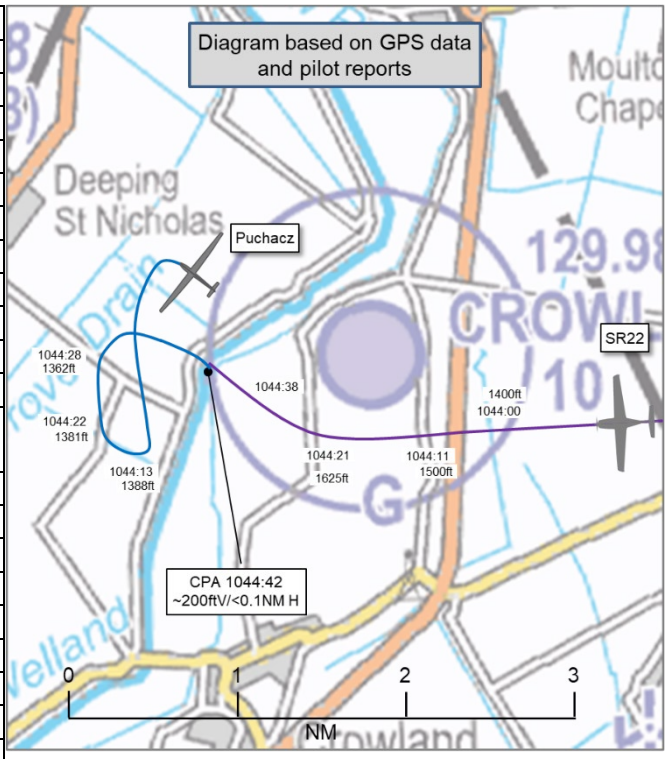
AIRPROX REPORT No 2023179

Date: 13 Aug 2023 Time: 1045Z Position: 5242N 00010W Location: IVO Crowland Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Puchacz SZD-50	SR22
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None
Provider	Crowland	N/A
Altitude/FL	1400ft	1600ft
Transponder	Not fitted	A, C, S+
Reported		
Colours	White	Blue/Silver
Lighting	None	Strobes, HISL, Beacon, Anti-cols.
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	NK	1600ft
Altimeter	QFE (1013hPa)	QNH
Heading	~160°	270°
Speed	50kt	148kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
Separation at CPA		
Reported	50ft V/0ft H	500ft V/1000m H
Recorded	~200ft V/<0.1NM H	



THE PUCHACZ PILOT reports that they had been teaching a student turning. The Puchacz had been in a stable turn and the pilot had seen the SR22 fly over them whilst in the turn. The aircraft met head-on with 50ft separation.

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

THE SR22 PILOT reports that they had taken off from [departure airfield] using the unlicensed runway [they recall] due to last minute wind shift. The flight had been planned to have been a sightseeing flight to see the Fens from the air and if possible to see the passengers' homes. The plan had been to do a short flight of about half an hour to 45 minutes heading south. On heading south towards Peterborough there had been an angry looking cloud and showers so the SR22 pilot decided to head west (also towards one of the passenger's homes). The [moving map display] had been given to the passenger to hold and […] had not been registering a position (it had lost GPS). […] It had activated eventually once clear of Crowland. The SR22 pilot had been aware that there had been a glider site nearby and to the west so had the [branded multi-function display] set on to the TCAS collision avoidance screen. Passengers had been asked to keep eyes outside looking for conflicting aircraft, particularly gliders which often don't have transponders or lights and the pilot directed their eyes outside rather than inside or at the [multifunction display]. The SR22 pilot [had seen] Crowland to their right and had seen in good time a glider, as had the passengers. The SR22 pilot had not taken any evasive action. They again stressed [to their passengers] to keep looking outside and turned the aircraft so they had Crowland on the left side of the aircraft and climbed a little further [maybe 1800ft] to avoid circuit altitude by about 1000ft and directed the aircraft to avoid both Crowland and the MATZ of Wittering, giving Crowland the widest berth but always on their left. The pilot had then decided that they had enough time before the horrible grey showers would overtake them and Fenland, and headed back to Fenland to land just before the heavy showers approached the airfield. The SR22 pilot then observed that "they don't

understand why gliders and tow aircraft don't have better anti-collision systems including lights and transponders or better radio knowledge for example to use the guard frequency".

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

Factual Background

The weather at Wittering was recorded as follows:

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METAR EGXT 131020Z AUTO 23012KT 9999 RA OVC018/// 17/15 Q1011=
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Analysis and Investigation

UKAB Secretariat

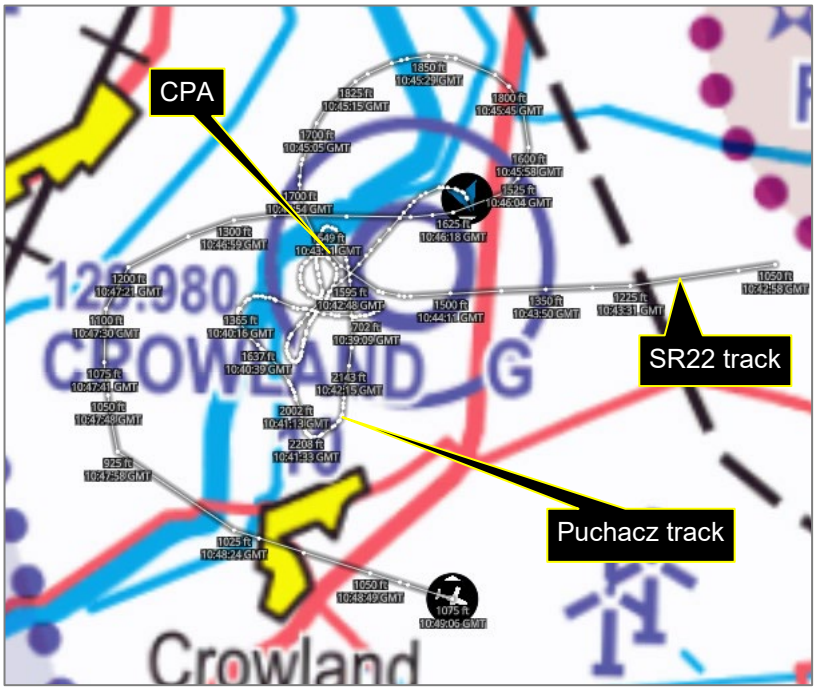


Figure 1: Relative tracks of the Puchacz and the SR22

Figure 1 (above) shows the bulk of the relevant parts of the respective tracks of the SR22 and Puchacz and is enabled through tracking via a third party application. The Airprox occurred at the point indicated (by CPA).

The Puchacz and SR22 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

AOPA

It is always recommended to give glider sites and minor airfields a call on their VHF frequency, improving everyone's situational awareness, it is also worth keeping a good distance away from glider and minor airfields as gliders do not stay in the overhead and can be found several miles away.

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

BGA

UK glider launch sites are listed in UK AIP ENR 5.5 and labelled on the CAA VFR charts with a "G" symbol, as shown in the chart segment in Part A. A greater density of gliders may be expected nearby at any time during daylight hours, and at any altitude up to cloudbase.

Gliders operating within 10NM of Crowland below 3000ft AAL usually monitor VHF channel 129.980 (as notified on CAA charts and in AIP ENR 5.5). If transiting nearby, a brief broadcast call using "Unattended Aerodrome" phraseology (CAP 413 §4.179 et seq) would increase everyone's situational awareness and help avoid conflicts.

Summary

An Airprox was reported when a Puchacz and an SR22 flew into proximity at Crowland at 1045Z on Sunday 13th August 2023. Both pilots were operating under VFR in VMC and neither in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and GPS tracking data. 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 Puchacz pilot, noting that it had been in an instructional role in the vicinity of Crowland airfield. Members acknowledged the weather conditions and the effect it would have had on any traffic within the area. They expressed some disappointment that, as an instructional aircraft, it had not been equipped with any form of electronic conspicuity (EC) equipment which, in lieu of a transponder, had meant that in this case there had been no contribution to situational awareness building (**CF4**). They did accept, however, that listening-out on the Crowland frequency had been a very positive aspect and the pilot could have realistically expected to have been aware of passing aircraft had the pilots of those aircraft called Crowland.

Turning to the SR22 pilot, members noted the nature of the flight and commented on the pilot's apparent surprise at the weather conditions and the effect it would have had on their planned exercise (**CF2**). That, combined with a misbehaving moving-map display and airborne re-planning had, the Board felt, led to significant distraction for the pilot. Although the SR22 pilot reports having been visual with a glider, their description of that encounter suggests it to not have been the Puchacz in this event. The Board also felt that the SR22 pilot was to be commended for operating with active transponder and TAS equipment to build situational awareness, but noted that that requires others to be compatibly equipped and members highlighted that monitoring and position broadcasting on appropriate radio frequencies can add dramatically to awareness for all in the operating area. Members believed that a listening watch on passing Crowland (**CF1**) would likely have helped build situational awareness. In this case, due to incompatible EC fits, the Board agreed that neither pilot had been afforded the opportunity to build situational awareness beyond knowledge of that shown on aeronautical charts (**CF3**).

When determining the risk of the Airprox, members considered the reports of both pilots and agreed that safety margins had been degraded and, although the Puchacz pilot had gained sight of the SR22, it had been at a late stage and the SR22 pilot had not seen the Puchacz (**CF5**). However, the Board felt that the recorded separation at CPA had been sufficient to for there not to have been any risk of collision, although members agreed that safety had been degraded and therefore assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023179			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
2	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
	• Situational Awareness of the Conflicting Aircraft and Action			
3	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			
4	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			
5	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

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:

Flight Elements:

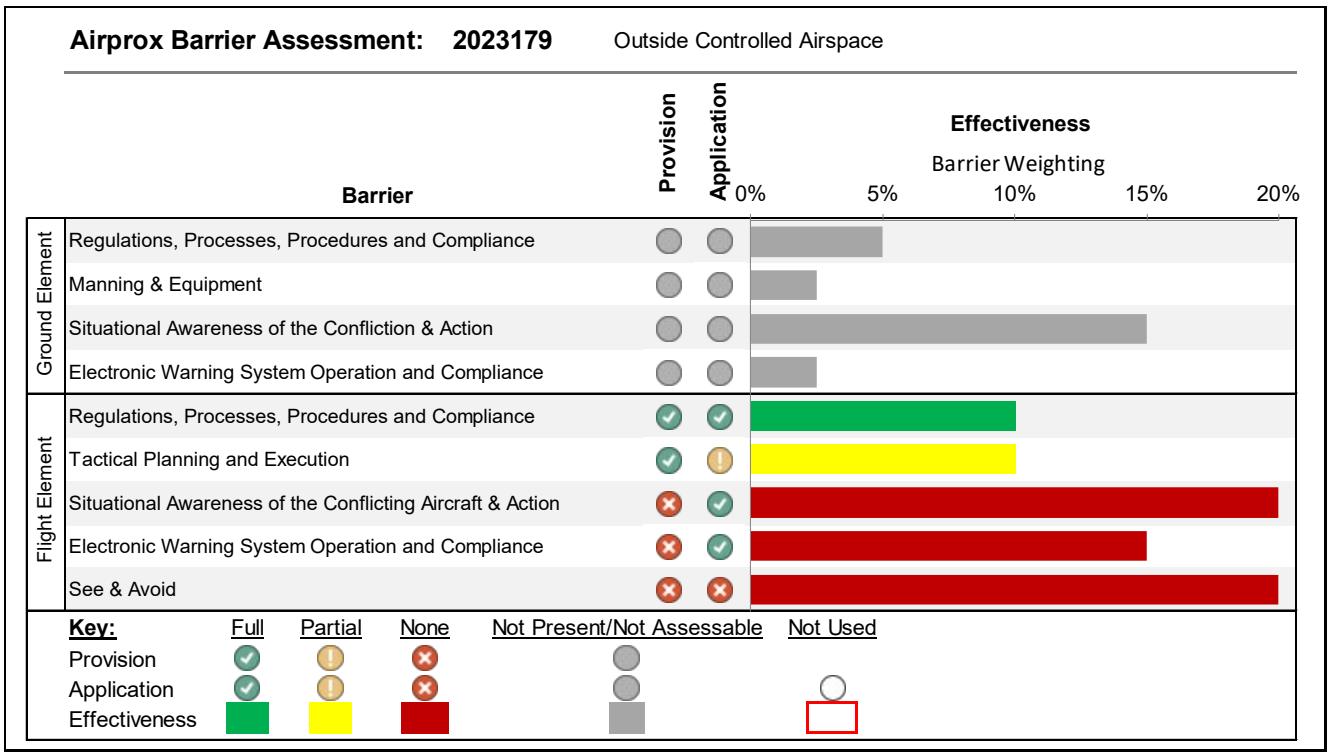
Tactical Planning and Execution was assessed as **partially effective** because the SR22 pilot did not call Crowland regarding their intended flight in that area and had not recognised the effect of poorer weather than expected on their planned flight.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because although the SR22 pilot had generic situational awareness of the gliding site and activity at Crowland they had been distracted by the nature of their flight and the Puchacz pilot had no electronic conspicuity inputs to afford any situational awareness.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although the SR22 carried a transponder and a TAS unit, the Puchacz pilot had no means to receive and display any emissions from the SR22.

See and Avoid were assessed as **ineffective** because the SR22 pilot did not see the Puchacz in this event and the Puchacz pilot saw the SR22 at such a late stage that it could be considered effectively a non-sighting.

[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: 2023179
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