



## **Task 7. Navigation with partially known track (Gearwheel)**

Pilots will place the aircraft in the quarantine area as briefed. Each crew will receive the maps and photos for the task in the planning time published on the starting list. Before take off completed speed declaration sheet must be given to the Marshals.

‘Gearwheel’ - Known track consists of two concentric tracks. There is a marked point in the middle of the inner track for constructing the unknown legs. SP is on inner track. Pilot starts course on time and proceeds around the track in clockwise direction looking for photos and markers and keeping to declared groundspeed. When turnpoint marker/photo is found, a line consisting of a radial, using the marked midpoint is constructed and flown to intersect with the outer track. Photos and markers may be found on the constructed line and groundspeed continues. On reaching outer circle follow it clockwise looking for photos and markers and keeping to declared groundspeed. When turnpoint photo/marker is found, a line consisting of a radial using the marked midpoint is constructed and flown towards the inner circle. Photos and markers may be found on the constructed line and groundspeed continues. On reaching inner circle continue and repeat process until FP.

### **After FP follow briefed procedure.**

Photos, markers, timing and tracking gates are possible on the whole track. Photos and markers must be marked accurately on the map. If marked within  $\pm 2$  mm each will be scored 100 points, between 2-5 mm no points will be given and over 5 mm -100 points. Gates will be 600 m wide. The maximum point for correctly crossed gates is 100 each,  $\pm 5$  s tolerance is applied, for every second over the tolerance 2 points will be decreased from the score for the gate.

After landing the logger and the map must be given to the Marshal.

### **Scoring:**

$$Q = (P \times 100) + (M \times 100) + (TG \times 100 - T) + (G \times 100)$$

Where: P = correctly marked photos

M = correctly marked markers

T = double of the seconds over the 5 s tolerance at timing gate

G = correctly passed tracking gates

### **Penalties:**

- 20% from the next tasks scores if late from quarantine
- 100% for over 90 degrees turns on any part of the track
- 100% for outlanding
- 100 % for breaking quarantine
- 100% using prohibited devices
- 20% for not following approaching and landing procedure



## Task 8. Short take off 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

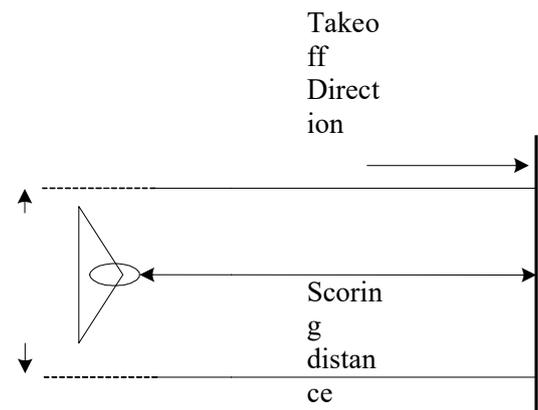
The procedure to be flown after takeoff will be specified at the briefing.

### 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  $(250 \times \text{DMIN} / \text{DP})$  with a maximum score of 250



## **Task 9. 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 within the deck.

### **Summary**

This task simulates a landing on an aircraft carrier deck, the deck being a deck 100 metres long and 25 metres wide. Deck length shall be adjusted according to the airfield elevation (S10 4.31.5). The width of the deck may be decreased to be adjusted to the width of the existing runway (S10 4.31.5). 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. Additional points will 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) 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,  $\pm 5$  seconds a further 100 points is scored (PT). This score will be reduced by 5 points for every second outside  $\pm 5$  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 (PS+PT) with a maximum hypothetical score of 350