

## AIRPROX REPORT No 2014206

Date/Time: 22 Oct 2014 1427Z

Position: 5133N 00025W  
(Hayes)

Airspace: London CTR (Class: D)

Aircraft 1                      Aircraft 2

Type: A109                      Apache

Operator: HQ Air (Ops)      HQ JHC

Alt/FL: 1200ft                      1200ft  
            QNH (1025hPa)      NK

Conditions: VMC                      VMC

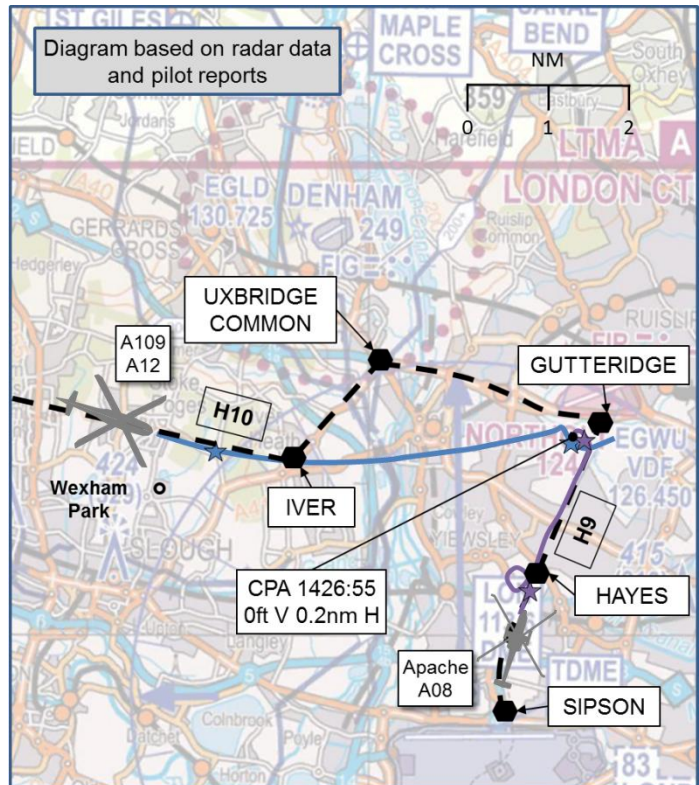
Visibility: 10km                      10km

Reported Separation:

0ft V/200m H                      0ft V/200m H

Recorded Separation:

0ft V/0.2nm (370m) H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE A109 PILOT** reports joining Northolt from Wexham Park Hospital, cleared as requested to route Iver, Gutteridge to join the H at Northolt. The predominantly white aircraft had the red beacon selected on, as was the SSR transponder with Modes A and C. The aircraft was fitted with a TAS. The pilot was operating under VFR in VMC, in receipt of a Radar Control Service from Northolt Tower. The A109 pilot was briefed by Tower that there was a Merlin to depart from RW25 (the reciprocal direction) and he was then positioned towards Gutteridge at best speed to allow a clear departure track for the Merlin. When approaching Gutteridge, an Apache was seen in the vicinity of the Hayes hold, on the right-hand side of the aircraft, and at a range of about 1½ miles. The A109 pilot continued as cleared at best speed to facilitate the departing Merlin and minimise the suspected hold to the Apache. The Apache sighting was reported to Northolt Tower, who were unaware of it and repeated that a Merlin was departing. In the intervening period, the A109 pilot heard the Merlin pilot report that he could see an Apache. The Apache had proceeded north and was now near Gutteridge. The A109 pilot was unable to turn left on to north as this would conflict with the Merlin, and a turn to the right would have conflicted more with the Apache and Heathrow traffic. The A109 pilot reported 'happy with the Merlin' to Northolt Tower, but was more concerned about the unknown Apache. The Apache continued into Gutteridge hold, the A109 pilot made a right turn to avoid it (closest approach 200m), and reported final for the H at Northolt. The A109 pilot was cleared to land and reported the Airprox at that time. He stated he was unsure as to whether the TAS alerted, due to concentration on radio communication and visual avoidance.

He assessed the risk of collision as 'Low'.

**THE APACHE PILOT** reports flying from Heathrow to cross Northolt. The green camouflaged aircraft had HISLs and navigation lights selected on, as was the SSR transponder with Modes A and C. The aircraft was not fitted with an ACAS or TAS. The pilot was operating under VFR in VMC but did not state the Air Traffic Service under which he was operating. He was handed over directly to Northolt Approach in the vicinity of Airport Spur. Northolt Approach gave clearance to hold at Gutteridge and he was handed over to Northolt Tower just to the north of Hayes. He elected to conduct a left hand orbit at Gutteridge at 1200ft. A Merlin was seen to depart Northolt to the west but no information was provided about its departure; it was not considered to be a conflict. At this point the A109 was seen at approximately 2km, approaching from the northwest. The Apache pilot elected to continue the left hand turn, thereby keeping the A109 visual at all times and pointing well behind the rear of the

A109, so as to avoid a conflict. The A109 pilot was heard on frequency, but details were not provided by ATC. The A109 passed down the left of the Apache by approximately 200m but, due to being visual with all aircraft throughout, the Apache crew did not feel unduly concerned about their safety.

He assessed the risk of collision as 'Low'.

**THE NORTHOLT TOWER CONTROLLER** reports being on console for approximately an hour. The A109 was warned in from the west on H10 and told to hold at Wexham, not above 1200ft for departing civilian traffic. The Merlin pilot was speaking with the ATCO I/C on Ground frequency, which he had taken to help out. The Merlin pilot reported ready for departure and the ATCO I/C then went through departure approval. Approval was given, including Traffic Information about the traffic inbound from the west [the A109]. The Merlin lined up on RW25 and the Tower controller called traffic upwind, not above 1200ft. The Merlin pilot called looking and then called visual. The Tower controller then gave the Merlin pilot clearance for take-off from RW25. The A109 pilot called for join and Tower gave joining clearance with one on for departure. Looking at the DFTDI<sup>1</sup>, the Tower controller saw another squawk to the south, proceeding to Gutteridge. The A109 pilot then asked about traffic on his right, an Apache. Tower told him the Apache was not in communication with Northolt Tower. Tower informed the A109 pilot again about the Merlin on for departure. He said he was not worried about the Merlin and asked again if Tower was talking to the Apache on his right. Tower repeated that the Apache pilot was not in communication with Northolt Tower. The A109 pilot proceeded across the upwind end of RW25, for Gutteridge, and manoeuvred right to go behind the Apache. During this time, Northolt Approach called to pre-note an ATZ crosser. The Tower controller refused, and asked Approach to confirm the A109 squawk code as he had become confused with the other squawk to the South. Due to the confusing situation with his traffic at that time, the Tower controller told Approach to standby whilst he talked to traffic on his [Tower] frequency. The Tower controller spoke to Approach again and it became apparent that it was the Apache they were trying to call as the ATZ crosser. The A109 pilot called final with gear down for the H, and Tower gave him clearance to land. At this point the Apache pilot was still holding in the Gutteridge area and the Merlin pilot had gone en-route with Approach.

He perceived the severity of the incident as 'Medium'.

**THE NORTHOLT ATCO I/C** reports traffic loading on the unit was not particularly high but the frequencies were quite busy. He therefore took over Ground and much of the landline liaison with TC in order to allow Tower to concentrate on airborne traffic. By the time he was able to gain SA, the situation was already unfolding. When the A109 pilot started talking about an Apache both he and Tower were confused as they had no information about it. It appeared that Northolt Approach had routed an Apache to Gutteridge but had been unable to tell them about it in time. The A109 pilot was visual at all times but was pinned between the departing Merlin and the Apache. He therefore took sensible action to avoid a conflict using VFR Rules of the Air. Had the ATCO I/CI intercepted the call from Approach before Tower then they might have had better SA but he recalled that his attention was focused on getting the Merlin away safely and subsequently ensuring the Merlin pilot was warned that he was in close proximity to Denham ATZ. Given the Apache pilot was well on his way to Gutteridge by the time Approach were in a position to attempt to inform Northolt Tower of its position, in terms of a plan Tower would have reacted in much the same way.

**THE NORTHOLT APPROACH CONTROLLER** reports operating bandboxed as Approach and Director<sup>2</sup>. She had the departing civilian traffic on start for an IFR airways departure from RW25 when Heathrow SVFR pre-noted two aircraft to her, the A109 to route Ascot, Burnham inbound to Northolt and an Apache wishing to route up H9 northbound, to leave the London CTR at Northwood. The pilots had been given clearance limits of Burnham and Hayes respectively. Seeing the possible conflict between the A109 on H10 eastbound (Approach had assumed he would want this route for a visual recovery) and the airways departure, she rang to give Tower an early prenote and said that she would get back to her once she had more details. The A109 pilot came onto frequency and was

---

<sup>1</sup> Distance From Touch-Down Indicator, an uncalibrated radar display, used for situational awareness only.

<sup>2</sup> The controller operates both functions from a single console with linked RT frequencies.

told to precede H10 east but to hold abeam Wexham Park Hospital due to departing traffic. He requested to route from Iver to Gutteridge for his arrival, which she said would be approved but told him to still hold until advised. At this stage, Tower was calling for departure approval, and another controller acted as Coordinator to take the landline call on her behalf. He notified Tower of the A109 holding at Wexham Park Hospital and gave departure approval. Approach also received a prenote on a Merlin to depart Northolt onto H10 westbound. Once the A109 pilot was visual with the departing traffic and no conflict remained, Approach instructed him to proceed inbound and informed him of the departing Merlin, which was the more relevant conflict at that time. Tower rang for departure approval on the Merlin, which was granted, and Traffic Information was passed on the A109, now inbound. Approach sent the A109 pilot to Tower frequency at the earliest opportunity to facilitate deconfliction. During this time she had been quite busy and had not had time to prenote Tower with the Apache, which was approaching from the South, although her plan had always been to transfer control to Tower for the [ATZ] crossing. Her attention was only drawn to the Apache again when the pilot checked in, approaching Hayes. She instructed him to proceed towards Gutteridge, still believing there was enough time to inform Tower and switch the Apache pilot to Tower frequency. She noted that otherwise she would have held the Apache at Hayes. She called the A109 in his left, 10 o'clock at 2nm, on a converging heading, and informed him that the A109 pilot was making an approach to Northolt. At the same time she was ringing Tower to inform her of the Apache approaching. After saying 'prenote ATZ crosser south to north' she was told to standby and could hear in the background either another controller or the A109 pilot on loudspeaker commenting on the Apache. She then said to Tower that she had the Apache and that was why she was ringing. Tower sounded confused and at capacity and did not understand what Approach was saying. She again said she was trying to give her the Apache but Tower said she was too busy and would call her back. Tower then hung up the landline. This process had taken some time and by then the Apache pilot had taken up a clockwise hold at Gutteridge. He continued until the A109 had landed and was then cleared to proceed northbound on H9. Both pilots were operating under VFR and were visual with each other. The Approach controller noted that as she had been very busy controlling, she should have utilised a coordinator to make the Apache prenote to Tower, which would have let her transfer him straight to the Tower frequency on first contact, however she was too busy to ask.

She perceived the severity of the incident as 'Low'.

**THE NORTHOLT SATCO** reports that on reviewing the tapes and controllers' accounts, it became apparent that the Apache pilot was handed over to the Tower Controller too late to effect any other sequencing. Approach reported receiving the Apache late from civil controllers and therefore, they handed the aircraft over late to the Tower controller, who was not aware of the Apache approaching the ATZ until the A109 pilot pointed out that he was visual with it. Standards Bulletins now highlight the proximity of heliroutes and possible conflicts when joining from the west. Furthermore, Approach will liaise with civil controllers to ensure timely handovers of traffic.

## Factual Background

The weather at Northolt was recorded as follows:

```
METAR EGWU 221350Z 28013KT 9999 FEW030 SCT060 BKN140 13/06 Q1025 BLU NOSIG
METAR EGWU 221450Z 28009KT 9999 -RA FEW030 SCT050 OVC130 13/06 Q1024 NOSIG
```

## Analysis and Investigation

### Military ATM

At 1424:10, the A109 pilot was informed by Approach to "proceed inbound" after previously being told to hold at Wexham Park. The Apache pilot called Approach at 1424:53, holding at Hayes and, at 1425:00, Approach informed the Apache pilot that "clearance was now Gutteridge, standard operating altitudes". At 1425:04 (Figure 1), the A109 pilot was cleared to join Northolt Tower visually, holding at Gutteridge.

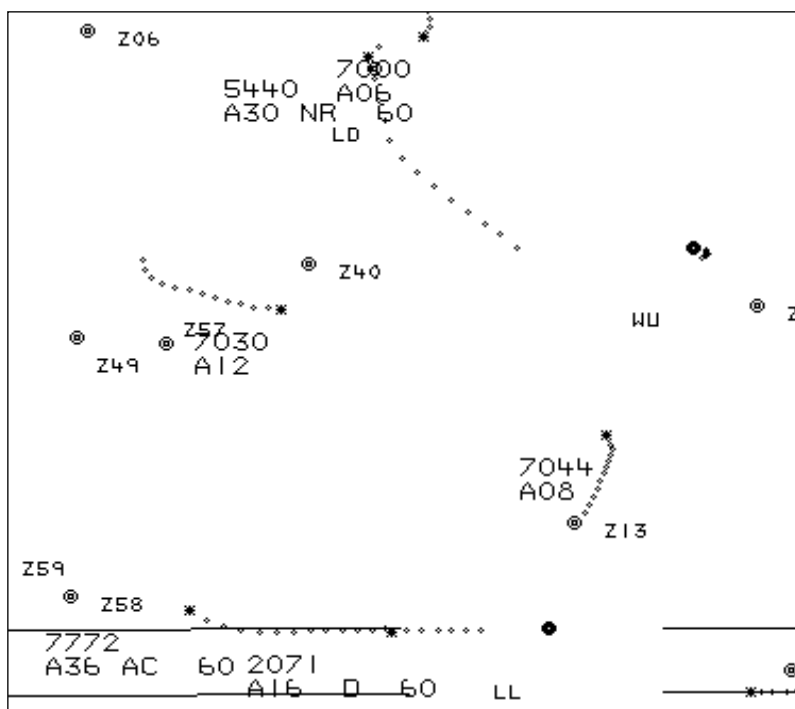


Figure 1: A109 squawking 7030; Apache squawking 7044

At 1425:53 (Figure 2), the A109 pilot enquired with Tower about the Apache in his 3 o'clock (range 2.2nm on radar replay). At approximately 1425:57, Approach called Traffic Information to the Apache pilot, "[Apache C/S] traffic left 10 o'clock two miles converging, heading slightly above, inbound to Northolt."

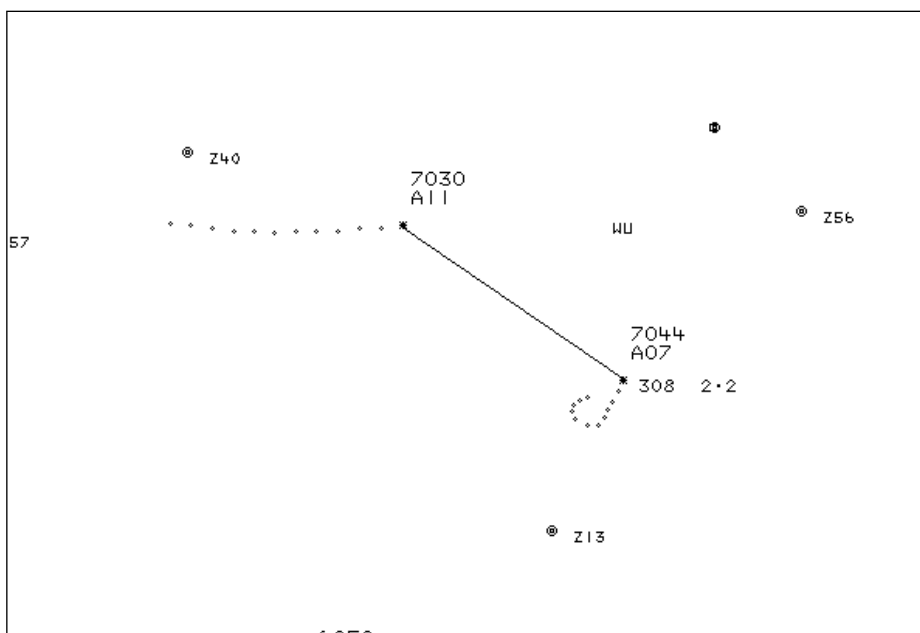


Figure 2: A109 visual with the Apache at 2.2nm at 1425:53

The A109 pilot requested further Traffic Information on the Apache at 1426:02 (Figure 3).

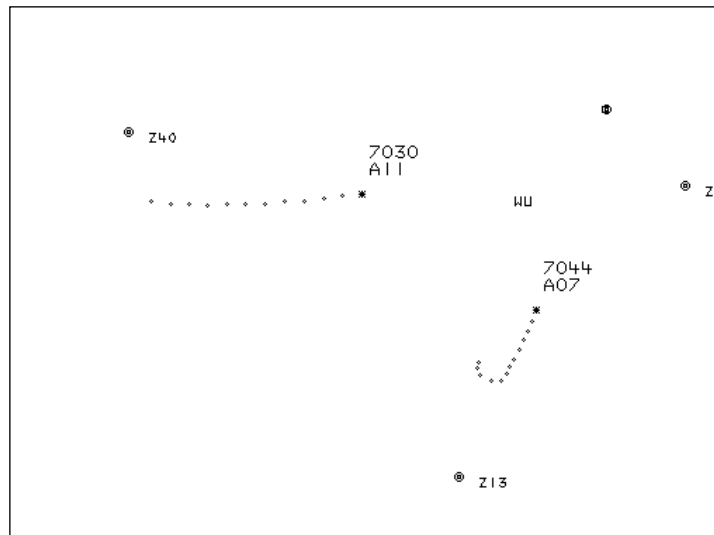


Figure 3: A109 requested a further update at 1426:02

At 1426:39 (Figure 4), the A109 pilot again mentioned concern about the Apache.

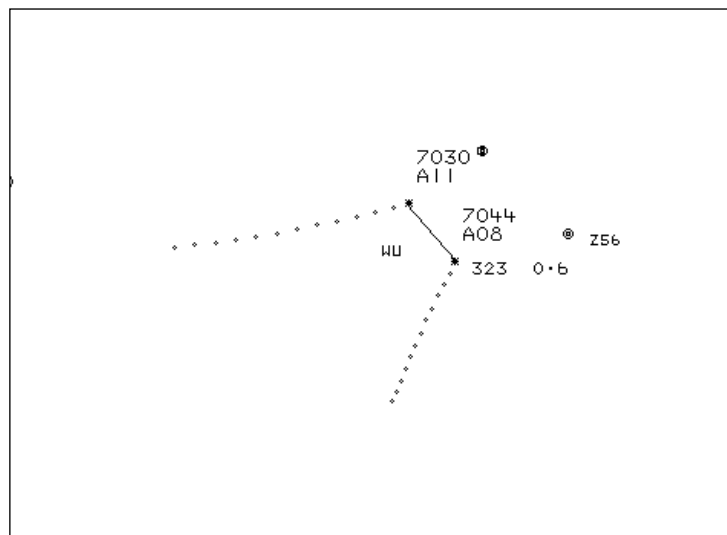


Figure 4: Aircraft geometry at 1426:39

The CPA is estimated at 1426:55 (Figure 5) at 0.2nm horizontally and co-height.

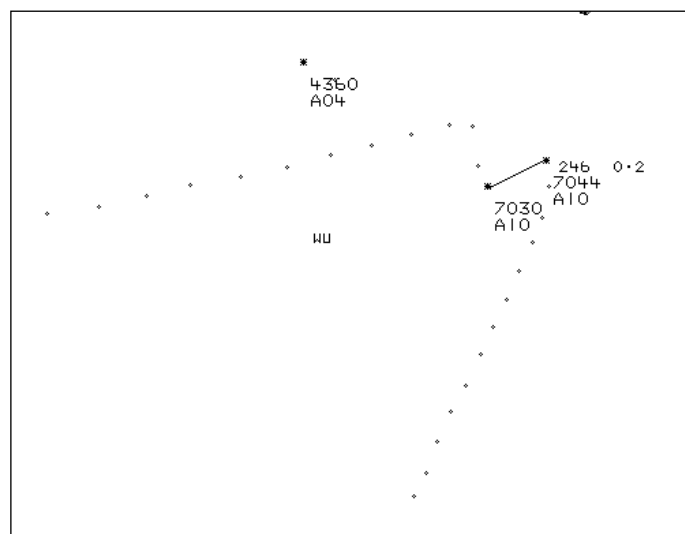


Figure 5: CPA at 1426:55

The Tower controller was experiencing a busy spell and the ATCO I/C plugged into the Ground position to assist. Tower had prioritised the airways departure and the Merlin VFR departure, prior to dealing with the A109 inbound. Having called Traffic Information on known traffic to the departures, the A109 pilot's query on the unknown Apache caused confusion in Northolt Tower. Approach was on the landline to pass the required information, however, the busy frequency and incomplete mental picture, resulted in the Tower controller reaching capacity; Approach was unable to pass information on the Apache. Approach had also been busy, resulting in a later than desired call to Tower. Traffic Information had been called to the Apache pilot and Approach believed that there was time to hand over the aircraft. An earlier prenote of the Apache would have allowed Tower to provide Traffic Information and produce a more robust sequence plan, however, the Apache pilot had called when 3nm south of Northolt, 1min prior to Traffic Information and 2min prior to CPA. To add more contexts, busy frequencies, a number of competing conflicts and a lengthy landline conversation, exacerbated the situation and added to the workload. The A109 was delayed inbound due to departures and workload demands and a late call by the Apache to Approach, meant delayed ATC liaison. As a result of these factors, both pilots were held in the Gutteridge area. The A109 pilot had repeatedly reported visual with the Apache and the Apache pilot was given Traffic Information on the A109 at 2nm.

The crews involved were operating under VFR in the Class D London CTR and responsible for their own collision avoidance. Both crews were aware of their lookout responsibilities and the occurrence reports stated visual contact at ranges of 2km for the Apache pilot and 1½nm for the A109 pilot. The Apache pilot was holding whilst attempting to gain situational awareness on other traffic. The A109 pilot felt 'pinned in' by the situation and, despite gaining visual contact, information on the Apache may have provided more assurance and afforded the pilot a clearer path for deconfliction.

The normal barriers to an Airprox would be ATC procedures and information, ACAS/TAS alerting and lookout. In this instance, lookout was effective and the crews were visual at range; TCAS was not required, although it was not fitted to the Apache. The crews continued in a closing geometry until the Apache passed behind the A109 in the Gutteridge Hold; both pilots were informed to hold at Gutteridge. The A109 pilot, despite being visual, was concerned with the closing geometry with the Apache and the fact that the track was unknown to Tower. Better liaison within ATC would have produced a deconfliction plan and more assurance to both crews. The controllers had high workloads and the Apache sighting by the A109 pilot had caused confusion in Tower; the situation was compounded by a protracted landline call that stretched capacities further.

A unit investigation found that the Apache routing required a change of frequency from Heathrow to Northolt Approach to Northolt Tower, possibly within 1-2nm. This procedure did not give controllers time to pass information and handover tracks, especially when they were busy or if they became distracted. The procedure has now been changed, such that traffic is passed directly from Heathrow to Northolt Tower.

### **UKAB Secretariat**

The A109 and Apache pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision<sup>3</sup>. If the incident geometry is considered as converging then the A109 pilot was required to give way to the Apache<sup>4</sup>, unless ATC authorised otherwise.

<sup>3</sup> Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

<sup>4</sup> *ibid.*, Rule 9 (Converging).

## Comments

### HQ Air Command

All VFR/SVFR helicopter flying in the London CTZ is subject to ATC clearance. In addition, pilots are required to fly the precise routes as depicted on the map entitled Helicopter Routes in the London Control Zone; 'Corner cutting' is to be avoided. In order to obtain sufficient lateral separation from opposite direction traffic, pilots may temporarily deviate to the right of the route. These procedures, in conjunction with ATC information and clearances, are often sufficient to avoid conflict in the high density traffic area within the London CTZ. However, the process may create circumstances where aircraft are funnelled into relatively close proximity.

Notwithstanding this, a high level of situational awareness is required by operators and Air Traffic personnel alike in order to sequence traffic and maintain safe separation. In this situation, the expected level of Traffic Information was not provided to the A109 pilot, resulting in concern due to his lack of appreciation of the Apache pilot's intentions. However, good lookout and sound decision making resulted in the successful resolution of the conflict, with a low risk of collision assessed by both crews.

It is worthy of note that the effectiveness of the TAS barrier may be called into question in this instance, as the A109 pilot reported that he was unsure if an alert occurred due to concentration on radio traffic and visual avoidance.

### JHC

The situation was allowed to develop due to a procedure that placed a high workload on both controllers and aircrew. There was a requirement for swift frequency changes without the benefit of sufficient time to allow controllers to make and receive liaison calls if they were working close to capacity. It is noted that the procedure for Heathrow to Northolt Tower transit has been changed following a Unit Investigation.

## Summary

An Airprox was reported when an Agusta A109 and an AH64 Apache flew into proximity at 1427 on Wednesday 22<sup>nd</sup> October 2014. Both pilots were operating under VFR in VMC, the A109 pilot in contact with Northolt Tower and the Apache pilot in receipt of a Radar Control Service from Northolt Approach.

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

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

The Board focussed first on the air traffic control aspects of the Airprox. Members were surprised that the Approach controller had cleared both helicopter pilots to route towards the same reporting point without passing Traffic information to both pilots prior to handing them over to the Tower controller. However, the Board noted that the procedure extant at the time of the occurrence required Heathrow to hand traffic over to Northolt Approach, who would in turn hand the traffic over to Northolt Tower. They agreed that this lengthy procedure meant that there was urgency for Northolt Approach to pre-note Tower, and little time was left for Traffic Information to be passed. The Board recognised that the Approach controller's plan had been to pass the pre-note on the Apache to Tower so that Traffic Information could be passed to the A109 pilot (who was already on the Tower frequency) but that, unfortunately, the Tower controller had become overloaded and could not assimilate the information that Approach was trying to pass on. As a result, the Board agreed that ATC had lost the ability to enhance the pilots' situational awareness. Members agreed that both the Approach controller's decision to clear both pilots to the same point, and the lack of co-ordination between the

controllers, had been contributory factors; however, they were heartened to hear that the procedure had already been changed so that pilots are now handed directly from Heathrow to Northolt Tower, thereby reducing the work-load on pilots and controllers. Some members noted that the A109 pilot had requested, and had been cleared to route directly from Iver to Gutteridge missing out Uxbridge Common, and there was some discussion regarding the appropriateness of deviating from the published Helicopter Routes, however it was agreed that this had not directly contributed to this Airprox.

Regardless of the undoubted ATC confusion and uncertainty, the Board noted that both pilots were flying on VFR clearances and were ultimately required, regardless of any Traffic Information received or not, to see-and-avoid other aircraft in accordance with their responsibilities under the Rules of the Air. They noted that the A109 pilot had seen the Apache early, and had been concerned about its proximity, which was understandable considering he was having difficulty establishing the Apache pilot's intentions. The Board agreed that this was the root cause of the Airprox. Nevertheless, given that they saw each other's aircraft at range, and took timely and effective action to prevent collision, the Board agreed that the degree of risk for this incident was Category C.

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

<u>Cause:</u>	The A109 pilot was concerned by the proximity of the Apache.
<u>Contributory Factor(s):</u>	<ol style="list-style-type: none"> <li>1. The Northolt Approach and Tower controllers cleared both helicopter pilots to the same reporting point.</li> <li>2. A lack of timely coordination between the Northolt Approach and Tower controllers, caused by Tower controller overload.</li> </ol>
<u>Degree of Risk:</u>	C.
<u>ERC Score<sup>5</sup>:</u>	2.

---

<sup>5</sup> Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.