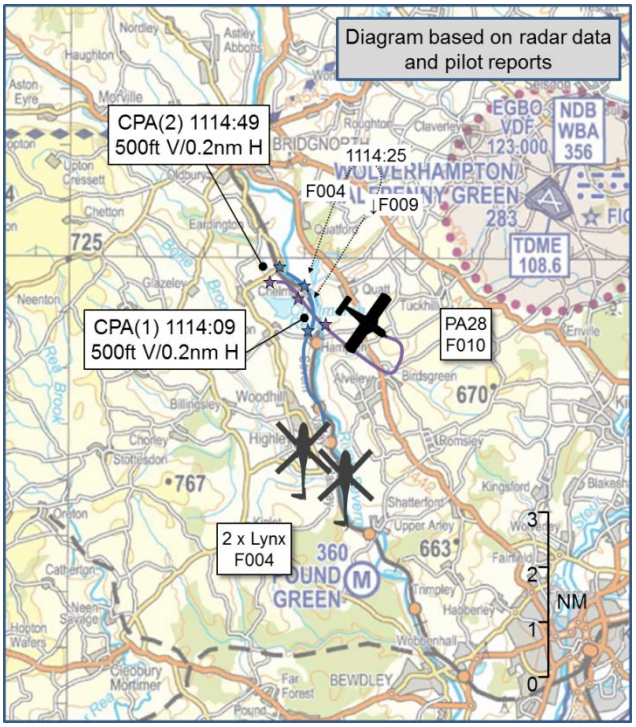
AIRPROX REPORT No 2015159

Date: 14 Sep 2015 Time: 1114Z Position: 5229N 00223W Location: 5nm W Halfpenny Green

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Lynx	PA28
Operator	RN	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Information
Provider	Shawbury	Halfpenny Green
Altitude/FL	FL003	FL008
Transponder	A,C	A,C
Reported		
Colours	Maritime grey	Brown, White
Lighting	Nav,HISLs	Strobes, Nav lights.
Conditions	VMC	VMC
Visibility	8km	5km
Altitude/FL	500ft agl	1000ft
Altimeter	RPS (987 hPa)	QNH
Heading	350°	340°
Speed	120kt	85kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	50-60ft V/50m H	300ft V/300m H
Recorded	500ft V/0.2nm H	



THE LYNX PILOT reports flying as the No2 in a pair of Lynx, transiting south to north at 500ft agl in a wide valley, when he saw a civilian aircraft approach from the right, coming over the ridge of the valley south-east. The aircraft passed over the top of the Lynx by 50-60 ft heading NW, it then turned north and paralleled their track for about 20 seconds before turning north-west again and departing. Two attempts were made to declare an Airprox to Shawbury Approach; however, comms could not be established, so the Airprox was reported by phone 15 mins later, after arrival at RAF Shawbury.

He assessed the risk of collision as 'High'.

THE PA28 PILOT reports that he was on a training flight when he heard a weak transmission from a pilot trying to contact Halfpenny Green. He offered to relay but the other pilot didn't respond. From the transmission he established that there was a formation of military helicopters in the area. Sometime later he saw a helicopter pass below on a heading approximately 20° greater than his own, so he turned left onto a westerly heading to increase the distance between them. He knew from the earlier transmission that there was another helicopter in the formation, which was why he turned to vacate the area. He thought he probably also transmitted his position on 123.00 MHz Not long afterwards the weather deteriorated so he returned to his base.

He assessed the risk of collision as 'Low'.

THE SHAWBURY APPROACH CONTROLLER reports that at the time of the incident a paucity of traffic meant that all control positions were bandboxed onto the Approach console. He received a freecall from the Lynx formation, who requested a Basic Service and informed him they were inbound to RAF Shawbury. Radio comms with the formation were difficult, but he believed them to be at 500ft in the Wolverhampton area, he couldn't see any correlating radar returns in that area, agreed a Basic Service and passed a squawk and the Shawbury QNH. The pilot readback the details, but his

transmission was badly broken; therefore, the controller elected to delay any further transmissions until the aircraft were closer to Shawbury in the expectation that communications would improve. He then received a carrier-wave-only transmission and assumed the pilot was trying to contact him; he called asking if they were trying to contact him and received a garbled response in reply. He then gave a blind call, passing the airfield details, because this seemed the next logical step for an aircraft routing inbound. He received a broken response but managed to establish that the formation was recovering visually. Shortly afterwards he saw a Shawbury Basic Service squawk appear in the Wrekin area and, at the same time, a loud and clear call from the captain of the formation requesting a join via the Roddington VRP. He later learned that the Captain had been trying to pass details of the Airprox.

THE SHAWBURY SUPERVISOR reports that he did not witness the event; however as Watch Supervisor he received a telephone call from one of the pilots in the Lynx formation advising that they were reporting an Airprox. The pilot reported that on recovery to Shawbury they had seen a blue and white, low-winged aircraft approximately 60ft directly above them, routing southeast to northwest. Neither aircraft in the formation had initiated avoiding action because there wasn't time to react. The pilot also reported that although they had tried twice, they were unable to report it on frequency due to 'readability' issues.

Factual Background

The weather at Shawbury was recorded as follows:

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METAR EGOS 141050Z 08011KT 9999 BKN010 12/10 Q0992 GRN BECMG BKN015 WHT=
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Analysis and Investigation

Military ATM

At 1113:01 (Figure 1), the Lynx formation freecalled Shawbury Low Level frequency and at 1113:12, requested a Basic Service, 6nm SW of Wolverhampton at 500ft agl.

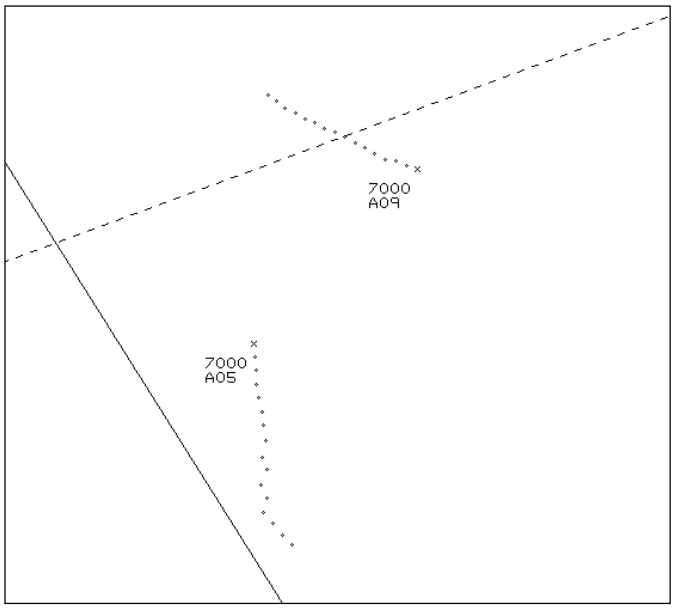

Figure 1: Lynx formation freecalled Shawbury at 1113:01
(Lynx lead squawking 7000, Mode C A05; PA28 squawk 7000, Mode C A09).

At 1113:37, Shawbury Low-Level confirmed a Basic Service and provided the squawk 7420.

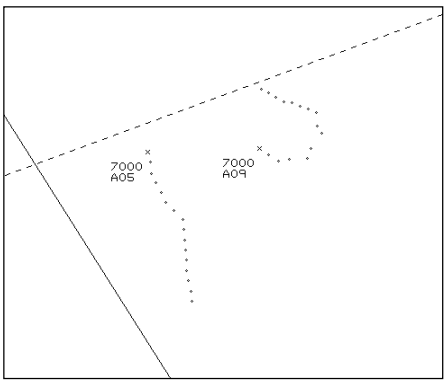

Figure 2.
Basic Service provided at 1113:37

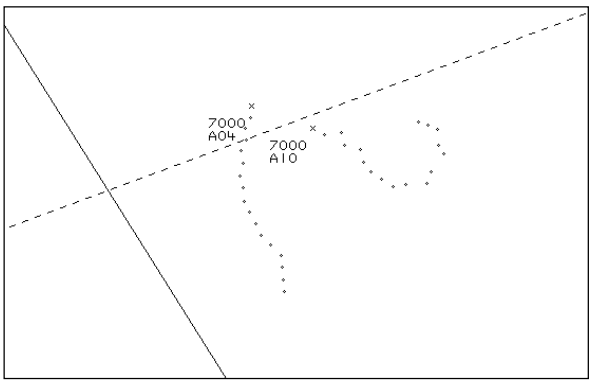

Figure 3.
Geometry at 1113:58

At 1114:11 (Figure 4), the Lynx lead had changed to the Shawbury squawk of 7420 and separation was 0.3nm horizontally.

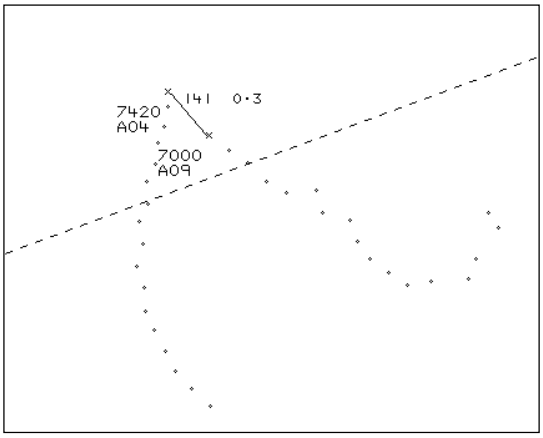

Figure 4: Geometry at 1114:11.

The Closest Point of Approach (CPA) was estimated at approximately 1114:17 with 500ft height separation and 0.2nm horizontal separation.

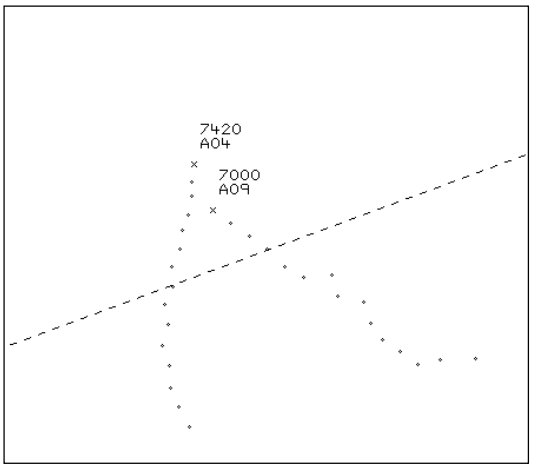

Figure 5: CPA at 1114:17.

Despite poor RT communications between the controller and cockpit, the aircrew had requested and were provided with a Basic Service. The Lynx return appeared on the RAC replays; however, it is not known if it was displayed on the Shawbury radar screen. As the crew were under a Basic Service, they were responsible for their own lookout and collision avoidance, in accordance with the rules of UK FIS.

The normal barriers to loss of safe separation for an aircraft operating low-level would be crew lookout and an airborne collision alerting system (ACAS) such as TCAS. The Lynx was not fitted with any form of ACAS and the crew in the lead Lynx would have had a late sighting on the PA28 as it approached from behind the ridge.

UKAB Secretariat

The Lynx and PA28 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[1]. If the incident geometry is considered as overtaking then the Lynx pilot had right of way and the PA28 pilot was required to keep out of the way of the other aircraft by altering course to the right[2].

Summary

An Airprox was reported when a Lynx and a PA28 flew into proximity at 1114 on Monday 14th September 2015. Both pilots were operating under VFR in VMC, the Lynx pilot in receipt of a Basic Service from Shawbury Approach and the PA28 pilot in receipt of an Information Service from Halfpenny Green.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of 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 first looked at the actions of the Lynx pilots. The formation was flying low-level, in see-and-avoid airspace at a height which precluded receiving a Traffic Service; a controller providing a Basic Service in these circumstances would not be able to provide any Traffic Information. The Board thought the geography probably had a part to play in this Airprox in that the PA28 was undoubtedly initially masked by the terrain as it came towards the Lynx from over the ridge. In addition, members felt that the PA28's brown and white colour scheme would also cause it to blend in with the background. They therefore thought it likely that the Lynx pilot was startled by the apparent sudden appearance of the PA28 and that this 'startle factor' made the Lynx pilot assess it as being closer than it actually was: radar data indicated that, rather than being 50ft above, in fact the PA28 was in the region of 500ft above.

For his part, the Board thought that the PA28 pilot would also have had difficulty seeing the Lynx because they were grey in colour and would blend in with the ground as he was looking down on them in the valley. The Board noted that he reported turning onto a westerly heading as soon as he saw the Lynx, and thought it likely, therefore, that he hadn't initially seen them as he flew over the ridge and up the valley in what were not ideal weather conditions that would encourage him to valley fly. The Board therefore considered that he was not deliberately tracking the Lynx as they had feared, but was simply flying in the same valley in which, although he had reported being aware that there was a formation of helicopters in the area, he had no way of knowing where they were at the time. The Board again noted that the weather conditions weren't ideal, and that the PA28 pilot reported returning to his base shortly afterwards due to the weather deteriorating; they thought it likely that the pilot also had a high cockpit-workload trying to remain VMC at the time, and that this may have also have degraded his look-out.

The Board noted that neither aircraft had any ACAS fitted and, although the height of the Lynx would have limited any alerts, wished to highlight that had either pilot had an ACAS/TAS fitted they may have gained sufficient information to become aware of the approaching traffic.

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c) (3) Overtaking.

This was Class G airspace where both pilots shared an equal responsibility for collision avoidance. Although the radar geometry indicated an overtaking situation, the PA28 pilot was unaware of the Lynx at the time and therefore wasn't aware that he needed to give way. Therefore, in determining the cause of the Airprox, the Board agreed that this was a late sighting by both pilots. Fortunately, there was approximately 500ft height separation at the time, and so the Board thought that there was no risk of collision, they therefore assessed the risk as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Effectively a non-sighting by both pilots.

Degree of Risk: C.