

WMC2011 TASK CATALOG

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

Line drawn after takeoff

Free flight



Direction of travel



Marker selected from list of Marker Symbols



Ground feature to be identified from photograph



Turnpoint



Turnpoint to be identified from photograph



Ground feature to be photographed or controlled by FR evidence.



Timing point or gate

SP 

Initial or Start point

SP 

Initial or Start point with time gate

FP 

Finish point

FP 

Finish point with time gate

Marker identity given before takeoff



Home airfield



Outlanding airstrip



Direction of landing



Left hand circuit



Right hand circuit



Circuit height above ground in feet



Windsock



Landing direction indicator



Road or track

Marker Symbols

H
I
K
L
N
T
U
X
O
=
π
Δ

1. NAVIGATION TASKS

1.1 NAVIGATION WITH A PARTIALLY KNOWN TRACK ZIG ZAG

Objective:

To fly along known tracks, and then to construct and fly subsequent legs of the track from information found. To fly the given and constructed track as accurately as possible, whilst keeping to pre declared groundspeed, and locating the position of photo features on the map, from photos given

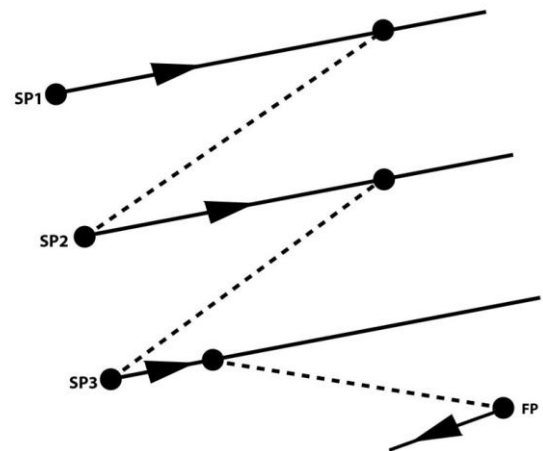
Description:

Starting procedure and departure procedure as briefed

Before flight, in Quarantine crews will be given:

Task map
Declaration sheet
Photo sheets

Detail description:



Known track lines will consist of three lines. SP1 is the start of the first known track. Crews should fly this track until finding a photo feature marked as a turnpoint (the letters 'TP' will be in the upper right corner of the photo). From this point they must construct and fly a straight line track to the start point of the second line (SP2),

From SP 2 fly the second known track line until another photo feature marked as a turnpoint is found. From this point construct and fly a straight line track to the start point of the third given line (SP3).

From SP3 fly the third known track line until another photo feature marked as a turnpoint is found. From this point construct and fly a straight line track to FP.

If the crew does not find a turnpoint feature, they should continue to the end of the known track line then fly directly to the SP of the next known track line

There will be timing/tracking gates at SP and FP and a number in unknown positions anywhere along the whole course. Timing for groundspeed will be measured against elapsed time from given SP time. No timing/tracking gates will be within 2km of a turnpoint

There will be photos of ground features for crews to identify the position of them along the whole course.

Photos to be used as turnpoints will be marked with their identification letter and , additionally 'TP' in the upper right corner.

After crossing FP crews must proceed to the airfield, and land using the procedure as briefed. After landing the crew must taxi as briefed or marshaled, to the designated post flight quarantine area.

Standard after landing Navigation task quarantine procedure will then apply.

Scoring:

Crossing SP1 correctly = 100 points -2 points per second from given time +/-5 sec.

Crossing hidden timing /tracking gates = 100 points -2 points per second from calculated time (started at sp1) +/-5 sec.

Each correctly identified photo feature 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.

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

Q = Competitor's individual accumulated score

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

Penalties as per generic navigation task penalties.

1.2 CIRCULAR NAVIGATION

Objective:

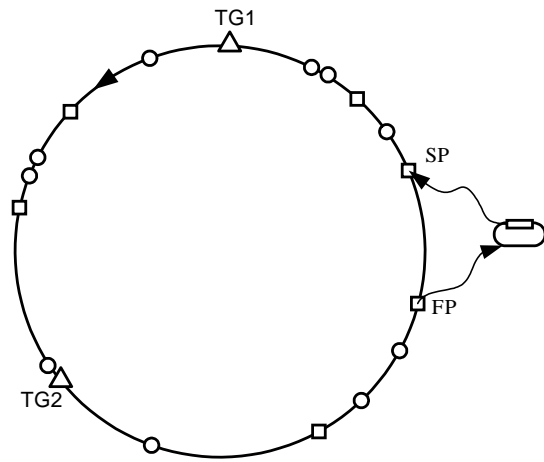
To follow a circular track, finding markers or identifying ground features from photographs and locating their positions on a map. To declare the time to overfly TG1 and TG2 (known timing gates). Additional points will be given for the shortest elapsed time between TG1 to TG2.

Description:

Starting procedure and departure procedure as briefed

Before flight, in Quarantine crews will be given:

Task map with the radius, the center and the circle drawn
The time at which they must overfly the start point
Declaration sheet
Photo sheets



Detail description

On the map there will be drawn a circle with SP, FP, TG1, TG2 and direction to fly on it.
The pilot will declare the time to overfly TG1 and TG2.

The pilot has to fly on the track, from SP to FP, and overfly TG1 and TG2 on the time he declared.

There will be tracking gates at SP and FP and some more in unknown positions anywhere along the **whole course between SP and FP**.

There will be photos of ground features for crews to identify the position of them along the whole course between SP and FP.

Scoring

Crossing SP on time = 100 points -2 points per second **from given time +/-5 sec.**

Correctly crossing FP and hidden tracking gates = 100 points

Crossing TG1 and TG2 on time = 100 points -2 points per second **from declared time +/-5 sec.**

Shortest elapse betwin TG1 and TG2 score = $200 \times \text{shortest actual elapse time} / \text{competitor actual elapse time}$.

In case not passing TG1 or TG2, shortest elapse score for that section = 0 points.

Each correctly identified photo feature 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.

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

Q = Competitor's individual accumulated score

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

Penalties as per generic navigation task penalties.

1.3 Navigation with unknown track

Objective:

To fly an accurate track from SP to FP kipping predeclared groundspeed and locate the position of photo features or markers on the map. Some of the photo features or markers will determine when to switch from one given track-line to the next.

Description:

Starting procedure and departure procedure as briefed

Before flight, in Quarantine crews will be given:

Task map
Declaration sheet
Photo sheets

Detail description

The given course consists of two parallel lines - 'the pipe'. From SP the crews follow the first line until a photo feature or marker is found. From this point crews construct a line at 90 degrees and cross to the other side of the pipe and continue, repeating every time a photo feature is found on the 'pipe lines' This continues until crews reach the end of one of the 'pipe lines' which forms an FP.

Additionally there may be photo features (to locate their position) on the cross over legs – These are not turnpoints, only the photo features found on the 'pipe lines' are turnpoints.

The entire course should be flown at a pre-declared groundspeed. SP and the correct FP will be timing gates, and a number of additional unknown timing and tracking gates will be on the course. No timing gate will be within 1km of a turnpoint photo feature.

After crossing FP crews must proceed directly to the airfield.

Standard after landing Navigation task quarantine procedure will apply.

Scoring

Correctly crossing hidden tracking gates = 100 points

Crossing SP, FP and timing gates on time = 100 points –2 points per second **from calculated time (started at SP given time) +/-5 sec.**

Each correctly identified photo feature 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.

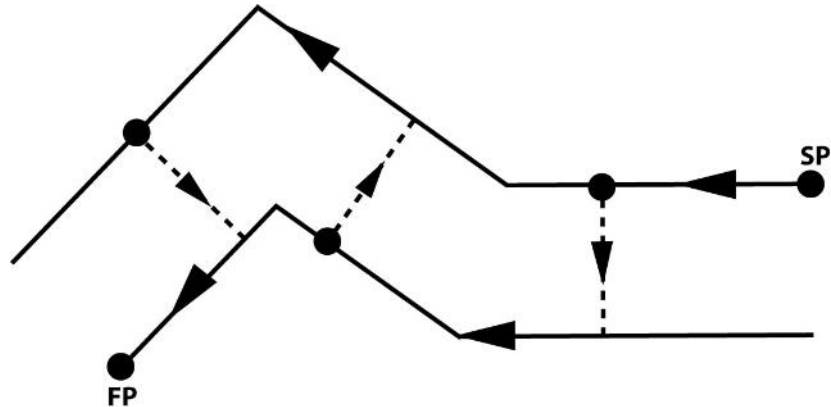
Competitor's score = $Q/Q_{max} \times 1000$ where:

Q= Competitor's individual accumulated score

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

Procedure turns at turnpoints are allowed.

Generic navigation task penalties apply.



1.4 IRREGULAR POLYGON

Objective:

To fly a pre declared ground speed leg before following an irregular track in the direction briefed, finding markers or identifying ground features from photographs and locating their positions on a map. A particular marker **or photo** will indicate a point from which a line of a given heading must be drawn and flown. The distance from the start point (SP) to the finish point (FP) will be given and when that distance has been flown the task will end with an outlanding.

Description:

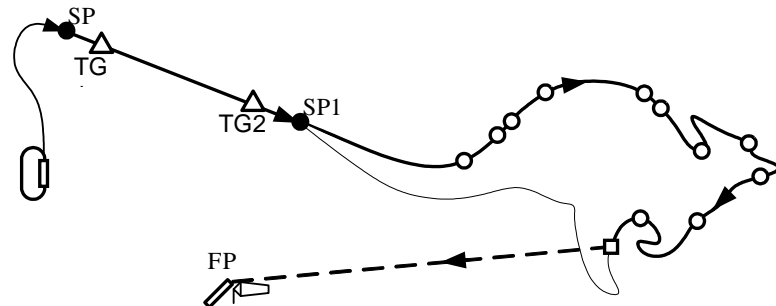
Starting procedure and departure procedure as briefed

Before flight in Quarantine crews will be given:

- a line and an irregular shape drawn on a map
- the location of a start point (SP) before time gates will be found
- the location of a point (SP1) after which markers and ground features but no time gates will be found
- the time at which they must overfly the start point
- details of the new heading to follow if a particular marker or photo is found
- a total distance for the task
- sealed instructions giving the location of the outlanding site
- photos of any ground features to be identified
- Declaration sheet

Before takeoff the competitor must:

- declare the ground speed at which he plans to fly.



The task will normally start and finish with a Deck Takeoff and Deck Landing and after completing the landing the competitor will be required to enter a Quarantine area for scoring.

Sealed Instructions

The location of the Finish Point will be provided in a sealed envelope. If the competitor is unable to navigate to FP this envelope may be opened. In the event that this envelope is not returned properly sealed a penalty will be imposed.

Scoring:

Crossing SP on time = 100 points - 2 points per second **from given time +/- 5 sec**

Declared groundspeed section score = 200 points - 2 points per second **+/- from calculated time between TG1 and TG2 +/- 5 sec**

Each correctly identified ground feature 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 sealed envelope not returned sealed -300 points

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

Q = Competitor's individual accumulated score

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

Generic navigation task penalties apply.

1.5 TRIANGULATION

Objective:

To follow a triangular track starting from SP to C, in the direction briefed, at predeclared ground speed starting from SP. To locate the position of photo features or markers on the map – some of which will determine an outer triangle vertexes. Fly from C to that points and look for ground features identified from 6 photographs.

Description:

Starting procedure and departure procedure as briefed

Before flight, in Quarantine crews will be given:

Task map
Declaration sheet
Photo sheets

Detail description

From SP the crews follow the track at the predeclared ground speed till they get to point C.

Locate the position of photo features or markers on the map. Each line of the triangle has special two photos which will be use to draw the outer triangle vertexes (P1, P2, and P3). Those will be additionally marked on the right upper corner by the letters OT.

Having drawn the outer triangle, to fly, at least 2 Km far from A, b and C, to P1, P2 and P3, look for ground features, identified from the second 6 photos set. Only 3 are correct so accurate plotting is essential to choose the correct photograph.

The maximum time from passing C to FP will be calculated from competitors declared speed and the range to fly C, P1, P2, P3, FP (strait lines to bypass A and B) +15 minutes.

SP, point C and FP will be time gates. A number of additional unknown timing and tracking gates will be on the course between SP and C.

After crossing FP crews must proceed directly to the airfield.

Standard after landing Navigation task quarantine procedure will apply.

Scoring:

Crossing hidden tracking gates = 100 points

Crossing SP, C, FP and hidden timing gates on time = 100 points –2 points per second **from calculated time(started at SP given time) +/-5 sec.**

Each correctly identified photo feature 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.

Each correctly identified photo at the outer triangle vertexes= 200 points. If the photo is uncorrected = **-200 points.**

If no photo identified = 0 points.

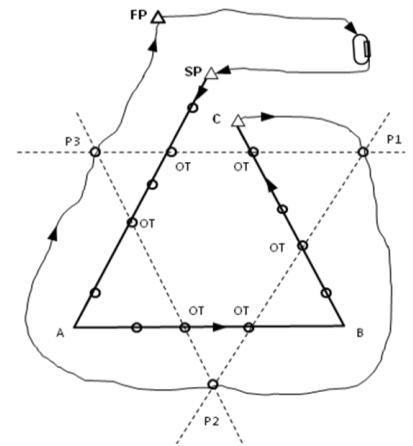
Penalty for do not stand the time limit from C to FP = 20%

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

Q= Competitor's individual accumulated score

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

Generic navigation task penalties apply.



1.6 Navigation with known track – Candelabrum

Objective:

On the task map is drawn a seven-branched candelabrum (A Jewish symbol) and a pre declared ground speed leg. Crews must fly from SP to FP following this shape as accurately as possible and light the candles. At the inner candelabrum branches, crews must fly as fast as possible and slow as possible as marked. There are photo features to locate on the map along the course from SP to SP3.

Description:

Starting procedure and departure procedure as briefed

Before flight in Quarantine crews will be given:

Task map
Declaration sheet
Photo sheets

Detail description

Crews fly the given course from SP to FP, identifying the location of photo features – which can be anywhere along the entire course between SP and SP3. There can be unknown tracking gates anywhere along the entire course.

Between SP and SP1 is the declared groundspeed leg. Timing gates TG1 & TG2 can exist anywhere along this leg.

Flying from SP1 to SP2 has no time limit.

Between gate SP2 and SP3 is the fast speed section.

Between gate SP3 and FP is the slow speed. Pilots should not fly more than +/- 200 m from the track drawn on the map.

After crossing FP crews must proceed directly back to the airfield

Standard after landing Navigation task quarantine procedure will apply.

Scoring

Crossing SP on time = 100 points – 2 points per second **from given time +/-5 sec**

Correctly crossing hidden tracking gates = 100 points

Declared groundspeed section score = 200 points – 2 points per second **+/- from calculated time between TG1 and TG2 +/-5 sec**

Fast speed section score = competitors speed/ fastest speed x 200. **Fast speed will score "0" if not passing SP2, SP3, TP1 and TP2.**

Slow speed section score = longest elapsed time / competitors elapsed time x 200. **Slow speed will score "0" if flying more then +/-200 m from the track.**

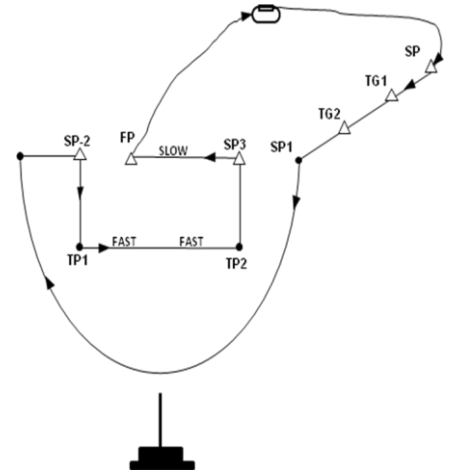
Each correctly identified ground feature marked within 3mm on official scoring map = 50 points. If greater than 3mm but less than 5mm = 0 points. If greater than 5mm = -50 points.

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

Q= Competitor's individual accumulated score

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

Generic navigation task penalties will apply.



1.7 PUER NAVIGATION

Objective:

Precisely fly the course defined by an arbitrary line drawn on the map, at pre declared ground speed starting from SP. To locate the position of photo features or markers on the map.

Description:

Starting procedure and departure procedure as briefed

Before flight, in Quarantine crews will be given:

Task map
Declaration sheet
Photo sheets

Before take-off, pilots will hand their declarations to a marshal.

They will take off from their designated deck and fly to the start point, where time will start.

Then they will precisely fly the course at their pre declared ground speed and locate the position of photo features or markers on the map.

Navigation and timing end at the finish point.

There will be unknown time and tracking gates along the track.

Scoring:

Crossing hidden tracking gates = 100 points

Crossing SP and hidden timing gates on time = 100 points –2 points per second **from calculated time (started at SP given time) +/-5 sec.**

Each correctly identified ground feature 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.

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

Q= Competitor's individual accumulated score

Qmax = best individual accumulated score in task/class

Generic navigation task penalties apply.

2. LIMITED FUEL TASKS

2.1 DURATION & SPEED

Objectives

Given a limited amount of fuel, competitors must stay airborne for as long as possible, leaving enough fuel for a speed triangle to be flown at a time to be predicted by the competitor

Summary

Competitors will be given:

- A specified weight or volume of fuel
- The corners of the triangle.
- The location of the gates that start and finish the speed triangle.

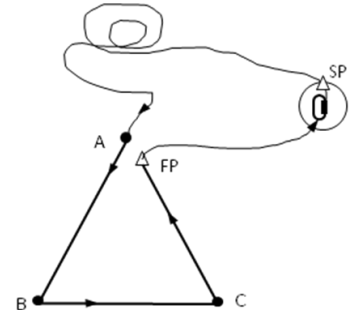
Before takeoff the competitor must:

- Declare the predicted time for the speed triangle.

The task will start and finish **with free Deck Takeoff** and Deck Landing.

The duration element will start at crossing 1km' radius cylinder (center of the cylinder =runway center) and will finish at FP.

After completing the landing the competitor will be required to taxi 100 m from the end of the deck with engine running .



Safety

Particularly if the task is to be flown to empty tanks, pilots must look out for other aircraft preparing to land engine off. 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

Scores

The following penalties will apply:

- Takeoff deck penalty: 20%
- Landing deck penalty: 20%
- do not able to taxi 100 m from the end of the deck: 100%
- Flight in a prohibited area: 100%

The typical task score calculation will be:

$$\text{Pilot score} = \left(400 \times \frac{\text{tdp}}{\text{tdMax}} \right) + \left(400 \times \frac{\text{tsMin}}{\text{tsp}} \right) + (200 - t\Delta p)$$

Where:

tdp = the pilot's time achieved on the duration leg

tdMax = the longest time achieved on the duration leg by a scoring competitor

tsp = the pilot's time achieved on the speed triangle

tsMin = the shortest time achieved on the speed triangle by a scoring competitor

tΔp = the speed leg time error in excess of allowed 10 secs at 1 point/second (max 200)

2.2 AREA TRIANGLE & SPEED

Objective:

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

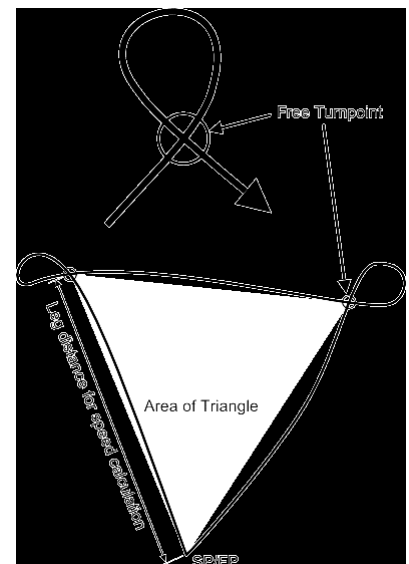
The task will start and finish at the point SP/FP which will be a single point specified by the Competition Director. The other two turnpoints will be corners of the triangle which the competitors may choose freely unless otherwise briefed provided that this will not result in them infringing a briefed 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. The first leg will be scored for speed. 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. 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)

Generic navigation and Economy Task Penalties apply.



2.3 SPEED LEG AND TURN POINTS HUNT

Objective:

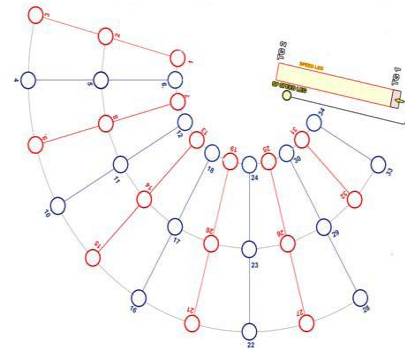
To fly as fast as possible and to fly over the greatest possible distance with limited fuel.

Summary:

This task will begin by a free take-off from the airport within the specified time flight window by the "Le Mans" start method. This procedure will be specified during the briefing.

Competitor shall fly to the specified gate and fly as fast as possible through the speed leg defined by the gates TG1 and TG2. After crossing the TG2 gate the competitor shall fly to the turn points hunt diagram and he shall fly the greatest possible distance. Landing will be deck landing. After completing the landing the competitor will be required to taxi 100 m from the end of the deck with engine running and will be asked to enter the quarantine area for a check of the sealing.

The turn points hunt diagram is created from three circle arcs with the center at the airfield. The radius of the circles are 10, 20 and 30 km. From the center there are drawn radials by ___ degrees. In junctions of each radial and each arc there are situated turn points. The turnpoints are numbered, as is displayed in the picture. The pilot shall fly only by the radials or by the arcs every time from the number with lower value to the number with the higher value. To fly from TP 1 to TP 2 is allowed (by the radial), from TP 1 to TP 6 is Allowed (by the arc). To fly from the TP1 to the TP 5 is not allowed, since it does not follow an arc or a radial. No turn point shall be used more than once. More than 300 km of track will be available. It shall be maintained that the blue radials be used for heading out from the center, and that the red radials shall be used for heading into the center. The direction of the flight at the arcs (CW or CCW) shall be defined at the briefing. Only upon performance of this manner passed turnpoints will be scored, some others will be regarded as missed.



If a turnpoint will be missed, no score will be given for the distance from the last correctly passed turnpoint up to the first next correctly passed turnpoint.

Example: Competitor flew from TP1 to TP 6 via TP2, 3, 4 and 5.

Turnpoints 1, 2, 4 and 6 were passed correctly, turn points 3 and 5 were missed. Only the distance TP 1 –TP2 will be scored.

The scoring zone will have a radius of 500 m.

Scoring:

1) Speed:

The fastest speed will have a value of 300 points. Other scores will be calculated by formula

$$\text{RESULT} = (\text{scoreC} / \text{scoreW} \times 300)$$

where scoreC is the competitor's speed, scoreW is the fastest competitor speed.

2) Distance

Each distance between the arcs has a value of 10 km, between the center and the first arc 10 km. Each distance at the largest arc has a value ___ km, at the middle arc ___ km, at the smallest arc ___ km. All flown distances will be added together.

The greatest distance will be evaluated as scoring 700 points.

Other scores will be calculated by the formula:

$$\text{RESULT} = (\text{scoreC} / \text{scoreW} \times 700)$$

where score C is the competitor's distance, scoreW is the greatest achieved distance.

Scoring of point 1) and 2) will be added together.

3) Score of the task will be calculated by formula:

$$\text{SCORE} = (\text{scoreC} / \text{scoreW} \times 1000) - \text{penalties}$$

where score c is the algebraic sum of score for the speed and score for the distance of competitor, score w is the best algebraic sum of these scores.

Generic navigation and Economy Task Penalties apply.

3. PRECISION TASKS

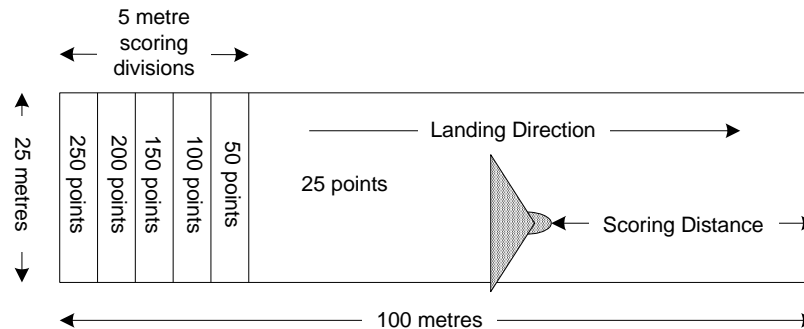
3.1 SPOT LANDING

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

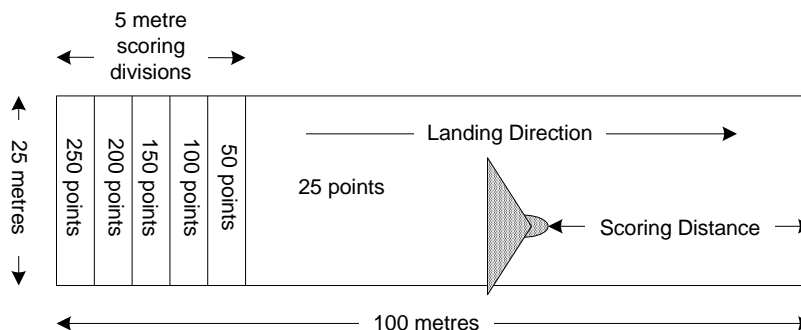
3.2 SPOT LANDING - TIMED

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

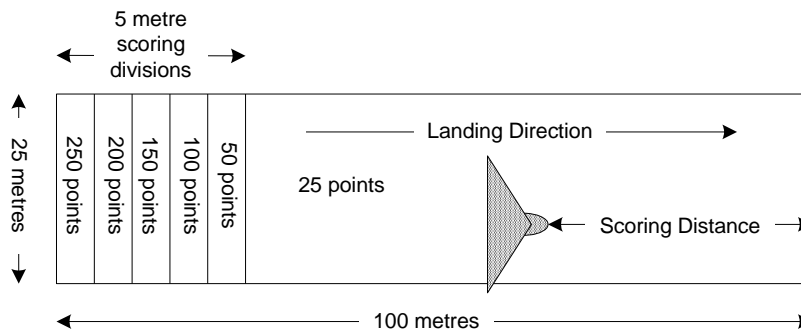
3.3 POWERED PRECISION LANDING

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

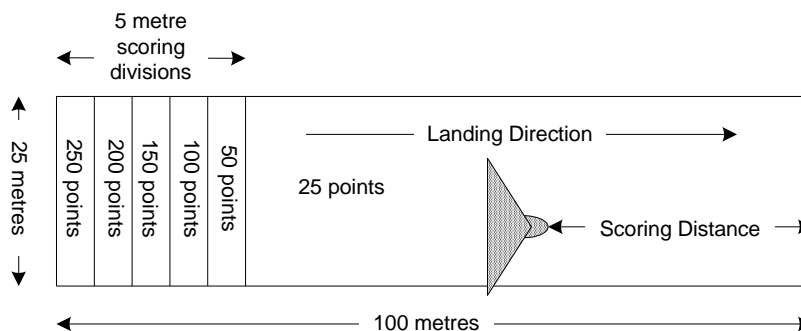
3.4 POWERED PRECISION LANDING - TIMED

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 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

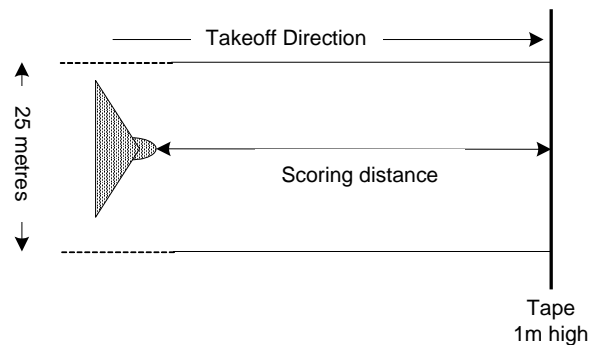
The procedure to be flown after takeoff will be specified at the briefing.

Scoring

The competitor in each class that starts the takeoff run closest to the tape (DMIN) 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 (DP) relative to DMIN. 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



3.6 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.

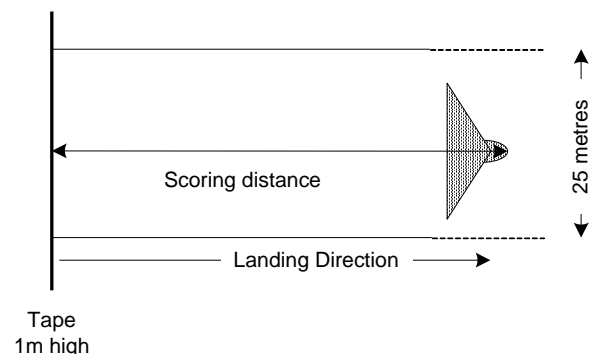
Landing

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 (DMIN) 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 (DP) relative to DMIN. 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 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 $(250 \times D_{\text{MIN}} / D_P)$ with a maximum score of 250

3.7 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.

3.8 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.