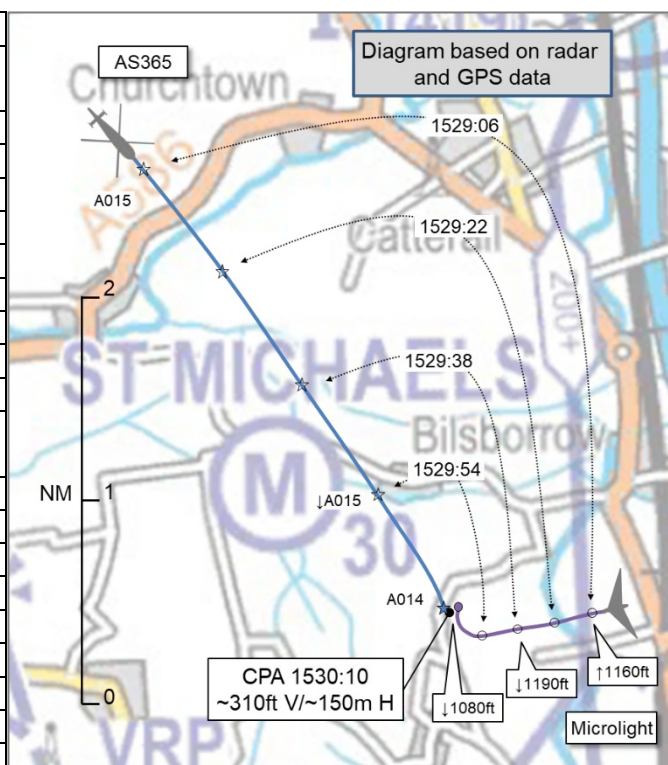


AIRPROX REPORT No 2022109

Date: 21 Jun 2022 Time: 1530Z Position: 5350N 00246W Location: 6.5NM NE Warton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AS365	Flex-wing Microlight
Operator	HEMS	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	Warton Radar	Safety Com
Altitude/FL	1400ft	1080ft
Transponder	A, C, S	Not fitted
Reported		
Colours	White, Green, Yellow	Red, Black, White
Lighting	Strobes, Landing	Nil
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1300ft	1200ft
Altimeter	QNH (1014hPa)	QNH (NK hPa)
Heading	160°	280°
Speed	140kt	52kt
ACAS/TAS	ACAS	PilotAware
Alert	None	None
Separation at CPA		
Reported	0ft V/100m H	200ft V/0.5NM H
Recorded	~310ft V/~150m H	



THE AS365 PILOT reports that their planned route took them just to the east of St Michael's microlight field just north of the Warton MATZ. They are aware from experience that this is a busy portion of airspace due to the presence of Blackpool, and they were in two-way communication with Warton Radar. They had just started a descent and had just completed pre-landing checks. They saw the first microlight [Airprox microlight] (11 o'clock position) as it emerged from behind the left-hand seat windscreen 'A' pillar, it appeared to be at the same altitude, on a converging heading at about 100m. They initiated an immediate rapid descent whilst turning to the right. The microlight also appeared to be turning right (away from them) at this time. During the descending turn they spotted the second microlight approximately 200ft below and on the nose. The descent was stopped to maintain vertical separation, no other aircraft were seen. They communicated with Warton Radar detailing the incident, they stated they were not aware of the aircraft as nothing was showing up on radar. No ACAS information from the 2 microlights was seen on their ACAS display.

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

THE FLEX-WING MICROLIGHT PILOT reports that at the time of the incident, around 1530, they were approximately 1200ft and 1.2NM from St Michael's (on safety.com 135.480MHz at blind calling position, having moved from Manchester Radar QNH to St Michael's QFE). A helicopter came in from the west or north-west and perhaps 200ft above (presumably having routed quite close to St Michael's). To avoid conflict, they banked right and down, dropping from approximately 1200ft to 900ft. After the helicopter had passed, they returned to 1200ft. They saw the helicopter in enough time to avoid it; they did not see the helicopter pilot take any action, although they might have done.

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

THE WARTON RADAR CONTROLLER reports that the pilot of [the AS365] told them that they had had to take evasive action to avoid some microlights in their vicinity. They informed the pilot that nothing was seen on radar at that time. The pilot made no indication that they would be filing an Airprox.

The controller perceived the severity of the incident as 'negligible'.

Factual Background

The weather at Blackpool was recorded as follows:

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METAR EGNH 211520Z 32010KT 9999 FEW040 19/13 Q1015
METAR EGNH 211550Z 33011KT 9999 FEW030 19/13 Q1014
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Analysis and Investigation

UKAB Secretariat

The AS365 pilot reported an Airprox after having flown into proximity with the first of two microlights. An analysis of the NATS radar replay was undertaken and the AS365 was detected and identifiable using Mode S data. Intermittent primary-only returns were also present in the area, see Figure 1. It cannot be determined whether these returns were generated by either of the microlights mentioned in the AS365 pilot's report; however, the pilot of the microlight involved kindly provided the UKAB Secretariat with a GPS data file from their flight which has been used within this report.

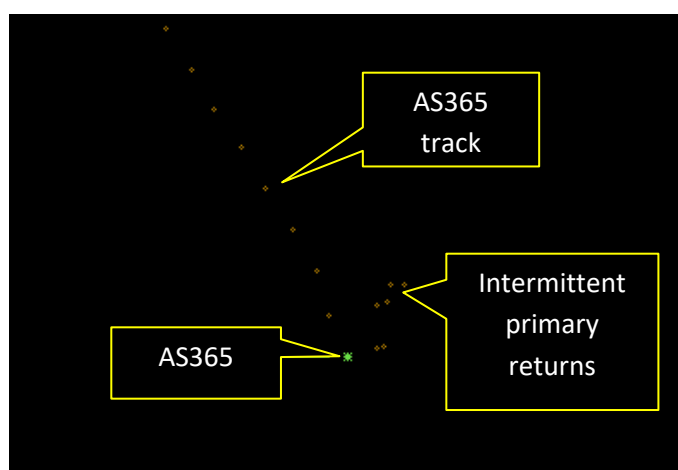


Figure 1 – NATS radar image at CPA

There was a very short RTF extract available during which the AS365 pilot advised the Warton controller, after the event, that they had encountered the microlights. They reported having seen them at a range of 0.5NM, and mentioned having a close incident with them and taking evasive action, however, the encounter was not specifically reported as an Airprox. The controller confirmed that they had had “*nothing on radar*”.

The radar and GPS data have been combined to produce the diagram and measure CPA which, because differing data sources have been used, is recorded as an approximation.

The AS365 and flex-wing microlight 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 converging then the flex-wing microlight pilot was required to give way to the AS365.²

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(2) Converging.

Summary

An Airprox was reported when an AS365 and a flex-wing microlight flew into proximity at 6.5NM northeast of Warton at 1530Z on Tuesday 21st June 2022. Both pilots were operating under VFR in VMC, the AS365 pilot in receipt of a Basic Service from Warton Radar and the flex-wing microlight pilot not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data files and reports from the air traffic controllers 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 AS365 pilot and the routing they had followed, with a helicopter pilot member who is familiar with this kind operation stating that, although it is understandable why the crew had elected to follow this routing, the option of avoiding areas of likely increased aerial activity, such as microlight sites, should always be considered. Members noted that the AS365 pilot had been in receipt of a Basic Service, under which they would have been unlikely to receive any Traffic Information from the controller, and also that their ACAS had been incompatible with, and therefore unable to detect, the EC equipment carried by the flex-wing microlight pilot (**CF3**). The discussion continued with members agreeing that the AS365 pilot's knowledge of the presence of the microlight site would have given them a generic awareness of the presence of the flex-wing microlight (**CF2**). The Board agreed that the 'A' pillar, as described by the AS365 pilot, had obscured their view in the direction of the flex-wing microlight (**CF6**), and determined that this had likely contributed to them visually acquiring it at a later than optimum stage (**CF5**).

Next, members discussed the actions of the flex-wing microlight pilot and had been encouraged that they had been equipped with both a radio and EC equipment. Members agreed that the EC equipment carried by the flex-wing microlight would have been expected to have alerted the pilot to the presence of the AS365 however, no alert was reported (**CF4**). As such, the Board determined that the flex-wing microlight pilot had not had any awareness of the presence of the AS365 prior to sighting it (**CF2**). Members agreed that, although the flex-wing microlight pilot had become visual with the AS365 in time to manoeuvre, this had been at a late stage (**CF5**). A microlight pilot member commented that operating an aircraft of this type can be physically challenging for the pilot and that the location of the wing can obscure their view of any aircraft that are above and offset laterally (**CF6**).

The Board then turned its attention to the contribution of the Warton Approach controller and members quickly agreed that the microlight had not been displayed on their radar screen and that, under the Basic Service that they had been delivering to the AS365 pilot, the controller had not been required to monitor the flight (**CF1**).

Finally, the Board considered the collision risk involved in this Airprox. Members noted that the pilot of the AS365 had had a generic awareness of the presence of the flex-wing microlight and they had become visual with it. Members agreed that the flex-wing microlight pilot had become visual with the AS365 and that, although both sightings had been late, they had been early enough to enable the pilots to take action to increase separation. Although safety had been degraded, members were satisfied that there had been no risk of collision. Consequently, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

2022109				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
2	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
3	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
4	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
• See and Avoid				
5	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
6	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

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, when providing a Basic Service, the Warton controller was not required to monitor the flight.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because, having been aware of the location of the microlight site, the AS365 pilot would have had generic awareness regarding the presence of microlights whereas the flex-wing pilot had not had any awareness of the AS365 prior to sighting it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment carried by the AS365 pilot had been incompatible with that carried by the flex-wing pilot and, although the EC that the flex-wing pilot was using should have been compatible with that of the AS365 pilot, no alert was reported.

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 although both pilots had become visual with the other aircraft, it had been at a later than optimum stage and the AS365 pilot's view had been obscured by their windscreen 'A' pillar.

Airprox Barrier Assessment: 2022109		Outside Controlled Airspace						
Barrier		Provision	Application	Effectiveness Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✔	✔					
	Manning & Equipment	✔	✔					
	Situational Awareness of the Confliction & Action	✘	○					
	Electronic Warning System Operation and Compliance	●	●					
Flight Element	Regulations, Processes, Procedures and Compliance	✔	✔					
	Tactical Planning and Execution	✔	✔					
	Situational Awareness of the Conflicting Aircraft & Action	⚠	⚠					
	Electronic Warning System Operation and Compliance	⚠	✘					
	See & Avoid	⚠	⚠					
Key:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✔	⚠	✘	●	○			
Application	✔	⚠	✘	●	○			
Effectiveness								