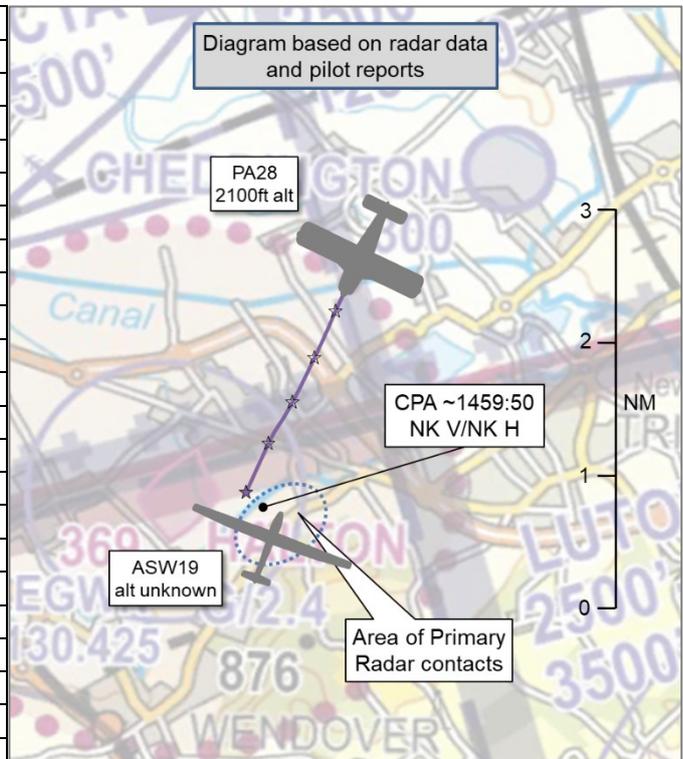


AIRPROX REPORT No 2021087

Date: 16 Jun 2021 Time: ~1500Z Position: 5147N 00043W Location: Halton ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASW19	PA28
Operator	Civ Gld	Civ FW
Airspace	Halton ATZ	Halton ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	Listening Out
Provider	Halton Radio	Wycombe Radio
Altitude/FL	NR	A021
Transponder	Not fitted	A, C
Reported		
Colours	White	White
Lighting	None	Nav Lights
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	1600ft	2000ft
Altimeter	QFE	QNH (1011hPa)
Heading	070°	190°
Speed	55kt	NK
ACAS/TAS	FLARM	Not fitted
Alert	None	N/A
Separation		
Reported	20-40ft V/50-60m H	NK V/NK H
Recorded	NK V/NK H	



THE ASW19 PILOT reports that they were in a single-seat glider, thermalling just south of the airfield at around 1600ft roughly above the area where gliders would be entering the downwind part of their circuit below them to land. They were turning in an anti-clockwise direction with a 40° angle of bank and maintaining a good lookout as they were aware of another two-seat glider thermalling near the ridge. As they came around, the two-seat glider came into view and as they continued their turn and lookout they saw a powered aircraft heading almost directly towards them 200m away but just very slightly above them (they recall seeing and noticing the propellor first, and that the shape of the windows and curve of the fuselage reminded them of a Piper Archer/Warrior). They became concerned that they may have been in the wrong position, and drifted over the 'glass wall' at Halton Airfield separating powered traffic from gliding traffic. They confirmed their position over the ground and that they were located correctly, continued their turn whilst watching the other aircraft and then gently turning towards the ridge to fly slightly away from the heading that the aircraft was on to ensure sufficient separation was maintained.

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

THE PA28 PILOT reports being on their first solo navigation exercise from [their departure airfield and returning to the same airfield]. Their routing took them via Silverstone and Newport Pagnell. They followed their heading all the way from the start of the route to the end and, while returning to [their departure airfield] they were affected by wind conditions and several gliders close to Aylesbury on their path.

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

THE AIRFIELD MANAGER reports that RW20RH was in use by aero club aircraft and microlights, with glider operations in progress to the left-hand side, soaring on thermals and often positioned over the ridge.

The gliding club launch marshal stated that a private aircraft was spotted infringing the ATZ. It was a single-engine, low-wing aircraft and flew along the ridgeline, heading approximately 200° at about 1600ft aal. No radio call was heard. They immediately called the airfield manager by mobile, but the aircraft was not electronically visible and could not be identified. There were 2 soaring gliders in the vicinity and, afterwards, one pilot did express concern that the aircraft passed quite close. The airfield manager could not see the infringing aircraft on FlightRadar24 or FLARM, and could not see or hear it when they went outside the building. Two glider pilots were airborne at the time and both estimated the powered aircraft to be between 1000ft and 1600ft aal.

The airfield manager perceived the severity of the incident as 'Low'.

Factual Background

The weather at Luton Airport was recorded as follows:

METAR EGGW 161450Z AUTO 21010KT 150V250 9999 BKN041 BKN049 26/15 Q1010=

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken, which showed the PA28 tracking southwest at an altitude of 2100ft. Halton airfield elevation is marked on the 1:250,000 VFR chart as 369ft, placing the PA28 within the lateral and vertical confines of the Halton ATZ. A number of primary radar returns were visible in the area reported by the ASW19 pilot (see Figure 1), but no stable tracks could be correlated with the glider's position. The glider pilot was unable to provide a GPS log file of their flight.

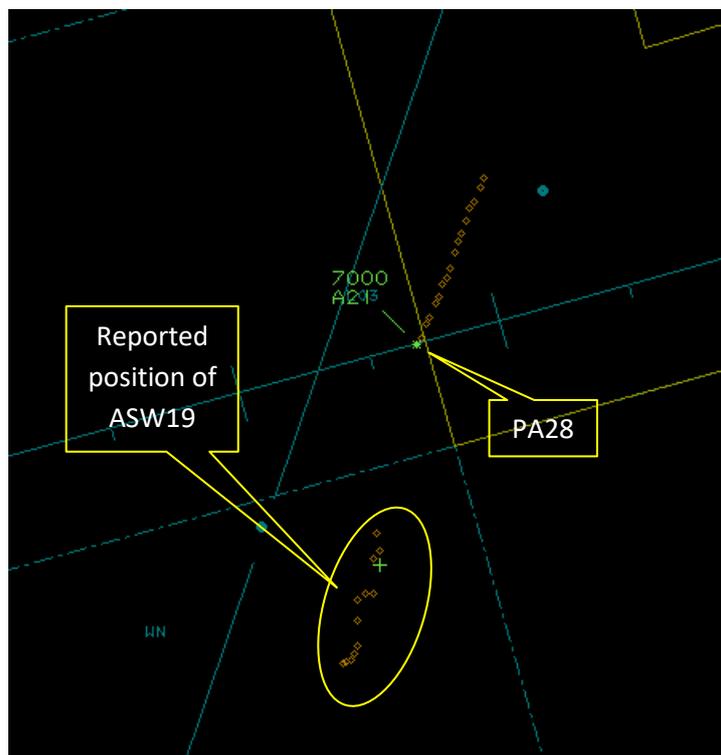


Figure 1 - 1458:45

The PA28 pilot reported being in receipt of a Basic Service from Cranfield Approach at the time of the Airprox; however, it was confirmed with Cranfield ATC that the PA28 pilot left their frequency at 1450 and changed to the Wycombe Radio frequency.

The ASW19 glider 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 head-on or nearly so then both pilots were required to turn to the right.²

Comments

BGA

Overflights of gliding sites, especially those below the maximum promulgated winching altitude, remain depressingly common; that this should happen at an airfield that is also protected by an ATZ is particularly concerning.

Summary

An Airprox was reported when an ASW19 glider and a PA28 flew into proximity in the Halton ATZ at approximately 1500Z on Wednesday 16th June 2021. Both pilots were operating under VFR in VMC, the ASW19 pilot in receipt of an AGCS from Halton Radio and the PA28 pilot listening out on the Wycombe Radio frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the air/ground operator involved. 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 discussed the actions of the ASW19 pilot and quickly agreed that there was little that they could have done to avoid the Airprox. The Board heard from a glider pilot member that the glider pilot would have expected to have been afforded some protection by the presence of the Halton ATZ and that, therefore, they would also have expected to have heard radio calls from other traffic within the ATZ. Members noted that the ASW18 had been equipped with FLARM, but that this could not interact with any equipment carried by the PA28 (**CF6**). The Board agreed, therefore, that the ASW19 pilot had not had any situational awareness of the approaching PA28 (**CF5**) and that it had not been surprising that their first reaction on sighting a powered aircraft approaching on the same heading as the runway in use had been to check their own position with respect to the local deconfliction procedures. The Board judged that, having assured themselves of their correct positioning, the glider pilot had had the opportunity to turn away from the approaching PA28 to maintain adequate separation but had, nonetheless, been concerned by the proximity of the PA28 (**CF7**).

The Board then considered the actions of the PA28 pilot and noted that this had been the first solo navigation exercise for the pilot. Members discussed the planned route described in the pilot's report and judged that this would have always taken them close to the Halton ATZ and so wondered what contingencies had been planned. The Board noted that the base of the controlled airspace to the east (Luton CTA – Class D) is 2500ft and so concluded that the PA28 pilot had been keeping below this airspace whilst not realising that would drive them below the ceiling of the Halton ATZ (2000ft agl = 2369ft altitude). Some members wondered why the PA28 pilot had not had the Halton Radio frequency ready, given that there may have been a need for it, whilst others suggested that preparing the frequency for their arrival at their nearby destination had been a reasonable course of action. In the event, the Board agreed that the PA28 pilot's penetration of the Halton ATZ without communicating with Halton Radio had been contributory to the Airprox (**CF1, CF2, CF3**). The Board considered that, as the PA28 pilot had been on a navigation exercise and would probably have been flying on a heading calculated according to the planned wind, they may not have sufficiently adapted their plan for the effects of the actual wind that they had encountered during the flight (**CF4**). The Board further concluded that the PA28 pilot had, in all probability, not realised that they had penetrated the Halton ATZ and had therefore not had any situational awareness of the presence of the ASW19 glider (**CF5**). A glider pilot

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

member then went on to mention that the BGA ensures that, during early navigation sorties using paper charts, their members are advised to carry an electronic moving map as a back-up method of assuring their position over the ground. The Board felt that the benefits of electronic navigation equipment are well known but also that the skills of being able to navigate via traditional methods remain a core requirement of the PPL syllabus. Board members who are current PPL instructors informed the Board that it was their understanding that the CAA is currently reviewing the requirements for navigation skills in the PPL syllabus.

The Board then briefly discussed the actions of the Halton Air/Ground Operator and gliding club launch marshal and quickly agreed that, without any form of surveillance equipment, there was nothing that they could have done to warn the ASW19 pilot of the approaching PA28.

Finally, the Board considered the risk involved in this Airprox. Members were disappointed that the ASW19 glider pilot had been unable to extract the GPS log file from the FLARM unit fitted to the glider, because this had hindered their understanding of the geometry and proximity of the event. However, from the data available from the NATS radar recordings and the glider pilot's reported assessment of the collision risk, the Board concluded that, although safety had clearly been reduced, the glider pilot's actions in turning away from the approaching PA28 had removed any risk of collision. Accordingly, the Board assigned a Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2021087				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
1	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
• Tactical Planning and Execution				
2	Human Factors	• Airspace Infringement	An event involving an infringement / unauthorized penetration of a controlled or restricted airspace.	E.g. ATZ or Controlled Airspace
3	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
4	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
• Situational Awareness of the Conflicting Aircraft and Action				
5	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
6	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• See and Avoid				
7	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk:

C

Safety Barrier Assessment³

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the ASW19 pilot was in receipt of an AGCS from the Halton Air/Ground Operator.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the PA28 pilot entered the Halton ATZ without contacting the Halton Air/Ground Operator.

Tactical Planning and Execution was assessed as **ineffective** because the PA28 pilot did not make sufficient allowance for the wind and did not realise that this had caused them to track through the Halton ATZ.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot has any prior warning of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the FLARM fitted to the ASW19 could not detect the transponder signals from the PA28.

Airprox Barrier Assessment: 2021087		Outside Controlled Airspace						
Barrier	Provision	Application	Effectiveness Barrier Weighting					
			0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]				
	Manning & Equipment	✓	✓	[Green bar to 5%]				
	Situational Awareness of the Confliction & Action	✗	○	[Red bar to 15%]				
	Electronic Warning System Operation and Compliance	●	●	[Grey bar to 5%]				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✗	[Red bar to 10%]				
	Tactical Planning and Execution	✓	✗	[Red bar to 10%]				
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓	[Red bar to 20%]				
	Electronic Warning System Operation and Compliance	✗	✓	[Red bar to 15%]				
	See & Avoid	✓	✓	[Green bar to 20%]				
Key:								
	Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	●	✗	●				
Application	✓	●	✗	●	○			
Effectiveness	■	■	■	■	□			

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](http://www.ukab.co.uk).