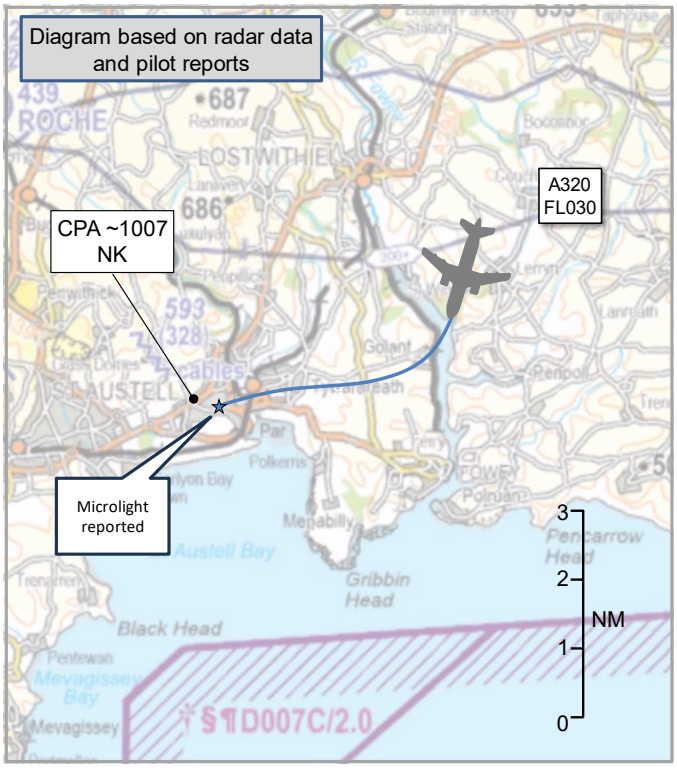
AIRPROX REPORT No 2023154

Date: 22 Jun 2023 Time: ~1007Z Position: 5021N 00442W Location: IVO St Austell

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	A320	Unknown Microlight
Operator	CAT	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	NK
Service	Deconfliction	Unknown
Provider	Newquay	
Altitude/FL	FL030	NK
Transponder	A, C, S+	None
Reported		
Colours	White, Green	
Lighting	Nav, Strobe, Landing	
Conditions	VMC	NK
Visibility	>10km	NR
Altitude/FL	3000ft	NK
Altimeter	AMSL	NK
Heading	260°	
Speed	240kt	
ACAS/TAS	TCAS II	Unknown
Alert	None	N/A
Separation at CPA		
Reported	0ft V/200-400m H	NK
Recorded	NK	



THE A320 PILOT reports that they were being vectored for the ILS to RW30 at Newquay. Given the reduced radar service and intense VFR traffic, they reduced speed from 250kts to 220kts when entering the broken cumulus layer passing 6000ft to assist with visually identifying and avoiding traffic when they emerged from below the layer. They were turned to the south and eventually onto a heading of 260° to intercept the ILS at 3000ft. They were just capturing the altitude when they emerged from the base of the cloud layer. The First Officer shortly afterwards exclaimed in surprise and pointed out the traffic – which appeared to be a flex-wing microlight – almost directly ahead of them. They could see that the microlight had a single occupant, had a single engine and was dark in colour, possibly dark red or navy. The intruder was travelling through the ILS centreline heading northbound. There was significant and obvious relative motion between them and it was immediately clear that they would pass behind the traffic. They therefore deemed no avoiding action was required. As the traffic passed down their right-hand side it was exactly at their level of 3000ft and they estimated the distance to be between 200m and 400m, although accurate assessment was difficult. They immediately reported the traffic to Newquay ATC who confirmed that they had no knowledge of any traffic at the location and no indication of any traffic on their radar.

The pilot assessed the risk of collision as 'None'.

THE FLEX-WING MICROLIGHT PILOT could not be traced.

THE NEWQUAY CONTROLLER reports that, whilst being radar vectored for an ILS approach for RW30, the pilot reported an Airprox with a paraglider on approximately 12NM final approach at 2500-3000ft. There was no correlating radar return for the "paraglider".

Factual Background

The weather at Newquay was recorded as follows:

METAR EGHQ 220950Z 29007KT 260V320 9999 SCT009 18/16 Q1021=

Analysis and Investigation

Newquay Investigation

The A320 was inbound to Newquay. A standard radar-vectored ILS pattern was provided and on 10NM final the pilot reported a near encounter with a "paraglider". There was no corresponding aircraft either on frequency or displayed on the radar screen at Newquay. The controller asked the pilot to describe the direction of flight of the unknown "paraglider" and they replied "north". The A320 continued the approach and made a normal landing. The available recordings correlate with the controller's description of the event.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The A320 could be identified using Mode S data and could be seen positioning for an approach as described by the pilot. At 1005:10 the NATS radar displayed a primary-only contact 6NM from the A320. This contact remained on the radar for approximately 30sec (see Figure 1) and faded from radar at 1005:46. The primary contact could not be identified and it is not known whether this was the microlight seen by the A320 pilot or not. Note that Newquay ATC does not have access to the NATS radars and the Newquay investigation found that there had been no corresponding radar contact on the Newquay radar in the area.

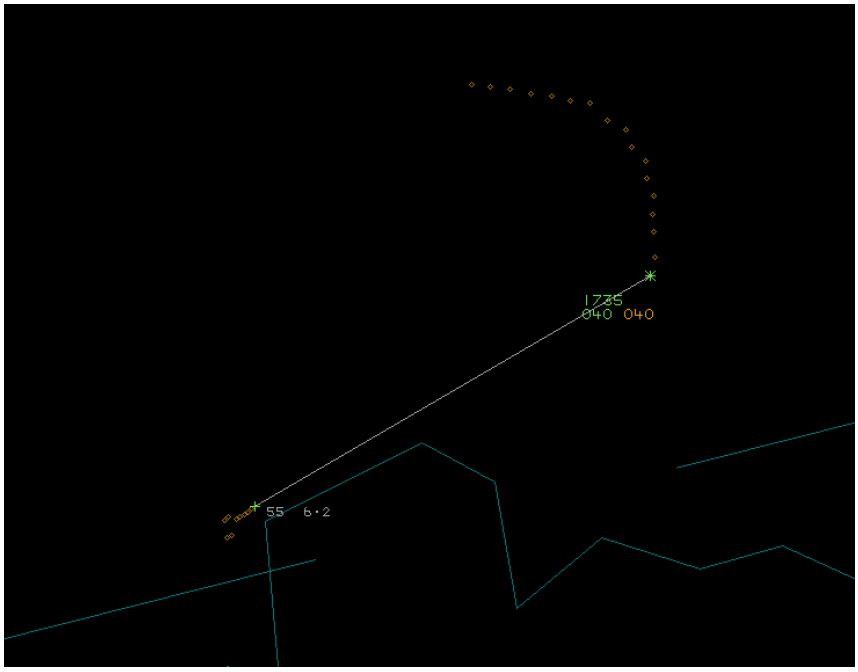


Figure 1 - 1005:42

The A320 continued with the approach, and the pilot described seeing the flex-wing microlight when intercepting the ILS altitude, at around 1007. At that time, the primary-only radar contact had faded and there were no other radar returns in the vicinity, see Figure 2. The flex-wing microlight pilot could not be traced.

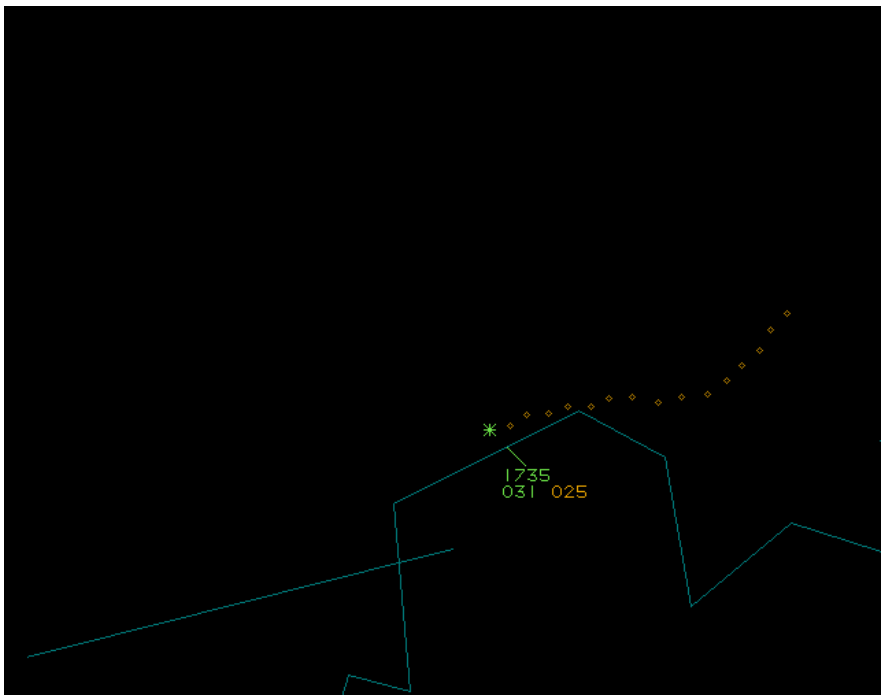


Figure 2 – 1007:04

The A320 and unknown 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 A320.[2]

Summary

An Airprox was reported when an A320 and an untraced flex-wing microlight flew into proximity in the vicinity of St Austell at around 1007Z on Thursday 22nd June 2023. The A320 pilot was operating under IFR in VMC and in receipt of a Deconfliction Service from Newquay. The microlight pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the A320 pilot, radar photographs and a report from the air traffic controller 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 looked at the actions of the A320 pilot. They had been inbound to Newquay in Class G airspace and in receipt of a Deconfliction Service; members thought that the reduction in speed to assist in see and avoid had been a sensible idea. As they had intercepted the ILS they had seen the microlight heading northbound. Prior to seeing the microlight, the pilot had not received any situational awareness about the microlight (**CF2**) because it had not been detected by Newquay's radar and the TCAS on board the A320 could not have detected the non-transponding microlight (**CF3**). Once the pilot had seen the microlight, they reported their concern to ATC (**CF4**), but had assessed that no further avoiding action had been necessary and the Board commended the pilot for reporting the incident over the RT at the time.

Unfortunately, not being able to trace the microlight pilot denied the Board the opportunity to know whether the pilot had seen the A320 or not. Some members opined that if the aircraft had been fitted with a transponder it would have alerted the TCAS on the A320, and also could have provided Newquay

[1] UK Reg (EU) SERA.3205 Proximity.
[2] UK Reg (EU) SERA.3210 Right-of-way (c)(2) Converging.

ATC with some information on its positioning. They wondered whether, in operating over St Austell, on the opposite coast to Newquay, the pilot had not realised that they might conflict with inbound Newquay traffic. A Board member with paraglider experience informed the Board that most microlights above the 450kg category carried transponders and radios and those pilots were familiar with the need to call ATSUs when flying through ATC patterns. However, most sub-70kg aircraft did not carry either; it had not been possible to determine to which category the reported microlight belonged.

Turning to the role of ATC, the Board was informed by those familiar with Newquay operations that the approach by the A320 had been a routine situation, and that controllers frequently vector aircraft to the ILS overhead St Austell, but that the topography of the region meant that the radar performance was poor in that area. The controller had not been able to see the microlight on the radar and so the Board agreed that they had not had any situational awareness that it had been in the vicinity (**CF1**) and therefore could not have provided the A320 pilot with any Traffic Information. The Board therefore agreed that there had been little more that the controller could have done in the circumstances.

In determining the risk, the Board considered the report from the A320 pilot and that of the Newquay controller, together with the radar replay screenshots. They agreed that although the A320 pilot had not had any prior situational awareness about the microlight, they had seen it in time to assess that there had been no need to take avoiding action. The Board therefore assessed that there had been no risk of collision; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023154			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	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
	• See and Avoid			
4	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 Assessment[3]

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

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the microlight had not been displaying on the radar, thereby denying the controller any situational awareness that it had been operating over St Austell.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the A320 pilot had received no prior situational awareness that the microlight had been in the vicinity.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TCAS II on the A320 could not detect the non-transponding microlight.