

EUROPEAN
MICROLIGHT CHAMPIONSHIPS

2010





LOCAL REGULATIONS

FOR THE

XI EUROPEAN MICROLIGHTS CHAMPIONSHIP

to be held at Sywell Aerodrome, Northampton in the United Kingdom

between Saturday 7th August and Sunday 15th August 2010

ORGANISED BY

THE BRITISH MICROLIGHT AIRCRAFT ASSOCIATION

&

THE ROYAL AERO CLUB OF THE UNITED KINGDOM

ON BEHALF OF THE FÉDÉRATION AÉRONAUTIQUE INTERNATIONALE

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AUTHORITY

These Local Regulations combine the General Section and Section 10 of the FAI Sporting Code with regulations and requirements specific to this championship. The FAI Sporting Code shall take precedence over the Local Regulation wording if there is omission or ambiguity.

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1 GENERAL SECTION

1.1 PURPOSE

The purpose of the championships is to provide good and satisfying contest to determine the champion in each class and to reinforce friendship amongst pilots and nations (S10 4.2).

1.2 PROGRAMME DATES

Training, aircraft inspection, registration: from Tuesday 3rd August 2010

Opening Ceremony: 10:00 hrs local time on Saturday 7th August 2010 at Sywell Aerodrome

First Competition briefing: 19:00 hrs local time on Friday 6th August 2010

Contest Flying Days: Saturday 7th to Friday 13th August 2010

Closing Ceremony, Prize-giving: 12:00 hrs on Saturday 14th August 2010 at Sywell Aerodrome.

1.3 OFFICIALS

Competition Director	Paul Dewhurst
Event Director	Keith Negal.
Scoring Director	Rob Hughes
Chief Marshall	Mick Broom
International Jury	? (President)
	?
	?
Stewards :	Naaman Tam (ISR)
	Gerhart Gerech (LUX)
	Roland Schneider (GER)

1.4 ENTRY

The Championships are open to all Active Member and Associate Member countries of FAI in Europe who may enter an unlimited number of pilots in each microlight class.

- Entries must be made on the official Entry Form.
- If applications, with fees paid, are not received by 30th June 2010 the entry may be refused.
- The entry fee is:
 - €400 for all Pilots except first registered RAL1 Pilot per country
 - €400 for Co-pilot (Navigator)
 - €100 for each Team Leaders and Team Assistant
 - €25 for each Accompanying Persons camping on site over the age of 16 years
 - First registered RAL1 Pilot per country Free of Charge
 - Accompanying Persons under 16 years Free of Charge

The entry fee includes: *(add or delete as appropriate):*

- Competition operations (setting, controlling and evaluating the tasks)
- One copy of the official map, UK CAA Air Topographical Air Chart 1:250,000 Sheet 8, England South Edition 14, due to be published in February 2010
- All competition materials (task descriptions, control point atlases, etc.)
- Free use of the airport and free entry to all official events.
- Camping place for each team with water, electricity and one tent
- Preferential prices to eat

- Fee for UK CAA Article 153 Airworthiness Exemptions to permit foreign microlight to fly in the UK
The entry fee is to be transferred before 1st May 2010 in order to obtain 10% discount. Bank details will be confirmed on the Official Website www.emc2010.org.uk

1.5 INSURANCE

Third party insurance of at least 750 000 SDR as required by Regulation (EC) No 785/2004 of the European Parliament and the Council of 21 April 2004 is obligatory. Personal accident insurance for team members and insurance against damage to aircraft are highly recommended. Documentary proof of insurance as specified on the Entry Form must be presented to the Organizers at Registration. (GS. 3.9.6)

1.6 LANGUAGE

The official language of the Championships is English.

1.7 MEDALS AND PRIZES

FAI medals will be awarded to:

- Pilots placed first, second and third in each class
- National teams placed first, second and third
- FAI Diploma will be awarded for those placed first to tenth.

Other trophies will be also awarded for:

- Crew with youngest combined age
- Crew with oldest combined age
- Oldest aircraft completing the competition

1.8 CHAMPIONSHIP CLASSES

The Championships may be held in the following classes (S10 1.5):

RWL1, RWL2, RAL1, RAL2

Each class is a championship in its own right and as far as possible interference of one class by another shall be avoided.

1.8.1 CLASS VIABILITY

For the championships to be valid there must be competitors from no less than 4 countries in a class ready to fly the first task. (S10 4.3.2)

1.8.2 CHAMPIONSHIP VALIDITY

The title of Champion in any class shall be awarded only if there have been at least 6 separate tasks.

1.9 GENERAL COMPETITION RULES

1.9.1 REGISTRATION

On arrival the team leader and members shall report to the Registration Office to have their documents checked and to receive supplementary regulations and information. The following documents are required:

- Pilot Licence and qualifications
- Evidence of competitor's nationality
- Valid FAI Sporting License for pilot and navigator
- Aircraft Certificate of Airworthiness or Permit to Fly, subject to exceptions detailed in 1.9.3 below
- Evidence of conformity to class rules and minimum speed declaration
- Certificate of Insurance

- Receipt for payment of entry fees
- UK CAA Article 153 Airworthiness Exemptions

The UK CAA 153 Airworthiness Exemption will be arranged by the organiser but will require that scanned copies of airworthiness and insurance documents are emailed to info@emc2010.org.uk by 15th July 2010.

The Registration Office will be open as indicated on the information board.

Registration forms may be inspected by Team Leaders on request prior to the start of competition flying

1.9.2 PILOT AND NAVIGATOR QUALIFICATIONS

A competing pilot shall be of sufficient standard to meet the demands of an international competition and hold a valid pilot license or equivalent certificate. Both pilot and navigator must hold an FAI Sporting License issued by his own NAC. The navigator must have reached the age of 14 years.

1.9.3 AIRCRAFT AND ASSOCIATED EQUIPMENT

Aircraft and equipment provided by the competitor must be of a performance and standard suitable for the event.

Each aircraft must possess a valid Certificate of Airworthiness or Permit to Fly not excluding competition flying issued in or accepted by:

- the country of origin of the aircraft or
- the country entering it or
- the UK CAA.

However, if the aircraft is exempted from airworthiness requirement in:

- the country of origin of the aircraft and
- the country entering it and
- the UK CAA,

then, subject to the approval of the UK CAA, no Certificate of Airworthiness or Permit to Fly will be required. The aircraft must comply with the FAI definition of a Microlight or Paramotor at all times (S10 1.3).

The aircraft shall fly throughout the championships as a single structural entity using the same set of components as used on the first day except that propellers may be changed provided that the weight limit is not exceeded and the Certificate of Airworthiness or Permit to Fly is not invalidated. (S10 4.13.2)

All aircraft must be made available during the Registration period for an acceptance check in the configuration in which they will be flown. The organisers have the right to inspect for class conformity and airworthiness and, if necessary, ground any aircraft for safety reasons at any time during the event.

All aircraft must be equipped with a simple method of sealing the fuel tank and all available connections during the flights. The installation or removal of equipment including fuel tanks and instruments for some tasks will be not allowed. The following instruments must be carried at all times:

- Air speed indicator
- Altimeter
- Magnetic compass
- CIMA approved flight recorder

1.9.4 TEAM LEADER RESPONSIBILITIES

The team leader is the liaison between the organisers and his team. He is responsible for the proper conduct of his team members, for ensuring that they do not fly if ill or suffering from any disability which might endanger the safety of others and that they have read and understand the rules.

1.9.5 STATUS OF RULES AND REGULATIONS

Once competition flying on the first day has started no rules or regulations may be changed. Any additional requirements within the rules needed during the event will not be retrospective. Competitors may not be substituted, change to another class nor change their aircraft (S10 4.6.2 & 4.10.2).

1.9.6 PRACTICE & REST DAYS

The official practice period will be 4th, 5th and 6th August 2010 will be made available to all competitors. The entire infrastructure for the competition will be ready for the first day of the official practice period. At least one practice task will be flown under competition conditions to test the integrity of the organisation. The scores thus generated will not be counted. Time will be made available for practicing precision tasks and pilots must only practice precision tasks in accordance with the published procedure. Breach of the published procedure may lead to disqualification. Flight recorders must be carried and used on each flight made after arrival at Sywell and made available at the Competition Director at the end of the day so that it can be verified that no infringement of no fly zones has taken place. Infringement of no fly zones may lead to disqualification from the competition.

Rest days will only be held on account of bad weather or unforeseen emergency

1.9.7 COMPLAINTS

A competitor who is dissatisfied on any matter may, through his team leader, make a complaint in writing to the Director. Complaints shall be made, and dealt with, without delay but in any case must be presented not later than 6 hours after the respective Provisional Score sheet has been published, not counting the time between 22:00 and 07:00, except for the tasks of the last competition day, or for Provisional Score sheets published on or after the last competition day, when the time limit is 2 hours.

A complaint that could effect a task result must be dealt with and answered in writing before any official score sheet is issued. (S10 4.30)

1.9.8 PROTESTS

If the competitor is dissatisfied with the decision about its Complaint, the Team Leader may make a protest to the Director in writing and accompanied by the protest fee of €50. The fee is returnable if the protest is upheld or withdrawn before the start of the proceedings. A protest may be made only against a decision of the Competition Director.

A protest must be presented not later than 6 hours after the respective Official score sheet has been published, except for the tasks of the last competition day, or for Official Score sheets published on or after the last competition day, when the time limit is 2 hours. The night time between 22:00 and 07:00 is never included. (S10 4.31)

1.10 FLYING AND SAFETY REGULATIONS

1.10.1 BRIEFING

Briefings will be held for team leaders and/or competitors on each flying day. The time and place for briefing meetings and any postponements will be prominently displayed.

All briefings will be in English and be recorded in notes, by tape recorder or video. A Full task description, met information, flight safety requirements, penalties and details of any prohibited or restricted flying areas will be given in writing, as a minimum, to team leaders, Jury members and Stewards. (S10 4.17.1)

Procedures for flight preparation, takeoff, flying the task, landing and scoring together with any penalties will be specified in each task description. (S10 4.17)

Flight safety requirements given at briefing carry the status of regulations. (S10 4.17.3)

Team Leaders' meetings, in addition to briefings, may be called by the Director, but shall be held within 18 hours if requested by five or more team leaders. (S10 4.18)

1.10.2 COMPLIANCE WITH THE LAW

Each competitor is required to conform to the laws and to the rules of the air of the country in which the championships are held. (S10 4.19.1)

1.10.3 PREPARATION FOR FLIGHT

Each aircraft shall be given a pre-flight check by its pilot and may not be flown unless it is serviceable. (S10 4.19.3)

1.10.4 FLIGHT LIMITATIONS

Each aircraft shall be flown within the limitations of its Certificate of Airworthiness or Permit to Fly. Any manoeuvre hazardous to other competitors or the public shall be avoided. Unauthorised aerobatics are prohibited. (S10 4.19.2)

1.10.5 DAMAGE TO A COMPETING AIRCRAFT

Any damage shall be reported to the organisers without delay and the aircraft may then be repaired. Any replacement parts must be replaced by an identical part, except that major parts such as a wing for a paraglider controlled aircraft may be replaced by a similar model or one of lesser performance. Note. Change of major parts may incur a penalty. (S10 4.19.4)

An aircraft may be replaced by permission of the Director if damage has resulted through no fault of the pilot. Replacement may be only by an identical make or model or by an aircraft of similar or lower performance and eligible to fly in the same class. (S10 4.19.5)

1.10.6 TEST AND OTHER FLYING

No competitor may take-off on a competition day from the contest site without the permission of the Director. Permission may be given for a test flight but if the task for that class has started the pilot must land and make a competition take-off on the task. Practising prior to a task is not permitted. (S10 4.21)

1.10.7 FITNESS

- A pilot may not fly unless fit. Any injury, drugs or medication taken, which might affect the pilot's performance in the air, must be reported to the Director before flying.
- Every nation has the full responsibility to fight against doping. Anti doping control may be undertaken on any competitor at any time.
- The decision to impose anti doping controls may be taken by the FAI, the organiser or the organiser's national authority.
- All relevant information can be found on the FAI Web site: www.fai.org/medical

1.10.8 AIRFIELD DISCIPLINE

Marshalling signals and circuit and landing patterns will be given at briefing and must be complied with. Non compliance will be penalised.

1.10.9 COLLISION AVOIDANCE

A proper look-out must be kept at all times. An aircraft joining another in a thermal shall circle in the same direction as that established by the first regardless of height separation.

A competitor involved in collision in the air must not continue the flight if the structural integrity of the aircraft is in doubt. (S10 4.20.5)

1.10.10 CLOUD FLYING

Cloud flying is prohibited and aircraft shall not carry gyro instruments or other equipment permitting flight without visual reference to the ground. (S10 4.20.6)

1.10.11 ELECTRONIC EQUIPMENT:

No electronic equipment may be carried in flight or used in quarantined areas in advance of a flight without the approval of the Competition Director. Details of equipment for which approval is likely to be given will be published in the bulletins.

CIMA approved GNSS flight recorders and ELT's without voice transmission capability are permitted and may be carried. Sealed mobile phones may be carried for use after landing or in an emergency, the director must be immediately informed if the seal is broken. All other electronic devices with real or potential communication or navigation capabilities must be declared and approved for carriage by the Championship Director. (S10 4.22.3)

Before each task the Director will ask marshals to check for infringements. The penalty is disqualification from the competition.

A document describing the device will be signed by the competitor when it is being sealed, and the document will be retained by the organization. After the task, provided the seal is not broken, documents will be returned to each competitor when he comes to unseal the device. If a document is still in the possession of the organization at the time of issuing the scores, the competitor will receive a 100% task penalty.

1.10.12 EXTERNAL AID TO COMPETITORS

Any help in navigation or thermal location by non-competing aircraft, including a competing aircraft not carrying out the task of their own class is prohibited. This is to ensure as far as possible that the competition is between individual competitors neither helped nor controlled by external aids. (S10 4.22)

1.11 CHAMPIONSHIP TASKS

1.11.1 GENERAL

To count as a valid championship task all competitors in the class concerned will be given the opportunity to have at least one contest flight with time to carry out the task.

A task for each class may be different and a task may be set for all classes. (S10 4.24.4)

A competitor will generally be allowed only one take-off for each task and the task may be flown once only. A competitor may return to the airfield within 5 minutes of take-off for safety reasons or in the event of a GNSS flight recorder failure. In this case a further start may in principle be made without penalty but equally the competitor must not benefit in any way from restarting. Exceptions and penalties will be specified in the Task Description. (S10 4.25.2)

Precision tasks may be combined with other tasks or set separately.

1.11.2 TASK PERIOD

Times for take-off, closing of take-off windows, turn points and last landing will be displayed in writing. If the start is delayed, given times will be correspondingly delayed unless specifically briefed to the contrary.

1.11.3 TASK SUSPENSION OR CANCELLATION

The Director may suspend flying after take-offs have started, if to continue is dangerous. If the period of suspension is sufficiently long to give an unfair advantage to any competitor, the task shall be cancelled. Once all competitors in a class have taken off or had the opportunity to do so, the task will not be cancelled except for reasons of force majeure. (S10 4.25.3)

1.11.4 TYPES OF TASKS

Only tasks approved by CIMA or listed in S10 A4 will be used:

- A Flight planning, navigation estimated time and speed but no fuel limitation.
- B Fuel economy, speed range, duration, with limited fuel.
- C Precision

A catalogue of tasks (and their scoring systems) to be implemented during the championship is attached to these local regulations.

1.11.5 FLYING THE TASKS

Any part of a competition task may be flown either

- a along a set course in the direction specified at the briefing,
- b along an in flight decided course in the direction selected by the pilot,
- c according to a local pattern specified at the briefing.

The resulting complete task is the combination of the above.

Order of take off may be

- a scheduled take off order, balloted by the Organiser,
- open window,
- current championship or reverse championship order

The actual scheduled take off order is annexed to the relevant Task Description.

If a touch and go is required in order to separate parts of a task, details will be given in the Task Description and at the briefing.

1.11.6 OUTLANDINGS

Outlandings shall be scored zero, unless specifically stated at the briefing. If a pilot lands away from the goal field or from base he must inform the organisers by telephone, with the minimum of delay and at the latest by the closing time of the task. He may break the fuel tank seal and fly home or return by road. Evidence of the landing place must be obtained from photographs and the name and addresses of a witness other than the pilot's national team or from GNSS flight recorder evidence. On return to base the pilot must go immediately to Control with his evidence. Failure to follow this procedure without good reason may result in no score for the task, charges for any rescue services called out, or disqualification. (S10 4.27)

1.11.7 FLIGHT BOUNDARIES

Flights terminating beyond the boundaries of the organiser's country shall score only to the point where a straight line between the start point or last turn point and the landing place last cuts the boundary, unless permission is given at briefing to cross such boundaries.(S10 4.28)

1.11.8 EMERGENCIES

A competitor landing to help an injured pilot shall not, at the discretion of the Director, be disadvantaged by this action.

1.11.9 THE SECURE AREA

This is a clearly marked area where the aircraft must be placed from time to time as instructed by the director. Once in the Secure Area and without the expressed permission of the director, no aircraft may be touched for any reason other than to remove it from the Secure Area. Competitors who do not respect the rules of the Secure Area may be liable to penalty.

1.11.10 QUARANTINE

This is a clearly marked area to which aircraft and crew must go from time to time as instructed by the director, usually for the purposes of scoring, fuel measurement and scrutineering of fuel tank seals, fuel systems, telephone seals etc. Once in the Quarantine and without the expressed permission of the Quarantine Marshal, the crew may not communicate with anyone else and may not modify or

otherwise change the configuration of their aircraft and items carried. Competitors who do not respect the rules of the Quarantine area may be liable to penalty.

1.12 CONTROL OF TASK FLIGHTS.

1.12.1 TIMING

All times are given, taken and calculated in local time or simple elapsed time, rounded down to the most accurate permitted precision. (S10 5.2.6 and 5.2.7)

1.12.2 FUELLING

Fuel will be measured by weight or volume but will be consistent for any given refuelling session. Measured fuel quantities include oil where it is mixed with petrol. Fuel measured by volume shall be within $\pm 10^{\circ}\text{c}$ of the ambient temperature.

Refuelling will be in the order and in accordance with the instructions given at briefing. Failure of the aircraft to be present on time may result in penalty for the pilot.

Official observers will collect documentary evidence that all competitor's fuel systems are sealed immediately after fuelling, and that all competitor's fuel systems seals have been inspected after landing.

1.12.3 ACCURACY

Landing accuracy will be verified by video cameras.

1.12.4 GATES, TURNPOINTS AND MARKERS

Gates are normally a straight line 250m wide perpendicular to the briefed track.

Gates may be:

- Known gates. Their position and height to be crossed will be briefed.
- Hidden gates. The height to be kept along the sections of the course where they are situated will be briefed.

Proof of passing a gate and it's timing will be by Marshals report or GNSS flight recorder evidence, as briefed.

Control points may be: A geographical point, a ground marker, a landing marker or a kicking stick.

Control points may be:

- Known control (turn) points. Their position and description will be briefed.
- Hidden control points. The track along which they will be found and their description will be briefed.

Proof of reaching a control point may be:

- by photography
- by the competitor recording the symbol and position on the declaration sheet
- by a Marshall's report.
- by flight recorder evidence

The precise requirements will be described in the Task Description.

1.13 GNSS FLIGHT RECORDERS

1.13.1 The status of GNSS flight recorder evidence relative to other forms of evidence is as follows: (*delete as applicable*)

- All aircraft shall carry a FR which will be used as primary evidence.

- In the event of a failure of the primary FR, a second FR, photographic evidence or observers report may be used as secondary evidence.

1.13.2 Only CIMA approved FR may be used and they must be operated in strict accordance with their approval documents. (S10 A6)

1.13.3 The FR to be used by a pilot in a championship will be supplied by the pilot. The FR case must be clearly labelled with the pilots name and competition number and (if applicable) this information must be entered into the memory of the FR.

1.13.4 The pilot must make a data transfer cable and a copy of the transfer software on 1,44Mb floppy disk available to the organization if required.

Before the championship starts each FR must be presented together with its CIMA approval document to the organization for inspection and recording of type and serial number. The pilot must be sure it fully complies with any requirements in the approval document e.g. that manufacturer's seals are intact and it is equipped with a data-port sealing device if it is required or it will be rejected by the organization.

Once the championship has started the pilot must always use the same FR. In the event of a permanent failure, another FR may be used after it has been presented together with its CIMA approval document to the organization for inspection and recording of type and serial number.

All FR's must be presented to the organization for inspection immediately before the start of each task. If secondary evidence is presented then both sets must be clearly marked 1 and 2. Only one set of evidence will be used to verify the flight.

1.13.5 It is the pilots responsibility to ensure that he is fully aware of the functions and capabilities of his FR eg. how to operate the PEV marker button, that it has sufficient battery power and that the antenna is correctly positioned etc.

1.13.6 Where FR data is to be used for scoring, the organizer must have visited every location which could affect the scoring and got a GNSS fix of that position. E.g. turnpoints, hidden gates etc. It is not acceptable to extract positions from a map in any circumstances. Points that will not require FR evidence for scoring (eg. because a marshal is taken times at a hidden gate) must be specifically briefed.

1.13.7 The scoring zone for FR's is independent of any other zone or sector (eg. photo sector). A scoring zone will normally be a cylinder of 200 m radius and of infinite height.

To score a fix point must either be within this circle, or the line connecting two sequential track fixes must pass through the circle. Additionally the task may require one of these fixes to be associated with a pilot event mark (PEV).

Complaints about the physical mis-positioning of a scoring zone relative to a turnpoint will not be accepted unless it can be shown that the physical position of the location is outside a circle of radius $R = R_p/2$ where $R_p =$ Radius or size of the scoring zone defined by the Organizers (ie the physical location must lie inside an inner circle half the width of a gate or radius of a scoring zone).

1.13.8 Gate or point time is taken from the fix immediately before it is crossed.

1.14 SCORING

1.14.1 GENERAL

The overall results will be computed from the sum of the task scores for each competitor, the winner having the highest total score in the class. (S10 4.29.2)

A score given to a competitor shall be expressed to the nearest whole number, 0.5 being rounded up. (S10 4.29.5)

All distances not obtained from GNSS shall be calculated from the official map, which will be the UK CAA 1:250,000 Chart, and rounded up to the next 0.5 km. (S10 4.29.6)

A pilot who did not fly scores zero and will be marked DNF or "Did Not Fly" on the score sheet. A pilot who is disqualified scores zero and will be marked DSQ or "Disqualified" (S10 4.29.7)

Deduction of penalty points shall be made after scoring for that task is completed.(S10 4.29.8)

If a pilot's score is for any reason negative including penalties his score for the task shall be taken as zero. Negative scores shall not be carried forward. (S10 4.29.10)

The following standard symbols will be used for scoring:

V = Speed, D = Distance, T = Time

The scoring system to be used shall be approved by the FAI Microlight Commission and attached to the Local regulations.

Score sheets shall state the Date for the task and the date and the time when the score sheet was issued, the Task number, Classes involved, Competitors name, Country, the Competitors Number and Score. Score sheets shall be marked Provisional, and Official, or if a protest is involved, Final.

A Provisional score sheet shall only become Official after all complaints have been answered by the Director. Scores shall not be altered when the Provisional sheet is made Official. (S10 4.29.1)

If a failure in GNSS flight analysis or scoring is discovered before the end of the championship and the failure is due to a technical error which emanates from either the Competition Director, or the scoring staff, or the equipment being used for the GNSS flight analysis or scoring, this failure must be corrected regardless of time limits for complaints and protests. (S10 4.29.11)

1.14.2 PENALTIES

In general, any infringement of any flying, safety or task regulation will result in penalty.

Actions which will normally result in disqualification:

- a. Bringing the event, its organisers, the FAI or the sporting code into disrepute.
- b. The use of banned substances.
- c. Unauthorised interference with an aircraft in a Secure Area.
- d. Flight outside the specified flight envelope of the aircraft or dangerous flying.
- e. Flight or attempted flight with prohibited equipment.
- f. Unauthorised assistance during a task.
- g. Interference with the firmware or software of a CIMA approved GNSS flight recorder.

PART 2 MICROLIGHT SPECIFIC SECTION

2.1 GENERAL REMARKS

2.1.1 RANGE

All aircraft will be expected to have a still air range of 250 km.

2.1.2 TAKE-OFF AND LANDING

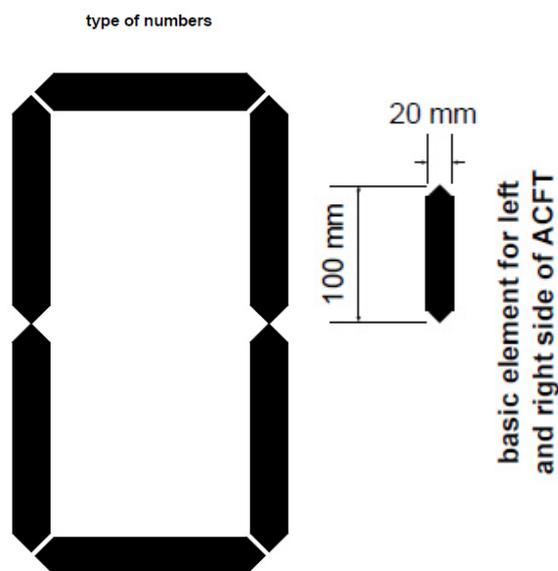
Unless it is stated differently in the task description - all competition take-offs and landings must be completed within a deck 100m x 25m. The penalty for failing to take off or land entirely within the deck will be 20% of pilot score, as briefed. Details of Deck Takeoff and Deck Landing are shown in Tasks 3.8 and 3.9.

2.1.3 CONTROL OF CLASS CONFORMITY

All aircraft will be weighed before the event, and any aircraft may be weighed again at any time in the championships. The take-off weight is the weight of the aircraft ready to fly including pilot(s), fuel, and any supplementary equipment, but excluding an emergency parachute. The take-off weight must not exceed the FAI definition of a microlight for the class in which it is flown.

2.1.4 CONTEST NUMBERS

The numbers or letters, which should be supplied by the competitor to the specification shown in the adjacent diagram, shall be displayed on a suitable space on both sides of the pod in a colour contrasting to the background. Identification may also be required on other parts of each microlight (e.g. fin, cockpit side or pilot's helmet).



2.1.5 PROTECTIVE EQUIPMENT

A protective helmet must be worn on all flights unless this restricts vision from within an enclosed cockpit canopy with supine seating. An emergency parachute system is highly recommended. (S10 4.20.1)

2.2 FLIGHT CONTROL

2.2.1 FUEL

Prior to fuelling for economy tasks competitors must be able to demonstrate that their aircraft tanks are empty and that the engine cannot run in either the ground or in-flight attitude of the microlight. After refuelling the engine will then be run for 60 seconds to ensure all systems are free of air. Where possible this process will take place immediately prior to the task to enable engines to be warmed up. When tanks are required to be sealed before a task the penalty for returning to the Quarantine area with a broken or a missing seal will be 100% of the pilot score. In an economy task aircraft which have landed will be required to taxi under power of their own engine between two points on the airfield where the landing has taken place separated by 100 metres in order to prove that the aircraft carries usable residual fuel. If the aircraft fails to complete this 100 metre taxi the competitor will be scored as though the aircraft had outlanded (see 1.11.6 above). If so briefed it may be permissible to push the aircraft from the landing point to the start of the 100 metre taxi.

2.2.2 DISTANCE MEASUREMENTS

Distance will be measured for all competitors on the same official map, of a scale of 1:250 000. Measurement will be made to the nearest 0.1 km.

2.2.3 KNOWN GATES

When competitors prior to take off are informed of the location of a timing gate, the approach to that gate may be between 500 and 1000 feet height and in a straight line for the final 1 km. Any deviation from this approach may incur a penalty

2.3 SCORING

2.3.1 The total value of tasks flown in each class during the Championships must as far as possible be very close to:

A Tasks for flight planning, navigation, etc with no fuel limit: 50% of the total value of the tasks flown.

B Tasks for fuel economy, speed, duration, etc with limited fuel: 20% of the total value of the tasks.

C Precision tasks: 30% of the total value of the tasks flown.

2.3.2 The winner of each class shall be the pilot or crew gaining the highest total points in the class.(S10 4.29.2)

2.3.3 The team prize shall be computed from the sum of the scores of the top three pilots from each country in each class in each task. The task score for which a pilot was disqualified shall not count for team scoring. Other valid tasks flown by this pilot are not affected (S10 4.29.3)

2.3.4 CROSS COUNTRY TASKS

The maximum score may be up to 1000 points per task and is calculated as follows:

$$P = Q/Q_{\max} \times 1000$$

where: Q = pilot score, Q_{max} = best score for the task, P = Total score

2.3.5 PRECISION TASKS

The scoring formula for each precision task is to be found in A4, the task catalogue.

2.4 GENERIC TASKS

2.4.1 FLIGHT PLANNING, NAVIGATION TASKS

2.4.1.1 OBJECTIVES

The objectives of a flight planning navigation task include testing the competitors' ability to:

plan a flight from information provided

follow an accurate course in the prevailing conditions

maintain a given or predicted ground speed

2.4.1.2 SUMMARY

Competitors are required to fly accurately along a course provided by means of:

- a straight line, an arc, a circle, a polygon, an irregular line or any combination of these drawn on a map.
- a line with beginning and end points marked on a map or provided as map references with geometric instructions specifying the line between them.
- a line start point marked on the map or provided as a map reference with geometric instructions specifying the route to be followed.
- a start point located on the ground with a true or magnetic heading or geometric instructions specifying the route to be followed.

The task may consist of one or several legs, each using any of the above. In addition competitors may be required to fly all or part of the course at a given or predicted ground speed.

2.4.1.3 EVIDENCE

Evidence of the accuracy with which the competitors have flown may be provided by means of:

- photographs taken by competitors of on-track ground features
- marks made by competitors on a map indicating the location of on-track ground features identified from photographs provided
- successful navigation by competitors to the next waypoint or turnpoint
- marshals observing and recording the time that aircraft pass through on-track gates or pass over waypoints or turnpoints
- a GNSS record of the flight

Competitors may be required to provide a pre-flight declaration which may include:

- a list of waypoints or turnpoints to be visited
- the order in which waypoints or turnpoints are to be visited
- the time a waypoints or turnpoints is to be visited
- the predicted groundspeed over any part or parts of the course

2.4.2 FUEL ECONOMY, SPEED RANGE, DURATION TASKS

2.4.2.1 OBJECTIVES

The objectives of a fuel economy task include testing the competitors' ability to:

- maximise aircraft fuel performance
- predict aircraft fuel consumption
- use prevailing weather conditions to supplement fuel

2.4.2.2 SUMMARY

Competitors are required to fuel their aircraft with a measured volume or weight of fuel, or with the amount of fuel they predict they will need to fly a given task in the prevailing conditions, to seal their fuel tanks and then:

- fly as far as possible before landing at a designated landing area
- fly for as long as possible before landing at a designated landing area
- fly a multi-leg task in which each leg may have different performance objectives, or
- fly a planned task before landing in a designated landing area

or any combination of these. Competitors must return with sufficient fuel to taxi under power of the aircraft's engine 100 metres between two specified points on the airfield at which the landing has taken place. Unless otherwise briefed the aircraft will also be required to taxi from the landing point to the start point of the 100 metre taxi.

2.4.2.3 EVIDENCE

Evidence of competitors' performance may be provided by means of:

- photographs taken by competitors of ground features
- marks made by competitors on a map indicating the location of ground features identified from photographs provided to prove distance traveled

- marshals observing and recording the time that aircraft pass through gates on or off the airfield to prove distance or time traveled
- a GNSS record of the flight

Evidence of fuel consumption may be provided by:

- verifying that the competitors' fuel tanks and systems are empty before fueling
- measuring the fuel with which the tank is filled
- sealing the fuel tank before the flight
- verifying after the flight that seals on the fuel tank are intact

2.4.3 PRECISION TASKS

2.4.3.1 OBJECTIVES

The objectives of a precision task involve testing the competitors' ability to handle their aircraft, where possible in circumstances similar to those that may be encountered during normal or emergency flying activity.

2.4.3.2 SUMMARY

Competitors are required to demonstrate:

- normal takeoffs
- short takeoffs
- powered landings
- engine-off landings
- short landings
- powered touch and go

2.4.3.3 EVIDENCE

Evidence of competitors' skill may be provided by means of:

- observation recorded by marshals with reference to marks or measurements on or near the ground
- tapes, ribbons, balloons or other items that may be cut or broken by an aircraft without causing damage to the aircraft or injury to the crew or observers
- electrical or electronic equipment that records the passage of the aircraft using a pressure detector, photo cell or similar device

2.4.4 COMPOSITE OR SEQUENTIAL TASKS

2.4.4.1 OBJECTIVES

The objective of a composite task, which may combine any of the above, is to make the competition more demanding and more interesting for the competitors. The objective of a sequential task, in which any of the above tasks may follow another without a break, is to enable a competition director to run two tasks in a shorter time than would otherwise be possible.

2.4.4.2 SUMMARY

Composite tasks may combine any or all of the Navigation, Economy & Precision tasks, although such tasks must be carefully designed in order to ensure that one aspect of the task does not compromise another. For example, precision tasks may usefully be combined sequentially with Navigation or Economy or other Precision tasks. Care must be taken to ensure that a problem in the first task does

not invalidate the next task in sequence. A timed economy task that ends with an engine off precision landing may be compromised by congestion around the landing deck

Names/number of accompanying technical officials if known

.....

.....

ENTRY FEES

	Fee	Number	Total Entry fee
Pilot / Nav			
Team Leader			
Assistant			
Technical Official			

This amount is enclosed/will be paid by _____ (date) in the form of _____ (currency)

Note : The closing date for the receipt of entry fees is 30th June. Late entries may not be accepted. Payments made by 1st May will attract a discount of 10%.

We declare that the above information is true.

Signed : Position in NAC.....

Print Name Date

INSURANCE:

as required by Regulation (EC) No 785/2004 of the European Parliament and the Council of 21 April 2004 is obligatory. Personal accident insurance for team members and insurance against damage to aircraft are highly recommended. Documentary proof of insurance as specified on the Entry Form must be presented to the Organizers at Registration.

PUBLICITY:

A passport type photograph and a short biographical note for each pilot and the team leader should be provided by email to info@emc2010.org.uk or with this Entry Form or at latest at Registration.

TASK CATALOGUE

AUTHORITY

This Task Catalogue is to be used in conjunction with the Local Regulations. The General Section and Section 10 of the FAI Sporting Code takes precedence over the Local Regulation and Task Catalogue wording if there is ambiguity.

SYMBOLS

Key to symbols used in the task catalogue

	Line drawn before takeoff	F □	Finish point
	Line drawn after takeoff	P	
	Free flight	F △	Finish point with time gate
	Direction of travel	P	
□	Marker selected from list of Marker Symbols	△ Π	Marker identity given before takeoff
○	Ground feature to be identified from photograph		Home airfield
⬠	Turnpoint		Outlanding airstrip
⬠	Turnpoint to be identified from photograph		Direction of landing
	Ground feature to be photographed or controlled by FR evidence.		Left hand circuit
△	Timing point or gate		Right hand circuit
SP □	Initial or Start point		Circuit height above ground in feet
SP △	Initial or Start point with time gate		Windssock
			Landing direction indicator
			Road or track

Marker Symbols

H
I
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X
□
=
Π
△

1. LIMITED FUEL TASKS

1.1. AREA TRIANGLE & SPEED

Objective:

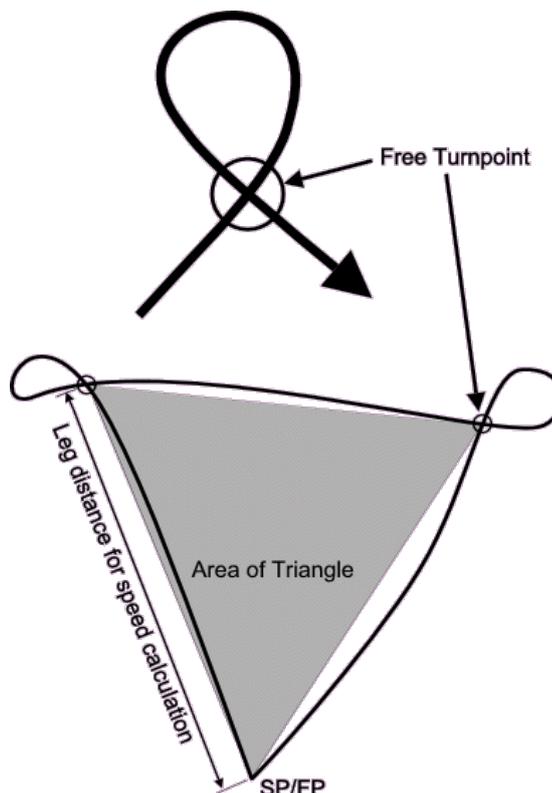
With limited fuel competitors must fly a triangular course with the objective of creating a triangle of maximum possible area. One of the first two legs, nominated by the competitor, will be a speed leg, to be flown as fast as possible.

The task will start and finish at the point SP/FP which will be a single point specified by the Competition Director. The other two turnpoints will be corners of the triangle which the competitors may choose freely unless otherwise briefed provided that this will not result in them infringing a briefed no-fly zones. These two free turnpoints will be the points where the two consecutive sides of the triangle intersect when a precision turn is flown, as illustrated below, so the new leg crosses the previous leg. The area within the triangle created by SP/FP and the two free turnpoints points will be calculated to determine the 'triangle area' score. One of the first two legs, nominated by the competitor, will be scored for speed (NOT the final leg). The procedure for the flight from takeoff to SP/FP and from SP/FP to landing will be as briefed.

If the first leg is nominated to be the speed leg, timing will start at SP/FP and finish at the intersection of the first two legs before the start of the precision turn, as illustrated below. If the second leg is nominated to be the speed leg then the timing will start at the intersection of the first and second tracks, after the precision turn, and finish at the intersection of the second and third tracks before the precision turn. Time taken will, therefore, exclude the turns themselves to avoid encouraging high speed and high bank angle turns.

Scoring:

Competitor score = (competitor area / best area x 700) + (competitor speed / fastest speed x 300)



1.2. STRAIGHT LINE DISTANCE AND DURATION

Objective:

With limited fuel, to achieve maximum out and return distance from start point and maximum duration flight.

Task will start at a given SP1 and finish at a given FP1. Competitors will be free to make an out and return distance flight in any direction provided that this will not result in them infringing a briefed no-fly zones. Distance will be measured as the maximum straight line distance from SP1 to the most distant point reached and back to FP1. Duration will be measured from a given SP2 to a given FP2. SP1 may be the same point as SP2 and FP1 may be the same point as FP2. The procedure for the flight from takeoff to SP1 and from FP1 to landing will be as briefed.

Scoring:

Distance score will be divided into 50km steps with descending score for each successive step. Within each step score shall accrue thus:

- 1 = 5 points/km
- 2 = 4 points/km
- 3 = 3 points/km
- 4 = 2 points/km
- 5 and above = 1 point/km

Duration scores will be divided into one hour steps and scores shall accrue thus:

- 1 = 5points/min
- 2 = 4 points/min
- 3 = 3 points/min
- 4 = 2 points/min
- 5 and above = 1 point/min

Competitor score = (Competitor distance score/ best distance score x 500)
+ (Competitor duration score / best duration score x 500)

1.3. TURNPOINT HUNT – SPIDERS WEB

Objective:

With limited fuel to visit as many given turnpoints as possible.

A turnpoint grid will be given. From SP enter the grid. This grid will have track lines drawn between turnpoints, resembling a web of radials and arcs. These track lines may only be flown in the direction marked on the official map. From the last visited turnpoint fly to FP. The procedure for the flight from takeoff to SP and from FP to landing will be as briefed.

Scoring:

Competitor score = (Competitor turnpoints visited / max turnpoints visited) x 1000

1.4. PURE DURATION

Objective:

With limited fuel to achieve a flight of the maximum duration.

Timing will commence at a given SP or arc, and finish at a given FP or arc. The procedure for the flight from takeoff to SP and from FP to landing will be as briefed.

Scoring:

Duration scores will be divided into one hour steps and scores shall accrue thus:

- 1 = 5 points/min
- 2 = 4 points/min
- 3 = 3 points/min
- 4 = 2 points/min
- 5 and above = 1 point/min

Competitor score = (Competitor duration score/ max duration score achieved) x 1000

2. NAVIGATION TASKS

2.1. PRECISION NAVIGATION ALONG A KNOWN TRACK

Objective:

To fly as precisely as possible along a known track, whilst identifying ground features from photos provided, or ground markers and marking them accurately on a map. All or a defined part of the course may be scored against declared groundspeed(s). Defined legs of the course may be flown for fast or slow speed. The course may consist of straight legs, circles and/or curves.

A start order will be given. The course will start at SP and each competitor's time will commence at the given SP time. Groundspeed may be measured against elapsed time from SP time as the aircraft passes timing gates, or may be sampled between timing gates. Track accuracy will also be awarded by passing through track accuracy gates. The position of gates will not be given.

Photosheets will be given. If more than one is given then the changeover point along the course where one sheet ends and another starts will be specified. A list of possible ground markers is given in the local regulations. Competitors should identify on a map the actual position of the ground markers and the ground features in the photos. The task ends at FP. The procedure for the flight from takeoff to SP and from FP to landing will be as briefed.

Scoring:

Each track accuracy gate passed correctly = 100 points

Timing gates passed correctly = 100 points – 5 points per second over +/- 5 second tolerance from calculated time.

Each correctly identified ground feature or marker marked within 3mm on official scoring map = 50 points. If greater than 3mm but less than 5mm = 0 points. If greater than 5mm = -50 points.

Fast / slow – (crews fast speed/fastest speed) x 100 + (slowest speed/crews slow speed) x 100

Competitor's score = Q/Qmax x 1000 where:

Q= Competitor's individual accumulated score

Qmax = best individual accumulated score in task/class

2.2. PRECISION NAVIGATION WITH A PARTIALLY KNOWN TRACK

Objective:

To fly as precisely as possible along a known track, and to then construct and fly subsequent legs of the track from information found. All, or defined part of the course may be scored against declared groundspeed(s) – or alternatively may be flown with points for fastest speed. The course may consist

of straight legs, circles or curves. There may be additional photos of ground features to spot, or ground markers.

Task starts at SP. First track line will be known. When competitor finds a certain marker or feature this will dictate the turnpoint for the next leg which will be a straight line to the SP of the second known track line. Situation repeats until FP.

If competitor does not find a turnpoint feature/marker, they should continue to the end of the known track line then fly directly to the SP of the next known track line (or FP).

Groundspeed can be sampled anywhere on the course between unknown gates. No gate will be within 4km of a turnpoint – but gates may be either side of a turnpoint (means groundspeed may include travel around the turnpoints). Track accuracy will also be awarded by passing through track accuracy gates. The position of gates will not be given.

Photosheets will be given. If more than one is given then the changeover point along the course will be given where one sheet ends and another starts. A list of possible ground markers is given in the local regulations Crews should identify the actual position of the ground markers, and the ground features in the photos. Task ends at FP. The procedure for the flight from takeoff to SP and from FP to landing will be as briefed.

Scoring:

Each track accuracy gate passed correctly = 100 points.

Timing gates passed correctly = 100 points – 5 points per second over +/- 5 second tolerance from calculated time.

Each correctly identified ground feature or marker marked within 3mm on official scoring map = 50 points. If greater than 3mm but less than 5mm = 0 points. If greater than 5mm = -50 points.

If flown for speed, the speed score = fastest elapsed time/competitor's elapsed time x 300

Competitor's score = $Q/Q_{max} \times 1000$ where:

Q= Competitor's individual accumulated score

Q_{max} = best individual accumulated score in task/class

Examples:

- 'Gearwheel' - Known track consists of two concentric circles. SP is on outer circle. Pilot starts course on time and proceeds around circle in given direction looking for photos and markers and keeping to declared groundspeed. When turnpoint marker/photo is found, a line consisting of a radial is constructed and flown to intersect with the inner circle. Photos and markers may be found on the constructed line and groundspeed continues. On reaching inner circle follow it looking for photos and markers and keeping to declared groundspeed. When turnpoint photo/marker is found, a line consisting of a radial is constructed and flown towards the outer circle. Photos and markers may be found on the constructed line and groundspeed continues. On reaching outer circle continue and repeat process until FP.
- 'Zigzag' – Known track consists of a number of separated straight lines. Pilots starts course on time and proceeds in given direction looking for photos and markers. When turnpoint photo/marker is found a straight line is constructed to the SP of the second line. Repeat process until FP. If competitor does not find a turnpoint feature/marker, they should continue to the end of the known track line then fly directly to the SP of the next known track line (or FP). Groundspeed may be flown on entire course, or if wind strength is too much comp director may define groundspeed legs and competitors declare groundspeeds for each.

2.3. CONTRACT TURNPOINT HUNT

Objective:

To visit as many turnpoints as possible in limited time to a declared plan

Crews assemble next to aircraft prepared for flight in quarantine area near takeoff deck. On stated time they receive map with turnpoints and limited time starts. Before takeoff crews must complete a declaration stating which turnpoints and in which order they intend to visit them. This must be handed to the marshall on start of takeoff deck. Marshalls shall allow aircraft departure every 30 seconds in order of aircraft leaving quarantine ready for flight. Any aircraft reaching the deck and not ready to takeoff shall be sent to back of queue.

After takeoff crews shall fly to SP using procedures as briefed. After last turnpoint is visited crews should fly to FP where time finishes. The procedure for the flight from takeoff to SP and from FP to landing will be as briefed.

Scoring:

Each correctly visited turnpoint = 100 points. Each turnpoint declared and not visited = -100 points. If visited in wrong order = -100 points per incorrectly visited turnpoint.

Crews score = $Q/Q_{max} \times 1000$ where:

Q= Crews individual accumulated score

Q_{max} = best individual accumulated score in task/class

3. PRECISION TASKS

These will include the following tasks:

- Spot landing
- Spot landing timed
- Powered precision landing
- Powered precision landing timed
- Precision touchdown
- Precision touchdown timed
- Short takeoff
- Short landing
- Multiple powered precision landing (“steeplechase”)

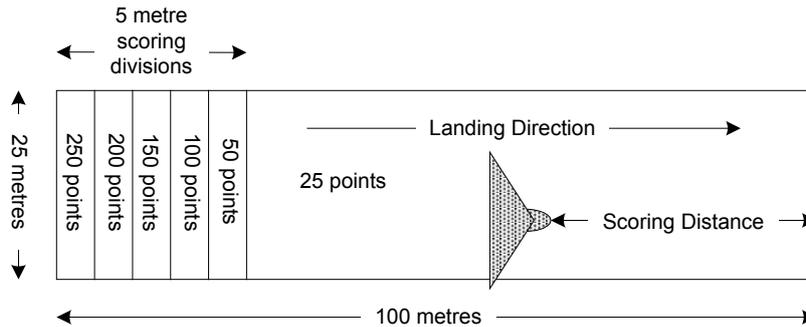
3.1. SPOT LANDING

Objectives

The objective is for the aircraft to touch down within a marked deck, as close to the start of the deck as possible, coming to a halt in as short a distance as possible.

Summary

This task simulates a landing on an aircraft carrier deck, the deck being a deck 100 metres long and 25 metres wide. The first 25-metre section of the deck is divided into five 5 metre strips which are scored from 250 to 50 points as shown. The remainder of the deck scores 25 points. In order to score the main wheels must touch down in a particular strip and the aircraft must come to a complete halt within the 100-metre deck, as close to the start of the deck as possible.



Takeoff

The takeoff order will be specified at the task briefing. The pilot must position his aircraft to the satisfaction of the marshal and must not take off until instructed to do so by the marshal. The form of signal to be used by the marshal for this purpose will be specified at the briefing.

Climbing Circuit

The procedure for the climbing circuit will be specified at the task briefing.

Engine to Stop or Idle

The aircraft must approach the deck in the landing direction at a height of 1,000 ft. Before passing over the start of the deck the engine must be switched off or the throttle must be closed and the engine set to idle, as specified in the briefing. The aircraft must then fly over the full length of the deck before starting the descending circuit.

Descending Circuit

The procedure for the descending circuit will be specified at the briefing.

Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the deck centreline either in the air or on the ground is permitted and the engine must remain at idle or may be switched off. The aircraft must come to a complete standstill and must not move until instructed to do so by a marshal.

Scoring

The score will be the value of the strip in which both main wheels touch down with the ground (PS) plus the distance between the finish of the deck and the closest wheel, scored 1 point per whole metre (PD). Touching down on a dividing line scores the higher of the two strips.

The pilot will be scored zero if:

- The aircraft commences takeoff before instructed to do so by the marshal
- The engine is not stopped or the throttle is not closed before passing over the deck
- The aircraft does not pass over the entire length of the deck before turning to descend
- The engine does not remain at idle once final approach has started if engine idle permitted
- The aircraft turns by more than 90 degrees from the deck centreline between starting the landing approach and coming to a standstill
- Any part of the aircraft touches the ground before the deck.
- The aircraft does not stop within the limits of the deck.
- The aircraft moves from the deck before instructed to do so by a marshal
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty

Thus the score calculation will be $(P_S + P_D) \times 250/350$ with a maximum score of 250

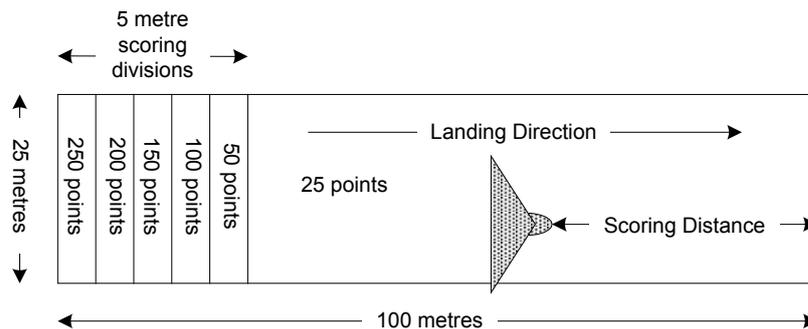
3.2. SPOT LANDING - TIMED

Objectives

The objective is for the aircraft to touch down within a marked deck at a specific time, as close to the start of the deck as possible, coming to a halt in as short a distance as possible.

Summary

This task simulates a landing on an aircraft carrier deck, the deck being a deck 100 metres long and 25 metres wide. The first 25-metre section of the deck is divided into five 5 metre strips which are scored from 250 to 50 points as shown. The remainder of the deck scores 25 points. In order to score the main wheels must touch down in a particular strip and the aircraft must come to a complete halt within the 100-metre deck, as close to the start of the deck as possible. Additional points may be scored if the scoring touchdown takes place at or near an exact full minute as indicated by the competition clock, eg 11:31:00 hrs is a full minute, 11:31 17 hrs is not.



Takeoff

The takeoff order will be specified at the task briefing. The pilot must position his aircraft to the satisfaction of the marshal and must not take off until instructed to do so by the marshal. The form of signal to be used by the marshal for this purpose will be specified at the briefing.

Climbing Circuit

The procedure for the climbing circuit will be specified at the task briefing.

Engine to Stop or Idle

The aircraft must approach the deck in the landing direction at a height of 1,000 ft. Before passing over the start of the deck the engine must be switched off or the throttle must be closed and the engine set to idle, as specified in the briefing. The aircraft must then fly over the full length of the deck before starting the descending circuit.

Descending Circuit

The procedure for the descending circuit will be specified at the briefing.

Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the deck centreline either in the air or on the ground is permitted. The aircraft must come to a complete standstill and must not move until instructed to do so by a marshal.

Scoring

The score will be the value of the strip in which both main wheels touch down (PS) plus the distance between the finish of the deck and the closest wheel, scored 1 point per whole metre (PD). Touching down on a dividing line scores the higher of the two strips. If the aircraft touches down on a full minute, the time being taken from the official clock, ± 5 seconds a further 100 points is scored (PT). This score will be reduced by 5 points for every second outside ± 5 seconds from a full minute.

The pilot will be scored zero if:

- The aircraft commences takeoff before instructed to do so by the marshal
- The engine is not stopped or the throttle is not closed before passing over the deck
- The aircraft does not pass over the entire length of the deck before turning to descend
- The engine does not remain at idle once final approach has started if engine idle permitted

- Any part of the aircraft touches the ground before the deck.
- The aircraft turns by more than 90 degrees from the deck centreline between starting the landing approach and coming to a standstill
- The aircraft does not stop within the limits of the deck.
- The aircraft moves from the deck before instructed to do so by a marshal
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty

Thus the score calculation will be $(PS+PD+PT) \times 250/450$ with a maximum score of 250

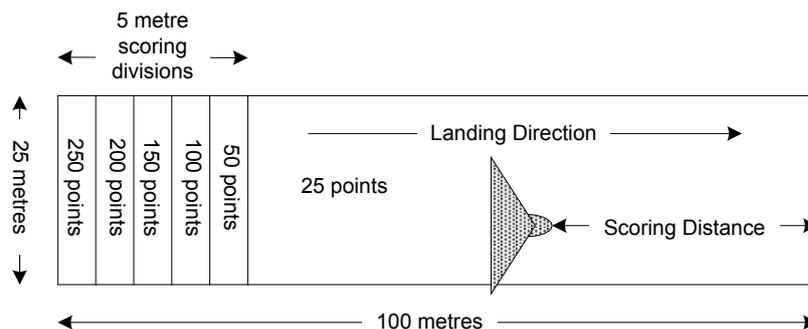
3.3. POWERED PRECISION LANDING

Objectives

The objective is for the aircraft to touch down within a marked deck, as close to the start of the deck as possible, coming to a halt in as short a distance as possible.

Summary

This task simulates a landing on an aircraft carrier deck, the deck being a deck 100 metres long and 25 metres wide. The first 25-metre section of the deck is divided into five 5 metre strips which are scored from 250 to 50 points as shown. The remainder of the deck scores 25 points. In order to score the main wheels must touch down in a particular strip and the aircraft must come to a complete halt within the 100-metre deck, as close to the start of the deck as possible.



Joining

This task will follow the completion of a prior task in which no landing is required. Instructions for joining will be provided at the briefing or in the instructions for the prior task.

Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the deck centreline either in the air or on the ground is permitted. The pilot may choose whatever engine setting he chooses or may switch off the engine unless otherwise instructed at the briefing. The aircraft must come to a complete standstill and must not move until instructed to do so by a marshal.

Scoring

The score will be the value of the strip in which both main wheels touch down (PS) plus the distance between the finish of the deck and the closest wheel, scored 1 point per whole metre (PD). Touching down on a dividing line scores the higher of the two strips.

The pilot will be scored zero if:

- Any part of the aircraft touches the ground before the deck
- The aircraft turns by more than 90 degrees from the deck centreline between starting the landing approach and coming to a standstill
- The aircraft does not stop within the limits of the deck.
- The aircraft moves from the deck before instructed to do so by a marshal
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty

Thus the score calculation will be $(P_S + P_D) \times 250/350$ with a maximum score of 250

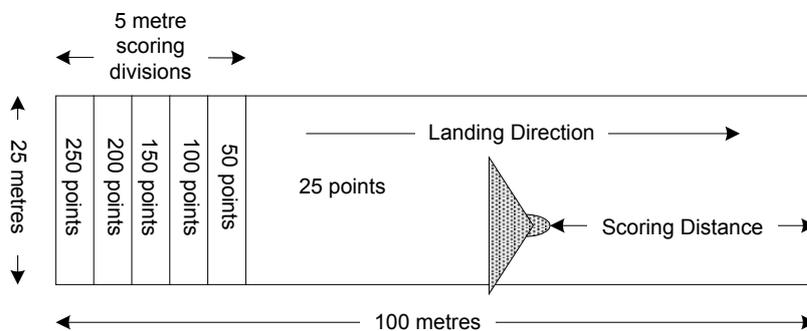
3.4. POWERED PRECISION LANDING - TIMED

Objectives

The objective is for the aircraft to touch down within a marked deck at a specific time, as close to the start of the deck as possible, coming to a halt in as short a distance as possible.

Summary

This task simulates a landing on an aircraft carrier deck, the deck being a deck 100 metres long and 25 metres wide. The first 25-metre section of the deck is divided into five 5 metre strips which are scored from 250 to 50 points as shown. The remainder of the deck scores 25 points. In order to score the main wheels must touch down in a particular strip and the aircraft must come to a complete halt within the 100-metre deck, as close to the start of the deck as possible. . Additional points may be scored if the scoring touchdown takes place at or near an exact full minute as indicated by the competition clock, eg 11:31:00 hrs is a full minute, 11:31 17 hrs is not.



Joining

This task will follow the completion of a prior task in which no landing is required. Instructions for joining will be provided at the briefing or in the instructions for the prior task.

Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the deck centreline either in the air or on the ground is permitted. The pilot may choose whatever engine setting he chooses or may switch off the engine unless otherwise instructed at the briefing. The aircraft must come to a complete standstill and must not move until instructed to do so by a marshal.

Scoring

The score will be the value of the strip in which both main wheels touch down with the ground (PS) plus the distance between the finish of the deck and the closest wheel, scored 1 point per whole metre (PD). Touching down on a dividing line scores the higher of the two strips. If the aircraft touches down on a full minute, the time being taken from the official clock, ± 5 seconds a further 100 points is scored (PT). This score will be reduced by 5 points for every second outside ± 5 seconds from a full minute.

The pilot will be scored zero if:

- Any part of the aircraft touches the ground before the deck
- The aircraft turns by more than 90 degrees from the deck centreline between starting the landing approach and coming to a standstill
- The aircraft does not stop within the limits of the deck.
- The aircraft moves from the deck before instructed to do so by a marshal
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty

Thus the score calculation will be $(P_S + P_D + P_T) \times 250/450$ with a maximum score of 250

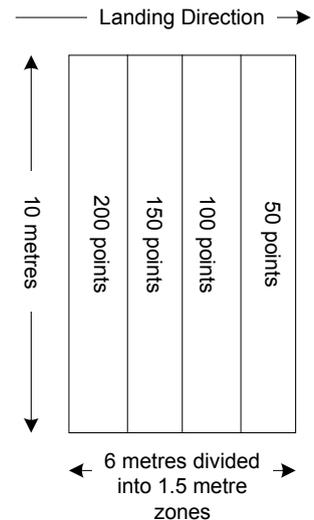
3.5. PRECISION TOUCHDOWN - TIMED

Objectives

The objective is for the aircraft to touch down within a marked deck at a specific time, as close to the start of the deck as possible.

Summary

The deck is 6 metres long, 10 metres wide and is marked in four 1.5 metre strips which are scored from 200 to 50 points as shown. In order to score the main wheels must touch down in a particular strip as close to the start of the deck as possible. The lines will be defined by raked wet sand to ensure accurate scoring. Additional points may be scored if the scoring touchdown takes place at or near an exact full minute as indicated by the competition clock, eg 11:31:00 hrs is a full minute, 11:31 17 hrs is not.



Joining

This task will form part of another task. Instructions for joining will be provided at the briefing or in the instructions for the main task.

Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the deck centreline is permitted. The pilot may choose whatever throttle setting he chooses or may switch off the engine unless otherwise instructed at the briefing. Once the touchdown is completed the pilot may immediately take off unless otherwise instructed at the task briefing.

Scoring

The score will be the value of the strip in which both main wheels touch down (PS). Touching down on a dividing line scores the higher of the two strips. If the aircraft touches down on a full minute, the time being taken from the official clock, ± 5 seconds a further 50 points is scored (PT). This score will be reduced by 5 points for every second outside ± 5 seconds from a full minute. The pilot will be scored zero if:

- Any part of the aircraft touches the ground before the deck
- The aircraft fails to touchdown within the limits of the deck
- The aircraft turns by more than 90 degrees from the deck centreline between starting the landing approach and coming to a standstill
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty

Thus the score calculation will be $(P_S + P_T)$ with a maximum score of 250

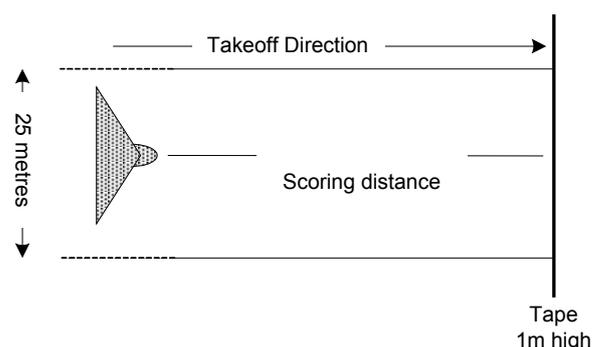
3.6. SHORT TAKEOFF OVER AN OBSTACLE

Objectives

The objective is for the aircraft to take off over and clear an obstacle, starting the takeoff run as close to the obstacle as possible.

Summary

This task simulates a short field takeoff over a hedge, the hedge being represented by a tape stretched across the runway 1 metre above the ground. The pilot may position his aircraft on the runway as close as he wishes to the tape. This distance will be measured from the centre of the foremost wheel and rounded up to the nearest 0.1 metre. The aircraft must take off over the tape without breaking it.



Takeoff

The takeoff order will be specified at the task

briefing. The pilot may position his aircraft as close to the tape as he wishes and must not take off until instructed to do so by the marshal. The form of signal to be used by the marshal for this purpose will be specified at the briefing.

Procedure after Takeoff

The procedure to be flown after takeoff will be specified at the briefing.

Scoring

The competitor in each class that starts the takeoff run closest to the tape (D_{MIN}) and clears the tape without breaking it will score 250 points. Other competitors will be awarded scores based on their distance from the tape at the start of their takeoff run (D_P) relative to D_{MIN}. The competitor will be scored zero if:

- The aircraft commences takeoff before stationary
- The aircraft commences takeoff before instructed to do so by the marshal
- The aircraft fails to fly over the tape
- Any part of the aircraft breaks the tape

Thus the score calculation will be $(250 \times D_{MIN} / D_P)$ with a maximum score of 250

3.7. SHORT LANDING OVER AN OBSTACLE

Objectives

The objective is for the aircraft to fly over and clear an obstacle, to land and come to a standstill as close to the obstacle as possible.

Summary

This task simulates a short field landing over a hedge, the hedge being represented by a tape stretched across the runway 1 metre above the ground. The pilot must land over the tape and stop. This distance will be measured from the centre of the foremost wheel and rounded up to the nearest 0.1 metre.

Joining

This task may form part of another task. Instructions for joining will be provided at the briefing or in the instructions for the main task.

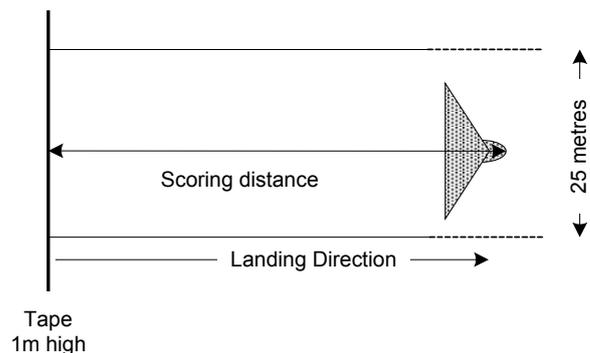
Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the centreline of the runway is permitted. The pilot may choose whatever engine setting he chooses or may switch off the engine unless otherwise instructed at the briefing. The aircraft must come to a complete standstill and must not move until instructed to do so by a marshal.

Scoring

The competitor in each class that comes to a standstill closest to the tape (D_{MIN}) having cleared the tape without breaking it will score 250 points. Other competitors will be awarded scores based on their distance from the tape when they stop (D_P) relative to D_{MIN}. The competitor will be scored zero if:

- The aircraft fails to fly over the tape
- Any part of the aircraft touches the ground before the tape
- Any part of the aircraft breaks the tape
- The aircraft turns by more than 90 degrees from the runway centreline between starting the landing approach and coming to a standstill
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty



Thus the score calculation will be $(250 \times D_{MIN} / D_P)$ with a maximum score of 250

3.8. DECK TAKEOFF

Objectives

The objective is for the aircraft to take off from a deck 100 metres long by 25 metres wide.

Summary

This task proves the short takeoff capability that is fundamental to the performance characteristics of a microlight by demonstrating that the aircraft can take off in 100 metres in still air at sea level. Where local conditions, such as airfield altitude or slope of the runway, will make a significant difference to takeoff runs the length of the deck may be adjusted accordingly.

Takeoff

This task will form the start of another task. The takeoff order will be specified at the main task briefing. The pilot must position his aircraft with its main wheels, or tail wheel in the case of a tail-dragger, immediately in front of the start line of the deck to the satisfaction of the marshal and must not take off until instructed to do so by the marshal. The form of signal to be used by the marshal for this purpose will be specified at the briefing.

Procedure after Takeoff

The procedure to be flown after takeoff will be specified in the main task at the briefing.

Scoring

There is no score for a deck takeoff but instead a 20% penalty will normally be applied to the main task if the aircraft fails to leave the ground before reaching the end of the deck. This penalty will normally apply if the aircraft:

- Commences takeoff before stationary
- Commences takeoff before instructed to do so by the marshal
- Main wheels fail to leave the ground before reaching the end of the deck.
- Touches the ground before climbing away.

3.9. DECK LANDING

Objectives

The objective is for the aircraft to land in a deck 100 metres long by 25 metres wide.

Summary

This task proves the short landing capability that is fundamental to the performance characteristics of a microlight by demonstrating that the aircraft can land in 100 metres in still air at sea level. Where local conditions, such as airfield altitude or slope of the runway, will make a significant difference to landing runs the length of the deck may be adjusted accordingly.

Joining

This task will form the end of a task. Instructions for joining will be provided at the briefing or in the instructions for the prior task.

Landing

Once the aircraft has started its final approach no deviation of over 90 ° from the deck centreline either in the air or on the ground is permitted. The pilot may choose whatever engine setting he chooses or may switch off the engine unless otherwise instructed at the briefing. The aircraft must come to a complete standstill and must not move until instructed to do so by a marshal.

Scoring

There is no score for a deck landing but instead a 20% penalty will normally be applied to the main task if the aircraft fails to touch down and come to a halt within the deck. This penalty will normally apply if:

- Any part of the aircraft touches the ground before the deck

- The aircraft turns by more than 90 degrees from the deck centreline between starting the landing approach and coming to a standstill
- The aircraft does not stop within the limits of the deck.
- The aircraft moves from the deck before instructed to do so by a marshal
- The aircraft is unable to taxi or take off unaided following the touchdown although failure to start the engine will not incur a penalty