

HANG GLIDING COMPETITION SERIES RULES

Version 4.2

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2. DISCLAMER

The Competition rules may change at any time prior to the commencement of the Competition Season. This Version of the Rules contained in the NZHGPA OPM is updated at most twice per year, coinciding with general OPM updates.

It is the responsibility of the Hang Gliding Competition Committee to ensure that the NZHGPA Administrator holds the current version of the Competition rules at all times and these are displayed on the NZHGPA website.

If in doubt please contact the HG Comp Committee Chairman for the most recent version of the competition rules.

3. DEFINITIONS

BOMB DISTANCE

Minimum flight distance for pilot to score above minimum points. The GAP system uses this parameter very differently from the previous scoring. It is a fixed value for all comps, see the Scoring section.

BRIEFING

Meeting of all pilots held before the first pilot takes off to announce all competition details associated with the days flying. The briefing may be postponed from the set time

in the event of bad weather if there is a chance of a round being held later that day.

DAY BOARD

Board which may have a map of the area, with the task and date marked on it, all details decided by the task committee which were announced at the briefing.

INVALID ROUND

League round where all pilots score zero.

LEAGUE COMPETITION

One or more league rounds flown during a competition.

LEAGUE ORGANISER

Person responsible for organising a league competition.

LEAGUE ROUND

Task flown by league pilots.

LEAGUE SERIES

Group of league competitions over a competition year.

MEET DIRECTOR

A league organiser who does **NOT** fly in the competition, is in charge of the daily activities during the comp, and is present during the launch window time (normally only required at the Nationals).

NUM PILOTS IN LEAGUE

For a league to be valid there must be a minimum of **FIVE** or more pilots with valid scores at the end of the league.

NUM FLEW

Number of pilots who flew during a league round (i.e. successfully took off and began to fly the task).

NUM COMP

Number of entered pilots, willing and able to fly a league round, if required (i.e. the number that went up the hill that day).

NUM FIN

Number of pilots who finished the task.

HG COMP COMMITTEE

Three people: a Chairperson, a North Island Rep, and a South Island Rep, who are elected at the Nationals to organise the following seasons competition calendar and to maintain these Rules.

PENALTY POINTS

Points which are subtracted from the pilots score for breaking the rules.

PILOT DIST

Distance a pilot flies in the direction of the course, measured back radially from the next turnpoint or the goal.

PILOT TIME

Time taken to fly from takeoff to goal.

REFLIGHT

More than one flight by the same pilot during a league round.

RESERVE WEEKEND

Another weekend in which the league competition will be held if the first weekend was cancelled.

ROUND VALIDITY

Factor to take into account how valid the round was for the entire group.

SAFETY COMMITTEE

Comprises three experienced competition pilots, appointed by the League organiser (maybe by pilot vote). If there is a Meet Director, he/she is automatically one of the three. They make decisions about launch window delays or task cancellations.

TAKEOFF WINDOW

Earliest and latest time a pilot can takeoff to score in a league round.

TASK COMMITTEE

Three experienced competition pilots who have familiarity with the league sites, appointed by the league organiser. The league organiser and or the task committee decide on all details which are announced at the briefing.

TASK DISTANCE

The straight line distance to goal from takeoff to goal via turnpoints.

TURNPOINT SECTOR

Area in which a pilot can take a photo to validate flight over a turnpoint. Standard FAI sectors shall be used (1km radius arc, of 90 deg width) for phot verification. Beer Can turnpoints (circle radius of 400m from GPS turn point co-ordinate) shall be used for GPS verified competitions.

WIN TIME

Time taken for the winning pilot to fly from takeoff to goal.

NUM BOMB

Number of pilots whose pilot distance is less than the bomb distance. The pilots who did not takeoff are not included in the pilots who bombed.

4. CONDITIONS OF ENTRY

- All League Competitions must be advertised at least 2 months prior, preferably through Airborn but some exceptions may be possible using accepted communication means to all clubs and must be agreed to by the comp committee.
- All National Comps are FAI Cat2.
- The league organiser may charge an entry fee to cover costs only.
- All entrants must hold an NZHGPA advanced or intermediate rating (or its equivalent), be either full or temporary members of the NZHGPA and have a VFR rating.
- Pilots entering a Nationals must hold a current FAI Sporting License.
- All pilots must fly with a suitable safety helmet, an altimeter, a reserve parachute and a glider which has a current warrant of fitness.
- Pilots may carry jettisonable ballast only in the form of water and shall avoid dropping the ballast in any way likely to affect other pilots or people on the ground.

5. WIND DUMMIES

The object of a wind dummy is to assist the task committee in deciding when to open the window and provide information to competition pilots about flight prospects. As competition begins, the wind dummies should either land or leave any area flown in by comp pilots.

6. TAKEOFF

Takeoff time (which is the time when both of the pilots feet leave the ground) is measured to the nearest one second. The official time reference is the GPS clock. All clocks, watches and databack cameras should be set to GPS time.

When a pilot is preventing other pilots from launching and is verbally challenged, the pilot preventing launch must launch within one minute or move out of the way. Any pilot who forces another pilot to launch or move back has one minute to launch or move to the back of the line.

If the launch times are being recorded by a launch Marshall, it is the pilots responsibility to ensure that their launch time will be recorded.

A take off corridor may be defined by the league organiser to allow fair access to take-off. After the briefing competitors found in the take-off corridor will be moved out of the way.

No reflights are allowed unless pilots are otherwise informed during the pilot briefing. If a pilot crashes during takeoff and is able to relaunch safely, this will not be deemed a reflight. If reflights are allowed, the last flight will be the flight which scores for that round. If reflights are allowed all pilots must have equal opportunity to relaunch. Time limits for reflights must be clearly defined by the task committee. Top landing and revelling can be allowed by the task committee.

Once a competitor has launched inside the takeoff window, the **task can not be changed**.

If there are at least two members of the Safety Committee present on launch (or contactable by radio) then they may, for safety reasons, temporarily close the launch window or completely cancel the task (e.g. temporary closure for a clouded-in launch, cancellation for a bad storm). The window closing time may be optionally extended by the amount of time lost, to a limit of 30mins.

A task may be protested if there is insufficient time for all competitors to launch, as defined by:

Total Window Open Time must be $\geq 3\text{minutes} \times \#\text{Pilots} / \#\text{Launch lanes}$.

7. TURNPOINTS

Before the task committee decides on a turnpoint, they should consider the possibility of a turnpoint becoming unattainable for any reason. If this possibility exists the turnpoint should be relocated.

If a turnpoint is incorrectly marked on the day board and this clearly disadvantages a pilot the round will become invalid. The task committee should be confident of all points marked on the task map before announcing them at the briefing. See also the GPS

Flight Verification section.

8. FINISHING

Finishing time is measured to the nearest one second (exception for data back cameras, see rule 9). The time is taken as the glider flies across the goal line.

When a time marshal is NOT present, the first pilot to arrive shall accurately record all pilots times.

If a goal FIELD is specified on the day board (rather than a line), then the goal line is taken as the fields perimeter. i.e. timing occurs upon flying into the field.

Note that pilots are NOT required to land in the goal field, however they must ensure that the goal marshal/timekeeper has recorded them (e.g. by radio), or that they have valid verification of the time (e.g. databack camera, or GPS tracklog if supported in that comp).

If a goal paddock is incorrectly marked on the day board and it clearly disadvantages a pilot, the round will become invalid (if protested).

In the case of landing-out, distances are measured to the nearest 50 metres.

9. FLIGHT VERIFICATION - PHOTOGRAPHS

During the first competition briefing all flight verification requirements must be announced. Flights are verified by EITHER:

- Photographic evidence only (as specified in this section), OR
- GPS evidence (as specified in the next section).

Using Photographic Evidence.

Photos are required to be taken by all competing pilots to validate pilot identity, turnpoints and landing if using photographic verification only.

Pilots must provide their own film. The first photo on each roll of film must be a close-up showing the pilots face and pilot identification (also clearly marked on the film container).

If a pilot does not provide any of the required photos, the score will be taken from the last photographic evidence available. All photos must be submitted to the league organiser at the completion of each league competition. Once the league organiser has developed and checked the films all photos will then become the property of the league director.

A photo of the day board must be taken from such a distance that the date and task are legible. Also a photo from within a specified start gate may validate a flight. The pilots must be informed at briefing the photos required to validate a flight.

Turnpoint photos taken from any point within the turnpoint sector, may validate the turnpoint. A photo taken within the turnpoint sector not showing the turnpoint will not be considered valid.

If a pilot does not land at goal they are required to take a landing paddock photo showing both the glider and a recognisable landmark. Glider must be fully rigged with battens in but may be laid flat if wind conditions demand. A valid photo must be in sequence i.e. the landing photo must be the next photo after the last aerial photo of that days round.

Penalty for an incorrect photo is 50 points (see rule 8). Examples of an incorrect photo:

- Glider disassembled
- No recognisable landmark
- Lack of a landing photo will mean marking back to the last photographic evidence. E.g.
- No landing photo on film.
- Photo not showing glider in landing paddock.
- Landing photo out of sequence.

Landing photos will only be checked in the event of protest by another competitor. In this case if there is no landing photo or if the photo is incorrect the pilot will be penalised as above.

When a data back camera is used to verify a flight, the times are measured to the nearest one minute. All camera times are to be synchronised, sealed and checked during the pilot briefing. The film must include a legible photo (from any time prior to takeoff) which proves that it is in synch with GPS time. The time print on a valid photo must be legible on the developed negative. To ensure validity the time print section of the photo should be taken against a dark background.

10. FLIGHT VERIFICATION - GPS

If GPS verification is supported in a comp, then the comp organiser must:

- Inform all competitors prior to the comp that GPS is supported, and what settings are required.
Turnpoint and Goal co-ordinates are virtual, any reference to physical landmarks is for navigation reference only. A protest based on errors in either the map description OR the GPS coordinates can invalidate the round.
- Use flight verification software that has been approved by the HG Competition Committee. Currently Seeyou and Compe GPS.
- All National Comps are GPS mandatory.
- Each pilot must ensure that their GPS model is compatible with the verification software, and is configured with the appropriate settings as stated at the first briefing. Pilots may need to provide their own cables to enable tracklog download for scoring purposes.
- During flight, the Start gate, Turnpoints and Goal are all included in the track log as specified below.
- The minimum number of points in the tack log amounts to at least 1 point for each 1 minute of on-course flying time (points prior to Start and after Goal don't count!) e.g. a 2 hr flight must contain at least 120 on-course points. The GPS should be left on at all times while flying the task if possible. The only reason to turn off, is if batteries are low.
- If a pilot lands before goal, the track log stops at their landing location. It is recommended to create a `mark' point upon landing. If the GPS is subsequently used to assist retrieval of other pilots, the track log must be turned off!
- A Start, Goal or Turnpoint is validated if either:

- A track log point is within the Beer Can sector. (Mark and Enter is not accepted as Turn Point Verification)
- OR, the straight line joining two tracklog points (which are at most 60s apart), passes through or around the Beer Can sector.

If Goal is not achieved, the end of the flight will be taken as the point in the tracklog which is furthest along course (so yes, you can fly back to a safe landing without losing points).

Penalty for deliberate falsification of tracklog (e.g. recording further tracklog after landing, and claiming it as flight) is disqualification from that round of the competition. The Comp Organiser has the discretion to reject any tracklog, or part thereof, if he/she feels it does not show sufficient evidence that the claimed data is genuine.

See also the Competition GPS Users Guide.

11. PENALTY POINTS

- 100 points will be deducted from any pilot who lands in a cropped or cultivated paddock or one containing deer or horses or who lands near or over flies cows being taken to milking in such a way to disturb them. Also deliberate or accidental falsification of landing details.
- A pilot being identified after a complaint by the Airways corporation, will lead to disqualification from that round of the league competition. Also violation of controlled airspace as defined at the briefing.
- Cloud Flying is illegal and therefore prohibited. Upon sufficient evidence of a pilot Cloud Flying, the pilot in question may be disqualified from that round of the competition.
- If a pilots score is negative including penalties, the score for that task will be taken as zero. Negative scores are not carried forward.

12. SCORING

Scoring will be performed using the GAP 2000 system, using the following parameters:

- Nominal distance 25 km
- Minimum distance 5 km
- Goal percentage 25 %
- Nominal Time 2 hrs

When the Competition is complete, the Final “ Race” file results must be sent to the Comp Committee Chairman within 2 weeks to be included and updated in the National Ranking Ladder. This is displayed on the NZHGPA Website.

13. DISPUTES

If there is a dispute over the rules of the competition the league organiser will prepare an impartial statement with all relevant facts and background which will be agreed upon by

the one or more parties in the dispute.

This statement will be sent to the HG Comp Committee Chairperson who will rule on the matter. If there is a case of conflict of interest the Chairperson must appoint an independent arbitrator to make a ruling. There will be a time limit of one week on initiating the protest from the end of the competition.

The FAI Sporting Code (General Section and Section 7 - Hang Gliders) will be used for all rules which are not covered in these rules.

There will be no variations or retroactive rule changes made from these rules.

In situations which are unclear the spirit of intent of the rules will be used to determine the outcome of the protest.

14.PILOT RANKING SYSTEM (introduction)

The idea behind the pilot ranking system is to bring scoring from the league and the nationals into what the HG Competition Committee sees as the correct balance.

This is achieved by using a ranking ladder which is designed with the following ideals:

- The 'Weight' of each round depends on the number of pilots and the task validity: Each comp day has a 'weighting' in its effect on the pilots ladder score, i.e. the ladder is a 'weighted average'. So a high validity task with a lot of competitors will have a lot more effect on the ladder than a few pilots on a poor task.

However even low-validity tasks are still scored out of 1000 pts, so they won't pull your average down, instead their **effect** on the average is decreased. Note that use of GAP scoring means that short tasks will get a low validity, as GAP has minimum-task-length and minimum-task-duration parameters.

- Bias towards the Nationals:

The nationals are given a higher weighting because this is the one time during the competition season where pilots from throughout the country fly together with the same tasks, sites and conditions. The larger numbers of pilots there will automatically give a higher day-weight, but we use a 'Nationals bias' to increase this further.

- Fast Rise:

A hot-shot pilot, newly returned from overseas, should be able to leap up to where they belong on the ladder within a seasons flying. So the weightings have been chosen such that attendance at the Nationals and several weekend comps will give a total weighting of around 100%.

- Slow Fall:

HG skills aren't lost overnight. A good pilot who misses a season should still be ranked as a 'reasonable' pilot. Your ladder sink rate is 200 points-per-year. Between seasons this amount is subtracted from each pilots score.

- Fly as many comps as you want: There is no limit, but there's no unfair advantage either, as you'll just be stabilising out at your 'natural' level.

The pilot ranking formulae below may seem a little mathematical. The problem is that a fair system is a mathematical process that must be written down in a manner that will stop all ambiguities and arguments. To aid understanding, after reading the PILOT RANKING FORMULAE, have a look at last years Ladder in spreadsheet form, which

should be available on the NZHGPA website.

15. PILOT RANKING FORMULAE

(See also the Definitions section at the beginning of these Rules)

NUM_FOR_100% = 200 This is the number of entrants required to give a 1000 point day a ladder

weighting of 100% (i.e. 20 pilots would have 10% weight).

SINK_RATE = 200 This amount is subtracted from each pilots ladder score between seasons,

so those who stop flying gradually drop off the ladder.

NATIONALS_BIAS = 1.25 The weighting of each Nationals day is multiplied by this amount. Its value

is 1.00 for all other comps.

TASK_VALIDITY value between 0 and 1000, generated by the scoring program.

ROUND_WEIGHT = $\frac{\text{NUM_COMP}}{\text{NUM_FOR_100\%}} \times \frac{\text{TASK_VALIDITY}}{1000} \times \text{NATIONALS_BIAS}$

TOTAL_WEIGHT is calculated for each pilot as the sum of the ROUND_WEIGHTs for all the rounds they entered (note this value may exceed 100%).

LAST_YR_WEIGHT = 100% - TOTAL_WEIGHT. (minimum value = 0%) i.e. this is the percentage of last years ladder which will be used in the final calculation for this pilot.

LAST_YR_LADDER The ranking ladder value of this pilot at the end of the previous flying season.

SCORE_THIS_YR = $\frac{\text{SUM}(\text{ROUND_WEIGHT} \times \text{PILOT_SCORE})}{\text{MAX}(\text{TOTAL_WEIGHT}, 100\%)}$

Note how this value is self-limiting if TOTAL_WEIGHT is greater than 100%.

NEW_LADDER = SCORE_THIS_YR + LAST_YR_WEIGHT x (LAST_YR_LADDER - SINK_RATE)

16. WORLD TEAM SELECTION SCORE

The World's formula makes pilots work for their right to selection, they cannot rely on attending one Nats and getting automatic selection which has happened in the past. Pilots must attend at least one Nats and some leagues, or perhaps only the last 2 Nats if they place well enough in them.

The selection criteria is as follows and is based on the 2 previous seasons prior to world selection or a suitable period as defined by the comp committee after the worlds date is known.

- Pilots receive 1 point for every league day they attend (read, fly and receive points). There is a maximum of 2 points for any one league. (this means a 4 day league will score a maximum of 2 points).
- One point for every day flown at the last 2 Nationals prior to selection date. (with a maximum of 4 points for any Nats comp).

Additional points gained from the first 6 places at the most recent NZ Nationals before selection date.

- 1st place = 6 points
- 2nd place = 5 points
- 3rd place = 4 points
- 4th place = 3 points
- 5th place = 2 points
- 6th place = 1 point

17. FAI BADGE CLAIMS.

The following are the FAI requirements for Badge claims. A sporting license is not required.

Bronze. 15km or 1 hour or 500m height gain. (open distance type task)

Silver. 50km and 3 hours and 1000m height gain. (open distance type task)

Gold. 100km and 5 hours and 2000m height gain. (any type of task can be used. Open distance, out & return, triangle)

Diamond. There are 3 separate Diamond badges.

- 150km open course. (open distance or out and return)
- 125km closed course. (out and return or triangle)
- 3000m height gain.

Badge claims must be submitted using a 3D track log (one which contains altitude data)
The flight is verified by submitting as an OLC entry.

No official Observer is required for Badge claims but is required for record claims.

A Power Point presentation of how to submit an OLC entry can be found here (although it is slow unless you have broad band).

http://www2.onlinecontest.org/holc/docs/Online_Contest_2004_en.pdf?dclp=d8a6748bd37b991693b649d34ae21a8f

The OLC Rules can be found here:

http://www2.onlinecontest.org/holc/docs/OLC_2005_en.pdf?dclp=d8a6748bd37b991693b649d34ae21a8f

These are the notes from the FAI website with regard to badges.

You can use any 3D GPS (i.e. one that records altitude in the tracklog) for your badge flights, or a 2D GPS accompanied by a barograph, or even an IGC flight recorder. For badge flights, you will not need an official observer. Instead, you will be able to use your OLC entries as flight verification (or those of another national on-line contest if applicable in your country). OLC will be adding some features to their software to enable determination of a pilot's best distance, duration and altitude gain, which will facilitate participating federations being able to award badges at year end.

Here are the details...

1. The preferred instrument for all flight verification is the 3D GPS. By 3D, we mean one that records altitude in the tracklog. All of the Garmin eTrex series meet this requirement (though the basic yellow one and Summit model are to be avoided), as do some of the Magellan and MLR models, to name a few. Recommended models would include eTrex Vista, Gecko 301, and GPS76S, as these three models include glide-angle software that's helpful in badges, records and comps. CIVL won't publish a list of approved instruments, as that list changes monthly. But you can be confident that any recent model will do what you want. If in doubt, test your GPS with the software listed further below. Or, consult the recommended list on the CompeGPS website, or here.
2. You can still use one of the older 2D GPS models, like the Garmin 12, *if* you also use a vario with a barograph in it. Naturally, this will complicate your badge claim process somewhat. You can also use an IGC Flight Recorder if you have one, but this type of expensive instrument is not required in our sport. Lastly, cameras are out. They will not be required or accepted for flight verification. Never thought you'd see the day, did you ?
3. The old requirement to have your flight instrument calibrated in a pressure chamber has been dropped. Clearly, it makes no sense to calibrate a GPS in such a way when its altitude information comes from satellites, not pressure readings.
4. For badge claims, you will not require an official observer. In many countries, this requirement created a huge barrier because there were few OOs. Instead, you can

- use your flight claim on OLC for verification (more on this below). For records, of course, an official observer is still required.
5. For badge flights, no pre-flight declaration is required. For record flights, you still need to make a declaration. You can do this in your GPS by making a route, and having your OO witness that. Or, you can fill out the paper declaration form and have the OO sign that. If you use an IGC flight recorder, the declaration can be made right in the instrument. For records, part of the pre-flight procedure will include the OO verifying that your tracklog has been cleared prior to takeoff.
 6. In all badge and record flights, you will use cylindrical turnpoint “observation zones”, rather than pie-shaped sectors, to prove you completed the task. These OZs (the same name as the OZ report is just a coincidence!) always have a radius of 400m for badges and records; in competitions, they may be larger. If you have an IGC flight recorder, you may still use a pie-shaped sector, but why would you want to ?
 7. For badges, after your flight you should turn off the recording feature of your GPS, then turn off the GPS. This will avoid extraneous datapoints being recorded when you turn it on later. You then upload your tracklog to a PC (there are Windows, MacOS and Linux applications available) and save it as a secure .igc file. In Windows, use of a simple freeware app like MaxPunkte or GPS Dump is recommended. The former will record your personal information and the .igc tracklog into a .olc file, so that filing the claim is simplified. If you participate in the OLC, you then go on-line and file your claim. If you have a .olc file, this step is very easy - upload one file, and press the “Claim flight” button. A good PowerPoint presentation of every step of the flight claim process may be found [here](#).
 8. Under the guidance of Rudl Berger, this year OLC will be adding a software feature to record a pilot’s best distance, altitude gain and duration. This means that at year’s end, all a federation has to do to issue badges is to look on the OLC site and see for each of its pilots who has meet what badge requirements. Organizers of other on-line contests may want to take note and do something similar.
 9. Naturally, in order to meet the altitude gain element of the badge claim, or claim a national or world record, you will need to use a 3D GPS or barograph. If you are using a 3D GPS, it’s up to you to ensure that you are locked on to enough satellites to get a good altitude fix. It’s also up to you, if you use a GPS model with both satellite and barometric altitude readings, to ensure that you understand and account for any difference between these two at the moment of topping out in your thermal. This will be especially important if you are trying for the diamond badge, with its difficult 3000m altitude gain requirement.

10. Section 7D also spells out the type of task that may be used for the distance requirement of the badges. For bronze and silver, you must use straight-line open distance. For gold, diamond and diplomas above those, you may use any type of task including open distance, out-return, zigzag, flat triangle, FAI triangle or polygon (with 3 turnpoints). Note that if you fly a closed course, the distance credited is the shortest distance it was possible to fly, e.g. for an out-return distance, it would be distance between the turnpoints - $2 \times 400\text{m TP radius}$.