FAI Sporting Code

Section 4 – Aeromodelling

Volume F7
Aerostats

2025 Edition

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F7A - HOT-AIR BALLOONS
F7B - AIRSHIPS

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1 FAI Statutes, ... Chapter 1, ... para. 1.6

2 FAI Sporting Code, Gen. Section, ... Chapter 4, ... para 4.1.2

3 FAI Statutes, ... Chapter 1, ... para 1.8.1

4 FAI Statutes, ... Chapter 2, ... para 2.1.1; 2.4.2; 2.5.2 and 2.7.2

5 FAI By-Laws, ... Chapter 1, ... para 1.2.1

6 FAI Statutes, ... Chapter 2, ... para 2.4.2.2.5

7 FAI By-Laws, ... Chapter 1, ... paras 1.2.2 to 1.2.5

8 FAI Statutes, ... Chapter 5, ... paras 5.1.1, 5.2, 5.2.3 and 5..2.3.3

9 FAI Sporting Code, Gen. Section, ... Chapter 4, ... para 4.1.5

10 FAI Sporting Code, Gen. Section, ... Chapter 2, ... para 2.2.

11 FAI Statutes, ... Chapter 5, ... para 5.2.3.3.7

12 FAI Statutes, ... Chapter 6, ... para 6.1.2.1.3

VOLUME F7

SECTION 4C – MODEL AIRCRAFT – F7 – AEROSTATS

7.1 Class F7A - Hot-air Balloons
7.2 Class F7B - Airships

THIS 2025 EDITION INCLUDES THE FOLLOWING AMENDMENTS MADE TO THE 2024 CODE

These amendments are marked by a double line in the right margin of this edition

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
7.2.1.1 7.2.7.1 F7B – 7.2.12	2023	Airship Characteristics adjustment Modify to add protection to propellers Addition of Hugo Eckener Cup	Tyson Dodd Technical Secretary

Four-Year Rolling Amendments for Reference			
Paragraph	**Plenary meeting approving change**	**Brief description of change**	**Change incorporated by**
There were no changes at the 2022 Plenary Meeting.			

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
There were no changes at the 2021 Plenary Meeting.			

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
There were no changes at the 2020 Plenary Meeting.			

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
7.1.2.2	2019	Consequential change: Volume CIAM General Rules Paragraph C.11.1 a) Deleted the option to carry the national FAI licence number (from 2022). The mandatory carrying of the FAI ID number to commence in 2022.	Kevin Dodd Technical Secretary

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
There were no changes at the 2018 Plenary Meeting.			

RULE FREEZE FOR THIS VOLUME

With reference to paragraph A.10.2 of CIAM General Rules:

In all classes, the two-year rule for no changes to model aircraft/space model specifications, manoeuvre schedules and competition rules will be strictly enforced. For Championship classes, changes may be proposed in the year of the World Championship of each category.

For official classes without Championship status, the two-year cycle begins in the year that the Plenary Meeting approved the official status of the class. For official classes, changes may be proposed in the second year of the two-year cycle.

Volume F7 contains only provisional classes and is not, therefore, subject to this restriction.

The only exceptions allowed to the two-year rule freeze are genuine and urgent safety matters, indispensable rule clarifications and noise rulings.

VOLUME F7

TECHNICAL REGULATIONS FOR RADIO CONTROL AEROSTATS

7.1 CLASS F7A - HOT-AIR BALLOONS

7.1.1. General Definition

7.1.1.1 Characteristics

A hot-air balloon is an aerostat, supported statically in the air, with no means of propulsion by any power source, which obtains its lift only as a result of heated air. The envelope may contain no gas other than air and the normal products of combustion.

The hot-air is produced by one or several radio-controlled burners using gas provided by onboard cylinders. The cylinders and the radio equipment are most often in a basket (not mandatory).

The hot-air balloons must fit the national regulations for model aircraft (size, weight etc).

The weight of gas is limited to 5 kg whatever the size of the balloon.

7.1.2 Marker, Identification and Target

7.1.2.1 Marker

A marker is provided by the Organiser for each competitor. The markers must be of similar size and weight. The markers must be identified. Personal markers are not allowed. The competitor is allowed to make minor changes to adapt the marker to the dropping unit. The drop of the marker is radio controlled.

7.1.2.2 Identification

The Organiser may implement additional identification items for the competitor, his assistant(s) and his balloon(s). For international contests, each model shall carry a model identification code on the envelope and on the basket (nationality plus FAI ID number of the competitor).

Note: CIAM General Rules: C.11.1 a) introduced the mandatory carrying of the FAI ID number from 2022.

7.1.2.3 Target

The Flight Director is responsible for the target management.

The target should be advised early enough to allow the competitors to adapt their flight.

The target must be physical and clearly visible by the competitors.

7.1.3 Competition Site and Tasks

7.1.3.1 Refuelling Area

The place for refuelling the cylinders of the balloon from master cylinders or tanks must be defined and secured by the Organiser.

7.1.3.2 Inflating and Take-off Area

These areas must be away from the refuelling area. They must be defined by the Flight Director. For outdoor flights, it is necessary to have specific equipment (such as helium balloons, wind vane, anemometer etc) to verify the wind conditions. This equipment must be provided by the Organiser.

7.1.3.3 Flight Site

The flight site must fit the safety rules, be in accordance with the general rules for aerial circulation, have the necessary agreements from the appropriate authorities or owners and must allow normal flight of the balloons.

The flights of hot-air balloons are most often outdoor flights (airport, aeromodelling site, open land etc) but indoor flights may be utilised in the case of adverse weather conditions.

For outdoor flights, it is necessary to have specific equipment (such as helium balloons, wind vane, anemometer etc) to verify the wind conditions. This equipment must be provided by the Organiser.

For outdoor flights, only tethered flights are allowed prior to sunrise or after sunset.

Flights are not allowed if wind speed exceeds 7.2 km/h (2 m/s) measured at 2 m above the ground at the take-off area.

7.1.3.4 Competition and Tasks

A competition is made up of several tasks.

A competition is valid if a minimum of three tasks (of which two are different) are validated. There is no upper limit of the number of tasks.

Several examples of tasks are provided in the last chapter but any task can be created provided it is fully explained to the competitors, the Contest Officials and the Jury.

7.1.4 Organisation

The Organiser must provide suitable sites (outdoor/indoor) that allow flights under any weather conditions with full performance of the competitors and safe recovery.

The Organiser is responsible for the control of the equipment, weight of the balloons (full gas included), safety, frequencies and insurances. This should be undertaken by the Organiser prior to competitors beginning the first task.

Local rules established by the Organiser must be published no later than the latest bulletin made available to all competitors, preferably in advance of the entry deadline and early enough to allow each competitor to adapt his balloon(s).

The Contest Director is in charge of the organisation. He is responsible for the good management and smooth and safe running of the event. He shall make operational decisions in accordance with the rules of the Sporting Code. He must secure a sufficient number of qualified officials (Contest Officials and Jury), provide the necessary equipment (electronic stopwatches, distance measurement devices, target equipment, helium balloons, anemometer etc), provide gas and nominate a person to be responsible of the refuelling area before the beginning of the competition.

The Organiser must display the results of each task throughout the contest and publish the final results afterward. The official results must be published within one month of the end of the competition.

7.1.5 Contest Officials and Jury

7.1.5.1 Contest Officials

The college of Contest Officials must have a Flight Director and at least two timekeepers appointed by the Organiser. This college is in charge of the management of the tasks: definition, flight conditions, time and distance measurements, reporting of deviations and calculation of scores.

a) Flight Director:

The Flight Director must be a recognised pilot of radio-controlled aerostat (hot air balloon for F7A contests, airship for F7B contests). He defines the tasks and the flight conditions (take-off area, targets, timing, maximum measured distance/time, restart permission etc). He controls the evolution of the tasks and validates the tasks. He is in charge of the calculation of the scores and of the results (refer to Chapter 7.1.10-Results). He transmits the filled flight sheets, scores and results to the Jury.

He may:

- cancel a task if the weather conditions do not allow a normal and equal flight between competitors,
- invalidate a task if all the competitors receive a zero-flight score.

b) Timekeepers:

The Timekeepers are in charge of distance and time measurements, observation and reporting to the Flight Director of any deviation occurring during the task. Measurements, observations and deviations are reported on flight sheets.

7.1.5.2 Jury

The Jury must have a Chairman and two assistants.

The Jury is defined by the Organiser prior to the start of the competition.

The Jury validates the results, examines the protests and takes a decision on them.

It is the responsibility of the Jury to make any decision dictated by competition circumstances that may arise. It can penalise/disqualify a competitor for misconduct or infringement of the rules.

Any decision from the Jury is obtained by majority vote.

7.1.6 Competitor and Helpers

It is the competitor’s responsibility to obtain the latest issue of the competition rules.

Unless specific conditions apply, entry is closed at a date defined by the Organiser.

By his entry, the competitor recognises that he accepts, and will comply with, the competition rules and the safety rules. The competitor must comply with the national regulations for air models such as (but not limited to): authorisations, pilot degree, insurances, radio equipment, gas handling, balloon features (volume, weight, radio equipment etc). Unless specific agreement is obtained from authorities, the radio frequencies must fit the regulations of the organising country.

A competitor takes part in the competition as soon as he takes part in one task.

A competitor may compete with one or two balloons. No structural changes are allowed during the competition except for safety and radio equipment.

A competitor competing with two balloons may use only one frequency. Only one balloon may be used during any task.

A competitor may not share his balloon with other competitors.

A competitor may be helped by one or several helper(s). The helpers may act during inflating, during take-off and after recovery of the balloon but not during the flight.

7.1.7 Safety Rules

The handling of highly flammable gas (including liquid phase) requires strict observation of the safety rules.

The Organiser, the Contest Officials and the Jury must always observe, comply with and apply the safety rules and ensure that competitors, organisers and any other person on the flying site complies with the safety rules. The Jury will summarily disqualify, without right of appeal, any competitor who infringes or ignores the safety rules and will exclude from the flying site any other person who deliberately infringes or ignores the safety rules.

Specific attention must be drawn to:

- fire risks, personal risks, environmental risks;
- electric lines, roads, railways, houses, farms, crops etc;
- restricted or protected areas (military sites, fuel storage sites etc).

Each competitor must have his own safety equipment (gloves, extinguisher).

7.1.7.1 Hot-air Balloon

The cylinders must comply with the national regulations. The cylinders must have a security gauge. Pressure testing can be requested in some countries. The cylinders must be cleaned periodically but proof of the cleaning/testing is not requested. Suspect cylinders must be rejected.

The competitor must be able to stop any flight that presents a risk to the public or to the environment. The balloon must have a safety system allowing cessation of flight as required (such as: cut of lighter, cut of gas flow, time cut of burners etc). Additional equipment can be requested by national rules, and/or local rules.

A common electric mass is recommended (suspension of envelope, loading unit, cylinders, gauges, radio receiver). The propeller of the inflating device must be protected.

7.1.7.2 Refuelling Area

The person responsible for the refuelling area has full authority to avoid/stop refuelling/emptying whenever the safety rules are not implemented or followed.

The area must be a restricted area (allowed personnel only, no smoking, no flames), well ventilated and isolated from the public, the inflating area and the take-off area. The area must not have any place where gas can accumulate. The area must allow fast evacuation.

The refuelling/emptying is under the sole responsibility of the competitor. Smoking, the use fire lighters, testing of burners and the running of electronic equipment such as, but not limited to, radio equipment, cameras and phones are strictly forbidden in the refuelling/emptying area. Specific equipment allowing several competitors to refuel can help and speed up the operation. An earth linkage is suggested. Gloves should be worn during refuelling.

7.1.7.3 Take-off and Flight Area

Suitable extinguisher(s) must be available.

7.1.8 General Rules during Tasks

7.1.8.1 Hot-air Balloon

Outboard heating, refuelling, addition or subtraction of removable weights or any corrective actions on the balloon are not allowed during the flight.

Such actions must be made either prior to the beginning of the flight or (if not forbidden by the Flight Director) by taking the balloon back to the take-off area.

Out of specific tasks (ie circle) the balloons should have no material link with the ground (free flight).

The balloon must not transmit any positioning or flight information to the competitor or to the helper(s).

The lowest part of the balloon (except radio antenna) determines the point of contact with the ground (landing).

Prior to each task, removable weights may be added or subtracted.

7.1.8.2 Flight Rules

These flight rules also apply to the balloon (fox) provided by the Organiser.

The Flight Director chooses the take-off area based on the task to be performed and on the weather conditions. This area may be different from the inflating area.

Unless otherwise advised by the Flight Director prior to the beginning of a task, the competitor may restart his flight provided he clearly announces his intention prior to dropping or landing and he respects the timing of the task. Restart is considered a new take-off and should be performed from the take-off area. If several attempts are allowed only the last one is considered for scoring purposes.

Take-off from outside the take-off area is a zero-flight score for the competitor.

During any task, the competitor is allowed to follow his balloon and to receive external advice.

After leaving the take-off area, any contact of any part of the balloon with any person or the ground is considered a ground contact. Nevertheless, under specific weather conditions, some bounces may be accepted when leaving the take-off area.

Contact with obstacles which may affect the normal evolution of the balloon (such as trees, poles, buildings etc) is not considered as a ground contact. The first contact with obstacles incurs one penalty, the second contact two penalties and so on. Deliberate contact used as a strategy for the flight incurs a zero-flight score for the offending competitor.

Deliberate vertical contact of a balloon with other balloons is not allowed and penalties up to a zero-flight score for the offending competitor can be applied.

Unless a competitor has announced his decision to restart his flight, any contact from the competitor (or from helper) with the balloon prior to dropping or landing incurs a zero-flight score.

Marking (marker on the ground) or landing should occur before the target closes otherwise the competitor will receive a zero-flight score. The marker must be on the ground for the flight to count for scoring. If the dropping of the marker fails, the competitor may replace the marking with a landing. The first contact with the ground is then retained. No complaint will be accepted for the unexpected dropping of the marker.

The position of ground contact by the balloon is solely the decision of the Contest Officials.

Any displacement of the marker, or of the landing position, by the competitor or by his helper(s) disqualifies the competitor for the whole competition.

After dropping the marker, or after the positioning of the landing, the balloon should be quickly drawn away to allow the other competitors to score under normal conditions.

The task of the competitor is completed by the target closing, or the marking, landing or withdrawal of the balloon.

For tasks based on time, the competitor should complete his attempt within 7 (seven) minutes. This working time includes the preparation of the balloon and the completion of the task.

7.1.8.3 Tasks

Prior to the beginning of a task, the Flight Director must clearly inform the Contest Officials, the Jury and the Competitors of the type of task, the take-off area and of the management of the timing (flight opening, end of take-off time, target opening, target closing). These times are advised using any convenient system (horn, loud-speaker etc).

The opening of the flight must be advised early enough to allow the competitors an immediate take-off after flight opening. The competitor is free to decide when he will take off provided, he does it during the allowed period.

7.1.9 Explanations and Protests

A competitor may ask for explanations from the Flight Director. He is allowed to verify (or have verified on his behalf) his own results and the related calculations. If he disagrees with the results or if he contests attitudes or decisions, he may present a protest to the Contest Director. This protest must be in writing and accompanied by a fee of 50 Euros. The fee is returned only if the protest is upheld.

Before the opening of the contest, protest must be lodged at least one hour before the opening of the contest. During the contest, protests should be submitted immediately (prior to the starting of the next flight). After announcement of the final results, any protest should be submitted within 15 days after announcement of the results.

7.1.10 Results

7.1.10.1 Basic Score

For each task, the competitor gets a basic score, which is the total of the flight score, of several bonuses (one take-off bonus, one or several intermediate bonus(es) and one precision bonus) and of penalties. The basic score cannot be negative.

The maximum flight score is 1000 points.

The bonuses (take-off, intermediate, precision) are 100 points each.

The penalties are 250 points each.

The “flight score” is based on distance or on time measurements.

The flight score is zero if:

- take-off is out of the take-off area;
- take-off is out of the take-off opening time;
- drop of the marker or landing is out of the target opening time.

(a) Distance

The maximum measured distance is clearly advised by the Flight Director before the task begins. This distance is adapted to the local conditions and to the measurement devices.

The use of a laser measurement device is suggested.

The distance is rounded or not to the closest precision unit according to the calculation means.

See the table overleaf.

Maximum Measured Distance (MMD)	Minimal Precision (0.1% of MMD)	Loss of points from max flight score	Precision Bonus if (Distance <1 % of MMD)
100 m	10 cm	1 point / 10 cm	distance < 100 cm
50 m	5 cm	1 point / 5 cm	distance < 50 cm
10 m	1 cm	1 point / 1 cm	distance < 10 cm or in the container (outdoor circle)
5 m	0.5 cm	1 point / 0.5 cm	distance < 5 cm or in the container (indoor circle)

b) Time

The time is calculated using only entire obtained tenths of a second.

7.1.10.2 Calculated Score

The aim of this calculation is to give the same weight to all the tasks of a competition.

For each task, the best competitor obtains a calculated score of 1000. The calculated score of the other competitors is a ratio to the basic score of the best competitor:

Calculated score = 1000 x (basic score of competitor/basic score of the best competitor)

The ranking of each task is based on the calculated scores.

7.1.10.3 Competition Score and Ranking

If the competition has four or more tasks, the lowest calculated score for each competitor is discarded. Otherwise, all the calculated scores are retained.

The competition score is the total of the retained calculated scores divided by the number of retained tasks.

The competition ranking is obtained from the competition score.

The annual total of the competition scores can be used (per se or not) for an annual ranking of the competitors.

7.1.11 Potential Tasks

(Not limited to those described here)

All the necessary information for the completion of the task shall be advised by the Flight Director to the Panel of Judges, the Contest Officials and the competitors.

7.1.11.1 Target:

Prior to the task, the Flight Director places, or permits to be placed, a target where he wants on the flight area. The competitor takes off from a limited take-off area and should drop/land as close as possible to the target.

7.1.11.2 Hesitation Waltz:

Prior to the task, the Flight Director places, or permits to be placed, several targets on the flight site. The minimum distance between the targets should be double the maximum measured distance.

The competitor takes off from a limited take-off area and should drop/land as close as possible to the target he chooses.

7.1.11.3 Back Home:

Prior to the task, the Flight Director places, or permits to be placed, a target where he wants on the flight area.

The competitor takes off from a large take-off area allowing the competitor to choose a suitable take-off place. He must drop/land as close as possible to the target.

7.1.11.4 Fox:

A first balloon (fox) is provided and flown by the organisers (not by a competitor).

The target is either the dropped marker of the fox or the landing position of the fox (to be defined prior to starting the task). The flight of the competitors is opened a short time after the take off of the fox (30 seconds is suggested). The competitor decides when he will take off. He must drop/land as close as possible to the target.

7.1.11.5 Line:

Prior to the task, the Flight Director defines the target as a physical line on the ground and advises if the drop/landing should be performed before, after or before and after the line.

The competitor takes off from the take-off area and must drop/land as close as possible to the target.

7.1.11.6 Area:

Prior to the task, the Flight Director defines a specific area on the ground (ie sport place). The competitor takes off from the take-off area and must drop in the defined area and then land in the area. The objective is to get the maximum distance between drop and landing. The competitor is not allowed to restart his flight.

The distance between the marker and the landing (unit to be advised) is directly used to get the flight score. There is no precision bonus.

7.1.11.7 Stationary:

The aim is to remain at a constant height from the ground for the maximum measured time.

The height is defined by the Flight director by using a rope. This rope is fixed to the basket by the competitor. The length of the rope must be short (around 25 cm) for indoor flights and longer (around 1 m) for outdoor flights. The free end of the rope must have a small weight to ensure the rope remains in contact with the ground.

The competitor decides when the timing should start. The timing ceases either on contact of the basket with the ground or by the rope losing contact with the ground.

The maximum measured time is 250 seconds. Each tenth of second recorded is 0.4 point. There is no precision bonus.

7.1.11.8 Circle:

A circle is marked on the ground.

The diameter of the circle should allow a normal run for the competitor (the task area needs to be 3 times the diameter of the circle). For the indoor task, 5 m or 10 m diameter is suggested and 10 m for outdoor task.

The target is a container (around 5 cm diameter indoor and around 10 cm diameter outdoor) placed at the centre of the circle. The height of the container should not exceed 5 cm. The length of the marker below the basket should be longer than the height of the container above the ground level.

The competitor guides his balloon toward the target using a rope which length is equal to the diameter of the circle. The rope is provided by the Organiser and must be used with no additional device. One end of the rope is fixed to the basket (which includes the burner frame but not the suspension units).. The competitor is not allowed to enter the circle or to hold the rope in any other way than at the end (one penalty for each infraction). The flight time is limited to 5 minutes starting when the marker enters the circle.

The measured distance is from the centre of the container to the first contact of the marker with the ground. If the marker is dropped, the final position of the marker is considered for the measurement.

The precision bonus is obtained if the marker is dropped and remains in the container.

7.1.11.9 Combined tasks:

Combined tasks are made up of several tasks performed during the same flight.

The failure to complete a task does not prevent the competitor attempting to perform the next task, nor should the flight be stopped.

The Flight Director must clearly advise the combination of the tasks, the flight timing and the flight/scoring conditions.

For each task, the 3 types of bonuses and the penalties are applicable (unless there are restrictions in the tasks).

7.2 CLASS F7B - AIRSHIPS

When referring to Chapter 7.1 (Hot-air Balloons), substitute "balloon" with "airship".

7.2.1. General Definition

7.2.1.1 Characteristics

An airship is an aerostat, supported statically in the air, with means of propulsion and direction by any onboard power source.

For airships, the envelope may contain non-flammable, lighter-than-air gas (helium).

The radio equipment and the power sources are most often in a gondola (not mandatory).

The airship must fit the national regulations for model aircraft (size, weight etc).

The block volume of an RC airship is obtained by length x width x height and expressed in cubic metres. These measurements include fins, gondola etc but not the radio antenna.

In some tasks, and to take account of the different size and shape of the airships, a distance or time factor (based on the block volume) is applied to the distance or time measurements.

Length	Width	Height	Block Volume	Distance Factor	Time Factor
L	W	H	BV= L x W x H	DF= Cube root of BV	TF= Square root of DF
4.50	*0.64*	*0.64*	*1.843*	*1.226*	*1.107*

The third line is provided as an example of calculation. All measurements are in meter

As opposed to the CIAM General Rules, B.1..1.e), airborne devices or functions that use sensors to actuate any control surface are specifically allowed

7.2.2 Pylons, Gates, Marker, Identification and Target

7.2.2.1 Pylons and Gates

Pylons are provided by the organisers. Pylons are poles marking the pathways. These pylons can be used in pairs to form a gate through which the airship should go.

7.2.2.1 Marker

Refer to chapter 7.1.2.1 - Marker, plus the following variation

The markers must be set to have minimal effect on the airship when dropping

7.2.2.2 Identification

Refer to chapter 7.1.2.2 - Identification.

7.2.2.3 Target

Refer to chapter 7.1.2.3 - Target

7.2.3 Competition Site and Tasks

7.2.3.1 Refuelling area

For hot-air airships, refer to chapter 7.1.3.1 - Refuelling area.

7.2.3.2 Inflating and Take-off Area

The inflating area must be defined by the Organiser and must be away from the take-off and flight area so as not to disturb the flight conditions.

For hot-air airships, the inflating and take-off area must be away from the refuelling area.

The take-off area should be close to the start line.

7.2.3.3 Flight Site

Refer to chapter 7.1.2.3 - Flight site, plus the following variation.

The flights of gas airships are commonly indoor flights (hangars, gymnasia etc).

The flights of hot-air airships are most often outdoor flights (airport, aeromodelling site, open land etc) but indoor flights may be utilised in the case of adverse weather conditions.

7.2.3.4 Competition and Tasks

Refer to chapter 7.1.3.4 - Competition and Tasks

7.2.4 Organisation

Refer to chapter 7.1.4 - Organisation

The Organiser is responsible for the calculation of the scale factor of the airships.

7.2.5 Contest Officials and Jury

Refer to chapter 7.1.5

7.2.6 Competitor and Helpers

Refer to chapter 7.1.6 - Competitors and Helpers

7.2.7 Safety Rules

Refer to chapter 7.1.7-Safety rules, plus the following variations.

For gas airships, the filling line should be in good condition.

7.2.7.1 Airship

The competitor must be able to stop any flight that presents a risk to the public or to the environment.

Gas airships should naturally go down if the propulsion is not running. However, the propulsion should be allowed to force the descent of the airship.

Additional equipment can be requested by national rules, and/or local rules.

Propellers must be guarded by a shroud, duct or cage to reduce the risk of injuries.

7.2.7.2 Refuelling Area (Hot-air airships)

Refer to chapter 7.1.7.2 - Refuelling Area

7.2.7.3 Take-off and Flight Area

For Hot-air airships, suitable extinguisher(s) must be available.

7.2.8 General Rules during Tasks

7.2.8.1 Airship

Refer to chapter 7.1.8.1 - Hot-air Balloon

7.2.8.2 Flight Rules

Refer to chapter 7.1.8.2 - Flight Rules, plus the following variation.

A competitor may be allowed a restart by the Flight Director if unfair conditions occurred during the attempt.

Contact with the poles or gates is allowed and shall not be penalised.

7.2.8.3 Tasks

Refer to chapter 7.1.8.3 - Tasks

7.2.9 Explanations and Protests

Refer to chapter 7.1.9 - Explanations and Protests

7.2.10 Results

7.2.10.1 Basic Score

Refer to chapter 7.1.10.1 - Basic Score, plus the following variation.

In some tasks, the measured distance or time is recalculated using the distance/time factor to obtain the calculated flight score.16

7.2.10.2 Calculated Score

Refer to chapter 7.1.10.2 - Calculated Score

7.2.10.3 Competition Score and Ranking

Refer to chapter 7.1.10.3 - Competition Score and Ranking

7.2.11 Potential Tasks

Refer to chapter 7.1.11 - Potential Tasks

7.2.11.1 Regatta, Time Scaled

Two pylons, placed at a distance defined by the Flight Director (25 metres is suggested) are to be circled three times in a figure-of-eight shape.

The working time is ten minutes. The maximum measured flight time is five minutes.

The flight time starts/stops when the front part of the airship crosses the start line.

The aim is to obtain the lowest flight time.

If the airship fails to turn out of the pylons, the competitor must perform a new bend otherwise he gets a five-minute flight time.

Calculated time = measured flight time x time factor.

Flight score = 1000 x calculated time of the best competitor / calculated time of the competitor.

7.2.11.2 Regatta, Length Scaled

Two pylons, placed at a distance defined by the Flight Director (25 metres suggested) are to be circled in a figure-of-eight shape as many times as possible within five minutes.

The working time is ten minutes. The flight time is five minutes.

The flight time starts when the front part of the airship crosses the start line.

The aim is to obtain the longest run distance within the flight time.

Only entire bases are taken into account.

If the airship fails to turn out of the pylons, the competitor must perform a new bend otherwise he gets a zero bases score.

Calculated distance = number of entire obtained bases x distance between pylons x length factor

Flight score = 1000 x calculated distance of the competitor/calculated distance of the best competitor

7.2.11.3 Slalom

A circuit which includes several gates is defined using any suitable equipment. The width of the gates should be large enough to allow an easy crossing by the largest airship.

Start and goal for each airship is through the start/goal line.

Time is measured when the front part of the airship crosses the start/goal line(s).

The gates should be cleared in a specific order.

The maximum flight time is five minutes.

The aim is to obtain the lowest run time.

The Flight Director decides if all the competitors compete together or one after another.

For together races, the timing starts at the Flight Director's signal. The Flight Director should advise the competitors of the starting time to allow them to be ready.

For individual races, the timing starts when the nose of the airship crosses the start line. Preparation time is limited to five minutes. If an airship fails to clear a gate, the related competitor is not allowed to retry and gets a five minute flight time.

The timing for each airship ends when the nose of the airship crosses the finish line.

If all competitors compete together, contacts between airships do not incur penalties.

Calculated time = measured flight time x time factor

Flight score = 1000 x calculated time of the best competitor / calculated time of the competitor.

7.2.11.4 Precision task

Prior to the flight, the Flight Director places, or asks to be placed, 5, 8 or 10 targets (horizontal or vertical circle surfaces, 1 meter diameter) at different places on the flight site. The airship of the competitor must try to have an obvious contact with each of the targets in a specified order. For horizontal targets the contact is determined by the bottom part (gondola) of the airship and for vertical targets by the nose of the airship.

If the competitor fails on one target, he can decide either to retry the failed target or to move to the next one.

The starting and ending of the flight duration is determined when the nose of the airship crosses the start/finish line(s).

Outside of the targets, contact with the ground or with any other parts of the site is allowed but each contact will incur a penalty. (See 7.10.1.)

The target scoring is as follows:

for a five target task, each target scores 200 points;

for an eight target task, each target scores 125 points;

for a ten target task, each target scores 100 points

For the time score, the best competitor obtains 1000 points. The time score of the other competitors is the ratio: 1000 x Competitor time / best competitor time. No time factor is to be applied.

The basic score of the competitor is the total of the targets score plus the time score less the penalties but cannot be negative.

For the calculated score, refer to paragraph 7.1.10.2 – Calculated Score

For penalties, refer to chapter 7.1.8.2 – Flight Rules

7.2.12 Hugo Eckener Cup

The Hugo Eckener Cup is a category two international series of open international contests, as described in Section 4 - Aeromodelling CIAM General Rules in chapters C.2.2.1 and C.2.2.2.

7.2.12.1 Name of the Contest

Hugo Eckener "was the manager of the Luftschiffbau Zeppelin during the inter-war years, and also the commander of the famous Graf Zeppelin for most of its record-setting flights, including the first airship flight around the world, making him the most successful airship commander in history." [Wikipedia, the free encyclopedia, 14/11/2022].

One page in the FAI "Livre d'or" is dedicated to Hugo Eckener, in golden letters, for his achievements in aviation.

7.2.12.2 Specific Goal of the Contest

Primary goal of the Hugo Eckener Cup is to identify the world best model airship pilots by means of a ranking list called "Buddy Count" (see 7.3.3) in a four-year interval. Secondary aim is to attract new athletes to the sport, and to prepare for a F7B World Cup as described in chapter C.2.2.3.

7.2.12.3 International Ranking

The international ranking for F7B, called "Buddy Count", is a continuous classification based on the results of all open internationals within a four-year period, organized by the subcommittee F7. Basis for this ranking is the calculated time per open international contest, as described under 7.2.11.1 "Regatta, Time Scaled".

The Buddy Count

Starting by the year 2023, results of open international F7B contests are collected and accumulated like this: For each open international contest, each athlete collects one point for each competitor (buddy) he/she beat (bettered), plus one point for daring to compete.

Example: An open international contest consists of 14 competitors. The winner of this competition bettered 13 buddies, so he/she gains 14 points, to be added to his/her Buddy Count. The slowest competitor bettered no-one but gains one point for braveness to compete.

In parallel, the mean velocity is computed to deal with a draw that might occur when accumulating points. The mean velocity per open international is computed like this: The length of six times the distance between the two pylons is divided by the calculated time (compare 7.2.11.1). (The distance between the two pylons might change per competition, due to local rules due to local constraints.)

In a four years period, buddy counts are collected and accumulated to the ranking list. The total mean velocity is computed like this: The mean velocities per contest attended are summed up and divided by the number of contests attended. The higher total mean velocity decides then for the ranking in case of a draw in Buddy Count.

Up-dated ranking lists are produced and distributed by the subcommittee during the four years period, at least one month after each open international contest.

The Hugo Eckener Cup and the diploma for the first place is handed to the athlete with the highest buddy count in the four years period (and the higher total mean velocity in case of a draw). Diplomas for second and third place are treated accordingly.

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