Chapter 2
General Rules and Regulations

5.0 PROGRAMME OF 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

New: Fender - the position of containers A, B and C within the 50m x 50m square of the competition area.

Slalom - position and numbers of gates in the course.

Slalom - sequence of gates in the course.

Slalom - direction of flight through the gates.

Chapter 5
Event Rules and Regulations

5.1 Navigation
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 on second or third leg, aerial and a drop zone between departure line and MFO 1 or on the first leg of manoeuvring box;

The event will include a navigation course, en-route search zone; timed arrival at the A line; and 2 drop points behind 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.

5.1.5 Preparation Line
Delete:

2 numbered fabric bags (filled with rice or sand, ........)

5.1.8 Search zone
Delete:

The search zone will include ten (10) 3x2 metre orange panels....

Additional:

the search zone will include between six (6) and ten (10) 3x2 metre orange panels....

5.1.13 Manoeuvring Box A-Line to F-Line

After crossing the A line, the helicopter will fly a given Course course of up to three turns.

All competitors will perform turns in the direction assigned in Bulletin 1 and made public during the pre-event briefing (see drawing, Annex 1).

Scoring Event No 1
Delete:

Bags dropped in the wrong order
Crew not remaining seated or fastened (both hands and legs not visible)

Annex 3 – Event 5.1 Search Zone Details

Details of the search Zone
Example of a schematic given to the competitors

Additional:

Six (6) to ten (10) panels

5.2 Precision

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 or the use of a suitable indication system, which must be demonstrated to the competitors at the event briefing. The time starts.

5.2.8 Timing:

The time starts when the start signal is given at the departure line and stops when the first part of the helicopter landing gear touches the ground.
5.2.8 Timing:

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

5.3 Fender Rigging

5.3.0. Event Description

Delete:

…….in a sequence of 4,6 and 8 metres and a flying time of 45 seconds. The direction of flight through each entrance gate.

Additional:

The exact flying time for this event is made public by the Event Director at the general briefing.

5.3.1 General Requirements

Delete:

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. (see Chapter 2, Competition rules 13.7)

5.3.3 Maneuvering through the course

Delete:

The pilot will take off and after passing the D Gate (marked by flags), fly to the entrance gate. The crew member must maneuver 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 must proceed to the next container area. The crew member must maneuver the fender through the entrance gate and into the second container.

Additional:

As soon the fender is dropped into the third container the crewmember should let go off the rope.

After setting the fender into the last container, the crewmember then deploys the seven (7) metre rope with a skittle attached at the end and has to maneuver it through the exit gate.
and put it into the doghouse (Annex 3 - Event 5.3 - Doghouse). The rope must be held at the grip at its end by the crew member, both hands must be visible to the judges. Manoeuvring of the rope is allowed, providing the rope is not shortened by any part of the body below the red flag. The area has to be left by passing the exit gate.

5.3.4 Timing

The time starts when the fender crosses the departure line and overall time for each crew is stopped when the crew member has let go of the rope with the skittle. The total time for this event is a maximum of 45 seconds.

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 with the most accurate flight time.

Scoring Event no.3

For each tenth of a second flown over total times limits: above or below given flight time

- 45 to 60 sec 0.1 point for each second
- > 60 sec 0.1 point for each 0.1 point/0.1 sec

Touching the ground with the fender between D line and containers,

- for each touch 10
- Fender not put down into the container 50
- Fender touching the external sides and top to the container (for each infringement) 3

(no penalty when fender touches container top followed by placing in the container)

- Fender lost en route 300
- Fender put into container with wrong rope length, rope shortened or 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

Commented [MS22R21]: The skittle weighs less than 2 kg that should not be a problem. We have done it this way. The doghouse is identical to navigation

Commented [DM23]: Understood.

Commented [DM24]: Would this be better to change the 40X40 to 50X50. Or do you not want to have variable container portions?

Commented [MS25R24]: Yes, the square should be 50x50 as it used to be in the rulebook before

Commented [DM26]: Define the most "accurate" flight time? Is is the quickest? If so what if there are two with the same time?

Commented [MS27R26]: If both have the same time then they have the same score. Accurate means a precisely defined time that should neither be overflown nor underflown otherwise they will get penalty points

Commented [DM28]: I appreciate the intention to slow things down but a proficient crew will be just waiting to drop the skittle and will also encourage hovering over the dog house for more time than is necessary. To me that could be a safety issue.

Commented [MS29R28]: Should we give a fixed, short time? it should be a decision of the organizer. But good crews will reach the time and hover for about 5 seconds. Bad crews will exceed the time.
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) 10

Fender not passing the D Gate 10

Missing the Entrance Gate by missing or fender over poles (for each infringement) 15 *

* Disqualification (black flag) if the specified time is exceeded by more than 3 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 Gate: 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 squares 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.
Fender Rigging Parcours

Doghouse
(in variable positions)

50 Metres

Ausflugtor
(in variable positions)

1 Meter

50 Metres

50 cms

Einflugtor
(in variable positions)

Area gegen den Wind
Das Einflugtor und das Ausflugtor werden durch zwei 2m hohe Stangen markiert und sind 1m breit
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 gates and setting it down finally on a table target. The helicopter will be configured with the pilot's door on and closed. The flying time is limited to 2 minutes and 15 seconds (135 seconds).

The Event requires precise flying to manoeuvre a bucket filled with water, attached to a rope, through several gates and setting it down on a table (see section 7.12). The directions of the gates to be flown will be drawn and together with the exact flight time and the exact positions of the gates announced at the event briefing.

5.4.1 General requirements

Both feet must be inside the booth. At the briefing, competitors will be given their estimated start time to be at line "P". During flight pilot's door must be fitted and closed. The

Commented [DM38]: This will prevent any training in advance. Is that the intention?
Commented [MS39R38]: Yes,

Commented [DM40]: This is stated partly and the roaming text could be added there. 5.4.0. This would remove the need for a new paragraph.
Crewmember must stay within the helicopter on his seat in a normal seated position and both feet must be inside the aircraft.

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 or use of a suitable indication system, such a system has to be demonstrated at the event briefing. 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 through all gates 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 in reverse order. The gates shall be flown in the given order and back in reverse order. The direction of flight through each gate and the exact position of the gates 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. Maneuvring 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.

After the last gate (gate 1) has been passed again the crew has to place the bucket on the table at the given total time. The time is stopped as soon as the bucket touches the table surface for the first time.

The bucket must be put down within or as close as possible to the 20cm centre target, in one attempt, then the rope must be dropped.

5.4.5 Time

The time starts when the bucket crosses the departure line and stops when the rope is released over the table. When the bucket touches the table surface for the first time. The total time announced in the briefing must be achieved as accurately as possible.

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. Gate 1 is always flown “Up” first and “Down” second time. Gate 2, 3 and 4 “Left” or “Right” for both flights through. Gate 5 and 6 “Up” or “Down” with exception of gate 6, which will be flown through only once.
The position of gate 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. In the event of a tie the crew with the more accurate flight time primarily or the higher water level secondarily wins.
<table>
<thead>
<tr>
<th>INFRINGEMENT</th>
<th>PENALTY POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passing a gate in the wrong order or different direction</td>
<td>10</td>
</tr>
<tr>
<td>Failing a gate by missing or bucket over poles</td>
<td>10</td>
</tr>
<tr>
<td>Bucket exiting the centre target of the table per mm</td>
<td>0.1</td>
</tr>
<tr>
<td>The bucket exiting the designated area 185 m x 50 m</td>
<td>10</td>
</tr>
<tr>
<td>Water level – per tenth of centimetre missing *</td>
<td>0.1</td>
</tr>
<tr>
<td>Each tenth of a second in excess of 125 seconds ** over or under the allocated flight time</td>
<td>0.1</td>
</tr>
<tr>
<td>Placing the bucket outside the target table *</td>
<td>80</td>
</tr>
<tr>
<td>Losing the bucket during the course</td>
<td>300</td>
</tr>
<tr>
<td>More than one attempt to put the bucket down, per try</td>
<td>30, 2</td>
</tr>
<tr>
<td>Crew not staying seated or fastened (both hands and legs not visible)</td>
<td>50</td>
</tr>
<tr>
<td>Rope * lengthened or shortened, has knots or handled below red flag</td>
<td>30</td>
</tr>
<tr>
<td>(for each infringement)</td>
<td></td>
</tr>
</tbody>
</table>

* 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.

* Disqualification (black flag) if the specified time is exceeded by more than 3 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 20 cms.

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.

Commented [DM60]: This prevents arguments and suggest it remains

Commented [MS61R60]: ok
ANNEX 1 – EVENT 5.4 – Slalom (Example)