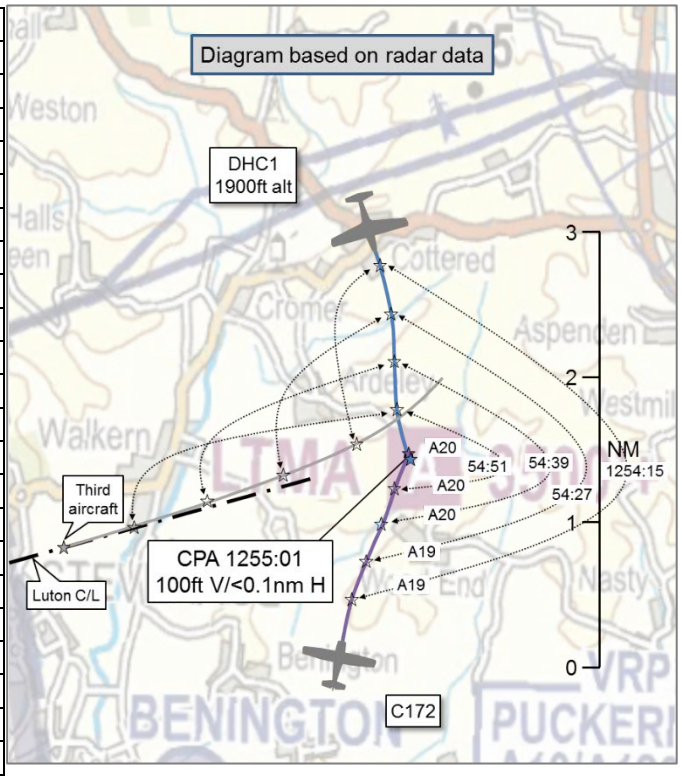
AIRPROX REPORT No 2017280

Date: 28 Dec 2017 Time: 1255Z Position: 5155N 00005W Location: 10nm NE Luton Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DHC1	C172
Operator	Civ Pte	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Monitoring	Basic
Provider	(Luton Radar)	Farnborough
Altitude/FL	1900ft	2000ft
Transponder	A, C, S	A, C
Reported		
Colours	Blue, white	White, red
Lighting	Nil	Strobe, beacon
Conditions	VMC	VMC
Visibility	>30km	10km
Altitude/FL	2000ft	2000ft
Altimeter	QNH (1002hPa)	QNH (1003hPa)
Heading	130°	020°
Speed	85kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	100ft V/50m H	NK
Recorded	100ft V/<0.1nm H	



THE DHC1 PILOT reports that he was in straight-and-level cruise and was looking at a ground feature to his left. After about 15secs he looked ahead and saw a C172, opposite direction and slightly lower. He made a hard pull up and the other aircraft passed below; it didn't appear to take any avoiding action. The pilot commented that he had not been closer to another aircraft, apart from in formation, in 40 years of professional flying.

He assessed the risk of collision as 'High'.

THE C172 INSTRUCTOR reports that he was in straight-and-level cruise, with a student PF, when he noticed an approaching aircraft in the 1 o'clock position, which he could see was going to pass to the right and above. He assessed that there was no risk of collision; however, upon sighting the aircraft he was not comfortable with its proximity so took control, lowered the nose, reduced altitude by 200ft and turned slightly to the left. As the other aircraft passed by he noticed that its pilot turned to his left. The Instructor pointed out the other aircraft to the student and they later discussed the importance of the constant 'Lookout, Attitude, Instruments' workflow. The Instructor noted that at the time of the manoeuvre the other aircraft was far enough away that he could not observe any minor detail, such as colour, type or registration. He could only see a darkish, single-engine, low-wing aircraft. Because the other aircraft was seen at a distance, the vertical separation was increased and there was no risk of collision, he did not deem it to be a reportable Airprox, so did not report the other aircraft to Farnborough North. The Instructor was not able to ascertain the vertical or horizontal separation.

He assessed the risk of collision as 'None'.

THE FARNBOROUGH LARS NORTH CONTROLLER reports that he had no recollection of the C172 coming into close proximity with traffic not on his frequency.

Factual Background

The weather at Luton was recorded as follows:

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METAR EGGW 281250Z AUTO 28013KT 9999 NCD 03/M00 Q1002=
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Analysis and Investigation

CAA ATSI

The C172 pilot called Farnborough LARS North at 1244:10. The Farnborough controller allocated a transponder code of 5034, passed the London QNH, and a Basic Service was agreed. There were no further transmissions to or from the C172 until 1257:00, during which time the Farnborough controller was continuously involved with other aircraft.

At 1250:00 the DHC1 was observed to be manoeuvring to the north of the Luton CTA, 14nm north of the C172 (Figure 1).

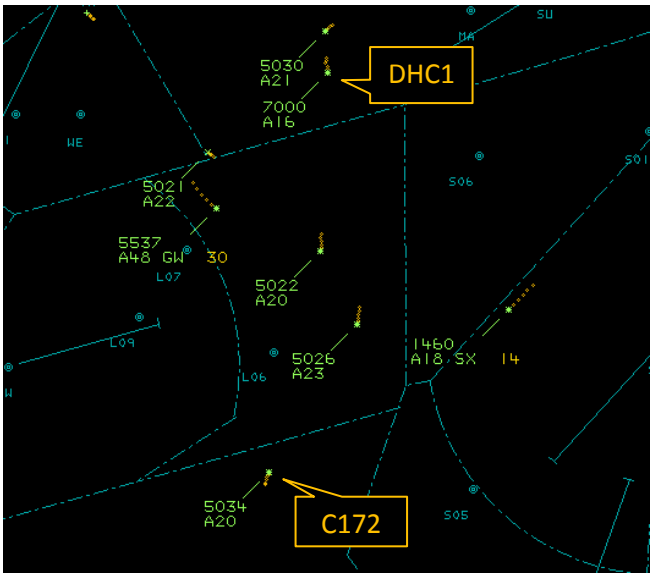

Figure 1 – 1250:00

By 1253:30, the DHC1 had tracked further south and was observed to be transponding code 0013 (Aircraft operating outside of Luton Controlled Airspace and monitoring Luton Radar Frequency) (Figure 2). CPA took place at 1255:02 with the aircraft separated by less than 0.1nm laterally and 100ft vertically (Figure 3).

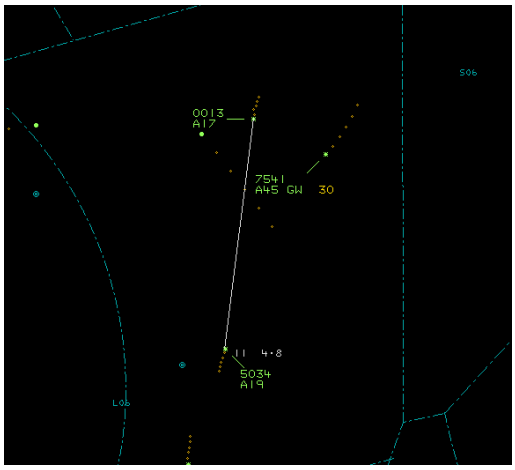

Figure 2 – 1253:30

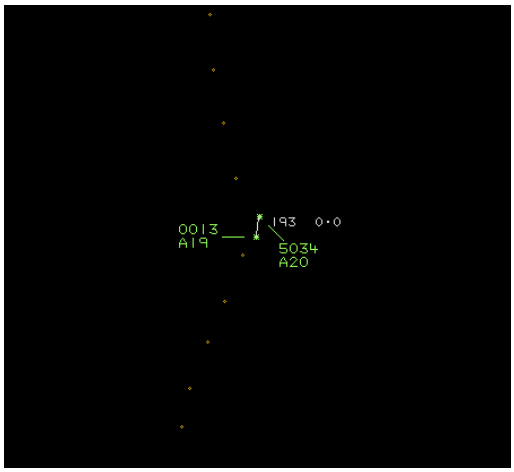

Figure 3 – 1255:02

Under a Basic Service a controller is not required to monitor the flight of an aircraft. As both aircraft were operating in Class G airspace the pilots were responsible for their own collision avoidance.

UKAB Secretariat

The DHC1 and C172 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 head-on or nearly so then both pilots were required to turn to the right[2], notwithstanding their responsibility to avoid collision.

The radar sweep after CPA showed the DHC1 at 2100ft altitude and the C172 at 1900ft altitude.

NATS Ltd Occurrence Investigation

[C172 C/S] was operating outside CAS under a Basic Service, working [Farnborough] LARS North and East. The frequency was very busy but workload, despite being constant, was manageable by the controller.

[C172 C/S] was tracking North towards at 1900ft and came in to conflict with a 0013 squawk (advised by UKAB to be a [DHC1 C/S]). The return of [C172 C/S] began to merge and garble with the return of a [higher level CAT aircraft], which prevented the controller from having a reasonable chance of observing the confliction. The two radar returns merged at time 1255z, which was not observed by the controller due to the garbling.

No mention of the conflict or an Airprox was reported to [Farnborough] at the time of the incident. Both aircraft were operating outside CAS in a see-and-be-seen environment, and one aircraft was operating under a Basic Service. As per CAP774 "Given that the provider of a Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller/FISO. A pilot who considers that he requires a regular flow of specific traffic information shall request a Traffic Service." and "Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller."

Both pilots were operating outside CAS and shared equal responsibility to see and be seen. No ATC error detected, no further investigation practicable.

Summary

An Airprox was reported when a DHC1 and a C172 flew into proximity at 1255 on Thursday 28th December 2017. Both pilots were operating under VFR in VMC, the DHC1 pilot monitoring Luton Radar and the C172 pilot in receipt of a Basic Service from Farnborough LARS North.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate ATC authority.

Members first discussed the DHC1 pilot's actions and commented that, although a short narrative in a pilot's Airprox report could not capture the full context of a flight, it appeared that, in this case, his prioritisation of observation of a ground feature for an extended period of time (15secs), may have compromised effective lookout. Members also discussed the utility of 'listening out', and noted that there was no possibility of obtaining Traffic Information whilst doing so. The Board acknowledged that there were many factors involved in managing each sortie, and that there was a balance to be made between using Frequency Monitoring Codes and LARS. GA members commented that in conditions of less than ideal visibility, or for sorties involving a high workload or activities which might detract from

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(1) Approaching head-on.

an effective lookout (such as an airtest or aerobatics), it was well worth requesting a Traffic Service if possible.

The Board then discussed the C172 pilot's report of the Airprox. Members commented that the narrative of the event that he perceived as the Airprox did not correlate with that provided by the DHC1 pilot or as observed on radar replay. The other aircraft approached from his 11 o'clock but was reported by him as 1 o'clock; the Mode C indications were that the C172 was slightly higher than the DHC1, but the C172 pilot reported being below the other aircraft; the Airprox aircraft passed within 0.1nm on radar and 'closer [than he'd been] to another aircraft, apart from in formation, in 40 years of professional flying' by the DHC1 pilot, yet the C172 pilot reported taking early avoiding action, and that 'he was far enough away that he could not observe any minor detail, such as colour, type or registration. He could only see a darkish, single-engine, low-wing aircraft'; and that the risk of collision was 'None'. Members eventually concluded that whilst these disparities may have been due to errors in recollection from a busy instructor, taken as a whole, it was more likely that the C172 pilot had not seen the DHC1 and had instead perceived one of the aircraft squawking 5022 or 5026 (see Figure 1) as the Airprox aircraft.

Members felt that ideally both pilots would have been on the same frequency, and both with a Traffic Service. It was, however, acknowledged that such service provision may not have been possible, and that in such congested airspace it was not viable to declare a single frequency as the 'best' frequency to use.

The Board therefore agreed that this Airprox had occurred as a result of a late sighting by the DHC1 pilot and probably a non-sighting by the C172 pilot. Some members felt that a collision had only been avoided by providence, but the majority felt that although safety had been much reduced, the DHC1 pilot had taken sufficient action to materially increase separation before CPA.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the DHC1 pilot and probably a non-sighting by the C172 pilot.

Degree of Risk: B.

Safety Barrier Assessment[3]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

ANSP:

Situational Awareness and Action were assessed as **not used** because the DHC1 pilot was not in receipt of a service and the C172 pilot was not in receipt of a service that required the controller to detect confliction.

Warning System Operation and Compliance were assessed as **not present** because the Farnborough LARS (North) radar console was not configured to detect confliction automatically.

Flight Crew:

Situational Awareness and Action were assessed as **ineffective** because the neither pilot was aware of the presence of the other aircraft on converging flight paths.

Warning System Operation and Compliance were assessed as **not present** because neither aircraft was fitted with a warning system.

[3] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.

See and Avoid were assessed as **partially effective** because the DHC1 pilot saw the C172 at a late stage and the C172 pilot probably didn't see the DHC1.