



# FAI Sporting Code

*Fédération  
Aéronautique  
Internationale*

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## Section 9, Chapter 8

### World and Continental Helicopter Championships

#### Rules and Regulations 2019 EDITION

Approved by the FAI Rotorcraft Commission (CIG)  
on  
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## **FEDERATION AERONAUTIQUE INTERNATIONALE**

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# **World and Continental Helicopter Championship**

## **Chapter 1**

### **BIDDING**

**(to be read in conjunction with the General Section of the Sporting Code).**

**The objective of FAI/CIG is to establish the best possible venues and opportunities to compete for World and Continental Championships.**

#### **1.0 AIMS**

- 1.1** To determine a World or Continental Champion team, a World or Continental Champion crew and event Champions.
- 1.2** To popularise helicopter sports.
- 1.3** To improve pilot's flying skill.
- 1.4** To improve aeronautical relationship between participating countries.

#### **2.0 ORGANISER**

- 2.1** A World or Continental Helicopter Championship is organised by National Airports Control (NAC's) under the control of FAI - CIG and in full accordance with the FAI Sporting Code and Regulations.
- 2.2** The NAC may delegate to another Organisation within its country, part of its sporting power, but this does not detract from the NAC's responsibility to the FAI.

#### **3.0 OFFER**

- 3.1** A bid to host a World or Continental Championship must be received by the CIG Bureau three months prior to the CIG Plenary Meeting for consideration no less than 1 year before the proposed date.
- 3.2** A draft bid must be submitted to the CIG Bureau at least 3 months before the Plenary Meeting.

#### **4.0 DETAILS**

- 4.1** A bid must contain the following additional information to the OA (Organiser Agreement):
  - Detailed maps of the Competition Area
  - Average local weather conditions of the site
  - Airspace restrictions
  - Characteristics of the location
  - Insurance requirements
  - Statement that all NAC's will be invited. This means that invitations, in writing, will be sent to all NAC's in the first instance
  - Advice on hiring helicopters and any national licensing requirements.
  - Risk Assessment and Risk Register

## **5.0. FAI-CIG ORGANISER AGREEMENT**

- 5.1.** Each bid must be accompanied by a signed Organiser Agreement (AO). A bid without a signed AO will not be considered. Bids made by an unsuccessful bidder will be immediately returned.
- 5.2.** When a bid is accepted, FAI and CIG will immediately sign the AO. Copies will be held by FAI, CIG and successful NAC.
- 5.3.** CIG may delegate full powers to its Bureau to clarify any 'agreed' provisional matters.

## **6.0. OFFICIALS**

- 6.1.** A successful bidder, at the time of acceptance, must propose the officials to be approved by CIG. There may be CIG approved substitutions at a later date.

## **World and Continental Helicopter Championships**

### **Chapter 2**

#### **General Rules and Regulations**

**(to be read in conjunction with the General Section of the Sporting Code)**

#### **1.0. PARTICIPANTS**

- 1.1. Teams, individual crews and members of NAC's affiliated to the FAI, may take part in the World or Continental Championship. The delegation of each country may include: chief delegate, team manager, FAI judges and assistant judges, pilots and crew members, mechanics, interpreter and additional personnel included on the entry form. A participant may only act in a single capacity (except chief delegate and team manager which may be the same person). There shall be a maximum of 10 judges (including assistant judges) per country. The team manager must be declared 12 hours before the competition starts.
  
- 1.2. Each country may enter a maximum of 7 crews. Each crew may compete for the individual title of "Helicopter World or Continental Champion". A crew can be all-male, all-female or male and female. A crew consists of 2 persons.  
Competitors can compete for individual World or Continental titles in the following classes - E-1e, E-1c and E-1b. If there are more than 3 crews participating in each class, an individual World or Continental class title will be awarded.  
A crew can not compete in more than one class type of helicopter.  
A national delegation may include an unlimited number of pilots to compete in event No. 5.5 (Free Style) only. This event will be flown solo by the pilot.
  
- 1.3. An additional 3 crews over those in 1.2 may be included in the national delegation from the organising country to compete for the individual title.
  
- 1.4. Up to 3 "all- female crews" may also be entered in addition to those detailed in 1.2 and 1.3 above. If there are more than 3 countries participating with all-female crews, an individual World or Continental Female Title will be awarded.
  
- 1.5. Each national team will be composed of a minimum of 2 and a maximum of 4 crews. Team crews must be declared and published not later than 12 hours before the competition starts. Their results will count for both the country team result and individual result.
  
- 1.6. Reigning Overall Champions and reigning Female Champions have the right to defend their title. They are regarded as extra crews over and above the numbers set out in 1.2 – 1.4.

- 1.7.** Each crew member must have a valid FAI Sporting Licence registered on the FAI Database, issued by the National Air Sport Control in which they are registered as a member and are citizens or residents of the NAC's country.  
A crew whose members represent different NAC's may be accepted by CIG as an International crew. There must be no changes of crews/countries within 24 months.
- 1.8.** A NAC being unable to enter a team of 2 crews, required for team classification, may enter individual crews.
- 1.9.** Crews must participate in all Championship events 1 – 4 inclusive. Participation means having passed the departure line.
- 1.10.** The Event Director may permit a change of a crew in a National Team. No change is permitted later than 6 hours before the first event flight. The change must be published.

## **2.0. TYPES OF HELICOPTER, LICENCE AND DOCUMENTATION**

- 2.1.** Helicopters of any type with sufficient characteristics to execute World or Continental Helicopter Championship events will be allowed to compete in the Championship. If there is any doubt, the flight manual will be used as reference.
- 2.2.** A valid Certificate of Airworthiness or equivalent document and a Certificate of Registration issued by an appropriate authority must be presented to the Organiser for every competing helicopter.
- 2.3.** Pilots must be in the possession of a valid Pilots Licence and current medical certificate.
- 2.4.** The following must be adhered to:
- Special bubble windows in the cockpit may not be fitted
  - Outside mirrors and technical aids such as radio altimeters are not permitted. Any use will result in disqualification
  - The competition is flown with the co-pilots door removed (only events 3 - 4)
  - Crews must only use manufacturer's standard seating harnesses in accordance with manufacturer's instructions.
- 2.5** Unless specifically required by the flight manual, additional ballast or alterations to the C of G should not be made by additional weights or ballast.

### **3.0. INSURANCE**

- 3.1.** It is compulsory for each competing helicopter to have a third party insurance policy for an amount of a minimum of 2,000,000 Swiss Francs (or equivalent), for the whole duration of the Championship and for flights over foreign territory to the competition site. Personal insurance for pilots and insurance of helicopters will also be covered by their nation. All members of a national delegation must carry individual health insurance. Copies of insurance policies with confirmation, in English, of validity must be submitted by each competitor.
- 3.2.** Country Regulatory Authorities may have compulsory higher limits, therefore, the minimum cover specified in 3.1 (above) will be increased to meet government requirements but in no case be lower than stated in 3.1. (above).

### **4.0. ENTRIES AND FEES**

- 4.1.** An entry will be accepted if made on an official entry form and received by the specified closing date. Late entries may be accepted at the discretion of the Organiser only when there is a good reason.
- 4.2.** The official entry form can be submitted to the Organiser through postal services, by e-mail or fax.
- 4.3.** The amount of the entry fee will be calculated by the Organiser and approved by FAI-CIG. The entry fee covers the costs for accommodation in twin rooms and food plus any organised events and transportation throughout the duration of the Championship for all delegation members. There shall be a higher amount for competing crews.
- 4.4.** The entry fee will be paid 60 days before the competition.
- 4.5.** All entry fees will be refunded if the World or Continental Helicopter Championship does not take place.
- 4.6.** If any delegation arrives at the Championship with incomplete or missing documentation the entry fee will not be refunded.
- 4.7.** The entry fee does not include personal expenses.
- 4.8.** The Organiser will publish a preliminary bulletin to NACs with the following details:
  - Amount of the entry fee for crews, delegation members, judges and additional personnel
  - Extra fee for single rooms
  - Bank account for payment of entry fees
  - Dates and agenda of the Championship
  - Details concerning registration, initial briefings and the proposed programme.



- 4.9** The Organiser will pay the Sanction Fee to the FAI-CIG account, being a sum equal to 100 Swiss Francs (plus any transaction fees) per delegation member, excluding judges. The payment is to be received by FAI not less than 60 days prior the start of the Championship.
- 4.10** Any outstanding fees owed for late entrants must be paid to the FAI - CIG President or the President of the Jury prior to the commencement of the Championship. Any overpayment of Sanction Fees will be refunded to the Organiser within 30 days of the end of the Championship and the publication of the results.
- 4.11** In the event of nonpayment or dispute, the CIG President together with the International Jury will decide on an interim payment to be made prior to the commencement of the Championship. The FAI - CIG will ratify this at the next Plenary Meeting. The Championship will not commence until this payment has been made.

## **5.0. PROGRAMME OF EVENTS**

- 5.1.** All competitors will be required to participate in the following:
- |          |                |
|----------|----------------|
| Event 1: | Navigation     |
| Event 2: | Precision      |
| Event 3: | Fender Rigging |
| Event 4: | Slalom         |
- Event 5 is optional. It will not count towards the overall Championship.
- 5.2.** The sequence of the Championship events will be announced during the general briefing by the Event Director.
- 5.3.** The competitor running orders will be prepared by the Event Director the previous day, be posted on the information board and confirmed at the daily briefing. The order will have been determined taking into account the following factors:
- Speeds of consecutive helicopters to avoid overtaking and bunching in event No1.
  - Maximisation of time spacing for shared helicopters in event No.1.
  - Avoidance of unnecessary weight changing for a shared helicopter in event No.2.
  - Avoidance of the same running order for consecutive events.

#### **5.4 Competition variables.**

The variables for each event will be given after a mandatory draw at the General briefing and they are as follows:

- Navigation - define the course flown between A-Line and F-Line.
- Precision - determination of the direction of the 360° turns.
- Fender – the position of containers 1,2 and 3 within each 40m x 40m square of the competition area.
- Fender - direction of flight through the entrance gates.
- Slalom - position of gates 5 and 6.
- Slalom - direction of flight through gates.

### **6.0. FLIGHT SAFETY**

- 6.1.** The Organiser will appoint a 'Safety Officer'. He/she will assist the Championship Director to observe the safety of the flights on the competition site.
- 6.2.** The Safety Officer must, in addition to any National recommendations, be provided with a copy of the FAI's recommendations and the event Risk Assessment and Risk Register.
- 6.3.** During the competition all competitors must observe and adhere to the rules of the air and special regulations in force in the host country. The Organiser must supply the participating delegations with all relevant regulations, documents and Notams in force concerning the competition flight area. Any violation of flying or safety regulations in force may lead to the exclusion of the offender from the contest. No responsibility can be undertaken by the Organiser for any violation of air safety by competitors or others.
- 6.4.** A competitor taking drugs, alcohol, medication or suffering from any illness or injury which might invalidate his licence or insurance, or in any way affect his performance, must inform the Event Director. All competitors shall accept that they may be required to submit to and co-operate with doping control measures (WADA).
- 6.5.** All personnel participating in the competition area during events must be clearly identifiable.
- 6.6.** Team managers and all other non-judging personnel will not be allowed into the competition area during events. Media personnel and VIP visitors are only allowed into the competition area during events if they are at all times strictly supervised by Organisers personnel and remain in marked areas approved by the Chief Judge.
- 6.7.** Due to weather conditions or safety reasons, the Event Director can vary the length of the course and the dimensions of the search box as well as the manoeuvre between the A and F lines with the number of turns from 3 to 0 due to safety reasons. The manoeuvre between the A and F line will be promulgated in bulletin 1.

- 6.8.** Mandatory Fly Over (MFO) points are to be used to provide required routing and separation.  
MFO points are to be clearly recognisable on the ground. They will be shown by photographs marked with a dot in the centre of the MFO to the crews at the general briefing prior to the commencement of the Championship.

## **7.0. WORLD OR CONTINENTAL CHAMPIONSHIP BODIES**

- 7.1** The Management of the competition consists of:

- The Event Director
- The Jury
- The Chief Judge
- The Deputy Chief Judge

- 7.2** The Event Director is appointed by the Organiser and approved by the FAI - CIG. He bears full responsibility for the organisation of the contest and its smooth operation, timing and safety of the flights on the competition site. Before the start of the contest he will advise the team managers of the national delegations, the crews not having team managers, the members of International Jury and the Chief Judge, on the flight conditions within the Championship programme, as well as other problems which could arise from the interpretation of the General Rules.

The Event Director may disqualify a competitor for the reasons stated below:

- unsafe flying and violation of airspace
- refusal to abide by a decision made by the technical advisers
- repeated serious infringement of competition rules
- use of forbidden equipment, alcohol or drugs.
- cheating or repeated unsporting behaviour (abuse of officials, insult of participants verbally or by gesticulation, or an attempt to influence decisions of judges).

In cases of disqualification, the entry fee is not returnable. The FAI Sporting Licence should be removed from the database by the NAC concerned.

- 7.3** The International Jury is responsible for dealing with protests. It monitors the Championship in accordance with the Sporting Code, General Section and will intervene if the FAI Rules are not respected.

The International Jury is a nominated jury appointed by the FAI - CIG and composed of a President and 2 members who must represent different countries in accordance with the General Section.

The President of the Jury has the power to stop the event if the Organiser fails to abide the published Rules and Regulations for the event until a Jury meeting has considered the situation.

No Jury member is allowed to be connected in any way with their national team or crews or participate in any way in the running of their national team during the competition.

All members of the International Jury shall be present at the Championship location during competition flying.

The President of the Jury will make his whereabouts known so that he may receive protests during the appropriate period. In case of a protest, the Jury will meet as soon as possible but may defer their deliberations to more convenient time during the Championship. Reasonable travel costs and entry fees for Jury members, including the official practice event, are to be borne by the Host NAC.

- 7.4** The Chief Judge and Deputy Chief Judge are nominated by FAI - CIG. Either the Chief Judge or the Deputy Chief Judge must be present in the competition area at all times during competition flying. They have the responsibility to organise the work to be carried out by the international judges and assistant judges and to report results to the Event Director. They are also responsible for dealing with complaints concerning rules or judging matters and advise the Event Director, team leaders and crews on interpretation of the Rules and Regulations and on penalties.  
All of the competition variables will be determined by holding a draw at the general briefing. This will be conducted by the Chief Judge.  
The Chief Judge's and Deputy Chief Judge's entry fees and reasonable travel costs, including the official practice event are to be borne by the Organiser.
- 7.5** A Technical Adviser Team will be composed of 3 to 5 engineers/mechanics and assistants appointed by the Organiser. This team is responsible to the Event Director for the inspection of the required documents and the helicopters.  
The Technical Adviser Team will inspect all helicopters and will seal all instruments which could assist the pilot to fly the helicopter and provide an unfair advantage over other competitors. A competitor removing any seal will be disqualified from the Championship.  
The Technical Adviser Team will be responsible for the mounting of any media film camera in the helicopter. Cameras will be installed no later than one hour prior to the competition commencement and subject to the approval of the pilot and any appropriate country regulations.
- 7.6** The Safety Officer will be present at all times during the competition events. For events 2 to 5 inclusive he will be present in the competition area. In the event of a dangerous incident, he must immediately inform the Chief Judge, or the Event Director or the Jury.
- 7.7** The President of the Jury or a designated member of the Jury and the Chief Judge or the Deputy Chief Judge must be at the competition site up to three days before the start of the competition to ensure that the Organiser has complied with the rules and details of the competition.

- 7.8** No competition rule shall be amended or added within one year of the commencement of a Category 1 or 2 event unless there is a safety case to do so. (Normal procedure for Plenary approval would apply).

## **8.0 JUDGING**

- 8.1** Judging during the World or Continental Championship will be carried out by an International Board of Judges, the members of which must meet the standards laid down in Chapter 4 and be approved by FAI - CIG.
- 8.2** All NAC's have right to be represented on the Board of Judges by FAI International Judges approved by CIG.
- 8.3** The Board of Judges will be composed of:
- Chief Judge
  - Deputy Chief Judge
  - International Judges
  - Assistant Judges
- 8.4** Assistant judges are nominated by each participating NAC and must have been registered with CIG before the Championship starts. An assistant judge may perform all tasks not involving subjective judgment. Tasks include timing, scoring boundary line violations and duties associated with preparation and departure lines and other tasks assigned by the Chief Judge or the Deputy Chief Judge consistent with this basic restriction. Experience as an assistant judge at National and International Championships shall be considered by the NAC when determining upgrading to international judge status.
- 8.5** Under exceptional circumstances during the contest, the Chief Judge may allow a change in the Board of Judges.
- 8.6** The judges and assistant judges will be placed by the Chief Judge or Deputy Chief Judge at appropriate places for observing and evaluating competition flights, including places that require the use of technical equipment as determined by the judge allocation and briefing notes. No more than 3 FAI judges and/or assistant judges are permitted at any one judging point and will have a common language for purposes of communication.
- 8.7** Judges scoring sheets may be collected intermittently during an event by the Chief Judge. Immediately after completion of an event and its marking by judges, the score sheets must be given to the Chief Judge or the Deputy Chief Judge.
- 8.8** If a judge becomes aware of a breach of FAI Regulations or Championship Rules and is in possession of detailed evidence or he/she disagrees with the judgment of other judges on his judging point, he must make his appropriate remarks on the scoring sheet and bring this to the attention of the Chief Judge or Deputy Chief Judge immediately.

- 8.9** If a judge notices a mistake in the preliminary results for his judging point, the error should be drawn immediately to the attention of the Chief Judge. The Chief Judge will clarify the matter together with the Event Director and scoring personnel. The Chief Judge will inform the judge of the findings.
- 8.10** The deliberations of the Board of Judges and the International Jury are confidential. They must not be discussed with delegation or crew members. During his duty as a FAI official, no judge is allowed to have a close connection with crews or members of delegations.
- 8.11** The Chief Judge may suspend a judge in the case of failure to carry out his/her duties. A report will be forwarded to his/ her NAC.
- 8.12** Prior to the start of the Championship, the Chief Judge will undertake a compulsory briefing conference for all judges and assistant judges to attend. This will take place the day before the first flying event of the Championship at a published time.
- 8.13** No judge may raise questions of rules interpretation at briefings where participating crews are present.

## **9.0 DETERMINATION OF WORLD OR CONTINENTAL CHAMPIONS**

- 9.1** The "Team World Champions" will be the best 2 crews of a country team, having the highest number of points compared to all other groups of 2 crews from each other country.
- 9.2** The "Overall World Champions" will be the crew having the highest score of all other crews. The "Female Champions" will be the all-female crew having the highest score of all other female crews.
- 9.3** Event Champions in Events (1 to 5) are determined by the highest number of points obtained in each of these events.
- 9.4** The pilot with the highest overall score where this pilot has less than 250 hours total time will be nominated "Best Novice Pilot".
- 9.5** Medals and Diplomas may be purchased by the Organiser from FAI or in accordance with the General Section of the Sporting Code 4.16.3.2.

## **10.0 COMPLAINT AND PROTEST**

- 10.1** The purpose of a complaint is to obtain a correction without the need to make a protest. The complaint should be made using the official "Complaint Form" (see Annex D).
- 10.2** A competitor or a team who is dissatisfied with any matter during the Championship should first ask the appropriate official for assistance. If, still dissatisfied, a complaint, in written form, should be made by the competitor or through the team manager to the Event Director or his designated official, without delay. All judging matters will be passed by the Event Director to the Chief Judge for determination. If dissatisfied

with the decision on a complaint, a competitor or team manager has the right of protest.

- 10.3** There will be a time limit of 1 hour from the time the preliminary results are officially signed by the Chief Judge and published with the time entered on the result sheets during which a complaint may be lodged. Once the Event Director or the Chief Judge has reached a determination of the complaint and communicated it to the relevant competitor or team manager, there will be a further time limit of 2 hours in which a protest may be lodged.
- Protests are accepted from a competitor via his team manager. If a competitor has no separate team manager, he may lodge the protest himself. Protests must be made on the official "Protest Form" (see Annex E). Protests are only possible against an issue which affects the competitor himself. All protests will be written in English and forwarded together with the fee of 600 Swiss Francs (or equivalent) to the Event Director, who will in turn pass it to the International Jury. The fee is reimbursed if the protest is upheld. The Jury may order a protest fee to be reimbursed in total or in part even though the protest is denied. Complaints cannot be made against scores not signed by the Chief Judge.
- 10.4** Where one issue affects several crews of the same delegation they may all submit the same protest for one fee of 600 Swiss Francs. The fee is only reimbursed if the protest is upheld for all crews submitting the protest.
- 10.5** The International Jury must allow the protesting competitor and/or the team manager to give evidence.
- 10.6** No complaint or protest will be allowed regarding the method, accuracy or use of measuring equipment which has been approved as per 12.6. Judgments made without the use of approved equipment, or where no equipment is used at all, are not subject to this restriction.
- 10.7** If a team manager becomes aware of a serious breach of FAI Regulations or Championship Rules and is in possession of detailed evidence, he must bring it to the attention of the Chief Judge and the Event Director. He must produce detailed evidence to support his allegation without which the allegation will be rejected. If an allegation is found to be unsubstantiated or mischievous FAI and the NAC will be informed.

## **11.0 COMPETITION RISK MANAGEMENT**

At any competition there are hazards that may cause harm to people. Event organisers are accountable for ensuring that their events are managed safely and this includes managing the risks created by flying that forms part of their event.

Competition risk management need not be complicated and the procedure for the process of Risk Assessment and Risk Register can be found in the "Event Guide", The Risk Management Process.

## 12.0 OPERATIONAL REGULATIONS

- 12.1** Competition flights are performed under the following weather conditions:
- Event 1 and 5: Minimum cloud height of 350 metres and minimum horizontal visibility 2 kilometres or the minimum legal flying conditions of the host country whichever is the greater.
  - Event 2, 3 and 4: maximum wind speed of 15 knots unless all team managers unanimously agree otherwise at the event briefing.
  - Event 5 maximum wind speed of 8 knots.
- 12.2** A common VHF frequency will be provided to all competitors. All other frequencies will be sealed off. However, in the event of an emergency, the seal may be broken to facilitate radio transmissions.
- 12.3** All pilots will be briefed on Flying Rules in the Competition area for any away flight conducted outside the official contest programme. All pilots must be acquainted with the area where the flights are allowed. Transit maps of the region will be distributed to all pilots at the first briefing.
- 12.4** The Competition maps approved by CIG (at its meeting prior to the Championship), will be supplied to each NAC in sufficient quantity for each competing crew 4 weeks before the Championship together with the field sketches indicating parking, refuelling and the location of Events 2, 3, 4 and 5. A list of competitor numbers will be preallocated to each country.  
The Competition map should have a scale of between 1:200.000 to 1:250.000 and normally used in Organiser's country as an aeronautical map.
- 12.5** Only designated pilots will fly during competition except in the case of an emergency. The crew member/co-pilot is restricted from handling the flying controls during events and infringement will result in disqualification.
- 12.6** The details of all measuring equipment to be used during Championship are to be submitted to the FAI - CIG for consideration. It is the Organisers responsibility to ensure the equipment or its technical description, user instruction or user handbooks and certification of worthiness is available at the annual CIG meeting prior to the Championship. Methods for determining start/finish and measuring distance are not exempt unless previously approved.
- 12.7** The method of measurement of the data listed in Annex B must also be submitted to the FAI - CIG for consideration as per 12.6.
- 12.8** To ensure good media coverage, competing aircraft may be required to carry a television/film camera. These will be mounted in a manner compatible with airworthiness requirements.
- 12.9** Helicopter types will be given a competition speed based on 80% of the maximum safe sustainable cruise speed in straight and level flight



with two average weight persons and 1.5 hours fuel on board. The maximum competition speed shall not exceed 90 knots. The FAI - CIG will determine speeds for all current operating helicopter types after consultation with experts on each type and maintain a list. The list will be maintained in Annex A of these rules and may vary from time to time.

- 12.10** Sufficient standard fuel for the Championship (AVGAS 100 LL and JET A1) will be provided by the Organiser. The Organiser will not supply oil or lubricants. Wherever non-standard fuel has to be used, the supply will be the participant's responsibility. Fuel, oil or lubricants are not covered by the entry fee.
- 12.11** The number of crews sharing one helicopter in any event depends on organisational circumstances and the Event Director's decision.

### **13.0 COMPETITION RULES**

- 13.1** It is the responsibility of crews to ensure their proper understanding of the Competition and Events Rules.
- 13.2** Any change in the schedule due to weather etc, will be posted on the information board and announced at briefing.
- 13.3** Crews will be given "lift off" times for each event and it will be their responsibility to be ready at the preparation line. The Event Director may announce changes to lift off times just prior to or during an event.
- 13.4** Late arrival at Line P will be penalised by 5 points for each minute of delay or part thereof to a maximum of 25 points. After a 5 minute delay, the competitor will be required to fly last. In the event of a proven technical problem, the Event Director may authorise a change in departure time up to 10 minutes after the last departure time on the published running order.
- 13.5** If a competitor interrupts his flight after crossing the departure line for any technical reason, including low fuel during the event, he will not be allowed to repeat it.
- 13.6** Except where another penalty is specifically provided for, the penalty for infringement of any rule is 10 points.
- 13.7** Use of special equipment such as auto stabilising equipment, auto pilot and certain radio aids is not permitted, unless it is listed in the Operator Flight Manual as necessary to conduct normal safe flight. Radar and Radio Altimeters and GPS capable devices including mobile phones and GPS watches are not permitted for the 4 events of the competition. Any infringement will result in disqualification.
- 13.8** Cameras may be used as evidence on behalf of the competitor or Organiser during each event. For the navigation, the carrying of cameras must be declared at the navigation briefing. After the navigation, cameras and used data cards must be surrendered with the documents for the navigation to the Organiser. Failure to do so will

result in disqualification. The Organiser may request access to the camera data files/card at any time up to the publication of the provisional results after each event the camera was used. Externally mounted cameras should be mounted in accordance with host nation flying regulations.

All cameras which may be used as evidence must be registered at registration.

- 13.9** The Event Director will choose a minimum of 10 participating crews and helicopters for inspection during each event of the competition. All competitors shall agree to this examination including body search. The search can take place anywhere between the parking place and the start line. The Event Director or his designated official will inspect the cabin and search competitors for prohibited equipment and information. Searches will only be carried out by officials of the same gender as the competitor.
- 13.10** Practice is prohibited during the Championship and will incur a penalty of 50 points per occurrence. Competitors will be allowed to check the height of the weights during fitting in Event 2 and will be allowed a left and right turn on the P Line to check aircraft performance. Private flights may only take place with special permission from the Event Director.
- 13.11** A contest number must be clearly visible on the left and right sides of the helicopter during the whole Championship. The size of the numbers will be 30 by 30 cm, or as large a size as is reasonably possible and will be black numbers on a white or yellow background. Provision of the contest numbers is the responsibility of the Organiser. Numbers will be fixed by each crew before the first competition day. The Chief Judge or his delegated official will confirm compliance prior to the first event.
- 13.12** Each competing helicopter must comply with its own National Flight Regulations, and must be equipped with a VHF radio and normal standard equipment.

A black flag shown to a competitor means he is disqualified for the event. "Black flags" are explained in some score events and will be detailed during briefing. Black flags can only be shown by judges on the authority of the Chief Judge or by the Chief Judge or Deputy Chief Judge. A black flag will be shown to indicate disqualification to a competing crew for the following reasons:

- Unsafe flying
- If the fender or bucket gets caught on the helicopter skid or wheel.

- 13.13** The definition of a false start is when any part of the landing gear is lifted off before the official signal has been given.

- 13.14** All judges and assistant judges will bring a stopwatch with them to the Championship.
- 13.15** All times are measured to an accuracy of at least one tenth of a second and to one hundredth of a second where possible. The personnel responsible for calculating and collating scores will round the scores to the nearest tenth of a second before allocating penalty points. Times from 0.01 to 0.04 of a second will be rounded down to the previous tenth of a second whereas times from 0.05 to 0.09 of a second will be rounded up to the next tenth of a second.
- 13.16** The required equipment for all events, described in the event rules and their annexes, will be provided by the Organiser. No other equipment must be used by the competitors.  
All equipment to be used by crews during the competition must be available for inspection at the event briefings.  
Any lines or markings for all events, fixed equipment such as the slalom course, the fender rigging course or the dog house, must be in place and available for inspection by competitors and officials at least one hour prior to the departure of the first competitor. A plan of how the course is to be laid out (including free-style box) should be given to the Jury President at least 24 hours prior to the first departure.
- 13.17** The preliminary results for each competitor for every event will be published not later than 3 hours after completion of flying. The scoring in detail will be published as soon as possible after each flight. The preliminary results of each event with the crew's placing will be published on the information board. Team managers will be advised by the Event Director if there is any delay in the publishing of the scores. The final results with the placings will be published not later than the next day following the task concerned. Team managers have the responsibility of obtaining this information and informing their crews within the appropriate time period.
- 13.18** On completion of event 5.1 Navigation, all competitors will be quarantined until the last crew has departed.

## **World and Continental Helicopter Championships**

### **Chapter 3**

#### **Organisation and Venue Rules**

##### **1.0 GENERAL**

Prior to any NAC offering to host a World or Continental Helicopter Championship, the NAC must be able to satisfy FAI – CIG on the following points:

- 1.1** Sufficient experience exists in the Host Country to ensure the running of a competition in compliance with FAI Rules.
- 1.2** There should be at least 4 officials experienced in the discipline who are able to provide their knowledge and experience in respect to organising Championships.
- 1.3** FAI – CIG would give consideration to 2 NAC's offering to jointly host a Championship on their National Borders subject to the respective Government approval.
- 1.4** The Host NAC must provide an airfield with limited traffic. An airfield with bi-lingual control must be avoided during practice or the championship event.
- 1.5** The Host NAC must satisfy FAI – CIG that a championship can be run with regard to the reasonable cost of participation by individuals.
- 1.6** In selecting a venue, the Host NAC must be able to provide acceptable reasonable accommodation close to the airfield with facilities for adequate parking and local championship transportation.
- 1.7** The Host NAC must develop a close working relationship from the time approval is given with both the President of the International Jury and the Championship Chief Judge.
- 1.8** The Host NAC must comply with FAI Rules and Regulations. If any doubts exist to their interpretation, the advice of the President of the Jury should be sought at an early stage.
- 1.9** The Host Country must not run other local competitions at the same time unless they are under identical rules. Practice time on the airfield or in the navigation area is reserved for Championship events with spare time only for any local event practice.
- 1.10** Practice for display, demonstrations, etc. must not interfere with the Competition Practice Schedule, which must take priority.

Any display, demonstration or show must not interfere with competition flying.

- 1.11** The Host NAC may accept participants from outside the competition but without causing any interference to the Championship. Their results will not be shown on any competition list. Only individual results may be handed to them.
- 1.12** The Host NAC will take out adequate insurance coverage for all personnel who are present, close or adjacent to the competition area, either in practice or in competition. This will include all Jury members, judges, operational officials, secretaries, team managers or other crews observing practice.
- 1.13** If the host NAC is to hold more than one event, it cannot start any other event until the prize giving and closing ceremony of the first event has been concluded.

## **2.0 VENUE**

- 2.1.** When choosing the location of a Championship site, careful consideration should be given to the type of terrain readily available. Mixed terrain, both low lying and high ground is recommended in an area that is neither too easy nor too difficult to navigate over.
- 2.2** It is preferable to have the sole use of an airfield or be able to adopt a dominant role in respect to air traffic movements.
- 2.3** The navigation area (event 1), should avoid areas of military low level flights and appropriate Notams must be issued in respect to low level helicopter flying.
- 2.4** For event 1, the whole of the navigation course must be on one map.
- 2.5** For event 1, there should be no prohibited areas or danger areas within 10 nautical miles of the navigation route. There should be no dangerous power cables within 3 NM of the airfield or in areas where descent is required below 150 metres. Cables must be shown on local area but not competition maps.
- 2.6** The airfield should have a large flat open unrestricted grass area upon which the Championship tasks can be carried out. Routing in and out of the airfield should be from different directions, pre-planned and marked on the ground for all events taking place on the airfield.
- 2.7** Seating areas (low level stands) should be available for spectators within reasonable distance of the competition area. Separate facilities must be provided for international press including TV and sponsored video teams. A separate press centre should be made available by the Organiser.

- 2.8** The airfield must provide adequate full time air traffic control, fire and ambulance services, hangarage for special maintenance and fuel both for piston & turbine helicopters. An efficient refuelling facility on the airfield is vital for the smooth running of a Championship.
- 2.9.** Catering facilities, for the sole use of those associated with the Championship must be provided. The Organiser should allow for staggered mealtimes i.e. running continuous buffet.
- 2.10** The airfield should be located not more than 20 minutes travel time from the residential accommodation provided for the participants.
- 2.11** The airfield should be available for full familiarisation 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 must adhere. In the event that a military base is used, the Organiser must provide an alternative training airfield nearby to the navigation area in order that navigation training may take place in the week prior to the Championship.
- 2.12** Detailed weather history of the competition area must be submitted to FAI – CIG with the bid.
- 2.13** Special attention should be given to the location and size of the briefing and rest room. It should not be used for catering purposes. Sufficient seating should be provided for a minimum 150 people with additional facilities for press and TV crews.

### **3.0 SPONSORSHIP**

- 3.1** The Host NAC is encouraged to obtain sponsorship either for the whole or for individual events within the championship in order that the overall cost of the event for participants is reduced.
- 3.2** Hosting the Championship should not be taken by the NAC as a means of making substantial profit at the expense of the participants.

### **4.0 PRESS AND TELEVISION (The Media)**

- 4.1.** FAI – CIG will, in considering bids for hosting a Championship, put considerable emphasis on the quality and coverage given by international, continental and local media. This is particularly important in the case of television.
- 4.2.** Facilities must be available for international and local press, television and video crews. It is essential that there is wide coverage both

nationally and internationally. Details of daily international and national programme coverage must form part of any bid.

- 4.3 The Organiser will provide facilities for press and television. This will include appropriate stands in the vicinity of the competition area on the airfield. Television crews must be escorted into the competition area but not the navigation area, and cannot be accompanied by more than 2 others (maximum 3). They must be escorted at all times to ensure that they do not interfere with competition flying, judging or cause a hazard.
- 4.4 The Host NAC will provide an experienced commentator who can provide an exciting, interesting and regular flow of information and results to be broadcast to the public enclosure and the briefing area.
- 4.5 Facilities will be made available for the broadcast of music used during the freestyle event. It would be an advantage to have a practice prior to the championship to facilitate smooth running of the event. The position of loudspeakers must be placed so that competing pilots can clearly hear them.

## **5.0 ACCOMMODATION**

- 5.1 It is beneficial, but not vital, for all participants to be housed together in one complex. This will reduce the problems of communication and enables a central information centre to be set up. Competitors must have priority over supporters.
- 5.2 The cost of accommodation is of prime importance to participants. Expensive hotels are unwelcome. Participants require reasonable accommodation at an acceptable price.
- 5.3 The accommodation should provide for a running breakfast, timings will be governed by the competition programme.
- 5.4 The residential site must be within easy reach of the competition airfield. The competition management must be sympathetic to pilots rest requirements.
- 5.5 It is essential that absolute quiet is given between the hours of 23.00 – 06.00 to give sensible sleep periods. Once participants are in residence, no parties will be held in the residential accommodation between these times until the last competition event has been completed.
- 5.6 Alcohol will not be sold to competitors after 23.00 hrs in the residential accommodation.
- 5.7 National team managers must ensure that supporters do not interfere or disrupt the sleeping period 23.00 – 06.00 under any circumstance.

- 5.8** Two officials will be available between 06.30 and 23.30 throughout the Championship to assist with problems relating to accommodation and transportation. Their telephone numbers must be available to all participants and published on the competition notice board

## **6.0 CATERING**

- 6.1** Breakfast will be taken at the residential accommodation.
- 6.2** It is recommended that airfield catering is provided on the basis of a running buffet to cater for the staggered requirements of all participants in the championship. Regular hot and cold drinks should be available at all times. The catering area should be designed to provide seating accommodation of 150 at any one time.
- 6.3** Self service is recommended.
- 6.4** The Host NAC will arrange for the opening and closing ceremonies to be held on the airfield or other suitable place in front of the public. Opening and closing banquets may be held at other venues away from the airfield and may be separately sponsored. Any event away from the airfield or the residential area must have a transport service provided for all participants.
- 6.5** Consideration should be given to the provision of vegetarian or other special catering needs. The entry form should require the appropriate information to be given well in advance.

## **7.0 TRANSPORT**

- 7.1** The competition management must arrange suitable daily transport between the residential site and the airfield. Pick up points and timetables must be provided to every participant and must be published on the information board in the briefing room and at the residential site.
- 7.2** It would be ideal for each team to be provided with separate transport. In the likely event that this is not feasible, an adequate coach service must be provided.
- 7.3** The Jury, the Chief Judge and the Deputy Chief Judge must be provided with their own independent transportation.
- 7.4** Transportation must also be available to take teams of judges and assistant judges out to and return from the navigation area.

## **8.0 AIRCRAFT HIRE**

- 8.1** The Host NAC must be prepared to assist with arrangements for the hire of helicopters for participants if required.
- 8.2** Crews planning to hire helicopters should make a request at least 3 months before the event specifying type, length of time, hours to be flown, etc. They should give full details of their own licences and



experience.

- 8.3** Helicopters for hire should be checked by the Host NAC to ensure they are of an adequate standard for competitive flight and that Certificates of Airworthiness and Third Party Liability Insurance are included.

## **9.0 TRAINING PRACTICE**

- 9.1** Practice and familiarisation of the navigation area should be available in the week prior to the week of the Championship.
- 9.2** Navigation practice should take place without affecting the normal airfield routine.
- 9.3** During practice it is essential that Airfield Routine Regulations are fully observed. It is also necessary for other non competitive traffic using the airfield, to be under similar guidance. Strict RT control will be necessary.
- 9.4** Daily flying should be restricted to 0900hrs – 1800hrs
- 9.5** Training practice must not be interrupted for display, show or exhibition flights.
- 9.6** The Host NAC must provide a sample of the competition map for approval by FAI – CIG at least 6 months before the start of the championship.

## **10.0 BRIEFINGS**

- 10.1** General and event briefings must be attended by all concerned.
- 10.2** Briefings will be in English and translators will be provided by the host nations to key personnel who are non native English speakers.
- 10.3** The general briefing must be attended by judges, operational officials, team managers and crews. The object is to explain the running of the championship, the programme including any social programme and channels of communication.
- 10.4** Event briefings must be attended by judges, operational officials, team managers and crews. The briefing will define operating procedures. Discussions on the rules and judging will not be allowed in briefings.
- 10.5** Daily briefings must be attended by team managers the object being to define the day's programme.
- 10.6** Set briefings will be attended by crews and team managers.

## **11.0 METEOROLOGY**

- 11.1** A meteorological service must be available, at least on phone or fax, throughout the Championship.

- 11.2** At the general and event briefings a competent person must give a detailed weather briefing.

# **World and Continental Helicopter Championships**

## **Chapter 4**

### **CRITERIA AND APPROVAL OF JUDGES**

#### **1.0 INTRODUCTION**

This chapter describes the standard, which must be met by individuals who wish to be granted or maintain the qualification of International Judge as awarded by the FAI - CIG.

#### **2.0 AUTHORITY**

- 2.1** The NAC is responsible for submitting a list of individuals who are to be granted or confirmed as international judges at the scheduled CIG annual meetings.
- 2.2** Each NAC is responsible for confirming the training, experience and standard of each judge submitted on the NAC's list together with a brief description of the national training and endorsement procedure. The NAC must endorse the qualifications as laid down in 4.1 to 4.3.
- 2.3** Should it be found that a judge does not meet the standards set by the CIG, the delegate of that particular NAC may be requested to explain at the next FAI - CIG meeting.

#### **3.0 DURATION**

- 3.1** The validity of international judge status will be from one CIG meeting prior to a World or Continental Helicopter Championship to the next. This will give a validity of two or maximum three years depending on the frequency of these Championships.
- 3.2** It is in order for the CIG to convene a special meeting at a World Championship to appoint more international judges provided the judges are approved by their NAC's and its delegate as well as complying with CIG standards.

#### **4.0 STANDARDS**

An international judge must be able to demonstrate the following ability:

- 4.1** Rules. A full knowledge of the current version of the CIG World and Continental Championship Rules and Regulations of FAI Sporting Code General Section.

- 4.2** Physical capability. An international judge and assistant judge must be capable of remaining out in the field for at least 10 hours. They must also be sufficiently mobile to move quickly within the competition area.

**Eyesight:**

To be able to read two numbers each 30cm x 30cm from a distance of 15 metres or 50 feet.

**Hearing:**

To be able to hear a helicopter approaching in still air conditions from a distance of 1 NM.

*A holder of a valid aviation medical of any class will be assumed to meet these criteria.*

**Stopwatch Usage:**

To be able to demonstrate capability with a stopwatch of his choice or the approved NAC stopwatch and to be able to measure a time to an accuracy of 0.25 of a second.

**Clock Usage:**

To be able to synchronise a clock to a Master Clock to an accuracy of 0.1 of a second and to time an event to an accuracy of 0.25 of a second.

**Speed, Height, Course judgment:**

To be able to determine a course change of over 30 degrees, a ground speed of less than 30 kph (16 kts), and a height of 10 metres (33 feet).

- 4.3** A judge must have been a major official i.e. Chief Judge, Deputy Chief judge, jury member or have judged in either a World or Continental Championship or World Air Games, International Sporting Events, National or Open National Championships, which have been carried out in accordance with FAI – CIG Event Rules and Regulations within the last two years prior to the deciding CIG meeting.
- 4.4** A judge not meeting any of the above criteria may be appointed an assistant judge at the discretion of the CIG providing an experience/training declaration (Annex C) has been submitted.

## World and Continental Helicopter Championships

### Chapter 5

#### Event Rules and Regulations

#### 5.0 General

The events described in this chapter should also be used for National Championships, other National or International sporting events, for special air sports presentation and other contests organised by or on behalf of a National Organisation. At the Organisers discretion the events 2, 3 and 4 may be carried out as parallel courses.

#### Event 5.1 Navigation

(to be read in conjunction with Annex A, Helicopter Type and Competition Speed)

##### 5.1.0 Event Description

The event is Navigation with Timed Arrival and Load Drop Off. The event will include a navigation course; en-route search zone; timed arrival at the A line; 2 drop zones after the A-line; manoeuvring box between the A line and the F line; a load drop off at the C Line and "end of event" landing zone.

##### 5.1.1 Navigational Course.

**The navigation course will include 6 legs; three (3) Turning Points (TPs) and two (2) Mandatory Fly Over (MFO) points.**

| LEG     | FROM   | TO     |
|---------|--------|--------|
| 1st Leg | D Line | MFO 1  |
| 2nd Leg | MFO1   | TP1    |
| 3rd Leg | TP1    | TP2    |
| 4th Leg | TP2    | TP3    |
| 5th Leg | TP3    | MFO2   |
| 6th Leg | MFO2   | A Line |

TP1, TP2 and TP3 will be identified on the ground by orange 3 x 3 x 3 metre triangular panels with black numbers on them. The competitor must identify each sign at its specific location. Intermediate time will be recorded at TP1, TP2 and TP3 for control purposes only. The route, including identification of panels, will be about 60 – 90 kilometres. The route length and the location of the targets for the bags will be announced at the event briefing.

**5.1.2 Flight Height.**

The route over and between the MFOs should be flown at a height of 250 metres +/-100 metres AGL.

**5.1.3 Flying Time.**

Identical for all competitors of the same helicopter type. The flying time will be calculated by the Organiser based on the speeds defined in Para 12.9 of Chapter 2 listed by type in Appendix A. For safety reasons and due to various weather conditions, an additional time of at least 3 minutes will be added to the calculated flying time for each competitor.

**5.1.4 Start Time.**

Start times will be given in exact minutes and seconds.

There are penalties for early and late departure. During the event briefing each crew will receive the time the helicopter has to be at the Preparation Line (P Line) and the exact departure time the helicopter has to pass the Departure Line (D Line). Departure time will be as appropriate to ensure proper aircraft separation.

**5.1.5 Preparation line.**

10 minutes before departure time the helicopter will come to the P line. At the P line, the Organisers designated event official will give the crew, the skittle with rope attached, 2 fabric bags (filled with sand, each weighing 1 kilo) and a logger for measuring height of flight, speed and position relative to MFO's, turning points & entry and exit gates of the search box.

**5.1.6 Departure line.**

The helicopter will then move to and land in front of the D line. A sealed envelope containing the competition map and instructions will be given to the crewmember at the D line exactly 5 minutes before the scheduled departure.

The envelope must be retained for handing in results at the end of the event. All helicopter doors must be fitted.

The sealed envelope will contain the following information:

- The competition number and the flying time for the event from the D line to the A line will be stated on the outside of the envelope.
- The calculated flying time from scheduled departure to arrival at the search zone exit in accordance with 5.1.3 and the distance.
- The true course from the departure line to the first MFO.
- Geographical position of TP1 and TP3, in latitude and longitude.
- Schematic of the search zone.

- The Competition map with the following information indicated:
  - the position of MFO 1 and MFO 2 marked with square with a dot in the centre
  - the position of TP 2 marked with a triangle with a dot in the centre
  - the search zone
  - the entry and exit gates of the search zone
  - target panel locations

No other map than the competition map provided by the Organiser will be allowed on board during this event. Other maps should be surrendered. Infringement will incur a penalty of 100 points. In the interest of safety an ICAO 1: 500,000 map will be permitted in a sealed envelope or box.

#### **5.1.7 Departure.**

The helicopter will depart the D line on its given departure time. Early or late departures will be penalised.

#### **5.1.8 Search Zone.**

The search zone will include between six (6) and ten (10) 3 x 2 metre orange panels, on which black letters or signs will be painted. The 500 metre wide entry and exit gates will be marked on the ground each by 2 x 15 metre by 1 metre white panels and 1 x orange panel in the centre of the 5 metre space to form a 35 metre line. The entry gate is marked with I (in) and the exit gate is marked with O (out) in black on the orange centre panels.

The competitor must identify each sign at its specific location. Penalty points will be incurred for not vacating the search zone on time, and for not entering or exiting the search zone correctly through the 500 metre wide entry and exit gates. The panels must be placed in such a manner that the distance covered to overfly all search zone panels is less than 10 nautical miles (18.5 km).

#### **5.1.9 Enroute Drop Zone:**

In a determined drop zone (location as described in Para 5.1.0), the crew will drop a bag on each of the two 5 metre diameter target circles, which are marked on the ground and 100 metres apart in the direction of flight.

Dropping the bags will be performed at a height of not less than 10 metres AGL and at a minimum ground speed of 30 kph.

The time elapsed between the first and second bags touching the ground shall not exceed 12 seconds.

The compulsory target order is "Target One" then "Target Two".

Where the bag hits the ground first will be considered the impact point for scoring purposes.

#### **5.1.10 Leg MFO 2 to A Line:**

The helicopter will be flown from MFO 2 to the A line in a straight line.

The descent will start progressively in the last 3 kilometres, in order to pass vertically over the A line at a height of 30 +/- 15 metres AGL.

Ground speed less than 30 kph during the last 2 kilometres to the A line will be penalised for each infringement. The landing light must be on for the final 2 kilometres.

**5.1.11 Arrival at the A Line:**

The A line will be identified on the ground by one 1 metre wide and two 15-metre-long yellow stripes, with a blank centre space of 5 metres.

**5.1.12 Determining Arrival Time:**

The time will stop when the nose of the helicopter crosses the A line or its extensions to left or right side.

**5.1.13 Manoeuvring Box A Line to F Line:**

After crossing the A line, the helicopter will fly a given course.

All competitors will perform turns in the direction assigned which will be published during the pre-event briefing (see drawing, Annex 1).

This is a timed manoeuvre. Imposed flight time between the A line and the F line will be 1 minute. Time begins when the nose of the helicopter crosses the A line and stops as the nose of the helicopter crosses the F line.

The descent will take place inside the manoeuvring box. Any hovering between the A and F lines will be penalised for each infringement.

**5.1.14 F Line:**

The helicopter will pass the F line at a height of 15 metres, +/- 5 metres. Passing the F line, the competitor will continue in a straight line to reach the target (Dog House) positioned 50 metres after the F line (see drawing, Annex 1) to put down the load.

**5.1.15 Dog House and Load Put Down.**

The target (see drawing, Annex 2) is composed of two white 2 x 2 metre panels, assembled at an angle of 90 degrees, resting on the ground and forming two 45 degree angles. The load-receiving hole is a 0.4 x 0.4 metre square, the centre of which is one metre above the ground. Only the hole facing the arrival direction will be valid for scoring.

The crew member will, after crossing the F line, deploy a rope (see drawing, Annex 1) 7 metres long, on the opposite side to the pilot, at the end of which a skittle will be attached.

This is a timed manoeuvre. Maximum time between the F line and releasing the rope is 20 seconds.

The rope must be fully extended and free of knots prior to crossing the line 5 metres short of the dog house. Hovering between the F line and the Dog House (C line) is permitted.

The rope must remain held at a grip at its end by the crewmember who must have both hands visible to the judges.

Manoeuvring of the rope is allowed provided the rope is not shortened by any part of the body below the red flag.

The crewmember will remain fastened and seated on his seat at all times.



The crew must put the skittle into the square hole without touching the surface of the doghouse releasing the rope as soon as the exercise is finished. The doghouse open sides are not part of the roof. Time stops when rope is released.

If the skittle is dropped in the box, penalty points will be incurred for every tenth of a second above 20 seconds from the F line. A skittle dropped outside box incurs 30 penalty points.

#### **5.1.16 Landing Zone:**

A 10-metre landing zone next to the Dog House will be designated for the competitor to handover the envelope.

The Landing Zone is positioned at a safe distance from the Dog House (approx. 25 - 30 metres). Competitors who do not land in the Landing Zone receive 30 penalty points (see infringements).

Immediately after landing in the Landing Zone, the crew member hands the envelope containing the identification sheet for the ten panels and turning points, the competition navigation map and the logger (removed by an appointed official) to the judge to be put in an envelope to be sealed and marked with the competitor number on the outside. The envelope is to remain sealed until scored in the official scoring room. The competitor's competition number and/or name will be clearly featured on the outside of the envelope, on the map and on the identification sheet.

#### **5.1.17 Disqualification/Black Flag:**

A competitor will be disqualified during the event if any of the following situations should occur:

- A black flag will be shown at the A line when a competitor is more than 200 seconds early or late on his given time of arrival. In such case the competitor may be waved off and should vacate the vicinity of the A line immediately to avoid conflict with the next aircraft, and return directly to the landing zone.
- If the rope is caught on the helicopter as it departs pulling or dragging the Dog House, this will be considered as unsafe flying.
- For any flight violation and/or unsafe flight manoeuvre/act during the event including aircraft movement to and from the aircraft parking area, i.e. parking area to the preparation line or from the landing zone to aircraft parking area.

#### **5.1.18 Tie Breaker:**

If there is a tie for a place, the crew with the most accurate arrival time at the A line will be the winner. Should these times be the same, then the shortest time between the F and C lines will be used to determine the place.

#### **5.1.19 Scoring:**

$300 - P = \text{Score}$ . Score is determined by subtracting the penalty points from 300. The minimum score achievable is zero.

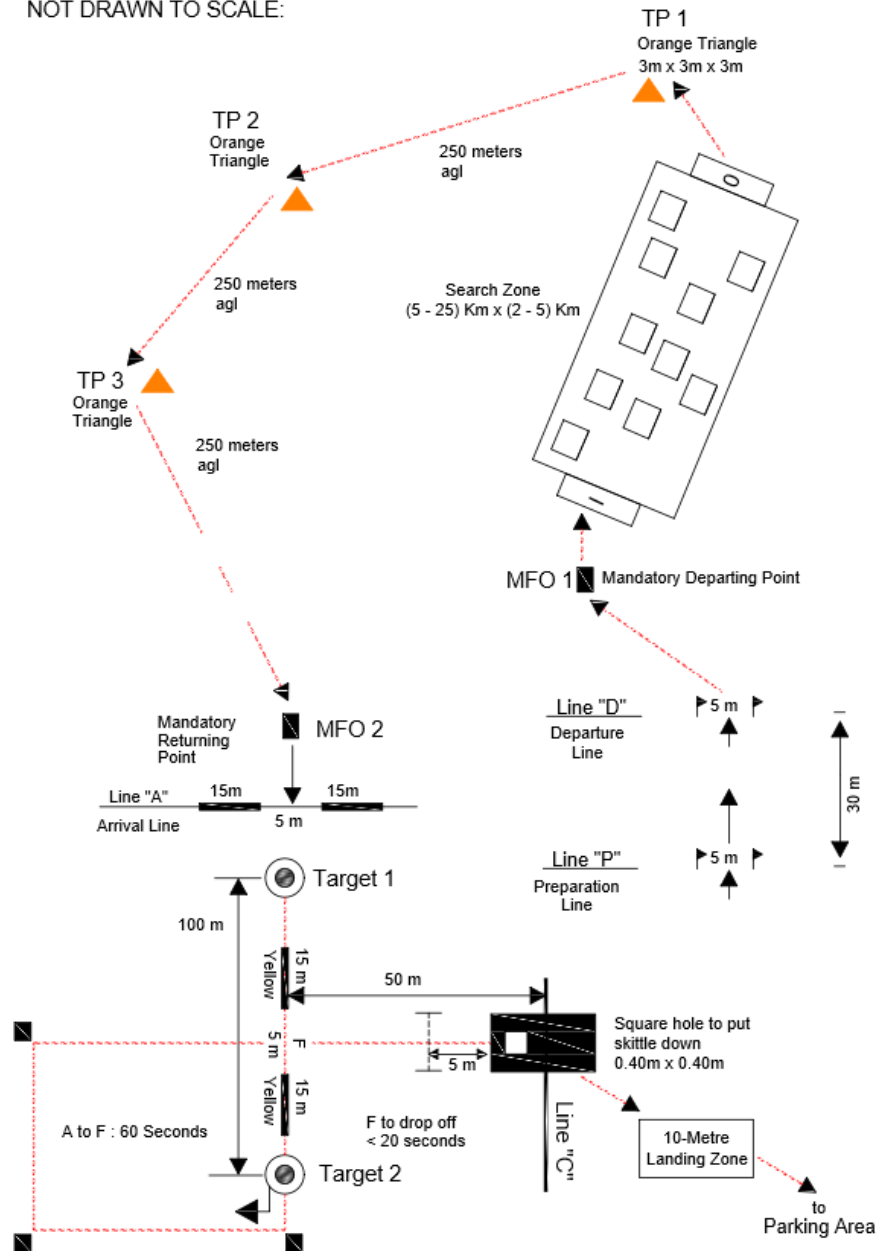
**SCORING – EVENT No. 1 (Navigation)****EVENT 1 INFRINGEMENTS****PENALTY POINTS**

|   |      |
|---|------|
| Early departure from the D Line   | 100  |
| Not departing the D Line within 15 seconds of Departure Time                                      | 50   |
| Each missed or not identified number of Turning Point   | 20** |
| Turning point or MFO not passed within 500 metre radius   | 20** |
| MFO not passed within 250 metre radius  | 10   |
| Entry outside the 500-metre-wide gate to the Search Zone (not using the Entrance Gate)            | 10   |
| Final exit of the search box outside the 500-metre-wide exit gate                                 | 10*  |
| Each Target/Panel in Search Zone missed or incorrectly identified                                 | 10   |
| Each tenth of a second late in exiting the Search Zone (maximum 50 points)                        | 0.1* |
| Early exit from the Search Zone by more than 5 minutes (300 seconds)                              | 50   |
| Bag not hitting a target circle   | 5    |
| Violation of the minimum dropping height  | 10   |
| Violation of minimum dropping speed. More than 12 seconds between bag impacts                     | 10   |
| Deviation from direct track between MFO2 and A Line (+/- 30 degrees)                              | 10   |
| Ground Speed less than 30 kph during the last 2 kilometres before the A Line                      | 10   |
| Missing the A Line (crossing the A Line outside given dimensions of 35 metres)                    | 10   |
| No landing light "ON" during the last 2 kilometres before the A Line                              | 5    |
| Hovering (no visible or measurable forward motion) during the last 2 kilometres before the A Line | 30   |
| Each tenth of a second early or late on the A Line  | 0.1  |
| Early or late arrival over 200 seconds at the A Line, disqualification                            | 300  |
| Omitting any of the manoeuvres after passing the A Line   | 30   |
| Each tenth of a second early or late on the F Line  | 0.1  |
| Each tenth of a second more than 20 seconds between the F Line & the C Line                       | 0.1  |
| Each hovering event (no visible or measurable forward motion) between the A and the F Line        | 30   |
| Each contact of the skittle with the ground between the F Line & the C Line                       | 5    |
| Crew not remaining seated or fastened (both hands not visible)                                    | 30   |
| Rope shortened, or has knots, or handled below red flag   | 30   |
| Rope not deployed 5 metres before the dog house   | 10   |
| Each touch of the skittle on the Dog House roof   | 2    |
| Skittle dropped outside the Dog House Box   | 30   |
| Unsafe flight manoeuvre, violation or act before, during or after the event                       | 300  |
| Not Landing in the 10 Metre Zone  | 30   |
| Handing in competition envelope with contents without competitor identification                   | 5    |

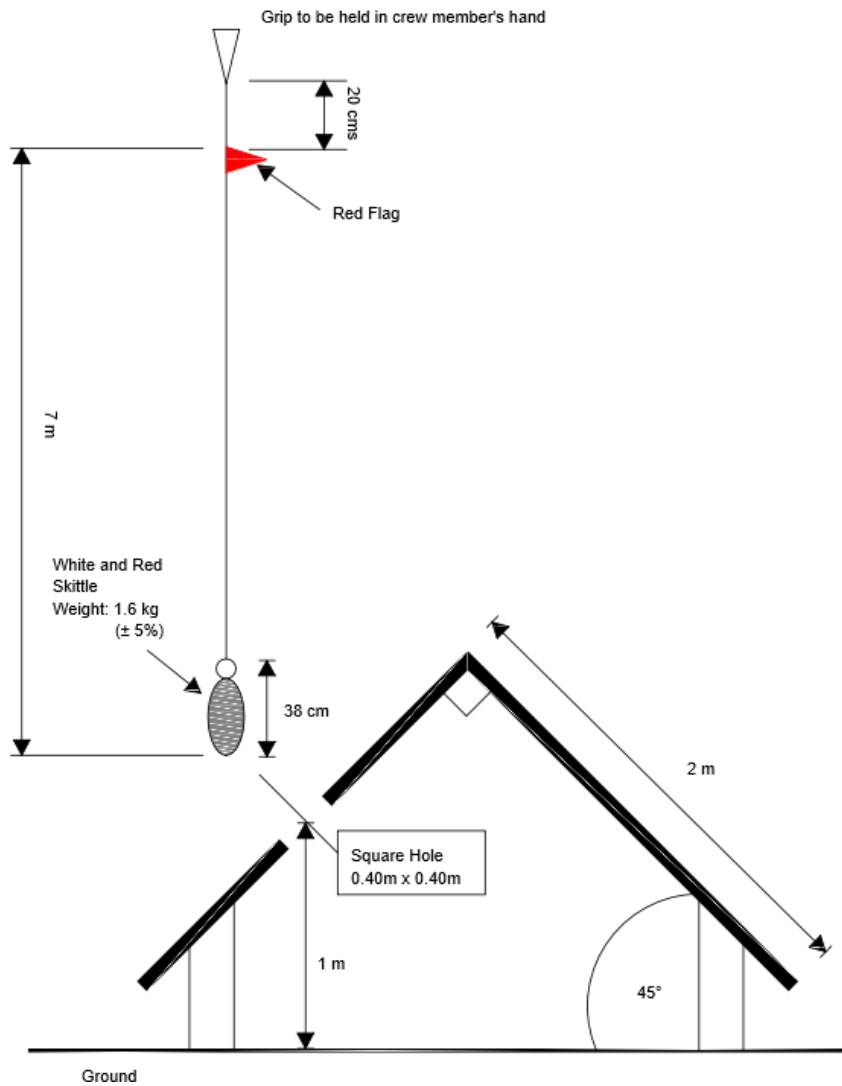
\* If the judges see a helicopter passing outside the exit gate they stop their watches when the helicopter crosses the extensions to the left or right side of exit gate. If a helicopter exiting search zone is not seen by judges at the exit gate the competitor will be penalised 50 points.

\*\* Maximum attainable penalty for one turning point is 20 points.

Annex 1 - Event 5.1 Example of the Navigational Course  
NOT DRAWN TO SCALE:

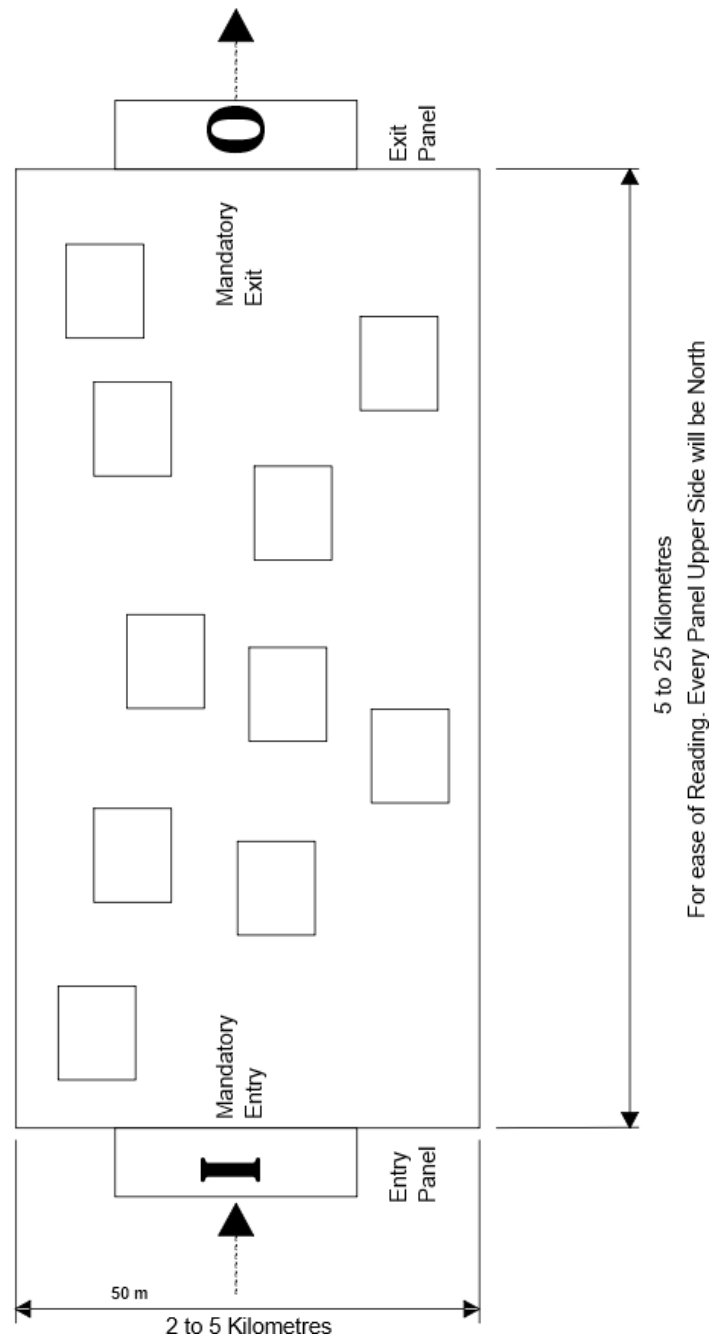


## Annex 2 - Event 5.1 Dog House and Load Put Down



## Annex 3 - Event 5.1 - Search Zone Details

Details of the Search Zone  
Examples of a Schematic given to the Competitors



## Annex 4 - Event 5.1 - Type of Panel to be used



Letters and Signs will be Black on Orange Panels

## **Event 5.2 Precision**

### **5.2.0 Event Description**

The event will be flown by one helicopter at a time. The event requires constant height, low level flying with manoeuvres on a course, of which the basic parameters are known with the details as described in 5.2.6 and Annex 1. The variables as listed in 5.2.9 will be made public by the Event Director at the general briefing. The course should be laid out against the wind direction.

### **5.2.1 General Requirements**

The helicopter will be flown with all doors on and closed. Arched cockpit doors certified by the manufacturers may be used. Special window bubbles in cockpit doors are not permitted.

The crew member must stay within the helicopter, on his seat and in the normal position.

The crew must install the attachment points for the ropes and the tape markings on both sides of the fuselage, skids or wheels before the competition.

These attachment points are such that when the helicopter is on the ground the ends of both attachment points are just touching the ground.

There will be a loop at the end of each attachment point, and each attachment point strong enough to hold a weight of 5 kg.

The shorter rope attachment point should be clearly marked.

During the morning briefing, competitors will receive their start time at which the helicopter must be at the preparation line.

### **5.2.2 Composition of the course**

The course is composed of one parallel corridor, 50 metres in length and 1 metre wide (all dimensions are external), identified by ground markings. At both limits of the corridor, perpendicular corridors with a length of 10 metres to each side are marked on the ground.

Additionally, two flag marks will be placed every 10 metres left and right of each perpendicular corridor. These additional corridors and marks are to assist the pilots to hold the helicopter in the 1 metre square at the corridor limits during turns.

The arrival line "A" will be 20 metres from the end of the corridor, and will be 5 cm wide and long enough to be visible on both sides of the helicopter by the crews.

### **5.2.3 Flight Height Control**

Two ropes or suitable chains or a combination of both will be attached by judges/assistant judges, the shorter one attached to the aircraft fuselage under the pilot's seat, the longer attached to the rear end of the skid opposite to the pilot side, as far as possible from the first rope/chain (see drawing, Annex 3). The rope/chain lengths are exactly 2 metres for the first one and exactly 3 metres for the second one,

being measured from the lowest point of the undercarriage (skid or wheel) to the lowest end of the weights. For visibility the ropes/chains may be painted red or orange.

#### **5.2.4 Preparation line**

The competitor will come to the P line (Preparation).

Judges will connect the ropes to attachment points provided by the competitor and will check the positioning of the two tape markings, as chosen by the competitor on both sides of the fuselage, or both skids or both wheels.

At the P line, the crews are allowed to lift the helicopter into a hover with the crew member either inside or outside the helicopter to communicate to the pilot the height of the helicopter and the status of the weights. One 360 degree clockwise turn, and one 360-degree anticlockwise turn is permitted to ensure the weights are attached safely. The helicopter should then land again. Judges are not allowed to make any indications to competitors during this procedure.

#### **5.2.5 Departure line**

The helicopter will land on the D line. Upon an indication of ready from the pilot or crew member and when the course is clear of the previous competitors, the judge will signal the start by dropping a flag.

#### **5.2.6 Manoeuvring through the course**

The competitor will fly the ground marked course, maintaining a height ranging from 2 to 3 metres, keeping the bottom weight on the ground and the top weight off the ground.

The corridor will be flown 5 times. First time from D line forward with a 360° turn at the corridor upper limit. Second time returning backwards to the first end with a 90° turn at the limit. Third time sideways with a second 360° turn at the upper limit. Fourth time returning sideways to the first end with a 90° turn at the limit. Fifth time forward passing over the limit of markings and landing exactly on the arrival line.

The landing must be performed in one attempt. Slide and double landings will be penalised.

The competitors will perform the 360° turns around the yaw axis, one turn will be clockwise and the other anti clockwise. Each turn must take a minimum time of 15 seconds.

Performing the 90° turns, the first turn will be anti-clockwise and the second clockwise.

#### **5.2.7 Measurements**

Corridor and height violations will be recorded in cumulative tenths of a second. Final times will be rounded to the nearest tenth of a second as described in Chapter 2 Para 13.15.



The violation of corridor limits is defined as when the attachment point of the shorter rope (2 metres long) is outside the corridor limits marked on the ground.

The violation of height is defined as when either the short rope touched the ground, or the end of the long rope is off the ground from a height above 3 metres.

The measurement on arrival A line will be from the forward limit of the tapes installed on the helicopter (skids or fuselage) to the nearest limit of 5 cm arrival line. A forward limit of the tape within the 5 cm arrival line counts as 0 cm.

Should helicopter tapes be installed on the fuselage or above ground level, a plumb bob will be used to assist in accurate measurement.

#### **5.2.8 Timing:**

The time starts after the start signal is given and the nose of the helicopter crosses the departure line and stops when the first part of the helicopter landing gear touches the ground.

#### **5.2.9 Variables for determining the Direction of 360° Turn:**

- 1) First turn Clockwise, Second Turn Anti Clockwise
- 2) First turn Anti Clockwise, Second turn Clockwise

#### **5.2.10 Tie Breaker:**

If there is a tie for a place, the winning crew is determined by the shortest flight time.

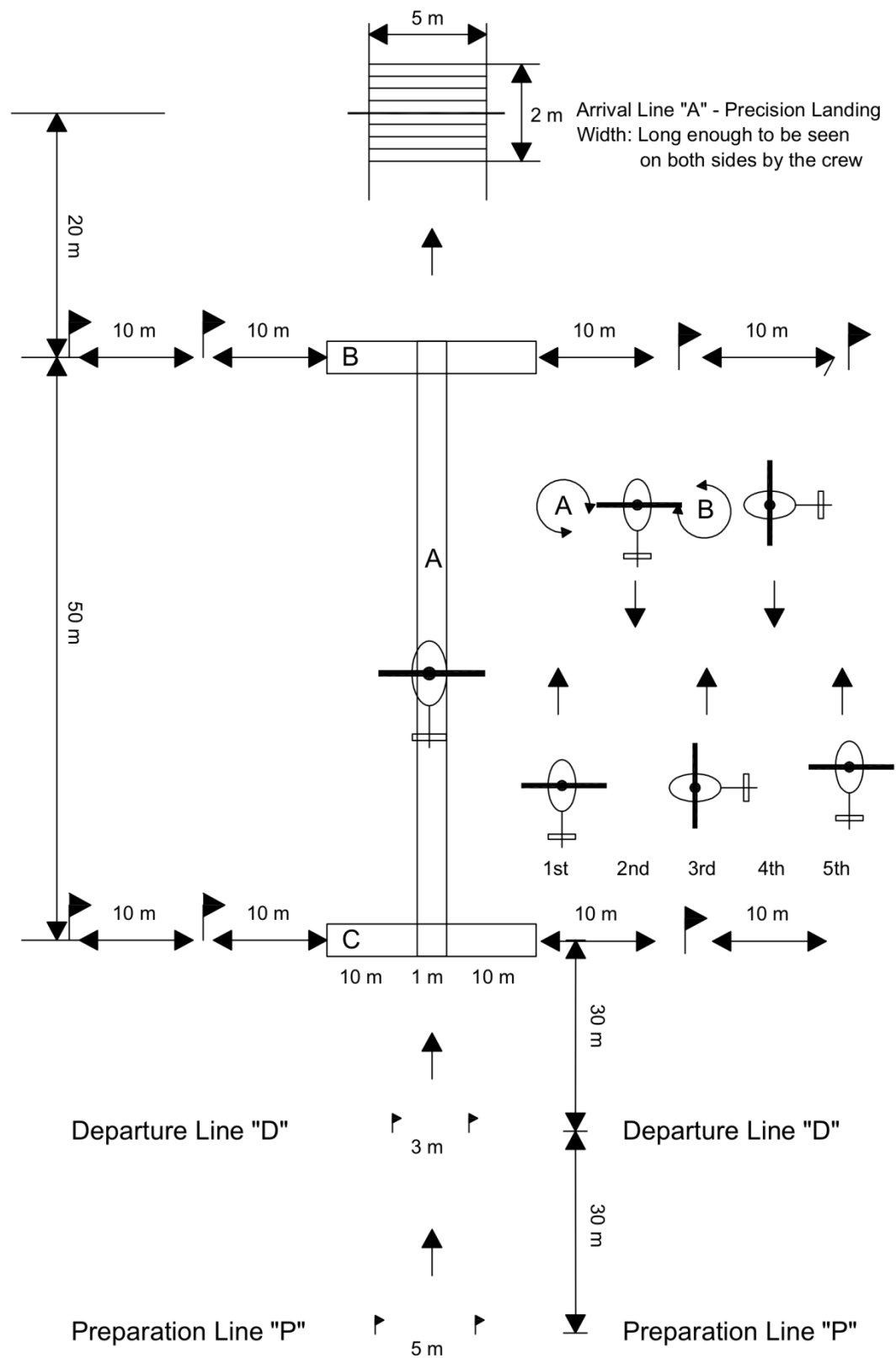
#### **5.2.11 Scoring:**

$300 - P = \text{score}$ . Score is determined by subtracting the penalty points from 300. The minimum score is zero.

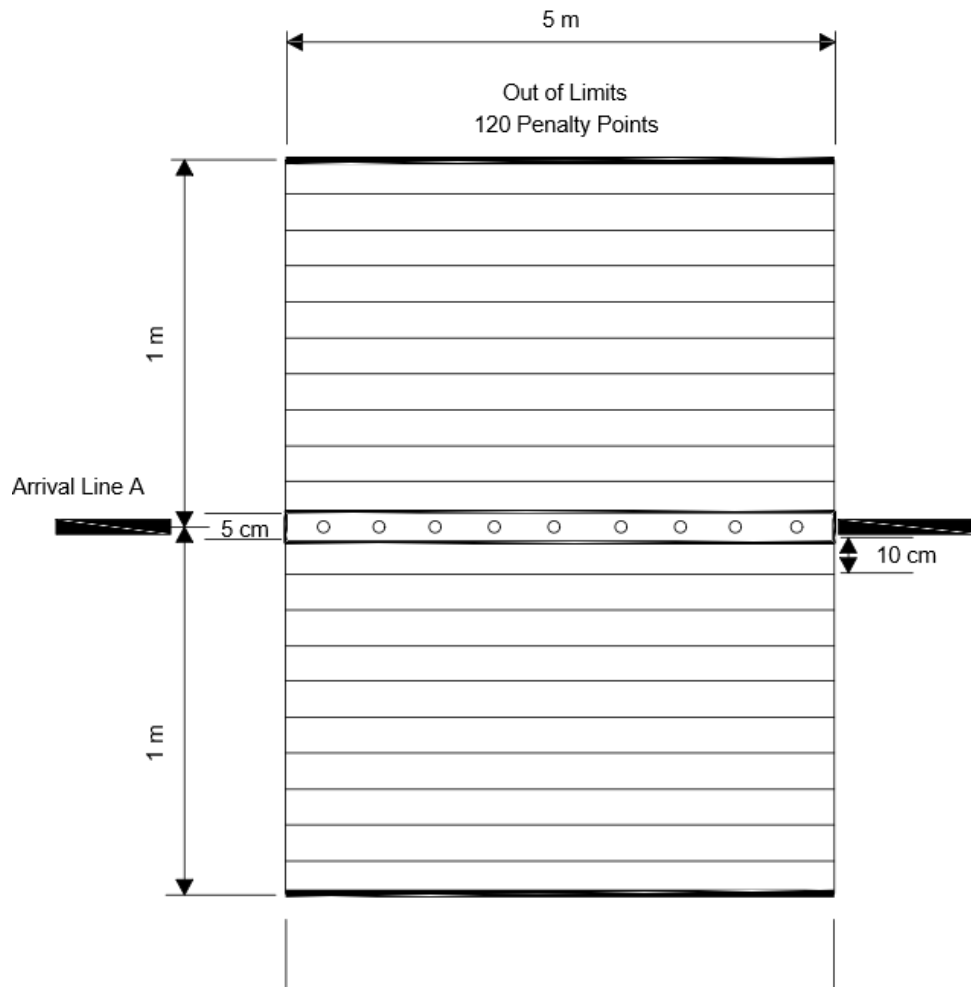
**SCORING - EVENT 5. 2 (Precision)**

| <b>INFRINGEMENT</b>   | <b>PENALTY POINTS</b> |
|---|-----------------------|
| False start, starting before the indication from the starter  | 10                    |
| Each tenth of a second above 2'15" of flight (135 seconds) between D and A Lines*   | 0.1                   |
| Violation of the corridor limits, of the short rope attachment per tenth of a second *  | 0.1                   |
| Each time the bottom weight is off the ground per tenth of a second *   | 0.1                   |
| Each time the top weight touches the ground per tenth of a second *   | 0.1                   |
| Duration of a hovering 360° turn shorter than 15 seconds ***  | 15                    |
| For omitting any of the manoeuvres  | 25                    |
| For each occurrence of a change of heading exceeding 30 degrees   | 10                    |
| Landing scale **  | 0–120                 |
| Double Landing (touching the ground with any part of the landing gear then lifting off and landing again,)  | 25                    |
| Slide Landing (visible and measurable forward motion or turn of the fuselage/skids/wheels - after first ground contact)   | 25                    |
| * Rounded to the nearest tenth of a second as in Para 13.15 of Chapter 2.   |                       |
| ** The distance of each skid from the nearest limit of the 5 cm arrival line is measured in cms and mms and added together using 0.1 penalty point per mm/ 1/10 <sup>th</sup> of a centimetre. 120 points is the maximum penalty. |                       |
| *** i.e. turn duration is 14.94 seconds or less   |                       |

ANNEX 1 - Event 5.2 - Precision Parcours  
NOT TO SCALE



## Annex 2 - Event 5.2 - Precision Landing Area





## **Event 5.3 Fender Rigging**

### **5.3.0 Event Description**

The event will be flown by one helicopter at a time. The event requires precise flying with a load (fender) and rope lengths in a sequence of 4, 6 and 8 metres. The direction of flight through each entrance gate and the exact flying time for this event is made public by the Event Director at the General Briefing.

### **5.3.1 General requirements**

The helicopter will be configured with a closed door on the pilot's side. Special window bubbles in cockpit doors are not permitted. Outside mirrors and technical aid such as radio altimeters are not permitted and such use will result in disqualification.

The crews will be correctly harnessed. The crew members are in the normal seating position, both legs are to be kept within the cockpit. During the general briefing competitors will receive their time at which the helicopters must be at the preparation line – P line.

### **5.3.2 Departure line**

Once the start position is free, the responsible judge will call the next competitor from the preparation line (P line) forward to the departure line. The helicopter must land in front of the departure line. An assistant judge will hand the crew member the fender with their ropes, with 3 red flags fixed in distances of 4, 6 and 8 metres from the top of the fender. There are 2 additional wooden balls as handling aids, each 20 cm above the flags. At the end of the rope a grip 20 cm above the 8m flag is fastened. The fender will remain outside the helicopter on the ground. The crew member will hold the rope at the respective handling aid. Upon an indication of ready from the pilot (or crew member), the judge will signal the start for the competitor by dropping a flag or use of a suitable indication system, such a system has to be demonstrated to the competitors at the general briefing.

### **5.3.3 Manoeuvring through the course**

The pilot will take off and after passing the D Gate (marked by flags), fly to the entrance gate. The crew member must manoeuvre the fender through the D Gate and the entrance gate and into the containers. The rope must be fully extended and free of knots prior to crossing the departure line (D line). The pilot will fly to the first area, and the crew member will place the fender into the first container.

The rope will remain held at the handling aid above the relevant red flag by the crew member, who must have both hands visible. Manoeuvring of the rope is allowed provided the rope is not lengthened or shortened. After placing the fender into the first container, the crew member will deploy the rope to the appropriate length for the second container and lift up the fender again from the container.

The pilot must proceed to the next container area. The crew member must manoeuvre the fender through the entrance gate and into the second container.

After placing the fender into the second container the crew member will deploy the rope to the length for third container and lift up the fender.

After the third container and letting go of the rope, the helicopter must leave the competition area by passing the exit gate.

#### **5.3.4 Timing**

The time starts when the fender crosses the departure line and is stopped when the crew member has let go of the last fender rope.

The exact time for the event will be given at the General Briefing.

#### **5.3.5 Variables**

There will be a mandatory draw at the general briefing for the position of containers 1, 2 and 3. The position of each container can vary within each 40m x 40m square.

#### **5.3.6 Tie breaker.**

If there is a tie for a place, the winning crew is determined by the most accurate flight time.

#### **5.3.7 Scoring**

300-P = Score. Score is determined by subtracting penalty points from 300. The minimum score achievable is zero.

### **Scoring Event No. 5.3 (Fender Rigging)**

| <b>Infringement</b>  | <b>Penalty points</b> |
|--|-----------------------|
| For each tenth of a second flown above or below total flight times:<br>0.1 point for each 0.1 sec  |                       |
| Touching the ground with the fender between D line and containers,<br>for each touch   | 10                    |
| Fender not put down into the container   | 50                    |
| Fender touching the external sides and top to the container (for each<br>infringement)   | 3                     |
| (no penalty when fender touches container top followed by placing in<br>the container)   |                       |
| Fender lost en route   | 300                   |
| Fender put into container with wrong rope length, rope shortened or<br>lengthened (for each infringement)  | 20                    |
| Crew not staying seated or harnessed   | 50                    |
| Rope not deployed to full metres or has knots when flying over the<br>D-line or lifting off from containers (for each infringement)  | 20                    |
| Overfly of the exit gate – helicopter nose is not first part of helicopter<br>to pass the marked gate or the helicopter does not pass the gate at all<br>for each infringement | 10                    |
| Fender not passing the D Gate  | 10                    |
| Missing the Entrance-Gate by missing or fender over poles<br>(for each infringement)   | 15 *                  |

\* Disqualification (black flag) if total time exceeds 5 minutes.

### **Measurements of competition area and equipment (see attached sketch):**

The competition area is composed of one course.

The competition course consists of:

Preparation line P line: two flags with 5 metres space between the two flags.

Departure line D line: two flags with 3 metres between the two flags, to be positioned 30 metres after the P lines.

Three Entrance Gates: Internal width 1 m, composed each of two 2 m high poles.

Three container squares: 40 x 40 metre square, clearly marked, the first to be positioned 20 metres after the D line.

Three containers: each to be positioned in a container square and filled with water or other heavy material to prevent moving.

Measurement of each container:

Height: less than 1.20 metre

Diameter of container opening: 48 cm +/- 2 cm

Measurement of fender:

Diameter of the fender is 30 centimetres

Height: 0.8 metres – 1 metre

Weight of fender (to be achieved by filling with sand or water): 5.5 - 6.5 kg

Length of rope 8.20 metres from the top of the fender to the grip.

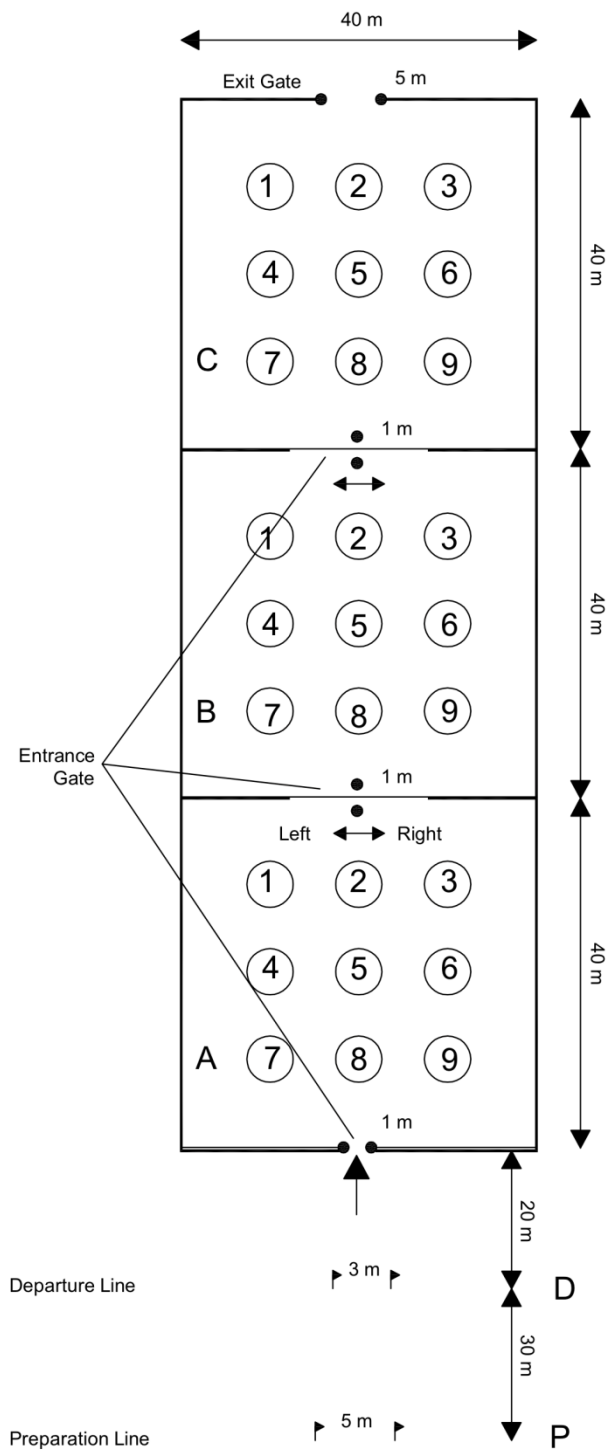
Red flags at distances of 4, 6 and 8 metres from the top of the fender.

Wooden balls, 20 cm above the red flags at 4 and 6 metres.

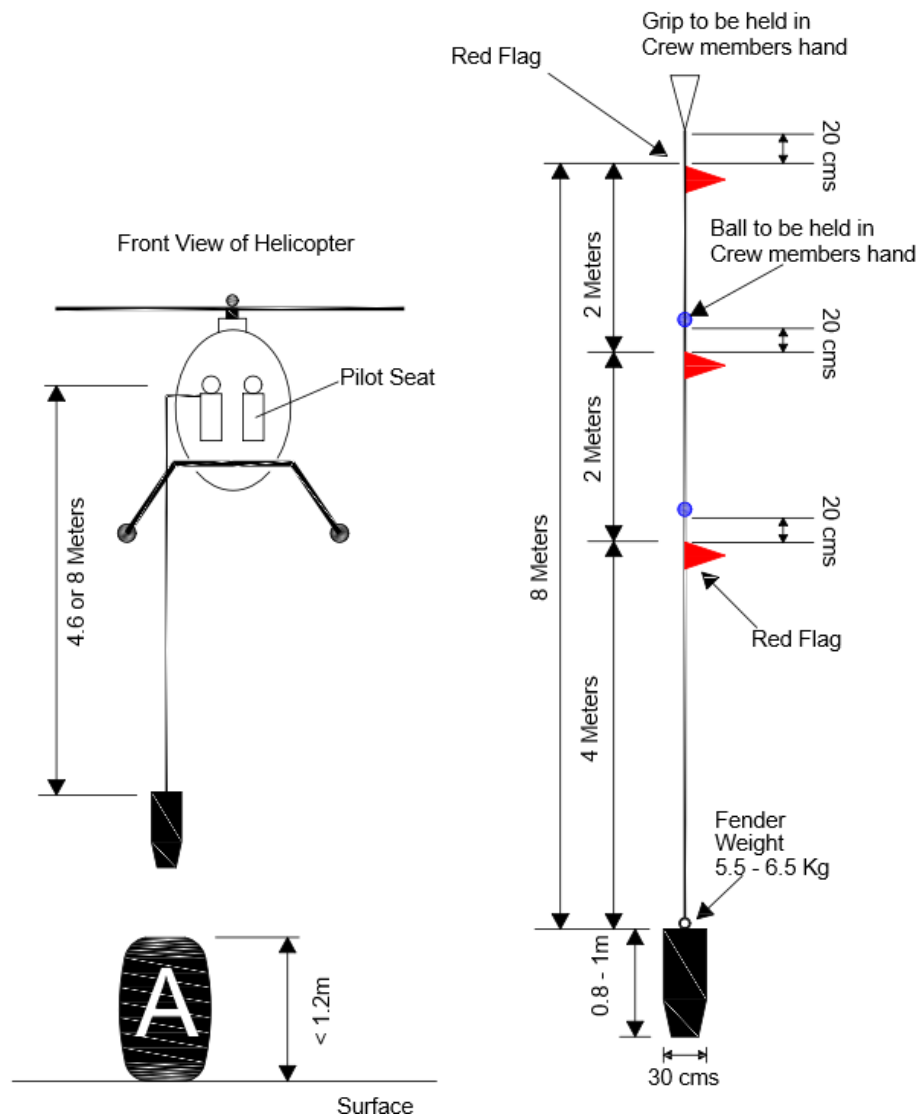
The containers and fenders can be made of any material or colour but must be uniform.



ANNEX 1 - Event 5.3 - Fender Rigging Parcours  
NOT TO SCALE



Annex 2 - Event 5.3 - Container and Length of Ropes  
NOT TO SCALE



## **Event 5.4 Slalom**

### **5.4.0 Event Description**

The Event will be flown by one helicopter at a time on the course.

The Event requires precise flying to manoeuvre a bucket filled with water, attached to a rope, twice through 6 numbered through several gates and setting it down finally on a table target. The helicopter will be configured with the pilot's door on and closed.

The exact flight time will be announced at the event briefing.

### **5.4.1 Preparation**

The helicopter will come to the preparation line and wait for the previous helicopter to finish.

At a signal from the judge, the helicopter will move to land on the departure line. The judge/assistant judge will hand over the rope with the attached bucket, empty of water. The future water level is determined by 9 lateral holes. The 9 holes will each be of 1cm diameter, and the centre of the holes will be 13 cm from the bottom of the bucket (see drawing Annex 3).

The rope will be held by the crew member, sitting on a seat on the side opposite to the pilot, in a normal position and wearing the safety harness correctly. The crew must remain seated. The rope will be placed on the floor of the cabin, either inside or outside the skids where fitted.

### **5.4.2 Start**

Upon an indication of ready from the pilot (or crew member), the judge will signal the start by dropping a flag. The helicopter will take off from the departure line with the bucket resting on the ground, the crew member holding the rope above the first red flag (3m). Time starts when the bucket passes the departure line "D".

The pilot will fly to the container filled with water. The crew member will fill the bucket with water. The rope may be lengthened over the container when filling the bucket with water.

Manoeuvring of the rope is allowed providing the rope is not shortened by any part of the body below the first red flag. After filling the bucket with water, the pilot will increase altitude and the crew member will deploy the 5-metre rope. The pilot will fly to the first gate and the rope will remain held by the crew member by the grip until the bucket is placed on the table. Both hands must be visible.

### **5.4.3 Course and Gates**

The 6 numbered gates will be placed as per Annex 1 and the gates will be flown consecutively from 1 to 6 and back to 1 in reverse order. The direction of flight through each gate and the exact position of the gates 5 and 6 will be drawn by the Chief Judge at the general briefing. The choices are listed in 5.4.7. Arrows will be marked on ground.

To correctly pass a gate, the top of the bucket must pass below the top of the poles. If the bucket misses the gate, it must be taken back around the outside of the poles before another attempt is made.

Multiple opportunities to pass a gate correctly will be allowed. The judge will score correct or incorrect gate passage when the bucket is flown to the next gate.

#### **5.4.4 Exit and Table**

After passing Gate 1 the second time, the rope will remain held by the crew member at the grip at its end. Manoeuvring of the rope is allowed provided the rope is not shortened by any part of the body below the upper flag. Both crew members' hands must be visible.

The bucket must be put down within or as close as possible to the 22cm centre target, in one attempt, then the rope must be dropped.

#### **5.4.5 Timing**

The time starts when the bucket crosses the departure line and stops when the rope is released over the table.

#### **5.4.6 Measurements**

Exiting the centre target by the outer edge of the bucket will be penalised, 0.1 point per mm.

The water left in the bucket will be measured after the competitor has completed the course. The measuring will be done on the table and the table wiped dry after the bucket is removed. Any difference of water level between departure and table will result in penalty points.

#### **5.4.7 Variables**

There will be different gate directions determined by the Chief Judge. The reference of Up, Down, Left or Right refer to the direction of flight through each gate with reference to Annex 1 with Up being the top of the page.

1. Gate 1 is always flown "Up" first and "Down" second time.
2. Gate 2, 3 and 4 "Left" or "Right" for both flights through.
3. Gate 5 and 6 "Up" or "Down" with exception of gate 6, which will be flown through only once.
4. The position of gates 5 and 6 can vary on their lines within the 30 metres range.

**5.4.8 Tie Breaker**

If there is a tie for a place, the winning crew is determined by the shortest flight time.

**5.4.9 Scoring**

$300 - P = \text{Score}$ . Score is determined by subtracting the penalty points from 300. The minimum score achievable is zero.

**Scoring Event No. 5.4 (Slalom)**

| <b>INFRINGEMENT</b>  | <b>PENALTY POINTS</b> |
|--|-----------------------|
| Passing a gate in the wrong order or different direction                       | 10                    |
| Failing a gate by missing or bucket over poles                                 | 10                    |
| Bucket exiting the centre target of the table per mm                           | 0.1                   |
| The bucket exiting the designated area 185 m x 50 m                            | 10                    |
| Water level – per tenth of centimetre missing *                                | 0.1                   |
| Each tenth of a second in excess of 135 seconds **                             | 0.1                   |
| Placing the bucket outside the target table *                                  | 80                    |
| Losing the bucket during the course  | 300                   |
| More than one attempt to put the bucket down, per try                          | 3                     |
| Crew not staying seated or fastened (both hands and legs not visible)          | 50                    |
| Rope shortened, has knots or handled below red flag<br>(for each infringement) | 30                    |

\* If the bucket falls from table or lands on the ground, any water left in it will be measured and will incur normal penalties.

\*\* Disqualification (black flag) if total time exceeds 4 minutes.

**Measurements of competition area and equipment (see attached Annexes)**

185 x 50 metres rectangular competition area, (see drawing Annex 1).

Six gates, internal width 1 m, each composed of two 2 m high poles (see drawing Annex 2).

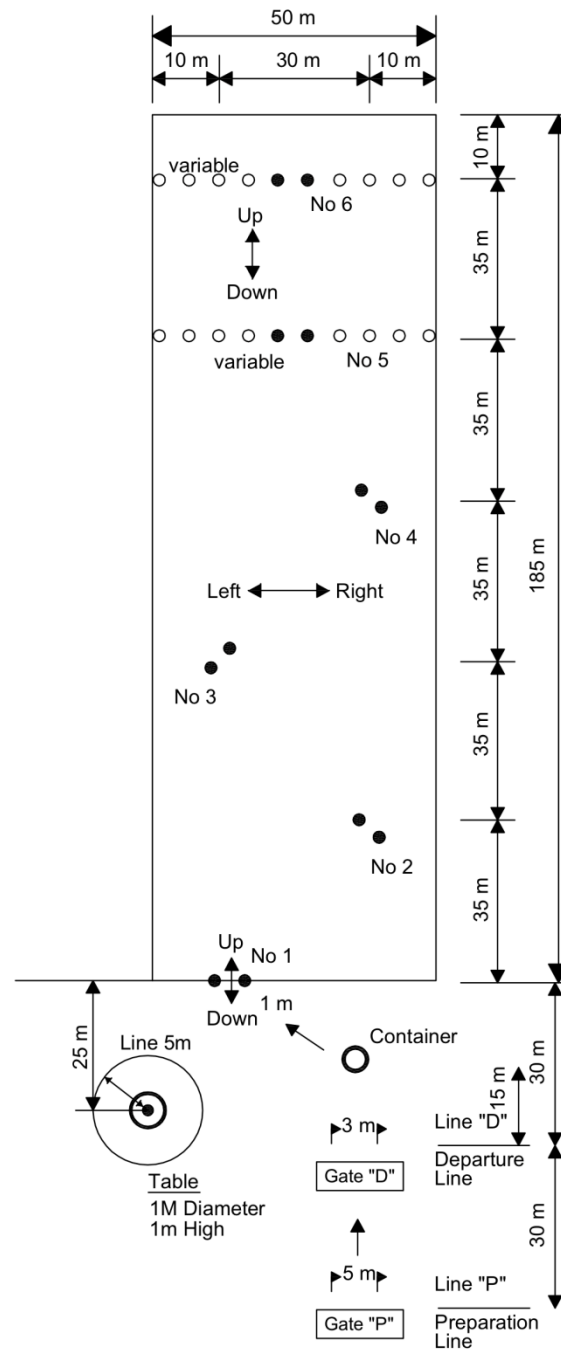
One round table, 1 m diameter and 1 m high. The centre circle with a diameter of 22 cms, painted in black colour. Second circle with a diameter of 60 cms, painted in white colour. The remaining surface of the table is painted red. The table surface must be smooth with no holes.

One rope, equipped with 2 red flags, first 3 m high and the second at 5 m high.  
20 cm over 5 m flag and a grip at its end (see drawing Annex 3).

One bucket (see drawing, Annex 3) of break proof material and cylindrical form,  
containing 4 litres +/- 2 % with a maximum total weight of 7 kg.

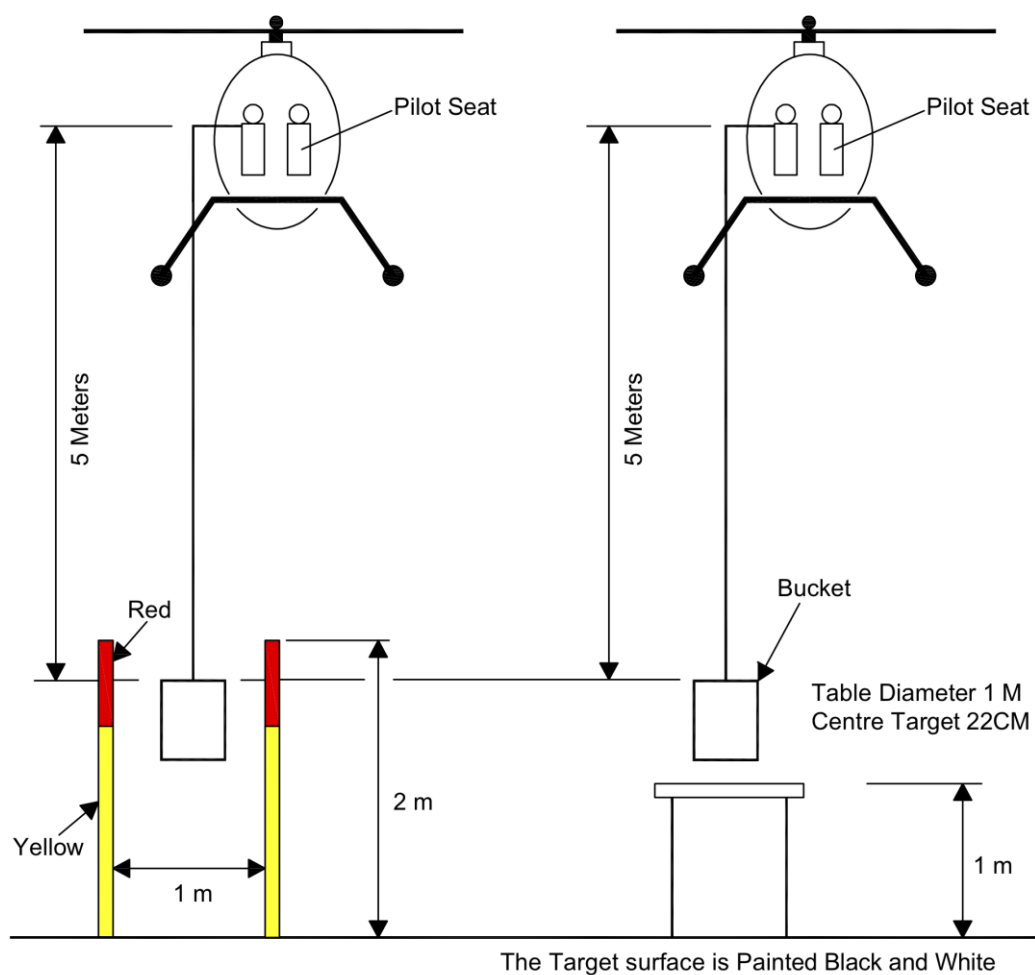
One container, height 80cm to 100cm, approx 200 litres in volume, 55cms to  
70cms in diameter filled with water up to a level of 10cms from the top of the  
container. The container must have a marker 10cms from the top inside the  
container to indicate correct water level.

ANNEX 1 - EVENT 5.4 - SLALOM COURSE  
NOT TO SCALE



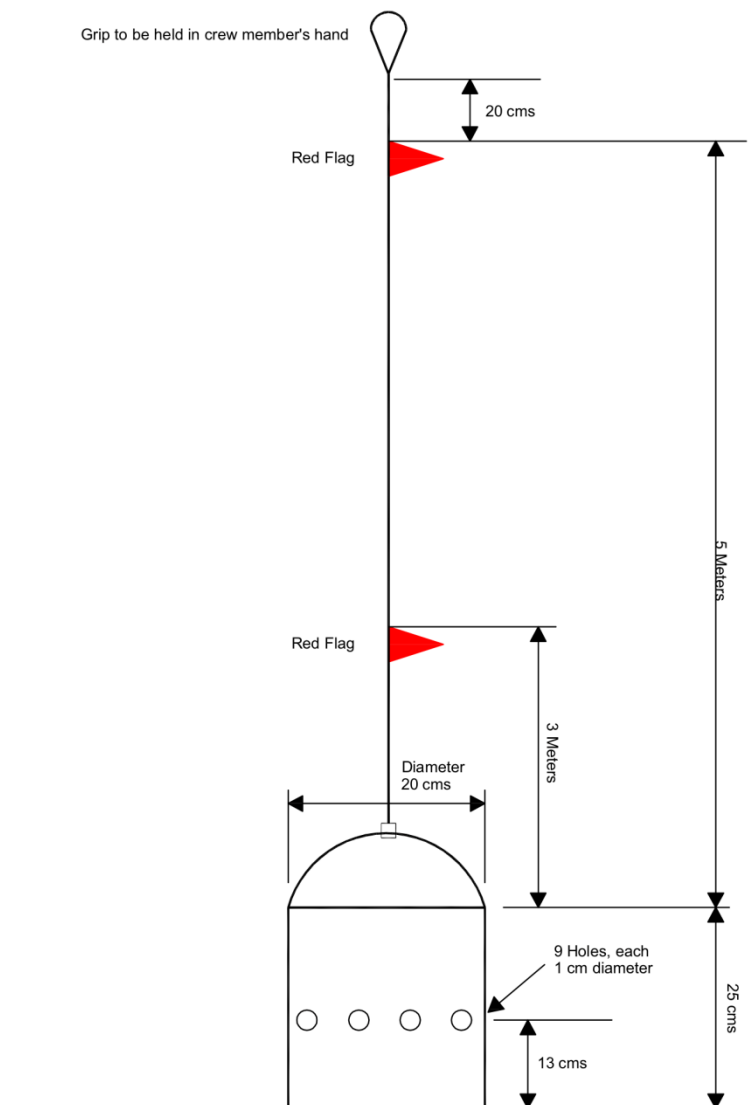
Annex 2 Event 5.4 Poles and Table  
NOT TO SCALE

Front View of Helicopter





ANNEX 3 - Event 5.4 - Rope Equipment and Bucket  
NOT TO SCALE



## Event 5.5 Individual Freestyle

- 5.5.0 The aim of the non-obligatory free style event will be to demonstrate the top level of the helicopter manoeuvrability and to display the highest level of pilots' skill.
- 5.5.1 Any type of helicopter may be used but all proposed manoeuvres will not exceed the helicopter limitations contained in its Flight Manual and in the C of A and in no way decrease the level of flight safety.
- 5.5.2 Competitors may make use of smoke and/or music to enhance their display.
- 5.5.3 Competitors will compile and provide a brief and accurate description to their set of manoeuvres to be submitted to the judging panel at least 48 hours before the event is scheduled to start.
- 5.5.4 The assessment of proposed manoeuvres will be made by the judging panel and the competitor will be informed of possible objections not later than 24 hours before the event starts. Competitors may be required to eliminate or alter any manoeuvre considered as unsafe by the Judges.
- 5.5.5 A briefing will be held prior to the event.
- 5.5.6 Each flight will be a maximum of 4 minutes and not less than 3 minutes 45 seconds.
- 5.5.7 The Freestyle event is open to any pilot or crew who paid the entry fee irrespective of whether they participated in events 1 - 4.
- 5.5.8 The Event will be flown within the display box, which is a defined area of **600 metres** by **600 metres** square marked by four edge panels and a centre square and below a height of **300 metres/1000 feet** above ground level. This will be clearly marked and displayed on the information board and published at the general briefing.
- 5.5.9 Each edge panel to be 5 metre long and 1 metre wide. The centre square with 5 metre sides.
- 5.5.10 Judges will be placed at each corner to record infringements of the display box. Two judges will be available for timing purposes.
- 5.5.11 The Competitor may start, on the ground, anywhere within the display box.
- 5.5.12 Timing will commence from lift-off.

5.5.13 The competitor will finish, on the ground, in the centre square at the conclusion of his 4 minute program. Timing will finish at touch down of the helicopter in accordance with the submitted briefing.

5.5.14 Skilled judges will be selected by the Chief Judge from the panel of judges and can include FAI CIG Delegates, but exclude Jury members.

#### **SCORING\* - EVENT No. 5 (INDIVIDUAL FREESTYLE)**

|  |      |
|--|------|
| Degree of Program difficulty   | 0-70 |
| Flying technique / skill   | 0-70 |
| General Impressions  | 0-60 |
| Infringement of box edge. Penalty/ each violation  | 20   |
| Flight above audience  | DQ   |
| For the duration of performance longer than 4 minutes/240 seconds or shorter than 3 minutes 45 seconds/225 seconds - each second over or under penalty | 1    |

- \* The highest and lowest scores will be eliminated. Of the remaining scores the arithmetic mean will be calculated, from which the penalty points will be subtracted.

## **World and Continental Helicopter Championships**

### **Chapter 6 Additional Events**

#### **Event 6.1      FAI World Air Games**

#### **Rules and Regulations for Helicopters**

##### **Table of Contents**

##### **Chapter 1 - General Rules and Regulations**

1. Definition of classes and types of helicopters participating
2. Minimum and maximum of competitors and level of experience required
3. Method of selection
4. Documents required for athletes, aircrafts and equipment
5. Composition of panel of judges and jury
6. Competition tasks, scoring and elimination of athletes
7. Complaints and protests

##### **Chapter 2 - Event Rules**

1. Parallel Slalom - rules, scoring and penalties
2. Parallel Fender Rigging - rules, scoring and penalties

#### **Event 6.2      Reserved for future use**

#### **Event 6.3      World Helicopter Cup**

##### **6.3.1   Slalom Heli-Race - rules, scoring and penalties**

##### **6.3.2   Fender Heli-Race - rules, scoring and penalties**

## EVENT 6.1

### Chapter 1

#### General Rules and Regulations

##### 1. Types of helicopters and classes

There is no differentiation into classes. Helicopters of any type with sufficient characteristics to execute the World Air Games Events will be allowed to compete. A crew consists of 2 persons.

##### 2. Minimum and maximum of competitors and level of experience

There should be a minimum of 8 crews and a maximum of 16 crews to compete for the title of "World Air Games Helicopter Champion". The crews should have been placed in the upper third at the last 2 Helicopter World Championships and/or 3 National Championships.

##### 3. Method of selection

Each country having taken part in any of the last 3 World Helicopter Championships or similarly FAI Category 2 Events has the right to submit 3 crews and 2 judges to the CIG Bureau for selection.

The nomination of crews must be approved by the respective NAC. The selection process will be carried out during special CIG Bureau Meeting.

##### 4. Documents required for athletes and helicopters, equipment

**Pilots** must be in the possession of a valid Pilots Licence complete with Medical Certificate and a FAI Sporting Licence.

For every competing helicopter must be produced to the LOC a valid Certificate of Airworthiness or equivalent document and a Certificate of Registration issued by an appropriate authority.

Each competing helicopter must comply with its own National Flight Regulations and must be equipped with a VHF radio and normal standard equipment.

##### 5. Composition of panel of judges and jury

The International Board of Judges consists of 10 FAI – CIG International Judges, including a Chief Judge and additional assistant judges appointed by the LOC.

The jury is represented by one person only and will be appointed by CIG Bureau.

##### 6. Competition tasks, scoring and elimination of crews

Helicopter events will be organised as a qualifying contest.

All competitors will be required to perform the events Parallel Slalom and Parallel Fender Rigging at each stage of the competition.

Scoring is determined by subtracting penalty points from 300 as laid down in the infringement lists of each event.

The contest starts with a qualification (preliminary heat). All participating crews will be randomly combined into pairs for executing the both parallel events.

After the qualification heats the best 8 crews, having the highest sum of points (both events added up) will be qualified for the further competition.

For the quarter finals these 8 crews will be combined into 4 pairs as follows:

The crew placed 1<sup>st</sup> with the crew placed 5<sup>th</sup>, down to the crew placed 4<sup>th</sup> with the crew placed 8<sup>th</sup>.

The 4 crews having highest sum of points (added up both events) out of quarter finals are qualified for the semi-final.

The crews will be combined into pairs as follows: the crew placed first with the crew placed 4<sup>th</sup> and the crew placed 2<sup>nd</sup> with the 3<sup>rd</sup>.

The two crews having highest sum of points from semi-final heats will contest for the title of World Air Games Helicopter Champion in the final heats.

The Champion is determined by the highest number of points obtained in both events of the final.

## **7. Complaints and protests**

Complaints or protests are only possible against an issue which affects the competitor himself and have no effect to the course of the competition.

Complaints or protests which effect results must be forwarded by the Head of National Delegation (Point 3.1 General Rules FAI World Air Games) to the Chief Judge within 30 minutes after publication.

## Chapter 2

### World Air Games Events

#### Event 6.1.1 - Parallel Slalom

1. This event is identical to Parallel Slalom event as described in Chapter 5 Event 5.4 with the exception of scoring.

#### 2. SCORING - EVENT NO. 6.1.1 (PARALLEL SLALOM)

| INFRINGEMENT   | PENALTY |
|--|---------|
| Departure before starting signal is given                              | 20      |
| Passing a gate in the wrong order or different direction               | 20      |
| Failing a gate by missing or bucket over poles                         | 20      |
| Each tenth of a second in excess of 90 seconds *                       | 0.1     |
| Placing the bucket outside the 30 cm target on table                   | 20      |
| Placing the bucket outside the 60 cm target on table                   | 80      |
| Losing the bucket during the course                                    | 300     |
| Rope not deployed before the 5 metre circle around the table           | 20      |
| Crew not staying seated or fastened (both hands and legs not visible)  | 80      |
| Rope shortened, has knots or handled below red flag (per infringement) | 80      |
| * Black flag if total time exceeds 4 minutes.                          |         |

#### Event 6.1.2 – Parallel Fender Rigging

1. This event is identical with Parallel Fender Rigging event as described in Chapter 5 Event 5.3 with the exception of scoring

#### 2. Scoring Event No. 2.2 ( Parallel Fender Rigging )

| INFRINGEMENT   | PENALTY |
|--|---------|
| Departure before starting signal is given  | 20      |
| For each tenth of a second flown over total times limits   | 0.1 *   |
| Touching the ground with the fender between D line and containers  |         |
| For each touch   | 20      |
| Each fender not dropped into the container or lost en route  | 80      |
| Crew not staying seated or harnessed   | 80      |
| Rope shortened, or has knots, or handled below the ball (for each infringement)  | 80      |
| Rope not deployed to full metres or has knots when flying over the D line or lifting off from containers (for each infringement)   | 20      |
| Overfly of the exit gate – helicopter nose is not first part of helicopter to pass the marked gate or the helicopter does not pass the gate at all for each infringement | 20      |
| Fender not passing the D Gate  | 20      |
| Missing the entrance gate by missing or fender over poles (for each infringement)  | 20      |

\* Black flag if total time exceeds 3 minutes.

**6.2            RESERVED FOR FUTURE USE.**



## **6.3 Heli Races**

### **General Event Regulations**

**The general event regulations apply to the Slalom (6.3.1) and Fender (6.3.2) Heli-Races.**

#### **1. Participants and classes**

A number of crews per country are not limited.

Crews would only participate in the General or Masters Class.

At least four crews for each class must enter the competition for a World Cup stage to be valid. Crews would start in general class on their first attendance at HWC but can compete in master class if they wish to do so.

Any crew from any country may also make a decision to perform in masters class. This information should be announced not later than 1 month before the 1<sup>st</sup> WHC stage starts and should be sent to CIG Bureau and to the Organisers of WHC stages.

The basis for class selection would be the results list in Master Class for HWC 2018; crews placed 1st - 16th master class; crews 17th onwards general class.

Annual changes in class: according to the overall results of HWC 2019, the first three crews overall in General Class move up to Masters Class and the last three crews from Master Class revert to general class for HWC 2020.

All the other participating crews get their ranking in both classes - Masters and General - as described in item 7.

#### **2. Types of helicopters**

There is no differentiation in classes. Any helicopter which can complete the tasks with a valid Certificate of Airworthiness and complies with the requirements of the host country may compete. A crew consists of two people.

The following must be adhered to:

- a) Special bubble windows in the cockpit may not be fitted
- b) Outside mirrors and technical aids such as radio altimeters are not permitted. Any use will result in disqualification
- c) The competition is flown with the co-pilots door removed.
- d) Crews must only use manufacturer's standard seating harnesses in accordance with manufacturer's instructions.
- e) Unless specifically required by the flight manual, additional ballast or alterations to the C of G should not be made by additional weights or ballast.

#### **3. Qualifying**

Slalom and Fender Heli-Race is a play-off event. There should be a minimum of 4 crews to compete for the title of "Slalom or Fender Heli-Race Champion" in both classes.

The number of flights for each pair of crews may vary from 1 to 3 and will be published by the Event Director on the Registration day. It means that a pair of crews may compete for 1 victory (1 flight winner) or 2 victories (2 or 3 flights). Best of three, winner of two.

**4. Documents required**

Pilots must hold a valid pilots licence and a valid medical certificate from the issuing authority in their country.

Pilot and co-pilot must hold valid FAI Sporting Licences.  
Each aircraft must hold a valid certificate of airworthiness; a certificate of registration; a certificate of insurance including any competition/country specific requirements.

All documents must be in English or a language understood by the organiser.

**5. Helicopter insurance**

The organiser must be co-insured unless there is specific event insurance in place.

**6. Judges and Jury**

The International Board of Judges consists of a maximum of ten judges/assistant judges from each country, judges/assistant judges must be held on the FAI judge's database.

The jury is represented by one person and will be appointed by CIG for each stage.

**7. Competition tasks, elimination and scoring.**

**Competition & elimination**

All competing crews will be required to perform the same event at each stage of the competition.

If the crew can be permitted to stand on the skid or footboard, the Organiser should advise this 1 month in advance for each HWC stage.

All crews (both classes) participate in qualifying flights.

Running orders for the qualifying heats will be decided by a draw. A Rating or Seeding system can be used once established. Seeding or rating - description to follow.

A running order sheet will be compiled (See Annex 3).

In order to reduce competition time, the event organiser can make the decision for each pair to compete for 1 victory (1 flight) and for 2 victories (2 or 3 flights). The number of crews in each class should be taken in to consideration

For both classes

After qualifying, the best 16 or 8 crews (depending on the total number of competing crews in each class), will qualify for the final knockout.

Places in the finals are based on positions gained in the qualifying heats. (See Annex 4 (1-16 crews) and Annex 5 (1-8 crews)).

The results from 1 to 8 or 1 to 16 places after the finals go to the corresponding HWC Ranking. The other crews, starting from 9<sup>th</sup> or 17<sup>th</sup> place and lower (depending on the total number of competing crews in each class) get places and scores in the corresponding class HWC Ranking according to the Qualification results.

### **Scoring**

Scoring will be displayed either on a manual score board or electronic score board after each run.

If there is no scoreboard available, a manual system will be used. There will be 2 parallel courses marked by the flags of different colours. After each run/heat the Scoring Judge responsible for the winner's course will raise the flag of corresponding colour to show the crews and the public who is the winner of the run/heat.

Scoring is determined by summarising time points (0.1 point for 0.1 second) with penalty points as laid down in the fender and slalom infringement lists. The crew with the smallest number of points wins.

### **False starts**

In the event of a false start after both competitors have indicated readiness and both starter flags have been raised, the race will not be stopped. The timing will start from when the flags are dropped and the false start penalty will be applied.

### **Black flags**

A black flag will be shown to indicate disqualification to a competing crew for the following reasons:

- A flying time of more than 240 seconds
- Unsafe flying
- If the fender or bucket gets caught on the helicopter skid or wheel.

### **Competition and course equipment**

All equipment as listed in Annexes will be checked/scrutineered by the Chief Judge or his appointed representative.

## **8. Titles and awards**

### **A. Scoring**

The points for scoring and ranking in both classes are calculated according to the following chart. Places from 1 to 4 will be determined as a result of a knock-out competition. Places from 5 to the last will be determined as a sum of the best 2 results of each crew during the last phase of their competition (e.g. places from 5 to 8 - in 1/4-finals).

Crews who are not placed in the finals will be ranked according to their qualification places.

Points are awarded as follows for each place:

| Place | Points |
|-------|--------|
| 1     | 60     |
| 2     | 54     |
| 3     | 48     |
| 4     | 43     |
| 5     | 40     |
| 6     | 38     |
| 7     | 36     |
| 8     | 34     |
| 9     | 32     |
| 10    | 30     |
| 11    | 28     |

| Place | Points |
|-------|--------|
| 12    | 26     |
| 13    | 24     |
| 14    | 22     |
| 15    | 20     |
| 16    | 18     |
| 17    | 16     |
| 18    | 15     |
| 19    | 14     |
| 20    | 13     |
| 21    | 12     |
| 22    | 11     |

| Place | Points |
|-------|--------|
| 23    | 10     |
| 24    | 9      |
| 25    | 8      |
| 26    | 7      |
| 27    | 6      |
| 28    | 5      |
| 29    | 4      |
| 30    | 3      |
| 31    | 2      |
| 32    | 1      |

## **B. Awards - General**

All medals, diplomas and prizes shall be awarded at the end of the competition.

The titles to be awarded are as follows:

### Stage awards

- Event stage winner for Parallel Slalom Heli Race - World Cup Slalom Champions in Master Class
- Event stage winner for Parallel Fender Heli Race- World Cup Fender Champions in Master Class
- Event stage winner for Parallel Slalom Heli Race - World Cup Slalom Champions in General Class
- Event stage winner for Parallel Fender Heli Race - World Cup Fender Champions in General Class

Stage winners per discipline - gold, silver and bronze CIG FAI medals and CIG FAI Diplomas.

### **Annual awards**

#### Individual outright

- Overall winner Parallel Slalom Heli Race - Overall World Cup Slalom Champions in Master Class
- Overall winner Parallel Fender Heli Race - Overall World Cup Fender Champions in Master Class
- Overall winner (Slalom & Fender) - Overall World Cup Champions in Master Class
- Overall winner Parallel Slalom Heli Race - Overall World Cup Slalom Champions in General Class
- Overall winner Parallel Fender Heli Race - Overall World Cup Fender Champions in General Class
- Overall winner (Slalom & Fender) - Overall World Class Champions in General Class

Overall winners per discipline; FAI CIG gold, silver and bronze medals, FAI CIG diplomas and FAI CIG small cup for the winners.

Overall winners (slalom & fender); FAI CIG gold, silver and bronze medals, FAI CIG diplomas and FAI CIG big cups for winners (1st place)

### Nations Cup

- Nations Cup overall winner (Slalom & Fender) - Overall World Cup Champions in Master Class
- Nations Cup overall winner (Slalom & Fender) - Overall World Cup Champions in General Class

Nations Cup overall winners - FAI CIG gold, silver and bronze medals, FAI CIG diplomas and FAI CIG big cup (1st place).

### Determination of overall individuals and overall nations.

Individual Overall Event scores and places in both classes are determined in the end of the season when all HWC stages are finished.

Individual Overall Event score and corresponding place of each crew is a sum of 2 best scores in Event (Fender or Slalom) in any HWC stage.

Nations Cup score and corresponding place of each nation in both classes is determined as a sum of results (overall points) of best national crew. The Nations Cup can only be won by the overall winner in both classes.

### **D. Tie for a place in the Overall ranking**

If there is a tie for a place in Individual Overall in Event ranking (2 crews have equal points in the end of the season) the sum of the scores of each crew in 2 best flights in corresponding heats are compared (4 results of each crew are summarised). The crew/nation with the smallest score wins.

Example in the Event Overall:

|                       |             |            |              |
|-----------------------|-------------|------------|--------------|
| 1 <sup>st</sup> crew: | HWC Stage 1 | Stage 3    | TOTAL result |
| Place/Points          | 1/60        | 3/48       | <b>1/108</b> |
| Scores in 2 flights   | 49,0; 54,1  | 72,4; 68,0 | <b>243,5</b> |
| 2 <sup>nd</sup> crew: | HWC Stage 2 | Stage 3    |              |
| Place/Points          | 3/48        | 1/60       | <b>2/108</b> |
| Scores in 2 flights   | 78,0; 65,1  | 50,0; 55,0 | <b>248,1</b> |

The same procedure applies to HWC Overall scoring. The Nations Cup can only be won by the overall winner in both classes.

In HWC Individual Overall ranking the sum of the scores of each crew in 2 best flights in corresponding heats in both events are compared (8 results of each crew are summarised).

## **9. Complaints and protests**

All complaints and protests can only be immediately after the flight in question and before the next flight takes off.

## Annex 3

| Heat No | Call Sign | Pilot/Crew | Country | Time |
|---------|-----------|------------|---------|------|
| HEAT 1  |           |            |         |      |
| HEAT 1  |           |            |         |      |
| HEAT 2  |           |            |         |      |
| HEAT 2  |           |            |         |      |
| HEAT 3  |           |            |         |      |
| HEAT 3  |           |            |         |      |
| HEAT 4  |           |            |         |      |
| HEAT 4  |           |            |         |      |
| HEAT 5  |           |            |         |      |
| HEAT 5  |           |            |         |      |
| HEAT 6  |           |            |         |      |
| HEAT 6  |           |            |         |      |
| HEAT 7  |           |            |         |      |
| HEAT 7  |           |            |         |      |
| HEAT 8  |           |            |         |      |
| HEAT 8  |           |            |         |      |
| HEAT 9  |           |            |         |      |
| HEAT 9  |           |            |         |      |
| HEAT 10 |           |            |         |      |
| HEAT 10 |           |            |         |      |
| HEAT 11 |           |            |         |      |
| HEAT 11 |           |            |         |      |
| HEAT 12 |           |            |         |      |
| HEAT 12 |           |            |         |      |
| HEAT 13 |           |            |         |      |
| HEAT 13 |           |            |         |      |
| HEAT 14 |           |            |         |      |
| HEAT 14 |           |            |         |      |
| HEAT 15 |           |            |         |      |
| HEAT 15 |           |            |         |      |
| HEAT 16 |           |            |         |      |
| HEAT 16 |           |            |         |      |
| HEAT 17 |           |            |         |      |
| HEAT 17 |           |            |         |      |
| HEAT 18 |           |            |         |      |
| HEAT 18 |           |            |         |      |
| HEAT 19 |           |            |         |      |
| HEAT 19 |           |            |         |      |
| HEAT 20 |           |            |         |      |
| HEAT 20 |           |            |         |      |
| HEAT 21 |           |            |         |      |
| HEAT 21 |           |            |         |      |
| HEAT 22 |           |            |         |      |
| HEAT 22 |           |            |         |      |
| HEAT 23 |           |            |         |      |
| HEAT 23 |           |            |         |      |
| HEAT 24 |           |            |         |      |
| HEAT 24 |           |            |         |      |
| HEAT 25 |           |            |         |      |
| HEAT 25 |           |            |         |      |
| HEAT 26 |           |            |         |      |
| HEAT 26 |           |            |         |      |
| HEAT 27 |           |            |         |      |
| HEAT 27 |           |            |         |      |
| HEAT 28 |           |            |         |      |
| HEAT 28 |           |            |         |      |
| HEAT 29 |           |            |         |      |
| HEAT 29 |           |            |         |      |
| HEAT 30 |           |            |         |      |
| HEAT 30 |           |            |         |      |
| HEAT 31 |           |            |         |      |
| HEAT 31 |           |            |         |      |
| HEAT 32 |           |            |         |      |
| HEAT 32 |           |            |         |      |

## Annex 4

| FAI Helicopter Races - Finals Running Order From 16 |  |  |        |                        |        |                              |                |                           |  |
|---|--|--|--------|------------------------|--------|------------------------------|----------------|---------------------------|--|
|   | Numbers indicate Ranking from Qualifying Heats |  |        | Winners of Last 16     |        | Winner of each Quarter Final |                | Winner of each Semi Final |  |
|   | <b>LAST 16</b>                                 |  |        | <b>LAST 8</b>          |        |                              |                |                           |  |
| Gate 1  | 1  |  |        |                        |        |                              |                |                           |  |
| HEAT 1  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 9  |  | Gate 1 | 1                      |        |                              |                |                           |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        | <b>QUARTER FINAL 1</b> |        |                              |                |                           |  |
| Gate 1  | 7  |  | Gate 2 | 1                      |        |                              |                |                           |  |
| HEAT 2  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 15   |  |        |                        | Gate 1 | 1                            |                |                           |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        |                        |        | <b>SEMI FINAL 1</b>          |                |                           |  |
| Gate 1  | 5  |  |        |                        | Gate 2 | 1                            |                |                           |  |
| HEAT 3  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 13   |  | Gate 1 | 1                      |        |                              |                |                           |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        | <b>QUARTER FINAL 2</b> |        |                              |                |                           |  |
| Gate 1  | 3  |  | Gate 2 | 1                      |        |                              |                |                           |  |
| HEAT 4  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 11   |  |        |                        |        |                              | Gate 1         | 1                         |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        |                        |        |                              | <b>FINAL</b>   |                           |  |
| Gate 1  | 4  |  |        |                        |        |                              | Gate 2         | 1                         |  |
| HEAT 5  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 12   |  | Gate 1 | 1                      |        |                              |                |                           |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        | <b>QUARTER FINAL 3</b> |        |                              |                |                           |  |
| Gate 1  | 6  |  | Gate 2 | 1                      |        |                              |                |                           |  |
| HEAT 6  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 14   |  |        |                        | Gate 1 | 1                            |                |                           |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        |                        |        | <b>SEMI FINAL 2</b>          |                |                           |  |
| Gate 1  | 8  |  |        |                        | Gate 2 | 1                            |                |                           |  |
| HEAT 7  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 16   |  | Gate 1 | 1                      |        |                              | Gate 1         | 2                         |  |
|   |  |  |        |                        |        |                              |                |                           |  |
|   |  |  |        | <b>QUARTER FINAL 4</b> |        |                              | <b>3rd/4th</b> |                           |  |
| Gate 1  | 2  |  | Gate 2 | 1                      |        |                              | Gate 2         | 2                         |  |
| HEAT 8  |  |  |        |                        |        |                              |                |                           |  |
| Gate 2  | 10   |  |        |                        |        |                              |                |                           |  |

## Annex 5

| FAI Helicopter Races - Finals Running Order From 8 |                 |   |  |                              |              |                           |  |  |  |
|--|-----------------|---|--|------------------------------|--------------|---------------------------|--|--|--|
|  |                 |   | Numbers Indicate Ranking from Qualifying Heats | Winner of each Quarter Final |              | Winner of each Semi Final |  |  |  |
| QUALIFYING   |                 |   | LAST 8   |                              |              |                           |  |  |  |
|  | Gate 1          | 1 |  |                              |              |                           |  |  |  |
|  | QUARTER FINAL 1 |   |  |                              |              |                           |  |  |  |
|  | Gate 2          | 5 |  |                              |              |                           |  |  |  |
|  |                 |   |  |                              | Gate 1       | 1                         |  |  |  |
|  |                 |   |  |                              | SEMI FINAL 1 |                           |  |  |  |
|  |                 |   |  |                              | Gate 2       | 1                         |  |  |  |
|  | Gate 1          | 3 |  |                              |              |                           |  |  |  |
|  | QUARTER FINAL 2 |   |  |                              |              |                           |  |  |  |
|  | Gate 2          | 7 |  |                              |              |                           |  |  |  |
|  |                 |   |  |                              |              |                           |  |  |  |
|  |                 |   |  |                              | Gate 1       | 1                         |  |  |  |
|  |                 |   |  |                              | FINAL        |                           |  |  |  |
|  |                 |   |  |                              | Gate 2       | 1                         |  |  |  |
|  | Gate 1          | 4 |  |                              |              |                           |  |  |  |
|  | QUARTER FINAL 3 |   |  |                              |              |                           |  |  |  |
|  | Gate 2          | 8 |  |                              |              |                           |  |  |  |
|  |                 |   |  |                              | Gate 1       | 1                         |  |  |  |
|  |                 |   |  |                              | SEMI FINAL 2 |                           |  |  |  |
|  |                 |   |  |                              | Gate 2       | 1                         |  |  |  |
|  | Gate 1          | 2 |  |                              |              |                           |  |  |  |
|  | QUARTER FINAL 4 |   |  |                              |              |                           |  |  |  |
|  | Gate 2          | 6 |  |                              |              |                           |  |  |  |
|  |                 |   |  |                              | Gate 1       | 2                         |  |  |  |
|  |                 |   |  |                              | 3rd/4th      |                           |  |  |  |
|  |                 |   |  |                              | Gate 2       | 2                         |  |  |  |



## **6.3.1 Slalom Heli-Race**

### **Event 6.3.1 Parallel Slalom Heli-Race**

#### **6.3.1.1 Event Description:**

Two helicopters flying a bucket suspended on a rope with two handling lengths - 3m and 5m - on identical parallel courses consisting of a departure gate, a container full of water, six 2m x 1m gates and a target table.

Holding the bucket at the 3m rope length, the bucket is filled from the container with water. When the bucket is full, the rope length is extended to 5m and flown through gates 1 to 6 and back creating a course of 11 gates and then the bucket is placed on a 30cm table.

The competition comprises of qualifying rounds and finals until there are two helicopters left in the final.

#### **6.3.1.2 Flying the course**

##### **6.3.1.2.1 Preparation Line**

A start time will be given for the competition. It is the responsibility of each crew to observe the running order and be ready to present themselves at the preparation line when it becomes free.

##### **6.3.1.2.2 Departure Line**

Crews arrive at the Departure Lines of the Parallel courses. A judge/assistant judge will hand the co-pilots the buckets (See Annex 2).

The rope will be held by the crew member, sitting on the seat on the side opposite to the pilot, in a normal position and wearing the safety harness in line with the manufacturer's instructions. The crew must remain seated\*. The rope will be placed on the floor of the cabin, either inside or outside the skids where fitted with the bucket resting on the ground

After finishing the first flight both crews return to the Departure Lines and wait for a signal from the Scoring Team that will indicate who is the winner of the heat. (The signals of the scoring team will be demonstrated at the briefing.)

After finishing the second flight, both crews return to the Departure Lines and wait for a signal from the Scoring Team that will indicate who is the winner of the second flight. If the winner is the same as in the first flight, both crews, upon a signal from the judge leave the course to return to the parking positions.

If the winners in first and second flights are different the crews will prepare for the final third flight to determine the winner of the heat.

After finishing the third flight both crews return to the Departure Lines and wait for a signal of the Scoring Team that will indicate who is the winner of the heat and will continue the competition on the next stage. Both crews leave the course to return to the parking positions.

#### 6.3.1.2.3 Start

Upon an indication of readiness from the pilots (or crew members), the judge will signal the start by dropping a flag or use of a suitable indication system (such a system will be demonstrated at the briefing).

#### 6.3.1.2.4 Manoeuvring through the course

The helicopters will take off from the Departure Line, lifting the bucket off the ground, the crew members holding the rope above the 3 metre flag.

The pilot will fly to the container filled with water. The co-pilot must fill the bucket with water and the helicopter will climb as the co-pilot extends the rope to 5m before flying to the first gate. To correctly pass a gate, the top of the bucket must pass below the top of the poles. Multiple opportunities to pass a gate correctly will not be allowed.

The rope will remain held at the handling aid over the red flag by the crew member, who must have both hands visible. Manoeuvring of the rope is allowed provided the rope is not shortened by any part of the body below the 5 metre red flag.

The numbered gates will be placed as per Annex 1 and the gates will be flown consecutively from gate 1 to gate 6 and back to gate 1 in reverse order.

After passing gate 1 for the second time, the pilot will fly to the table. The bucket must be put down on the table and the rope dropped. Multiple tries are not penalised.

The gate directions and position of gate 5 and 6 will be decided by a draw at the briefing:

The reference of "Up", "Down", "Left" or "Right" refer to the direction of flight through each gate with reference to Annex 1 with "Up" being at the top of the page. All variables are equal for both courses.

Variables:

1. Gate 1 is always flown "Up" first and "Down" second time
2. Gate 2, 3 and 4 are "Left" or "Right" for first and second time
3. Gate 5 is "Up" or "Down" first and second time
4. Gate 6 is "Up" or "Down", only flown once
5. The position of Gates 5 and 6 can vary along a 30 metre line in one of five positions marked A - E. Positions A - E are at 7.5 metre centres. (See Annex 1).

The water left in the bucket will be measured after the competitor has completed the course. A water level below 9cms will incur a penalty. The measuring is done on the table and the table wiped dry after it is removed.

If the bucket is lost on the course, the timing is stopped and recorded from when the bucket is lost. Penalties will be accrued for all remaining gates, missing the table, lack of water and added to the time.

### 6.3.1.3 Timing and Judging

#### 6.3.1.3.1 Timing:

The time starts when the start signal is given at the Departure Line and stops when the rope is released over the table. The time is measured in minutes, seconds and tenth of seconds according to item 13.15 FAI Sporting Code, Section 9, Chapter 8, Rules and Regulations.

#### 6.3.1.3.2 Judging and scoring will be performed immediately by raising of red flags in the case of penalty or by electronic methods of judging. Judging systems will be demonstrated at the briefing.

See guidance information in annexes 6, 7, 8, 9 and 10 for organisers.

#### 6.3.1.4 Tie breaker

If there is a tie for a place, the winning crew is determined by the shortest flight time.

#### 6.3.1.5 Scoring

Scoring is determined by summarising time points (0.1 points for 0.1 second) with penalty points as laid down in the infringement list. The crew with the smaller number of points wins.

### Penalties are cumulative.

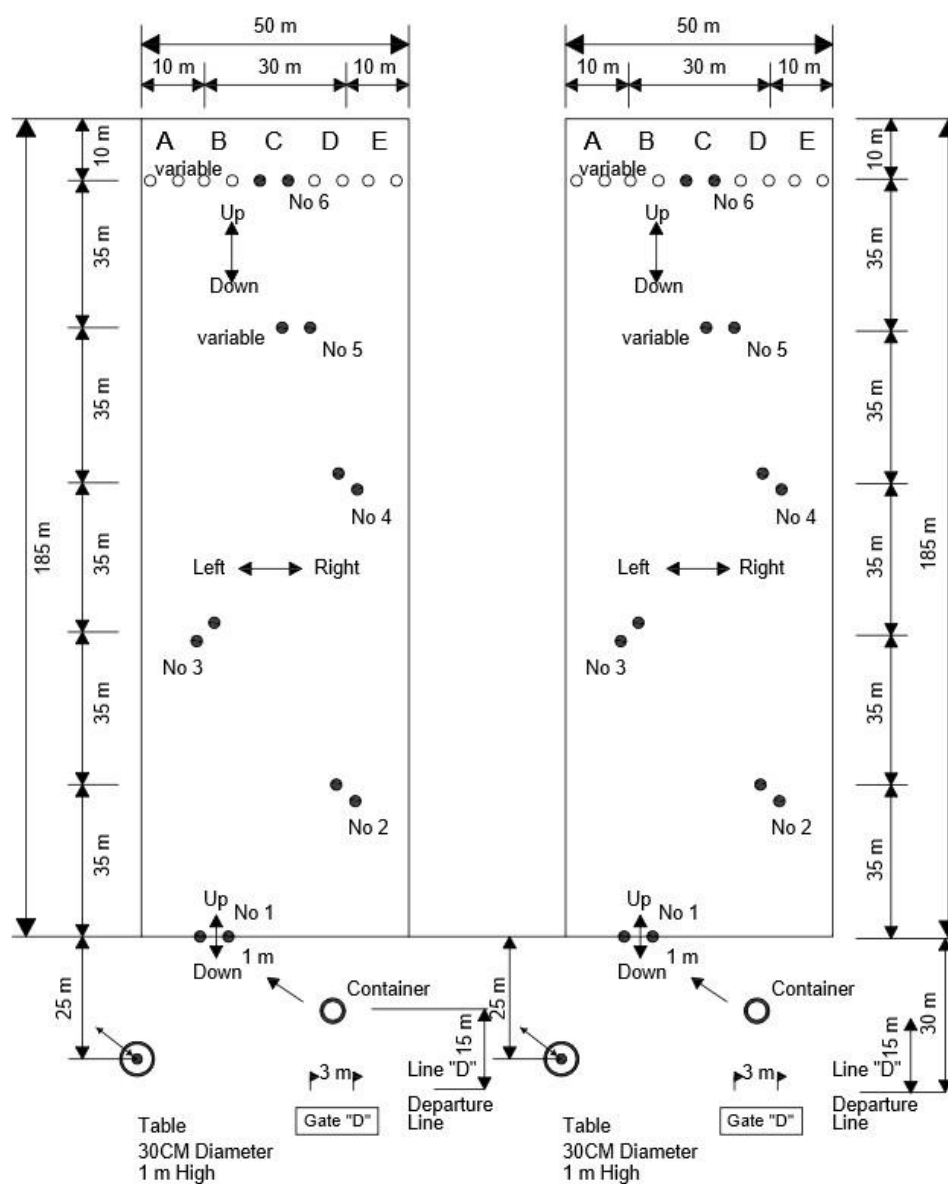
| Infringement   | Penalty |
|--|---------|
| False start (before the starters signal)   | 10      |
| Bucket touches the ground (per touch)  | 10      |
| Missing a gate by passing a gate in the wrong order, not attempting the gate or passing in a wrong direction   | 10      |
| Failing a gate by missing or bucket over poles   | 10      |
| Water level less than 9cms   | 10      |
| Rope shortened, has knots or handled below either red flag during the flight (per infringement)  | 10      |
| Bucket exiting the designated area 185 x 50m   | 10      |
| Placing the bucket outside the target table<br><i>*if the bucket falls from the table or lands on the ground, any water left will not be measured</i>  | 100     |
| Crews not staying seated or correctly harnessed (both hands and legs not visible)<br><i>**if the crew members are not permitted to stand with one foot on the footboard according to 6.3.2.3.2</i> | 100     |

## Measurements of competition area and equipment (see Annex 1).

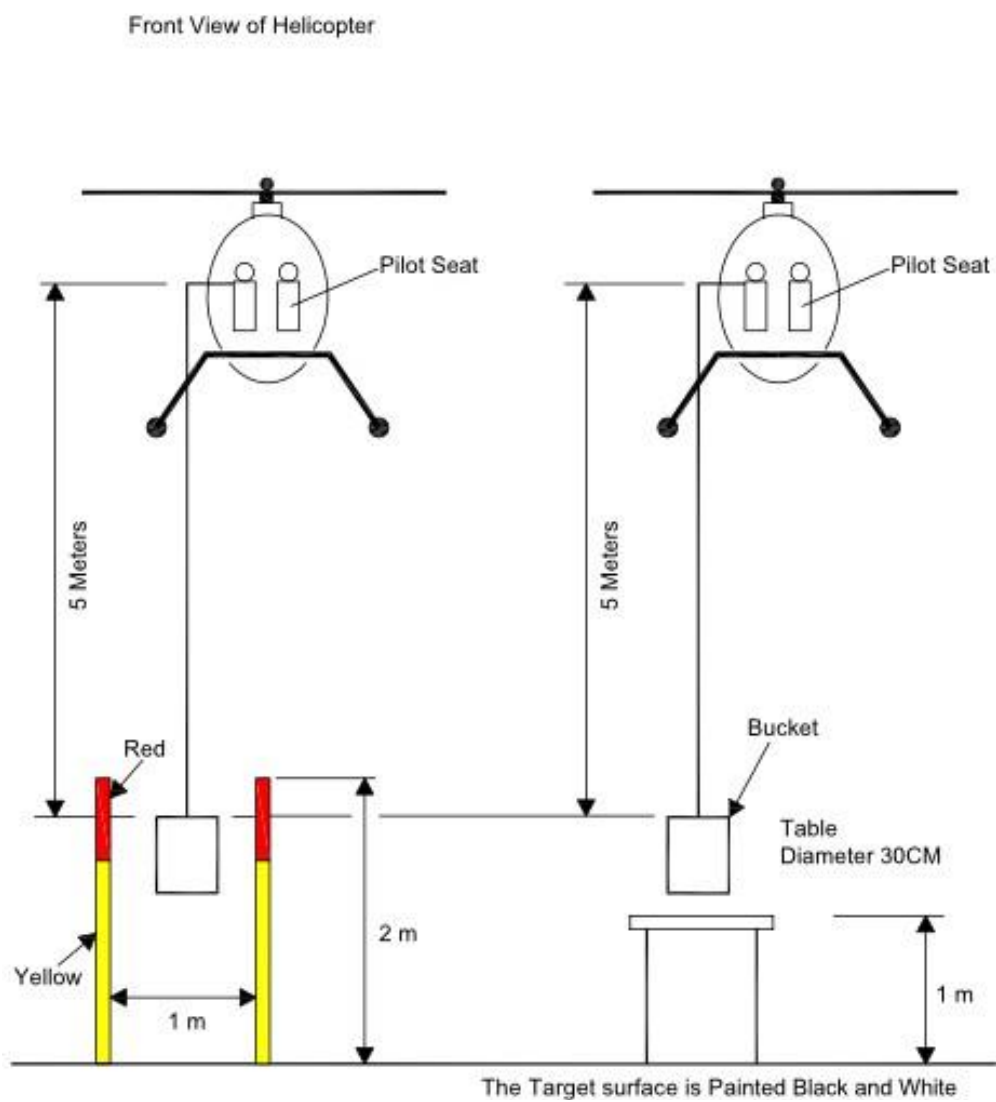
### 6.3.1.6. Measurements of competition area and equipment (see attached Annexes):

| Item                          | Specification   |
|-------------------------------|---|
| Competition area              | 185 x 130 m, including 2 courses (see Annex 1)  |
| Twelve gates                  | Internal width 1metre, each composed of two 2 metre high poles (see Annex 1A)   |
| Two round or square tables    | 30cm diameter and 1 metre high (see Annex 1A)   |
| Two containers for water      | Height 80cms to 100cms, approx 200 litres in volume, 60 to 70cms in diameter. Filled with water to a level of 10cms from the top of the container                   |
| Two buckets (with the ropes)  | Stainless steel bucket, of cylindrical form containing 4 litres of water +/- 2% with a maximum weight of 7kg (see Annex 2) with nine holes.                         |
| Rope                          | Equipped with 2 red flags; the first at a height of 3 metres, the second at a height of 5 metres. 20cms over 5m flag - a grip at the end of the rope (see Annex 2). |
| Preparation & Departure Lines | May be marked with the flags only, with 5 metre and 3 metre space between them respectively.  |

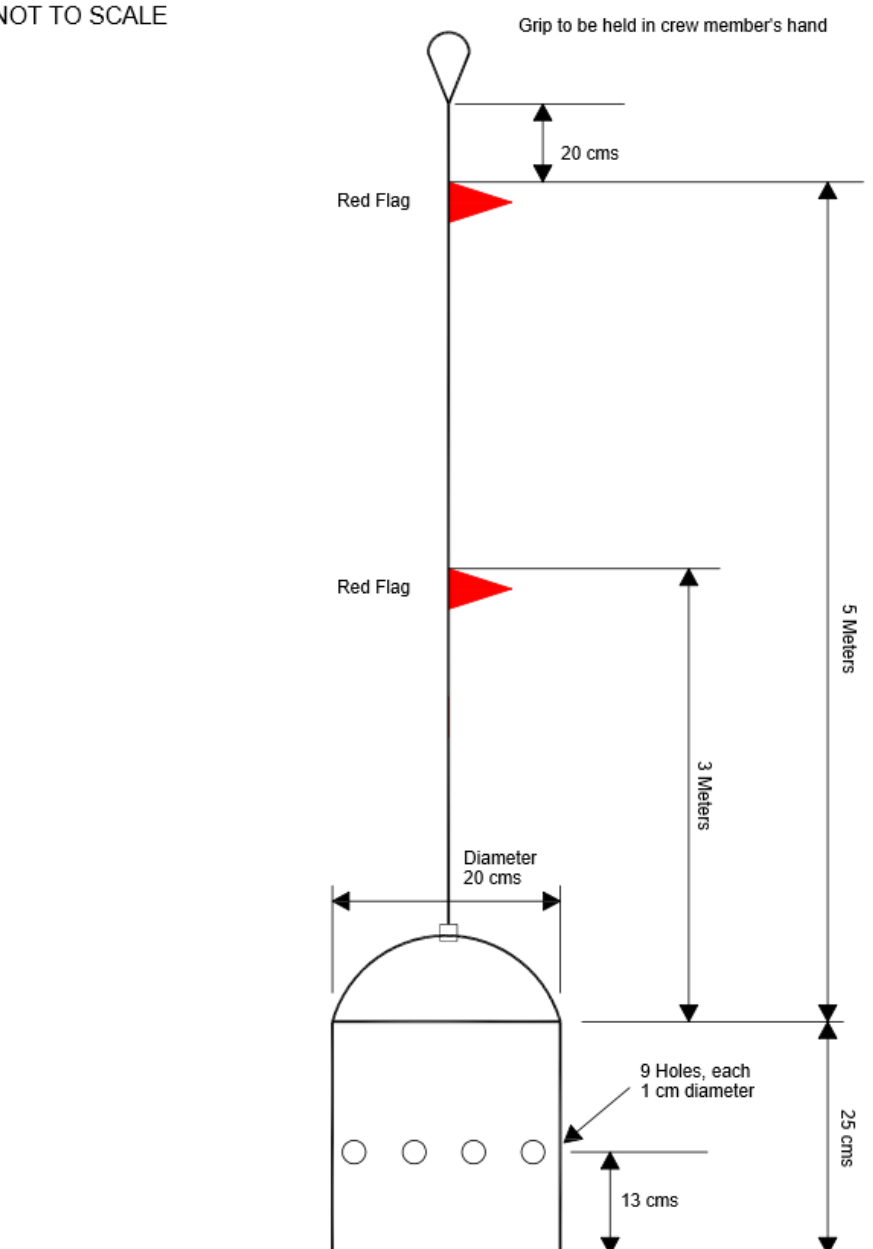
ANNEX 1 - SLALOM HELI-RACE  
NOT TO SCALE



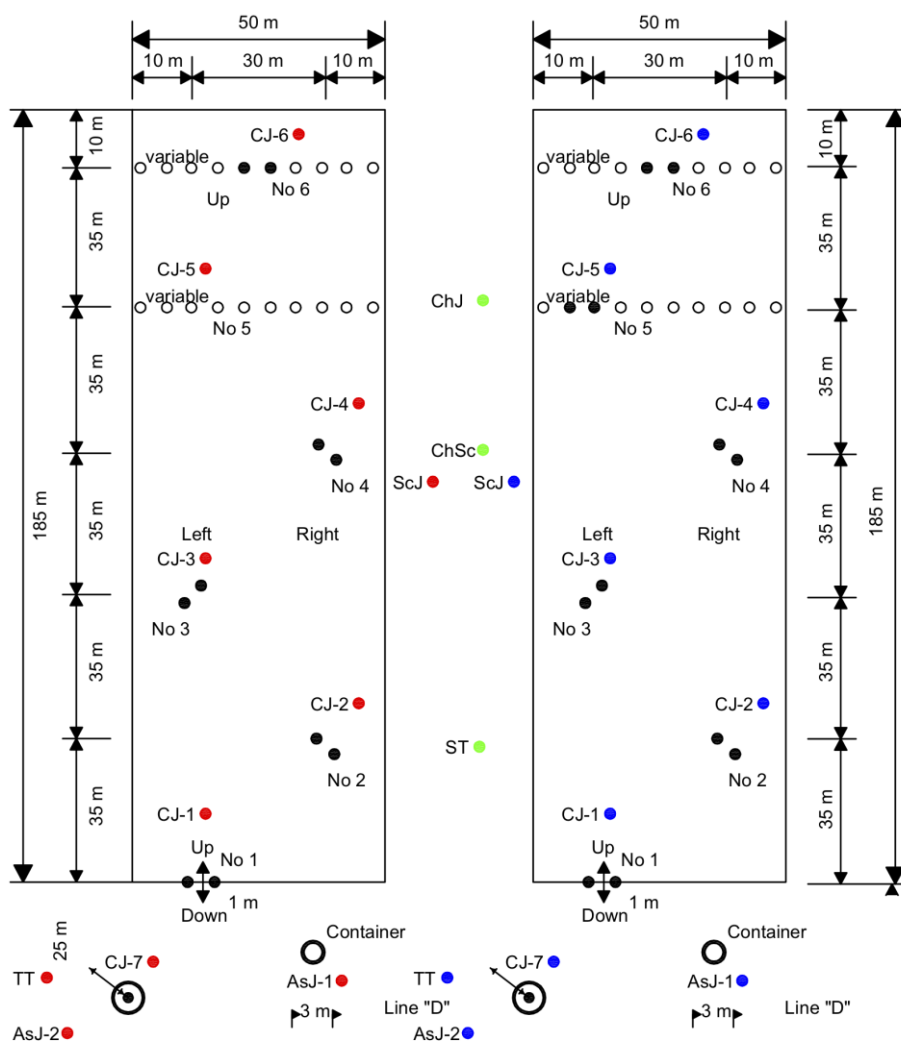
Annex 1A Slalom Heli Race - Poles and Table  
NOT TO SCALE



SLALOM HELI-RACE ANNEX 2 - Rope Equipment and Bucket  
NOT TO SCALE



ANNEX 6- SLALOM HELI-RACE  
DISTRIBUTION OF JUDGES  
NOT TO SCALE





## **ANNEX 7**

### **SLALOM HELI-RACE**

#### **RESPONSIBILITIES OF JUDGES**

*(The places of the judges on the courses see Annex No 6 - Distribution of the judges on the courses)*

##### 1. CJ-1 – COURSE JUDGE 1 (Departure Gate, Start, Gate 1 and Gate 11)

There will be 1 Judge in this team.

Area of responsibility: Flight between the Departure Line and Gate 1  
Flight between Gate 10 and Gate 11 on the way back  
Left border of the designated competition area looking from Gate 1 in the direction of Gate 6

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- False start (before the starter's signal)
- Failing the Gates 1 & 11 by missing or bucket over poles
- Passing Gates 1 & 11 in different direction
- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag
- Bucket exiting the left border of the designated areas (per infringement)

##### 2. CJ-2 – COURSE JUDGE 2 (Gate 2 and Gate 10 Gate)

There will be 1 Judge in this team.

Area of responsibility: Flight between the Gate 1 and Gate 2  
Flight between Gate 9 and Gate 10 on the way back

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- Failing the Gates 2 & 10 by missing or bucket over poles
- Passing Gates 2 & 10 in different direction
- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag

### 3. CJ-3 – COURSE JUDGE 3 (Gate 3 and Gate 9)

There will be 1 Judge in this team.

Area of responsibility: Flight between the Gate 2 and Gate 3  
Flight between Gate 8 and Gate 9 on the way back

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- Failing the Gates 3 & 9 by missing or bucket over poles
- Passing Gates 3 & 9 in different direction
- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag
- 

### 4. CJ-4 – COURSE JUDGE 4 (Gate 4 and Gate 8)

There will be 1 Judge in this team.

Area of responsibility: Flight between the Gate 3 and Gate 4  
Flight between Gate 7 and Gate 8 on the way back

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- Failing the Gate 4 & Gate 8 by missing or bucket over poles
- Passing a Gate 4 & Gate 8 in different direction
- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag
- 

### 5. CJ-5 – COURSE JUDGE 5 (Gate 5 and Gate 7)

There will be 1 Judge in this team.

Area of responsibility: Flight between the Gate 4 and Gate 5  
Flight between Gate 6 and Gate 7 on the way back

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- Failing the Gate 5 & Gate 6 by missing or bucket over poles
- Passing Gate 5 & Gate 7 in different direction

- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag

#### 6. CJ-6 – COURSE JUDGE 6 (Gate 6)

There will be 1 Judge in this team.

Area of responsibility: Flight between the Gate 5 and Gate 6  
Right hand border of the designated area looking from Gate 1 in the direction of Gate 6

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- Failing Gate 6 by missing or bucket over poles
- Passing Gate 6 in different direction
- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag
- Bucket exiting the right border of the designated areas (per infringement)

#### 7. CJ-7 – COURSE JUDGE 7 (Table)

There may be 1 or 2 judges in this team.

Area of responsibility: Flight between the Gate 11 and the Table

Responsibilities: To judge infringements and indicating by raising a red flag for each:

- Water level less than 9 cm (after measuring the water level with the ruler)
- Bucket touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag

#### 8. TT– TIME TEAM (Time)

There may be 2 or 3 judges in this team (2 at least)

Responsibilities: To record the time with the stopwatches

To display the time on the scoreboard (manual or electronic)

To be in visual contact with the Starter (to confirm their readiness for the next heat to the Starter) and the Scoring Team (to ensure the time has been recorded by the Scoring Team)

## 9. ST – STARTER

There will be 1 starter for both courses.

Responsibilities:

- To be in visual contact with the Chief Scorer and both Time Teams to get an indication of readiness from them for the next heat
- To be in visual contact with the crews to get an indication of readiness from them for the next heat
- To signal the start by dropping two flags after getting indication of readiness from the Chief Scorer, from both Time Teams and both competing crews

*(The signals of the Starter will be demonstrated at the briefing)*

## 10. ScT (ScJ and ChSc)–SCORING TEAM (Scoring Judges and Chief Scorer) (Scoring)

Scoring Team consists of 3 persons - Chief Scorer and 2 Scoring Judges.

### Scoring Judges

Responsibilities of the Scoring Judges (ScJ): Flight between the Departure Line and the Table

1) To judge infringements and to inform the Chief Scorer immediately:

- Passing a gate in the wrong order (each infringement)
- Placing the bucket outside the target table
- Losing the bucket during the course

2) To fulfil the following duties:

- To record the raised red flags that indicate penalties from the Course Judges and to inform the Chief Scorer immediately
- To record the actual time recorded by the Time Team and to inform the Chief Scorer immediately
- To show the flag of corresponding colour to the winning crew at the signal of the Chief Scorer
- To be in visual contact with the Time Team to ensure actual time has been recorded by the Scoring Team for each heat

## Chief Scorer

Responsibilities of the Chief Scorer:

- To record penalties and time from the Scoring Judges and enter on the judging sheets
- To confirm the results of both competing crews as quickly as possible
- To inform the Scoring Judges who is the winner and confirm the crews are informed (use radio contact with the crews if necessary)
- To be in visual contact with the Starter to show that the Scoring Team is ready for the next heat

### 11. ChJ – Chief Judge (Control)

Chief Judge is responsible for the smooth running of judging and scoring. Chief Judge should have a radio to be able to contact the Chief Scorer, the crews and the tower, if necessary.

### 12. AsJ-1 – Assistant Judge-1

Responsibilities: To hand the bucket to the co-pilot  
To maintain the water level in the container.

### 13. AsJ-2 – Assistant Judge-2

There may be 1 or 2 assistant judges in this team

Responsibilities: To transfer the bucket from the table to the Departure Line, to wipe the table with a cloth.

**Annex 8****Event No 1: PARALLEL SLALOM HELI RACE****Judging Team No 1: START, GATE 1 AND GATE 11(GATE 1 TWICE)**

| NN | Team №  | False start | Failing a gate by missing or bucket over poles | Passing gate in different direction | Rope lengthened or shortened or has knots or handled below the flag | Crew not staying seated or harnessed | Bucket touches ground (per infringement) | Bucket exiting left border (per infringement) |
|----|---------|-------------|--|-------------------------------------|---|--------------------------------------|--|---|
|    | Penalty | 10          | 10   | 10                                  | 10  | 100                                  | 10                                       | 10  |
|    |         |             |  |                                     |   |                                      |  |   |
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|    |         |             |  |                                     |   |                                      |  |   |

**Judges:**


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| NN | Team №         | Passing a Gate in different direction | Failing a gate by missing or bucket over poles | Rope lengthened or shortened or has knots or handled below the flag | Crew not staying seated or harnessed | Bucket touches ground (per infringement) |
|----|----------------|---------------------------------------|--|---|--------------------------------------|--|
|    | <b>Penalty</b> | <b>10</b>                             | <b>10</b>                                      | <b>10</b>   | <b>100</b>                           | <b>10</b>                                |
|    |                |                                       |  |   |                                      |  |
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**Judges:**

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| NN | Team №         | Passing a Gate in different direction | Failing a gate by missing or bucket over poles | Rope lengthened or shortened or has knots or handled below the flag | Crew not staying seated or harnessed | Bucket touches ground (per infringement) |
|----|----------------|---------------------------------------|--|---|--------------------------------------|--|
|    | <b>Penalty</b> | <b>10</b>                             | <b>10</b>                                      | <b>10</b>   | <b>100</b>                           | <b>10</b>                                |
|    |                |                                       |  |   |                                      |  |
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**Judges:** \_\_\_\_\_

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**Event No 1: PARALLEL SLALOM HELI RACE****Judging Team No 4: GATES 4 AND GATE 8 (GATE 4 TWICE)**

| NN | Team №         | Passing a Gate in different direction | Failing a gate by missing or bucket over poles | Rope lengthened or shortened or has knots or handled below the flag | Crew not staying seated or harnessed | Bucket touches ground (per infringement) |
|----|----------------|---------------------------------------|--|---|--------------------------------------|--|
|    | <b>Penalty</b> | <b>10</b>                             | <b>10</b>                                      | <b>10</b>   | <b>100</b>                           | <b>10</b>                                |
|    |                |                                       |  |   |                                      |  |
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**Judges:** \_\_\_\_\_

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**Event No 1: PARALLEL SLALOM HELI RACE**  
**Judging Team No 5: GATE 5 AND GATE 7 (GATE 5 TWICE)**

| NN | Team №         | Passing a Gate in<br>different direction | Failing a gate by<br>missing or bucket<br>over poles | Rope lengthened<br>or shortened or<br>has knots or<br>handled below the<br>flag | Crew not<br>staying<br>seated or<br>harnessed | Bucket touches ground<br>(per infringement) |
|----|----------------|--|--|---|---|---|
|    | <b>Penalty</b> | <b>10</b>                                | <b>10</b>  | <b>10</b>   | <b>100</b>                                    | <b>10</b>                                   |
|    |                |  |  |   |   |   |
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**Judges:** \_\_\_\_\_

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**Event No 1: PARALLEL SLALOM HELI RACE**  
**Judging Team No 6: GATE 6 (ONCE)**

| NN | Team №         | Passing a Gate in different direction | Failing a gate by missing or bucket over poles | Rope lengthened or shortened or has knots or handled below the flag | Crew not staying seated or harnessed | Bucket touches ground (per infringement) | Bucket exiting left border (per infringement) |
|----|----------------|---------------------------------------|--|---|--------------------------------------|--|---|
|    | <b>Penalty</b> | <b>10</b>                             | <b>10</b>                                      | <b>10</b>   | <b>100</b>                           | <b>10</b>                                | <b>10</b>                                     |
|    |                |                                       |  |   |                                      |  |   |
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**Judges:**

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**Event No 1: PARALLEL SLALOM HELI RACE****Judging Team No 7: FLIGHT FROM GATE 11 & TABLE**

| NN | Team №         | Bucket touches ground<br>(per infringement) | Crew not staying seated<br>or harnessed | Rope lengthened or<br>shortened or has knots or<br>handled below the flag | Water level less<br>than 18cm |
|----|----------------|---|---|---|-------------------------------|
|    | <b>Penalty</b> | <b>10</b>                                   | <b>100</b>                              | <b>10</b>   | <b>10</b>                     |
|    |                |   |   |   |                               |
|    |                |   |   |   |                               |
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**Judges:**


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**Event No 1:** **PARALLEL SLALOM HELI RACE**  
**Judging Team No 8:** **TIME (SITED NEAR TABLE)**

| NN | Team №         | Flying time                |
|----|----------------|----------------------------|
|    | <b>Penalty</b> | <b>0.1 per 10th second</b> |
|    |                |                            |
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**Judges:**

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**Event No 1: PARALLEL SLALOM HELI RACE**  
**Judging Team ScJ: D LINE AND TABLE**

| NN | Team №         | Passing a Gate in wrong order | Placing bucket outside target table | Losing bucket en route |
|----|----------------|-------------------------------|-------------------------------------|------------------------|
|    | <b>Penalty</b> | <b>10</b>                     | <b>100</b>                          | <b>10</b>              |
|    |                |                               |                                     |                        |
|    |                |                               |                                     |                        |
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|    |                |                               |                                     |                        |

**Judges:**

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Name of the competition - **World Cup-2017, Stage 3**  
 Name of the event and stage of the competition - **SLALOM - 1/2-FINAL**  
 Country and place - **Russia, Konakovo airfield**  
 Date «16» July 2017

| NN       | Call-sign | Pilot / crew                   | Country | № of the flight | Time    | Time points | Penalty points | Result | Victories | Score      |
|----------|-----------|--------------------------------|---------|-----------------|---------|-------------|----------------|--------|-----------|------------|
| <b>1</b> | 06        | Ivanov Ivan<br>Petrova Natalia | RUS     | 1-st FLIGHT     | 0'51",2 | 51.2        | 10.0           | 61.2   |           | <b>0:2</b> |
|          | 08        | Bloggs Joe<br>Brown Fred       | UK      |                 | 0'47",5 | 47.5        |                | 47.5   | <b>1</b>  |            |
|          | 06        | Ivanov Ivan<br>Petrova Natalia | RUS     | 2-nd FLIGHT     | 1'09",3 | 69.3        | 20.0           | 89.3   |           |            |
|          | 08        | Bloggs Joe<br>Brown Fred       | UK      |                 | 0'40",5 | 40.5        |                | 40.5   | <b>1</b>  |            |
|          | 06        | Ivanov Ivan<br>Petrova Natalia | RUS     | 3-rd FLIGHT     |         |             |                |        |           |            |
|          | 08        | Bloggs Joe<br>Brown Fred       | UK      |                 |         |             |                |        |           |            |
| <b>2</b> | 02        | Longo Federico<br>Grasso Marco | IT      | 1-st FLIGHT     | 0'42",0 | 42.0        |                | 42.0   | <b>1</b>  | <b>2:1</b> |
|          | 04        | Muller Otto<br>Schulz Karl     | GER     |                 | 0'55",6 | 55.6        | 110.0          | 165.6  |           |            |
|          | 02        | Longo Federico<br>Grasso Marco | IT      | 2-nd FLIGHT     | 1'22",1 | 82.1        |                | 82.1   |           |            |
|          | 04        | Muller Otto<br>Schulz Karl     | GER     |                 | 0'47",0 | 47.0        | 20.0           | 67.0   | <b>1</b>  |            |
|          | 02        | Longo Federico<br>Grasso Marco | IT      | 3-rd FLIGHT     | 0'40",8 | 40.8        | 10.0           | 50.8   | <b>1</b>  |            |
|          | 04        | Muller Otto<br>Schulz Karl     | GER     |                 | 0'52",4 | 52.4        | 20.0           | 72.4   |           |            |

## **6.3.2 Fender Heli-Race**

### **Event 6.3.2 Parallel Fender Heli-Race**

#### **6.3.2.1 Event Description**

Two helicopters flying a load suspended on a rope on identical parallel courses consisting of one entrance gate and three containers. The load (fender) has to be placed in each container in a predetermined order with a different rope length of 4, 6 or 8 metres.

A mandatory draw will take place at the briefing to determine the position of each container (see Annex 1). During the draw, only 9 figures are used from 1 to 9, 3 figures are drawn. That is, there cannot be the same location of the container in any of the three squares.

The competition comprises of qualifying rounds and finals until there are two helicopters left in the final.

#### **6.3.2.2 Flying the course**

##### **6.3.2.2.1 Preparation Line**

A start time will be given for the competition. It is the responsibility of each crew to observe the running order and be ready to present themselves at the preparation line when it becomes free.

##### **6.3.2.2.2 Departure Line**

Crews arrive at the Departure Lines of the Parallel courses. A judge/assistant judge will hand the co-pilots the fenders (See Annex 2).

The rope will be held by the crew member, sitting on the seat on the side opposite to the pilot, in a normal position and wearing the safety harness in accordance with the manufacturer's instructions. The crew must remain seated\*. The rope will be placed on the floor of the cabin, either inside or outside the skids where fitted with the fender resting on the ground.

*\*Note: The Event Director, subject to the consent of all Team Managers and Chief Judge, may permit crew members to stand with one foot on the skid or on the footboard provided the fastening system is safe and checked by the Technical commission.*

After finishing the first flight both crews return to the Departure Lines and wait for a signal from the Scoring Team that will indicate who is the winner of the heat. (The signals of the scoring team will be demonstrated at the briefing.)

After finishing the second flight, both crews return to the Departure Lines and wait for a signal from the Scoring Team that will indicate who is the winner of the second flight. If the winner is the same as in the first flight, both crews, upon a signal from the judge leave the course to return to the parking positions.

If the winners in first and second flights are different the crews will prepare for the final third flight to determine the winner of the heat.



After finishing the third flight both crews return to the Departure Lines and wait for a signal of the Scoring Team that will indicate who is the winner of the heat and will continue the competition on the next stage. Both crews leave the course to return to the parking positions.

#### **6.3.2.2.3 Start**

Upon an indication of readiness from the pilots (or crew members), the judge will signal the start by dropping a flag or use of a suitable indication system (such a system will be demonstrated at the briefing).

#### **6.3.2.2.4 Manoeuvring through the course**

The helicopters will take off from the Departure Line, lifting the fender off the ground, the crew members holding the red ball immediately above the 4 metre flag.

The pilot will fly to the Entrance Gate. The co-pilot must manoeuvre the fender through the Entrance Gate and into the containers. To correctly pass the gate, the top of the fender must pass below the top of the poles. Only one attempt to pass through the entrance gate will be permitted.

On the course and during the flight, the crew member must have both hands visible. Manoeuvring of the rope is allowed provided the rope is not lengthened above the handling aid or shortened below the appropriate red flag by any part of the body. The rope must be fully extended to the required length (4, 6 or 8 metres) and free of knots prior to crossing the departure line (D-Line) and during the whole event.

The pilot will fly to the first container and the crew member will place the fender into it, after placing the fender into the first container, the crew member will deploy the rope to 6 metres and lift the fender from the container. The pilot must proceed to second container for placing the fender into it. The crew member has to manoeuvre the fender into the second container, deploy the rope to 8 metres, lift the fender and then repeat the procedure for the third container. Upon placing the fender in the third container, the crew will release the rope and timing stops.

The order of the containers to be flown will be decided by a draw at the briefing:

A-C-B C-B-A B-A-C C-A-B B-C-A A-B-C.

If the fender is lost on the course, the timing is stopped and recorded from when the fender is lost. Penalties will be accrued for entrance gate (if applicable) and remaining containers and added to the time.

### 6.3.2.3 Timing and Judging

#### 6.3.2.3.1 Timing:

The time starts when the start signal is given at the Departure Line and stops when the rope is released over the third container. The time is measured in minutes, seconds and tenth of seconds according to item 13.15 of the FAI Sporting Code, Section 9, Chapter 8, Rules and Regulations

#### 6.3.2.3.2 Judging and scoring will be performed immediately by raising of red flags in the case of penalty or by electronic methods of judging. Judging systems will be demonstrated at the briefing.

See guidance information in annexes 6, 7, 8, 9 and 10 for organisers.

#### 6.3.3.4 Tie breaker.

If there is a tie for a place, the winning crew is determined by the shortest flight time.

#### 6.3.3.5 Scoring

Scoring is determined by summarising time points (0.1 points for 0.1 second) with penalty points as laid down in the infringement list. The crew with the smaller number of points wins.

### Penalties are cumulative.

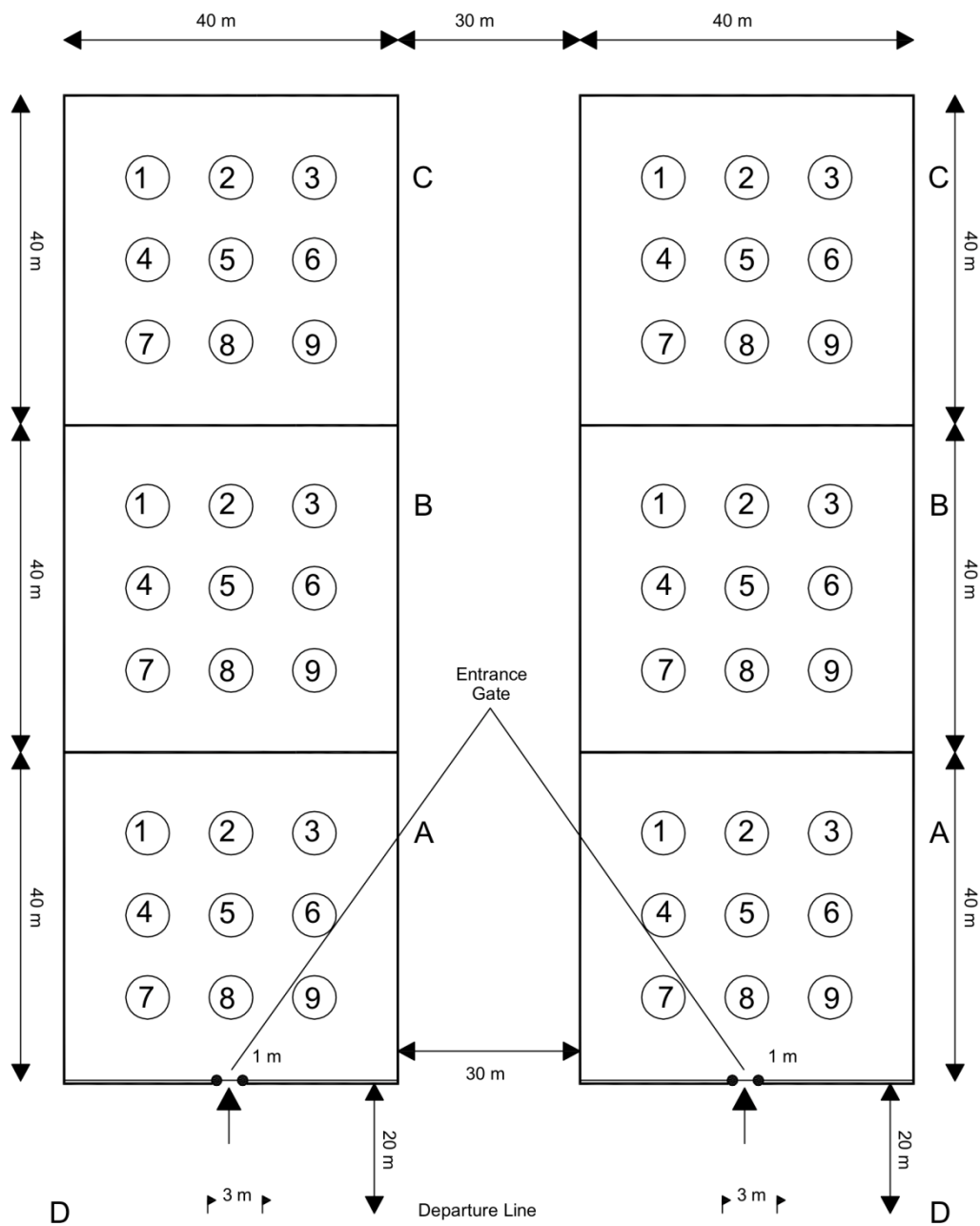
| Infringement  | Penalty |
|---|---------|
| False start (before the starters signal)  | 10      |
| Fender touches the ground (per touch)   | 10      |
| Failing the entrance gate by missing or fender over poles   | 10      |
| Rope lengthened or shortened, has knots or handled below the red flag during the flight (per infringement)  | 10      |
| Rope not deployed to the correct length when lifting off from containers (per infringement)   | 10      |
| Fender exiting the designated area 120 x 40m  | 10      |
| Fender being placed into container in wrong order   | 50      |
| Fender not placed into the container (per infringement)   | 50      |
| Crews not staying seated or harnessed (both hands and legs not visible)<br><i>*if the crew members are not permitted to stand with one foot on the footboard according to 6.3.2.3.2</i> | 100     |

## Measurements of competition area and equipment (see Annex 1)

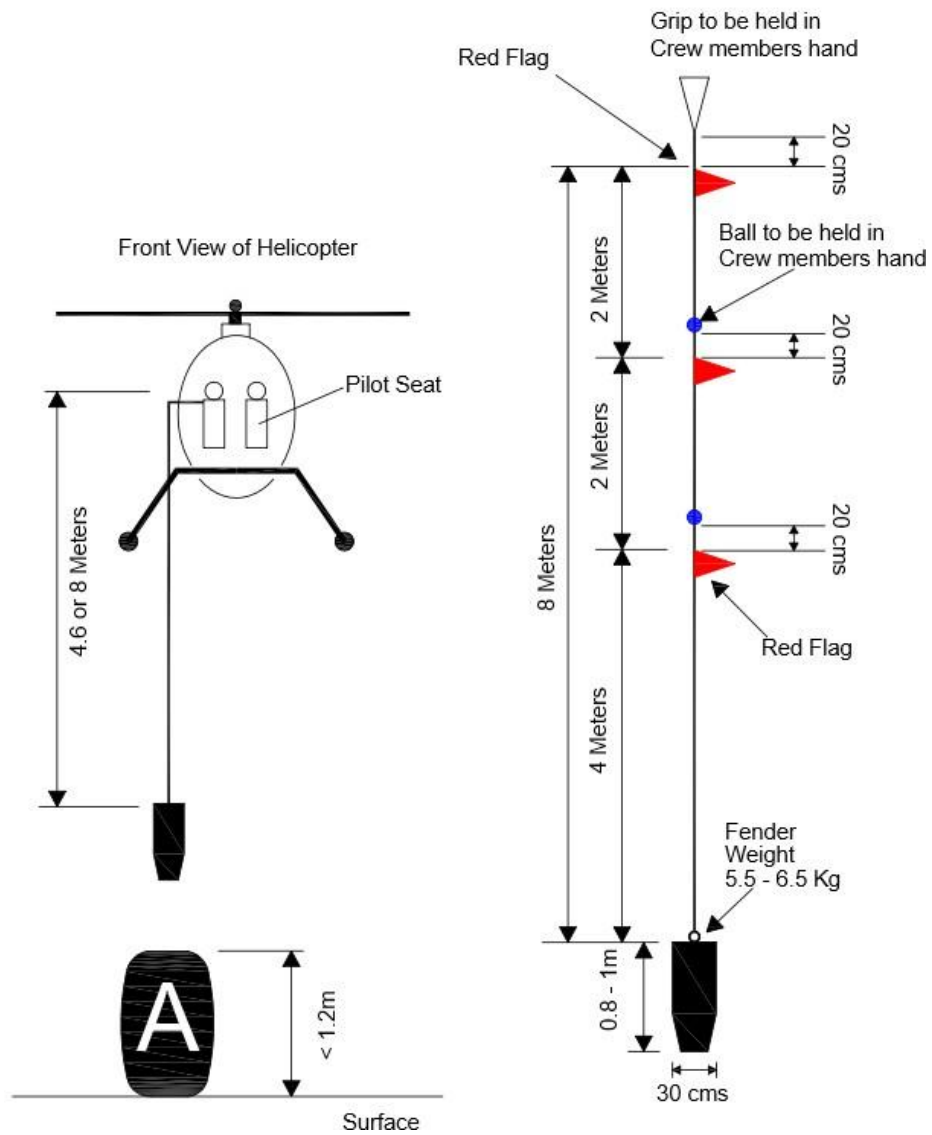
### 6.3.3.6. Measurements of competition area and equipment (see attached Annexes):

| Item                           | Specification   |
|--------------------------------|---|
| Competition area               | 120 m x 110 m, including 2 courses (see Annex 1).   |
| Entrance Gate                  | Internal width 1 m, composed of two 2 m high poles  |
| Six containers                 | Each to be positioned in a container square and filled with water or other heavy material to prevent moving. Can be made of any material or colour, but must be uniform.  |
| Container height               | 1.00 m - 1.20 m   |
| Diameter of container opening  | 48 cm +/- 2 cms   |
| Two fenders (with the ropes)   | "Majoni" Star size 5.<br>Diameter: 30 cm.<br>Height: 0.8 – 1 m.<br>Weight: 5.5 - 6.5 kg<br>(achieved by filling with water) (see Annex 2).<br>Can be made of any material or colour but must be uniform.                    |
| Fender ropes                   | Length - 8.2m from the top of the fender to the grip, red flags at distances of 4, 6 and 8 metres from the top of the fender, wooden balls - 20 cm above the red flags at 4 and 6 metres (see Annex 2). Polypropylene rope. |
| Preparation & Departure Lines: | May be marked with the flags only, with 5 metre and 3 metre space between them respectively.  |

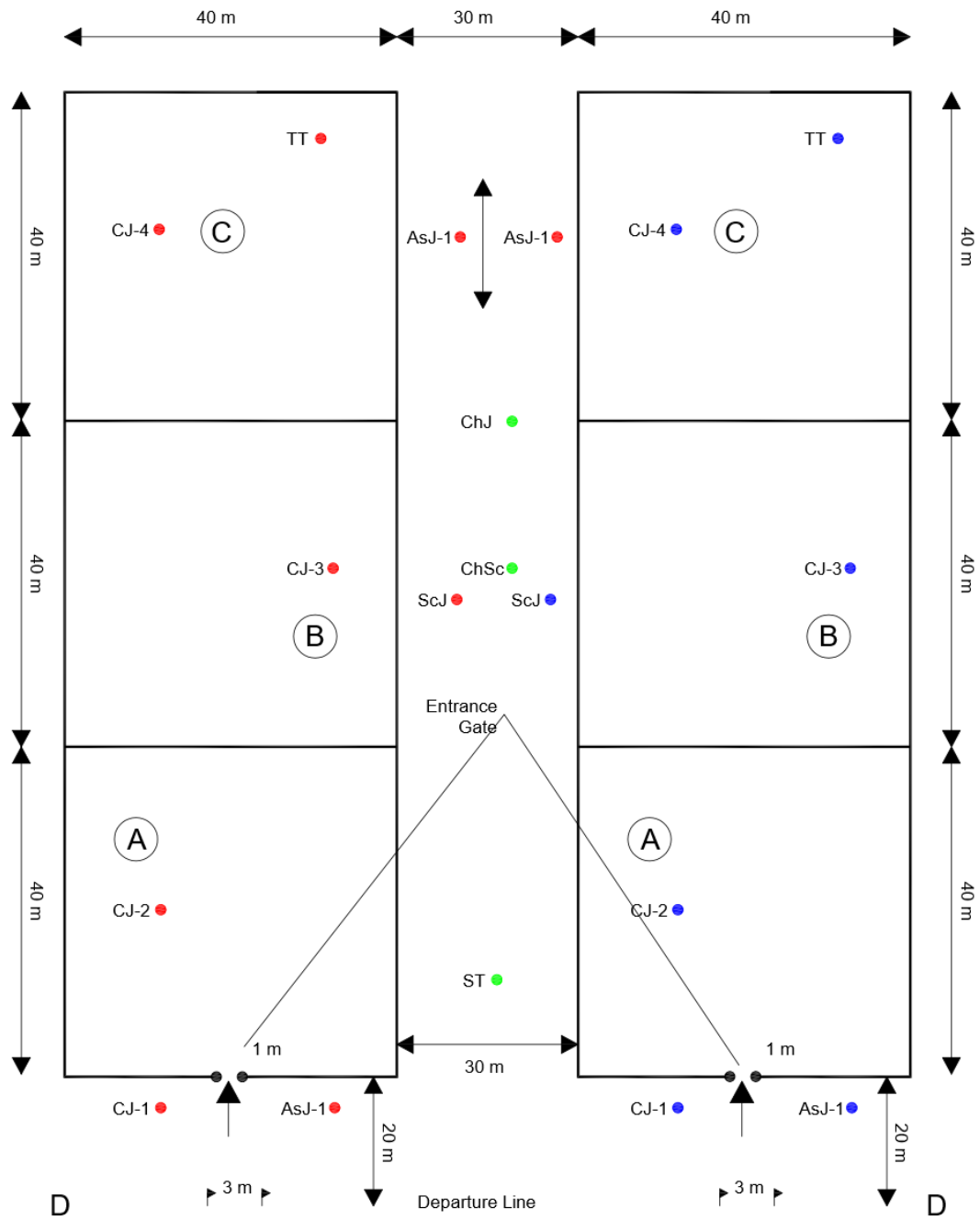
ANNEX 1 - FENDER HELI RACE  
NOT TO SCALE



FENDER HELI-RACE Annex 2 - Container and Length of Ropes  
NOT TO SCALE



ANNEX 5 FENDER HELI-RACE  
DISTRIBUTION OF JUDGES  
NOT TO SCALE



## FENDER HELI-RACE

### RESPONSIBILITIES OF JUDGES

*(The places of the judges on the courses see Annex No 6 - Distribution of the judges on the courses.)*

#### 1. CJ-1 – COURSE JUDGE 1 (Start and Entrance Gate)

2 Judges in this team.

Area of responsibilities: Flight between the Departure Line and Entrance Gate  
Flight between Departure Line and last container

Responsibilities: To judge infringements and indicating by raising a red flag for each of the below:

- False start (before the starter's signal)
- Failing the entrance gate by missing or fender over poles
- Fender touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag
- Fender exiting the left border of the designated area (per infringement)

#### 2. CJ-2 – COURSE JUDGE 2 (Container No 1 - 4 meters rope)

2 Judges in this team.

Area of responsibilities: Flight between the Entrance Gate and Container 'No 1'.

Responsibilities: To judge infringements and indicating by raising a red flag for each of the below:

- Fender touches the ground (each touch)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag
- Fender not placed into the container (per infringement)

- Rope not deployed to the correct length when lifting off from container No 1

### 3. CJ-3 – COURSE JUDGE 3 (Container No 2 – 6 meters rope)

2 Judges in this team.

Area of responsibilities: Flight between the Container No 1 and Container No 2

Responsibilities: To judge infringements and indicating by raising a red flag for each of the below:

- Fender touches the ground (each touch)
- Fender not placed into the container (per infringement)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs visible) – special sign with the flag
- Rope not deployed to the correct length when lifting off from container No 2

### 4. CJ-4 – COURSE JUDGE 4 (Container No 3 – 8 meters rope)

2 Judges in this team.

Area of responsibilities: Flight between the Container No 2 and Container No 3

Responsibilities: To judge infringements and indicating by raising a red flag for each of the below:

- Fender touches the ground (each touch)
- Fender not placed into the container (per infringement)
- Rope lengthened or shortened, has knots or handled below the red flag (each infringement)
- Crews not staying seated or harnessed (both hands and legs not visible) – special sign with the flag



## 5. TT – TIME TEAM (Time)

Minimum of 2 or 3 judges in this team (2 at least)

- Responsibilities:
- To record the time with the stopwatches
  - To display the time on the scoreboard (manual or electronic)
  - To be in visual contact with the Starter (to confirm their readiness for the next heat to the Starter) and with the Scoring Team (to be sure that the time result has been fixed by the Scoring Team).

## 6. ST – STARTER

There will be 1 starter for both courses.

- Responsibilities:
- To be in visual contact with the Chief Scorer and both Time Teams to get an indication of readiness from them for the next heat.
  - To be in visual contact with the crews to get an indication of readiness from them for the next heat.
  - To signal the start by dropping two flags after getting indication of readiness from the Chief Scorer, from both Time Teams and both competing crews
- (The signals of the Starter will be demonstrated at the briefing)*

## 7. ScT (ScJ and ChSc)– SCORING TEAM (Scoring Judges and Chief Scorer) (Scoring)

Scoring Team consists of 3 persons - Chief Scorer and 2 Scoring Judges.

### Scoring Judges

Responsibilities of the Scoring Judges (ScJ): Flight between the Departure Line and final Container.

- 1) To judge infringements and to inform the Chief Scorer immediately:
  - Losing the fender during the course
  - Violation of order of the containers
- 2) To fulfil the following duties:
  - To record the raised red flags that indicate penalties from the Course Judges and to inform the Chief Scorer immediately

- To record the actual time recorded by the Time Team and to inform the Chief Scorer immediately
- To show the flag of corresponding colour to the winning crew at the signal of the Chief Scorer
- To be in visual contact with the Time Team to ensure actual time has been recorded by the Scoring Team for each heat.

### Chief Scorer

#### Responsibilities of Chief Scorer

- To record penalties and time from the Scoring Judges and enter on the judging sheets
- To confirm the results of both competing crews as quickly as possible
- To inform the Scoring Judges who is the winner and confirm the crews are informed (to use radio contact with the crews if necessary)
- To be in visual contact with the Starter to show that the Scoring Team is ready for the next heat

#### 8. ChJ – Chief Judge (Control)

Chief Judge is responsible for the smooth running of judging and scoring. Chief Judge should have a radio to be able to contact the Chief Scorer, the crews and the tower, if necessary.

#### 9. AsJ-1 – Assistant Judge -1

Responsibilities: To hand the fender to the co-pilot  
Flight between the Departure line and the final container  
Fender exiting the right border of the designated area (per infringement)

#### 10. AsJ-2 – Assistant Judge -2

There may be 2 or 3 judges in this team (2 at least)

Responsibilities: To transfer the fenders from the 3rd container to the Departure Line.

**Annex 8****Event No 2:****PARALLEL FENDER HELI RACE****Judging Team No 1:****START & ENTRANCE GATE**

| <b>NN</b> | <b>Team №</b>  | <b>False start</b> | <b>Ground touch<br/>(per infringement)</b> | <b>Failing entrance gate by missing or fender over poles</b> | <b>Rope lengthened or shortened, has knots or handled below red flag<br/>(per infringement)</b> | <b>Crew not staying seated or harnessed</b> | <b>Bucket exiting left border<br/>(per infringement)</b> |
|-----------|----------------|--------------------|--|--|---|---|--|
|           | <b>Penalty</b> | <b>10</b>          | <b>10</b>                                  | <b>10</b>  | <b>10</b>   | <b>100</b>                                  | <b>10</b>  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |
|           |                |                    |  |  |   |   |  |

**Judges:**


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**Event No 2: PARALLEL FENDER HELI RACE****Judging Team No 2:****CONTAINER 'A'**

| <b>NN</b> | <b>Team №</b>  | <b>Rope lengthened or shortened, has knots or handled below red flag (per infringement)</b> | <b>Rope not deployed to full metres or has knots when lifting off from the container</b> | <b>Ground touch (per infringement)</b> | <b>Crew not staying seated or harnessed</b> | <b>Fender not placed in to container (per infringement)</b> |
|-----------|----------------|---|--|--|---|---|
|           | <b>Penalty</b> | <b>10</b>   | <b>10</b>  | <b>10</b>                              | <b>100</b>                                  | <b>50</b>   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |
|           |                |   |  |  |   |   |

**Judges:**


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**Event No 2: PARALLEL FENDER HELI RACE****Judging Team No 3:****CONTAINER 'B'**

| <b>NN</b> | <b>Team №</b>  | <b>Rope lengthened or shortened, has knots or handled below red flag (per infringement)</b> | <b>Rope not deployed to full metres or has knots when lifting off from the container</b> | <b>Ground touch(per infringement)</b> | <b>Crew not staying seated or harnessed</b> | <b>Fender not placed in to container (per infringement)</b> |
|-----------|----------------|---|--|---------------------------------------|---|---|
|           | <b>Penalty</b> | <b>10</b>   | <b>10</b>  | <b>10</b>                             | <b>100</b>                                  | <b>50</b>   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |

**Judges:**


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**Event No 2: PARALLEL FENDER HELI RACE****Judging Team No 4:****CONTAINER 'C'**

| <b>NN</b> | <b>Team №</b>  | <b>Rope lengthened or shortened, has knots or handled below red flag (per infringement)</b> | <b>Rope not deployed to full metres or has knots when lifting off from the container</b> | <b>Ground touch(per infringement)</b> | <b>Crew not staying seated or harnessed</b> | <b>Fender not placed in to container (per infringement)</b> |
|-----------|----------------|---|--|---------------------------------------|---|---|
|           | <b>Penalty</b> | <b>10</b>   | <b>10</b>  | <b>10</b>                             | <b>100</b>                                  | <b>50</b>   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |
|           |                |   |  |                                       |   |   |

**Judges:**


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**Event No 2: PARALLEL FENDER HELI RACE****Judging Team No 5:****TIME**

| NN | Team №         | Flying time                |
|----|----------------|----------------------------|
|    | <b>Penalty</b> | <b>0.1 per 10th second</b> |
|    |                |                            |
|    |                |                            |
|    |                |                            |
|    |                |                            |
|    |                |                            |
|    |                |                            |
|    |                |                            |
|    |                |                            |

**Judges:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Judging Team ScJ:****D LINE AND FINAL CONTAINER**

| NN | Team №         | Fender placed in container in wrong order | Fender lost en route |
|----|----------------|---|----------------------|
|    | <b>Penalty</b> | <b>50</b>                                 | <b>100</b>           |
|    |                |   |                      |
|    |                |   |                      |
|    |                |   |                      |
|    |                |   |                      |
|    |                |   |                      |
|    |                |   |                      |
|    |                |   |                      |
|    |                |   |                      |

**Judges:**


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**Judging Team As J 1:****FENDER EXITING THE COURSE**

| NN | Team №         | Fender exiting the course<br>(per infringement) |
|----|----------------|---|
|    | <b>Penalty</b> | <b>50</b>                                       |
|    |                |   |
|    |                |   |
|    |                |   |
|    |                |   |
|    |                |   |
|    |                |   |
|    |                |   |
|    |                |   |

**Judges:**


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Name of the competition - **World Cup-2017, Stage 3**  
Name of the event and stage of the competition - **FENDER - 1/2-FINAL**  
Country and place - **Russia, Konakovo airfield**  
Date «16» July 2017

| NN       | Call-sign | Pilot / crew                   | Country | № of the flight | Time    | Time points | Penalty points | Result | Victories | Score      |
|----------|-----------|--------------------------------|---------|-----------------|---------|-------------|----------------|--------|-----------|------------|
| <b>1</b> | 06        | Ivanov Ivan<br>Petrova Natalia | RUS     | 1-st FLIGHT     | 0'51",2 | 51.2        | 10.0           | 61.2   |           | <b>0:2</b> |
|          | 08        | Bloggs Joe<br>Brown Fred       | UK      |                 | 0'47",5 | 47.5        |                | 47.5   | <b>1</b>  |            |
|          | 06        | Ivanov Ivan<br>Petrova Natalia | RUS     | 2-nd FLIGHT     | 1'09",3 | 69.3        | 20.0           | 89.3   |           |            |
|          | 08        | Bloggs Joe<br>Brown Fred       | UK      |                 | 0'40",5 | 40.5        |                | 40.5   | <b>1</b>  |            |
|          | 06        | Ivanov Ivan<br>Petrova Natalia | RUS     | 3-rd FLIGHT     |         |             |                |        |           |            |
|          | 08        | Bloggs Joe<br>Brown Fred       | UK      |                 |         |             |                |        |           |            |
| <b>2</b> | 02        | Longo Federico<br>Grasso Marco | IT      | 1-st FLIGHT     | 0'42",0 | 42.0        |                | 42.0   | <b>1</b>  | <b>2:1</b> |
|          | 04        | Muller Otto<br>Schulz Karl     | GER     |                 | 0'55",6 | 55.6        | 110.0          | 165.6  |           |            |
|          | 02        | Longo Federico<br>Grasso Marco | IT      | 2-nd FLIGHT     | 1'22",1 | 82.1        |                | 82.1   |           |            |
|          | 04        | Muller Otto<br>Schulz Karl     | GER     |                 | 0'47",0 | 47.0        | 20.0           | 67.0   | <b>1</b>  |            |
|          | 02        | Longo Federico<br>Grasso Marco | IT      | 3-rd FLIGHT     | 0'40",8 | 40.8        | 10.0           | 50.8   | <b>1</b>  |            |
|          | 04        | Muller Otto<br>Schulz Karl     | GER     |                 | 0'52",4 | 52.4        | 20.0           | 72.4   |           |            |

## **World and Continental Helicopter Championships**

### **Chapter 7 Trophies and Awards**

#### **7.0 General**

All medals, diplomas and prizes shall be presented at the official prize giving. Diplomas and prizes for event winners shall be presented no later than at the event on the following day.

#### **7.1 Individuals Overall**

The crew with the highest overall score will become "Overall World or Continental Champions".

The members of the crews placed first, second and third will be awarded gold, silver and bronze FAI medals. The crews placed 1<sup>st</sup> to 10<sup>th</sup> will be awarded with FAI diplomas. Additional prizes should be awarded at the Organisers discretion.

#### **7.2 Individuals in Class**

The crews with the highest overall score amongst the crews competing in helicopters of the same class will become "Overall World or Continental Champions" in the corresponding class.

The members of the crews placed first, second and third will be awarded small gold, silver and bronze FAI medals. The crews placed 1<sup>st</sup> to 5<sup>th</sup> will be awarded FAI diplomas. Additional prizes should be awarded at the Organisers discretion.

Awards will be made to the following classes (See section 9 Class E):

E-1e, E-1c and E-1b

#### **7.3 Teams**

The team with the highest overall score will be called "World or Continental Team Champions".

The team managers of the teams placed first, second and third will be awarded gold, silver and bronze FAI medals. Smaller FAI medals are to be awarded to all members of the teams.

All members of the teams placed first, second and third will be awarded FAI Diplomas. Additional prizes can be awarded at the Organisers discretion.

#### **7.4 Event Winners**

Each crew winning an event will also be awarded an FAI Diploma and called "Navex Champions", " Precision Champions ", "Fender Rigging Champions" or " Slalom Champions ". Pilots and crew members placed first, second and third in every event will be awarded small gold, silver and bronze medals and FAI Diplomas.

Additional prizes can be awarded at the Organisers discretion to the crews placed first, second or third in each event.

#### **7.5 Females**

There will be an award for the all-female crew with the highest overall score and called "Overall World or Continental Ladies Champions".

The members of the all-female crews placed first, second and third will be awarded gold, silver and bronze FAI medals. The female crews placed 1<sup>st</sup> to 5<sup>th</sup> will be awarded FAI diplomas.

Additional prizes can be awarded at the Organisers discretion.

### **7.6 Freestyle**

There will be an award for the Pilot with the highest Freestyle score called "Freestyle Champion".

The pilots placed first, second and third will be awarded FAI diplomas and Organisers prizes.

### **7.7 Novice Pilots**

The pilots placed first, second and third in the junior category will be awarded FAI diplomas and additional prizes at the Organisers discretion.

## ANNEX A

### HELICOPTER TYPE AND COMPETITION SPEED

| HELICOPTER TYPE                        | COMPETITION SPEED<br>(KTS) | COMPETITION SPEED<br>(KPH) | CRUISE SPEED<br>(KTS) |
|--|----------------------------|----------------------------|-----------------------|
| Robinson R22 – HP                      | 64                         | 118                        | 80                    |
| Robinson R22 – Alpha                   | 64                         | 118                        | 80                    |
| Robinson R22 – Beta                    | 64                         | 118                        | 80                    |
| Robinson R22 – Mariner                 | 56                         | 104                        | 70                    |
| Robinson R22 – Astro                   | 77                         | 143                        | 96                    |
| Robinson R44- Astro                    | 88                         | 163                        | 110                   |
| Robinson R44 - Cadet                   | 88                         | 163                        | 110                   |
| Robinson R 44 - Raven I                | 88                         | 163                        | 110                   |
| Robinson R 44 - Raven II               | 88                         | 163                        | 110                   |
| Robinson R 66                          | 88                         | 163                        | 110                   |
| Bell 47                                | 56                         | 104                        | 70                    |
| Bell 205 (UN-1H)                       | 80                         | 148                        | 100                   |
| Bell 206 I Jet Ranger                  | 80                         | 148                        | 100                   |
| Bell 206 II Jet Ranger                 | 80                         | 148                        | 100                   |
| Bell III Jet Ranger                    | 80                         | 148                        | 100                   |
| Bell 206 Long Ranger                   | 80                         | 148                        | 100                   |
| Bell 212                               | 80                         | 148                        | 100                   |
| Bell 214                               | 90                         | 166                        | 115                   |
| Hughes 300A                            | 60                         | 111                        | 75                    |
| Hughes 300B                            | 60                         | 111                        | 75                    |
| Hughes 300C                            | 60                         | 111                        | 75                    |
| Schweizer 300                          | 60                         | 111                        | 75                    |
| Schweizer 300CB                        | 56                         | 104                        | 70                    |
| Schweizer 330                          | 72                         | 133                        | 90                    |
| Hughes 500HS                           | 80                         | 148                        | 100                   |
| Hughes 500C                            | 80                         | 148                        | 100                   |
| Hughes 500D or MDHC 500D               | 90                         | 166                        | 120                   |
| Hughes 500 or MDHC 500E or F           | 90                         | 166                        | 120                   |
| Hughes 500 or MDHC 530N or F           | 90                         | 166                        | 120                   |
| Aerospatiale Gazelle                   | 90                         | 166                        | 140                   |
| Aerospatiale Ecureuil or ASTAR AS350B  | 90                         | 166                        | 115                   |
| Aerospatiale Ecureuil or ASTAR AS350B2 | 90                         | 166                        | 120                   |
| Aerospatiale Dauphin (HH-65)           | 90                         | 166                        | 140                   |
| Mil Mi – 2                             | 72                         | 133                        | 90                    |
| Enstrom F28A                           | 56                         | 104                        | 70                    |
| Enstrom F28C or F                      | 64                         | 118                        | 80                    |
| Enstrom F280C                          | 64                         | 118                        | 80                    |
| Enstrom 280 FX                         | 72                         | 133                        | 90                    |
| Alouette II                            | 64                         | 118                        | 80                    |
| Alouette III                           | 72                         | 133                        | 90                    |
| Eurocopter EC 120                      | 90                         | 166                        | 122                   |
| BO 105                                 | 90                         | 166                        | 120                   |
| Cabri                                  | 64                         | 118                        | 80                    |

Helicopter competition speed will be 80% of the maximum safe sustainable cruise speed in straight and level flight with two average weight persons and 1.5 hours fuel on board.

The maximum competition speed will be 90 kts (166 kph)

## **ANNEX B**

### **Measuring Equipment**

#### **B-1. GENERAL:**

As stipulated in 12.6 and 12.7 of Chapter 2, all measuring equipment must be submitted to the FAI - CIG for approval prior to the Championship.

The judgments in the competition that may require the use of equipment are listed below.

In some cases such as time-keeping, the use of equipment, in this case a clock or watch, is mandatory.

In other cases such as calculating speed, height or distance, the Organiser may use technical equipment in addition to the judgment of the judges.

If equipment is being used for a particular measurement, it must be described in full to the FAI - CIG in accordance with Chapter 2 Para 12.6 or the Organiser must state that no equipment will be used.

In this case measurement will be taken by the skill and judgment of the judges.

#### **B-2. Navigation**

##### **Mandatory Equipment**

Master Clock, Start Line Clock, Search Box Exit Clock, Gate A Clock.

The Organiser must demonstrate that the timepieces are of sufficient quality and can be synchronised to the Master Clock to an accuracy of 0.01 seconds.

GPS-based Data Loggers for measurement of the track, times and speed on the course.

Loggers of the same type and manufacture will be provided by the Organiser

##### **Optional Equipment**

For measurement of height at targets in the dropping zone and at Line A and F.

For measurement of speed and 30 degree variation on final leg.

To avoid potential complaints and protests, the organiser should ensure that there is some clear indication of the last 2 km to the judges.

TP1 Clock, TP2 Clock, TP3 Clock

#### **B-3. Events 2, 3 and 4**

No special equipment required.

**ANNEX C****Judge`s Qualification Declaration****FAI-CIG JUDGES INFORMATION**

Name (in full).....

NAC.....

International Judge (since)..... Assistant Judge (since).....

| Year | National Competition/ Cat 2 Event | World Championship |
|------|-----------------------------------|--------------------|
|      | Status                            | Status             |

2014

2015

2016

2017

2018

2019

2020

Attendance at National Judges Training: 2015 2016 2017 2018 2019 2020

Identity and qualification of trainer:

I confirm that the above represents the active experience in judging of helicopter events run in accordance with the relevant FAI-CIG World and Continental Championship Rules

Signature of Judge:

Certified that the above is correct:

(Representative of NAC)

## Annex D

**COMPLAINT FORM.**

|                                  |  |
|----------------------------------|--|
| <b>EVENT</b>                     |  |
| <b>Country</b>                   |  |
| <b>Manager or representative</b> |  |
| <b>Competitor number</b>         |  |
| <b>Competitor name</b>           |  |
| <b>Nature of complaint</b>       |  |
| <b>Signature of team manager</b> |  |
| <b>Signature of competitor/s</b> |  |
| <b>Date</b>                      |  |
| <b>Time</b>                      |  |
| <b>Received by</b>               |  |
| <b>Name and position</b>         |  |
| <b>Signature</b>                 |  |
| <b>Time</b>                      |  |



## Annex E

## PROTEST FORM

|                                  |  |
|----------------------------------|--|
| <b>EVENT</b>                     |  |
| <b>Country</b>                   |  |
| <b>Manager or representative</b> |  |
| <b>Competitor number</b>         |  |
| <b>Competitor name</b>           |  |
| <b>Details of protest</b>        |  |
| <b>Signature of team manager</b> |  |
| <b>Signature of competitor/s</b> |  |
| <b>Date</b>                      |  |
| <b>Time</b>                      |  |
| <b>Received by</b>               |  |
| <b>Name and position</b>         |  |
| <b>Signature</b>                 |  |
| <b>Time</b>                      |  |
| <b>Protest fee amount</b>        |  |
| <b>Protest fee received</b>      |  |