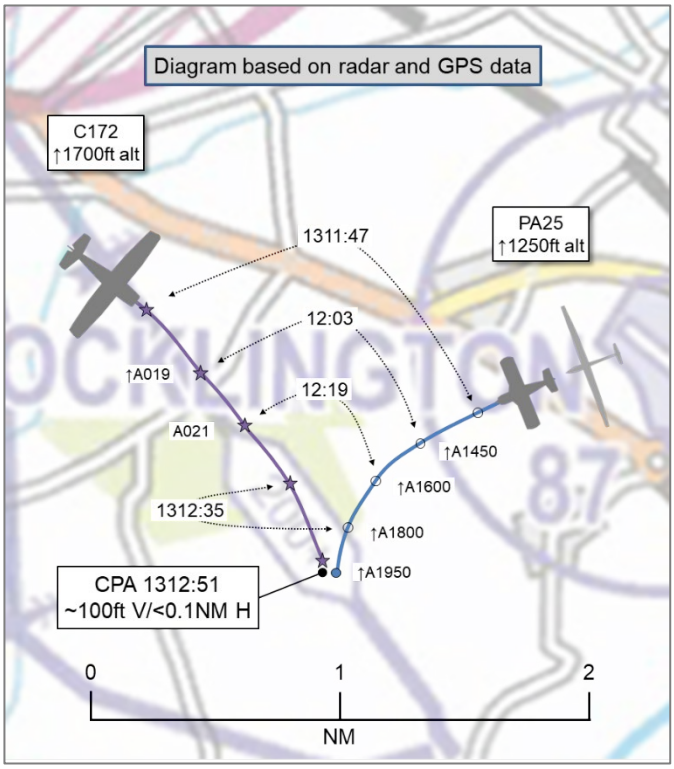
AIRPROX REPORT No 2021197

Date: 26 Sep 2021 Time: 1313Z Position: 5155N 00050W Location: 1.5NM WSW Pocklington

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA25	C172
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Listening Out
Provider	Pocklington base	Humberside
Altitude/FL	2000ft	2100ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White, blue	Blue, white
Lighting	Strobe	Nav, Beacon Landing, Taxy
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	2000ft	1900ft
Altimeter	QFE (NK hPa)	QFE (1008hPa)
Heading	175°	160°
Speed	65kt	90kt
ACAS/TAS	PowerFLARM	SkyEcho
Alert	Information	None
Separation at CPA		
Reported	30ft V/0m H	Not seen
Recorded	~100ft V/<0.1NM H	



THE PA25 PILOT reports that they were undertaking an aerotow from Pocklington airfield to position a single-seat glider to the normal release height of 2000ft in an area of thermal activity. They were alerted audibly by the fitted [TAS] to proximate traffic, but the LED display was hard to see in the light conditions as they were flying south into the sun. They note that, when an alert for transponder traffic is received, there is no indication of threat direction, only proximity. A radio call was received from the pilot of the glider under tow who confirmed that they had visual contact with traffic at [they believe] their 8 o'clock. They executed a 10° turn to the left to attempt to gain visual contact at which point they were overflown by the Cessna Skyhawk with, they estimate, 30-50ft vertical separation. The glider pilot released the tow and they [the PA25 pilot] banked right in accordance with standard clearance procedure. They then attempted, whilst retracting the tow rope, to follow the [C172] in a south-easterly direction. It was flying straight and level at 2100ft but due its speed they were unable to gain on it and so they returned to the airfield.

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

THE C172 PILOT reports that they took off from [departure airfield] at approximately 1305 for a flight with a friend and their daughter. Prior to departure they briefed both of their passengers on the safety procedures pointing out the fire extinguisher and first aid box. They also briefed on a forced landing and aborted take-off. They had planned their route in the direction of the Humber Bridge, passing south of Pocklington glider site. As they climbed-out, they briefed their passengers on other aircraft and asked them to report any other aircraft and position if they saw any, as they [the C172 pilot] may not have seen them; they specifically mentioned gliders as they are more difficult to see. They were using their [TAS]. As they levelled out at around 2000ft on the [departure airfield] QFE of 1008hPa, they observed Pocklington glider site on their port side about 2NM away. They could see some gliders on the ground at the end of RW18. There was about a 15-20kt wind from the south reported, but once airborne they

estimated it to be about 12kt from the south. Visibility was average as it was hazy. They kept a good look-out as they had climbed and on occasion lowered the nose to check ahead. They had left [the departure airfield] frequency with the intention of calling Humberside on 119.130MHz for a Basic Service as they normally do. They heard 3 other pilots calling Humberside but they had received no reply so they thought it best to stay on the frequency and listen out. They did hear the Humberside controller eventually but thought it too late in their flight to ask for a service. They remained at between approximately 2000ft and 2500ft for the duration of the flight, during which they saw only 1 other aircraft and that was as they were heading north. That aircraft was some 5NM away at a similar height travelling right-to-left and posed no conflict. They were made aware of the Airprox 1.5NM SW of Pocklington at 1312 involving a PA25. They have been given no other details as to the PA25 position or track and did not see it. It did not show on their [TAS].

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

Factual Background

The weather at Leeds Bradford was recorded as follows:

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METAR EGNM 261320 21011KT 9999 SCT025 18/12/Q1009
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken on which the routing and the altitude of the C172 only could be seen, the PA25 was not detected by the NATS radars; however, the pilot was able to supply a GPS log file which has been used and combined with the radar data to produce the diagram above and determine the CPA. It should be noted that the aircraft positions have been determined using different data sources and, whilst there is a high degree of confidence regarding the lateral positions, more interpretation was required in the vertical plane. This is reflected in the vertical separation being recorded as an approximation.

The PA25 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 converging then the C172 pilot was required to give way to the PA25.[2]

Comments

BGA

Whilst the glider pilot is to be commended for alerting the PA25 pilot to the impending conflict, it is unfortunate that in the heat of the moment they confused the direction of the approaching C172. Both the PA25 and the towed glider were equipped with [compatible EC equipment] but for unknown reasons this did not alert on the C172's [EC equipment]. Whilst the [EC] unit in the PA25 was capable of detecting mode A,C & S transponder transmissions, and did so in this case, it does not give a directional information. Pocklington is a very active gliding site, and aerotow combinations may well be encountered when passing within 2-3 miles of it.

AOPA

The C172 pilot, from their statement, was conscious of the gliding site and the southerly wind, they were also aware of gliders being aerotowed to the south then gliding back to Pocklington. The C172 pilot correctly briefed passengers to point out other aircraft and gliders, plus had compatible EC equipment that, for unknown reasons, didn't detect the aero tow combination.

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

This is Class G airspace where see and avoid and good look out is the prime barrier against MAC, enhanced with compatible EC equipment fitted to the aircraft. It is noted the C172 pilot did lower the nose of their aircraft to look out however, rolling the aircraft would enable better opportunity to observe closing traffic. It was good that the pilot gave their passengers a comprehensive briefing to enhance safety. It should be noted that when planning to pass glider sites within a couple of miles an aerotow combination should be expected.

Turning to the PA25 and aero tow combination it is noted that their compatible EC equipment did issue an alert after which they looked out, turned by 10° and saw the C172, late. It is noted that the C172 pilot did not see the combination.

Summary

An Airprox was reported when a PA25 and a C172 flew into proximity 1.5NM WSW of Pocklington at 1313Z on Sunday 26th September 2021. Both pilots were operating under VFR in VMC, neither pilot was in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. 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 the first considered the actions of the PA25 pilot and members for GA and the BGA agreed that, whilst this would have been a high workload situation for the pilot, this should not have detracted from conducting and maintaining a thorough lookout. The compatible EC device that was being carried by the PA25 pilot had issued an alert (**CF2**) however, this did not include a directional element, only an indication of relative vertical separation and, as such, the Board agreed that the situational awareness of the PA25 pilot regarding the presence of the C172 had been generic in nature (**CF1**). The Board noted that there had been a method to allow communication between the glider pilot and the PA25 and agreed that this is good practice however, on this occasion, it had been unfortunate that the information regarding the direction of the traffic passed by the glider pilot to the PA25 pilot had been inaccurate. A discussion followed regarding the manoeuvrability of an aerotow combination and that at the point at which the PA25 pilot had become visual with the C172 they would have had limited options to manoeuvre, however levelling-off may have been an option given that the EC alert had indicated that the traffic had been above them. It was stated that, had the glider pilot elected to detach from the tow early, this may have had a detrimental effect as this can cause the tow aircraft to pitch up.

The Board then discussed the actions of the C172 pilot and members were encouraged that the pilot had given their passengers comprehensive briefings, had been carrying EC equipment and had intended obtain an ATS from Humberside, however, as this had appeared to be unavailable, the Board wondered whether the pilot had considered other options to obtain a service. Members also noted that the pilot had been aware of Pocklington glider site and discussed whether it may have been more appropriate for them to have planned to avoid the site by a greater margin, and whether a courtesy call to them on their VHF frequency as they passed may have been advantageous. Members discussed that the C172 pilot had not seen the PA25 (**CF3**) or the glider and stated that making small manoeuvres or weaving whilst en-route can aid the look-out of a pilot whilst simultaneously making their aircraft more visible to other pilots.

Finally, in assessing the risk of collision the board considered that the C172 pilot had not seen the PA25 and, although the PA25 pilot had had some situational awareness of the C172, the PA25 pilot had seen the C172 too late to be able to take any effective avoiding action, amplified by the manoeuvrability issues presented by conducting an aero-tow. Therefore, the Board concluded that the separation that had existed had been fortuitous and had been the bare minimum and that there had been a serious risk of collision (**CF4**). As such, the Board assigned a Risk Category A to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021197			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late or only generic, inaccurate Situational Awareness
	• Electronic Warning System Operation and Compliance			
2	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
3	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
	• Outcome Events			
4	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: A

Safety Barrier Assessment[3]

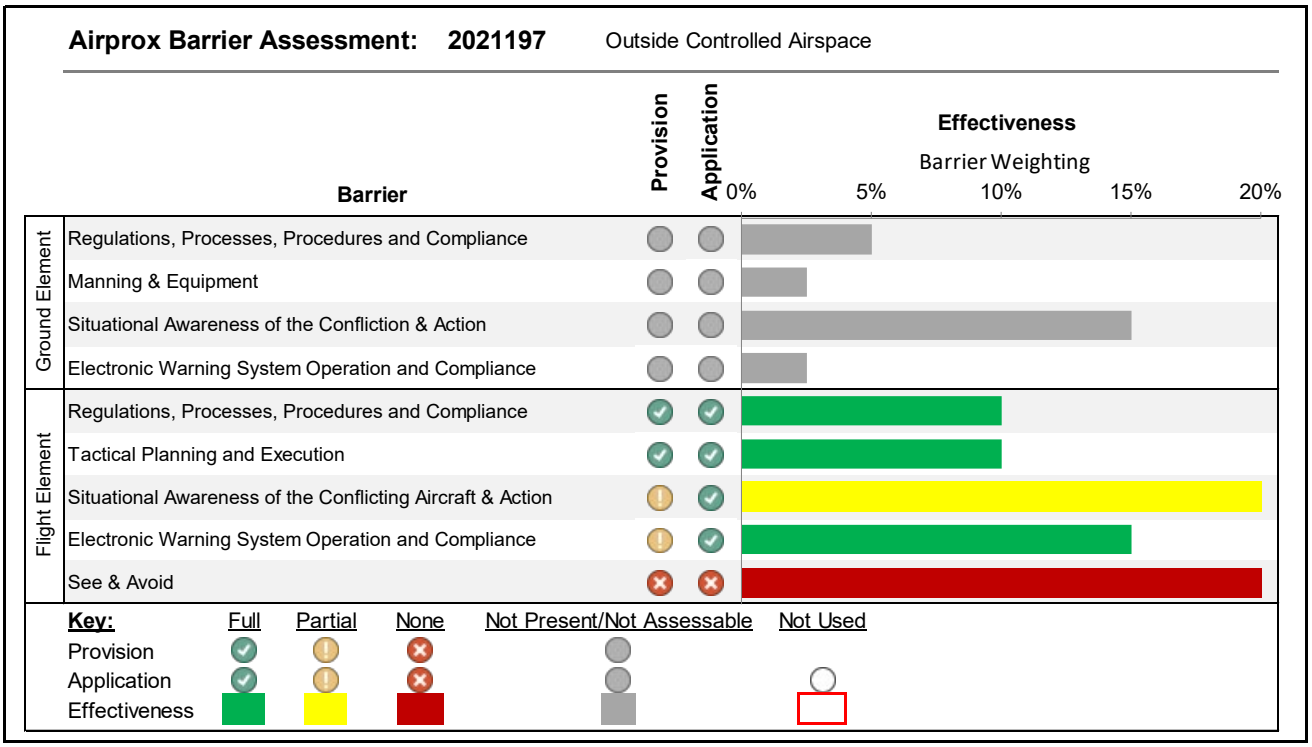
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the PA25 pilot had only generic awareness of the presence of the C172 and the information they recall being passed by the glider pilot, who was under tow, was inaccurate. The C172 pilot had no awareness of the presence of the PA25 and glider combination.

See and Avoid were assessed as **ineffective** because at the point at which the PA25 pilot became visual with the C172 it was too late for them to be able to take effective avoiding action and the C172 pilot did not see the PA25 (or glider) at all.

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


Airprox Barrier Assessment: 2021197
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:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness