

# Soaring Society of America

## U.S. National FAI -Class Competition Rules

### Contest Year 2007

31 March 2007

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Rule numbers as links point to "Guide Comments"

‡ -> marks rule changed for 2007

#### 1.0 PURPOSE

The purpose of a National FAI Class Soaring Championship is to determine a National FAI Class Champion and to rank all other entrants. Ranking in Nationals will be used to select pilots for the U.S. Team in International Competition.

## 2.0 GENERAL

2.1 † Soaring Championships are organized in accordance with the Sporting Code of the FAI (Federation Aeronautique Internationale) under the authority of the NAA (National Aeronautic Association), and are sanctioned by the SSA (Soaring Society of America).

2.2 These rules are the agreement between Contest Officials, entrants, and the SSA by which fair and consistent competition is maintained. Failure to hold the contest in conformance with these rules may result in disallowance of the contest or competition days by the SSA.

2.3 Copies of these rules are available from the SSA. Comments should be addressed to the Chairman of the SSA Contest Committee and/or current members of the Rules Committee in care of the SSA.

2.4 Within these rules, unless otherwise noted:

- Distances are in statute miles.
- Speeds are in statute miles per hour.
- Weights are in pounds.
- Altitudes are in feet.
- Times-of-day are based on a local 24-hour clock.

## 3.0 CONTEST PERSONNEL

### 3.1 Key Personnel

#### 3.1.1 Contest Manager

Responsible for the overall management of the contest. Is subject to approval by the SSA Contest Committee at least 60 days before the contest.

#### 3.1.2 Operations Director

Appointed by and is accountable to the Contest Manager. Is responsible for all field operations such as towplane operations, sailplane and vehicle movement on the ground, sailplane launches, and landing procedures.

#### 3.1.3 Competition Director

3.1.3.1 The Competition Director (hereinafter referred to as the CD) shall be an experienced competition official nominated by the sponsor at least 60 days before the contest and approved by the SSA Contest Committee. The CD works for the Contest Manager, but is responsible to the SSA for insuring compliance with the rules and fair competition.

3.1.3.2 The CD supervises the Contest Competition Committee, task selection, flight documentation procedures and analysis, start and finish procedures and scoring.

3.1.3.3 The CD must not be an entrant in any competition over which that CD has authority.

#### 3.1.4 Contest Competition Committee

Chaired by the CD, it consists of up to three other members appointed by the CD. These members should be experienced competition pilots, officials of the contest or pilots with a good understanding of sailplane competition. (Entrants are not eligible.) The Contest Competition Committee is responsible for rules interpretation, assessment of penalties, and protest resolution.

#### 3.1.5 Task Advisory Committee

3.1.5.1 This committee assists the CD in the selection of tasks, though the ultimate responsibility for task selection lies with the CD alone.

3.1.5.2 This committee will be composed of two pilots entered in the contest, selected by the CD.

3.1.5.3 Minimum qualification for the first position shall be a finish in the top 20% of a previous contest at the same level as this contest.

3.1.5.4 Minimum qualification for the second position shall be a good knowledge of soaring conditions in the contest area.

#### 3.1.6 Other key personnel:

- Scorer

- Chief Tow Pilot
- Meteorologist
- Office Manager
- Gate Director

### 3.2 Extension of Entry Priority

A non-entrant who acts as a contest official named in [Rule 3.1](#) and who is listed in the SSA Pilot Ranking List is eligible for a one-year extension on that list. Such an extension must be requested of the SSA in writing and may not occur more often than once in three years.

## 4.0 PERIOD OF THE CONTEST

4.1 The period of the contest shall include the official practice period and the period of competition.

4.2 The period of competition will be ten consecutive days from 09:00 Tuesday to 09:00 Friday.

4.3 The official practice period shall be the two days immediately preceding the period of competition. All contest support functions (Start/Finish, evaluation of flight documentation, sailplane weighing, retrieve phones, etc.) must be operational.

4.4 For an official National Championship, there must be a minimum of four valid competition days as defined in [Rule 11.1.3](#).

## 5.0 ENTRIES

### 5.1 Entrants

#### 5.1.1 Number

5.1.1.1 Minimum - For an Official competition, either of the following must be satisfied:

5.1.1.1.1 A sufficient number of entrants must have a final score not less than 40% of the winner's final score. Unless otherwise specified in [Rule 6.12](#), this number shall be eight.

5.1.1.1.2 † A minimum of five entrants with a current pilot ranking score greater than 92.0 must have a final score not less than 75% of the winner's final score.

#### 5.1.1.2 Maximum

5.1.1.2.1 † The total number of sailplanes is limited to 65, unless a smaller maximum number is designated by contest organizers on the Application for Sanction form and approved by the SSA Contest Committee Chairman. This is a maximum for all classes in all contests being held at one site simultaneously.

5.1.1.2.2 If more than one contest is being held simultaneously, the maximum number of entrants in each shall be in proportion to the number of applications for each received prior to the Preferential Entry Deadline ([Rule 5.2.1](#)), but not less than the minimum of [Rule 5.1.1.1](#) plus two.

#### 5.1.2 Types

5.1.2.1 All entrants are either regular entrants or guests.

5.1.2.2 A single-pilot entry includes only one pilot-in-command.

5.1.2.3 A team entry is one for which more than one pilot intends to act as pilot-in-command. Team entries are not allowed.

5.1.2.4 Not Applicable

5.1.2.5 A Junior entrant is one whose 25th birthday occurs in the current or a future calendar year.

5.1.3 Shared sailplane - Two or more single-pilot entrants may share one sailplane. Each must use a unique contest ID and each is scored separately. One sharing entrant must pay the full entry fee, and all sharing entrants must pay the SSA sanction fee. The CD shall be informed which pilot is to act as pilot-in-command prior to each contest flight.

5.1.4 Passengers - An entrant may carry passengers in a multi-place sailplane.

## 5.1.5 Nationality

5.1.5.1 A US pilot is one who is a US citizen or a Resident Alien as defined by the US Immigration and Naturalization Service; others are considered foreign pilots.

5.1.5.2 † Foreign pilots are listed as such on scoresheets, and are considered Guest entrants ([Rule 5.8](#)).

## 5.2 Entry procedures

### 5.2.1 Pilot Ranking score

5.2.1.1 A prospective entrant's Pilot Ranking score is the greater of:

- A ranking score from the current SSA Pilot Ranking List
- The best pilot ranking score obtained in an SSA-sanctioned contest during the current calendar year and prior to the Preferential Entry Deadline.

5.2.1.2 If an applicant has earned a greater ranking score in a SSA-sanctioned contest subsequent to the publication of the Pilot Ranking List, it is the applicant's responsibility to submit this to contest organizers.

5.2.1.3 Pilots with no ranking score are considered unranked; their Pilot Ranking score is zero.

5.2.2 † An applicant's Preference Number is the Pilot Ranking score of [Rule 5.2.1](#).

5.2.3 The Preferential Entry Deadline is 60 days prior to the first scheduled competition day.

5.2.4 Entry applications ([Rule 5.4.2](#)) received no later than the Preferential Entry Deadline are ranked in order by Preference Number (and in case of ties, by date of application).

5.2.5 At the Preferential Entry Deadline, applicants are assigned to available entry slots in order by rank. Any surplus of applications forms a ranked standby list.

5.2.6 † Prior to the Preferential Entry Deadline, Contest organizers may designate up to 2 qualified pilots to be granted preferential entry regardless of their ranking score. These entrants shall be in addition to the maximum number designated per [Rule 5.1.1.2.1](#) (but the maximum of 65 sailplanes shall not be exceeded). This rule is intended for use on behalf of those who have contributed significantly to contest organization and operation.

5.2.7 After the Preferential Entry Deadline, applicants are admitted to open entry slots in order from the standby list.

5.2.8 The position of a prospective entrant who has not appeared and paid the full entry fee by 9:00 of a class's first scheduled competition day is considered to be open and available to a pilot on the standby list.

### [5.2.9](#) Foreign Pilots

5.2.9.1 Foreign pilots ([Rule 5.1.5.1](#)) with a Pilot Ranking score ([Rule 5.2.1](#)) greater than zero are eligible for entry in the same way as US pilots.

5.2.9.2 Unranked foreign pilots are eligible for entry under the following rules:

5.2.9.2.1 Two preferential entry positions are available. Priority for these goes to one pilot per foreign country, by date of application.

5.2.9.2.2 If one of these positions remains open at the Preferential Entry Deadline, it can be taken by an additional foreign pilot from the country already represented, with priority by date of application.

5.2.9.2.3 Unranked foreign applicants are included among those eligible for entry from the standby list ([Rule 5.2.5](#) - [Rule 5.2.7](#)).

## 5.3 Fees

5.3.1 The entry fee will be as announced. A deposit is required when an entry application is submitted. The sponsor may impose a surcharge for entries received after the Preferential Entry Deadline.

### 5.3.2 Fee Amounts

#### 5.3.2.1 Entry fees

5.3.2.1.1 † The maximum fixed entry fee shall be \$685 per entry.

5.3.2.1.2 † The maximum variable entry fee shall be \$300 per entry plus \$48 per aerotow.

5.3.2.1.3 † These amounts may be increased to cover pre-existing local per-pilot fees that apply to all pilots (not solely pilots entered in a competition) who fly at the contest site, up to a maximum of \$25. Organizers must fully explain such local fees on the Application for Sanction form.

5.3.2.3 The entry deposit is \$100.

5.3.2.4 The maximum late-entry surcharge is \$100.

5.3.2.5 Sanction fees

5.3.2.5.1 Of the entry fee, \$60 represents the sanction fee.

5.3.2.5.2 Sanction fees are to be paid by contest sponsors to the SSA at the conclusion of the contest. If the competition is not Official ([Rule 4.4](#), [Rule 5.1.1.1](#)), half the fee is paid to the SSA and the remainder is refunded to entrants.

5.3.2.6 Rules governing fee amounts shall be those in effect at the start of competition. If these have been altered between the time the contest was granted its sanction and the start of competition, the new fees and fee limits shall apply.

5.3.3 When a fixed entry fee has been announced, it includes a number of aerotows equal to the number of scheduled competition days, for use during the period of the contest. But aerotows taken after the start of competition for practice purposes are not covered under this rule.

5.3.4 The deadline for canceling an entry with full refund of fees paid is 14 days prior to the first scheduled competition day; after this time, money will be refunded at the discretion of the Contest Manager. But an applicant on the Standby list who cancels immediately upon notification that an entry position has become open receives a full refund.

5.4 Pilot Qualifications and Requirements

5.4.1 Experience requirements

5.4.1.1 Each entrant shall meet one or more of the following experience requirements:

5.4.1.1.1 Have a Pilot Ranking Score ([Rule 5.2.1](#)) greater than zero.

5.4.1.1.2 Present evidence both of having completed a previous National soaring contest and of recent cross-country soaring experience.

5.4.1.1.3 Foreign pilots may present evidence of having earned the FAI Gold Badge and of experience in soaring competition.

5.4.2 Entry application requirements

5.4.2.1 To be considered for entry, an applicant must submit the following to the contest organizers:

5.4.2.1.1 An SSA number indicating voting or student SSA membership valid through the last scheduled competition day

5.4.2.1.2 Evidence of meeting the experience requirements of [Rule 5.4.1](#).

5.4.2.1.3 The entry deposit ([Rule 5.3.2.3](#))

5.4.2.1.4 A Pilot Ranking score, if earned in the current year ([Rule 5.2.1](#))

5.4.2.1.5 † Not applicable

5.4.2.1.6 If the applicant is a Foreign pilot, declaration of country of citizenship

5.4.2.2 The date of application is the date on which these submissions are completed.

5.4.3 Contest registration requirements

5.4.3.1 † In addition to the requirements of [Rule 5.4.2](#), at contest registration each entrant must:

5.4.3.1.1 † Present proof of holding a valid FAA Private or Commercial Glider Pilot Certificate (or the equivalent from another country).

5.4.3.1.2 † Register and declare the sailplane to be flown. A sailplane will be accepted provided it meets all applicable provisions of these rules.

5.4.3.1.3 † Present proof of ownership of the registered sailplane, or permission of the owner to fly the sailplane in the competition.

5.4.3.1.4 † Present a copy of the coverage page of an insurance policy applicable to the registered sailplane, effective through the final scheduled competition day, showing coverage of at least \$1,000,000 per occurrence for bodily injury and property damage liability.

5.4.3.1.5 † Complete the contest registration form and the waiver/signature form.

5.4.3.1.6 † Pay the balance of fees owed.

#### 5.4.3.2 Entry Deadline

Registration must be complete by 09:00 of the first scheduled competition day; no entries will be accepted later than this.

#### 5.4.4 † Tow pilot requirements

Prior to conducting any tow operations, pilots of aircraft that provide launches of contest sailplanes must:

- Present proof of ownership of the tow aircraft, or permission of the owner for its use in contest towing operations.
- Receive a briefing from the Chief Tow Pilot

### 5.5 Notification of Acceptance

Within two weeks after the preferential entry deadline, a notice of acceptance will be sent to each successful applicant. This notice will confirm the dates of the contest and specify the control points to be used.

### 5.6 Pilot's Kit

At registration, each entrant will receive a package of contest-related information and documents, as follows:

#### 5.6.1 Required

5.6.1.1 A diagram of the contest site showing runways, taxiways, trailer tie-down areas, vehicle routes, and start, finish, relight and gridding areas.

5.6.1.2 A map or diagram showing the location of all control points.

5.6.1.3 Communication procedures for off-site landings.

5.6.1.4 A list of all key contest personnel ([Rule 3.1](#)).

5.6.1.5 † The following items described elsewhere:

- List of control points ([Rule 10.4.6](#))
- Official database of closed airspace ([Rule 10.12.4](#))
- List of designated airfields ([Rule 10.10.3.2](#))

#### 5.6.2 Suggested

5.6.2.1 A map or diagram showing local names for geographic features.

5.6.2.2 A roadmap covering the contest area.

### 5.7 Competition Class

National competitions include one of the classes described in [Rule 6.12](#).

### 5.8 Guests

5.8.1 In addition to foreign pilots ([Rule 5.1.5](#)) organizers may, at their discretion, accommodate other pilots who wish to fly as guests.

5.8.2 Guest pilots must meet all the provisions of [Rule 5.0](#), including the specific requirements of [Rule 5.4](#).

5.8.3 Organizers may set a partial or pro-rated fee for a guest pilot who wishes to fly only part of a contest. Such a partial fee should cover daily costs and a reasonable share of fixed costs.

5.8.4 Guests are expected to comply with all rules, and are specifically enjoined from providing aid to other pilots during flight.

5.8.5 The performance of guest pilots shall not influence the scoring or ranking of regular entrants.

5.8.6 Guest entrants are ineligible for the tangible awards of [Rule 7.0](#).

## 6.0 SAILPLANES AND EQUIPMENT

### 6.1 General

6.1.1 A sailplane must have a valid airworthiness certificate issued by the civil aviation authority of the country in which it is registered. It must comply with applicable US Federal Aviation Regulations and meet all the requirements of the class in which it is entered.

6.1.2 The CD has the right to inspect equipment at any time during the contest.

#### 6.1.3 Exchange of components

6.1.3.1 A sailplane's major components include the fuselage, wings (including separable wingtips), empennage, and power unit (in the case of a motorized sailplane).

6.1.3.2 Except as provided in these Rules, the exchange of a sailplane or major component is not allowed.

6.1.3.3 If the CD determines that a sailplane was damaged through no fault of the pilot or crew, exchange is permitted provided the replacement exactly matches the damaged component.

6.1.3.4 In the case of damage to separable wingtips whose span is less than 40 inches, exchange is permitted without considering fault and without the requirement that the replacement be an exact match. The CD must be informed and such an exchange may not be done more than once during a contest.

#### [6.1.4](#) Official Configuration

6.1.4.1 A sailplane's official configuration is the one used during the first competition takeoff.

6.1.4.2 Except as provided in these Rules, the official configuration may not be altered unless such alteration may be performed in flight.

### 6.2 Contest ID

6.2.1 Each entrant must have a unique Contest ID, consisting of up to three characters (letters or digits). If more than one entrant wishes to use a certain ID, preference will be given first to the entrant using an ID officially assigned by the SSA and second to the entrant who first registered for the competition.

6.2.2 The Contest ID shall be displayed in a contrasting color on both sides of the vertical tail (minimum height 12 inches) and under the right wing (bottom of ID toward the trailing edge of the wing; minimum height is the smaller of 24 inches or 90% of the wing chord excluding a control surface).

### 6.3 Motorized sailplanes

[6.3.1](#) A motorized sailplane is one that incorporates a power unit available for use in flight that adds energy to the air through which the sailplane flies.

[6.3.2](#) Unless otherwise specified in [Rule 6.12](#), motorized sailplanes are not permitted.

6.3.3 If motorized sailplanes are permitted, the following rules apply:

6.3.3.1 † Each motorized sailplane must carry a flight recorder capable of showing when the power unit is used. Each flight is scored up to the latest fix prior to use of the power unit.

6.3.3.2 † If a flight log shows no valid fixes for a period of longer than one minute, the flight will be scored as if the power unit had been used.

6.3.3.3 † The pilot of a motorized sailplane may elect to use the power unit after an outlanding.

[6.3.3.4](#) † It shall be the responsibility of the pilot to supply the equipment necessary to meet and ensure compliance with the provisions of this rule, and to demonstrate its satisfactory operation to the CD and the Scorer prior to the start of competition.

6.3.3.5 † Self-launching may be done, in accordance with [Rule 10.6.3](#).

6.3.3.6 † Except for self-launch, any use of the power unit ends competition flying for the day. The pilot shall return to the home airfield without attempting to proceed further on task; failure to comply can be considered unsportsmanlike conduct.

#### 6.4 Multi-place sailplanes

6.4.1 Multi-place sailplanes may be entered in any class whose rules they meet.

6.4.2 Except as provided in [Rule 6.12](#), multi-place sailplanes may be flown solo or with passenger(s); in all cases weight restrictions must be met.

6.4.3 Two pilots in a multi-place sailplane are not a team entry unless team entries are allowed and the specific provisions of [Rule 5.1.2.3](#) are met.

#### 6.5 Required Equipment

##### 6.5.1 Parachutes

Each occupant of a sailplane must be protected by a parachute. This can be accomplished by either of the following:

6.5.1.1 Each occupant wears a parachute.

[6.5.1.2](#) The sailplane is fitted with a ballistic parachute system approved by the sailplane manufacturer and designed to safely lower the plane and all occupants to the ground.

##### 6.5.2 Emergency Locator Transmitters

When announced by contest organizers prior to the Preferential Entry Deadline, an impact-activated Emergency Locator Transmitter (ELT) is required in every sailplane. The ELT must be a standard production model produced in quantity by a reputable manufacturer.

#### 6.6 Restricted Equipment

6.6.1 Each sailplane is prohibited from carrying any instrument which:

- Permits flight without reference to the ground.
- Is capable of measuring air motion or temperature at a distance greater than one wingspan.

6.6.2 An external cleaning device is any device with moving parts designed to clean the exterior of the sailplane during flight. In certain classes ([Rule 6.12](#)), the use of such devices is prohibited.

6.6.3 Carrying any two-way communication device other than a standard aircraft-band VHF radio and a wireless telephone is prohibited.

6.6.4 Other than an aircraft-band VHF radio, any device that allows in-flight access to weather data is prohibited.

6.6.5 Violations of any provisions of this Rule are considered Unsportsmanlike Conduct.

#### 6.7 Flight Documentation equipment

6.7.1 All flight documentation is accomplished with Flight Recorders.

##### 6.7.2 Definitions

Flight Recorder - A device that makes a continuous computerized log of a sailplane's position.

Flight log - The record of a flight made by a Flight Recorder and transferred to a scoring computer.

Fix - the record of a single position point, including time, latitude, longitude and altitude. A valid fix is one that lies along the flight track of the sailplane, and is not displaced from that flight track by an implausible distance or time. Throughout these Rules, only valid fixes are considered; invalid fixes are ignored.

##### 6.7.3 Flight recorder requirements

Flight recorders used for flight documentation must:

- Be a standard production model produced in quantity by a reputable manufacturer.
- Record position fixes consisting of time, latitude, longitude and altitude.
- Provide horizontal position referenced to the WGS-84 geographic datum.
- Be capable of an interval between fixes of 15 seconds or less.[]



- If used in a motorized sailplane, provide a means of determining when the power unit was used (unless a separate means is provided).
- If used as primary flight documentation for a score that will count towards U.S. Team selection, be of a make and model that has received IGC approval as Secure.
- If implemented as software that runs on a computer readily programmable by the user (such as a PDA or handheld computer), be IGC-approved as Secure.

#### 6.7.4 Altitude recording

6.7.4.1 A Flight Recorder may record altitude derived from a calculated position. The estimated altitude inaccuracy shall be applied in a way unfavorable to the pilot (if the flight log does not include a reliable estimate of this inaccuracy, a value of 75 feet shall be used).

6.7.4.2 A Flight Recorder may record a calibratable pressure altitude. If such a device is used in circumstances where altitude is needed, the altitude inaccuracy determined from the best available calibration data shall be applied in a way unfavorable to the pilot.

6.7.4.3 If a Flight Recorder records both calculated and pressure altitude, pressure altitude will be the primary data source and calculated altitude will be the backup data source for flight evaluation.

#### 6.7.5 Data Format

The flight log from a Flight Recorder must be in (or readily convertible to) a file that fully conforms to the IGC standard format. A valid log file must include:

- A unique Flight Recorder ID.
- The date of the flight.
- The entrant's competition ID and name.
- A record of fixes.

#### 6.7.6 Data Transfer to Scorer

6.7.6.1 A flight log may be submitted to the Scorer via any data medium or transmission scheme suitable to the Scorer.

6.7.6.2 An alternate submission scheme is to transfer the flight log from the flight recorder directly to the scoring computer.

6.7.6.3 The Scorer has the right to request a re-transfer of a flight log directly from a Flight Recorder to check security or to replace missing or damaged data. Such request must be made no later than 9:00 on the day following the flight. A pilot who fails to comply with such a request receives no credit for the flight in question.

#### 6.7.7 Accessories

It is the responsibility of each entrant, prior to the start of competition, to ensure that Scorer is provided with all software and hardware (cables, etc.) needed to transfer, convert, and check flight logs and to demonstrate their satisfactory operation.

### 6.8 Weight

#### 6.8.1 General

6.8.1.1 No sailplane shall compete at a weight greater than the maximum certificated gross weight in the country of origin or 1653 pounds (750 kilograms), whichever is less.

6.8.1.2 Unless otherwise specified, no-ballast rules do not apply and disposable ballast is permitted. But with unanimous consent of all regular entrants the CD may declare a day to be a no-ballast day.

#### 6.8.1.3 No-ballast rules

6.8.1.3.1 Disposable ballast is prohibited, except that sailplanes may carry disposable tail ballast.

6.8.1.3.2 Fixed ballast is permitted, but not more than an amount that brings the sailplane to its maximum handicap weight, as defined in the SSA Sailplane Handicap list.

6.8.1.3.3 For a no-ballast contest (but not for a no-ballast day during a contest that otherwise allows disposable ballast), sailplanes shall at all times fly at a weight within 15 pounds of that used at the first competition takeoff.

## 6.8.2 Weighing

6.8.2.1 Official weighing may be done on the grid or as sailplanes are moved to the grid.

6.8.2.2 If at an official weighing a sailplane is found to be out of tolerance, the weight of that sailplane must immediately be altered to a legal value. If the amount out of tolerance was more than 25 pounds, a penalty will be applied.

6.8.2.3 After official weighing or gridding, weight may not be altered so as to be out of tolerance, and may not be increased more than 5 pounds above the weight at weighing or gridding.

## 6.9 Wingspan

6.9.1 The Wingspan is defined as the length of the horizontal projection of the wings, from one extreme tip point to the other, with the wings in their completely unloaded "zero-G" shape. Wingspan may be measured by any suitable means, provided the wings are supported to reasonably approximate the unloaded shape.

6.9.2 If a nominal wingspan is specified in [Rule 6.12](#), the maximum span shall be the nominal wingspan plus 2.5 centimeters. No sailplane whose wingspan exceeds the maximum span shall be allowed to compete.

## 6.10 Towropes

6.10.1 Contest organizers shall provide towropes of a strength suitable for typical maximum glider weights. Entrants with unusually lightweight gliders may provide their own weak links.

6.10.2 Contest towropes shall employ standard Tost rings. Entrants with gliders needing different rings must supply them.

## 6.11 Electronic Communication Equipment

6.11.1 Each entrant is expected to have a properly-functioning aircraft-band VHF radio capable of transmitting and receiving on 123.3 MHz and 123.5 MHz.

6.11.2 Electronic navigation receivers must conform to the restrictions of [Rule 6.6](#).

6.11.3 Wireless telephony is restricted to emergency and ground use only.

## 6.12 Sailplane Classes

### 6.12.1 Open Class

6.12.1.1 No nominal wingspan applies - an Open-class sailplane may change span at any time.

6.12.1.2 No size or configuration restrictions apply - an Open-class sailplane may change configuration at any time.

6.12.1.3 Motorized sailplanes are permitted ([Rule 6.3.3](#)).

### 6.12.2 Not Applicable

### 6.12.3 18-Meter Class

6.12.3.1 Nominal wingspan is 18.0 meters.

6.12.3.2 Motorized sailplanes are permitted ([Rule 6.3.3](#)).

### 6.12.4 15-Meter Class

6.12.4.1 Nominal wingspan is 15.0 meters.

### 6.12.5 Standard Class

6.12.5.1 Nominal wingspan is 15.0 meters.

6.12.5.2 † Any method of changing the wing profile other than the normal use of ailerons is prohibited. Lift-increasing devices are prohibited, even if unusable.

6.12.5.3 The sailplane must be fitted with airbrakes which cannot be used to increase performance. Drag parachutes are prohibited.

6.12.5.4 † Pilots of non-production Standard Class sailplanes must obtain a letter of approval from the SSA Contest Committee before entry can be accepted.

### 6.12.6 World Class

6.12.6.1 No nominal wingspan applies - see below for configuration restrictions.

6.12.6.2 No-ballast rules shall apply ([Rule 6.8.1.3](#)). Prior to the start of competition, the CD shall designate a competition weight which shall be large enough to accommodate the heaviest entrant, but not larger than the maximum gross weight. Each sailplane shall carry sufficient fixed ballast to attain this designated weight.

6.12.6.3 The configuration shall conform to the IGC rules for this class in all details, including span.

6.12.6.4 The Standard Minimum Task Distance shall be 10 miles less than that specified in [Rule 10.3.1.1](#).

6.12.6.5 The use of external cleaning devices ([Rule 6.6.2](#)) is prohibited.

6.12.6.6 For an Official competition, the minimum number of entrants meeting the provisions of [Rule 5.1.1.2](#) shall be five.

## 7.0 AWARDS

7.1 Awards will be made to regular entrants credited with the following achievements:

- Highest final score in the U.S. National Open Class Championships - The Richard C. duPont Memorial Trophy with medallion and endowment check.
- Highest final score in the U.S. National 15-Meter Class Championships - The 15-Meter Trophy.
- Highest final score in the U.S. National Standard Class Championships - The Standard Class Trophy.
- Best speed on any task in the U.S. National Open Class Championships - The Larissa Stroukoff Memorial Trophy.
- Best speed on any task in the U.S. National 15-Meter Class Championships - The Joe Giltner Trophy.
- Best speed on any task in the U.S. Standard Class Championships - The Jon Kubly Trophy.

7.2 Regular entrants will be ranked and SSA Awards provided as follows:

Gold Award - Highest Final Score

Silver Award - Second Highest Final Score

Bronze Award - Third through Xth Highest Final Score

X = 10 for 50 or more entrants

X = 9 for 45-49 entrants

X = 8 for 40-44 entrants, etc.

Guest entrants whose scores would qualify for a medallion will be awarded a Certificate of Achievement.

7.3 An award may be presented to the pilot having the highest final class score in a U.S. designed and built sailplane provided this score is at least 60% of the highest final class score.

7.4 † Not applicable

7.5 In the case of ties, duplicate awards will be presented.

7.6 Awards may be made for the highest scores on each contest day.

7.7 Commemorative awards are encouraged for all entrants.

7.8 Junior and Feminine National Champions

7.8.1 The titles of Junior and Feminine National Champion will be awarded each year upon the completion of all National competitions.

7.8.2 The Junior or Feminine National Champion is the eligible pilot who achieves the highest percentage of the maximum possible score (the sum of all winning daily scores) at any US National Soaring Championship during the calendar year.

7.8.3 A minimum of 60% of the maximum possible score must be achieved for a Junior or Feminine National Champion to be declared.

7.8.4 The Junior National Champion is awarded the Rudolf W. Mozer Trophy.

## 8.0 PROTEST

8.1 Each entrant is expected to follow these rules and the rulings of the Competition Director, who is the enforcer and arbiter of these rules. For a protest against a ruling of the CD to be sustained there must be clear evidence that a provision of these Rules was not followed.

8.2 If an entrant feels that an incident or interpretation of these rules has caused an inequity, a formal protest, in writing, must be delivered to the CD within 24 hours of the protested incident or act. In arriving at a decision, the CD shall seek advice from the Contest Competition Committee. He may ask for statements from witnesses, etc. The CD shall make a prompt response, in writing, giving the reason for the decision. The decision must be announced within 24 hours of receipt of the written protest.

8.3 Appeal of a decision of the CD shall be directed to the SSA Contest Committee Chairman and must include all relevant documents such as the written protest, the CD's written decision, statements of witnesses, etc. The appeal must be mailed to the SSA within ten days of the CD's decision. The Chairman of the SSA Contest Committee shall seek advice from members of the SSA Rules Committee, and shall make a prompt response, in writing, giving a decision and the reason for it.

8.4 Further appeal may be directed to the SSA Board of Directors which may revise or let stand the decision of the Contest Committee. If the SSA Board of Directors elects to revise the decision, it shall make a prompt response in writing.

## 9.0 SAFETY

A contest should be run with the greatest emphasis on safety. No phase of the operation of the contest or interest in competition can be allowed to compromise safety. Each pilot, crew member, and Contest Official must carry out his responsibility to prevent unsafe practice. The Contest Manager has the primary responsibility for the preparation of a safe plan of operation to be carried out by the Operations Director, CD, and other contest staff.

9.1 A Safety Briefing will be made at each daily pilots' meeting. Suggested briefing subjects are start procedures, gaggle flying, maximum speeds, finish techniques, landing and rollout cautions, off-airport landings, and local concerns.

9.2 Circling within 5 miles of the contest site or within an active start cylinder will be to the left.

9.3 In-flight judgments affecting safety, including any decision to fly over rough terrain or hazardous areas, and evaluation of the safety of any potential landing site, are the sole responsibility of the pilot in command.

9.4 Sailplanes and trailers will be tied down when unattended.

9.5 † The following are prohibited:

- Aerobatics
- Flying within clouds
- Flight after Contest Sunset

9.6 Test flights may be made before the launch line opens if authorized by the CD.

9.7 The CD may declare a rest day if previous contest flying has created a potential fatigue problem for pilots.

9.8 The sponsor shall make available a Safety Box for pilots (and officials) to anonymously submit written comments on any incident or action they feel should be brought to the attention of the CD. The CD shall review the contents of the Safety Box daily and take action as deemed appropriate.

9.9 During take-off and landing operations, all pilots and towpilots should monitor the contest frequency for information pertaining to flight safety.

9.10 Competitors are expected to comply with Federal Aviation Regulations applicable to non-transponder-equipped aircraft operating under Visual Flight Rules.

9.11 If an aircraft may have suffered damage, the CD has the right to ask that it be examined by a qualified inspector prior to further flight.

## 9.12 † Disqualification of an Unsafe Pilot

- A pilot who, in the opinion of a Competition Director or Contest Manager, has demonstrated a problem or a history of safety related problems during participation in one or more contests is subject to review and action by the SSA. Such review will take place upon the submission by a CD or Contest Manager to the SSA Contest Committee Chairman of a written complaint stating the history of the alleged problem(s). This history should be as complete as possible and include statements by witnesses whenever applicable.
- The complaint shall be reviewed by an Investigating Committee consisting of the Chairman of the Contest Committee and the SSA Rules Subcommittee. Witnesses may be interviewed for additional information. If the complaint appears credible, it will be discussed in detail with the pilot, if he or she is willing to discuss the complaint. The Investigating Committee will present its findings in writing to the SSA Board of Directors, along with a recommendation for action. Such recommendation may be for no action, counseling, probation, restriction to certain types and/or levels of competition, a ban from competition for a specified period, or a permanent ban. The final action taken shall be determined by the Board of Directors.
- The Investigating Committee shall when feasible make its recommendation within 30 days of the submission of a request for review.

## 10.0 CONTEST FLYING

### 10.1 Daily Times

10.1.1 Time of earliest soarable weather - estimated by the CD based on the daily weather forecast.

[10.1.2](#) † Grid Time - the time at which all sailplanes shall be on the launch grid, as specified by the CD each day. This time will not be less than one hour after the close of the daily pilots' meeting, but should be at least 25 minutes before the expected time of the first launch.

[10.1.3](#) † Launch Begins - as announced by the CD, but not sooner than 25 minutes after grid time or the end of a pilots' meeting held prior to the first launch.

10.1.4 Start Opens - at the time of the first launch.

10.1.5 Task Opens - at a time designated by the CD, about 15 minutes after the last competitor who accepts his designated launch starts his takeoff roll.

10.1.6 Finish Opens - at the time of first launch.

10.1.7 † Launch Line Closes - three hours before Contest Sunset, unless extended by the CD.

10.1.8 † Contest Sunset - the CD shall designate a Contest Sunset time, which shall be approximately 10 minutes prior to the earliest time of sunset at the contest site during the period of competition.

10.1.9 † Start Closes - 30 minutes prior to Contest Sunset time.

10.1.10 † Finish Closes - at Contest Sunset time.

### 10.2 Meetings

[10.2.1](#) † A mandatory pilots' contest briefing will be held prior to the first competition launch (a pilot not in attendance must be briefed by the CD prior to that pilot's first competition flight). The purpose of this briefing is to discuss competition rules, Start/Finish procedures, airport operations and contest safety. At this meeting pilots will indicate partners for their Critical Assembly Check.

10.2.2 † A daily pilots' meeting will be held prior to launch with the following suggested format:

- Contest Manager - Administrative announcements, results of previous task.
- Operations Director - Operational comments, gridding and launch.
- Meteorologist - Weather briefing, current NOTAM information as supplied by the Federal Aviation Administration
- Competition Director - Safety briefing, proposed and alternate tasks.

[10.2.3](#) † After Grid Time, the CD may call a pilots' meeting near the launch line to confirm or change the task to be flown. The CD shall ensure that each pilot is aware of the task.

[10.2.4](#) † The CD may change the task after the launch has begun but before the task opens. The task change will be announced by radio and a roll call (in alphanumeric order by contest ID when practical) made to verify that each pilot not already informed of the change is aware of the announcement. If a pilot fails to respond, the CD will re-transmit the information to that pilot, and will then assume that the pilot has the new information.

## 10.3 Tasks

### 10.3.1 General

#### [10.3.1.1](#) Task Parameters

- Standard Minimum Task Distance: 60 miles
- Standard Minimum Task Time: 3.0 hours
- Standard Task Time: 4.0 hours
- Minimum length of first leg: 5 miles
- Minimum length of subsequent task legs: 2 miles
- Maximum number of task legs: 11

[10.3.1.2](#) Task Selection - Tasks should be selected so as to provide variety and challenge. The CD should consult all available meteorological resources and seek the advice of Task Advisory Committee ([Rule 3.1.5](#)). CDs are expected to use a mix of task types, lengths and directions, as conditions dictate. Specific task-setting guidelines are found in the Guide to the Rules; CDs should be familiar with these guidelines.

[10.3.1.3](#) Normal Task - Tasks should make as full use of the available soaring weather as is practical. When feasible, tasks should be set so that the expected minimum completion time is not less than the Standard Task Time. Yet a task should be short enough that a pilot who starts as soon as the task opens and who achieves 75% of the expected winning speed is able to finish. A time-limited task should normally allow a maximum possible distance at least 130% of that achievable in the designated minimum time at the expected winning speed.

[10.3.1.4](#) Minimum Task - The minimum scored distance of a task for which a finish will be awarded is the Standard Minimum Task Distance.

[10.3.1.5](#) Maximum Task - Tasks should be set such that the total time on course of the highest-scoring flights on any two consecutive days is less than 10 hours. But, consistent with this and as conditions allow, it is appropriate for the CD to set occasional tasks that are substantially longer than the Standard Task Time.

### 10.3.2 Task Types

[10.3.2.1](#) Assigned Task (AT)- Speed over a course of one or more designated turnpoints, with a finish at the contest site.

[10.3.2.2](#) Modified Assigned Task (MAT) - Speed over a course of one or more turnpoints, with a finish at the contest site.

[10.3.2.2.1](#) The CD shall designate a minimum flight time.

[10.3.2.2.2](#) The CD may designate from zero to 11 turnpoints. Designated turnpoints must be attempted in the designated sequence, but a pilot may elect to finish after any turnpoint in the sequence.

[10.3.2.2.3](#) A pilot who achieves all designated turnpoints may elect to fly to additional turnpoints. Such pilot-selected turnpoints must comply with any restrictions the CD has imposed under [Rule 10.3.2.2.4](#), and no turnpoint may be repeated unless at least two intervening turnpoints are claimed (the Start and the Finish are not turnpoints).

[10.3.2.2.4](#) The CD may restrict:

- The maximum number of turnpoints to a number less than the normal maximum of 11
- The number of times any particular turnpoint may be claimed

- The choice of the first turnpoint (applies only if the CD designates no turnpoints per [Rule 10.3.2.2.2](#))

10.3.2.2.5 The CD may designate a final turnpoint that all pilots must use immediately prior to a finish. This final turnpoint shall be no further than 5 miles from the finish (line or cylinder perimeter).

[10.3.2.3](#) Turn Area Task (TAT) - Speed over a course through one or more turn areas, with a finish at the contest site.

10.3.2.3.1 Turn areas are turnpoints with a designated radius defining a cylinder.

10.3.2.3.2 The CD shall designate a minimum flight time, a sequence of one or more turnpoints and a radius for each which shall be an integral number of miles not greater than 30.

10.3.2.3.3 Turnpoint cylinders shall be chosen so that no task leg can be shorter than the restrictions imposed by [Rule 10.3.1.1](#).

## 10.4 Control Points

10.4.1 Control points include turnpoints and Start and Finish points. All control points should be selected prior to the contest.

10.4.2 Each control point shall be assigned a unique numeric ID and name.

[10.4.3](#) The latitude and longitude of each control point shall be determined (coordinates of a gate will refer to the center of the gate). Coordinates of points that coincide with a ground feature shall be accurate to 200 feet or better based on the WGS-84 datum.

10.4.4 The elevation of each control point and the home field shall be determined, with an accuracy of 50 ft or better.

10.4.5 A point to be used as a finish gate shall include the true track of a glider crossing perpendicular to the gate, accurate to 5 degrees or better.

[10.4.6](#) Control point publication

[10.4.6.1](#) † An official list of all control points (in both printed and electronic form) shall be made available no later than 30 days prior to the first scheduled competition day. The standard format for electronic control point data shall be the Cambridge .DAT format.

10.4.6.2 † An official list of all control points shall be included in each pilot's kit.

[10.4.6.3](#) † Each control point list shall include a publication date or version number, and all the information specified in [Rule 10.4.2](#) through [Rule 10.4.5](#).

10.4.6.4 † If after distribution of any pilot kit, changes to the official control point list are necessary, the CD will ensure that each pilot receives an updated copy and acknowledges receipt by signature.

## 10.5 Flight Documentation

### 10.5.1 General

10.5.1.1 All contest flights shall be documented by means of a Flight Recorder ([Rule 10.5.2](#)).

10.5.1.2 Flight Documentation consists of a Flight Log and any Task Claim form pertinent to the flight.

#### 10.5.1.3 Task Claim Form

10.5.1.3.1 A Task Claim Form is submitted to the Scorer in the following circumstances:

- A Modified Assigned task was flown
- A Safety finish ([Rule 10.9.5.3](#)) is claimed
- The pilot of a motorized sailplane used the power unit after launching
- Flight Documentation includes an incomplete flight log

10.5.1.3.2 After scores have been calculated and before they are Official, any pilot may submit a subsequent Task Claim form for the purpose of obtaining a more accurate score ([Rule 11.2.2.8](#)).

[10.5.1.4](#) The CD and the Scorer shall ensure that all flight documentation is promptly analyzed. Documentation turned in by 20:00 should be analyzed before the next pilots' meeting. Documentation turned in later than 20:00 should be analyzed before 12:00 the next day.

[10.5.1.5](#) The Scorer shall make daily flight documentation available for inspection by any entrant. This requirement can be satisfied by posting each day's flight documentation in an accessible place on a common storage medium (e.g. compact disk).

10.5.1.6 Except as noted below, at the end of the competition the Scorer will publish all flight documentation to a publicly accessible website.

- An entrant may elect to withdraw one or more logs from post-contest publication.

## 10.5.2 Flight log requirements

10.5.2.1 A valid flight log is one that:

- Passes applicable security checks.
- Shows the takeoff, the path of the flight, and the landing.
- Has a typical interval between fixes of 15 seconds or less.
- Between takeoff and landing, shows no interval between fixes exceeding 15 minutes.

10.5.2.2 At any control point, valid control requires that the flight log show the entire path of the sailplane within 2 miles of the control cylinder.

## 10.5.3 Turnpoint control

10.5.3.1 The standard turnpoint radius is 1.0 miles; this applies except when the CD declares a different radius as part of a Turn Area Task.

10.5.3.2 Proper control at a turnpoint requires at least one fix whose distance to the turnpoint is not greater than the turnpoint radius.

10.5.3.3 If the closest fix is outside the turnpoint radius, a miss distance shall be calculated: it is the distance from the closest fix to the turnpoint, minus the turnpoint radius. If the miss distance is not greater than 1 mile, turnpoint control is valid but a penalty applies ([Rule 12.1.4.1](#)) ; if greater than 1 mile, there is no valid control.

## 10.5.4 Incomplete flight log

### 10.5.4.1 Manually-recorded finish

10.5.4.1.1 A pilot who may have suffered a flight recorder failure can request a manually-recorded finish time. The pilot shall execute a normal rolling finish ([Rule 10.9.2](#)) and is timed as the sailplane comes to a full stop.

10.5.4.1.2 If after a flight a pilot eligible for a finish is found to have suffered a flight recorder failure prior to finishing, the finish time shall be the CD's best estimate of the time that pilot's sailplane came to a full stop.

10.5.4.2 A pilot who suffered a flight recorder failure can receive credit for distance to an outlanding site by submitting to the Scorer the Outlanding Report and the name, signature, and telephone number of one impartial witness (not pilot's family or own crew) who can verify that the sailplane landed at the claimed location.

### 10.5.4.3 Use of multiple flight logs

10.5.4.3.1 A pilot with multiple incomplete flight logs may receive credit for a flight by submitting all available flight documentation. The CD shall examine this to determine the points at which the flight was properly controlled. Any portion of a Flight Log may be used to determine proper control.

10.5.4.3.2 A pilot who makes use of the provisions of this Rule more than once during a competition incurs a penalty ([Rule 12.1.4.6](#)) for each such additional case.

## 10.6 Launching

### 10.6.1 Order of Launch

[10.6.1.1](#) † The initial day's grid positions will be determined at random. Positions for subsequent days will be determined by placing the front 20% of the previous competition day's list at the back of the grid, for each class. Grid lists for all subsequent competition



days will be made available no later than the second daily pilots' meeting.

10.6.1.2 The CD shall maintain an auxiliary launch list, indicating the order in which launches after the last scheduled grid position shall take place. Pilots who wish to pull back or relaunch are placed on this list on a "first come, first served" basis.

#### 10.6.2 Launch procedure

10.6.2.1 Pilots shall have their planes in the proper grid position at Grid Time and be ready to launch 20 minutes after Grid Time. A pilot who is not in proper position at Grid Time, or is not ready to launch in sequence will be deemed to have pulled back.

10.6.2.2 A pilot may pull out of his grid position at any time and move so as to launch after the last scheduled launch, any relaunches already in place, and any other pilots having declared to move back. Such pull-backs are intended to be used to deal with unforeseen problems, and not as a routine part of contest strategy.

10.6.2.3 Each pilot will be permitted a maximum of three launches each competition day. Launches aborted due to no fault of the sailplane pilot will not be counted.

10.6.2.4 Each time a pilot pulls out of a grid position one of the three permitted daily launches will be forfeited.

10.6.2.5 Pilots whose launches are aborted due to no fault of the sailplane pilot will be relaunched as soon as is practical.

10.6.2.6 Sniffer - The CD may select a radio-equipped sailplane, flown by an experienced soaring pilot, to obtain an accurate assessment of the soaring conditions and to assist in selection of the time for the first launch.

10.6.2.7 Not Applicable

10.6.2.8 Not Applicable

10.6.2.9 All contest launches will be by aero-tow. The aero-tow operation should be capable of launching all sailplanes in one hour or less. Radio-equipped towplanes will monitor a frequency designated by the Operations Director. Towplanes will tow at 80 miles per hour (unless otherwise requested) in a pre-selected pattern to an altitude of 2000 feet AGL (or as specified by the CD).

10.6.2.10 The Operations Director will record take-off roll times, sailplane competition ID, and towplane numbers.

10.6.2.11 Relaunches following retrieval from off-site landings will not be allowed. However, the CD may permit relaunches from off-site landings due to a condition judged to be the responsibility of the contest organization.

10.6.2.12 The CD may suspend the launch for safety reasons. Launching should be resumed at the earliest practicable time, preserving launch order. The CD will declare a no-contest day if the delay is so long that the remaining soaring day makes fair competition unlikely.

#### 10.6.3 Self-launch

If approved by the contest organizers and the CD, pilots of motorized sailplanes may elect to self launch. The following rules apply:

10.6.3.1 The responsibility for the decision to self-launch lies with the pilot.

10.6.3.2 Self-launching sailplanes shall follow procedures and a flight path as specified by the CD. These shall be chosen to maximize safety (which includes ensuring adequate separation from aerotow launches) and to minimize competitive imbalance by keeping all gliders in substantially the same conditions of weather and lift.

10.6.3.3 Motors must be shut down no higher than the altitude specified by the CD as part of the self-launch procedure. This altitude shall normally be 800ft higher than the aerotow release altitude. The place designated for shut-down shall allow any motorized sailplane unable to stow its engine to make a safe unpowered return to the home field.

10.6.3.4 Within 10 minutes after motor shut-down, self-launching sailplanes must make their way to a designated position close to the normal aerotow release area, at an altitude no higher than normal aerotow release height. The flight log must show that the climb from this position was achieved in normal lift, and not as the result of a pull up from high speed.

10.6.3.5 Self-launches found not to comply with specified procedures will be penalized. The penalty ([Rule 12.1.4.4](#)) shall consist of a fixed minimum plus a number of points that in the estimation of the CD represents the maximum possible advantage obtained from the violation (but the total penalty shall not be less than the fixed minimum). Height violations normally incur a penalty of one point per foot.

10.6.3.6 Pilots who wish to relaunch must land at the home field without the use of power. They must launch in the sequence of the CD's auxiliary launch list ([Rule 10.6.1.2](#)).

## 10.7 Communication

### 10.7.1 General

10.7.1.1 Use of electronic communication devices outside those specified in [Rule 6.11](#) will be considered Unsportsmanlike Conduct.

### [10.7.2](#) Radio Usage

10.7.2.1 The contest frequency, used for all official contest functions (Starts, Finishes, task announcements, etc.) is 123.3 Mhz; 123.5 Mhz is used for pilot-crew communications.

10.7.2.2 If 123.3 Mhz becomes unusable, the CD may designate 123.5 Mhz as the contest frequency.

10.7.2.3 All transmissions shall use the ICAO phonetic alphabet when appropriate.

10.7.2.4 While on course, each pilot should monitor the contest frequency for safety messages from other pilots.

10.7.2.5 Crews shall not initiate a radio call to their pilot, except in an emergency.

[10.7.2.6](#) Crews may relay information previously transmitted by the CD. Otherwise, transmission of soaring or contest information to pilots by crew is prohibited.

10.7.2.7 Relaying of information between aircraft for any reason other than safety is prohibited. This specifically forbids team flying.

## 10.8 Starting

### 10.8.1 Task opening

10.8.1.1 As the last pilot who accepts the designated launch starts the takeoff roll, the CD will announce the time of the class's task opening, which shall be approximately 15 minutes after this launch, and long enough to allow this pilot a fair chance to climb prior to the task opening.

10.8.1.2 After the announcement of task opening time, the CD should consult with the task advisors as to whether the selected task is fair and safe. If a delay or a task change is deemed necessary, this should be announced 10 minutes or more before task opening time; task changes later than this should be avoided when possible.

10.8.1.3 An advisory will be transmitted five minutes before the task opens and when the task opens.

### 10.8.2 Valid start

10.8.2.1 A valid start is a start obtained after the task has opened and after the pilot's last launch. A pilot must have a valid start to be given a scored start time. The best-scoring valid start is used; other starts are ignored.

10.8.2.2 A start is not allowed while on tow or while a motorized sailplane's power unit is in use.

### 10.8.3 Single-point start

10.8.3.1 Each task shall include a Start Point and a Start Radius which shall be an integral number of miles not less than 5 nor greater than 20.

10.8.3.2 The Start Point and Start Radius should be chosen so that pilots are likely to be able to find lift prior to starting and to return to the home field if they fail to do so.

### [10.8.4](#) Multiple-point start

10.8.4.1 Up to four start groups containing 2 to 4 start points each shall be declared; each start group shall contain the same number of points. The start groups shall be labeled with sequential letters, and the points within a start group with sequential numbers starting at 1.

Start point names thus consist of a letter followed by a number.

10.8.4.2 Each start point is the center of a start cylinder, whose radius is an integral number of miles not greater than five, as designated by the CD. Cylinder perimeters shall be no closer than 1 mile.

10.8.4.3 For each task, each pilot is assigned a start number not larger than the number of points in a start group; the total of pilots assigned each number shall be approximately equal. A pilot may elect to start within any start group, but must start from a point whose number matches the assigned number. (Thus with three groups, a pilot assigned number 2 may start from A2, B2, or C2.)

10.8.4.4 If there was a pilot option, the chosen start point must be claimed on the Landing Card. If a pilot claims a start from a point that was not assigned, a penalty applies ([Rule 12.1.4.2](#)).

#### 10.8.5 Start control

10.8.5.1 Each task shall include a Maximum Start Height (MSH) above the home field. This height shall not be less than 5000' AGL nor more than 10000' AGL.

10.8.5.2 The Start Point, Start Radius, and MSH define a three-dimensional Start Cylinder.

[10.8.5.3](#) A start occurs each time a sailplane exits a Start Cylinder (either through the side or the top); at least one fix must lie within the cylinder. The following shall be determined:

- Start Fix - the latest fix within the Start Cylinder.
- Start Time - the interpolated time the sailplane exited the Start Cylinder.

10.8.5.4 A pilot may claim a start when no fix is within the Start Cylinder; such a start incurs a penalty. The following shall be determined:

- Start Fix - the fix closest to the Start Cylinder.
- Start Time - the time of the Start Fix.

10.8.5.5 For each start, the following shall be determined:

- Control Fix - the fix with the greatest altitude during the 2 minutes preceding the Start Fix.
- Control Height - the difference (in feet) between the altitude of the Control Fix and the elevation of the home field.
- Control Interval - the time difference (in minutes) between the Control Fix and the Start Fix.
- Start Distance - the distance (in miles) from the Start Fix to the Start Point.

10.8.5.6 If the Control Height exceeds MSH or the Start Distance exceeds the Start Radius, a penalty will apply ([Rule 12.1.4.3](#)).

10.8.6 The distance of the first task leg shall be taken as the distance from the Start Point to the control fix at the first turnpoint, minus the Start Radius.

10.8.7 Pilots are expected to avoid flight at indicated airspeeds greater than 115 mph while inside a Start Cylinder that has been designated for use by any competition class.

#### [10.8.8](#) Start time reporting

The CD may require pilots to report their start times by radio. The following rules apply:

10.8.8.1 To avoid a penalty ([Rule 12.1.4.5](#)), a start time must be reported within 15 minutes after the start is made, and must be accurate within 2 minutes.

10.8.8.2 Beginning no later than the time of task opening, a contest official designated by the CD shall monitor the contest frequency, maintain an official list of reported start times and the time the report was received, and confirm receipt of reports.

10.8.8.3 Crews may report start times for pilots by appearing in person before the official designated by the CD.

10.8.8.4 Deliberate mis-reporting of start times can be penalized as Unsportsmanlike Conduct.

10.8.9 During contests that include more than one competition class, starts shall be chosen to minimize the possibility of conflicts between pilots of different classes.

## 10.9 Finishing

### 10.9.1 General

#### 10.9.1.1 Finish Type

For each task the CD shall specify a flying finish procedure: either a Finish Cylinder ([Rule 10.9.2](#)) or a Finish Gate ([Rule 10.9.3](#))

#### 10.9.1.2 Communications

10.9.1.2.1 When four miles from the finish point, the pilot shall transmit "[Contest ID] four miles."

10.9.1.2.2 When a finish could come from more than one direction, radio calls shall include the direction from which the pilot is finishing.

10.9.1.2.3 Pilots are encouraged to make additional radio calls when they feel these increase safety, but to avoid unnecessary radio chatter.

10.9.1.3 During finishes, contest officials may provide information concerning the runway in use and the estimated wind direction and velocity. They will not be responsible for giving traffic control information.

10.9.1.4 Pilots must pay particular attention to safety during the process of finishing, landing, and rolling to a stop. A pilot whose finish, pattern, landing, or rollout is deemed unsafe by the CD is subject to a penalty for unsafe operation.

### 10.9.2 Rolling finish

[10.9.2.1](#) As an alternative to a flying finish, the CD shall designate one or more rolling finish areas on the home airfield.

#### [10.9.2.2](#) Communications

When four miles from a rolling finish, the pilot shall transmit "[Contest ID] four miles, rolling finish."

[10.9.2.3](#) Pilots performing a rolling finish shall touch down and roll to a stop as specified by the CD, and will be timed as the sailplane comes to a complete stop.

10.9.2.4 If announced by the CD prior to the start of competition, a time adjustment will be added to rolling finishes. This adjustment will be based on the vertical and horizontal distance between the rolling finish and the location designated for a flying finish.

10.9.2.5 The CD shall ensure that the Scorer is informed of all rolling finishes, including the time adjustment (if any) that applies to each.

### [10.9.3](#) Finish Cylinder

10.9.3.1 A task shall include a Finish Point not more than 2 miles from the home field and a Finish Radius not greater than 2 miles.

10.9.3.2 A task shall include a Minimum Finish Height above the home field, set by the CD so that pilots who finish at or above that height can return to the home field for a normal landing.

10.9.3.3 The Finish Point, radius, and minimum height define a three-dimensional Finish Cylinder. A finish occurs when a sailplane enters the Finish Cylinder; at least one fix must lie within the cylinder. The finish time is taken as the interpolated time the sailplane first entered the Finish Cylinder.

#### 10.9.3.4 Communications

10.9.3.4.1 When four miles from the finish point, the pilot shall transmit "[Contest ID] four miles."

10.9.3.4.2 Upon entering the finish cylinder, the pilot shall transmit "[Contest ID] finished." If the finish is substantially above the bottom of the finish cylinder, the altitude may be included; altitude should be announced as either MSL or AGL.

10.9.3.4.3 Upon entering the downwind leg of the landing pattern, the pilot should transmit "[Contest ID] downwind for runway [runway ID]."

10.9.3.5 The distance of the final task leg shall be taken as the distance from the control fix at the final turnpoint to the Finish Point, minus the Finish Radius.

### [10.9.4](#) Finish Gate

10.9.4.1 A task shall include a Finish Point which is the center of the Finish Gate, and a finish direction which is the true ground track of a sailplane crossing perpendicular to the finish gate.

[10.9.4.2](#) The Finish Gate is a vertical plane of unlimited height approximately 3300 feet wide with its bottom at 50 feet AGL. At least one end of the Finish Gate will be clearly marked on the ground. Pilots electing to fly through the Finish Gate must pass through it only in the specified direction with sufficient energy to fly a full or partial pattern to a safe landing on the airfield.

10.9.4.3 Communications

When four miles from the finish gate, the pilot shall transmit "[Contest ID] four miles." The Gate Director will respond, "[Contest ID]."

[10.9.4.4](#) As the sailplane crosses the Finish Gate, Gate personnel may transmit "Mark" and then "[Contest ID] Good Finish," or "[Contest ID] Bad Try". A "Bad Try" will be given when the passes through the gate in the wrong direction or is judged to be below 50 feet AGL; Bad Tries are reported to the CD and the Scorer, and may be subject to a penalty for unsafe operation. Pilots shall not reply to a "Good Finish", but must acknowledge a "Bad Try."

10.9.4.5 In the case of a Good Finish, the finish time is taken as the interpolated time the sailplane crossed the finish gate. But if the flight log shows that the sailplane did not pass within the horizontal limits of the gate in the proper direction, a rolling finish is used.

[10.9.4.6](#) In the case of a Bad Try, a rolling finish ([Rule 10.9.2](#)) is used - the pilot shall not attempt another flying finish.

10.9.4.7 The distance of the final task leg shall be taken as the distance from the control fix at the final turnpoint to the Finish Point.

#### 10.9.5 Safety finish

10.9.5.1 The Safety finish area is a cylinder centered on the finish point with a radius of 5 miles.

10.9.5.2 If weather conditions warrant, the CD may activate the Safety finish by a radio announcement on the contest frequency.

10.9.5.3 If the Safety finish is active, a pilot may claim a finish by obtaining one fix within the Safety finish cylinder; the altitude of the fix must be such that the slope to the finish point is not less than 200 feet per mile. The safety finish must be claimed on a Task Claim Form ([Rule 10.5.1.3.1](#)).

10.9.5.4 After a Safety finish there is no requirement to return to the home field; a pilot may elect to land at any location or to remain flying.

10.9.5.5 The pilot's scored finish time is taken as the time of the claimed fix plus a time adjustment of one minute per mile for the distance from the fix to the center of the cylinder.

10.9.5.6 The CD may de-activate the Safety finish. At least 5 minutes notice of the time of de-activation shall be transmitted on the contest frequency.

#### 10.10 Post-Flight

##### [10.10.1](#) Landing at the Contest Site

10.10.1.1 Flight Documentation Interval (FDI)

This is the maximum time that may elapse between a landing at the contest site and the submission of valid flight documentation ([Rule 11.2.2](#)) to the Scorer.

10.10.1.2 When not otherwise designated by the CD, an FDI of 1 hour shall apply.

##### 10.10.2 Landing away from the Contest Site

10.10.2.1 Submission of Flight Documentation

10.10.2.1.1 The pilot shall submit flight documentation@ to the Scorer as soon as practicable. In general, this should be done within one hour of returning to the contest site. But in no case shall it be later than 09:00 of the next day.

10.10.2.1.2 In the unusual case where it is impractical for a pilot to return to the contest site, the pilot may arrange with the Scorer to submit flight documentation by e-mail. This arrangement requires direct telephone communication between the pilot and the scorer, and is allowed no more than once during a contest. The Scorer must receive the Flight

Documentation no later than 09:00 of the next day, or a penalty shall apply.

#### 10.10.2.2 Notification of landout

[10.10.2.2.1](#) It is a pilot's first duty, after landing and securing the sailplane, to complete an Outlanding Report and then telephone the contest site. Pilots who fail to promptly supply full information are subject to an administrative penalty.

[10.10.2.2.2](#) The Outlanding Report shall include a contact telephone number (if available), the turnpoints achieved, the landing location and retrieve instructions. If the landing site is an airfield, the name of the airfield suffices as the location; otherwise, the latitude/longitude coordinates of the landing site, accurate within 0.5 miles, shall be included.

[10.10.2.2.3](#) The telephone call is normally directed to the contest Retrieve Office. Pilots may alternatively contact their crews with the necessary information, directing their crews to supply this to the Retrieve Office prior to departing the contest site. Pilots who fail to ensure that the Retrieve Office is properly notified are subject to an administrative penalty.

[10.10.2.2.4](#) Use of other means of communication is authorized only when telephone contact is impractical.

[10.10.2.3](#) Operations will stay open until all pilots are accounted for or until an announced cutoff time, whichever is later. If Operations are informed of a crew-pilot rendezvous problem, they will stay open until told the problem is resolved.

[10.10.2.4](#) † Retrieves will normally be by vehicle and trailer. Aerotow retrieves (using towplanes authorized by the CD) are permitted from sites approved by the CD on a first-to-telephone-in/first-served basis. Pilots of sailplanes capable of self-launch may elect to self-retrieve.

#### [10.10.3](#) Airfield landing bonus

[10.10.3.1](#) A pilot with an incomplete task who lands at a designated airfield can receive a score bonus for such a landing.

[10.10.3.2](#) The landing must take place at a field designated by the CD as eligible for such a bonus. Eligible fields shall be designated prior to the start of the competition. Unless otherwise announced, all airfields depicted on a current Sectional chart shall be considered eligible. The home airfield is always eligible.

[10.10.3.3](#) A pilot whose scored distance is zero receives no bonus.

[10.10.3.4](#) A pilot of a motorized sailplane receives no bonus for a landing that takes place after the use of the motor.

#### 10.11 Multiple task attempts

[10.11.1](#) A task may be attempted more than once; the best-scoring attempt will be used.

[10.11.2](#) A pilot that has completed a task may elect to land at the contest site; having landed, flight documentation must be submitted within the Flight Documentation Interval ([Rule 10.10.1.1](#)). The pilot may then re-launch for another attempt; no result of the subsequent flight can affect the distance and speed obtained from the first.

[10.11.3](#) A pilot that has completed a task may attempt to fly the task again without a re-launch. But in this case, the completion of the first task remains contingent on a landing at the contest site; should the second attempt end in an outlanding (or the use of a motorized sailplane's power unit), the first attempt is not considered complete ([Rule 11.2.2.4](#)).

[10.11.4](#) An outlanding (or the use of a motorized sailplane's power unit after launch) ends an entrant's competition flying for that day.

#### 10.12 Airspace

[10.12.1](#) † Closed airspace includes Class A, Class B, Class C, Restricted and Prohibited areas, airspace outside US territory, and other airspace in which VFR flight by non-transponder-equipped aircraft is not allowed or would require a specific clearance. Such airspace is closed at all times, except as specifically announced by the CD. Any airspace that lies directly above closed airspace is itself considered closed.

10.12.2 † Tasks should be set to avoid flight through closed airspace or areas of high-density traffic.

10.12.3 A start cylinder or a turn area used with a Turn Area Task may overlap closed airspace. Such overlap does not alter a pilot's responsibility to remain clear of the closed airspace.

[10.12.4](#) † Contest organizers shall publish an official database of closed airspace in .SUA format that is complete and correct at the start of the competition (each such file shall include a publication date). But since airspace changes can be implemented at any time, all pilots should be aware that perfect accuracy of airspace data cannot be guaranteed. If discrepancies arise, they will be resolved by reference to the official definition of airspace in effect at the time of flight, subject to modifications announced by the CD.

10.12.5 Airspace clearance requirements

10.12.5.1 Horizontal

A serious violation occurs if any fix lies within forbidden airspace.

10.12.5.2 Vertical

A minor violation occurs if any fix has a vertical separation from closed airspace less than 500 ft but not less than 100 ft; a serious violation occurs if any fix has a vertical separation from closed airspace less than 100 ft.

10.12.6 Penalty application

Multiple minor airspace violations may be applied to one flight, but not more than one per 5 minutes. No more than one serious airspace violation penalty shall apply to one flight. When both minor and serious violations occur, only the serious violation shall be applied.

10.12.7 Gaps in a Flight Log longer than one minute shall be interpreted unfavorably to the pilot. During each such gap:

- the closest horizontal approach to or from the nearest closed airspace shall be calculated assuming a speed of 100 mph
- if in the judgment of the CD there was any realistic possibility of a vertical airspace violation, the closest vertical approach to the nearest closed airspace shall be calculated based on a climb rate of 1000 feet per minute

## 11.0 SCORING

### 11.1 General

11.1.1 A Contestant is a regular entrant whose Scored Distance ([Rule 11.2.3](#)) is greater than zero.

11.1.2 A Finisher is a Contestant with a complete task ([Rule 11.2.2](#)), whose Scored Distance is not less than the Standard Minimum Task Distance ([Rule 10.3.1.1](#)), and who obtains a Good Finish before the time of Finish closing ([Rule 10.1.10](#)).

[11.1.3](#) A valid competition day is a day on which every regular entrant is given a fair opportunity to compete, and at least 25% of the Contestants achieve a Scored Distance not less than the Standard Minimum Task Distance.

[11.1.4](#) Only the best flight on each valid competition day shall count towards an entrant's final score.

### 11.2 Task Measurement

#### 11.2.1 Precision

11.2.1.1 Times will be rounded to the nearest whole second. The CD shall ensure that all clocks used for contest timing are synchronized and correct.

11.2.1.2 Control points ([Rule 10.4](#)), landing sites, and other points of significance will be designated by latitude/longitude coordinates with accuracy per [Rule 10.4.3](#). Coordinates for a landing at an airfield will be taken at a standardized location on the airfield.

[11.2.1.3](#) Distances will be calculated to an accuracy of 0.01 miles or better using Great Circle methods, based on a spherical earth of radius 3958.7559 miles (6371.0 kilometers).

11.2.1.4 When time interpolation is called for during evaluation of a flight log, the interpolation shall be linear with distance.

#### 11.2.1.5 Altitude measurement

11.2.1.5.1 When the Scorer must measure a pilot's height above ground level (AGL), this height shall be the difference between a recorded fix and that of a fix recorded on the ground. For all purposes except finish height, a fix prior to takeoff shall be used. For finish height, the Scorer shall use the more favorable of a pre-takeoff or post-landing fix.

11.2.1.5.2 When the Scorer must measure a pilot's height above sea level (MSL), this shall be the height AGL as determined under [Rule 11.2.1.5.1](#) plus the altitude of the home field.

#### 11.2.2 Task Evaluation

[11.2.2.1](#) Each pilot shall submit flight documentation each day a launch is made; it shall accurately document the flight that the pilot completed. Failure to submit flight documentation incurs a contest penalty.

11.2.2.2 † If the flight documentation includes a Task Claim form under the provisions of [Rule 10.5.1.3](#), task evaluation is based on this form, which may not be altered once submitted (but a subsequent Task Claim can be submitted under the provisions of [Rule 11.2.2.8](#)). When there was any pilot option at the time of landing, the Task Claim should include the point being sought at the time of landing; when this is absent, the flight shall be scored as if the pilot had listed the Finish as the point being sought.

#### 11.2.2.3 Valid turnpoints

11.2.2.3.1 Valid turnpoints are turnpoints that meet the requirements of [Rule 10.4](#) and [Rule 10.5.3](#).

11.2.2.3.2 At each valid turnpoint the Scorer shall determine the fix that in combination with other control fixes gives the pilot the greatest scored distance. Each such control fix is used as the terminating point of one task leg and the originating point of the subsequent leg.

11.2.2.3.3 If a flight is being evaluated based on a Task Claim form that includes an invalid turnpoint, the Task Claim is considered to have ended at the last valid turnpoint.

[11.2.2.4](#) Task completion - If all turnpoints are valid, yield a scored distance ([Rule 11.2.3](#)) not less than the Standard Minimum Task Distance and the pilot obtained a scored start time, a finish time prior to finish closing and landed at the contest site, then the pilot has completed the task. Otherwise the task is incomplete.

11.2.2.5 † For incomplete tasks, a scored landing point shall be determined by the Scorer. This is generally the fix that yields the greatest scored distance, but the following restrictions apply:

- The fix shall be no later than Contest Sunset time.
- For a motorized sailplane, the fix shall be prior to use of the power unit

11.2.2.6 While it is the Scorer's duty to ensure that documentation is evaluated and scores are calculated promptly and accurately, it is the duty of each entrant, prior to a day's scores becoming Official, to review scores and bring to the attention of the Scorer any question that arises or problem that is found.

#### [11.2.2.7](#) Subsequent Task Claim

11.2.2.7.1 After initial submission of flight documentation, a pilot may elect to submit a subsequent Task Claim form to the Scorer. A pilot may do this to claim control fixes different from those determined by the Scorer, to correct a prior task claim, or in general to obtain a more accurate score.

11.2.2.7.2 A subsequent Task Claim form will be accepted if it is received prior to a day's results being declared Official and if it results in a more accurate score.

#### 11.2.2.8 Procedures for airspace clearance violations

11.2.2.8.1 If it is determined that a flight includes a serious airspace clearance violation, the Scorer shall give the affected pilot the opportunity to withdraw the flight log for that flight. This withdrawal shall incur the same penalty as applies to failure to submit flight documentation.



11.2.2.8.2 Notwithstanding the withdrawal of flight documentation, the pilot's daily status as a Competitor and a Finisher shall be determined and used in calculating daily scores for other entrants.

11.2.2.8.3 A withdrawn flight log is not published, and no copy is retained by the Scorer.

11.2.2.8.4 A pilot with more than one contest flight that includes a serious airspace violation is disqualified from the competition; the same applies to more than one failure to submit flight documentation.

### 11.2.3 Scored Distance

11.2.3.1 Scored distance is the sum of the distance achieved on each leg of the task (but no leg shall have a length less than zero).

11.2.3.2 For all Tasks, the first leg originates at the start point; the start radius is subtracted from its length.

11.2.3.3 For completed tasks, the final leg ends at the finish point; any finish radius is subtracted from its length.

11.2.3.4 For incomplete tasks, a length for the incomplete task leg is calculated. This shall be the distance from leg's originating point to the control point being sought (which shall be the valid control point that yields the best distance) minus the distance from the scored landing point to that control point. If the point being sought was the finish point, this leg length shall not be greater than the full length of the final leg minus any finish radius.

11.2.3.5 Scored Distance is zero if:

- The pilot has no valid start time ([Rule 10.8](#)).
- The pilot lands at the home field (or the pilot of a motorized sailplane used the power unit after launch) and the distance calculated above is less than half the Standard Minimum Task Distance.

### 11.3 Scoring Nomenclature

SMTD - Standard Minimum Task Distance ([Rule 10.3.1.1](#)).

SMTT - Standard Minimum Task Time ([Rule 10.3.1.1](#)).

DIST - Scored Distance ([Rule 11.2.3](#)).

Contestant - defined in [Rule 11.1.1](#).

Finisher - defined in [Rule 11.1.2](#).

SCR - Scored Completion Ratio ([Rule 11.4.3](#)).

TOC - Actual Time on Course ([Rule 11.4.1](#), [Rule 11.5.3.1](#))

STOC - Scored Time on Course ([Rule 11.5.3.2](#))

TASKDIST - Task Distance - The sum of the lengths of all legs of the task.

SPEED - finisher's scored speed ([Rule 11.4.2](#), [Rule 11.5.3](#)).

MINTIME - Minimum Flight Time, as declared by CD.

UF - Undertime Finishers - Number of finishers whose TOC is more than 15 minutes under MINTIME.

BESTDIST - Best Distance - Greatest value of DIST achieved by any Contestant.

BESTSPD - Best SPEED achieved by any Finisher.

MSP - Maximum Speed Points ([Rule 11.4.4](#), [Rule 11.5.5](#)).

MDP - Maximum Distance Points ([Rule 11.4.5](#), [Rule 11.5.6](#)).

STF - Short Task Factor ([Rule 11.4.6](#), [Rule 11.5.7](#)).

POINTS - the calculated score.

### 11.4 Scoring Equations - Assigned Task

11.4.1 Time on course:

TOC = (Scored finish time) - (Scored start time)

(applies only to Finishers)

#### 11.4.2 Speed:

$$\text{SPEED} = \text{DIST} / \text{TOC}$$

(applies only to Finishers)

#### 11.4.3 Scored completion ratio:

$$\text{SCR} = (\text{Number of finishers}) / (\text{Number of contestants})$$

#### 11.4.4 Maximum Speed Points:

$$\text{MSP} = 400 + 1000 * \text{SCR} \text{ (but not greater than 1000)}$$

#### 11.4.5 Maximum Distance Points:

$$\text{MDP} = \text{MSP} * (0.65 - 0.25 * \text{SCR})$$

#### 11.4.6 Short Task Factor:

$$\text{STF} = (\text{TOC of Finisher with BESTSPD}) / \text{SMTT}$$

(but not greater than 1.00)

#### 11.4.7 Points for Finishers:

$$\text{POINTS} = \text{MSP} * \text{STF} * \text{SPEED} / \text{BESTSPD}$$

(but not less than  $25 + \text{MDP} * \text{STF}$ )

#### 11.4.8 Points for Non-Finishers:

$$\text{POINTS} = \text{MDP} * \text{STF} * \text{DIST} / \text{TASKDIST}$$

#### 11.4.9 Points if there are no Finishers:

$$\text{POINTS} = 400 * \text{DIST} / \text{TASKDIST}$$

#### 11.4.10 Bonus for non-finishers who land at a designated airfield: 25 points

### 11.5 Scoring Equations - Modified Assigned Task and Turn Area Task

#### 11.5.1 Not Applicable

#### 11.5.2 Not Applicable

#### 11.5.3 Speed:

##### 11.5.3.1 Time on Course:

$$\text{TOC} = (\text{Scored finish time}) - (\text{Scored start time})$$

(applies only to Finishers)

##### 11.5.3.2 Scored Time on Course:

###### 11.5.3.2.1 For finishers whose TOC is not less than MINTIME:

$$\text{STOC} = \text{TOC}$$

###### 11.5.3.2.2 For finishers whose TOC is less than MINTIME:

$$\text{STOC} = \text{MINTIME} - ((\text{MINTIME} - \text{TOC}) / 10)$$

###### 11.5.3.2.3 For other finishers:

$$\text{STOC} = \text{MINTIME}$$

##### 11.5.3.3 Speed for all finishers:

$$\text{SPEED} = \text{DIST} / \text{STOC}$$

#### 11.5.4 Scored completion ratio:

$$\text{SCR} = ((\text{Number of finishers}) - 0.75 * \text{UF}) / (\text{Number of contestants})$$

#### 11.5.5 Maximum Speed Points:

$$\text{MSP} = 400 + 800 * \text{SCR} \text{ (but not greater than 1000)}$$

#### 11.5.6 Maximum Distance Points:

$$\text{MDP} = \text{MSP} * (0.65 - 0.25 * \text{SCR})$$

#### 11.5.7 Short Task Factor:

$STF = (TOC \text{ of Finisher with BESTSPD}) / SMTT$   
(but not greater than 1.00)

#### 11.5.8 Best Distance:

If there are no finishers, BESTDIST is the greatest scored distance achieved by any pilot. Otherwise, BESTDIST is the larger of the greatest scored distance achieved by any finisher and (BESTSD \* MINTIME).

#### 11.5.9 Points for Finishers:

$POINTS = MSP * STF * SPEED / BESTSPD$   
(but not less than  $30 + MDP * STF$ )

#### 11.5.10 Points for Non-Finishers:

$POINTS = MDP * STF * DIST / BESTDIST$   
(but not greater than  $MDP * STF$ )

#### 11.5.11 Points if there are no Finishers:

$POINTS = 400 * DIST / BESTDIST$

#### 11.5.12 Bonus for non-finishers who land at a designated airfield: 25 points

### 11.6 † Not Applicable

#### 11.7 Rounding of Scores

Full available mathematical precision shall be carried through all calculation steps. Scores shall be rounded to the nearest whole number, but only as the final calculation step.

### 11.8 Scoring Guest Pilots

11.8.1 Terms such as "Best Speed" and "Best Distance" refer to the performance of regular entrants only; guest pilots achieving a better daily result shall receive a proportionally extrapolated score.

11.8.2 On a day when the only finishers are guest pilots, the highest speed shall be assigned a score of 600 points.

11.8.3 At the option of contest organizers, guest pilots shall be ranked and listed either separately from regular entrants at the bottom of official score sheets, or along with regular entrants.

### 11.9 Status of Scores

11.9.1 The initial status of a competition day is Preliminary; scores published under this status are typically incomplete and subject to considerable change.

11.9.2 Once flight documentation for all entrants is received by the Scorer, the status of a competition day becomes Unofficial. Scores are subject to change due to analysis of flight documentation, imposition of penalties, resolution of protests, etc.

#### 11.9.3 Official status

11.9.3.1 The CD shall declare the official status of a competition day 24 hours after the latest of:

- All flight documentation is analyzed and made available for inspection
- Final unofficial scores are published
- Protests are resolved

11.9.3.2 A day that meets the requirements of [Rule 11.1.3](#) has the official status of Valid; otherwise, the day is officially declared a No-Contest day.

11.9.3.3 Other than to correct errors caused by incorrect scoring software, no changes to scores are allowed after a day's official status is declared.

11.9.5 Contest status - The results of a competition become Official 48 hours after the final official status of every scheduled competition day has been declared. No score changes of any kind are allowed after a contest is declared Official.

### 11.10 Publication of Scores

11.10.1 Unofficial score sheets shall be published as soon as possible, but no later than the next daily Pilot's Meeting.

11.10.2 A score sheet shall be published on every day that any entrant achieved a scored distance greater than zero.

11.10.3 An Official score sheet shall be published as soon as possible after a competition day is declared Official, or is determined not to be a valid competition day ([Rule 11.1.3](#)).

11.10.4 Published score sheets shall include, at a minimum:

- Each pilot's name and Contest ID
- Each pilot's cumulative score and rank
- Notation as to pending protests
- Notation as to whether scores are Official or Unofficial

[11.10.5](#) Score sheets that show daily scores should also include:

- A description of the task
- Speed (for finishers) and distance
- Any applicable penalties or score adjustments
- Daily rank

## 11.11 † Pilot Ranking

11.11.1 † The Contest Weighting Factor is 100.0.

11.11.2 † At the end of an Official competition each regular entrant and each foreign entrant receives a Pilot Ranking Score, used to produce the annual SSA Pilot Ranking List and to determine preferential entry into upcoming contests.

Ranking Score = (Contest Weighting Factor) \* (Pilot's cumulative score) / (Largest cumulative score by a regular entrant)

(but the ranking score shall not be greater than the Contest Weighting Factor)

## 12.0 PENALTIES

### 12.1 Task Penalties

12.1.1 Task penalties apply only to the entrant's score for the task attempt on which the penalty was imposed. If the day is not a valid competition day, a task penalty does not apply.

12.1.2 † Task penalties are multiplied by the daily penalty factor, which is equal to the largest daily score (before penalties) of any Regular entrant in the class divided by 1000.

12.1.3 If the amount of a pilot's task penalties equals or exceeds the pilot's score, the pilot receives a score of zero.

#### 12.1.4 Task penalty categories

12.1.4.1 Missed turnpoint ([Rule 10.5.3.3](#)): penalty = 25 + 100 \* (miss distance)

12.1.4.2 Wrong start point ([Rule 10.8.4.4](#)): penalty = 100

12.1.4.3 † Start penalty ([Rule 10.8.5.6](#)): penalty = 25 plus the sum of the following (neither of which shall be less than zero):

Distance penalty = (Start Distance - Start Radius) \* 200

Height penalty = (Control Height - MSH - 100) / 2

12.1.4.4 Self-launch penalty ([Rule 10.6.3.5](#)): minimum penalty = 100

12.1.4.5 Improper reporting of start time ([Rule 10.8.8.1](#)): penalty = 10

12.1.4.6 Flight Documentation Interval exceeded ([Rule 10.10.1.2](#)): penalty = 50

12.1.4.7 More than one case of incomplete flight documentation ([Rule 10.5.4.3.2](#)): penalty = 25

12.1.4.8 Administrative violations: maximum penalty = 50

Rules violations that do not fall into other categories are termed Administrative; violations can be assessed a penalty or a fine of up to \$5, as determined by the CD and the Contest Competition Committee.

## 12.2 Contest Penalties

12.2.1 Contest penalties apply whether or not the day on which the penalty is imposed is a valid competition day.

12.2.2 When a precise penalty is not specified, the amount shall be determined by the CD and the Contest Competition Committee.

12.2.3 If a contest penalty exceeds a pilot's daily score, the excess amount is subtracted from the pilot's cumulative score.

12.2.4 Contest penalties shall be reported to the SSA Competition Committee.

### 12.2.5 Contest penalty categories

12.2.5.1 Unsafe operation (including all phases of flight and ground operation): maximum penalty = disqualification.

12.2.5.2 † Landing after the time of Contest Sunset: penalty = 200 points.

12.2.5.3 Unsportsmanlike conduct (including falsification of flight documentation): maximum penalty = disqualification from the contest and ineligibility for Sanctioned competitions for a period of 5 years.

12.2.5.4 Underweight or overweight: penalty =  $(W - 10)^2 / 10$  (W is the number of pounds under or over the correct weight)

12.2.5.5 Failure to submit flight documentation: penalty = 100

#### 12.2.5.6 Airspace clearance violations

12.2.5.6.1 Minor Airspace violation: penalty = 25

12.2.5.6.2 Serious airspace violation: penalty = 100 + loss of all daily points

## 13.0 REPORTING REQUIREMENTS

### 13.1 Daily Reporting

13.1.1 The CD and the Scorer shall ensure that contest scores are reported at least daily to the SSA website. When possible, preliminary scores should be posted by 20:00, and updated as changes are made and when scores become Official.

13.1.2 A brief narrative describing each contest day is recommended for inclusion with submitted scores.

### 13.2 Competition Director's Reporting

13.2.1 The CD shall ensure that an Accident/Incident Report is filled out for every incident that leads, or had a reasonable probability of leading, to damage or injury.

13.2.2 Within 14 days of the last scheduled competition day, the CD shall send the following to the SSA:

- The Competition Director's Report
- A copy of each Accident/Incident Report

### 13.3 Administrative Reporting

Within 14 days of the last scheduled competition day, contest organizers shall send the following:

13.3.1 † To each entrant and the SSA:

- The Contest Financial Report

13.3.2 † To the SSA:

- A copy of each entrant's Registration Form
- The balance of Sanction Fees owed
- Complete Official Scores in computerized form
- The Contest Summary Report and each applicable Accident/Incident Report

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# Appendix A

## Guide to the U.S. National FAI -Class Competition Rules

31 March 2007

[A3.1.3](#) The Competition Director must not be a contestant. Because of the demands on the CD's time, it will likely be impracticable for the CD to fly the competition tasks; he can fly as sniffer ([Rule 10.6.2.6](#)), to get a good feel for the day's conditions.

[A3.1.5](#) Task advisors should have the qualifications listed, and be decisive. Radio discussions of the task should be limited to the CD and the Task Advisors, unless another pilot's input is specifically requested by the CD.

If you are selected as a Task Advisor, be prepared to give the CD a brief and unambiguous opinion of the flying conditions and the chance of completing contemplated tasks.

[A3.2](#) If any contest officials are eligible for extension of entry priority under this rule, the Contest Manager must make a point of sending the names to the SSA.

[A5.1.1.1](#) A particular site may be suitable for a smaller number of competitors, and thus may request a smaller maximum on the Application for Sanction form submitted to the SSA. If a smaller limit is imposed, it will be announced well in advance.

[A5.1.3](#) To avoid confusion, sharing pilots may not use identical contest IDs. One of them should fly with a modified ID (this can usually be done quickly with colored tape).

[A5.2.9](#) If the maximum number of competitors has been restricted ([Rule 5.1.1.2](#)), then the number of slots reserved for Foreign Pilots is reduced in the same proportion.

[A5.3.2.4](#) There is no obligation to collect a surcharge for late entries; if used, it must be applied fairly.

[A5.3.3](#) Note that "period of the contest" ([Rule 4.1](#)) includes official practice days, which are part of National competitions only. Practice prior to a Regional contest is considered unofficial and practice tows are not covered.

[A5.4.1](#) Note that the exception applies to a pilot who has completed a previous National contest. The intent is to accommodate obviously experienced pilots who have not flown in a recent contest.

[A5.4.3.2](#) This is to be interpreted to mean that irrevocable notification of intent to enter must be given before the stated time. A pilot may make arrangements to appear later than this time, and to receive the required safety briefing directly from the CD. All pilots have the right to know about any entrant who plans to arrive late.

[A5.5](#) In addition to those who have been accepted, any pilot placed on standby should be notified of his position on the standby list.

[A5.8](#) Note that pilots who fly as guests must be qualified in all respects. Guest status is not to be used as a means of circumventing qualification or equipment standards. Guest pilots must pay the Sanction fee (which, among other things, insures proper status under contest insurance coverage).

[A6.1.4](#) In this rule, "Configuration" refers to the full aerodynamic configuration of the glider. Thus, for example, this rule prohibits changing the angle at which ailerons are set unless such change can be accomplished in flight (which would be legal in Open, 18-meter and 15-Meter classes, but not in Standard class).

Open class provides a special case - span change are allowed at any time (and this includes wingtip swaps). But note that a big-span glider competing in a Sport-class contest is not in Open class and so is not allowed this freedom.

[A6.3.1](#) It is an enabled motor that defines a motorglider; gliders with motors are considered non-motorized if the motor is unavailable for use during flight. Thus, a pilot may fly with a motor that is not enabled but which can be enabled after a landout and then used to fly home.

[A6.3.2](#) Motorgliders with enabled engines may participate in Open and 18-Meter and Sport classes, and at Regional contests. They may self-retrieve and (with proper instrumentation) receive credit for reaching the last turnpoint achieved before the engine was used. If GPS-controlled starts are in

effect, they can receive credit for reaching any point prior to engine start.

[A6.3.3.4](#) Note that this rule requires that, prior to the start of the contest, the CD inspect and approve the special equipment that a motorglider must carry. The pilot must request that the CD do the inspection.

[A6.4](#) Note that a multi-place sailplane is often not a team entry as defined in [Rule 5.1.2.2](#). Team entries are not allowed in FAI-class National contests, but multiplace entries are.

[A6.5.1.2](#) To be acceptable, a ballistic parachute system must have a specific approval from the manufacturer. The approval must mention the parachute make and model, and certify that it is designed to lower the aircraft and occupants safely (some ballistic parachutes are designed only to stabilize the sailplane and give the occupants more time to bail out).

[A6.6](#) Note that electronic navigation systems (including GPS, Loran, etc.) are legal in all classes.

[A6.7.2](#) The definition makes it clear that a fix is a single point. In depicting fixes, software may under some circumstances show a circle rather than a point; for the purposes of deciding if a fix is sufficiently close to a turnpoint, measurement is taken to the center of such a circle, not to its perimeter.

[A6.7.3](#) At a National contest, the CD must ensure that the make & model of each entrant's Flight Recorder is noted.

[A6.7.5](#) It is the pilot's responsibility to provide contest organizers with the necessary software and hardware to download and evaluate the pilot's flight recorder data.

[A6.7.7](#) Note that it is the pilot's responsibility to show the CD and the Scorer that a flight recorder and software can meet specified requirements, and that the effort involved is reasonable. The job of checking out flight recorders and software should be done well before the start of competition.

[A6.8.1.3](#) Under no-ballast rules (including all Sport-class contests), water ballast is not allowed, not even with the dump system disabled (but note the tail ballast exception of [Rule 6.8.1.3.1](#)). Fixed ballast is legal, but it must be installed for the duration of the contest. It is the pilot's responsibility to maintain a weight and balance within the limits published in their Sailplane Owner's/Operator's Manual.

#### [A6.8.2](#) Managing weighing

Prior to the start of the contest, the CD should make a chart showing each glider's Contest ID, the maximum allowable weight, and the weight of the main gear and the tail at that maximum weight. Once this is done, only the main gear need be weighed.

Scales should be located so that it is convenient for a glider to be weighed on the way to the grid. Weights should be taken with the wings balanced (not necessarily exactly level) in a cross or headwind (never a tailwind). Unofficial weighings can be done early in the day, but once a glider is officially weighed, [Rule 6.8.2.3](#) applies: a violation can be considered unsportsmanlike conduct. Pilots high on the score sheet (say, positions 1 through 5) should be weighed every day. Others can be weighed at random. With portable scales, weight checking can be done on the grid, between grid time and launch time.

Note that [Rule 12.2.5.4](#) specifies the penalty when a glider is over- or underweight.

Not all contests will have means for precise enforcement of weight rules (i.e. scales). This does not mean that weight rules are suspended - pilots are expected to make a good-faith effort to comply.

[A6.9.1](#) If there is any question about the unloaded shape of the wings, it can be determined by observing the shape a wing assumes when removed from the sailplane and held leading-edge-down.

[A6.9.2](#) An allowance of 2.5 cm (approximately 1 inch) is provided as a tolerance for errors in measurement, errors in supporting the wings, and errors due to thermal expansion of the sailplane and/or measuring device.

[A6.11](#) The intent is to keep pilot eyes looking out of the cockpit, not continuously watching computer screens containing internet or other related input. Standard aircraft and weather related information transmitted on aircraft frequencies is not effected by this rule.

[A8.2](#) The CD must take any protest seriously, and investigate each one carefully; the entire Contest Competition Committee (see [Rule 3.1.4](#)) should be involved. Note that the protest and the response must be in writing.

[A8.3](#) If a protest cannot be resolved to the satisfaction of all, this rule allows an appeal to the SSA Contest Committee. Thorough, written documentation must be included.

### A9.0 Critical Assembly Check

A Critical Assembly Checklist is a short list of steps mandatory for safe flight. It is developed from manufacturer's recommendations and the service history of an aircraft model.

The SSA recommends:

- That each pilot or owner develop a Critical Assembly Checklist for each aircraft.
- That each pilot perform a Critical Assembly Check each day.
- That each pilot arrange an independent verification of the Critical Assembly Check by another person.
- That a conspicuous mark be applied to the left wing-root area indicating that the Critical Assembly Check has been independently verified. This can be a mark made on the wing-root tape, or a separate piece of colored tape.
- That tow providers check for the presence of the confirming mark as a requirement for towline hookup.

Note that designing, performing and arranging for the verification of the Critical Assembly Check is entirely the responsibility of the pilot - this recommendation in no way diminishes the pilot's responsibility for safe flight.

Contest Organizers can, at their option, look for the confirming mark at the left wing root and refuse to provide a launch if it is not present.

### 9.0 Emergency Locator Transmitters

Though they are not required, the Rules Committee is on record as recommending the use of an ELT by every competition pilot. The potential safety benefit is large, and the cost is relatively low (less than \$250). This could be a suitable topic for a safety briefing.

A9.1 Some kind of safety briefing should be part of every daily pilot's meeting. A common and effective technique is ask a pilot to prepare a 5-minute talk concerning a safety subject on which he is knowledgeable. Such pilots should be contacted at least a day in advance, and the CD should ensure that the pilot's presentation is appropriate.

A9.2 If non-contest flights will also take place, pilots must be instructed that they, too, must abide by this rule. Any circling glider is likely to attract a gaggle, so pilots must be competent to fly in close proximity to others.

A9.8 The safety box provides a method for anonymous comments on safety to reach the CD. It should be in a secure location accessible to all pilots. The CD should check it twice a day, taking whatever unofficial action seems appropriate, and keeping all submissions confidential.

A9.11 A examination is especially advisable in cases where flutter or an overly-hard landing is suspected (since hidden damage has been found to be common in such cases).

A10.1.2 Grid time is usually declared once and remains constant throughout a contest. This is convenient and avoids confusion, but can cause the loss of valuable soaring time on days that start earlier than normal. There is no reason why a CD should not declare an earlier-than-normal grid time if weather dictates.

A10.1.3 The CD should allow as much time before launch as possible. When limited time is available the CD needs to ensure the first-launching pilots have a sufficient and safe amount of time to get ready (e.g. the pilot's meeting should be at the front of the grid and pilots in the first wave to launch should be given early warning).

A10.2.1 The intent of having pilots indicate their Critical Assembly Check partner is to maintain a high level of awareness of this issue without shifting responsibility to the CD or contest organizers. Aircraft assembly and safety continues to be the pilot's responsibility.

A10.2.2.4 There is no requirement to name a task at the morning pilot's meeting, but it is a good idea for the task sheet to list several possible tasks, and for the CD to designate one as the primary task for the day. In the absence of any subsequent change, this is the task that will be flown.

A10.2.3 A pilots' meeting at the front of the grid need not be called if the day's task has already been named and is unchanged. If the task is changed, the CD must ensure that each pilot has been informed of the change. By making such an announcement during a mandatory meeting, the CD has met his responsibility to inform all pilots; a subsequent change requires a roll call of all pilots.

A10.2.4 This rule allows the task to be changed "in the air", by means of a roll call. A typical scenario in tricky weather is that the CD wishes to start the launch before it is clear what is the right task to call. After some radio discussion, the task advisors and the CD agree on a task. The CD announces the task (including turnpoints, start & finish directions, etc.), and then conducts a roll call



to ensure that all pilots understand the new task. A roll call starts with the announcement "Answer with your Contest ID if you understand the new task." Then the CD runs down the list of Contest IDs, and each pilot answers when his Contest ID is transmitted.

[A10.3.1.1](#) The minimum time is supposed to be a minimum, not a target. Multiply the estimate of the winner's speed by the minimum time to get the minimum length of task that should be called, weather permitting. A longer task is desirable if the weather will allow it.

[A10.3.1.2](#) Task-calling considerations for the CD

General

- Select good (i.e. knowledgeable, fair and decisive) task advisors, and use them.
- Using the best available weather information and the help of the task advisors, estimate:
  - - The times at which soarable conditions will start and end
  - - The speed that the winner will achieve
- Be ready to modify these estimates as the day develops.
- Using these estimates and the guidelines on task length of [Rule 10.3.1](#), select three tasks appropriate to the predicted conditions. At the pilots' meeting, name the longest of these as the primary task.
- The mix of tasks should be balanced across all task types.
- Be ready to launch 30 minutes before the earliest possible start of the day.
- Launch the sniffer as early as is practical. Launch the fleet as soon as the sniffer indicates that conditions are acceptable (see the comments for Rule 10.6.2.6, below).
- Understand the importance of an efficient launch. The ideal would be to get everyone into the air in 5 minutes. That isn't possible, but anything that makes the launch go more smoothly is welcome. The saving of even a few seconds per launch adds up.
- Make a point of consulting the task advisors between 15 and 10 minutes before the task opens, to verify that those in the air feel the contemplated task will be safe and fair.
- On difficult days, keep trying until it is really too late to get a fair task in. Listen principally to the weatherman, rather than pilots who may be complaining that they'd prefer to pack up their gliders and go swimming.
- Try to use the full day, not merely the best part of it. Inevitable, 60-90 minutes or more are lost to the launch and pre-start. Try to call tasks that make good use of the rest.
- Use distant turnpoints in good weather - save the nearby ones for the tough days. Visiting a variety of turnpoints tends to add interest to a contest.
- With Minimum-time tasks (TAT and MAT), inexperienced pilots especially should be made aware of the significance of the Standard Minimum Task Distance. A pilot who flies the minimum possible distance may not have enough distance to get credit for a finish. This is doubly important in Sport class, where the minimum distance to get credit for a finish depends on a glider's handicap.

[A10.3.1.3](#) This rule imposes an effective maximum length on a task, especially on days where soarable weather is predicted to end early.

[A10.12.4](#) The Worldwide Soaring Turnpoint Exchange server contains access links to official FFA special use airspace data. The server also contains a program which can be used to create special use airspace files in the TNP (Tim Newport-Peace) format (.SUA) restricted by latitude and longitude based areas as well as specific airspace classes.

[A10.3.2.1](#) Assigned Task

This task has been in use for many years and is thus understood by most CDs. It is best in contests where pilot skill is reasonably uniform, and on days when the weather forecast is thought to be reliable and does not include problems such as thunderstorms. Using the help of the weatherman and the task advisors, the CD should estimate the speed that the day winner is likely to be able to achieve, and the amount of time available from task opening to the end of soarable conditions. The right task length is then the distance that a pilot who maintains 75% of the winner's speed is able to cover in the time available.

[A10.3.2.2](#) Modified Assigned Task

The MAT is especially well suited to contests in which pilot ability varies considerably, and to days where the weather may be significantly better or worse than the forecast. Because it is time-limited, it "scales itself" to the actual conditions of the day, and to the abilities of individual pilots. The CD has many options here: He can assign a large number of turnpoints - so many, in fact, that it is impossible for any pilot to complete them all, in which case the task becomes like an Assigned Task but with the option for those who are slow to return after any turnpoint. He can assign few or

no turnpoints, which makes the task like the old Pilot-Selected task. (Note that when no points are assigned, the CD can restrict the choice of the first turnpoint, for example to send the pilots into the same general area without specifying just one point.)

Some care is needed when assigning turnpoints. It is best for the increment in distance for completing assigned turnpoints decrease for successive assigned points. If this is not the case, then late in a flight a pilot can be faced with the choice of coming home early or having to fly a large extra distance, which can be luck-prone.

#### A10.3.2.3 Turn-Area Task

This is also a time-limited task, so, like the MAT, it works on days of unpredictable weather and with pilots of different skill. Large turn areas do not force pilots to a single point and thus allow fairer and safer flying on days with thunderstorms or other localized weather problems.

To take full advantage of the TAT, the CD should set reasonably large turn areas (using radii of 8 to 10 miles or more). With small turn areas, the difference between the minimum and maximum possible distances may not be large enough to cope with weather variability.

It is important to look at the minimum and maximum possible distances. In general, the shortest possible distance should be really short - about how far a pilot would fly in the declared minimum time if he maintained half the winner's estimated speed. The longest possible distance should be almost impossible to achieve in the minimum time, requiring perhaps 150% of the winner's estimated speed.

A well-designed TAT will generally have a reasonably large (say, 10- to 15-mile radius) final turn area located so that the distance from its closest point to home is about 10 miles. This will allow pilots to "tune" their distances near the end of their flight. If the minimum possible final leg is long, pilots must turn for home without much certainty as to conditions during the final hour of their flight.

A10.4.3 Considerable care must be used in surveying control points. It can be done by driving to the point with a good GPS unit (a Flight Recorder takes multiple fixes and gives the best accuracy), by flying to the point (making several passes over the point on different headings at reasonably low altitude), or by the careful use of detailed topographic maps.

Certain software now available for PCs provides detailed maps of any chosen area, with the ability to obtain lat/lon coordinates. Such software can be an excellent cross-check of the accuracy of turnpoint coordinates.

A10.4.6 Note that start and finish cylinders and finish gates are usually different and rarely the same point as the home turnpoint. Thus, they should appear as different points in the turnpoint list, and the proper distinction should be made when calculating task distance.

In addition to the required information, a thorough control point list may also include:

- A task area diagram showing the location of all control points.
- A matrix showing the distance and bearing of all control points from home.
- A list of prohibited task legs (Rule 10.12.4).
- Launch, start, finish, and re-light procedures (with diagrams).
- Retrieve phone numbers.

A10.4.6.1 In order to ensure that this process works smoothly, it is important that every printing of a control point list be dated and every electronic list of turnpoints include a unique version number, so it's easy to tell if a list is the current one.

A10.4.6.3 It is desirable that the list of control points and their coordinates be produced, cross-checked, and printed well before the start of the contest. Yet in the age of electronic navigation, accuracy demands have increased, and it is unfortunately common that some last-minute adjustments are found necessary. This rule describes specific procedures that must be followed if changes are found necessary after the distribution of any pilot's kit: each affected pilot must be given a copy of the update, and must acknowledge receipt by signature. The CD must retain the signatures as proof that proper notification was given.

A10.5.1.4 This rule gives competitors the explicit right to examine any pilot's landing card and/or flight log.

A10.5.1.5 This rule gives competitors the explicit right to prevent any or all of their flight logs from being given to any entity for publication on the Internet or via any other means.

A10.6.1.1 In previous years, the order of the 20% was reversed - this is no longer the case. Experience has shown that grid position markers are essential for smooth gridding. They should be conspicuous, properly spaced, and immovable. On a paved runway, pieces of duct tape can work. On grass, spray paint is sometimes used (it may need to be renewed during the contest).

[A10.6.1.2](#) This rule means that a pilot who wishes to launch in other than the assigned sequence must inform the CD, who maintains a list of the order of these auxiliary launches.

[A10.6.2.2](#) A pilot who pulls out of the assigned launch sequence is not automatically placed on the auxiliary launch list - he must see the CD and request this ([Rule 10.6.1.2](#)). A pilot may choose to wait before requesting a relaunch.

Note that this rule discourages pull-backs of the "I'd really prefer a later launch" type.

[A10.6.2.6](#) The choice of a Sniffer can be important; the best is a reasonably proficient contest pilot, flying a glider of performance and wing loading similar to those in the contest, who can give objective reports on the height and strength of lift, and some evaluation of how conditions appear away from the home field. The right sniffer can be a real asset; the wrong one can unnecessarily delay the launch. If no qualified sniffer is available, consider using one of the designated Task Advisors (if a contest pilot is sniffer and must remain airborne for a long time before the launch, he should be given the option of landing to clean the bugs from his wings).

Some pilots are of the "AGL" persuasion; others are strictly "MSL". Because there are two types, the sniffer should be told to use the phrase "AGL" or "MSL" every time he reports an altitude.

Conditions that keep one glider in the air may not be sufficient for the whole fleet. In general, there should be at least 5-mile visibility and the sniffer should be able to maintain 2500' AGL before the fleet is launched (the CD may vary these criteria as local conditions dictate).

On days of obviously excellent conditions, the sniffer simply represents an unnecessary expense and delay, and should not be used.

[A10.6.2.9](#) If any sailplane is by design incapable of being launched by aerotow, a waiver of this rule is available. Contact the SSA's Contest Committee.

The "pre-selected pattern" is set by the CD; generally it is upwind to a likely source of lift. The CD should be aware of how early launchers are faring, and should alter the designated pattern if conditions indicate that another choice would give pilots a better chance of staying in the air.

[A10.6.2.10](#) To verify FDI compliance, there must also be a system for recording the time at which landing cards are turned in.

[A10.7.2](#) The CD should take care that no information disclosing competition status be broadcast by contest officials. For example, a pilot may choose to broadcast the fact that he has landed out (by a transmission to his crew on 123.5), but this should not be done by contest officials (it could give a competitive advantage to pilots still flying).

[A10.7.2.6](#) Transmissions prohibited under these rules would be subject to Unsportsmanlike Conduct penalties.

[A10.8.4](#) Multiple-point start

These are now available without waiver for National competitions, where large classes make them most useful. To be successful, the various start points must be carefully chosen. The goal is to have start points that, with respect to local terrain and weather, are perceived as equally favorable.

[A10.8.5.3](#) These paragraphs describe the only ways in which a pilot can obtain a scored start time; without this, the pilot's score will be zero ([Rule 11.2.3.4.2](#)). Note that a pilot must have a start after the task has opened and after his last launch.

[A10.8.8](#) CDs are encouraged to require start time call backs for AST tasks to allow spectator involvement. Call backs are not necessary for non-AST tasks. In general, a pilot is expected to have a properly-functioning radio, and is responsible for the consequences of his own radio problems.

[A10.9](#) The CD should ensure that all pilots are supplied with a good diagram and explanation of finish procedures (both flying and rolling finishes should be covered).

With a Pilot-Selected task and a finish gate, although finishers may arrive from any direction, they must fly through the gate only in the designated direction. This may require a pilot to fly wide of the gate and then "hook" the end of it to get a proper finish. Flying through the finish gate in the wrong direction gets a "bad try", is unsafe and is subject to penalty.

[A10.9.2.1](#) The CD must designate one or more rolling finish areas (which could be "anywhere on the airfield"). There is no connection between these areas and the Finish Gate (where flying finishes are done).

[A10.9.2.2](#) Because of past practices, it's common for gate personnel to want to give a pilot doing a rolling finish his "mark" as the glider crosses the plane of the finish gate. This is incorrect - for a rolling finish, the time is always the time the wheel stops rolling.

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[A10.9.2.3](#) Time added under this rule is not a penalty, but simply an adjustment to approximate the time the pilot would have finished had he flown to the location of the gate. Use of finish time adjustments will require careful work by finish gate crew. All time adjustments must be announced before the start of the contest.

#### [A10.9.3](#) Cylinder Finish

This is a more recent addition which tends to be duller and somewhat safer than a Gate Finish. Here are some considerations:

- It is strongly recommended that the cylinder be centered on the home field, so that all pilots are an equal distance from home when they finish.
- The radius should be one or two miles. Even the smaller of these give a lot of separation between gliders finishing from different directions.
- The minimum finish height should be chosen so that finishers have no trouble flying a reasonably normal landing pattern. 500' should be the minimum for a one-mile-radius cylinder; 800' would work for a 2-mile cylinder. (These might have to be higher for a contest with low-performance gliders, or with the possibility of very strong winds.)
- The CD should specify a time adjustment for rolling finishes, probably of at least 2 minutes. Without this, it can be advantageous for pilots to ignore the cylinder and simply plan the rolling finish each day, which will tend to decrease safety.
- The Cylinder finish now includes additional radio calls (CDs and pilots should become familiar with these). They are designed to keep all in the air better informed of finishing traffic. In a sense they take the place of calls from gate personnel.

#### [A10.9.4](#) Gate Finish

This is the "traditional" low-altitude finish, now modified so that times are taken from the Flight Log rather than by gate personnel. This finish is much more dramatic and spectator-friendly than a Cylinder finish, but it also presents some complications and risks that should be understood:

- Pilots and gate personnel should understand that the radio call of "Mark - Good finish [contest ID]" is now mostly for show: the Scorer determines whether the finish was within the lateral limits of the gate.
- Gate personnel do determine whether the finish was sufficiently high. If a finish was low, they must inform the CD. They must also note which pilots do a rolling finish, and supply this information to the Scorer.
- On a task when finishes may come from several directions, some pilots may need to "hook" the end of the gate - to fly around it so they can finish in the specified direction. Flying through the gate in the direction opposite to the finish is a safety violation.
- If local considerations make unpredictable finish direction a problem, the Cylinder Finish should be used.
- All pilots should understand that the "low pass" or "beat up" maneuver is potentially hazardous -- it has led to stalls and spin entries, and to closer-than-comfortable encounters between sailplanes.

[A10.9.4.2](#) The minimum finish height of 50 feet is intended to be interpreted somewhat loosely, as "approximately one wingspan". It is not intended that finish heights be precisely measured or that a pilot should be penalized for a finish at 48 feet. But "worm burner" finishes at only a few feet are prohibited and should be penalized.

Safety can be enhanced by locating the finish gate in such a way that there is no conflict between finishers and aircraft in the landing pattern (e.g. the finish gate is east of the runway and landing patterns are flown on the west side). There is no requirement that the gate be located over the airfield - there may be good reason to locate it well to one side.

[A10.9.4.4](#) A pilot who elects to do a flying finish must have sufficient energy for a safe pattern; attempting a pattern with too little energy could be subject to an unsafe flying penalty.

[A10.9.4.6](#) Violations of this rule should be considered an unsafe operation [Rule 12.2.5.1](#).

[A10.10.1](#) Note that any pilot (including a non-finisher) who lands at the home field is now subject to a penalty if he exceeds the FDI.

[A10.10.2.2.1](#) This rule requires that a competitor who lands out call in (by telephone, not radio, unless a telephone is unavailable); the call must include the information on the Outlanding Report (landing location, turnpoints claimed, etc.). It is natural for a pilot to be principally concerned with the retrieve, yet barring an emergency the retrieve office should insist on a full report.

[A10.10.2.2.2](#) This rule means that all landings at any airfield are considered equivalent. A pilot cannot receive credit for more distance by flying to the far end of a runway, nor lose distance by electing to fly the safest available landing pattern.

[A10.10.2.4](#) Aerotow retrieves must be organized and managed by someone who is familiar with local towing considerations. The departure and return of tugs and gliders must be tracked. Fees and procedures should be spelled out in advance.

[A10.10.3](#) Airfield landing bonus

Contest organizers are encouraged to note fields that are on a Sectional Chart that are not suitable, and fields that are not on a Section but are landable. It is a good policy to see that points marked as landable in any official database of control points coincide with those for which a bonus applies. But no such efforts in any way modify the pilot's responsibility to evaluate the safety of any potential landing spot, as new wording in [Rule 9.3](#) makes clear. It will always be the case that some airfields shown on a Sectional chart are unsuitable for gliders, especially for long-wingers. No pilot should be under the mistaken impression that the availability of a landing bonus constitutes an endorsement of the safety of an airfield.

[A11.1.3](#) The wording "a fair opportunity to compete" provides a means by which a CD can decide to "scrub" an otherwise valid competition day if he feels it was unfair. This is to be done only under the most extraordinary circumstances, and not to deal with the case of unusual or difficult soaring weather (weather is often unfair, but this unfairness is an inherent part of soaring competition). In general, only some sort of "force majeure" that prevents fair competition qualifies. An example might be an emergency that closed the airfield, making it impossible for some pilots to finish.

[A11.1.4](#) This rule makes it clear that a pilot may attempt a task more than once. Combined with [Rule 10.10.1](#) and [Rule 11.2.2.4](#) the effect is to allow a Second task attempt without first landing and turning in flight documentation, but the risk of not landing is that the first attempt will not count if the pilot subsequently lands out.

[A11.2.1.3](#) This radius is the standard FAI earth radius.

The great circle distance from the point whose coordinates are LAT1/LON1 to the point whose coordinates are LAT2/LON2 is given by the formula:

$$\text{DISTANCE} = (\text{EARTH'S RADIUS}) * \arccos(\sin(\text{LAT1}) * \sin(\text{LAT2}) + \cos(\text{LAT1}) * \cos(\text{LAT2}) * \cos(\text{LON1} - \text{LON2}))$$

[A11.2.2.1](#) It is important to note that flight documentation must be submitted every day on which a launch is made, even if the task was not attempted. A common problem arises when a pilot decides early that he will not attempt the task: he lands, packs up and leaves the field without submitting flight documentation. At the end of the day the retrieve office has no record of his whereabouts, and he may become the object of a search.

The flight documentation must reflect the flight actually accomplished, even in the case where claiming a shorter flight might be in the pilot's best interest. A deliberate violation of this rule could be considered unsportsmanlike conduct.

[A11.2.2.4](#) This rule specifies the way in which a task is evaluated: A pilot's claimed turnpoints are processed in order. If any is invalid, either because the pilot was not allowed to claim that turnpoint or because flight documentation does not support the claim, the task is deemed incomplete.

Note that [Rule 10.8.4](#) may restrict the choice of the first turnpoint when a GPS-controlled start is in use, and [Rule 10.5.4.1](#) may similarly restrict the choice of a final turnpoint.

[A11.2.2.7](#) This rule provides for the submission of a subsequent Task Claim. Note that only one revision may be submitted for any one task, and that the penalty applies only if the revision is accepted; if the revision is not accepted (e.g. because it contained an invalid turnpoint and thus did not result in a higher score), then the original Task Claimr stands without penalty.

[A11.4](#) Strategic considerations for pilots flying assigned tasks

Since the course is fixed, the important decision is that of when to start. This is largely determined by how long you expect the task to require (which is directly related to your estimated average speed) and what you expect the weather trends to be (especially, how late in the day will good soaring conditions persist?). The longer the task relative to the conditions, the earlier you must start in order to have a reasonable chance of completion. If there is plenty of "day" available for the task, then there is a potentially wide window in which to choose a start time; you should then time your start so as to be using the strongest part of the day.

[A11.4.3](#) Note that the Completion Ratio Equation for Assigned tasks is different from that for Pilot-selected tasks (see [Rule 11.5.5](#)).

[A11.4.4](#) Note how MSP will be less than 1000 if more than 40% of competitors land out. In common parlance, this is called devaluation for landouts.

[A11.4.5](#) Note how MDP increases as the percentage of finishers decreases. If 100% of competitors finish, MDP will be 400; if 60% of competitors finish, MDP will be 500.

[A11.4.6](#) The Standard Minimum Task Time (SMTT) is defined in [Rule 10.3.1](#); for Nationals, it is 3 hours. Note how all scores are reduced if any pilot completes an assigned task in less than the SMTT. In common parlance, this is called short task devaluation.

[A11.5](#) Strategic considerations for pilots flying pilot-selected tasks

With a Pilot-Selected task there are more choices. The most important is where in the task area the best soaring conditions will be found. The clues for this decision are the terrain, the weather forecast and especially the actual view of clouds and weather you get from the cockpit. If there is evidence that lift is "streeting", you should look for a course in which turnpoints line up with lift streets. It is important to keep all turnpoint restrictions in mind (especially prohibited task legs). Other things being equal, a course with fewer turnpoints is preferable, since every turnpoint tends to involve at least some delay.

Here are the turnpoint restrictions you must keep in mind (see [Rule 10.3.1.3](#)):

- A maximum of 11 turnpoints (or a smaller number as set by the CD) may be claimed.
- Certain turnpoints may be prohibited.
- Certain task legs may be prohibited.
- You must have at least 2 intervening turnpoints before repeating a turnpoint (but note that the start and the finish are not turnpoints).
- The CD may impose extra restrictions on the selection of the first and last turnpoints.
- The CD may restrict the total number of times that certain turnpoints may be claimed.

You must keep a careful record of the turnpoints you visit, since they must be claimed in sequence on your landing card. An error in your claim will cost you a minimum of 25 points (the penalty that applies if you must submit a revised landing card).

[A11.5.3](#) This means that a pilot who finishes in less than the declared Minimum Time is charged with having flown for the Minimum Time. Consider the following example: The CD declares a Pilot-Selected task with a 3-hour Minimum Time. Pilot A flies 120 miles in 2:00 (60 mph), pilot B flies 160 miles in 3:12 (50 mph). But pilot A gets credit only for 40 mph (120 miles in the MINTIME of 3 hours). Thus, pilot B beats pilot A. In general, it is bad strategy to finish in less than MINTIME unless the alternative is a good chance of landing out. There is no advantage to returning exactly at the MINTIME; there is no penalty in being over the MINTIME.

Note that a pilot whose scored distance is less than the Standard Minimum Task Distance (e.g. 60 miles for Nationals) is not considered a finisher (see [Rule 11.1.2](#)).

The time-on-course adjustment used with this rule adds 15 minutes to each pilot's scored time-on-course. This is approximately equal to including the initial time to climb in the total time, and effectively negates the influence of the fast final glide given that pilots are allowed to climb to final glide altitude before the clock starts. The new best finish strategy will generally be to plan to finish about 10 minutes over minimum time, with precision no longer of value. This adjustment pursues the philosophy of minimizing the benefit of advanced in-cockpit computer systems for the precise calculation of things such as arrival time.

[A11.5.5](#) Note how MSP will be less than 1000 if more than 25% (0% for Sport) of competitors land out (as opposed to 40% for Assigned tasks).

[A11.5.7](#) Contrast this with [Rule 11.4.6](#). Since it is very difficult to end up with the best speed if you finish in much less than MINTIME, short task devaluation for Pilot-Selected tasks is rare except in the case (legal but somewhat unlikely) where the CD declares a MINTIME that is less than the Standard Minimum Task Time.

[A11.5.9](#) Note that a pilot who finishes cannot receive a score lower than  $30 + \text{MDP} * \text{STF}$ .

[A11.5.10](#) Note that a pilot who does not finish cannot receive a score greater than  $\text{MDP} * \text{STF}$ .

[A11.7](#) The only rounding done prior to printing scores is of time (to the nearest whole second).

[A11.10.5](#) Pilots with identical scores are assigned identical ranks. Pilots listed by daily rank should be shown in descending order by rank, and within this by speed, then by distance. Among pilots with a daily score of zero, those who launched should be listed ahead of those who did not launch.

[A12.2.5.1](#) Unsafe operation is obviously a general term intended to cover all cases. Since safety is paramount, any such case deserves close attention and, in general, a penalty sufficient to ensure that all pilots are deterred from repeating the violation.

Particular attention must be paid to any case where the violation appears intentional and/or includes a violation of an FAR. By signing the Registration Form, all pilots agree to abide by the Rules and all applicable FARs; failure to do so can easily jeopardize not only the violator, but other pilots, non-pilots, the future of the contest, and possibly even the future of competition soaring. For this reason, it's appropriate to deal with such cases harshly.

Here are some guidelines (for a first violation):

- An inadvertent and small violation with no significant potential for harm (pilot finishes at 30 instead of the minimum 50 feet) - 25 points.
- An inadvertent violation with significant potential for harm (confused pilot lands on a taxiway that has been declared off-limits for landing due to foot traffic) - 250 points.
- A deliberate violation (unauthorized aerobatics) - 500 points.
- A malicious violation (pilot does low pass just over the head of person on the ground) - disqualification from the contest.

[A12.2.5.3](#) Unsportsmanlike conduct can be loosely defined as any attempt to gain an improper advantage. This would include a pilot's attempt to get more points than he deserves (e.g. by stating that he landed at a place different from his actual landing point), or an attempt to harm the score of another competitor (e.g. by stealing a landing card or flight log turned in by another pilot). Any such attempt must be viewed seriously and should probably receive a harsh penalty. Here are some examples of violations that could be penalized as unsportsmanlike conduct:

- Use of illegal equipment (e.g. a gyro that would allow cloud flying).
- Use of disposable ballast when it has been prohibited.
- Taking extra ID photos before the start.
- False radio transmissions (e.g. faking a landout or a valid finish).
- Prohibited radio transmissions (e.g. pilots sharing tactical information, or receiving it from their crews).

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## Appendix B

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