological conditions are not safe for the conduct of the event. This decision is not grounds for protest.

7 Classification of Final Results

7.1 Determination of the Winners

7.1.1 The competitor with the highest score is the winner.

7.1.2 In the event of a tie in the first three places, the following rules apply:

7.1.2.1 Where possible tie-break jumps shall be made.

7.1.2.2 If this does not break a tie, then the competitor with the best result in any one round obtains the higher place.

7.1.2.3 If the tie cannot be broken, the competitor concerned shall be declared co-medallists.

7.1.2.4 All other ties shall be ranked equal.

7.2 National Championship Title Classifications

7.2.1 National Speed Skydiving Champion – 1st, 2nd, 3rd
ADDENDUM A – EXIT PROCEDURE