

## AIRPROX REPORT No 2010145

Date/Time: 16 Sep 2010 2255Z (night)

Position: 5314N 00430W (Final  
RW31 Valley - elev 36ft)

Airspace: Valley ATZ (Class: G)

Reporting Ac Reported Ac

Type: Hawk Lynx

Operator: HQ AIR (Trg) HQ JHC

Alt/FL: 500ft NK  
(QFE) (QFE)

Weather: VMC CLBC VMC CLBC

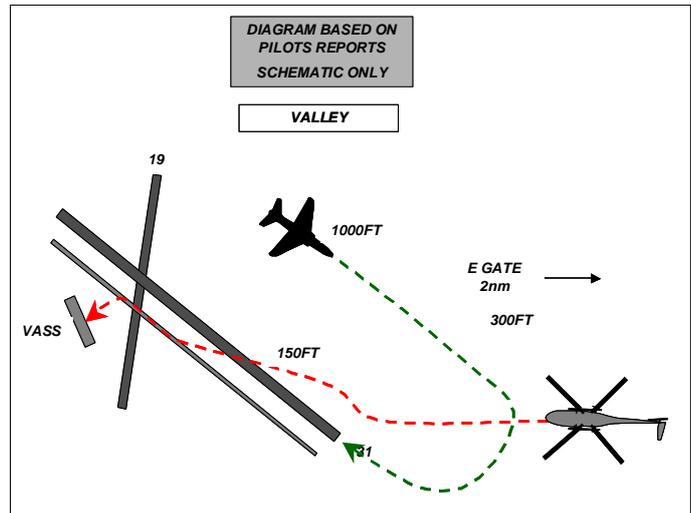
Visibility: 10km 10nm

Reported Separation:

100-200ft V/NR H500ft V/0m H

Recorded Separation:

NR



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE HAWK PILOT** reports that he was in the [night] cct for RW31 (RH) with his (red) strobe and nav lights switched on and was in receipt of a BS on UHF, from the Valley ADC on his first night solo on Hawks; TCAS was not fitted. While descending and turning through about 500ft QFE on the final turn at 140kt, while looking into the turn towards the threshold, he saw the red strobe of an ac passing below them. He rolled wings level to line up with the RW and then saw the red strobe level with his ac, on the horizon in his 4 o'clock; at that time he was at 300ft QFE. He called TWR to confirm whether or not there was any traffic on short final and was informed that a Lynx helicopter holding short of RW31. The angle-rate geometry of his observation of the strobe enabled him to accurately assess that the separation between the helicopter and his ac to have been between 100 and 200ft.

He reported the incident to ATC and assessed the risk of collision to be high.

**THE LYNX PILOT** reports that Valley Ops informed them of the incident one month after the event. They were flying an Exercise sortie and conducting a planned NVG assisted recovery to RAF Valley, in receipt of a BS from TWR on VHF and with standard night lighting displayed. On approaching the airfield, initially at 100kt, they were instructed to continue to 'East Gate' [2.0nm E of the threshold of RW31 – See UKAB Note (1)] at which point they were informed of circuit traffic using RW31 RH. They were initially instructed to hold at the Gate, not above 500ft QFE and at this stage he became visual with the Hawk (due to its lighting). The Hawk was on the downwind leg for RW31 and at that point they were cleared to the airfield remaining NE of RW31 (the area referred to as the 'Golf Course') so they proceeded as instructed, descending as they did so. The pilot watched the Hawk closely and was content with the separation. On the transit to the 'Golf Course' at 300ft agl, the Hawk was on the downwind leg and passed over them about 400-500ft above. They were then given clearance to cross the RW and land at VAS. Once clear of RW31 at 150ft agl they made their final approach to the parallel taxiway [SE of the RW] at the intersection point of RW19/01 and they then air taxied to VAS and landed.

The pilot was not made aware either by radio or telephone that an Airprox had been declared (iaw JSP 551 Vol 1) nor did he consider that any risk had existed as he had the benefit of NVG. The Lynx

remained at RAF Valley for about an hour before returning to RAF Leeming during which time the pilot heard nothing.

These details as much as the crew can remember given the significant passage of time between the date of the event and notification of the Airprox report by telephone from the RAC towards the end of October.

UKAB Note (1): The UK Mil AIP – EGOV 1-16, Special Procedures (2) Copter Note (3) states:

‘SE Route via EAST GATE.

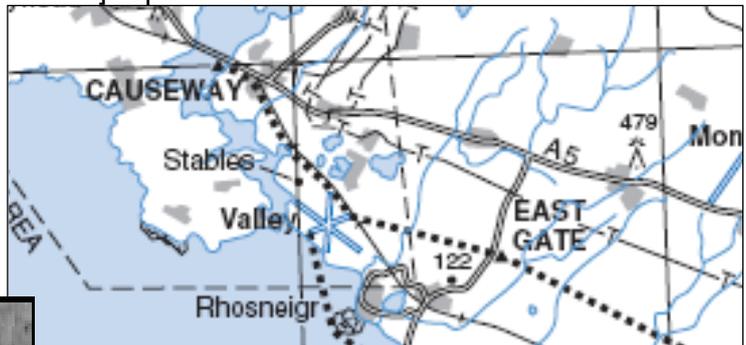
- a. For landing at Visiting Aircraft Dispersal, SARTU or 22 Sqn.
- b. B. Flight between Menai Strait & PONT MARQUIS (SH 434698) max 500ft QFE (200ft msd). Flight between PONT MARQUIS and EAST GATE (SH355744) max 500ft QFE (200ft msd). Flight between EAST GATE and RW19 or 31 THR max 250ft QFE. Report over EAST GATE inbound and outbound.’

**HQ 1GP BM SM** reports that SATCO RAF Valley confirmed that the Lynx pilot had previously been briefed by the units ATC staff and was being treated as a locally based ac. No radar replay was available to conduct the investigation; hence it is based on the reports of the pilots, the ADC and the tape transcript. However, there is an inconsistency with the tape transcript, highlighted below, which has been impossible to resolve as the original tape was inadvertently returned to service.

During the occurrence, the Lynx was operating on VHF and the Hawk UHF. At 2255:31 the transcript recorded that 2 different transmissions were made simultaneously, one on UHF and the other VHF with the Hawk being cleared to touch and go and the Lynx being cleared to cross the active RW. Clearly, the timing of the transmission is impossible and the clearance to the Lynx makes no sense in the context of the situation and the subsequent RT exchanges. At 2256:31 however, the transcript has a further transmission to the Lynx clearing them to cross. Given this, HQ Air BM SM contends that the 2255:31 transmission to the Lynx is a transcription error and did not actually take place and the investigation has been conducted on that basis.

As stated at UKAB Note (1), the Mil AIP states that for ac inbound ‘Flight between East Gate and Rwy 19 or 31 THR **max 250ft QFE**. [Pilots are to] report over East Gate inbound and outbound.’

The following diagrams show East Gate and the railway line in relation to the airfield, and the area known as the ‘Golf Course’ which is bounded by the NE fence of the railway line, then the two fence lines running E-W and N-S forming the other 2 sides of the green triangle marked on the photograph.

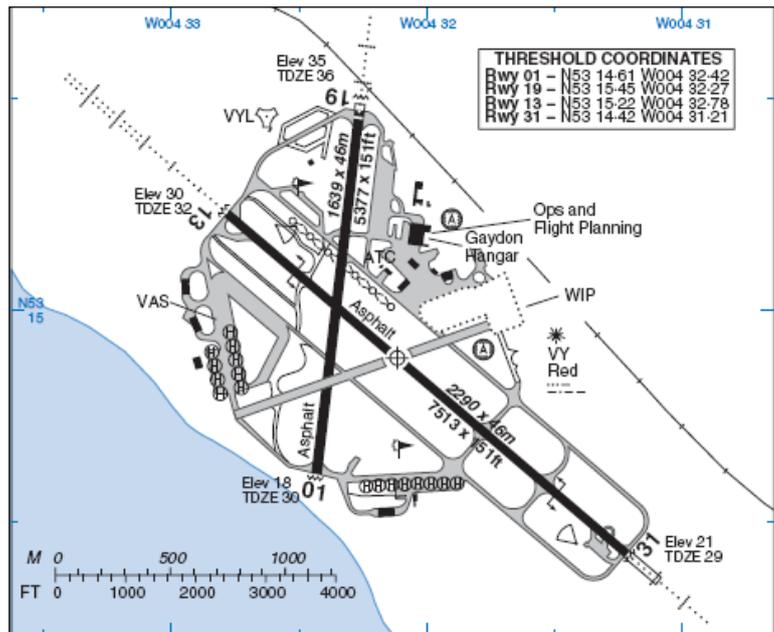


At the point that the Lynx called requesting a visual join at 2254:04, the Hawk was completing its first cct having rejoined through initials. The Lynx pilot reported that they were visual with the Hawk prior to calling for join and that they remained visual throughout. At 2255:03 the Lynx reports that they were approaching the airfield boundary; TWR acknowledged and instructed them to “hold short RW 31”; the controller reported that he saw the Lynx holding abeam RW31 threshold in the vicinity of the railway track. The Lynx pilot reported that as

they transited to the Golf Course from East Gate at 300ft agl (QFE), the Hawk was downwind and passed about 400-500ft above them but the Hawk pilot reported that as they descended through about 500ft in the final turn, he saw “a red strobe pass underneath the aircraft.”

Without a radar replay it is not possible to be certain, but from the descriptions given it is probable that the Lynx was routeing through the South-Eastern corner of the Golf Course, which is roughly the same position as late-downwind or early finals for the Hawk.

Although the ADC did not reiterate the height at which that the Lynx was required to operate, given that the Lynx crew had received an ATC brief and that they were considered to be familiar with the airfield, the ADC reasonably assumed that the crew would fly in accordance with the locally published procedures. Although it is impossible to be certain, it is possible that the Lynx was flying higher than stated in the published procedure.



The ADC reported that he did not inform the Hawk pilot about the helicopter as it was below 250ft QFE (in accordance with the FOB), however, the unit FOB actually states that “when Rwy 31/13 is in use, Tower is to inform any ac flying a low level circuit of any rotary traffic on the golf course; all such rotary traffic is to remain below 250ft QFE.” Given that frequency separation existed between the Hawk and the Lynx, the provision of TI to the Hawk on the Lynx would have improved the pilot’s situational awareness. That said, from an ATM perspective, the ADC fulfilled his obligations to sequence the visual circuit traffic correctly and he was at all times aware of the location of both ac.

It appears that the height of the Lynx and its proximity to the RW31 threshold caused concern to the Hawk pilot and moreover, if the heights reported by the respective pilots are accurate, then only about 200ft vertical separation might have existed, supporting the Hawk pilot’s assessment of the separation. However, the Lynx crew was visual with the Hawk from early in their recovery, they remained so throughout and were content that adequate separation existed at all times.

UKAB Note (2): The transcript (see HQ 1GP BM SM report) shows that the Lynx reported “approaching airfield boundary” at 2255:03 and was instructed to “hold short of RW31” and he acknowledged he was holding short 2 sec later; the Hawk called finals at 2255:28 and was cleared for a touch and go; at 2256:40 the Lynx was cleared “cross runway 31 with one climbing out”. The Lynx is recorded as landing at 2259.

**HQ AIR (Trg)** comments that this incident was undoubtedly alarming for the student pilot and notes that the incident report is welcomed. Whilst it is disappointing that the Airprox report was not made immediately a significant amount of detail has been gathered. However, timely follow-up on landing might have allayed the pilot’s concerns and enabled the Airprox report to have been withdrawn. Busy, mixed circuits such as that at RAF Valley rely significantly on robust procedural deconfliction. However, these apparent conflicts can always occur. In this case it appears that the Lynx pilot flew slightly above the required height, producing a closer pass than necessary. Despite the Hawk pilot’s estimation of the vertical separation, the exact vertical separation it is not clear. Indeed, the Lynx would have needed to be considerably south of the routing from East Gate to have been under the Hawk at its 500ft point (this would be in the second half of the final turn for a correctly flown normal circuit). From the Hawk pilot’s comment that the Lynx was in his 4 o’clock on rollout, and the fact that the Lynx was holding at this point, geometry places the Lynx more in the first half of the

finals turn. The Hawk's height here would have been 700 – 800ft which, coincidentally, equates to the 400 – 500ft separation noted by the Lynx pilot. This, and the fact that the Lynx crew reports being visual throughout reduces the level of concern over this incident, but the fact remains that the Lynx reduced the separation unnecessarily. HQ Air is content that the RAF Valley procedures are robust.

HQ JHC did not provide a comment.

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

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Members noted the two different impressions of the incident by the respective pilots; the inexperienced Hawk pilot was concerned by the proximity of the Lynx whose experienced crew were unconcerned by the flightpath of the Hawk. Although there was no confirmatory information to supplement the pilots' reported separation, Members agreed that the Lynx had under-flown the Hawk but could only deduce from the estimates and relative ac positions that the vertical separation had been of the order of 300ft. (The HQ Air Ops Member informed the Board that on a normal circuit the Hawk would have been at 650-700ft half way round the final turn). While the separation was perhaps less than ideal, Members agreed that there had been no risk of collision as the Lynx crew had been visual (on NVGs) with the Hawk throughout.

There was concern however, that the ADC had not provided the level of service that Controller Members would have expected. While supporting the Hawk pilot's decision to report the incident, Members suggested that, had the ADC provided TI to the Hawk pilot regarding the Lynx, the incident would probably not have been reported as an Airprox. Further, they considered that the ADC's instruction to the Lynx pilot to *"hold short of RW31"* was open to interpretation and, since the Lynx crew was familiar with Valley, a more precise instruction or a direction to hold/orbit at a specific point should have ensured better separation. Additionally the route stipulated in the FOB from East Gate to the threshold of RW31 takes ac very close to the final approach track.

The HQ JHC Member, who was familiar with both the incident and the type of Lynx involved, informed Members that the Lynx involved was UHF-equipped and there were no obvious factors precluding it operating on a UHF frequency in the cct. Members agreed that had this been the case, the Hawk pilot would have not only been aware of the Lynx but also its position and the pilot's intentions thus probably alleviating his concern that prompted him (the Hawk pilot) to ask if the ADC was aware of any other ac in the cct area. Members did not agree with HQ Air Trg's view that the RAF Valley procedures were sound and recommended that they be reviewed particularly regarding the co-ordination of helicopter movements and the passing of TI. Members also directed that a recommendation be made regarding ac operating in the visual circuit on different frequencies.

UKAB Post Meeting Note: After the meeting it was noted that the following recommendation was made in Mar 2010 with respect to Airprox 2009117:

'The MoD is recommended to direct that, whenever possible to do so, aircraft in the visual circuit operate on the same frequency'.

The recommendation was agreed by MoD and ATSU's were advised accordingly; the recommendation was then considered closed.

That being the case, RAF Valley ATC should have been complying with this directive unless there were other factors that prevented them from doing so.

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

Cause: The Lack of TI led the Hawk pilot to believe there was a conflict with the Lynx

Degree of Risk: C.

Recommendation: 1. It is recommended that RAF Valley reviews its procedures for co-ordinating helicopter movements under fixed-wing circuit traffic.