Introduction

The SSA U.S. Competition Rules are maintained by the SSA Rules Committee and approved by the SSA Board of Directors. The Rules Committee is made up of the SSA Competition Board Chairman and three elected committee members. The committee members are elected by SSA members on the U.S. Competition Pilot Ranking List. More information regarding the SSA Rules Committee can be found on the SSA website.

As there are four separate rules documents and the rules have some changes each year, special markings are provided to make it easier to find the differences between the documents and the changes made to the previous year.

The † mark indicates a rule differs from the National FAI Class rule. The relationships between the rules documents are shown below:

Changes to the rules from the previous year are marked as follows:
- ‡ marks the rule as being changed for 2012
- >> marks a section of the rules where rules have changed for 2012

To provide more clarity some rules have further explanation in Appendix A, Guide to the Rules. When a comment is available in the Guide to the Rules, the rule number is underlined and clicking the rule number will initiate a jump to the corresponding explanation.

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U.S. National Sport-Class Competition Rules
February 27, 2012

1.0 GENERAL
  1.1 The purpose of a National Sport Class Soaring Championship is to determine a National Sport Class Champion and to measure the performance of all entrants. Performance in Nationals will be used to provide a basis for pilots to qualify for entry into future soaring Championships and to select pilots for the U.S. Team in International Club Class Competition. Handicapping will be applied to minimize score differences due to performance differences between sailplanes.
  1.2 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).
  1.3 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.
  1.4 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.
  1.5 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

1.6 National competitions held at the same place and time as other competitions are to be given preference for entry positions, and in gridding and launching.

2.0 SANCTIONING

2.1 Sanctioning is the process by which the SSA ensures that a soaring contest is conducted according to rules and procedures that have been shown to lead to safe and fair competition.

2.2 To obtain a contest sanction, contest organizers must complete an Application for Sanction of National Soaring Competition form and submit it to the SSA Contest Committee.

2.3 The Application for Sanction (AFS) form should be submitted in time for review prior to the Fall SSA Board of Directors meeting in the calendar year two years prior to the competition.

2.4 A completed AFS form includes the dates selected for the competition. Contest organizers are expected to coordinate with the SSA Contest Site Selection Subcommittee in order to minimize conflicts with other competitions.

2.5 The AFS form includes a requirement for specific insurance coverage. A continuing condition for a Sanctioned competition is that the specified coverage remain in effect through the final scheduled day of the competition.

2.6 Included with the AFS form shall be a detailed description of any requested waiver from the provisions of these Rules. With the exception of any granted waiver, Sanctioned competitions must be conducted in strict accordance with these Rules.

2.7 The SSA Contest Committee Chairman and the Contest Site Selection Subcommittee review the AFS form and present recommendations for National contest sanctions to the SSA Board of Directors, which retains the final authority to grant or deny Sanction for National contests.

2.8 Once a Sanction has been granted, any change to the information provided on the original AFS form requires further review and approval of the SSA Contest Committee.

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 ensuring compliance with these 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

3.1.7 ‡ Retrieve Office

3.1.7.1 ‡ This is a single person or a small group that keeps track of pilot landings and coordinates retrieves (both by trailer and aerotow) for pilots that land away from the home airfield. The Retrieve Office is supervised by the Contest Manager.

3.1.7.2 ‡ On each official practice day and all competition days it shall be the duty of the Retrieve Office to ensure that all pilots who have made a contest launch are accounted for after landing. Pilots are required to assist in this accounting under the provisions of Rule 10.10.2.1 and Rule 10.10.2.2. The Retrieve Office will stay open until all pilots are accounted for or until an announced cutoff time, whichever is later. If the Retrieve Office is informed of a crew-pilot rendezvous problem, it will stay open until told the problem is resolved.
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, as specified by contest organizers on the Application for Sanction form.
4.2† The period of competition will be at least seven, but not more than ten consecutive days (dates as announced).
4.3 The official practice period shall be one or two days immediately preceding the period of competition. All contest support functions (Start/Finish, Scoring, sailplane weighing, retrieve office, etc.) shall be operational during this period.
4.4 For an official National Championship, at least three valid competition days as defined in Rule 11.1.3 are required.

5.0 ENTRIES
5.1 Not Applicable
5.2 Entrants
5.2.1 Number
5.2.1.1 Minimum - For an Official competition, either of the following must be satisfied:
   5.2.1.1.1 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.
   5.2.1.1.2 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.
5.2.1.2 Maximum
5.2.1.2.1 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.
5.2.1.2.2 No sooner than the close of Preferential Entry and no later than 30 days prior to the scheduled start of competition, contest organizers may request of the SSA Contest Committee Chairman authorization for a maximum number of sailplanes smaller than that of 5.2.1.2.1. This number shall not be smaller than the number of entries already received at the time the announcement is made.
5.2.1.2.3 If more than one National 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 5.3.3), but not less than the minimum of Rule 5.2.1.1 plus two.
5.2.2 Types
5.2.2.1 All entrants are either regular entrants or guests.
5.2.2.2 A single-pilot entry includes only one pilot-in-command.
5.2.2.3† A team entry is one for which two to four pilots plan to act as pilot-in-command (either in a single-place or a multiplace sailplane). Each team pilot must meet all eligibility requirements. One team entrant on a team must pay the full entry fee, and other entrants on the same team must each pay the SSA sanction fee. Team entries shall be indicated on scoresheets using the last name of each pilot, joined with an ampersand.
5.2.2.4† The type of entry must be declared at registration and may not change after the first contest launch.
5.2.2.5 A Junior entrant is one whose 25th birthday occurs in the current or a future calendar year.
5.2.3† Not Applicable
5.2.4 Passengers - An entrant may carry passengers in a multi-place sailplane.
5.2.5 Nationality
5.2.5.1 A US pilot is one who is a US citizen or a Lawful Permanent Resident as defined by the US Immigration and Naturalization Service (i.e. possesses a valid "Green Card"); others are considered foreign pilots.
5.2.5.2 Foreign pilots are listed as such on scoresheets, and are considered Guest entrants (Rule 5.8).
5.3 Entry Procedures
5.3.1 Pilot Ranking Score
5.3.1.1 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.
5.3.1.2 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.
5.3.1.3 Pilots with no ranking score are considered unranked; their Pilot Ranking Score is zero.
5.3.2† An applicant's Preference Number is the Pilot Ranking Score of Rule 5.3.1. In the case of a team entry, the least favorable Pilot Ranking Score of any team member is used, but a team ranking score earned jointly by all team members will be used if more favorable.
5.3.3 The Preferential Entry Deadline is 60 days prior to the first scheduled competition day.
Entry applications (Rule 5.5.2) received no later than the Preferential Entry Deadline are ranked in order by Preference Number (and in case of ties, by date of application).

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.

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. This provision is intended for use on behalf of those who have contributed significantly to contest organization and operation.

Applications received later than the Preferential Entry Deadline are ranked by date of application (and in case of ties, by preference number) and added to the standby list.

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

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.

Foreign Pilots

Foreign pilots (Rule 5.2.5.1) with a Pilot Ranking Score (Rule 5.3.1) greater than zero are eligible for entry in the same way as US pilots.

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

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

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.

Unranked foreign applicants are included among those eligible for entry from the standby list (Rule 5.3.5 - Rule 5.3.8).

Successful applicants shall be notified as soon as possible, and always within a week of acceptance.

Fees

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.

Fee Amounts

Entry fees

The maximum fixed entry fee shall be:

- For a scheduled 10-day contest, $685 per entry.
- For a scheduled 9-day contest, $645 per entry.
- For a scheduled 8-day contest, $605 per entry.
- For a scheduled 7-day contest, $565 per entry.

The maximum variable entry fee shall be $300 per entry plus $52 per aerotow.

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.

The entry deposit is $150.

The maximum late-entry surcharge is $100.

Sanction fees

The fee is paid to the SSA at the conclusion of the contest. If the competition is not Official (Rule 4.4, Rule 5.2.1.1), half the fee is paid to the SSA and the remainder is refunded to entrants.

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.

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.

The deadline for canceling an entry with full refund of fees paid is 30 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.

Pilot Qualifications and Entry Requirements

Experience requirements

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

- Have a Pilot Ranking Score (Rule 5.3.1) greater than zero.
- Present evidence both of having completed a previous National soaring contest and of recent cross-country soaring experience.
- Foreign pilots may present evidence of having earned the FAI Gold Badge and of experience in soaring competition.

Entry application requirements

To be considered for entry, an applicant must submit the following to the contest organizers:
Prior to conducting any tow operations, pilots of aircraft that provide launches for contest sailplanes must:

- Present proof of holding a valid FAA Private or Commercial Glider Pilot Certificate.
- Present proof of ownership of the tow aircraft, or permission of the owner for its use in contest towing operations.
- Present proof of insurance for the tow aircraft with a minimum coverage of $1,000,000 per occurrence for bodily injury and property damage liability.
- Receive a briefing from the Chief Tow Pilot.

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

5.5.4 Tow pilot requirements
Prior to conducting any tow operations, pilots of aircraft that provide launches for contest sailplanes must:

- Present proof of holding a valid FAA Private or Commercial Glider Pilot Certificate.
- Present proof of ownership of the tow aircraft, or permission of the owner for its use in contest towing operations.
- Present proof of insurance for the tow aircraft with a minimum coverage of $1,000,000 per occurrence for bodily injury and property damage liability.
- Receive a briefing from the Chief Tow Pilot.

5.6 Contest Information

5.6.1 Control Points

- Control points include turnpoints, start points and finish points.
- Each control point shall be assigned a unique numeric ID and alphanumeric name.
- The latitude and longitude of each control point shall be specified. Coordinates of points that coincide with a ground feature shall be accurate to 200 feet or better based on the WGS-84 datum.
- The elevation of each control point shall be specified, with an accuracy of 50 ft or better.
- At least one control point shall be located on the home airfield. This shall be designated the home point, and its altitude shall be used as the official altitude of the home field.
- A point to be used as a finish gate shall mark the center of the gate and include the true track of a glider crossing perpendicular to the gate, accurate to 5 degrees or better.
- The standard format for control point data shall be the Cambridge .DAT format.

5.6.2 Airspace

- 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.
- Any airspace that lies directly above closed airspace is itself considered closed.
- The CD may declare additional airspace to be closed.
- Closed airspace is considered closed at all times, except as specifically announced by the CD.
- Because airspace changes (including but not limited to Temporary Flight Restrictions) 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 previously announced by the CD.
- The standard format for closed airspace data shall be the .SUA format.

5.6.3 Contest Databases

- Official databases in computerized form of control points (Rule 5.6.1) and of closed airspace (Rule 5.6.2) shall be made available no later than 30 days prior to the first scheduled competition day.
- Each database shall include a unique version number or date/time, which shall be changed each time any change is made to the data.
- Copies of the current databases shall be readily available to entrants at the contest site.
5.6.3.4 If after distribution of any pilot kit (Rule 5.6.4), any change to an official database is necessary, the CD will ensure that each entrant is notified of the new version and acknowledges this notification by signature.

5.6.3.5 Scoring shall be based on the current version of contest databases.

5.6.4 Pilot's Kit
At registration, each entrant will receive a package of contest-related information and documents, as follows:

5.6.4.1 Required
- A list of all key contest personnel (Rule 3.1).
- A diagram of the contest site showing runways, taxiways, trailer tie-down areas, vehicle routes, and start, finish, relight and gridding areas.
- Gridding, launch and relaunch procedures
- Communication procedures for off-site landings.
- List of designated airfields (Rule 10.10.3.2)
- A map or diagram showing the location of all control points
- Designation of the current database versions for control points (Rule 5.6.1) and closed airspace (Rule 5.6.2)

5.6.4.2 Suggested
- A map or diagram showing local names for geographic features.
- A roadmap covering the contest area.
- The list of entrants and crews
- The schedule of social events

5.7 † Eligible Sailplanes - See Rule 6.12.

5.8 Guests
5.8.1 In addition to foreign pilots (Rule 5.2.5) 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 5.5.
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. Any exemption from the provisions of these Rules requires a waiver from the SSA Contest Committee.
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 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 as provided for by Rule 10.6.3, 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. (Penalty described in Rule 12.2.5.3.)

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 5.2.2.3 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 Location Devices

Emergency Location Devices are electronic devices that may be used to assist in locating downed sailplanes. Each must be a standard production model produced in quantity by a reputable manufacturer.

6.5.2.1 The following categories of Emergency Location Devices are recognized:

6.5.2.1.1 Type 1: Emergency Locator Transmitter (ELT) - an impact-activated beacon conforming to FAA TSO C91, C91a or C126.

6.5.2.1.2 Type 2: Position tracker - a device that without pilot action transmits regular reports of an aircraft's in-flight position in such a way that these reports are readily available to contest officials in near real time.

6.5.2.2 When announced on the Application For Sanction form, a device in one of these categories (as specified by contest organizers) shall be required in every sailplane. When Type 2 devices are specified, a Type 1 device shall be considered an acceptable substitute.

6.5.2.3 Notwithstanding other provisions within these Rules, Emergency Location Devices shall not be considered proscribed 2-way communication devices Rule 6.6.3.

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 is prohibited, with the following exceptions, each of which must be a standard, commercially available model that is not used to provide any in-flight capabilities beyond those referenced below:

6.6.3.1 An aircraft-band VHF radio

6.6.3.2 An aircraft transponder

6.6.3.3 A wireless telephone (which is not to be used during flight)

6.6.3.4 A air-to-ground position reporting device

6.6.3.5 anti-collision device. Rule 6.6.3 does not forbid the use of a standard GPS output data stream or GPS log produced by the device.

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. (Penalty described in Rule 12.2.5.3.)

6.7 Flight Documentation Equipment

6.7.1 All Flight Documentation is accomplished by means of a Flight Recorder.

6.7.2 Definitions

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

6.7.2.2 Flight Log - The record of a flight made by a Flight Recorder and transferred to a file on a scoring computer.

6.7.2.3 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.

6.7.2.4 Security check - a software check supplied by the Flight Recorder manufacturer that verifies that a Flight Log has not been altered since it was produced by the Flight Recorder.

6.7.3 Altitude recording

6.7.3.1 A Flight Recorder may record altitude derived from a calculated position.

6.7.3.2 A Flight Recorder may record a calibratable pressure altitude. Altitudes may be adjusted according to the best available calibration data.

6.7.3.3 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.

6.7.4 Flight Recorder requirements

6.7.4.1 All Flight Recorders used for Flight Documentation must:
  • Provide horizontal position referenced to the WGS-84 geographic datum.
  • Be capable of an interval between fixes of 15 seconds or less.

6.7.4.2 Flight Recorders used in a motorized sailplane shall include a means of determining when the power unit was used.

6.7.4.3 Acceptable flight recorders are listed in Appendix B.

6.7.5 Flight Log data format

6.7.5.1 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, each containing time, latitude, longitude and altitude.

6.7.6 Data Transfer and Security

6.7.6.1 A Flight Log may be transferred directly from a Flight Recorder to the scoring computer under the direct supervision of the Scorer.

6.7.6.2 A Flight Log may be submitted to the Scorer via any data medium or transmission scheme suitable to the Scorer. Logs submitted in this way must pass the Security Check.

6.7.6.3 The Scorer has the right to request a re-transfer of a Flight Log directly from a Flight Recorder to verify security or to replace missing or damaged data. Such request shall be made no later than 9:00 on the day following the flight. A pilot who in response to such a request fails to produce a valid Flight Log is scored as if no Flight Log was submitted.

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 Limitations

6.8.1.1 No sailplane shall fly at a weight greater than the maximum certificated gross weight in the country of origin, nor greater than 1873 pounds (850 kilograms).

6.8.1.2 † Aero tow launches are limited to a weight of 1653 pounds (750 kilograms), with the exception that multi-place gliders may launch by aero tow at a greater weight provided they carry no disposable or fixed ballast other than for center-of-gravity adjustment.

6.8.1.3 † Additional limitations of Rule 6.12.3 may apply.

6.8.2 Weighing

6.8.2.1 The CD shall declare whether a weighing done as sailplanes are moved to the launch grid is Official or not; any weighing done after gridding shall be considered Official.

6.8.2.2 If at an Official weighing a sailplane is found to be out of compliance with limitations, the weight of that sailplane must immediately be altered to a legal value. If the amount out of limitation was more than 25 pounds, a penalty will be applied (Rule 12.2.5.4).

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

6.8.3 † No-ballast rules

No-ballast rules shall apply.

6.8.3.1 Disposable ballast is prohibited with the exception of disposable tail ballast.

6.8.3.2 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.

6.9 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 † Sailplanes

Participation of all types and sizes of sailplanes is encouraged in the Sport Class.

6.12.1 † Handicapping based on relative performance will be used to minimize the differences in sailplanes (Rule 11.6.1).

6.12.2 † The use of external cleaning devices (Rule 6.6.2) is prohibited.

6.12.3 † Competition Weight

6.12.3.1 † A sailplane may compete at any weight that conforms to Rule 6.8.1 and the manufacturer's limitations.

6.12.3.2 † For team and multiplace entries, Competition Weight is the largest weight at which the sailplane is expected to launch for any contest flight, as declared by the entrant(s) prior to the start of competition. The sailplane shall not fly at a weight greater than this Competition Weight.

6.12.3.3 † For other entries, Competition Weight is the weight at the first contest launch. The sailplane shall be within 10 pounds of this weight for every contest launch.

6.12.3.4 † The Competition Weight is used in the determination of a sailplane's handicap (Rule 11.6.1.2.2).

7.0 AWARDS

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

- † Highest final score - The Lattimore Trophy.
- † Highest final score by a junior entrant - Bronze Medallion
- † Best sportsmanship (as determined by the Contest Competition Committee) - The Ed Finegan 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.

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 † Awards for Best Team, Multi-place or Homebuilt Sailplanes, Feminine or Junior Pilot, etc. are encouraged. For a Team award, no team member shall fly more than 70% of the tasks.

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 An entrant may request an explanation of an action or decision made by any contest official. This request shall be made of the CD, either orally or in writing. The CD shall respond in kind, as promptly as possible and always within 24 hours.

8.3 If an entrant feels that these Rules have been incorrectly applied, a written protest must be delivered to the CD as soon as is practical. A protest relating to scores shall be delivered prior to the day in question becoming Official (Rule 11.9.3); others shall be delivered within 24 hours of the protested incident or ruling.

8.4 The CD shall issue a prompt written ruling on the protest, giving the reason for the ruling. In arriving at a decision, the CD shall seek advice from the Contest Competition Committee and may ask for statements from witnesses, etc. The ruling shall be issued within 24 hours of receipt of the written protest.

8.5 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. Written notification of intent to appeal must be given to the CD within 24 hours of the CD's decision and the appeal must be delivered to the SSA within ten days of the 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.

8.6 Further appeal may be directed to the SSA Board of Directors which may revise or let stand the decision of the Contest Committee. If
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, other contest staff, pilots and crews.

9.1 A Safety Briefing is strongly recommended at each daily pilots' meeting. Suggested briefing subjects include start procedures, gaggle flying, maximum speeds, finishing, landing and rollout procedures, off-airfield landings, safety equipment, 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 Judgments affecting flight safety are the sole responsibility of the pilot in command. This includes (though is not limited to) any decision to fly into weather, over rough terrain or hazardous areas, and the evaluation of the safety of any potential landing site.

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 (Rule 12.2.5.2).

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 Contest Manager 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 Entrants who are involved in or witness any accident or incident shall cooperate with the CD in completion of the associated Accident/Incident Report (Rule 13.2).

9.13 Disqualification of an Unsafe Pilot

9.13.1 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.

9.13.2 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.

9.13.3 The Investigating Committee shall, when feasible, make its recommendation within 30 days of the submission of a request for review.

9.14 If a crash or other incident requires that a competitor abandon the task, the day results can be discarded. The CD may take this action directly, or pilots may petition under this section or Rule 11.1.3.

9.15 A pilot involved in a midair collision becomes ineligible for additional scored distance at the time and position of the collision. The pilot is still eligible for the airport landing bonus.

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 should be at least one hour after the close of a daily pilots' meeting, and 25 minutes before the expected time of the first launch.

10.1.3 Launch Begins - as announced by the CD, but generally 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.
Rule 10.1.9 Start Closes - 30 minutes prior to Contest Sunset time.

Rule 10.1.10 Finish Closes - at Contest Sunset time.

10.2 Meetings and Task Notification

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, using these procedures:

10.2.4.1 Pilots that have not yet launched can be notified in person of a task change.

10.2.4.2 For pilots that have launched, a task change will be announced on the contest frequency and a roll call (in alphanumeric order by contest ID when practical) taken to verify that each pilot 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.

10.2.4.3 Neither a change of task opening time nor an increase in the Maximum Start Height requires a roll call - an announcement on the contest frequency is sufficient.

10.2.4.4 When practical, task changes within 10 minutes of task opening time should be avoided.

10.3 Tasks

10.3.1 General

10.3.1.1 † Task Parameters

• † Standard Minimum Task Distance: 50 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 turnpoints: 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 the 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 Handicapped 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 - not used.

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 may 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)

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 10 miles from the finish (gate or cylinder center).

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 (moved to Rule 5.6.1).

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 11.2.2.7).

10.5.1.4 The CD and the Scorer shall ensure that all flight documentation is promptly analyzed. Documentation submitted by 20:00 should be analyzed before the next pilots' meeting; documentation submitted later should be analyzed before 12:00 the next day.

10.5.1.5 The Scorer shall publish daily flight documentation available to entrants no later than the next daily pilot meeting. This requirement can be satisfied by posting such documentation in an accessible place on a common storage medium (e.g. compact disk or thumb drive), or on a website to which access is readily available to any entrant.

10.5.1.6 At the end of the competition the Scorer will publish all flight documentation to a publicly accessible website.

10.5.2 Flight Log requirements

10.5.2.1 A valid Flight Log is one that:
   • Was produced by a Flight Recorder that meets the provisions of Rule 6.7.4
   • 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 (See Rule 6.3.3.2 for motorized sailplanes constraint).

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 Flight log problems

10.5.4.1 Use of multiple flight logs

10.5.4.1.1 A pilot with multiple incomplete flight logs may receive credit for a flight by submitting all available flight documentation.

10.5.4.1.2 The CD shall examine all flight documentation to determine the points at which the flight was properly controlled. Any portion of a Flight Log may be used to determine proper control.

10.5.4.2 An entry may make use of the provisions of Rule 10.5.4.1 once during a competition without penalty; subsequent use of the rule incurs a penalty (Rule 12.1.4.8) for each such case.

10.6 Launching

10.6.1 Order of Launch

10.6.1.1 The initial day's launch 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 launch grid, for each class.

10.6.1.2 If the grid layout has multiple gliders in each row, organizers may elect to allow row gridding; pilots are assigned a grid position but may place their gliders on any available position within their assigned row on a first-come, first-served basis or as instructed by the CD. (But any division between competition classes shall be preserved.)

10.6.1.3 Grid lists for all competition days will be made available no later than the second daily pilots' meeting.

10.6.1.4 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 re-launch 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 in accordance with the CD's auxiliary launch list (Rule 10.6.1.4). 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 entrant is 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 is forfeited.

10.6.2.5 Launches aborted due to no fault of the sailplane pilot will be re-launched 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 Except as provided in Rule 10.6.3 contest launches will be by aero-tow. The aero-tow operation should be capable of launching all sailplanes in one hour or less. 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 Re-launch following retrieval from off-site landings will not be allowed. However, the CD may permit re-launches after 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 Motorized sailplane engine use procedures

When approved by contest organizers and the CD, pilots of motorized sailplanes may elect to use their engines in accordance with the following rules:

10.6.3.1 The final responsibility for any decision to use the engine for self-launch or any other time lies with the pilot.

10.6.3.2 Pilots 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 other sailplanes) and to minimize competitive imbalance by keeping all sailplanes in substantially the same conditions of weather and lift.

10.6.3.3 Pilots who wish to run their engines after aero-tow shall begin to do so within 2 minutes of tow release; the engine run shall not exceed 5 minutes.

10.6.3.4 Motors must be shut down no higher than an altitude specified by the CD, which shall normally be 800ft higher than the aerotow release altitude. The designated procedure shall allow any motorized sailplane unable to start or stow its engine to make a safe unpowered return to the home field.

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

10.6.3.6 Pilots of motorized sailplane launches found not to have complied 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.

10.6.3.7 Re-launching.

10.6.3.7.1 Pilots may land at the home field without the use of power and then re-launch in the sequence of the CD's auxiliary launch list (Rule 10.6.1.4).

10.6.3.7.2 Pilots in the air may start their power unit within 1 mile of the home airfield, then follow the launch procedures above. A pilot who makes use of this option is not eligible for a start time earlier than 15 minutes after engine start; a start time earlier than 20 minutes after engine start incurs a penalty (Rule 12.1.4.10).

10.6.3.7.3 Whether or not it includes a landing, each re-launch counts towards the maximum number of launches allowed each day (Rule 10.6.2.3).

10.6.3.7.4 Any use of the power unit other than during the initial launch of the day must be noted on a Task Claim form submitted to the Scorer.

10.6.3.8 Except as provided here (Rule 10.6.3), any use of the power unit ends a pilot's competition flying for the day.

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. (Penalty described in Rule 12.2.5.3.)

10.7.2 Radio usage

10.7.2.1 The contest frequency is 123.3 Mhz; 123.5 Mhz is used for pilot-crew communications. If 123.3 Mhz becomes unusable, the CD may designate 123.5 Mhz as the contest frequency.

10.7.2.2 The contest frequency is used for official contest functions including task announcements, task opening, starts, finishes, etc.

10.7.2.3 All towplanes and sailplanes shall use one frequency for launches and while a sailplane is on tow; likewise, a single
frequency shall be used for finishes, patterns and landings. Also see Rule 10.9.1.2.4.

10.7.2.4 Normally, the contest frequency is used for both launches and landings. But the CD may announce an alternate launch/landing radio procedure using a different frequency.

10.7.2.5 The contest frequency should be used sparingly, for necessary contest- and safety-related transmissions.

10.7.2.6 Transmissions shall use the ICAO phonetic alphabet when appropriate.

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

10.7.2.8 Crews shall not initiate a radio call to their pilot, except in an emergency, or to relay information previously transmitted by the CD. Otherwise, transmission of soaring or contest information to pilots by crew is prohibited.

10.7.2.9 Relaying of information between aircraft for any reason other than safety is prohibited; unsportsmanlike conduct penalty may apply (Rule 12.2.5.3). 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 should be transmitted five minutes before the task opens.

10.8.1.4 An advisory shall be transmitted at the time 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 and position. The last valid start of the claimed task is used unless

10.8.2.1.1 it incurs a penalty under Rule 10.8.5.6 and Rule 12.1.4.3, in which case the best-scoring valid start is used or

10.8.2.1.2 the pilot has achieved one fix more than 5 miles outside the start cylinder after a start which otherwise qualifies, in which case that previous start may be used.

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 Task Claim Form. 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 3500' AGL nor more than 10000' AGL.

10.8.5.1.2 When feasible, Maximum Start Height should be set at least 500 feet below expected cloudbase or the top of dry lift.

10.8.5.1.3 Maximum Start Height shall be communicated as its equivalent MSL altitude.

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
- Start Position - the interpolated position at the Start Time

10.8.5.4 A pilot may claim a start based on a fix near to but not within the Start Cylinder; such a start incurs a penalty. The following shall be determined:

- Start Fix - the fix claimed by the pilot
- Start Time - the time of the Start Fix.
- Start Position - the position of the Start Fix
Rule 12.1.4.6) applies.

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 Position to the control fix at the first turnpoint, but not greater than the distance from the Start Point to that control fix

10.8.7 While inside or within 2 miles of any Start Cylinder that has been designated for use by any competition class, pilots are expected to avoid flight at indicated airspeeds greater than 115 mph and to pay particular attention to safe flight near circling sailplanes.

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 12.1.4.6), 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. (Penalty described in Rule 12.2.5.3.)

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). But a Finish Gate shall not be used on any day when a Finish Cylinder is also in use at the same site.

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

10.9.1.2.2 When a finish cylinder is in use (Rule 10.9.2), the pilot shall transmit "[Contest ID] Finish" when crossing the perimeter of that cylinder.

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

10.9.1.2.4 ‡ When an alternate frequency is in use for landings, pilots shall change from the contest frequency to the landing frequency at a designated distance greater than 4 miles from the finish point and make all subsequent transmissions on the landing frequency.

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 (Rule 12.2.5.1).

10.9.2 >> Finish Cylinder

10.9.2.1 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.

10.9.2.2 A task shall include a Minimum Finish Height above the home field, set by the CD at least high enough that pilots who finish at or above that height can return to the home field for a normal pattern and landing. The Minimum Finish Height shall be communicated as its equivalent MSL altitude.

10.9.2.3 ‡ The Finish Point and Finish Radius define a three-dimensional Finish Cylinder that extends from the ground to an unlimited altitude. A competitor is eligible for a finish time when a flight log shows a fix within this cylinder that is later than any control fix at a task turnpoint or turn area and the provisions of Rule 10.9.2.5 are met.

10.9.2.4 The cylinder entry time is the interpolated time the sailplane first entered the Finish Cylinder. The Finish Altitude is the interpolated altitude at the cylinder entry time.

10.9.2.5 ‡ The Finish Height Difference is the Minimum Finish Altitude (Minimum Finish Height converted to MSL) minus the Finish Altitude.

10.9.2.5.1 ‡ When the Finish Height Difference is not greater than 200 feet, the pilot is eligible for a finish time, at the cylinder entry time.

10.9.2.5.2 ‡ When the Finish Height Difference is greater than zero and less than or equal to 200 feet, a penalty (Rule 12.1.4.5) applies.

10.9.2.5.3 ‡ When the Finish Height Difference is greater than 200 feet, the task is incomplete. The distance of the final task leg shall be computed per Rule 10.9.2.7.

10.9.2.6 Communications moved to Rule 10.9.1.2

10.9.2.7 The distance of the final task leg shall be no greater than the distance from the control fix at the final turnpoint to the Finish Point, minus the Finish Radius

10.9.3 Finish Gate

10.9.3.1 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.

10.9.3.2 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.

10.9.3.3 Communications moved to Rule 10.9.1.2

10.9.3.4 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 (Rule 12.2.5.1).

10.9.3.5 In the case of a Bad Try, a rolling finish (Rule 10.9.4) is used - the pilot shall not attempt another flying finish.

10.9.3.6 In the case of a Good Finish when the flight log shows that the sailplane passed within the horizontal limits of the gate in the proper direction, the finish time is taken as the interpolated time the sailplane crossed the finish gate. Otherwise, a rolling finish is used.

10.9.3.7 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.

10.9.4 Rolling finish

10.9.4.1 When a Finish Gate is in use, the CD shall designate one or more rolling finish areas on the home airfield.

10.9.4.2 Communications

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

10.9.4.3 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.

10.9.4.4 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.

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

10.9.5 Safety finish

10.9.5.1 The Safety finish area is a cylinder centered on the Finish Point with a radius of 5 or 10 miles, as announced by the CD.

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 When a Safety finish is active, a pilot may claim a finish by obtaining one fix within the Safety finish cylinder, provided the slope from the claimed fix to the Projected Finish Location is not less than 200 feet per mile and no claimed turnpoint was achieved after the time of the claimed fix. A Safety Finish must be claimed using a Task Claim form (Rule 10.5.1.3.1).

10.9.5.3.1 When a Finish Cylinder is in use, the Projected Finish Location is the nearest part of the Finish Cylinder at the minimum finish height.

10.9.5.3.2 When a Finish Gate is in use, the Projected Finish Location is the Finish Point.

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 claimed fix to the Projected Finish Location.

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. (Penalty specified in Rule 12.1.4.7.)

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 (Rule 12.2.5.5).

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 (Rule 12.1.4.9).

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 (Rule 12.1.4.9).

10.10.2.4 Use of other means of communication is authorized only when telephone contact is impractical.

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 who 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 who has completed a task may attempt to fly the task again without a re-launch. The first task attempt is not at risk if the pilot meets the conditions of Rule 11.2.2.4.

10.11.4 An outlanding (or the use of a motorized sailplane's power unit other than as specified in Rule 10.6.3) ends an entrant's competition flying for that day.

10.12 Airspace

10.12.1 Tasks should be set to avoid flight through closed airspace (Rule 5.6.2) or areas of high-density traffic.

10.12.2 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.

10.12.3 Airspace clearance requirements

10.12.3.1 Horizontal
A serious violation occurs if any fix lies within closed airspace.

10.12.3.2 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.

10.12.4 Penalty application

Multiple minor airspace violation penalties (Rule 12.2.5.6.1) may be applied to one flight, but not more than one per 5 minutes. No more than one serious airspace violation penalty (Rule 12.2.5.6.2) shall apply to one flight. When both minor and serious violations occur, only the serious violation shall be applied.

10.12.5 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 11.2.2.4).

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 Contestants achieve a Handicapped 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.

11.1.5 When more than one complete flight log is available, the best-scoring such log is used to evaluate a flight.

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 5.6.1), landing sites, and other points of significance will be designated by latitude/longitude coordinates with accuracy per Rule 5.6.1.3.

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
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.

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.

Task Evaluation

Each pilot shall submit flight documentation each day a launch is made; it shall accurately document each flight that the pilot made. Failure to submit flight documentation incurs a contest penalty (Rule 12.2.5.5).

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 11.2.2.7). 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.

Valid turnpoints

Valid turnpoints are turnpoints that meet the requirements of Rule 5.6.1 and Rule 10.5.3.

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.

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.

† Task completion - The pilot has completed the task if all turnpoints are valid, yield a Handicapped distance not less than the Standard Minimum Task Distance, and the pilot obtained a scored start time, a finish time prior to finish closing, and either landed at the contest site or after finishing obtained a valid start (Rule 11.2.2.8.3), not less than the Standard Minimum Task Distance, and the pilot obtained a scored start time, a finish time prior to finish closing, and either landed at the contest site or after finishing obtained a valid start (Rule 10.8.5) and a subsequent fix at least 5 miles from the start fix. Otherwise the task is incomplete.

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.

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.

Subsequent Task Claim

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, to ask for review of a handicap, or in general to obtain a more accurate score.

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.

Procedures for airspace clearance violations

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 be treated as a failure to submit flight documentation.

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.

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

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

Scored Distance

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).

For all Tasks, the first leg originates at the start position (Rule 10.8.5.3) and is subject to the length limitation of Rule 10.8.6.

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

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.

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.

† Scoring Nomenclature

SMTT - Standard Minimum Task Time (Rule 10.3.1.1)
HCP - Sailplane's Handicap Factor (Rule 11.6.1).
HCPDIST - Handicapped Distance (Rule 11.6.2).
Contestant - defined in Rule 11.1.1
Finisher - defined in Rule 11.1.2
SCR - Scored Completion Ratio (Rule 11.6.5)
TOC - Actual Time on Course (Rule 11.4.1) - applies only to a Finisher
STOC - Scored Time on Course (Rule 11.6.3) - applies only to a Finisher
TASKDIST - Task Distance - The sum of the lengths of all legs of the task
HCPSPD - Handicapped Speed (Rule 11.6.4) - applies only to a Finisher
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 achieved (Rule 11.6.9)
BESTSPD - Best Speed - Greatest value of HCPSPD achieved by any Finisher
MSP - Maximum Speed Points (Rule 11.6.6)
MDP - Maximum Distance Points (Rule 11.6.7)
MAXTATDIST - the maximum possible distance for a Turn-Area task. This distance is computed from the center of the start cylinder, less the start radius. If multiple start points are used, MAXTATDIST is computed separately for each start cylinder (Rule 11.6.3.2) - applies to a finisher of a MAT or TAT whose TOC is less than MINTIME
UTFACOR - Undertime Factor (Rule 11.6.3.2) - applies to a finisher of a MAT or TAT whose TOC is less than MINTIME
STF - Short Task Factor (Rule 11.4.2)
BONUS - Airfield Landing Bonus (Rule 10.10.3, Rule 11.4.3)
POINTS - the calculated score (Rule 11.6.8, Rule 11.6.10)

11.4 Scoring Equations - General

11.4.1 Time on course:
TOC = (Scored finish time) - (Scored start time)

11.4.2 Short Task Factor:
If there are no Finishers, STF = 1.0
Otherwise, STF = (TOC of Finisher with BESTSPD) / SMTT
   (but not greater than 1.0)

11.4.3 Airfield Landing Bonus
For eligible pilots (Rule 10.10.3), BONUS = 25; otherwise, BONUS = 0.

11.5 Not Applicable

11.6 Scoring Equations

11.6.1 Handicap Factor

11.6.1.1 Each sailplane is assigned a Handicap Factor from the SSA Handicap List. If a sailplane is not listed, a Handicap Factor can be obtained by contacting the SSA Contest Committee at least 30 days prior to the scheduled competition.

11.6.1.2 Sailplanes that compete in a configuration different from that on which the listed handicap was based receive handicap adjustments, as follows:

11.6.1.2.1 If a sailplane's wingspan has been increased, its Handicap Factor shall be multiplied by the following:
   1.0 - ((wingspan) - (original span)) / (2 * (original span))
   This adjustment shall not be applied if a specific Handicap Factor for the sailplane with the span increase is listed.

11.6.1.2.2 If Competition Weight (Rule 6.12.3) is different from the specified Handicap Weight, the Handicap Factor shall be multiplied by the following:
   1.0 - ((Competition Weight) - (Handicap Weight)) * 0.0002

11.6.1.2.3 When winglets are added to a sailplane not handicapped with winglets, the handicap Factor shall be multiplied by 0.99.

11.6.1.2.4 When wing turbulation is applied to a sailplane that is handicapped without turbulation, the Handicap Factor shall be multiplied by 0.99.

11.6.1.2.5 When wing-root fairings are added to a sailplane that is handicapped without fairings, the Handicap Factor shall be multiplied by 0.99.

11.6.1.2.6 Other significant aerodynamic modifications may result in a lower handicap factor being assigned.

11.6.2 Handicapped Distance
Handicapped Distance is scored distance multiplied by the Handicap Factor:
HCPDIST = HCP * DIST

11.6.3 Scored Time on Course:

11.6.3.1 For finishers whose TOC is not less than MINTIME:
STOC = TOC

11.6.3.2 For finishers whose TOC is less than MINTIME:
STOC = MINTIME - (MINTIME - TOC) * UTFACOR
For a Turn-area task:

\[ \text{UTFAC} = 0.1 + 6 \times \left( \frac{\text{DIST}}{\text{MAXTATDIST}} - 0.85 \right) \] (but not less than 0.1, nor greater than 1.0)

otherwise, \( \text{UTFAC} = 0.1 \)

11.6.4 Speed:
\[ \text{HCPSPD} = \frac{\text{HCPDIST}}{\text{STOC}} \]

11.6.5 Scored completion ratio:
\[ \text{SCR} = \frac{(\text{Number of Finishers}) - 0.75 \times \text{UF}}{(\text{Number of contestants})} \]

11.6.6 Maximum Speed Points:
\[ \text{MSP} = \text{STF} \times (600 + 500 \times \text{SCR}) \] (but not greater than \( \text{STF} \times 1000 \))

11.6.7 Maximum Distance Points:
\[ \text{MDP} = \text{MSP} \times (0.8 - 0.2 \times \text{SCR}) \]

11.6.8 Points for Finishers:
\[ \text{POINTS} \text{ shall be equal to the largest of the following two quantities:} \]
\[ \text{MSP} \times \frac{\text{HCPSPD}}{\text{BESTSPD}} \]
\[ \text{MDP} \times \frac{\text{HCPDIST}}{\text{BESTDIST}} + 30 \] (But not greater than \( \text{MDP} + 30 \))

11.6.9 Best Distance:
If there are no Finishers, \( \text{BESTDIST} \) is the greatest value of \( \text{HCPDIST} \) achieved by any pilot.
Otherwise, \( \text{BESTDIST} \) is the larger of the greatest \( \text{HCPDIST} \) achieved by any Finisher and \( \text{(BESTSPD} \times \text{MINTIME}) \).

11.6.10 Points for Non-Finishers:
\[ \text{POINTS} = \text{BONUS} + \text{MDP} \times \frac{\text{HCPDIST}}{\text{BESTDIST}} \]
(but not greater than \( \text{BONUS} + \text{MDP} \))

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 A contest day acquires its Official status 24 hours after the latest of:

- All flight documentation is analyzed and published in accordance with Rule 10.5.1.5.
- Final unofficial scores are published
- Protests are resolved
- 9:00 the day following the contest day

11.9.3.2 A day that meets the requirements of Rule 11.1.3 has the Official status of Valid; otherwise it is a No-Contest day. The CD should announce the status when the day becomes Official.

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.

11.9.4 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 and flight documentation shall be published as soon as practicable, but no later than the next daily Pilot Meeting (or 9:00 the next day, in the case of a day without a Pilot 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 (Rule 11.9.3).

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 Preliminary, Unofficial or Official

11.10.5 Score sheets that show daily scores should also include:
11.11 Pilot Ranking Calculation

11.11.1 For a contest with four or more valid competition days (as defined in Rule 11.1.3), the Contest Weighting Factor is 100.0. For a contest with three valid competition days, the Contest Weighting Factor is 95.0.

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 = \((\text{Contest Weighting Factor}) \times (\text{Pilot's cumulative score}) / (\text{Largest cumulative score by a regular entrant})\) (but the ranking score shall not be greater than the Contest Weighting Factor)

† Team entries receive a ranking score that applies to the team; individual members of the team receive a ranking score equal to 75% of the team's ranking score.

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 = \((\text{Start Distance} - \text{Start Radius}) \times 200\)
- Height penalty = \((\text{Control Height} - \text{MSH} - 100) / 2\)

12.1.4.4 Self-launch penalty (Rule 10.6.3.6): minimum penalty = 100

12.1.4.5 Finish penalty (Rule 10.9.3.4): penalty = 5 + \((\text{Finish Height Difference}) / 5\).

12.1.4.6 Improper reporting of start time (Rule 10.8.8.1): penalty = 10

12.1.4.7 Flight Documentation Interval exceeded (Rule 10.10.1.1): penalty = 25

12.1.4.8 More than one case of incomplete flight documentation (Rule 10.5.4.1, Rule 10.5.4.2): penalty = 25

12.1.4.9 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.

12.1.4.10 Start time earlier than 20 minutes after the use of a motorized sailplane's power unit for re-launch (Rule 10.6.3.7.2): penalty = 100

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) (Rule 10.9.1.4, Rule 10.9.4.4): 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) (Rule 6.3.3.6, Rule 6.6.5, Rule 10.7.1.1, Rule 10.8.8.4): maximum penalty = disqualification from the contest and ineligibility for Sanctioned competitions for a period of 5 years.

12.2.5.4 Underweight or overweight (Rule 6.8.2.2): 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 (Rule 10.10.2.1.2, Rule 11.2.2.1): penalty = 100

12.2.5.6 Airspace clearance violations (Rule 10.12.4)

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 The Competition Director shall ensure that an Accident/Incident Report is filled out for every incident that caused, or had a reasonable probability of causing, damage or injury.

13.3 Administrative Reporting
Within 14 days of the last scheduled competition day, the Contest Manager 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
- Each applicable Accident/Incident Report (Rule 13.2)

Appendix A
Guide to the U.S. National Sport-Class Competition Rules
February 16, 2012

A1.0 Not applicable
A1.6 This rule makes it clear that when contests are co-located, national competitions are given priority. "Preference" does not necessarily mean the national must be launched first every day, it just means that the CD must consider the needs of the national contest first.

A3.1.3 The Competition Director must not be a contestant. Because of the demands on the CD's time, it is very likely that 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.

A5.2.1.2.1 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.

A5.3.10 If the maximum number of competitors has been restricted (Rule 5.2.1.2), then the number of slots reserved for Foreign Pilots is reduced in the same proportion.

A5.3.11 In addition to those who have been accepted, any pilot placed on standby should be notified of his position on the standby list.

A5.4.2.4 There is no obligation to collect a surcharge for late entries; if used, it must be applied fairly.

A5.4.3 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.

A5.5.1.1.2 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.

A5.5.3.2 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.

A5.5.4 The SSA Board of Directors has specified that insurance coverage is mandatory for towplanes.

A5.6.1 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.

A5.6.1.1 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.

A5.6.2 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.

A5.6.2.2 You may not fly above or into closed airspace. You must stay 500 feet below the floor of closed airspace Rule 10.12.3.
Closed Airspace Clearance Requirements

**A5.6.3** 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.

**A5.6.3.1** 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.

**A5.8.2** 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.

**A6.3.3.4** 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 5.2.2.3. 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).

**A6.5.2** 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.

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

**A6.6.3.4** SPOT is an example of an air-to-ground position reporting device.

**A6.6.3.5** Examples of anti-collision devices include Flarm, PCAS such as the Zaon MRX unit, and ADS-B. Though Flarm is not required, the
Rules Committee recommends the use of Flarm by every competition pilot. The potential safety benefit is large. This could be a suitable topic for a safety briefing. A6.7.2.3 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.

A6.7.3.1 Users of Flight Recorders that only record GPS altitude need to be aware that GPS altitude can differ from barometric altitude (often by a substantial amount either way at higher altitudes) depending on temperature. Unless the pilot has a way of monitoring GPS altitude, altitude-related penalties may inadvertently occur.

A6.7.5.1 The specification for the IGC file format is in Appendix 1 of http://www.fai.org/component/phocadownload/category/855-technical_specifications?download=3165:technical-specification-for-igc-approved-gnss-flight-recorders.

A6.7.6 Scorers should not take security lightly. Pilots should not be tempted to quickly edit logs to remove start, finish, turnpoint, or airspace penalties from their flight logs. The file security check is our only way of making sure pilots do not quickly edit their flight logs to remove a few offending fixes, as well as more complex cheating by flight log modification. Any log that comes in on a file must pass the check. (The only exception are some PDA loggers which are allowed at sports class regionals, which do not produce file security checks). Scorers should look closely at any log with absent or failed file-security check for signs of tampering, especially at start, turnpoints, finish, and near restricted airspace. If at all possible, the log should be transferred directly to the scoring computer, or to a computer owned by the scorer or the contest rather than using any programmable equipment (laptop, pda) owned by the pilot. File security check failures should be extremely rare.

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. 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.

A6.8.2 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 6.8.2.2 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.

A6.8.3 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 6.8.3.1). 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.

A6.9.1 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 affected by this rule.

A8.3 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.

A8.5 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.

A9.1 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 An 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).

A9.14 This provision should be applied only in a serious case when pilot help is truly needed. Examples include helping to locate a downed pilot or helping with rescue efforts, either from the air or after landing nearby.

A9.15 No points are available for further flight, though airfield landing bonus points still apply. The pilot retains sole judgment & responsibility for continued flight safety.

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 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 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.

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.

A10.2.2 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 soaring 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 a effective maximum length on a task, especially on days where soaring weather is predicted to end early.

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.
**Modified Assigned Task Overview**

**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.
A minimum task time is specified

**Turn Area Task Overview**

**A10.5.1.5** This rule gives competitors the explicit right to examine any pilot's task claim and/or flight log.

**A10.5.3** Turnpoint Control and Evaluation

Most problems result from Using nm instead of sm
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).

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.

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.

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.

This rule lets pilots with sustainer engines run them shortly after tow release. A brief engine run is recommended by the manufacturers of many of these gliders, in order to ensure that the engine will work later.

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).

This rule makes it clear that towplanes and sailplanes are to be on the same frequency while towing gliders.

Local constraints may dictate that a frequency other than 123.3 be used for takeoffs and landings. The CD must make the procedures for use of a frequency other than 123.3 explicitly clear.

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.

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 11.2.3.5). Note that a pilot must have a start after the task has opened and after his last launch.

CDs are encouraged to set maximum start height 500 feet below cloudbase or the top of dry lift, for safety and to encourage FAR compliance. With respect to the top of dry lift, this avoids long, dense-gaggle climbs and circling in weak lift to/at the top of the weak bubble. To do this, the CD can set a fairly conservative initial start height, and then increase it if advisers report an unexpectedly high cloud base or top of lift.
**Maximum Start Height Guideline**

A10.8.5.3 You can start either by climbing out the top or exiting the side

1. Start after the task opens!
2. Stay below MSH for 2 min before you start
3. Exit through top or side

**Exit the Start Cylinder Through the Side or Top**

Note: this diagram is for illustration only, the text of the rules is authoritative.
**A10.8.6** In order to generally discourage starts from the "back" of the start cylinder, scored distance for the first leg is limited by this rule. Note that the boundary between areas A and B is determined by where the first turn actually occurs. Of course, if you find a monster thermal in the back of the cylinder, it may be advantageous to climb there for the start.

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**First Leg Distance Measurement**

**A10.8.8** CDs are encouraged to require start time call backs for Assigned Tasks to allow spectator involvement. Call backs are not necessary for non-AT 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** Cylinder Finish

This is a more recent addition which tends to be 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.)
- Pilots missing the bottom of the cylinder receive a graduated penalty **Rule 12.1.4.5**. The size of this penalty is calibrated to make an "honest mistake" of 50-100 feet low cost (i.e. the same 10-20 points that a rolling finish previously cost).
A10.9.3 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.
A10.9.3.2 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.

A10.9.3.4 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.

A10.9.3.5 Violations of this rule should be considered an unsafe operation Rule 12.2.5.1.

A10.9.4.1 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).

A10.9.4.3 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.

A10.9.4.4 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.

A10.9.5.1 The CD should generally use the 5 mile radius. The larger 10 mile radius can substantially affect the fairness of the race, especially on MAT tasks where pilots may be approaching from opposite directions and part of contest tactics involve how to return to the airport.

A10.9.5.3.1 To achieve a safety finish when a finish cylinder is in use, you must get within 5 sm of the Finish Point and have a slope to the nearest point on the floor of the finish cylinder (the Minimum Finish Height Rule 10.9.2.2) of at least 200 feet/sm. There is no graduated penalty for being low as with the normal cylinder finish.
A10.9.5.3.2 To achieve a safety finish when a finish gate is in use, you must get within 5 sm of the Finish Point and have a slope to the Finish Point of at least 200 feet/sm.

Safety Finish when using a Finish Gate

A10.10.1 To verify FDI compliance, there must also be a system for recording the time at which flight documentation is turned in.

A10.10.1.1 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 baring 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.

A10.11 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.

A11.1.3 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.

A11.1.5 In the case of minor discrepancies between flight logs (such as between one that shows a pilot just outside a cylinder, and another that shows him just inside) the pilot is scored using the most favorable one. However, the pilot has to use a whole log, not mix and match snippets from multiple logs.

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:
DISTANCE = (EARTH'S RADIUS) * arccos (sin (LAT1) * sin (LAT2) + cos (LAT1) * cos (LAT2) * cos (LON1 - 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.

A11.2.2.3 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
You must keep a careful record of the turnpoints you visit. The CD may restrict the total number of times that certain turnpoints may be claimed. The CD may impose extra restrictions on the selection of the first and last turnpoints. You must have at least 2 intervening turnpoints before repeating a turnpoint (but note that the start and the finish are not turnpoints). Certain task legs may be prohibited. Certain turnpoints may be prohibited. A maximum of 11 turnpoints (or a smaller number as set by the CD) may be claimed.

- A deliberate violation (unauthorized aerobatics) - 500 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.
- An inadvertent violation with no significant potential for harm (pilot finishes at 30 instead of the minimum 50 feet) - 25 points.
- A deliberate violation (unauthorized aerobatics) - 500 points.

Here are some guidelines (for a first violation):

- For increased span.
- For extra weight.
- For the addition of winglets.
- For wing turbulation.
- For wing-root farings
- For other significant aerodynamic modifications. Most common gliders will have a designation in the handicap table whether the handicap includes winglets, turbulators, and wing root fairings. If not so designated, the handicap adjustments are relative to the how the sailplane was manufactured, as documented in the owner's flight and maintenance manuals and glider logbook. The rule says "applied." You don't get to improve your handicap by removing factory-applied winglets, turbulators, or wing root fairings. An easy-to-implement rule is favored rather than a much more complex rule that attempts to quantify performance differences less than 1% (10 points per day).

- 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.

This rule provides six ways that a glider's handicap can be adjusted:

- For increased span.
- For extra weight.
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- For other significant aerodynamic modifications. Most common gliders will have a designation in the handicap table whether the handicap includes winglets, turbulators, and wing root fairings. If not so designated, the handicap adjustments are relative to the how the sailplane was manufactured, as documented in the owner's flight and maintenance manuals and glider logbook. The rule says "applied." You don't get to improve your handicap by removing factory-applied winglets, turbulators, or wing root fairings. An easy-to-implement rule is favored rather than a much more complex rule that attempts to quantify performance differences less than 1% (10 points per day).

- 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).

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- Strategic considerations for pilots flying modified assigned and turn area 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 10.3.2.2):

- A maximum of 11 turnpoints (or a smaller number as set by the CD) may be claimed.
- Certain turnpoints may be prohibited.
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- 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 task claim 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.
- 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).

### Appendix B
**Approved Flight Recorders**
February 07, 2012

<table>
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<th>All National</th>
<th>Regional FAI</th>
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<tr>
<td>RC Approved COTS log</td>
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**Note:** pilots are responsible for supplying the scorer with all necessary cables, software and instructions to download and convert logs to IGC format **Rule 6.7.7.**

* Listed in ALL IGC Approved Flight Recorders.

** See **Rule 6.7.3.1** and the related Appendix A note.

**** None are approved at this time, all use of COTS loggers plus download software and procedures in 2010 will be by RC waiver

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<td><a href="http://www.xcsoar.org">www.xcsoar.org</a></td>
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Contact the SSA Rules Committee to request additions to this list of approved flight data recorders.

### Appendix C
**Index to the U.S. National Sport-Class Competition Rules**

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