

2008 DRAFT US SOARING CONTEST RULE TEXT

Draft 21 Dec 2007

This document contains draft text of rules recommended by the SSA Rules Committee for implementation in 2008, together with explanations.

In some cases, current rules are shown (in blue) prior to the recommended new wording.

When appropriate, letters in brackets indicates the “level” of a rule, as follows:

N – National FAI class

R – Regional FAI class

SN – National sport class

SR – Regional sport class

When this notation is absent, N is the default. Note that R and SN “inherit” rules from N, and SR inherits from SN.

When a paragraph number is followed by a minus sign (“-“), that number is replaced by a bullet (“•”) in published versions of the rules. This notation is used to denote a list of similar items.

In view of current and past paragraph and section reorganization, all internal references to other rules should be checked for consistency prior to publication. (There are some erroneous references in current rules.)

1. Purpose of competition

Rule text

[N]1.0 The purpose of a National FAI Class Soaring Championship is to determine a National FAI 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 Competition.

[SN]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.

[SN]1.2 Handicapping will be applied to minimize score differences due to performance differences between sailplanes.

[R]1.0 The purpose of a Regional Soaring Championships is to determine a Regional Champion and to measure the performance of all entrants within each class. Performance in Regionals will be used to provide a basis for pilots to qualify for entry into future soaring Championships.

[SR]1.1 The purpose of a Regional Sport Class Soaring Championships is to determine a Regional Sport Class Champion, to measure the performance of all entrants, and to provide an entry level for pilots new to competitive sailplane racing to learn the skills and procedures used in

competition. Performance in Regionals will be used to provide a basis for pilots to qualify for entry into future soaring Championships.

Explanation

The “purpose” statement is clarified, and brought in to line with some of the actual purposes of contests. The goal of handicapping is stated. The wording “minimize” rather than “eliminate” performance differences is important to keep the handicapping process manageable. (See also item 21, handicap adjustments.)

2. Priority for National competitions

Rule Text

[N]2.5 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.

Explanation

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.

3. “Super-Regional” Contest

Rule Text

[R]5.1 Competition type

Contest organizers will declare (on the Application for Sanction form) the competition type, which shall be one of the following:

[R]5.1.1 Regional competition

A contest in which pilots who reside within the contest’s SSA Region receive priority for all entry positions.

[R]5.1.2 Super-regional competition

A contest in which pilots who reside within the contest’s SSA Region receive priority for zero to 50% of available entry positions, as selected by contest organizers on the Application for Sanction form.

[SR]5.1.1 Regional competition

A contest in which pilots who reside within the contest’s SSA Region receive priority for all entry positions. Contest organizers may limit (on the Application for Sanction form) the entry slots to which inverted preference (Rule 5.2.2) applies to a number not less than five.

[SR]5.1.2 Super-regional competition

A contest in which pilots who reside within the contest’s SSA Region receive priority for zero to 50% of available entry positions, as selected by contest organizers on the Application for Sanction form. Contest organizers may limit the entry slots to which inverted preference (Rule 5.2.2) applies to any number, including zero.

Explanation

Parowan is a case that suggests this rule. The contest attracts pilots from all over the country, it has typically been organized and staffed primarily by people from outside the region, and the site is not well-suited to novices. It does not make much sense to force this contest to give priority to pilots who live in the region, or to new pilots in sports class. The seniors are run this way as well.

The presence of a “super-regional” in a particular region does not preclude holding a regular regional in that region as well. A contest staffed by locals, at a local site that is more appropriate for beginners is encouraged.

The rule allows organizer to reserve some (0-50%) slots for pilots in the region and some slots for newcomers with inverse seeding. We want to give organizers latitude to create the most successful contest.

Except for these changes affecting entries, such a contest is run under Regional rules.

(Note that Rule 5.1 shown here is new; it will thus cause existing rules number to be increased: 5.1 becomes 5.2, 5.2 becomes 5.3 and so on.)

3.1 Regional and super-regional entry procedures

Rule Text

[R]5.2.4 Procedures for applications received no later than the Preferential Entry Deadline
[R]5.2.4.1 Applicants who have won a Medallion in an SSA-sanctioned Regional or Sport-class Regional contest at this site within the previous 2 calendar years have 100 added to their Preference Number.

[R]5.2.4.2 Applicants who reside within the contest’s SSA Region

[R]5.2.4.2.1 For a Super-regional competition (Rule 5.1.2) such applicants are ranked by preference number (and in case of ties, by date of application). The top-ranking N applicants have 100 added to their Preference Number, where N is the number of entry positions selected by the organizers for priority under Rule 5.1.2.

[R]5.2.4.2.2 For a Regional competition (Rule 5.1.1) all such applicants have 100 added to their Preference Number.

[R]5.2.4.3 Applications are then ranked by Preference Number (and in case of ties, by date of application).

[SR]5.2.2 Preference number

[SR]5.2.2.1 Inverted preference applies: an applicant's preference number is 100 minus the Pilot Ranking score of Rule 5.2.1. In the case of a team entry, the least favorable (i.e. largest) Pilot Ranking score of any team member is used.

[SR]5.2.2.2 But contest organizers may limit the entry slots to which inverted preference applies (Rule 5.1); for other entry slots, the preference number is the Pilot Ranking score.

Explanation

This rule gives the nitty-gritty of how to rank prospective entrants from within and outside the region in both regional and super-regional contests. The rule adds a priority

for pilots who finished well in recent contests at this site. It has happened that an out-of-region pilot wins a contest one year (Perry), and then is not able to get in the next year. The RC feels that winners should get to come back. This wording has also been adjusted to refer to new “super-regional” Rule 5.1.

4. Team Entries

Rule Text

[N]5.1.2.3 A team entry is one for which two or three pilots plan to act as pilot-in-command (either in a single-place or a multiplace sailplane). Team entries are not allowed.

[R and SN]5.1.2.3 A team entry is one for which two or three 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. Team entries shall be indicated on scoresheets using the last name of each pilot, joined with an ampersand.

Explanation

There was formerly no limit on the number of team pilots. A limit is appropriate to avoid silliness, and to ensure that Pilot Ranking Scores are deserved.

5. License requirements

Rule Text

Old rule

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

New rule

[N]5.4.3.1.1 Present proof of holding a valid FAA Private or Commercial Glider Pilot Certificate. Foreign pilots (Rule 5.1.5) may present an equivalent certificate from their country.

[SR]5.4.3.1.1 Present proof of holding a valid FAA Private or Commercial Glider Pilot Certificate. Foreign pilots (Rule 5.1.5) may present an equivalent certificate from their country. Students at US Service Academies may present the appropriate endorsement making them eligible as pilot-in-command.

Explanation

This accommodates US Air Force Academy students in Sport-class Regional contests, since they are legally qualified to fly as PIC without an FAA license. RC felt that an FAA license is important for National contests. The wording is adjusted to make the treatment of foreign licenses clearer.

6. Towpilot requirements

Rule Text

Old rule:

5.4.4 Tow pilot requirements

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

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

New rule:

5.4.4 Towpilot requirements

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

5.4.4.1- Present proof of holding a valid FAA Pilot Certificate.

5.4.4.2- Present proof of ownership of the tow aircraft, or permission of the owner for its use in contest towing operations.

5.4.4.3- 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.

5.4.4.4- Receive a briefing from the Chief Tow Pilot

Explanation

The SSA Board decided that insurance coverage is mandatory for towplanes. This rule implements that decision.

7. Combined 15-Meter/Standard class

Rule Text

[R]5.8 Competition Classes

[R]5.8.1 Regional FAI-class competitions may include one or more of the classes described in Rule 6.12.

[R]5.8.2 As an alternative to separate 15-Meter and Standard Classes, a Combined 15-Meter Class can be included. To enter this class a sailplane must meet the requirements for the 15-Meter Class (6.12.4). A sailplane that also meets the requirements for Standard Class (6.12.5) can compete in the Combined 15-Meter Class and receive a 2% daily scored distance bonus.

[N]11.2.3.5 Not applicable

[R]11.2.3.5 For a sailplane competing in a Combined 15-Meter Class (Rule 5.8.2) that meets the requirements for Standard Class, scored distance is multiplied by 1.02.

Explanation

This option makes it easier for small regional contests to form a single standard/15 meter class. This rule was slated for implementation in 2007, but didn't make it into the published Rules.

8. Guests

Rule Text

Old rule:

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

New rule:

5.9.4 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.

Explanation

The status of “guests” has been a little unclear. Some guests are people who only want to fly for a few days. However, other “guests” are people flying gliders that don’t fit class rules or US team members that want to practice radio-coordinated team flying in a contest environment. This rule makes it clear that guests who plan to violate any rules must obtain a waiver. In obtaining a waiver, the RC and contest managers can make sure that any such rule violations doesn’t interfere with the contest.

9. Flight recorders

Rule Text

[N]6.7 Flight Documentation equipment

[N]6.7.1 All flight documentation is accomplished by means of a Flight Recorder.

[N]6.7.2 Definitions

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

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

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

Security check – a software or hardware check supplied by the flight recorder manufacturer that verifies that the flight recorder and/or the flight logs it produces are secure.

[N]6.7.3 Altitude recording

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

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

[N]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.

[N]6.7.4 Flight recorder requirements

[N]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.

[N]6.7.4.2 Flight recorders used in a motorized sailplane shall include a means of determining when the power unit was used (unless a separate method is provided).

[N]6.7.4.3 Three categories of Flight recorders are recognized:

[N]6.7.4.3.1- Category 1 – a Flight Recorder that has received IGC approval as Secure.

[N]6.7.4.3.2- Category 2 – a self-contained Flight Recorder

[N]6.7.4.3.3- Category 3 – a Flight Recorder implemented as software that runs on a computer readily programmable by the user (such as a PDA or handheld computer).

[N]6.7.4.4 Flight recorder category requirements

[N]6.7.4.4.1 For use as primary flight documentation for a score that will count towards U.S. Team selection, a Category 1 flight recorder is required

[N]6.7.4.4.2 Otherwise, a Category 1 or 2 flight recorder is required.

[N]6.7.4.4.3 To be valid, a flight recorder and its flight logs must pass all applicable security checks.

[N]6.7.5 Flight log data Format

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

- A unique Flight Recorder ID.
- The date of the flight.
- The entrant's competition ID and name.
- A record of fixes, each containing time, latitude, longitude and altitude.

[R]6.7.4.4 Flight recorder category requirements - a Category 1 or 2 flight recorder is required.

[SR]6.7.4.4 Flight recorder category requirements - a Category 1 or 2 or 3 flight recorder is required.

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 6.7.4.4
- 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.

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.

Explanation

This is reorganized and clarified (yes!).

We now recognize three different categories of flight recorders:

- 1) Recorders that have obtained IGC approval. The word “have” is important here. For example, the Cambridge Model 20 was once IGC approved, but is no longer approved for world records. Since it *has* received an approval, it continues to be accepted in this category.
- 2) Self-contained recorders that never got IGC approval. The SN10 is typical in this category.
- 3) Software-based, on easily-programmed computers. The typical example is a PDA running Glide Navigator or SeeYou Mobile, fed by a GPS card.

For US team points, a pilot must have a category 1 recorder. For all nationals and FAI regionals, a pilot must have category 1 or 2. Sports class regionals allow category 3.

Category 3 are easy to cheat, but widely owned by newcomers. In each case, we're balancing the need for security with cost.

In addition, we are making it clear that at national contests the security checks must be valid. There has been some question whether logs produced by IGC sanctioned units but with security seal failures would be accepted – now it's clear they are not accepted.

To make life easier for organizers, an appendix to the rules will list examples of typical flight recorders in various categories.

The US Team Committee is responsible for monitoring compliance with Rule 6.7.4.4.3 by pilots seeking selection to the US Team. The recorder model is contained in the trace, so they can do this after the fact by examining traces.

10. Motorized sailplanes in 15-Meter and Standard classes

Rule Text

[N]6.12.4.2 Not applicable
[R]6.12.4.2 Motorized sailplanes are permitted

[N]6.12.5.5 Not applicable
[R]6.12.5.5 Motorized sailplanes are permitted

Explanation

These changes allow motorized gliders in 15-Meter and Standard class for Regional contests. As with all major changes, this will apply to Regionals in 2008 and is contemplated for Nationals in 2009.

The RC went through all the usual arguments for and against motors. Given that they are allowed in Open, 18, and Sports, and they are allowed at World Championships, there seemed in the end little justification to keep them out of 15 meter and standard.

11. Weight

Rule Text

[N]6.8 Weight
[N]6.8.1 Limitations
[N]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).
[N]6.8.1.2 Aerotow launches are limited to a weight of 1653 pounds (750 kilograms), with the exception that multiplace gliders may launch by aerotow at a greater weight provided they carry no disposable or fixed ballast other than for center-of-gravity adjustment.
[N]6.8.1.3 Additional limitations of Rule 6.12 may apply.

[N]6.8.2 Weighing

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

[N]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.

[N]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.

[N]6.8.3 No-ballast rules

No-ballast rules shall apply only on a day when the CD decides that this is appropriate and has determined that all pilots support this decision.

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

[N]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.

[R]6.8.3 No-ballast rules

No-ballast rules shall apply on a day when the CD has announced this prior to the first launch:

[SN]6.8.3 No-ballast rules shall apply:

Explanation

This rule has been reorganized.

Launch at greater than 750 kg is now possible in some circumstances. Obviously, the class must allow self-launch, and other rules must be followed (e.g. glider is legal, CD and contest organizers believe runways are suitable).

Some two-seat open class gliders cannot get below 750 kg dry, and may not be able to safely self-launch. They are permitted to aerotow, but must fly dry (and no lead shot either).

Rules for declaring no-ballast days at nationals are now made clear. It has to be “appropriate”, i.e. there must be some important reason, all pilots must agree, and pilots are not allowed to fill the glider with lead.

11.1 Weight in Sports Class

Rule Text

[SN] 6.12.4 Competition Weight

[SN] 6.12.4.1 A sailplane may compete at any weight that conforms to Rule 6.8.1 and the manufacturer's limitations.

[SN] 6.12.4.2 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.

[SN] 6.12.4.3 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.

[SN] 6.12.4.4 The Competition Weight is used in the determination of a sailplane's handicap (Rule 11.5.1.2.2).

Explanation

Sport-class weight rules have been moved into 6.12, where class-specific rules belong. The way in which the weight of team and multiplace gliders should be handled is now specified – the pilot declares the largest weight at which the glider will launch, and this weight is used for handicap determination.

12. Rules inquiry

Rule Text

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

Explanation

This formalizes what was previously informal, and makes it clear that a pilot can request a clarification without resorting to a protest.

13. Safety

Rule Text

9.1 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,

Explanation

Weather is now specifically mentioned. This paragraph formerly was third in the section; it is now first, as it is considered the most important. (Other paragraph numbers must be adjusted accordingly.)

14. Task notification

Rule Text

10.2 Meetings and task notification

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.

Explanation

It is now specified that task opening time is not announced by roll call. It happens quite frequently that task opening is repeatedly postponed until conditions improve. These delays have not had roll calls, as that would tie the radio up needlessly, and pilots are listening closely in the minutes leading up to the start. The rules now reflect this practice.

An increase in maximum start height is also minor enough that a roll call is not needed. Pilots who miss the change will not be harshly penalized, and these changes, like task opening times, come at a time when pilots can be expected to listen.

Why would anyone change MSH? CDs are going to be encouraged to set maximum start height 500 feet below cloudbase, for safety and to encourage FAR compliance. To do this, the CD can set a fairly conservative initial start height, and then increase it if advisers report an unexpectedly high cloudbase.

15. Gridding by row

Rule Text

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. (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.

Explanation

The “any position within a row” option can make gridding smoother. For example, Newcastle grids gliders 4 abreast, and leaving room for the glider on the inside is hard. This arrangement is used successfully in other countries.

16. Launch procedures for sustainer engines

Rule Text

10.6.3 Motorized sailplane launch procedures

When approved by contest organizers and the CD, pilots of motorized sailplanes may elect to self-launch, or to make a short engine run following an aerotow launch. The following rules apply:

10.6.3.1 The responsibility for any decision to use the engine 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 aerotow 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 Pilots who wish to relaunch must land at the home field without the use of power. They shall relaunch in the sequence of the CD's auxiliary launch list (Rule 10.6.1.2).

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

Explanation

The rule has been modified to include sustainers. Previously, the rule only covered self-launching gliders. Rule 10.6.3.3 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.

17. Towplane radio frequency

Rule Text

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 all official contest functions: launching, starts, finishes, task announcements, etc. Radio-equipped towplanes shall use the contest frequency when a glider is being towed.

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

Explanation

This rule makes it clear that towplanes are to be on 123.3, and not another frequency (such as CTAF) while towing gliders. This is based on experience that says the hazard of not monitoring CTAF is less than that of not being on the same frequency as are the sailplanes being towed. When there is other traffic, experience has shown that it's better for the CD to monitor CTAF and talk to the other traffic. The rule allows towplanes to switch to a different frequency to coordinate landings.

18. Mixing finishes

Rule Text

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.

Explanation

It has been found that mixing finish types is hazardous.

19. Cylinder finish

Rule Text

10.9.3 Finish Cylinder

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

10.9.3.2 A task shall include a Minimum Finish Height above the home field, set by the CD 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.

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

10.9.3.4 A pilot who lands at the home field without achieving a fix inside the Finish Cylinder receives a finish, with a penalty. This penalty (Rule 12.1.4.3) is based on the Finish Height Difference, which is the Minimum Finish Height minus the largest altitude of any fix achieved after entering the horizontal limits of the Finish Cylinder; the finish time is taken as the time of this fix.

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

Explanation

It is now explicitly stated that a pilot can enter the finish cylinder through the bottom (though not always clear to some, this was always allowed).

The “rolling finish” is abolished for the cylinder. In the past, if a pilot missed the bottom of the cylinder, his time was taken as the moment the glider stopped on the ground. This is not a great system when a cylinder is in effect. Now, if a pilot misses the bottom of the cylinder, he just gets a graduated penalty of 1 point per 5 feet. The size of this penalty is calibrated to make an “honest mistake” of 50 – 100 feet low cost the same 10-20 points that a rolling finish now costs. The conventional rolling finish remains in place when there is a finish line.

Note that 12.1.4.3 is new. Existing rules will need their numbers adjusted.

20. Best-scoring flight documentation

Rule Text

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

Explanation

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.

21. Handicap adjustments

Rule Text

Old rules:

11.5.1 Handicap Factor

11.5.1.1 Each sailplane is assigned a Handicap Factor from the SSA Handicap Table (Appendix A to these Rules). If a sailplane is not listed, a Handicap Factor can be obtained by contacting the SSA Contest Committee.

11.5.1.2 If a sailplane's weight is greater than the specified maximum Handicap Weight, its Handicap Factor shall be multiplied by the following:

$$1.0 - ((\text{Sailplane's weight}) - (\text{Maximum Handicap Weight})) * 0.0002$$

11.5.1.3 If a sailplane is equipped with winglets, its Handicap Factor shall be multiplied by the following:

$$1.0 - (\text{winglet height}) / (3 * (\text{wingspan}))$$

Winglet height is the maximum vertical distance the winglet rises above wing's upper surface. If the Handicap Factor for the sailplane includes manufacturer-supplied winglets, winglet height is the height difference between the modified and the original winglets (but not less than zero).

11.5.1.4 If a sailplane's wingspan has been increased, its Handicap Factor shall be multiplied by the following:

$$1.0 - ((\text{wingspan}) - (\text{original span})) / (2 * (\text{original span}))$$

This adjustment shall not be applied if a specific Handicap Factor for the sailplane with the span increase is listed.

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

New rules:

11.5.1 Handicap Factor

11.5.1.1 Each sailplane is assigned a Handicap Factor from the SSA Handicap Table (Appendix A to these Rules). If a sailplane is not listed, a Handicap Factor can be obtained by contacting the SSA Contest Committee.

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

11.5.1.2.1 If a sailplane's wingspan has been increased, its Handicap Factor shall be multiplied by the following:

$$1.0 - ((\text{wingspan}) - (\text{original span})) / (2 * (\text{original span}))$$

This adjustment shall not be applied if a specific Handicap Factor for the sailplane with the span increase is listed.

11.5.1.2.2 If Competition Weight (Rule 6.12.4) is different from the specified Handicap Weight, the Handicap Factor shall be multiplied by the following:

$$1.0 - ((\text{Competition Weight}) - (\text{Handicap Weight})) * 0.0002$$

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

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

11.5.1.2.5 When wing-root fairings are added to a sailplane not that is handicapped without fairings, the Handicap Factor shall be multiplied by 0.99.

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

Explanation

The adjustment for winglets has been simplified. Measuring winglet sizes was a time-consuming and confusing task. The new rule is: 1% if you add winglets, turbulators or wing-root fairings. If they are present at original construction, changing them does not trigger any handicap changes.

Most common gliders will have a designation in the handicap table whether that 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.

In both cases, we favored a simple, easy-to-implement rule rather than a much more complex rule that attempts to quantify performance differences less than 1% (10 points per day). This is consistent with the "minimize" rather than "eliminate" philosophy articulated in point 1.

22. Undertime Factor

Rule text

Old rule

11.5.3.2 Scored Time on Course:

11.5.3.2.1 For finishers whose TOC is not less than MINTIME:

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

11.5.3.2.2 For finishers whose TOC is less than MINTIME:

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

11.5.3.2.3 For other finishers:

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

New rule

11.3 (additions to nomenclature)

MAXTATDIST – the maximum possible distance for a Turn-Area task. If multiple start points are used, MAXTATDIST is computed separately for each start cylinder.

If the “start anywhere” rule change #23 is approved, this is instead
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.

UTFACTOR – Undertime Factor – applies to a finisher of a MAT or TAT whose TOC is less than MINTIME.

11.5.3.2 Scored Time on Course:

11.5.3.2.1 For finishers whose TOC is not less than MINTIME:

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

11.5.3.2.2 For finishers whose TOC is less than MINTIME:

$$\text{STOC} = \text{MINTIME} - (\text{MINTIME} - \text{TOC}) * \text{UTFACTOR}$$

For a Turn-area task:

$$\text{UTFACTOR} = 0.1 + 6 * ((\text{DIST} / \text{MAXTATDIST}) - 0.85) \quad (\text{but not less than } 0.1)$$

otherwise, UTFACTOR = 0.1

Explanation

Despite task-setting guidelines, turn-area tasks are occasionally undercalled, with the winner hitting the back of all the circles and coming home substantially under time. This event dramatically compresses scores of undertime pilots and fails to reflect the true merit of the flights that pilots accomplished.

This rule says, essentially, that if you do your best and hit the back of all the circles, then you get credit for your speed even if below minimum time. It is graduated, so that pilots don't have to do complex calculations to figure out just how far they've gone. When a pilot flies more than 85% of the maximum possible distance, he starts to get credit for more than the standard 10% of his undertime. At 100% of the maximum possible distance, he receives full credit for his undertime.

If the “start anywhere” rule is approved, maximum distance is computed so that a pilot leaving from the front of the start cylinder can achieve maximum distance. Otherwise, the

incentive to start from the back of the cylinder would be very strong, and we want to discourage such starts. (See #22 for more discussion)

(Note that 11.5.3.2.3 was superfluous and has been eliminated.)

23. Start Anywhere

Rule Text

Current rules:

10.8 Starting

10.8.2 Valid start

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

...

10.8.5 Start control

...

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

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

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

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

10.8.5.5 For each start, the following shall be determined:

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

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

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

...

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

...

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

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

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

Changes:

11.2.3.2 For all Tasks, the first leg originates at the start fix (10.8.5.3)

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 i) it incurs a penalty under 10.8.5.6 and 12.1.4.3, in which case the best-scoring valid start is used or ii) 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.

Explanation

The big change is in 11.2.3.2. Previously, you only got credit for the distance from the center of the cylinder to the first turnpoint, less the cylinder radius. Pilots have long desired the ability to start anywhere in the cylinder without the loss of distance this entails. This desire is reflected in strong poll support for this change.

The delicate task for the rules committee has been to come up with a rule that achieves this desire without 1) allowing pilots to start out the back of the cylinder, and then bump the prestart gaggles while “on course” and 2) preserving the pilot’s option to use earlier or later starts to escape start penalties. The wording of 10.8.2.1 is designed to achieve both goals.

10.8.2.1 requires use of the “last valid start.” (Valid means after the start gate is open.) This is the basic provision that keeps a pilot from starting out the back or top and then bumping through thermals in the start cylinder.

Provision i) then addresses the problem, “what if the last start incurs a penalty?” By this provision, the pilot can use the earlier start to avoid penalties. In every scenario we can think of, any start that would save a pilot from penalties under current rules is also allowed under the new rule. *Intentionally* creating a penalty to use the earlier start is much too complex to prove worthwhile.

Provision ii) and the “of the claimed task” clause addresses three other possibilities, to make sure the “last start” really is the one we want: 1) What if you fly over the home airport while on task? 2) What if you start, take a constructive landout (more than ½ minimum distance from the airport), come back, start again, and this time give up sooner? 3) What if you fly the course twice, and the first one is faster? These clauses mean that you get the start you want, but you can’t use the exceptions to bump the gaggles.

This all seems complex, but that’s because we rule-makers have to deal with every possible scenario, no matter how remote. For 99% of contest flying, this rule will be simple for pilots: start where you want, stay out of the cylinder after you start, and get credit for any extra distance.

The RC recommends that this rule be implemented for regionals only in 2008.

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