

## AIRPROX REPORT No 2011083

Date/Time: 1 Jul 1432

Position: 5208N 00012W (3nm SE of Tempsford)

Airspace: FIR/UKLFS (Class: G)

Reporting Ac Reported Ac

Type: Merlin HC3 Untraced Light ac

Operator: HQ JHC N/K

Alt/FL: 1000ft N/K  
QNH (1026mb)

Weather: VMC CLBC NK

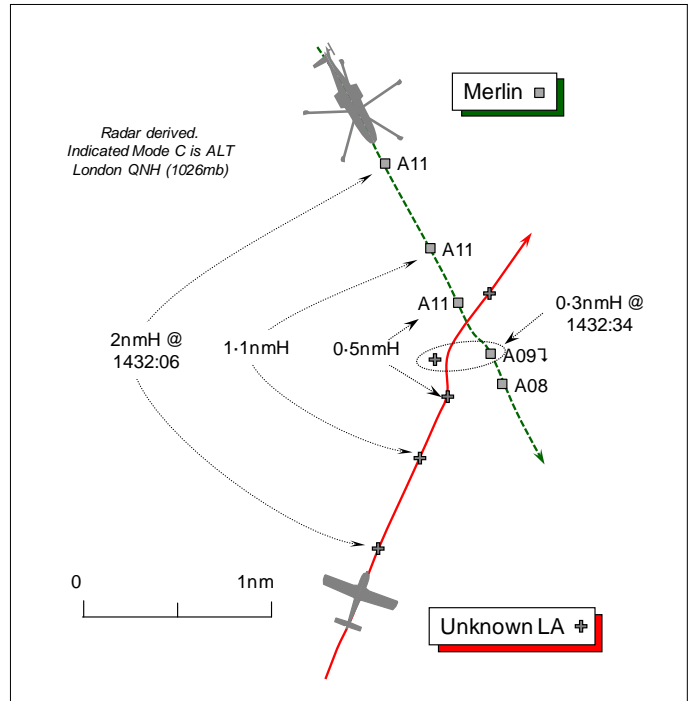
Visibility: 30km N/K

Reported Separation:

100m N/K

Recorded Separation:

<0.3nmH – See UKAB Note (1)



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE MERLIN HC3 HELICOPTER PILOT**, a QHI, reports he was conducting a conversion training sortie and was in transit under VFR from Linton-on-Ouse to Benson, whilst monitoring the LFS frequency. He was not under an ATIS; a squawk of A7000 was selected with Mode C; neither TCAS nor Mode S is fitted.

Approaching a position 3nm SE of Tempsford heading 160° at 130kt, flying a level cruise at 1000ft QNH (1026mb), a low-wing single-engine blue and white light ac (LA) was spotted 1km away [0.54nm] to starboard on a closing course. The LA was executing a high AOB R turn [sic] that appeared to be in excess of 90°. Avoiding action had to be taken by descending to avoid a collision with the LA, which passed 100m away at the closest point with a 'high' Risk of collision. The sortie was then continued as planned. The Airprox was subsequently reported by telephone. He added that visibility from the Merlin cockpit was good, but assessed the crew workload as 'relatively high whilst preparing to enter the London Helicopter Route structure.

**THE RADAR ANALYSIS CELL (RAC) LATCC (MIL)** report that despite extensive tracing action the reported LA could not be traced.

UKAB Note (1): The Stansted Radar recording shows the Merlin helicopter maintaining a steady course in a level cruise indicating 1100ft London QNH (1026mb). The untraced LA is shown as a primary contact only, maintaining a steady NE'y track for some miles as the two ac close on a steady relative bearing to one another. The relative geometry remains unchanged until 1432:34, when the LA's primary contact swerves to the L and thence astern of the Merlin, which simultaneously descends 200ft, before levelling on the next sweep at 800ft London QNH. The minimum horizontal separation evinced by the radar recording of 0.3nm (556m) is significantly more than the 100m reported by the Merlin pilot, which might have been caused by plot extracted 'track jitter' at these low altitudes.

**HQ JHC** comments that the Merlin pilot's report indicates a particularly close call. The lookout of the Merlin did not pick up the untraced LA soon enough to avoid an Airprox but it is impossible to say when the LA picked up the Merlin. The Merlin pilot assessed the cockpit workload as high and

therefore distraction almost certainly played a part. The difficulty of visually acquiring a LA on a constant bearing is significant and relies on a meticulous scan of the particular airspace in question. In this case, the Merlin took avoiding action as soon as the LA was acquired and whilst successful, safety margins had clearly been eroded.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included a report from the Merlin pilot, radar video recordings and a report from the appropriate operating authority.

Despite the best endeavours of the RAC at LATCC (Mil), the LA pilot could not be traced. Consequently, the Board assessed this Airprox based on the information provided in the Merlin pilot's account and data provided by the radar recording.

In this situation the Merlin pilot was required to 'give way' in accordance with the 'Rules of the Air', but plainly the 'Rules' can only work effectively when the other ac is seen in sufficient time for the pilot 'giving way' to take appropriate action to remain well clear. The Merlin pilot reports the untraced LA was spotted 1km away [0.54nm] approaching from his 1 o'clock at a similar altitude; because of the close proximity of the LA when first seen avoiding action was necessary to avoid a collision, which was apparently quite robust. Nevertheless, the radar recording illustrates that the LA had been closing on a steady course and bearing from some distance away and was indeed there to be seen by the Merlin crew. Although the Board recognised that a white LA of small cross-sectional area approaching on a constant relative bearing would be difficult to spot, despite the reported good visibility from the helicopter's flight deck, the Board concluded that, for their part, this was a late sighting by the Merlin crew.

Because the LA was in a high AoB turn when first seen by the Merlin pilot, it seems that the LA pilot might have spotted the large Merlin helicopter slightly earlier and was already effecting his own avoiding action turn to the L. Whilst the Board was unable to draw definite conclusions on this aspect, the robust nature of the LA's turn, which is evident on the radar recording, suggests that this was, in all probability, also a late sighting by its pilot. In the absence of an account from the LA pilot, the Board could only conclude that the Cause of the Airprox was a late sighting by the Merlin crew and probably a late sighting by the untraced LA pilot.

Turning to the inherent Risk, it was suggested that the LA pilot, unaware that his LA had not been spotted at the time, might have 'stood on' his course anticipating the Merlin pilot would take earlier action to remain clear, but thereby leaving his own avoiding action to a late stage. Nevertheless, the resultant close quarters situation could have been prevented if the confliction had been recognised earlier and robust action taken by either pilot. The radar recording suggested the horizontal separation was slightly more than that the 100m reported by the Merlin pilot as the LA passed astern of the helicopter, as simultaneously, the latter descended. Notwithstanding any Mode C lag associated with the radar recording, the Board agreed that the Merlin pilot's avoiding action descent had been actioned at a relatively late stage, just as the LA started to draw astern, which convinced the Members that the safety of these two ac had not been assured.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: A late sighting by the Merlin crew and probably a late sighting by the untraced LA pilot.

Degree of Risk: B.