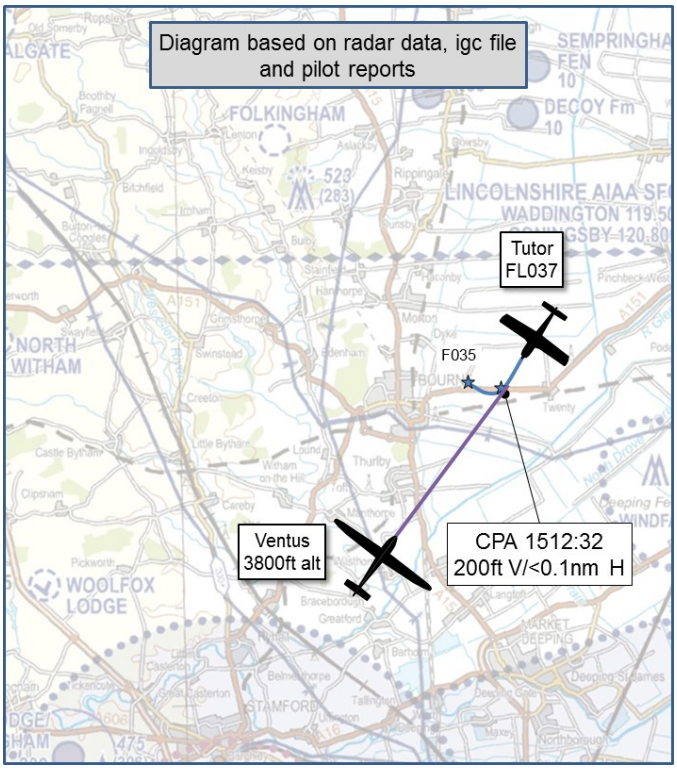
AIRPROX REPORT No 2019199

Date: 18 Jul 2019 Time: 1512Z Position: 5245N 00019W Location: 10nm NE Wittering

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tutor	Ventus Glider
Operator	HQ Air (Trg)	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	None
Provider	Wittering	N/A
Altitude/FL	FL037	3800ft
Transponder	A, C	Off
Reported		
Colours	Blue, White	White
Lighting	Strobe, Nav	None
Conditions	VMC	VMC
Visibility	>10km	Not reported
Altitude/FL	4000ft	
Altimeter	RPS (1003hPa)	
Heading	200°	
Speed	100kt	
ACAS/TAS	FLARM	PowerFLARM
Alert	None	TA
Separation		
Reported	100ft V/0ft H	Not seen
Recorded	200ft V/<0.1nm H	



THE TUTOR PILOT reports that he was conducting an Instrument Flying (IF) instructional sortie to the east of the town of Bourne (about 10nm NE of RAF Wittering) maintaining a southerly heading at about 4000ft. He was answering the student's question about the Attitude Indicator when he conducted a lookout partway through explaining; he looked up to see a glider in his 2 o'clock, less than 1nm away, level, pointing towards him, on a converging heading. He took control from the student (who was under an IF visor) and dived down to the right behind the glider, during which the glider passed overhead at about 100ft maintaining its easterly heading. He then completed a turn back to the north keeping the glider in sight, reported the incident to ATC Wittering Zone and, once satisfied the glider was moving further away to the east, resumed the instructional sortie whilst becoming extra vigilant as there were several other gliders now operating in the vicinity. He completed the sortie and recovered to Wittering without further incident. During both the runup to the Airprox, and whilst maintaining visual contact after, he confirmed there was no FLARM indication on the glider and also reported this to Wittering Zone. There was a large amount of glider activity that afternoon but mostly to the SW of Wittering.

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

THE VENTUS GLIDER PILOT reports that he did not see the Tutor at any time.

THE WITTERING CONTROLLER reports that he was responsible for routine ATS afforded to all Unit-based Tutors, with associated timely Traffic Information provided on all relevant conflicting tracks. He has no recollection of any aircraft declaring an Airprox. Due to a notified gliding competition operating routes from Husbands Bosworth across Wittering's Area of Interest, and both Saltby and Crowland gliding site's being active, there were numerous primary tracks indicating on the radar.

Factual Background

The weather at Wittering was recorded as follows:

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METAR EGXT 181518Z 28014KT 9999 FEW040 BKN050 22/09 Q1009 RMK BLU
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Analysis and Investigation

Military ATM

The Tutor was conducting an Instrument Flying (IF) instructional sortie with a Qualified Flying Instructor (QFI) and a student wearing an IF visor. Prior to departure, the Tutor crew were aware of a NOTAM referring to a gliding competition in the area and consulted GliderNet in an attempt to deconflict Tutor and Glider activity. The Tutor was in receipt of a Traffic Service from Wittering Zone in line with 22Gp regulations.

At about 4000ft near Bourne and whilst answering a question from the student, the QFI spotted the glider on a converging heading at the same level. The QFI reported initiating an avoiding action descent which generated about 100ft vertical separation between the aircraft. The QFI reported that without the avoiding action the risk of collision would have been high and that no FLARM alert had occurred.

The glider reported being on a local flight to and from Husbands Bosworth. The glider was not in communication with any Air Traffic Agency, had their transponder off, but had PFLARM active. The glider pilot did not see the Tutor and was unaware that an Airprox had occurred until informed of it later.

Analysis of the radar replay conducted by the Radar Analysis Cell proved inconclusive as they were unable to positively identify the glider. Analysis of the R/T transcript indicated that the Wittering Zone Controller was providing a Traffic Service to 3 Tutors (including the incident aircraft). Traffic Information was passed to the incident Tutor about 30secs prior to the incident occurring. However, this stated that the conflicting traffic was 3nm away and therefore cannot have been the incident glider given the short period of time which elapsed between the Traffic Information and the Airprox occurring. The unit therefore concluded that the Ventus was not showing on the Wittering surveillance systems.

UKAB Secretariat

The Tutor and Ventus 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 Tutor pilot was required to give way to the Ventus[2].

Comments

HQ Air Command

During the planning process, the Tutor pilot chose to remain clear of intensive NOTAM gliding activity to the southwest of Wittering and had utilised a web-based glider tracker to choose an area of lower gliding activity. During the sortie, the Tutor Pilot had selected a Traffic Service from Wittering, however, the Ventus Glider Pilot, disappointingly, was not utilising their transponder and, as such, it is unlikely that they appeared on the Wittering controller's display. The Tutor Pilot did not receive Traffic Information on the Airprox Ventus Glider, but a traffic call on another glider shortly before the Airprox may have heightened the Tutor Pilot's awareness.

[1] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

The Tutor was equipped with TAS and FLARM but the Tutor Pilot did not receive any alert about the Ventus Glider's proximity. The Ventus Glider reports having received a TA on their PowerFLARM but didn't see the Tutor. It is concerning that the Tutor's FLARM did not provide a corresponding alert, but It has not been possible to determine why it did not.

The Tutor Pilot was conducting IF training for a student who was flying under an IF visor and likely had their attention divided between scanning the instruments and looking out. Given that all the other barriers to preventing MAC had been ineffective, the Tutor Pilot is commended for spotting the Ventus Glider in enough time to take control and carry out a manoeuvre to increase separation. The Tutor Pilot transmitted to Wittering Zone Controller about the proximity of the Ventus Glider but did not specifically declare an Airprox on frequency. Pilots at the unit have since been reminded to declare an Airprox on frequency as soon as possible after such an event.

BGA

We commend the Tutor Instructor for their good lookout, the 18th of July was a very busy day for gliding in the east of England.

Summary

An Airprox was reported when a Tutor and a Ventus flew into proximity 10nm NRE of Wittering at about 1512hrs on Thursday 18th of July 2019. Both pilots were operating under VFR in VMC, the Tutor pilot in receipt of a Traffic Service from Wittering and the Ventus pilot not in receipt of a service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, glider igc file and reports 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 began by discussing the actions of the Tutor pilot and why he did not receive a FLARM alert to indicate the presence of the glider **(CF6)**; some members thought it could have been caused by aerial blanking, but it was also possible that either the Tutor's or the Ventus' FLARM equipment may not have been updated to the latest standard of software. The Board were informed by the glider member that there is an annual requirement to update the FLARM firmware and licence, without which there was a risk that the FLARM unit may not detect other units that had been updated. He also went on to say that if the aerials are not positioned correctly the unit was unlikely to detect other FLARMs at a useful range[3]. The Board commended the Tutor instructor for seeing the glider whilst instructing an Instrument Flying lesson whilst dividing his time between instructing and lookout **(CF7)**. Gliders were difficult aircraft to see head-on due to their small profile, and he had probably seen it as soon as could be expected under the prevailing circumstances; when he spotted the glider he made an emergency turn and descent to avoid **(CF8)**. Members noted that the Tutor pilot did not overtly report the Airprox on the frequency (although he did refer to coming close to the glider, for which the controller might reasonably have prompted him about whether he wanted to report an Airprox). The Board iterated the importance of reporting on frequency to both provide an opportunity for all relevant media to be preserved and to alert other airspace users of the event. Members were also heartened that the Tutor pilot had been aware of the glider completion and had planned his route to try to avoid the increased activity **(CF4)**.

The Board members then turned to the actions of the glider pilot. They were disappointed that he had had a transponder fitted but had selected it off **(CF2)** even though he was in relatively close proximity to a busy airfield and its MATZ. Acknowledging that non-powered aircraft were not required to select their transponders on at all times,[4] the gliding member agreed that selective use was beneficial when

[3] https://flarm.com/support/manuals-documents/

[4] *GM1 SERA.13001(c) Operation of an SSR transponder: Pilots of non-powered aircraft are also encouraged to operate the transponder during flight outside airspace where carriage and operation of SSR transponder is mandatory.*

near to known busy airspace environments subject to overall battery management requirements. Members noted that the glider pilot had received an alert from his PowerFLARM **(CF5)** but members wondered if this had been another aircraft and not the Tutor given his subsequent non-sighting of the Tutor aircraft and the lack of corresponding indications on the Tutor's display. Overall, the Board agreed that this was a valuable lesson for pilots to understand that, although the use of Electronic Warning Systems is a valuable aid for enhancing a pilot's situational awareness, they cannot be relied upon in isolation and must be used in conjunction with the other safety barriers to provide full situational awareness of the prevailing traffic situation. Finally, members also agreed that the glider pilot may have been better served by communicating with Wittering to inform them of his flight and gain information on other traffic that may affect his flight path **(CF3&4)**. In this case he did not see the Tutor **(CF9)** and the glider was not visible on radar thus reducing situational awareness for all.

The Board then looked at the actions of the Wittering controller and noted that the glider was not visible on his radar and therefore he could not provide specific Traffic Information to the Tutor pilot **(CF1)**. Notwithstanding, he had passed generic Traffic Information from his knowledge of a gliding competition which members believed had served to enhance the Tutor pilot's awareness of the increased glider activity in the area.

Turning to the risk, members agreed that the Tutor pilot had seen the glider late, and that the glider pilot had not seen the Tutor. Given the Tutor pilot's assessment of separation and risk of collision the Board agreed that safety had been much reduced below the norm; the Tutor pilot had only seen the glider in time to take emergency avoiding action to increase the separation; Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK

Contributory Factor(s):

	2019199		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	Flight Elements		
	• Tactical Planning and Execution		
2	Human Factors	• Transponder Selection and Usage	
3	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate service provider
	• Situational Awareness of the Conflicting Aircraft and Action		
4	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• Electronic Warning System Operation and Compliance		
5	Contextual	• ACAS/TCAS TA	TCAS TA / CWS indication
6	Technical	• ACAS/TCAS System Failure	CWS did not alert as expected
	• See and Avoid		
7	Human Factors	• Distraction - Job Related	Pilot looking elsewhere
8	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
9	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B.

Safety Barrier Assessment[5]

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

Ground Elements:

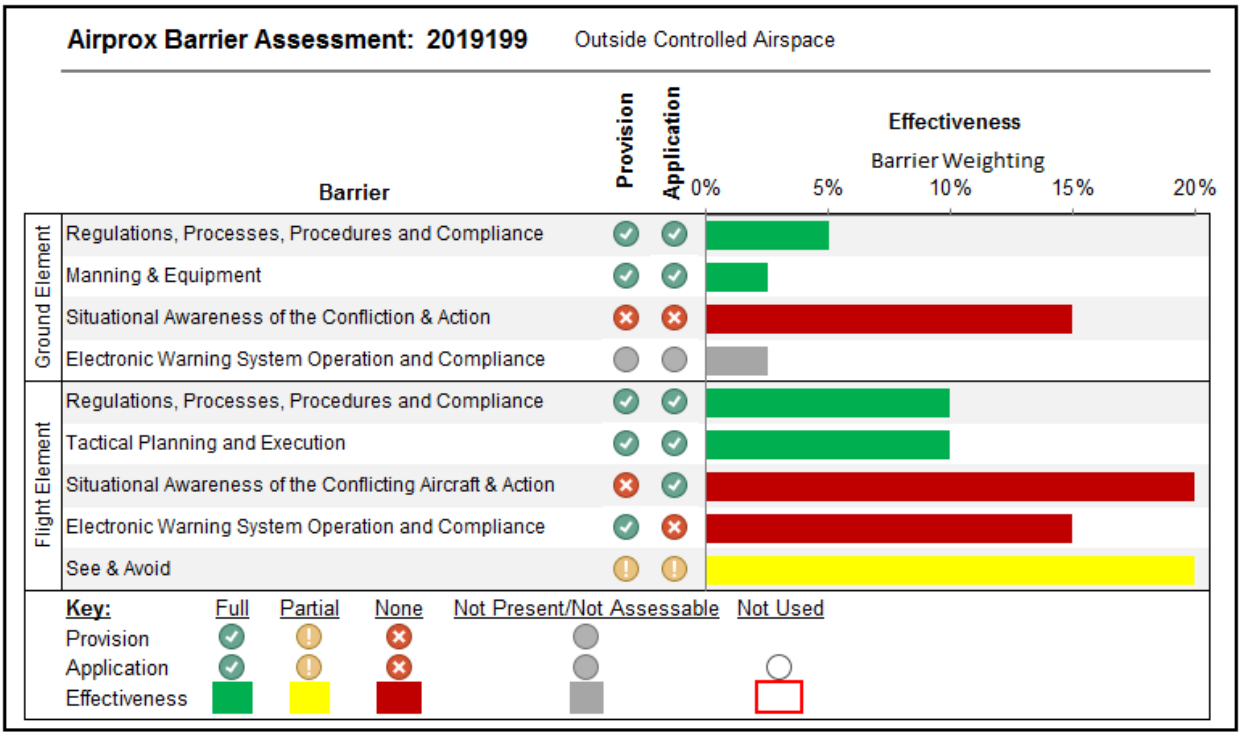
Situational Awareness of the Confliction and Action were assessed as **ineffective** because the glider was not visible on the controller's radar screen.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had information on the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the Tutor pilots FLARM did not alert as expected and the Ventus' FLARM probably alerted on another aircraft.

See and Avoid were assessed as **partially effective** because the Tutor pilot saw the glider late and the glider pilot did not see the Tutor.



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