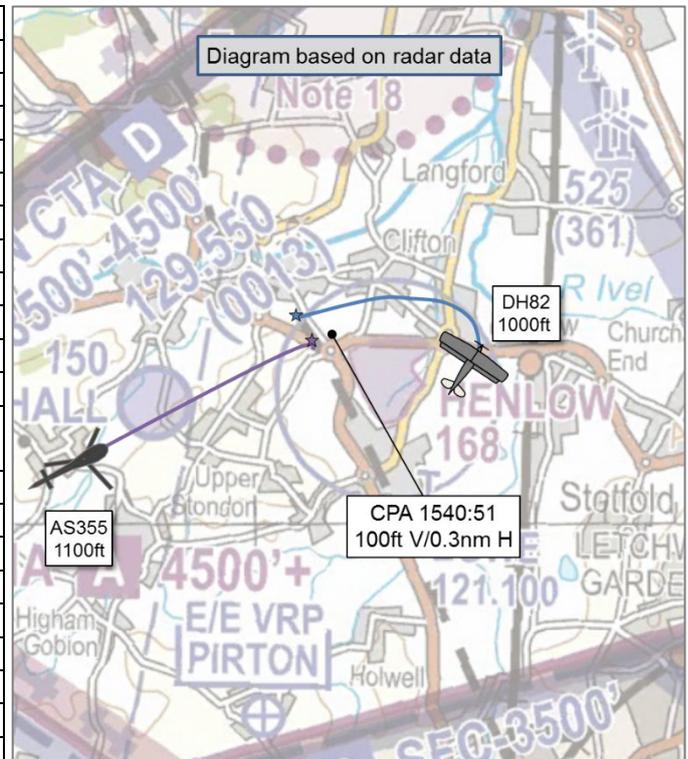


AIRPROX REPORT No 2019108

Date: 16 May 2019 Time: 1540Z Position: 5201N 0019W Location: Henlow

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DH82 Queen Bee	AS355
Operator	Civ FW	Civ Comm
Airspace	Henlow	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Basic
Provider	Henlow	Luton
Altitude/FL	1000ft	1100ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Camouflage	Black, Yellow
Lighting	Nav	Anti-Colls, Strobes, HISLs
Conditions	VMC	VMC
Visibility	10km	>10km
Altitude/FL	1000ft	1100ft
Altimeter	QFE (1010hPa)	QNH
Heading	260°	070°
Speed	80kt	110kt
ACAS/TAS	Not fitted	Unknown
Alert	N/A	Unknown
Separation		
Reported	0ft V/30m H	Not seen
Recorded	100ft V/0.3nm H	



THE DH82 PILOT reports that he was downwind to land at Henlow RW08R (but on a left-hand circuit). He was just over halfway down the downwind leg at 1000ft when he saw a black and yellow Squirrel at the same level pass a couple of wing-spans away on their port side, between them and the airfield. He first saw something pass behind the port front cabane strut and recognised it as a helicopter as it passed the rear strut. No avoiding action was taken by either aircraft and no call had been heard by the DH82 pilots or Henlow radio. It was first seen at about 300m and passed abeam by 30m.

The pilot assessed the risk of collision as 'Medium'.

THE AS355 PILOT reports that he had been conducting a power-line inspection and was returning to base on completion. He did not remember seeing the aircraft or, if he did, he didn't consider it to be a threat. The power-line observer that he was flying with remembered seeing a bi-plane, but did not consider it to be a threat.

THE HENLOW AIR GROUND OPERATOR did not file a report.

THE LUTON CONTROLLER reports that the AS355 was in receipt of a Basic Service from Luton between 1524:26 and 1541:38. At 1536:25 the pilot reported that he had completed their survey and were routing back to base and at 1541:38 he reported leaving the frequency, there was no report of an Airprox.

Factual Background

The weather at Luton was recorded as follows:

METAR EGGW 161620Z AUTO 08015KT 9999 NCD 14/03 Q1017=

Analysis and Investigation

UKAB Secretariat

Figures 1 and 2 were taken from the NATS area radars and show the AS355 (squawking 4670) at 1100ft, to the north-west of Henlow and the DH82 (squawking 7000) at 1000ft in the visual circuit. CPA was at Figure 2 when the two aircraft were 0.3nm apart.

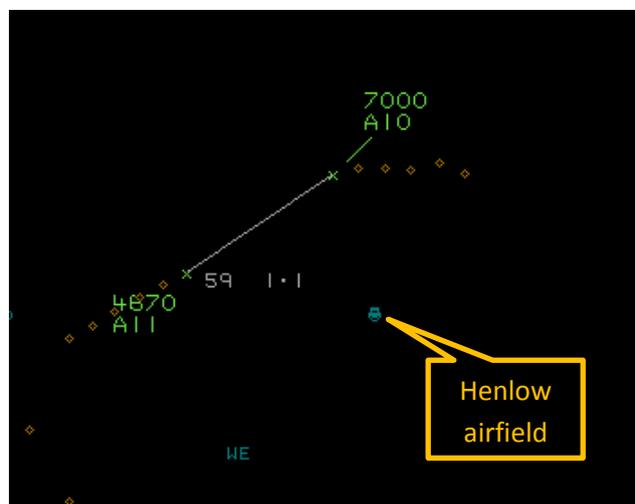


Figure 1:1540:32

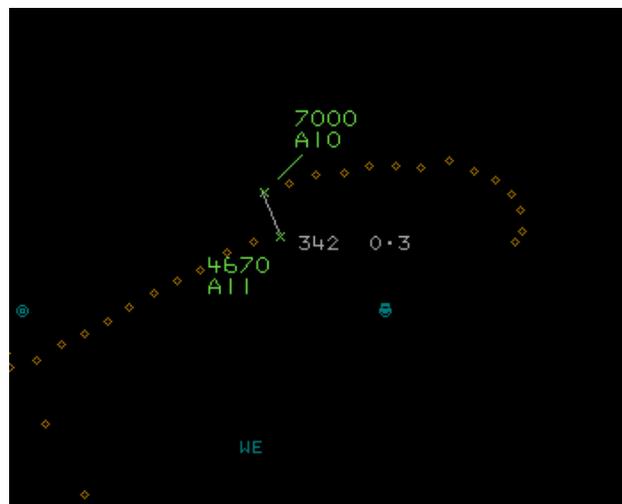


Figure 2:1540:51

The DH82 and AS355 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right². An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation³.

Occurrence Investigation

AS355 Operating Authority

An internal investigation by the AS355's operating authority found that the pilot was returning to base after his power-line patrol; he was aware of Luton airspace above him and believed he was in receipt of a Basic Service from Luton. The weather was not a factor. The radio was not tuned to the Henlow Radio frequency, but the aircraft passed to the north of the airfield. The power-line task specialist saw the DH82 out in front of the aircraft and commented on it to the pilot as they watched it pass by, he did not consider it to be particularly close or to be a concern.

The Henlow Airfield Manager

Since the removal of the gliding symbol from the VFR charts a few years ago there has been an increase in transit traffic through the visual circuit. The airfield has identified 'Airprox in the visual circuit' as a risk and to mitigate this has published articles in aviation magazines including Air Clues, had discussions with local ATC units to alert controllers to airfield activity, and hosted local airspace coordination meetings. They issue NOTAMs whenever there is increased air activity and have had a training 'T' included on VFR charts. They are in the process of an application for an ATZ.

¹ SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

² SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

³ SERA.3225 Operation on and in the Vicinity of an Aerodrome. MAA RA 2307 paragraph 15.

Summary

An Airprox was reported when a DH82 and a AS355 flew into proximity in the Henlow visual circuit at 1540hrs on Thursday 16th May 2019. Both pilots were operating under VFR in VMC, the DH82 pilot in receipt of a AGCS from Henlow and the AS355 pilot was in receipt of a Basic Service from Luton.

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 and a report from the Luton air traffic controller. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first looked at the actions of the DH82 pilot. He was in the visual circuit at Henlow, and although Henlow does not have an ATZ, he could reasonably expect that traffic would be aware of Henlow airfield (marked on the VFR chart with a blue circle and 'T') and therefore be alert to the potential for aircraft to be conducting circuits in the vicinity. Nevertheless, absent the protection of an ATZ or a call from any aircraft that might be routing nearby, the DH82 pilot was solely reliant on his own robust lookout in order to detect any aircraft that might conflict. With no electronic warning system available to him either, he had no situational awareness about the AS355 prior to seeing it (**CF7**). Although, ultimately, he did see the AS355 as it approached head-on, this was too late to take any meaningful avoiding action (**CF9**).

For his part, the Board agreed that the AS355 pilot should have been aware of Henlow and should have been on the look-out for any traffic in the circuit there as he passed close to the airfield. Members wondered why, if his survey had been completed, he had planned to route so close to Henlow at circuit height without giving them a call (**CF3, CF6**) because it was for him to avoid the pattern of traffic formed by the DH82 (**CF2, CF4**). Noting that he was receiving only a Basic Service with Luton, they thought that rather than transiting at 1000ft, he would have been better served by climbing above visual circuit height and requesting a Traffic Service from Luton (**CF5**). Luton's CTA was well above him (base level at 3500ft in that area) and so he had plenty of vertical separation to climb up out of the way of Henlow and the Old Warden ATZ. The Board noted that the AS355 pilot had commented that he did not recall seeing the DH82, although the observer apparently did and commented on it as they flew past. As such, the Board concluded that the AS355 pilot had probably not seen the DH82 prior to CPA (**CF8**).

The Board briefly discussed the role played by Luton ATC and Henlow Air Ground Operator, but because neither unit was providing a service that required them to monitor the traffic, and neither had any situational awareness on the other's traffic, members agreed that there was very little they could have done (**CF1**).

Finally, in assessing the risk, members quickly agreed that although safety had been reduced by the AS355 pilot flying through the Henlow pattern of traffic without calling, the separation was such that there had been no risk of collision even without any avoiding action. Noting the disparity between the radar recorded separation and the DH82 pilot's much closer assessment, members commented on the difficulties of assessing range from another aircraft and the likely startle-factor on seeing an aircraft flying the reverse track as he was likely focusing on his position downwind as he set up to turn base leg. Accordingly, the Board assessed the risk as Category C.

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

2019108			
CF	Factor	Description	Amplification
Ground Elements			
• Situational Awareness and Action			
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
Flight Elements			
• Regulations, Processes, Procedures and Compliance			
2	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
• Tactical Planning and Execution			
3	Human Factors	• No Decision/Plan	Inadequate planning
4	Human Factors	• Aircraft Navigation	Did not avoid/conform with the pattern of traffic already formed
5	Human Factors	• Communications by Flight Crew with ANS	Appropriate ATS not requested by pilot
6	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate controlling authority
• Situational Awareness of the Conflicting Aircraft and Action			
7	Contextual	• Situational Awareness and Sensory Events	Pilot had no, only generic, or late Situational Awareness
• See and Avoid			
8	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
9	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment⁴

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

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the AS355 pilot did not avoid the pattern of traffic formed by the DH82.

Tactical Planning and Execution was assessed as **ineffective** because the AS355 pilot did not plan to avoid Henlow.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any prior knowledge about the other aircraft.

⁴ 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 it was a late sighting by the DH82 pilot and a probable non-sighting by the AS355 pilot; neither pilot took any action.

