FAI Sporting Code

Rules and Regulations
Precision Flying

2013 Edition

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[1] FAI Statutes, Chapter 1, para. 1.6
[2] FAI Sporting Code, General Section, Chapter 3, para 3.1.3.
[3] FAI Statutes, Chapter 1, para 1.8.1
[4] FAI Statutes, Chapter 5, para 5.1.1.2; 5.5; 5.6 and 5.6.1.6
[5] FAI Bylaws, Chapter 1, para 1.2.1
[6] FAI Statutes, Chapter 2, para 2.3.2.2.5,
[7] FAI Bylaws, Chapter 1, para 1.2.3
[8] FAI Statutes, Chapter 5, para 5.1.1.2; 5.5; 5.6, 5.6.1.6
[9] FAI Sporting Code, General Section, Chapter 3, para 3.1.7
[10] FAI Sporting Code, General Section, Chapter 1, paras 1.2. and 1.4
[11] FAI Statutes, Chapter 5, para 5.6.3
[12] FAI Bylaws, Chapter 1, para 1.2.2

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AIMS FOR PRECISION FLYING COMPETITIONS

The competition is designed for solo pilots flying single piston engine aircraft. The sport of precision flying is aimed at improving fundamental flying skills to enable a solo pilot to navigate and handle an aircraft under basic visual flying conditions independent of the use of technical systems thus enhancing flying safety. Precision flying in light aircraft is the aerial equivalent of the sport of orientation race which is well known amongst athletes.

The competition consists of the following three main groups of tests:

1. Flight planning and navigation

2. Special observation

3. Landing

The overall aim for the sport of precision flying is achieved by:

1. Emphasizing the ability to calculate an accurate flight plan using the most basic of equipment.

2. Emphasizing the ability to follow a precise track whilst adhering closely to a time schedule.

3. Emphasizing the ability to perform realistic observation tasks from air to ground whilst navigating the aircraft on a strict time schedule.

4. Emphasizing the ability to land an aircraft in short and narrow places with the simulation of trees or other obstacles on the approach, thereby fully demonstrating a pilot's ability to handle an aircraft both accurately and safely.

A. COMPETITION RULES

A.0 INTRODUCTION

A.0.1 The competition is for solo pilots in class C aeroplanes, capable of flying the competition described in these rules. Each competing aircraft and pilot must adhere to the regulations currently in force in the aircraft's registration country and organizer's country and possess a valid FAI Sporting License.

A.0.2 Each participating country is allowed to send a maximum of four (4) competitors and in addition a team manager, engineers and observers. Each participating country is invited to send current qualified international judges. The competition director may increase the total number of competitors to five 5 (or more according local rules) from each country in the initial invitation with the recommendation that the number of competitors do not exceed eighty (80).

A.0.3 The competition will consist of the following three groups of tests:

1. FLIGHT PLANNING AND NAVIGATION TESTS
2. SPECIAL OBSERVATION TESTS
3. LANDING TEST

A.0.4 Competition will consist of one Landing Test and three Navigation Tests.

A.0.5 If all 3 routes are flown then the best 2 results for each pilot will be counted and the worst result excluded

A.0.6 Each competitor will fly the same aircraft throughout the competition, except that, at the discretion of the competition director, he may change to another aero plane of the same type if a technical malfunction occurs.

A.0.7 Each aircraft used in competition must have a minimum demonstrated crosswind component of 10 kts.

A.00 USE OF GPS-LOGGERS

A.00.1. The use of Flight Data Recording Equipment is mandatory for World and Continental Championships.

A.00.2. Only Equipment approved by GAC may be used.

A.00.3. Requirements for Flight Data Recording Equipment are documented in the Sporting Code, Section 2, Annex 4

A.00.4. For Continental and World Championships pilots may share Flight Data Recording Equipment only at the discretion of International Chief Judge.

A.00.5. Responsibility for the operation of the Flight Data Recording Equipment rests with the Competitor.

A.00.6. The International Chief Judge – or a Judge appointed by him – will use the registered flight track of each Competitor, as depicted on paper-printout or screen-display, to make judgments on passing times and possible violations of the flight rules or given flight instructions.

A.00.7. The Master-Clock has to be GPS-Time.

A.1 FLIGHT PLANNING AND NAVIGATION TESTS

A.1.1 FLIGHT PLANNING TESTS

A.1.1.1 The competitor must report at the entrance to the flight planning room five (5) minutes before the assigned time to be checked for non permitted equipment (see A.1.1.8)

A.1.1.2 The competitor may enter the flight planning room, three (3) minutes before the assigned time to arrange the table to be ready in time to receive (1) an envelope, (2) the competition map, (3) a set of instructions, (4) a set of en-route photos, (5) a set of TP photos.(6)a flight planning form, (7) departure and arrival charts.

A.1.1.3 The competitor is required to calculate his flight plan for the navigation test, which he must submit to the competition management within thirty (30) minutes of receiving his flight instructions. Following the submission of the flight plan, but not less than twenty (20) minutes after receiving the flight instructions, the pilot will receive a computerized flight plan.

A.1.1.4 The instructions will define all necessary flight procedures and identify the turning points. Turning points, together with start and finishing points will be circled and numbered. Wind direction and speed between 5 and 30 knots will be given. The wind on the computer-calculated Flight plan may differ from the actual wind. All competitors will work with the same wind at Flight planning. A master map with the navigation route clearly marked (all turning points, together with start and finishing points will be marked with a pinprick) and the photographs must be displayed in the flight planning room.

A.1.1.5 The flight plan will require the competitor to calculate only the true heading in full degrees and the time on each leg in minutes and seconds. Leg distance to at least tenths of a nautical mile will be given. Time for procedure turns shall not be added by the competitor.

A.1.1.6 Flight planning calculations shall be performed by manual aids. No electronic equipment, except clocks and no tables of calculations, prepared in advance, are allowed. No communication and no navigation device whatsoever is allowed, except for Flight Data Recording Equipment.

A.1.1.7 If actual wind conditions change during the competition (more than 45°in direction or/and more than 10 kts in velocity) a new computer Flight plan has to be given out for the next group of competitors.

Computerized flight plans based on each individual competitor's official TAS, will be produced by the competition management and will be used by all competitors.

The computer flight plan shall specify:

- Local times for take off, start point, all turning points and finish points in hours,
- minutes, seconds
- True tracks and true headings in full degrees
- Groundspeeds to at least a tenths of a knots
- Distances to at least a tenth of a nautical miles
- Time on leg in minutes and seconds.

A.1.1.8 For map preparation, the competitor is allowed 30 minutes in addition to the 30 minutes allowed for flight planning. Consequently, a competitor who submits his flight plan after 20 minutes has a total of 40 minutes for map preparation. Map preparation will take place in the flight planning room. Leaving this room later than 60 minutes after receiving the flight instructions will incur

penalties. From the time when the competitor is scheduled to leave the flight planning room, he shall be allowed 15 minutes to go to his aircraft, prepare it for flight and taxi to the take-off position.

A.1.2 NAVIGATION TESTS

A.1.1.1 There will be three navigation tests. The object of each test is to assess the competitor's skill in precise navigation, observation and timing. The test includes maintaining correct tracks, altitudes and ground speeds.

A.1.1.2 Times will be checked on take-off and on passing overhead start-and finish point, in addition to timing at turning points and other checkpoints. Latest arrival time for landing will be given.

A.1.1.3 Turning points are not necessarily timed checkpoints. There shall be 12 to 25 timed checkpoints, including take off, start point and finish point. No navigation test will have more than 8 legs. All legs shall be straight.

A.1.1.4 No secret Checkpoint will be placed in the first 0,5 Nm of any leg.

A.1.1.5 There shall be a gap of not less than 2 NM between any timed point (secret or TP).

A.1.1.6 The aircraft must be established on the correct track of the first leg when crossing the start point. Circling after passing the start point is not allowed, except if prescribed for specific flight procedures.

A.1.1.7 The start, turning and finish points must be well-defined features, both on the map and on the ground.

A.1.1.8 During the navigation tests the recommended flying altitude is 1000 feet AGL. The organizer has the right to declare a different altitude for safety reasons. The minimum altitude to be flown is 500 feet AGL or the state limits, whichever is higher. If the state limit is higher than 500 feet AGL, it must be published in the local regulations.

A.1.1.9 The distance for each of three navigation tests will not be less than 70 Nm. and not more than 100 Nm. The total distance for all the navigation tests will not exceed 270 Nm.
The minimum allowable competition TAS is 60 kts. Declared speeds will be in multiples of 5 kts. only.

A.1.1.10 The departure and arrival charts will give the position of the start and finish points. The charts will be to an approximate scale of 1:50,000 and will be defined in the local regulations.

A.1.1.11 The Take-Off-Time will be measured at a gate situated perpendicular to the runway direction along of the length of the runway in use, and clearly marked.

A.1.1.12 All SCs, TPs, SP and FP must be passed by the Competitor inside a “gate”.

All gates extend 0,5 NM to the left and right of the relevant point.
- For SP perpendicular to the outbound track; for FP, TPs and SCs perpendicular to the inbound track.

Passing outside a gate gives penalties for “not observed”
- no penalties will be given for deviating from the track more than 0,5 NM if a gate is not established.

A.1.1.13 Penalties for a turn of more than 90° on the leg are only given, when the FR-recording shows this deviation for more than 5 seconds in sequence.
After passing the gate at a TP no penalties for circling will be given within a radius of 0,5 NM of the TP.

A.1.1.14 At SP the gate has an extended “gate line”, being a distance of 1,0 NM right and left of the SP.

- crossing opposite to the direction of flight this “extended SP-gate line” any time gives penalties for circling.
- Timing, including “not observed”, at the SP takes place when the aircraft first passes the start gate in the direction of flight.

A.1.1.15 A procedure turn will be prescribed where any turning point involves a change of track of more than 90 degrees.

Procedure turns are mandatory. When a procedure turn is prescribed, the computerized flight plan given to the competitor shall include one minute for the turn, added on a separate line. `Diagrams showing shape of procedure turns will indicate flight route. The single crossover must be completed. See Appendix A3. Failure to carry out procedure turns will incur penalties.

A.1.1.16 At TPs with procedure turns, the gate has an extended “gate line”, being a distance of 3,0 NM right and left of the TP.
- Carrying out a prescribed procedure turn before passing the “gate line” or when passing outside the “gate line” gives penalties for circling.
- In this case no extra penalties for not carrying out the procedure turn at the correct position will be given. (See sketches Appendix 3)

A.1.1.17 Only maps with good topographic information to a scale of 1:200,000 - 1:300,000 will be used for competition purposes.

For emergency and legal requirements an unmarked ICAO 1:500,000 chart must be carried in the aircraft. No other maps or charts except arrival and departure charts, may be carried during the competition.

A.1.1.18 All electronic equipment and autopilots will be sealed and shall not be used during the competition except in case of emergency. Any broken seals could result in disqualification of the competitor.

A.2 SPECIAL OBSERVATIONS TESTS

A.2.1 The object of these tests is to assess the pilot's skill in making correct observations during a complex navigation flight. The test includes:

- Identifying canvas targets along the tracks,
- Identifying photographic targets,
- Indicating the position of both types of target on the competition map.

A.2.2
- The max. total number of targets and photographs is 25, the min. number 16.
- The max. number of photographs is 10, the min. number 8.
- The max. number of ground targets is 15, the min. number 8.

Correct photographs at TPs, SP and FP are mandatory. Each photograph has to be taken correctly on inbound track, with the checkpoint circled. These photographs are marked with the name of checkpoint (SP, TP1, TP2, … FP).

Canvas targets at start, finish and turning points shall be as close as practical to the point, but within a radius of 30 meters and must be letters of alphabet.
The exact position of the photos and canvas targets will be marked by the competitor on the map (see Appendix A1).

A.2.3 Canvas targets are not mandatory at secret checkpoints SP, TPs, FP.

A.2.4 Canvas targets en route will not be letters of the alphabet. Permitted letters or signs are those contained in Appendix A1.

A.2.5 The precise target to be identified will be circled on each photograph.

A.2.6 No photograph or target will be placed in the first 0,5 NM of any leg.

A.2.7 Targets or photographs wrongly identified or marked will be penalized (see A.9.2.1).

A.2.8 At the end of the flight, at the parking position, the competitor is allowed five minutes, while seated in his aircraft, for completing his marking on the map. The five minutes will begin after the aircraft has stopped at its parking slot.

A.2.9 The competitor will be debriefed as soon as possible.

A.2.10 Procedure for scoring the observation test:

1. Photo targets:
   - They will be scored as "correct/incorrect position" or as "not observed".

2. Canvas targets at start, finish and turning points:
   - They will be scored as "correct/incorrect target" or as "not observed"

3. Canvas targets en route:
   - a. compare number of marked targets en route with actual number used by the organizer.
   - b. number of missing targets en route will be scored as "not observed".
   - c. marked en route targets will then be scored as "correct" or "incorrect target or position".

A.3 LANDING TEST

A.3.1 The object of this test is to assess the pilot's skill in landings of different types. Circuits may be left or right hand. Circuits for landings 1 and 4 must be above 500 feet QFE. Circuits for landings 2 and 3 not less than 1,000 feet or more than 1,200 feet QFE. These will be defined by the competition management who has the right to vary the circuit direction. The tests include the landings described below:

A.3.1.1 LANDING 1: NORMAL LANDING

A landing where the use of power, spoilers, flaps or sideslip is at the discretion of the pilot.

A.3.1.2 LANDING 2: IDLE POWER LANDING

Abeam the zero line, the engine is throttled back to idle power. Power shall not be used thereafter. Flaps, spoilers and sideslip may be used at the discretion of the pilot.

A.3.1.3 LANDING 3: IDLE POWER LANDING WITHOUT FLAPS

Abeam the zero line flying with flaps fully retracted, the engine is throttled back to idle power. Power, spoilers and flaps shall not be used thereafter. Sideslip may be used at the discretion of the pilot.

A.3.1.4 LANDING 4: OBSTACLE LANDING

The competitor will make a landing after passing a marked obstacle 2 meters high, placed 50 meters before the touchdown line. Use of power, spoilers, flaps or sideslip is at the discretion of the pilot. Approaches in connection with the obstacle landing, where the wheels are lower than the obstacle before passing over it, are not permitted (creeping).

A.3.2 Landings will be run as a separate event to enable the participation of all international judges in judging the event. Depending on the situation, the competition director decides to execute the landing competition as follows:

- Each landing followed by a full stop, or

- Two landings with a touch and go in between.

The sequence of landings will be briefed.

A.3.3 All landings are to be made as close as possible to the zero area, within a strip 12 meters wide and 72 meters long. See Appendix A2. The strip will be marked and aircraft must keep within the strip.

A.3.4 Touchdown must be on both main wheels with a maximum distance of five (5) meters between main wheel 1 and main wheel 2, except when the international chief judge has decided that a crosswind condition exists. If the touchdown is in or after the zero area and the distance between the touchdown of the main wheels is 5 meters or less, the touchdown point for measurement is the touchdown of the first main wheel.

If the distance is more than 5 meters, the touchdown point for measurement is the touchdown of the second main wheel.

Nose wheels must be off the ground. Tail wheel aero planes must be landed in a configuration where the tail is lower than the horizontal attitude.

A.3.5 Touchdown on or after the zero area is measured when the aircraft is rolling on the ground after all bounces. In case of bounces before or after the line, the touchdown counted is that one which gives the highest penalty.

A.3.6 An aircraft is considered bouncing when both main wheels (or a sole main wheel) leave the ground after any touchdown, to a height of more than the diameter of the main wheel, or for a distance more than 15 m. A jump into a 5 meter box must be calculated this way: Box meters minus 4 meters, minus the measured lift-off point before.

A.3.7 In the case of any part of the aircraft touching the ground before the zero area, the distance measured will be the distance from the touchdown point to the zero line. In the case of a tail wheel landing which is judged to be three-pointer landing (the tail wheel may roll on the ground for a maximum distance of five (5) meters before the main wheels), the touchdown point of the main wheels shall be measured.

A.3.8 A crosswind condition shall exist, when the crosswind component of the wind, that is the component at right angles to the runway in use, is 8 kts or more. Wind direction and speed shall be measured close to the zero-line by suitable anemometer and recorded for each landing. The maximum allowed tailwind component is 3 kts.

The international chief judge will decide when a crosswind situation exists, and shall direct that a conspicuous flag signal is placed 30 meters before the zero line to advise competitors.

Touchdown on the upwind main wheel only is allowed when a crosswind exists.

A.3.9 Power has to be completely retarded at touch down and only sufficient power is permitted after the aircraft has come to a complete stop, to continue the roll to the end of the landing strip. After leaving the landing strip, the runway shall be cleared.

A.3.10 Abnormal landings in all four types of landing are defined thus:

a) Nose wheel not off the ground,
b) A tail wheel aircraft not in a configuration with the tail below the horizontal,
c) One main wheel off the ground at the initial touchdown, without authorized crosswind conditions, to a height of more than the diameter of the main wheel,
d) In crosswind conditions touchdown on downwind main wheel only,
e) Any part of the aircraft other than the wheels touching the ground,
f) Retraction of flaps inside landing strip before touchdown,
g) Touchdown with locked wheels,
h) One or both main wheels leave the ground, while nose wheel remains on it.

A.3.11 In the event of a competing aircraft not touching the ground in any of the landing tests or landing outside the strip, he will be penalized.

A.3.12 All approaches and landings must be considered as being safe. If the international chief judge, competition director or his appointed representative is of the opinion that an approach or landing is deemed as dangerous, flying will be stopped until the jury has made a decision (See A.7.1).

A.4 GENERAL RULES

A.4.1 All aircraft main wheel covers (spats) should be removed prior to the competition landings. The competition management will paint every wheel on each side for easy video identification. All landings are to be video recorded to assist the jury only. Any modification temporary or permanent to the wheels, undercarriage, oleos or shock absorbers not approved by the manufacturer and certification authority is not permitted and may result in disqualification.

A.4.2 In the event of a failure to start, the competitor must not leave the aircraft and he must not communicate with his team. He will make a radio call to competition management to explain the situation and then follow given instructions.

A.4.3 In the event of a reduction in flying time, the competition director will discuss alternative tasks with the jury, international chief judge and the team managers before issuing directives on how the championship will be concluded. A championship must include at least two latest flown navigation tests and two landings. When two navigation tests are flown and only two landings are taken into account, the landing penalties will be multiplied by two. When only one navigation test can be flown, or when less than two landings are taken into account, there will be a *Competition Winner* but not a *Champion*.

A.4.4 Smoking is prohibited at all briefings and in the flight planning room.

A.4.5 No competitor is permitted to take any alcohol less than 10 hours prior to the start of daily competition.

A.4.6 The competition language will be English.

A.5 SCORING

A.5.1 The competition is both an individual and team competition.

For the team prize, the total number of penalties from the three (3) best pilots from each country will be added together. The winning team will receive the challenge team trophy.

A.5.2 The final results will consist of all penalties being added together. In each section and sub-section, all penalties must be added together to calculate the maximum to be awarded to each competitor. The competitor with the lowest number of penalties becomes the champion.

A.5.3 In the case of two or more competitors having the same number of penalties, the competitor with the lowest penalties in each group in the following order will be adjudged the winner:

a) The competitor with the lowest number of penalties for flight planning and navigation, or,
b) The competitor with the lowest number of penalties for landings.

A.5.4 In the event of two or more competitors having the same number of penalties for the navigation or landing trophies, the following will apply:

A.5.4.1 Navigation trophy:

- The competitor with the lowest number of penalties for flying (timing) or

- The competitor with the lowest number of penalties on all secret time checks, or
- The competitor with the lowest number of penalties in the special observation test.

A.5.4.2 Landing trophy:

The competitor with the lowest number of penalties in:

- Idle power landing without flaps or
- Idle power landing or
- Obstacle landing

A.5.5 If there is a continuing tie multiple winners will be declared.

A.6 DISQUALIFICATION

A.6.1 Any misconduct or bad behavior on the ground or in the air including unsporting behavior or protests against other competitors could result in the international jury disqualifying the competitor concerned.

A.6.2 If a competitor communicates with any unauthorized person from the time of entering the flight planning room until the time the last competitor has taken off on his navigation test or enters any restricted area on the competition site without permission, he runs the risk of disqualification both for himself and the whole of his national team.

A.6.3 Any competitor, found using non permitted equipment in the flight planning room or aircraft or in the security area, or found to have tampered with any sealed navigation or radio equipment or manipulating the flight recording system will be disqualified and may risk disqualification of their team.

A.6.4 Any unauthorized alterations to aircraft landing gear during the landing tests as indicated in A.4.1 may result in disqualification.

A.7 JUDGING

A.7.1 An international chief judge shall be appointed by FAI-CIAG prior to the championship. Each country will be invited to send current international judges. International judges will be positioned by the international chief judge. International judges will also participate in the landing competition, as directed by the international chief judge.

A.8 PROTESTS

A.8.1 The chairman of the jury and the other jury members will be appointed by FAI-CIAG in accordance with the sporting code, general section. Their duties include observing and ensuring that the championship is being run in accordance with the FAI sporting code and championship rules. They also rule on all formal protests. In the event of a replacement of any member, the new member will be appointed by the president of CIAG after consultation with the rules committee.

A.8.2 The Competition Director will publish individual results as quickly as possible by the best available method. The results will be marked "preliminary and subject to protest".

A.8.3 Within 30 minutes of the release of the individual results the pilot and/or Team Manager may present a written request (“complaints“) to the International Chief Judge for clarification. If not satisfied with the clarification, a “protest” may be filed with the Competition Director within 30 minutes after the clarification was given, accompanied by the relevant protest fee.

If after Complaints and a correction a new personal result-sheet is delivered to the pilot concerned, this one is not subject for further Complaints or Protest.

A.8.4 The video recordings of landing may be used by Chief Judge and two independent International Judges for checking the results of landings before final judging of the landings. After final judging, the video recordings of landing are to be used only by the jury when dealing with protests.

A.8.5 When the prescribed fee has been paid to the competition management and the protest filed in writing, the protest becomes official and is referred to the international jury for a decision. The team manager and competitor have the right to address the jury if desired.

A.8.6 If the correction of the International Chief Judge at Complaints or the ruling of the jury affects another or other competitors, the appropriate alterations will be made to the results.

A.8.7 Protests against other competitors are forbidden.

A.8.8 The jury must be available at all time during the championship to deal with protests.

A.8.9 The prescribed fee in connection with any protest submitted to the jury will be EURO 50.— and shall accompany the written protest. The fee will be returned in the case of a successful protest only.

A.9 TABLE OF PENALTIES

		Penalties	Maximum Penalties
A.9.1	**FLIGHT PLANNING AND NAVIGATION**		
A.9.1.1	Preparation of flight plan		
	- Limit + or - 2 degrees in heading		
	- Additional error per full degree	2	
	- Limit + or - 5 seconds in timing	0	
	Additional error per full second	1	
	- Maximum total penalties for calculation		350
	- Late delivery of flight plan (> 30 minutes)	50	50
	- Failure to leave flight planning room after 60 minutes	100	100
A.9.1.2	Take-off time (aircraft passing starting gate)		
	- Limit + 60 seconds	0	
	- Take-off “gate” before or after time slot	200	200
A.9.1.3	Passing each timed point		
	- Limit + or - 2 seconds	0	
	- Additional error per full second	3	100
	- “not observed“ (outside gate), each time	100	
A.9.1.4	Procedure turn		
	- Failure to carry out prescribed procedure turn each time	200	200
A.9.1.5	Flying below the minimum altitude (each time)	500	500
A.9.1.6	Other deviations from track (each time)		

- Circling or backtracking being a turn of more than 90 degrees either way (each time)	200	200

	- not following described arrival/departure routes and/or procedure.		200
	- Late arrival at downwind/holding pattern of competition airfield (if latest arrival time is given).		200
A.9.1.7	Late submission of competition map (after 5 minutes allowance)	100	100

A.9.2 SPECIAL OBSERVATION

A.9.2.1 Photo and en route canvas targets:

- Correct photo or target within 5 mm of correct position	0	
- Not observed	20	20
- Incorrect photo, target or position	30	30

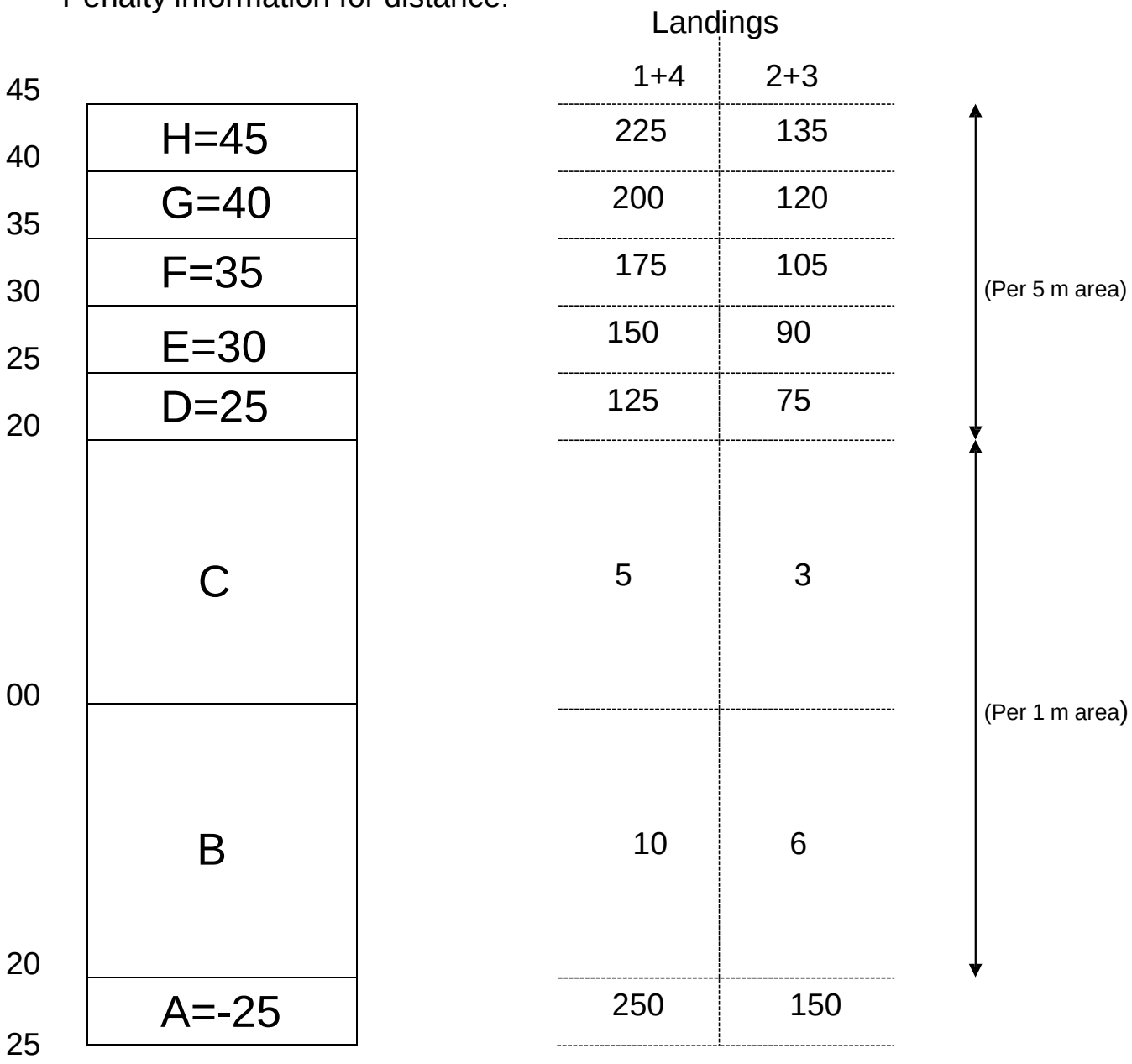
Canvas targets at start, turning and finish points:

- Not observed	50	50
- Incorrect	100	100

A.9.3 LANDINGS

	1 Normal	2 Idle	3 Idle no flaps	4 Obstacle
Maximum penalties per landing	400	200	200	400
Outside the strip or no landing	300	200	200	300
Abnormal landing (A.3.10 a to h))	200	200	200	200
Rolling out of the landing strip to the side	200	150	150	200
Power on the ground in the strip	50	50	50	50
Non permitted use of power (in the air)	-	200	200	-
Non permitted use of flaps or spoilers (in the air)	-	-	200	-
Touching, destroying the obstacle or "creeping" over obstacle	-	-	-	400

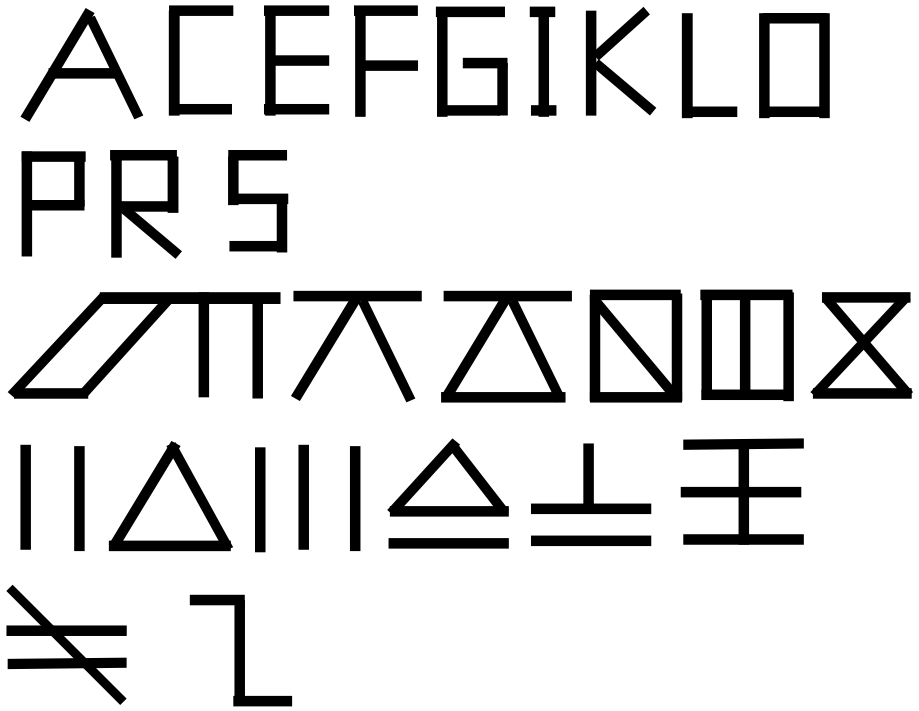
Penalty information for distance:



APPENDIX A1

CANVAS TARGET INFORMATION

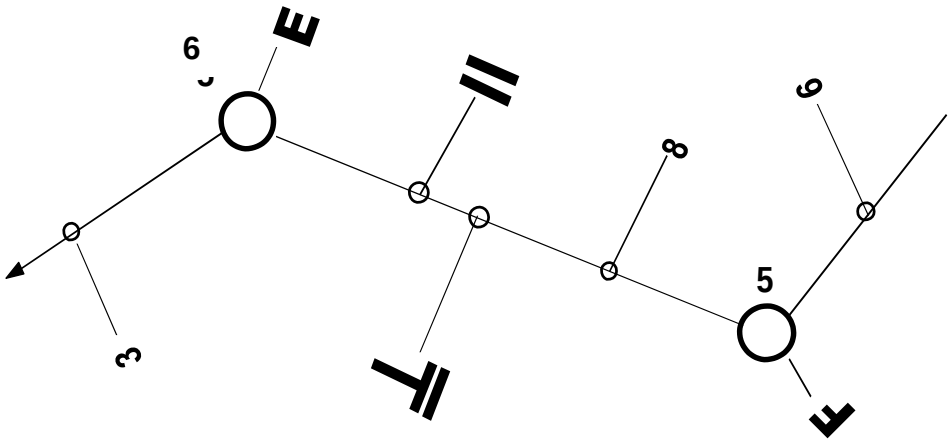
Canvas targets shall be white or orange and made of strips 0.5 meters wide and the total overall size between 3 and 4 meters.
Permitted letters and signs:



When the letters are used, they shall be located so as to be seen correctly in the direction of the flight inbound to the target.
The shapes of the signs should be sketched by the pilot on his map, as seen.

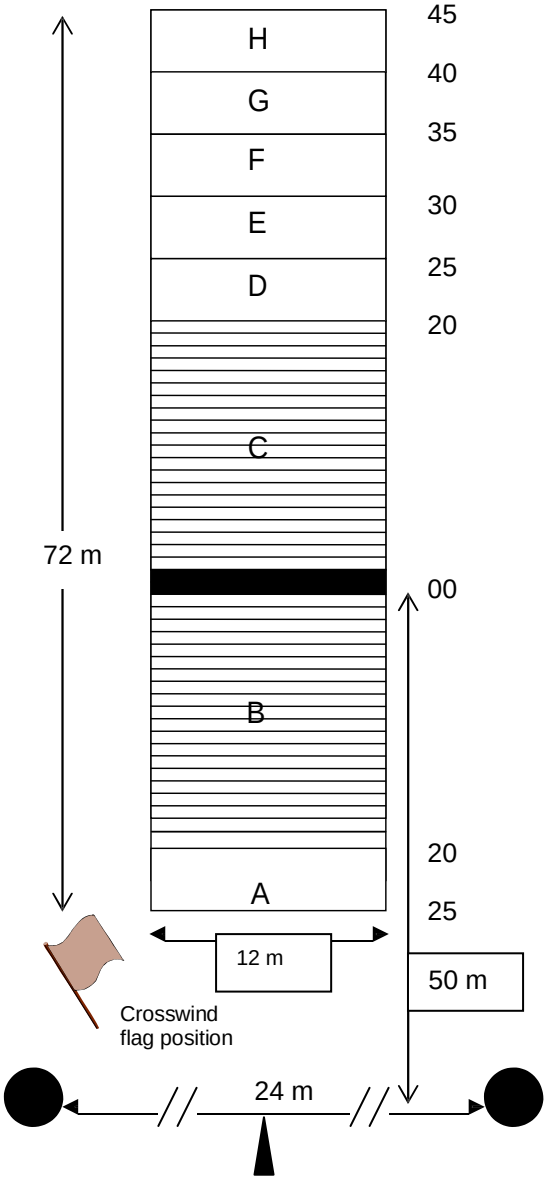
MARKING OF THE MAP
Marking of photographs, signs and letters has to be done correctly to avoid difficulties during debriefing. They should be marked as seen. The position has to be marked by a pinprick or a clear dot and accompanied by a line with the target next to it.

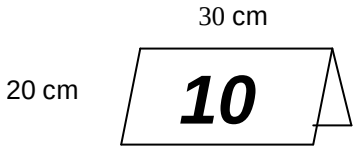
There should be no doubt at all about the exact position.



APPENDIX A2

RUNWAY MARKING INFORMATION





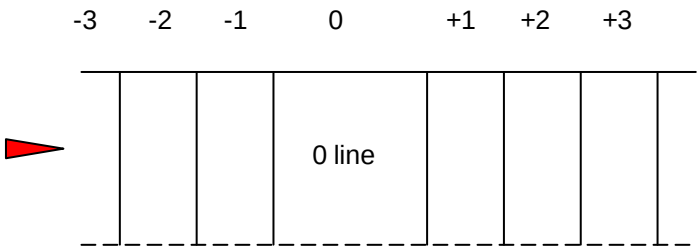
Markers.
On both sides of the runway, to assist judges and video crew, there shall be runway markers at each 5-meter area till +20 area opposite the correct meter area.

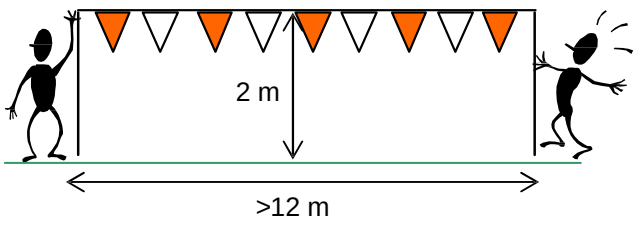
Markers shall be placed per 5-metre area beyond the –20 and +20 meters area in the middle of the correct area

The landing strip.
Each meter must be marked by paint or chalk (on grass) from –20 to +20 meter area, and outside that zone every 5 meters area (see picture). The zero area must be clearly marked.

Approach markers.
Two markers will be clearly positioned 24 meters apart at the 50 meters in front of the middle of the zero area. Aircraft have to approach in between these markers on their final approach path. Approaching from outside may be considered as dangerous

Zero area specification
There is an imaginary zero line. The zero area is per full meter on each side of this line. Outside the zero area scoring will be done per one meter area till the –20 and +20 meter area and beyond this per 5 meters till the limit of the landing strip

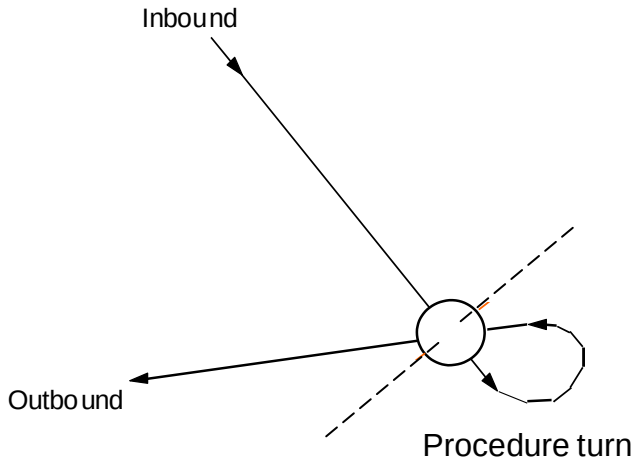




Obstacle specification
Position 50 meters in front of the middle of zero area.
Thin cotton or nylon line with cloth flags in color
Do not tie the line to poles!
It should slip off easily.
The height (2 meters) should be checked at the runway center line.

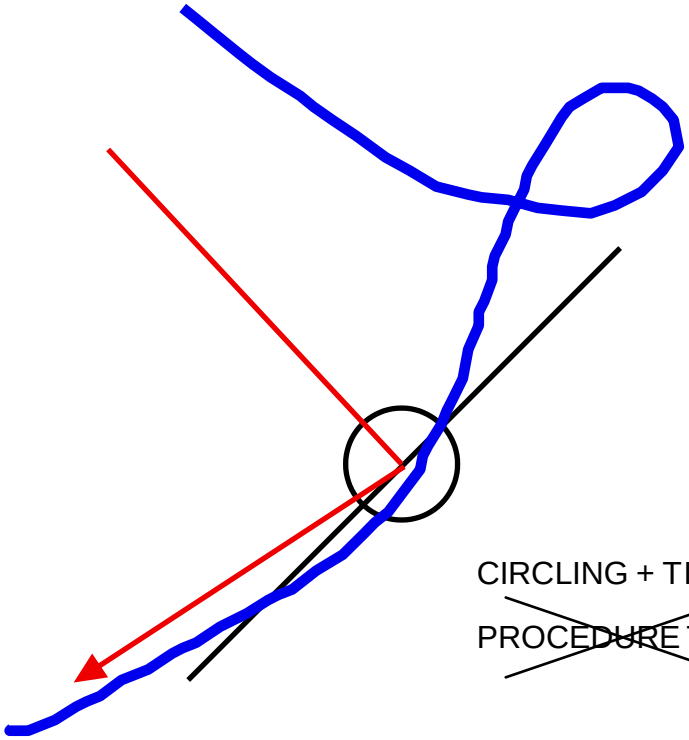
APPENDIX A3

PROCEDURE TURN INFORMATION



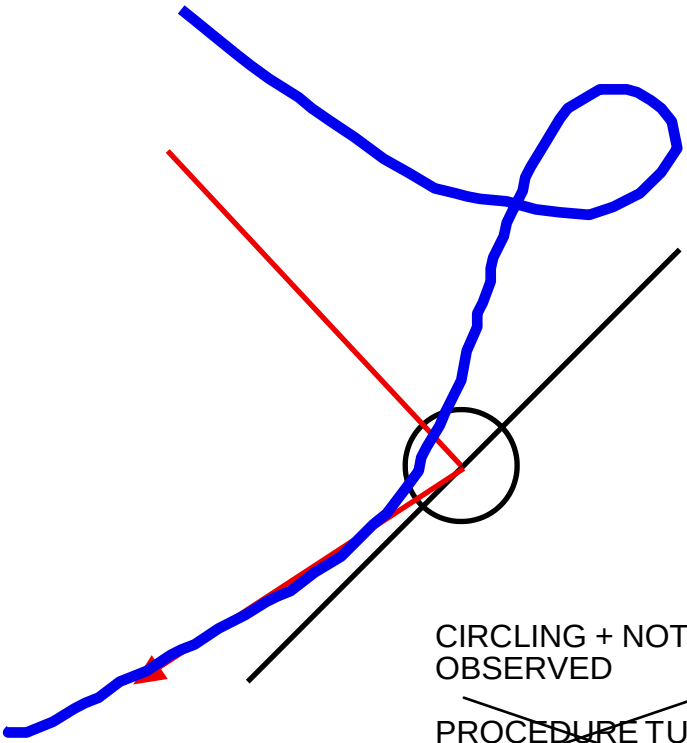
A procedure turn is mandatory at a turning point (TP) in case of a change of track of more than 90 degrees

Timing always for inbound track at the TP



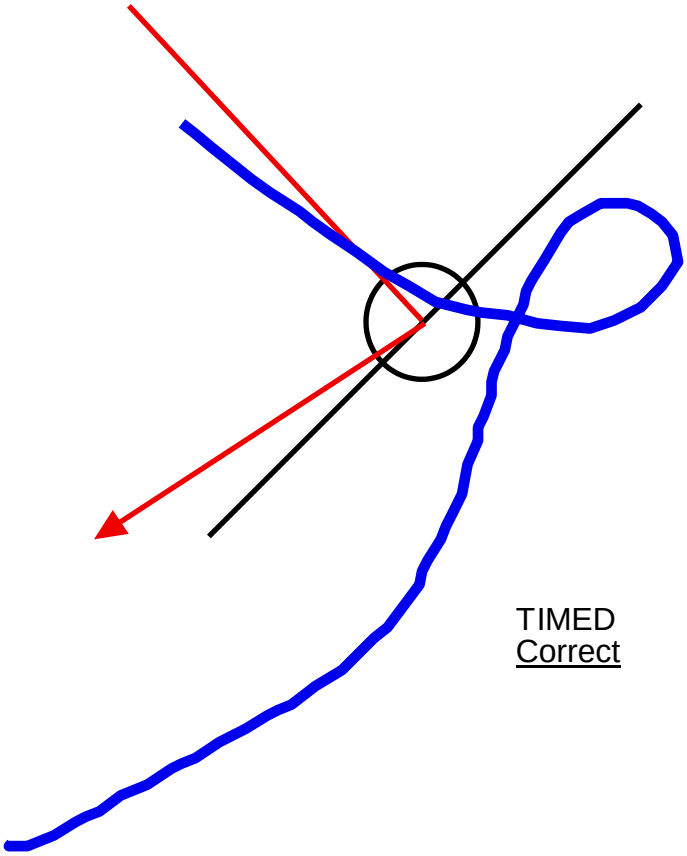
CIRCLING + TIMED

~~PROCEDURE TURN~~

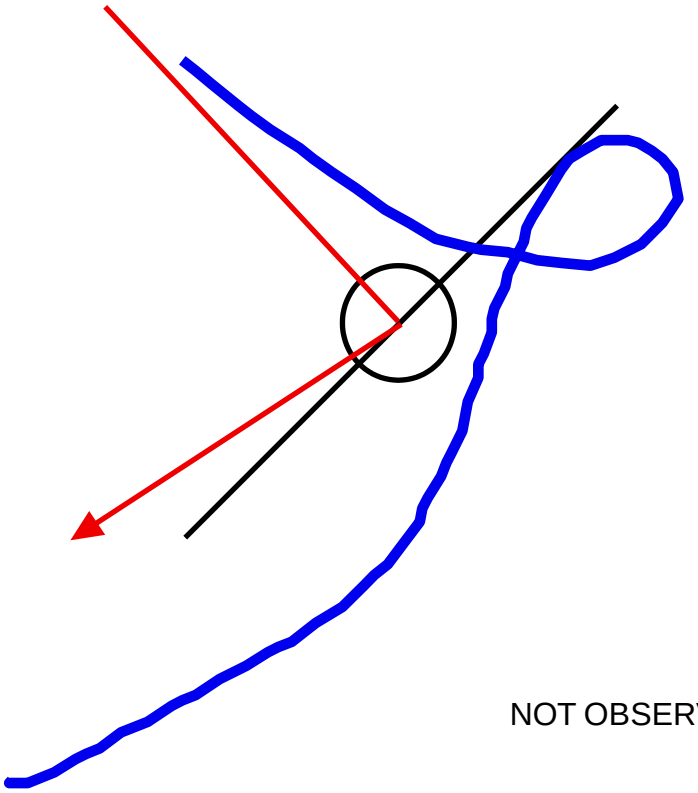


CIRCLING + NOT OBSERVED

~~PROCEDURE TURN~~

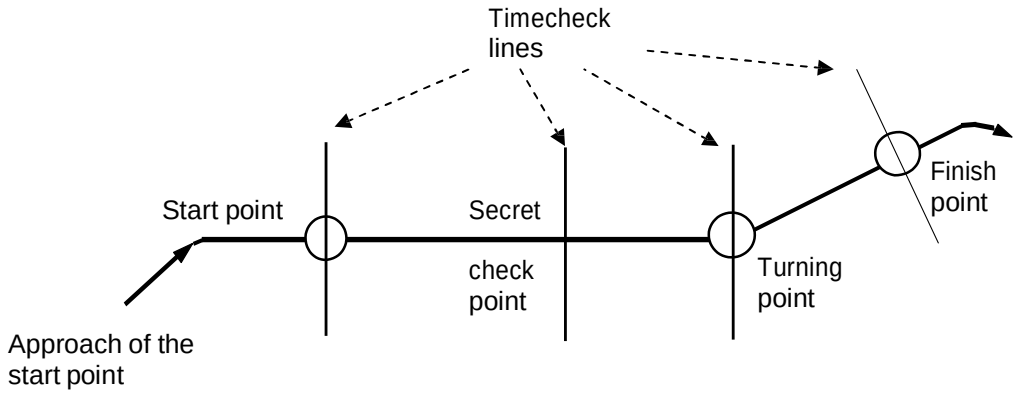


TIMED
Correct



NOT OBSERVED

TRACK AND TIMING INFORMATION



Timing always for inbound track at Start Point (SP), Secret Checkpoints, Turning Points (TP) and Finish Point (FP).
Inability to identify the competitor results in maximum timing penalties at each point.

APPENDIX A4

EXAMPLE

14th WPFC 2000

30 July- 5 August 2000

Flight plan Nav.test No 2

Start No…***1***……..
Name…***Alan Best***…….Country…***New Z*ealand**…
Aircraft reg…***SE-ETT***……Type…***C 150***……
Declared TAS……***70***…...kts
Wind…***270***……degrees……***15***….kts

Leg No	Leg dist NM	True track deg	True heading deg	Ground speed kts	Time on leg min	Time on leg sec		Time schedule Hrs	Time schedule Min	Time schedule Sec
							Take off	**09**	**00**	**00**
							Start p.	**09**	**10**	**00**
1	9.9						T.p. 1			
2	6.6						T.p. 2			
3	7.8						T.p. 3			
4	10.8						T.p. 4			
5	14.0						T.p. 5			
6	12.4						T.p. 6			
One minute turn										
7	15.0						T.p. 7			
8	9.9						Finish p.			

Penalties …… + …… =

	Hrs	Min	Sec.	
Flight plan given out				(scheduled)
Flight plan returned				
Difference in time				
Leaving room				

APPENDIX A5

EXAMPLE

Debriefing sheet

Navigation test **No 2** Start no……..

Name……..Country……

Flight Planning

Heading error exceeding +- 2° per full degree…….. 2 Time error exceeding +- 5 sec per full second…….. 1	Max 350	…… ……
Late delivery of flight plan >30 min……	50	……
Leaving the flight planning room after 60 min……	100	……
Take off: rolling before or after the 60 sec time slot……	200	……
Late submission of competition map (after 5 min limit)……..	100	……

P1	P2	P3	P4	P5	P6	P7	P8

Start	Tp1	Tp2	Tp3	Tp4	Tp5	Tp6	Tp7	Finish

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11

Date…00/08/ ……..

Signed……...
Pilot

Failure to carry out prescribed procedure turn	each time	200	# ……..……...
Flying below the minimum altitude	each time	500	# ……..……...
Circling or backtracking	each time	200	# ……..……...
Not following arrival/departure routes		200	# ……..…….
Late arrival at downwind/holding pattern		200	# ……..…….

B. ORGANISATION RULES

B.1 GENERAL

B.1.1 Before any National Aero Club offers to host a continental or world championship, that National Aero Club must be able to satisfy the FAI on the following points:

B.1.1.1 That sufficient experience in the discipline exists in the host country to ensure a high standard.

B.1.1.2 That there should be at least 3 officials experienced in the discipline and able to provide their capabilities of organizing the championship.

B.1.2 The host Aero Club must be able to provide an airfield with limited traffic. An airfield with bilingual controlling during practice or any championship must be avoided.

B.1.3 In selecting a venue, the host Aero Club must be able to provide reasonable accommodation close to the airfield. (see also B 4.1)

B.1.4 The host Aero Club should develop a close working relationship at an early stage with the President of the Jury and the International Chief Judge.

B.1.5 The host Aero Club must follow the rules and regulations.
If any doubts exist as to interpretation the advice of the International Chief Judge and/or the President of the Jury should be sought.

B 1.6 The host country must not run other competitions at the same time, on the same airfield or competition area.

B.1.7 Practice for display, demonstrations, etc. must not interfere with competition practice schedule, which must have priority.

B.1.8 Any display, show or demonstration must not interfere with the competition.

B 1.9 The host National Aero Club will take adequate insurance coverage for all competitors as required by the national law. In any case all international personnel (i.e. Jury, Judges, support personnel) must be insured by the Organizer against third party legal liability risk.

B 1.10 The host National Aero Club will provide figures of competition expenses in accordance with Appendix B1 to GAC together with the Local Rules.

B 1.11 To ensure that the organizers of world and continental flight championships abide by the appropriate rules and regulations and fulfils the commitments made by the organizers, an amount in EUROS equal to the entry fee for five (5) crews will be given to the President of the Jury prior to the start of competition, to be held by him until the Jury certifies at the close of the competition that the event has been conducted correctly, the complete results prepared for transmission to FAI headquarters, and the Sanction Fee has been transferred to FAI. At this time the amount withheld shall be returned to the organizers. Should the Jury determine for any reason that the competition was not properly conducted, the total amount will be forwarded immediately by the Jury President to FAI headquarters, to be held there until the matter can be reviewed at the next plenary meeting of GAC.

B.2 VENUE

B.2.1 It is necessary when considering the location of the championship to give careful consideration to the type of terrain readily available around possible airfields. It is ideal to arrange for mixed terrain of flat and high ground and to select an area that is neither too easy nor too difficult to navigate over. Further reduction of possible sites will be appropriate after studying the aeronautical charts for each aerodrome so as to ensure that a competition course can be laid out on one chart without the expense of having special charts made for an event.

B.2.2 Consideration should be given to the general air traffic flow within the competition area, and to control zones, prohibited areas and danger areas, which exist and would hinder the settling of a competition navigation course.

B.2.3 Reference should be made to the facilities offered on each aerodrome, including those of air traffic control, fire fighting and ambulance service, availability of fuel, hangar space, etc.

B.2.4 It is of advantage if the airfield enjoys either a restaurant or adequate clubhouse facilities for competitors and spectators.

B.2.5 The airfield should not be located more than 30 minutes travel time from the residential accommodation that will be provided for the participants.

B.2.6 The airfield should be available for formal familiarization and practice in the week prior to the championship, during which time the airfield will be run under strict local rules to which all participants will be expected to adhere. There must be no charge for practice landings.

B.2.7 The airfield should be provided with concrete or hard surface runways wherever possible. An airfield where the runways do not have a uniform surface at least 15 meters wide is not acceptable.

B.2.8 When selecting the time frame for the championship the weather history within the area of the competition should be considered.

B.2.9 Special attention should be given to the placing and size of the flight planning/briefing room. For Precision Competitions the room should have ample space to hold sufficient tables with adequate separation between them when the pilots start at 3 - 5 minute intervals.

B.2.10 Telephone and telefax and wifi facilities should be available. If the computer room is not established at the airfield, internet service must be available between airfield (debriefing) and computer room.

B.3 TRANSPORT

B 3.1 If the airfield is not within walking distance from the accommodation, it will be necessary for the Competition Management to arrange suitable transportation. Normally a regular coach service will be necessary. Times of coaches should be published and adhered to.

B 3.2 It is recommended that for social functions in the evening transportation by coach is provided for all. This avoids the necessity of separate briefings regarding the location of functions together with their associated problems.

B 3.3 The International Chief Judge and the Jury must each be provided with their own independent transportation.

B.4 ACCOMMODATION

B 4.1 It is convenient but not vital for all participants to be housed close together. This reduces many problems for the Organizer and for Competitors and "streamlines" the overall organization; however, there should be always two accommodations available, one higher class and one lower price hotel.

B 4.2 In order to find the most suitable accommodation to an acceptable price the Organizer should try to get at an early stage the approximate numbers of people planning to attend the Competition, i.e.:

- Number of competitors,(including accompanying family),
- International support personnel (team chief, engineers, etc.)
- Jury, International Judges
- National Judges and National support personnel, etc.

B 4.3 Consideration should be given to "package deals" to include all meals during Competition. During the practice phase accommodation should be available on a bed- and-breakfast basis, providing the opportunity for participants to arrange their own training, sight seeing and meals.

B 4.4 The Competition Management must be sympathetic to pilot rest requirements. It is essential that absolute quiet is assured between the hours of 22.30 and 07.00 to permit sensible sleep periods.

B.5 AIRCRAFT HIRE

B.5.1 The host Aero Club must be prepared to initiate arrangements for the hire of aircraft for participants unable to bring their own competition aircraft.

B.5.2 Pilots planning to avail themselves of this service should initiate a request at least six months before the event, specifying type, length of hire, hours to be flown, etc.
They should also furnish details of their own licenses and experience.

B.5.3 Aircraft for hire should be checked by the host Aero Club and the following minimum standard guaranteed:
a) Air speed indicator
b) Altimeter
c) Magnetic compass and directional gyro
d) Turn and bank indicator and/or artificial horizon
e) VHF/COM equipment with all appropriate frequencies
f) Third party legal liability insurance to the level required in the host country.

B.6 TRAINING PRACTICE

B.6.1 Practice and familiarization of the competition area should be available in the week prior to the championship. There should be no additional charges for landings.

B.6.2 Navigation practice can take place without affecting the normal airfield routine.

B.6.3 Landing practice for each competitor may be limited to not more than 2 landings after a navigation practice. Landing practice may be limited in the week prior to the competition week. Each competitor should be allowed 4 landings, in practice, in the competition week and prior to the start of the championship. An appropriate schedule will be prepared by the competition director.

B.6.4 During practice, it is essential that airfield routine regulations be observed. It is also necessary for other non-competitive traffic to use the airfield and therefore strict R/T control will be necessary.

B.6.5 Daily flying should be restricted to 08.00 - 18.00.

B.6.6 Training practice must not be interrupted for display or show practice.

B.6.7 An example of the flight planning form to be used in the competition is attached as Appendix A4.

B.6.8 Organizing National Aero Club must provide a sample of the competition map, the flight planning form and the computer printout to every participating pilot at least one month before the competition. Maps covering all the area of Navigation tests must be available during the Training Practice week.

B.6.9 Organizing National Aero Club must prepare 3 training routes with 8 photos targets for each route of the same level as Competition Routes and free of charge.
A result sheet with coordinates of turning points, photos targets have to be included on each route.

B.6.10 Under no circumstances shall the same aircraft be used in the competition by more t Than two competing pilots.

B.6.11 An official landing practice could be organised in order to run a final check of organisation, staff and systems involved in judgement of landings. The two landings per pilot are " *Obstacle Landing*" and "*Idle Landing without Flaps*" landings.

B.7 BRIEFINGS

B.7.1 Full briefings must be attended by all concerned.

B.7.2 Opening briefing must be attended by jury, judges, operational officials, team managers; the object being to explain the running of the competition, the program to be adhered to including the social program, channels of communication, and the basis of judging.

Specific issues concerning the use of Flight Data Recording Equipment have to be covered during the Opening Briefing.

B.7.3 Competitors' briefing must be attended by jury, judges, operational officials, team managers, pilots; the object being to define operating procedures.

B.7.4 Daily briefing must be attended by team managers; the object being to define the day's program.

B.7.5 Met briefing should be attended by pilots and team managers.

B.7.6 Landing briefing must be attended by jury, judges, team managers and all pilots; he object being to define procedures, circuit discipline, signals, etc.

B.7.7 At the beginning of the Championship a Judges Briefing will be given by the International Chief Judge, attended by all International Judges and the Local Chief Judge.

B.8 METEOROLOGY

B.8.1 A competent meteorologist shall be available for the weather briefings.

B.8.2 The meteorologist should be familiar with the local weather patterns and familiar with VFR flying.

B.8.3 Forecasts must be published prior to the take-off for each navigation group. Forecasts shall be published in clear written English, NOT CODE.

B.8.4 General forecasts will be displayed on a convenient notice board outside the flight planning room before the first navigational briefing begins, and will be updated.

B.8.5 The weather minima for the navigation tests will not be less than 5 kilometers visibility with the cloud base 1000' above ground level of the highest point of the course. In the event that any part of the navigation course is within controlled airspace, consent must be given for the minimum to apply.

B.8.6 Throughout the navigation test there should be an aircraft available to check deterioration of weather. Either a member of the jury or the international chief judge will accompany the aircraft during any check flight.

B.8.7 The minimum cloud base for power landings will be 500' AGL and power off landings 1000' AGL. In both cases the visibility will be at least 1.5 kilometers. If the minima are below those legally required in the host country, then the host country's rules must be applied.

B.8.8 If the wind speed near the ground is more than 25 kts, gusts included, flying will be stopped. If the crosswind component, gusts included, exceeds the lowest published maximum

demonstrated crosswind or a stated limit, flying will be stopped on the runway in use. The maximum crosswind component for the competition will be announced before the competition starts.

B.8.9 Crosswind condition must be declared, when the crosswind component is 8 knots or more. Wind direction and speed shall be measured close to the zero line at 2 meters high by suitable equipment and have to be recorded in the touchdown moment of each aircraft. The Chief Landing Judge will decide when crosswind condition exist. Crews will be advised by radio.

B.9 NAVIGATION AND SPECIAL OBSERVATION TEST

B.9.1 The organizer has to prepare a minimum of 3 complete routes.

B.9.2 A single map will be used for the navigation test. Maps glued together are not permitted. Details of the map should include all roads and railways in normal use, large lakes, rivers and creeks, color coded and/or elevation contours, towns and villages, etc. It should also contain certain spot heights and location of high obstacles.

B.9.3 In selecting a course for the navigation event, the competition director should give thought to the type of terrain available to him to ensure that a mixture is within the set route. Routes should not be made easy and should avoid, wherever possible, following motorways or long stretches of river or rail tracks. A course that is either predominantly high ground or predominantly flat ground should be avoided whenever possible.

B.9.4 The route planner must consider the following points:

- Positions of SP, TPs, FP and SCs must be determined on the ground, using two independent GPS, working on WGS 84.
- Each SC being a well-defined feature (if this feature consists of a line, this line should cross the track at an angle of about 90°, but not less than 60°) on the map, position of SCs should be measured on the Competition map in the following way : first, measure the total length of the leg; second, for each SC on this leg, measure the distance from the TP origin of the relevant leg.

- SP and FP should be at least 2 miles apart from each other and in positions, that Departure- and Arrival-Routes to the relevant airfield can be fixed in a way, that the aircraft don't have to cross the Start line or Finish line on their way from and to the airfield.

- All Checkpoints have to be finally established before competition starts.

-The Organizer must provide the number of Computers and Printers deemed necessary by the International Chief Judge.

B.9.5 The start and finish points must be clearly marked or defined. Departure and arrival charts shall be given to competitors where the start and finish points are defined.
Turning points and secret checkpoints shall not be located in open fields, widely visible. Positions in bushes, forests or among buildings are preferable. Vehicles should be hidden or parked in normal parking places and the general public should be kept away from checkpoints.

B.9.6 A master clock shall be placed outside the flight planning room and will be GPS time.

B.9.7 Photo targets will be made from air photographs, in colour, taken on track but not more than 100 meters left of the centerline in the direction of the line of flight. Photos must be taken in direction of flight and slightly to the left, but not more than 45° to the left. They will be neither too old nor taken in different climatic conditions than those prevailing at the season of the competition. They shall be taken with a 50 to 75 mm lens for 24 x 36 mm format at an altitude between 800-1000 feet AGL. Canvas targets will be located on the centerline of the track or

within 100 meters to the left of the track centerline. In the case of canvas targets these are not to be placed in the center of wide-open spaces, but close to woods, hedges and other obstacles. The object to be observed will be circled on each photograph. However, both photo targets and canvas targets shall be clearly visible to a competitor from not less than 600 meters before passing them at an altitude of 1000 AGL. To enable observation of photo and canvas targets, there must be an obstacle free area of at least 45° on either side of the track measured in the vertical plane. Canvas targets both along the track and at turning points may be changed at intervals to reduce the effectiveness of any attempt to cheat between competitors of the same nationality.

B.9.8 Subject to the number of competitors taking part, there should be two or three time groups with a break of about 60 minutes if 2 groups or 30 minutes if 3 groups between each group. Separate weather briefings will be given to each group and time separation between the pilots should be 3-5 minutes, with the faster aircraft being dispatched first. Two competitors of the same country should not be following each other, there should be at least one other country in between.

B.9.9 The competition management will define the radio frequency to be selected for the navigation event. Competitors may be issued other frequencies to be used in the case of emergency.

Competitors should be advised at briefing that use of other frequencies will result in disqualification. They should also be advised of the possibility that the flight will be scanned by radar hence it will be essential for a listening watch to be kept on the prescribed frequency at all times.

B.9.10 60 minutes after receiving his flight instructions, the competitor will be required to depart from the flight planning room and will be escorted to his aircraft. Take-off will be 75 minutes after start of flight planning. Under no circumstances will he be permitted to communicate with any other person apart from the competition management and it must be made clear to him that his start-up time, taxi and readiness for take-off at the prescribed time is entirely his responsibility. In the event of a delayed start to a navigation flight by more than 1 minute, by reason of mechanical or ATC failure, the competitor will be rescheduled to fly later.

B.9.11 On return from the competition, the competitor will be taken to a security area. The competitor will be debriefed by members of the competition management who will examine his map. At this time the competitor may indicate all the targets he has seen and describe any feature in order to reduce the number of "complaints". Scoring will than take place. He will remain in the security area until the last competitor has entered the flight planning room. He must be further warned that any attempt whatsoever to communicate with anybody outside the security area following the completion of his navigation exercise or approaching the flight planning room, the apron or any competition aircraft prior to the time the last competitor has taken off on his navigational test, will result in his disqualification.

B.9.12 If a competitor, by radio, reports deteriorating weather to the minima allowed, this should be checked immediately by a weather aircraft (see B.8.6). in addition, wherever possible, each turning point and secret checkpoint should be in communication with the competition management who will verify the pilot's report. A competitor asking for assistance automatically terminates his navigation flight at the point. The competition management may not recall any competitor from his navigation flight.

B.9.13 The competition director will not, without the express consent of the international chief judge and the international jury, permit any person other than observation crews, the international chief judge or the international jury, to have knowledge of or visit any part of the navigation course until the navigation test is concluded.

B.9.14 Prior to each navigation test a check flight should be made to ensure that all targets, pictures, officials and judges are in the correct position. The check flight should include at least two members of the jury and/or the international chief judge accompanied by an official familiar with the course.

B.10 LANDINGS

B.10.1 In locating the position of the landing strip on the runway, consideration should be given to the position of the Judges, video camera operators and spectators. Neither judges nor video camera operators should be looking into the sun. In the latter case, spectators, conditions permitting, should not be allowed nearer than 30 meters to the landing strip.

Wherever possible, this should be fenced off for safety reasons. Team managers only will be allowed to observe the landings from a position 15 meters opposite the touchdown line if safety conditions and aerodrome regulations so permit.

B.10.2 Aircraft ground movements and traffic patterns must be carefully planned and briefed to the pilots. Useful aids are maps or sketches with detailed information.

B.10.3 Suitable marshals and ground controllers should be located in prominent positions, the ground controller being in direct communication with the competition director.

B.10.4 The competition director determines the starting order for the landing competition. His decision is based on reasons such as flight safety.

B.10.5 Circumstances and capability permitting, the competition director is allowed to change this order for promotional purposes.

B.10.6 With good management, it is possible to have 3 - 4 competitive aircraft active in the circuit at any one time.

B.10.7 To provide a steady flow it will be necessary to judge approximately 30 landings per hour. A 10-minute break session for the judges in each hour and a 15-minute break session between each type of landing are advised.

B.10.8 Consideration should be given to a system of lights or ground signals on the final stages of approach to signify by either red or green lights that the competitor is cleared to land or he must go around again.

B.10.9 It is important that the zero area is clearly marked. The jury will check the visibility of all markers prior to the landing competition.

B.10.10 There should be clear distance markers along the runway.
Landing officials should be placed about 5 meters outside the distance markers, and be prepared to run along these markers to define the touchdown point. One landing official should be permanently stationed opposite the zero line.

B.10.11 Only the international chief judge will be responsible for communicating the results of the competitor's landing to the Secretary for entering into the competitor's record sheet in English, being the competition language.

B.10.12 Video recording of landings shall be arranged as they are vital to enable the Jury to come to a decision on a protest based on factual evidence. The video crew should comprise at least two hand-held video cameras located about 10 meters from the runway and positioned about 20 meters before and after the "0" line. Video crews must be trained before the competition to provide the best camera location and viewing angle. A continuous following of the wheels, before, during and after the touchdown, is essential and runway markings must be visible on the videotape to enable final judgment on touchdown point and landing techniques. The video recorders must provide at least one hundred frames per second (100 fps) recording.

B.10.13 All wheels, on all participating aircraft, shall be painted with white tire marks on both sides of all wheels. Spats will be removed from all main wheels prior to the beginning of the competition.

B.10.14 The International Chief Judge will be provided with an equipment, which has to be placed nearby the zero line with a minimum height of 2 meters above ground. The wind direction and wind speed have to be recorded in the touchdown moment of each aircraft. This will provide factual evidence in the case of one-wheel landings, which are allowed only when the international chief judge has declared a crosswind.

B.10.15 The video playback must be displayed on a TV set with a minimum 21" screen. The equipment must include the facility both of "freezing" and advancing frame-by-frame without picture interference.

B.10.16 The host nation will ensure that a reserved area is available, opposite the touchdown line, for team managers only. It will be placed not less than 15 meters from the edge of the runway (see B.10.1).

B.10.17 An electronic recording system previously approved by C.I.A.G. must be used. It must be in conjunction with visual judging. In the event of failure only, visual judging will be used for that group.

B.11 INTERNATIONAL JUDGES AND OPERATIONAL OFFICIALS

B.11.1 The differing rules must be made clear at the initial briefing..

B.11.2 The landing competition will be run under the control of the international chief judge supported by the official responsible for landings. Each participating country will be invited to provide international judges to officiate under the chairmanship of the International Chief Judge.

B.11.3 The international chief judge will be responsible for the placing of the individual judges and for the recording of the results of each competitor. The competition director will not participate in judging the landings in any way whatsoever.

Judging comments must in competition language (English).

B.11.4 In the event of the judges not being able to reach a definitive decision regarding any landing, then the international chief judge makes the final decision. In the case of an abnormal landing the international chief judge must consult at least two other international judges.

B.11.5 It should be made perfectly clear that although the jury will be present in the same locality and making their own notes these are only usable as supporting evidence, should they be required to decide a protest. At no time will they seek to influence any decision made by the judges. However the president of the jury may, if the opportunity occurs, offer advice to the international chief judge if requested.

B.11.6 Para B.11.6 above does not prevent the jury disqualifying any competitor guilty of dangerous flying.

B.11.7 The International Chief Judge should be present at the competition site at least one week before competition starts. He should be presented with all necessary documents (routes, checkpoints, pictures, places for targets, distances) and check them thoroughly before the competition starts. The International Chief Judge and the route planner should make check rides to check correct positions of pictures, checkpoints and targets.

B.12 JURY

B.12.1 The international jury is commissioned by FAI to observe that the event is properly organized and run. The jury should comprise qualified experts in the sport.

B.12.2 The President of the jury must be privy to all matters of detail of the Championships and be kept fully informed.

B.12.3 The jury has access at all times to the competition director and may advise upon organizational problems. They are to be allowed to inspect any part of the facilities including the course. They will be provided with master maps at the start of the navigation event.

B.12.4 The jury should be acquainted with the details of the navigation test.

B.12.5 The jury will be provided with an office of adequate size to hear protests. The office will be kept locked at all times in the absence of the jury. The room will, where appropriate, contain a TV, videocassette recorder and monitor.

B.12.6 The obligation for organizing an event is that the host nation, the jury and international chief judge are available to ensure that the event is run in accordance with the rules. Neither the jury nor the international chief judge is responsible for any organizational problems.

B.12.7 The Jury, in consultation with the International Chief Judge has the right to authorize the use of technical equipment after suitable testing at the appropriate level.

B.13 RESULTS

B.13.1 A Master map showing the route with coordinates of turning points, targets and photographs have to be published after debriefing of last competitor. (This information may be also be published by electronic device).
An envelope, containing all the materials given to the pilots for a navigation practice, with coordinates of all points (SP, TPs, SCPs, FP), must be given to each team manager as soon the last competitor has been debriefed.

B.13.2 A preliminary result sheet should be handed over to each participant at end of debriefing.

B.13. 3 It should be the aim of the competition director to post the results at the earliest possible moment after all protests have been investigated, amendments made and the results ratified by the international chief judge and jury.

B.13. 4 Results will be displayed on an easily accessible result board. However, it is also necessary for each team manager to receive a printout of the results.

B.13. 5 All final results together with all mark sheets, flight plans and photographs will be returned to each competitor as soon as results have been finalized. If necessary, the competition director will send these to the National Aero Club immediately after the championship.

B.14 PRIZES AND PRIZE-GIVING

B.14.1 The usual awards approved by FAI will be made following ratification of the results by the international chief judge and jury.

B.14.2 The host Aero Club should endeavour to provide additional prizes and souvenir gifts to the championship.

B.14.3 Awards should be made at the final banquet or at the closing function of the championship.

B.14.4 The competition director must allow sufficient time 6 hours minimum between the commencement of hearings on protests and the start of the final banquet. See also protests.

B.14.5 List of trophies

B.14.5.1 World championships

- City of Nottingham Trophy	World Champion
- Canada Trophy	Landing Champion
- Royal Aero Club of the United Kingdom Sword	Navigation Champion
- Ottley Trophy	Team Champion
- New Zealand Trophy	Landing Team Champions
- Air BP-challenge cup	Best low experienced pilot (*)
- Argentina Trophy	Best Woman Pilot
- Masonhall Sportsmanship Award	True sportsmanship

(*) "Low experienced pilot" is defined as a pilot with a maximum of 500 flying hour's total time.

B.14.5.2 European championships

Saab Scania Trophy	Team Champion
Swedair Trophy	European Champion

APPENDIX B1

COMPETITION BUDGET

1. Accommodation (including breakfast)

	single	double	days
• Hotel			
• Low price accommodation			

2. Meals

	hotel	airfield	days
• Lunch			
• Dinner			

3. Opening Ceremony

	price
• Buffet	
• Entertainment	
• Others	

4. Closing Ceremony

	price
• Buffet	
• Entertainment	
• Others	

5. Personal Costs, born by the Organizer

		total
• Jury	3	
• International Chief Judge	1	
• International Judges	4	
• National Officials		

6. Preparation of Competition

Flight time (Photos, route check)

Material:

	number	price	total
• Photos			
• Envelopes			
• Task sheets			
• Maps			

7. Support from Sponsors and "others"

7. Exchange rate **Local Currency to €**

C. LOCAL REGULATIONS

C 1. INTRODUCTION

C 2. ORGANIZER

C 3. PLACE

C 4. DATES

C 5. ENTRIES

Completed entry forms shall be submitted by the Competitor's National Aero Club and shall be sent to:

to arrive by.....together with the entry fee. Entries received after this date may be accepted if there are vacancies, at the discretion of the Organizer. If a NAC sends a final entry but fails to pay the required entry fee, that NAC shall loose its right to participate in subsequent General Aviation Commission events until the fee is paid.

C 6. ENTRY FEE

C 6.1 The entry fee for each category is set out below:

a) for the aircraft: NONE
b) for each Pilot (and Co-Pilot (Navigator))
c) for each additional Member of the Team (Team Manager, Engineers, etc.)
d) for International Judges and Judge Observers: 50% of b)

Additional information concerning the quality of the hotel, charge for single and double bed rooms should be added.
The entry fee must be paid with a check for the amount entitled to.....,
or by a bank transfer to:.....

C 6.2 Each entry form is regarded as accepted only when it is acknowledged by the Organizer; the acknowledgement will only be given when the entry fee has been received by the Organizer.

C 6.3 Entry fees include transport to and from hotels, accommodation, all meals and Prize Giving Banquet; for Competitors competition maps are also included.

C 6.4 Cancellation of entries are possible before the final entry date without penalty.

After the final entry date, cancellation will be penalized by withholding 10% of the entry fee for each crew.

Cancellation later than 15 days before the beginning of the event will be penalized by withholding a maximum of 50% of the entry fee.

C 7. TEAM MEMBERS

C 7.1 Each national Aeroclub may nominate a maximum of 5 named competitors to be scored within the championship. Additional participants may be nominated, as far the maximum number of participants will be not exceeded. These additional competitors will not be taken into account for final team rankings.

C 8. AIRCRAFT AND INSURANCE

C 8.1 Aircraft

C 8.2 Insurance

C 9. ARRIVALS

C 10. LANGUAGE

C 11. BRIEFINGS

C 12. SPECIFIC RULES

C 13. COMPETITION MAP

C 14. DOPING CONTROL

C 15. CORRESPONDENCE AND COMMUNICATION

D. JUDGES AND JURY

D.1 GENERAL

D.1.1 The General Section of the Sporting Code (4.3.2) specifies that the International Jury must have a thorough knowledge of both the Sporting Code and the Rules and Regulations governing the event. 4.3.3 requires International Judges to have detailed knowledge of the Rules and Regulations of the Sport concerned.

D.1.2 The General Section of the Sporting Code specifies that the International Jury (4.3.2) and the International Chief Judge (4.3.3) shall be appointed by the Commission concerned with the discipline (GAC).

D.1.3 In the event that an appointed Jury Member or the International Chief Judge is unable to take up his appointment, he must inform through his NAC, at the earliest possible moment

FAI/GAC, the organizing NAC and the President of the Jury. A replacement will be appointed by the President of GAC following consultation with the Chairman of the Sub-Committee concerned and the organizing NAC.

D.2 INTERNATIONAL JURY

GAC Championships will have a three members Jury

D.2.1 SELECTION

D.2.1.1 Jury members must be selected from the appropriate approved list of International Jurors, which is held and updated by FAI/GAC.

Jury members for an event will be proposed by the organizing NAC to the Sub-committee concerned. The Sub-committee will evaluate the proposal and will give advice to GAC.

GAC will then decide on the advice of the Sub-committee and appoint the Jury members and the President of the Jury for the event concerned.

D.2.1.2 In selecting Jury members attention must be given to the relevant sections of the Sporting Code particularly in respect to not having two Members of the same nationality or the same nationality as the organizing NAC.

D.2.2 QUALIFICATION

D.2.2.1 International Jurors must have had experience either as a Jury «Observer», International Judge, as Chief Judge or as Competition Director. The qualification as International Judge and a working knowledge of English is compulsory.

D.2.2.2 The Sub-committee concerned will propose to GAC to delete any person from the LIST OF INTERNATIONAL JURY MEMBERS if the individual was not acting as INTERNATIONAL JURY MEMBER or INTERNATIONAL JUDGE or Competition Director of International competitions within the last 5 years (or as a competitor in International competitions within the last 2 years).

D.2.2.3 Jury «Observers» are only permitted to study the working of the Jury, as directed by the President of the Jury, without, in any way, interfering with decisions.

D.2.2.4 Requirements for being a Jury Observer:

a) attendance at one World or Continental Championship as competitor.
b) Experience of organizational work and judging at major national events.
c) Appointment as an International Judge.

D.2.2.5 Experience in the organizational work and judging is obtained by participating in at least three major national events either as a Judge or Assistant Competition Director.

D.2.2.5 Application form for appointment as an International Jury Member is attached as Appendix DI.

D.3 INTERNATIONAL JUDGES

A panel of International Judges should be appointed whenever a Competition contains subjective evaluation of performance (Sporting Code 4.3.3). International Judges shall be appointed for all GAC events.

Each participating country has to send a minimum of one qualified International Judge to an event defined according to the Sporting Code (4.1.2.2), if that country sends a team of three or more pilots. If no International Judge is sent, entry fee for the missing judge must be paid. The organizing NAC can offer to accept more than one International Judge per country.

The panel of International Judges will be led by an International Chief Judge according to the Sporting Code (4.3.3).

D.3.1 SELECTION

D.3.1.1 The International Chief Judge for an event will be proposed by the organizing NAC to the Sub-committee concerned. The Sub-committee will evaluate the proposal and will give advice to GAC. GAC will then decide on the proposal of the Sub-committee and appoint the International Chief Judge for the event concerned.

D.3.1.2 The International Chief Judge shall not be of the same nationality as the organizing NAC according to the Sporting Code (4.3.5). The organizing NAC has the right to appoint an International Judge.

D.3.1.3 An International Judge shall not be a Competitor, nor a team manager, nor hold any position in the organization of the Championship.

D.3.1.4 An International Judge must be selected only from the approved list of International Judges, which is held and updated by FAI/GAC.

D.3.2 QUALIFICATION

D.3.2.1 Qualification for being an International Chief Judge shall require experience as an International Judge during at least one World or Continental Championship, in addition to experience of organizational work and judging at major national events. Any effort should be made to propose/select the International Chief Judge from the current list of International JURY Members.

D.3.2.2 Any person should be deleted from the GAC's LIST OF INTERNATIONAL JUDGES if the individual was not acting as INTERNATIONAL JUDGE or Competition Director or competing pilot within the last 6 years.

D.3.2. An International Judge shall have detailed knowledge of all the Rules and Regulations of the sport concerned according to the Sporting Code (4.3.2). A working knowledge of English is compulsory.

D.3.2.4 International Judges should have experience of judging at not less than three major national events, and should preferably also have had experience as a Competitor. He/she shall have been the Chief Judge or Competition Director at not less than one major national event. Participation as Judge Observer can replace one other requirement.

D.3.2.5 It is essential that NAC's organize training seminars for prospective Judges in connection with national events. At such seminars, the relevant Rules and Regulations including the Sporting Code should be instructed in theory. The event itself then becomes a practical exercise.

D.3.2.6 Application form for appointment as International Judge is attached as Appendix D2.

D.4 CHAMPIONSHIP OFFICIALS

D.4.1 The Competition Director shall be an International Judge. A working knowledge of English is compulsory.

D.4.2 The Route Planner must have experience in the route planning of major national events, run according to these rules and regulations.

D.4.3 The Local Chief Judge must have a working knowledge of English. He/she should have the qualification of an International Judge.

D.5 COSTS

D.5.1 The cost of travel to and from the venue for the event, together with the cost of accommodation and meals during the required stay at the venue, shall be borne by the organizing NAC for the International Jury and the International Chief Judge.

D.5.2 The organizing NAC shall not be required to bear all the cost for the other International Judges. It is recommended that airline tickets and accommodation be arranged at low rates. The organizing NAC shall not charge more than half of the regular entry fee for an International Judge.

APPENDIX D 1

APPLICATION FORM FOR APPOINTMENT AS INTERNATIONAL JURY MEMBER FOR PRECISION FLYING

Please print

Name.....

Address.....

.....

Tel.:..... Fax:.....

National Aero Club.....

Date of application:.....
Year approved as FAI International Judge .....

Requirements (any two of the following four items):

1. Participation as Jury Observer (World or Continental Championships, 1 only)

Year:..... Venue:.....

2. Participation as International Chief Judge (World or Continental Championships, 1 only)

Year:..... Venue:.....

3. Participation as Competition Director (World or Continental or National Championships under identical rules, 2 only)

Year:.....Venue:.....

Year:.....Venue:.....

4. Participation as a Competitor (in FAI Precision Flying Championships, 2 only)

Year:.....Venue:.....

Year:.....Venue:.....

I confirm that I have a detailed and thorough knowledge of the FAI Sporting Code and the current Rules and Regulations of the sport of Precision Flying.

Signed:.....

The National Aero Club of..... confirms, that the information given above is correct.

Date:..... Name of NAC Official (printed):..... Signature:.....

Position in NAC:.....NAC Address:

Tel.:..... Fax:.....

APPENDIX D 2

APPLICATION FORM FOR APPOINTMENT AS INTERNATIONAL JUDGE FOR RALLY AND PRECISION FLYING

Please print

Name:.....

Address:.....

.....

Tel.:..... Fax:.....

National Aero Club:..... Date of application:.....

Requirements (any two of the following four items):

1. Participation as Judge (National Championships, minimum of 3 required)

Year:..... Venue:.....

Year:..... Venue:.....

Year:..... Venue:.....

2. Participation as Chief Judge or Competition Director (National Championships, minimum of 1 required)

Year:..... Venue:.....

3. Participation as Competitor (International Championships, minimum of 3 required)

Year:..... Venue:.....

Year:..... Venue:.....

Year:..... Venue:.....

4. Participation as a Judge Observer (International Championships minimum of 1 required)

Year:..... Venue:.....

I confirm that I have detailed and thorough knowledge of the Rules and Regulations of Precision and Rally Flying. I have a working knowledge of English.

Signed:.....

The National Aero Club of..... confirms, that the information given above is correct.

Date:..... Name of NAC official (printed):..... Signature:.....

Position in NAC:..... NAC Address:

Tel.:..... Fax:.....

E BIDS, FINAL DECISION AND APPROVAL OF LOCAL RULES FOR WORLD OR CONTINENTAL CHAMPIONSHIPS.

E.1 PRELIMINARY BID.

A preliminary bid (or letter of interest) to host a World or Continental Championship may be made to GAC at any time (unrestricted number of years) prior to the date when the planned event shall take place. This preliminary bid shall contain: Type of competition (Rally or Precision), if it is a World or Continental Championship and the year for the event. Other information is welcome but not necessary. The preliminary bid shall be noted in the minutes of the first GAC meeting after GAC has received the bid. The bidding NAC shall than confirm the bid at all coming GAC meetings (by letter or orally at the meeting) until the final bid is presented.

E.2 FINAL BID.

The final bid to host a World or Continental Championship, containing all required information, shall be sent to GAC no later than six (6) months prior to the GAC meeting when the decision will be made. The bid shall be forwarded to the Chairman of the relevant Sub-Committee. The relevant Sub-Committee shall examine all bids and shall make their recommendations to the GAC meeting.

E.3 CONTENTS IN A FINAL BID.

E.3.1 A final bid to host a World or Continental Championship shall contain the following information to be considered as valid:

a) Name and address of the bidding National Aero Club (NAC).
b) Name and address of organisation delegated by the NAC to organise the event (if any).
c) Experience in organising the relevant type of competition.
d) Name, address and relevant experience of the Competition Director appointed by the organizer.
e) The proposed dates of the event.
f) The site (name of city and airfield).
g) Airfield infrastructure that will be available for the competition (runway length and condition, elevation, equipment's, buildings, facilities, ATC, other traffic, etc.).
   The venue at the airfield must have the following facilities within walking distance of the apron where the competition aircraft are parked:
   1. Flight planning/briefing room
   2. Team managers post boxes for information distribution
   3. Shop that sells drinks, and snacks
   4. Adequate toilet facilities.
   5. Covered area where pilots waiting to enter the flight planning room.
h) Weather history of the area at the relevant time of the year (air temperature, wind, thunderstorms, etc.).
i) Describing the landscape in the area to be used for navigation flights (flat land, hills or mountains, lakes or rivers, wooded area or open fields etc. in general terms).
j) Type and scale of the competition map. (At least two samples of the map to be used in the competition must be appended to the bid.)
k) Condition and any restrictions of airspace.
l) Any special insurance requirements.
m) Type of accommodation and distance between accommodation and airfield.
n) An indication of the amount of the entry fee and what the entry fee includes.
o) Any conditions concerning admission of participants to the country or location of the event.
p) Signed by the President or the Secretary General of the National Aero Club who is a valid member of FAI.

E.4 FINAL DECISION ON BIDS.

E.4.1 The GAC meeting will make the final decision of which NAC will be given the right to host a World or Continental Championship three (3) years prior to the date when the event shall take place.

E.4.2 If there is no final and valid bid to host a particular championship three years in advance, the decision may be made at the meeting two (2) or even one (1) year prior to the event. *(To be able to make a decision only one year prior to the event, the final bid together with the proposed local rules shall be in the hands of the Chairman of the relevant Sub-Committee no later that six (6) months prior to the GAC meeting.)*

E.5 LOCAL RULES

E.5.1 Proposals for local rules for the Championship shall be sent to the Chairman of the relevant Sub-Committee no later than six (6) months prior to the GAC meeting that will approve the rules. The relevant Sub-Committee shall examine the proposed local rules and make their recommendations to the GAC meeting.

E.5.2 The GAC meeting shall approve the Local Rules for a Championship at a regular GAC meeting held at least eight (8) months prior to the event.