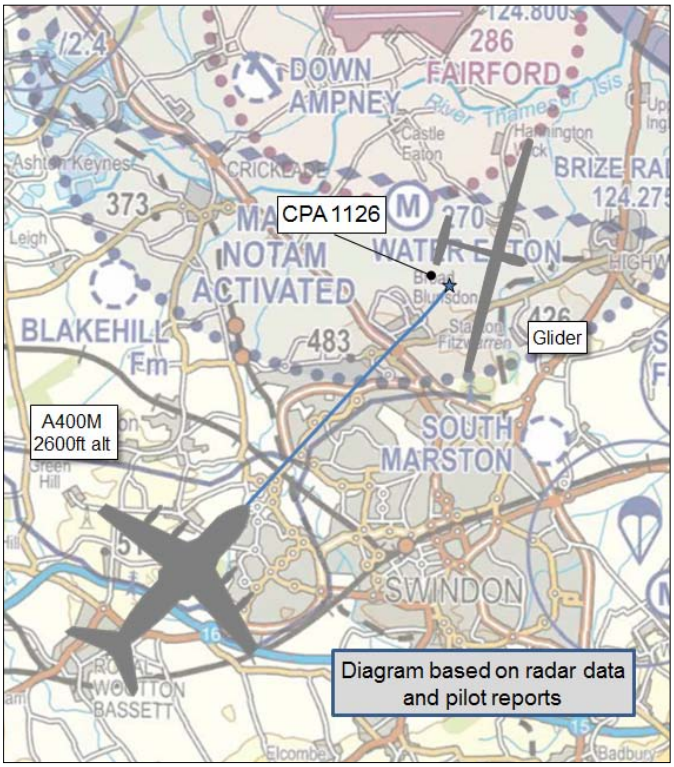
AIRPROX REPORT No 2016143

Date: 23 Jul 2016 Time: 1125Z Position: 5137N 00146W Location: IVO Swindon

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Arcus Glider	A400
Operator	Civ Pte	HQ Air (Ops)
Airspace	Lon FIR	Lon FIR
Class	G	G
Rules	VFR	IFR
Service	None	Traffic
Provider	NA	Brize
Altitude/FL	NK	2600ft
Transponder	Off	A, C ,S
Reported		
Colours	Red, White	White
Lighting		
Conditions	VMC	VMC
Visibility	10km	
Altitude/FL	2300ft	2800ft
Altimeter	RPS (1019hPa)	QNH (1016hPa)
Heading	100°	040°
Speed	65kt	250kt
ACAS/TAS	FLARM	TCAS II
Alert	None	None
Separation		
Reported	200ftV/500m H	300ft V/0.25nm H
Recorded	NK	



THE GLIDER PILOT reports that he was in the Swindon area when he saw an A400, which appeared to descend out of cloud. The aircraft could clearly be heard, and visual contact was attained when it was in the 4 o'clock position about 1km away. It appeared to be taking an avoiding-action left turn, with a turn of 20° AOB, it passed behind then reversed its turn onto 070°.

He assessed the risk of collision as 'None'.

THE A400 PILOT reports that he was conducting an approach to Brize Norton, it was a busy VMC day with good weather and convective CU cloud and there was an abundance of GA traffic being called by air traffic and seen on TCAS. Both the PM and PF were visually tracking two light-aircraft that were lower than the A400. At approximately 15nm south-west of the airfield, whilst skirting a broken cloud-base at 2800ft, a glider was spotted in the 12:30 position with about 300ft vertical and 0.25nm horizontal separation. The glider was in a left-hand turn away from them, and the A400 pilot carried out a hard-left emergency-break turn to avoid it. He then elected to descend to circuit height, below the cloud base and into better visibility to deconflict from the GA traffic.

He assessed the risk of collision as 'Medium'.

THE BRIZE APPROACH CONTROLLER reports that the A400 was recovering from the south-west at 2800ft for a visual downwind join, and was receiving a Traffic Service. The airspace was very busy with primary-only contacts as well as those with SSR showing on the radar. Traffic Information was passed on a 7000 squawk and then further information passed on an extremely small and slow moving primary-only track. The controller then turned his attention to another inbound aircraft and found that he was calling a lot of Traffic Information in a short space of time to the two aircraft. After the A400 entered the Brize CTR the pilot stated they had seen a glider and it was close, but there

was no mention of an Airprox. Shortly afterwards a glider pilot called on the VHF frequency to declare an Airprox against a large aircraft recovering to Brize.

He perceived the severity of the incident as 'Medium'.

THE BRIZE ATCO I/C reports that he was seated next to the Approach controller at the time of the incident. Both controllers were working hard in medium-to-high levels of traffic, and the airspace around was very busy with multiple contacts who were believed to be gliders. The Approach controller gave Traffic Information on a primary-only contact, and the A400 pilot reported that he had flown close to a glider. The glider pilot wasn't on the Brize frequencies, but called up on the RT after the event to report an Airprox and subsequently telephoned later.

Factual Background

The weather at Brize was recorded as follows:

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METAR EGVN 231050Z 26004KT 9999 SCT038 24/14 Q1020 BLU NOSIG=
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Portions of the tape transcripts between Brize Norton Director, the A400, Brize Zone and the glider pilot are below:

To	From	Speech Transcription	Time
A400	DIR	{A400 c/s} further traffic twelve o clock five miles manoeuvring indicating one thousand four hundred feet below and further traffic again twelve o clock five miles crossing left to right no height information very slow moving	11:24:50
DIR	A400	{A400 c/s} is searching for both	11:25:02
A400	DIR	And {A400 c/s} aerodrome twelve o clock one five miles report visual	11:25:07
DIR	A400	Wilco {A400 c/s}	11:25:16
A400	DIR	{A400 c/s} clear of all traffic aerodrome twelve o clock one zero miles report visual	11:26:06
DIR	A400	Copied that and that er traffic with no height information was a glider pretty close	11:26:14
A400	DIR	roger	11:26:20
Glider	ZONE	{Glider c/s} brize zone pass your message	11:29:42
ZONE	Glider	Roger squawking ident erm {Glider c/s} presently two thousand four hundred feet one zero two zero er filing an airprox A four hundred M time one two six zulu	11:29:45
Glider	ZONE	{Glider c/s} roger	11:30:07
ZONE	Glider	Just for your information I don't know whether you were controlling him in the zone but er I mean it wasn't that close but we certainly heard him and he's probably gonna file as well I think he took avoiding action on us.	11:30:09
Glider	ZONE	{Glider c/s} er roger affirm I was controlling him in I did call him to you er and then when he when she passed she then reported that it was relatively close she didn't say anything about filing however we'll see	11:30:18
ZONE	Glider	ok no problem er we'll phone you probably later this afternoon	11:30:29
Glider	ZONE	roger	11:30:33
ZONE	Glider	{Glider c/s} going en-route	11:30:42
Glider	ZONE	{Glider c/s} roger	11:30:44

Analysis and Investigation

Military ATM

At 1124:50 (Figure 1), the Brize Norton controller calls Traffic Information to the A400, the first of which can be identified as the 7000 squawk to the north east indicating 012 on Mode C. The second piece of Traffic Information is on a slow moving primary contact; this is not visible on the radar replay.

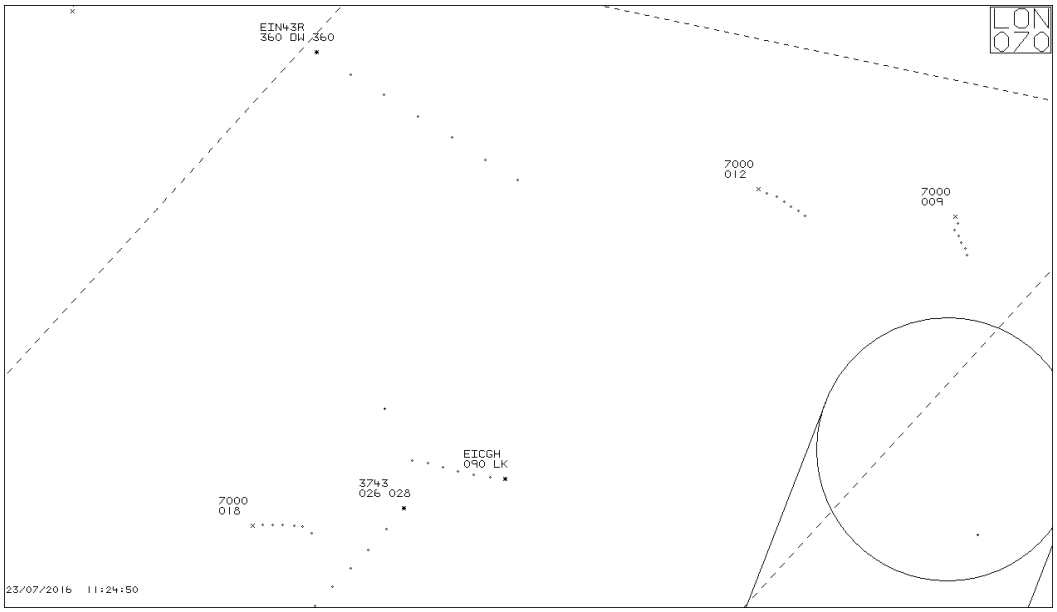

Figure 1: Geometry at 1124:50 (A400 squawking 3743; Glider not visible).

At 1126:19 (Figure 2), the radar replay shows the A400 make an adjustment to the left, this correlates with the tape transcript and the pilot's report. No primary contact is visible in the location at this time.

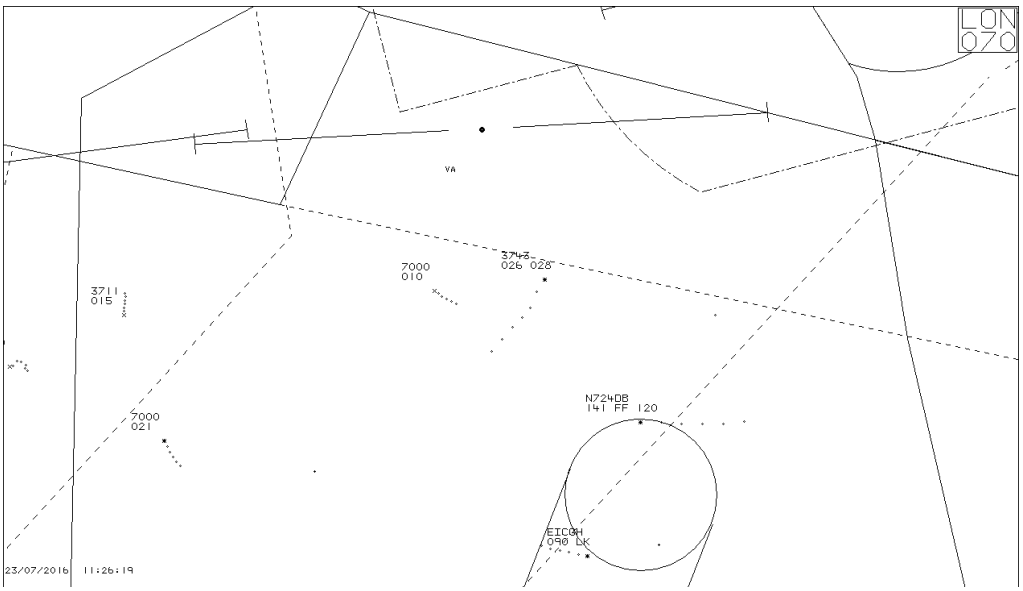

Figure 2: Geometry at 1126:19 (A400 squawking 3743; Glider not visible).

The glider pilot called on the Brize Norton Zone frequency to report the Airprox and stated his altitude as 2400ft. The controller asks the glider to squawk ident; no SSR return is visible on radar replay, the position of the glider cannot be confirmed.

The radar replay shows no primary contact in the immediate vicinity of the A400 at the time of the incident. The tape transcript indicates the controller called an intermittent contact at 11:24:50 and at 11:26:06 called the aerodrome to the A400 stating '(*A400 callsign) clear of all traffic aerodrome twelve o clock one zero miles report visual'.* Before calling the aerodrome the controller would have scanned the route inbound; this would indicate that at this time no primary contact was visible on the controller's radar. Given the high density of traffic in the vicinity of the Brize Norton CTR it may have been prudent to have reduced the level of service; however the A400 pilot's report indicates that he was aware of the busy airspace at the time.

The primary barrier for the A400 in this instance was 'see and avoid'. Traffic Information was passed at 5nm on a primary contact, which may have contributed to the pilot's situational awareness; however, it is unlikely they would have acquired a glider visually at that range. After passing Traffic Information it is doubtful that the glider displayed on the controller's radar screen again, and so precluded any further update to the A400 pilot. If the glider had been transponding Mode3/A TCAS may have been effective, alternatively if the glider pilot had called Brize Norton ATC on frequency to inform them of his operating location, ATC could have passed the A400 pilot further information to aid situational awareness on gliding activity.

UKAB Secretariat

The Glider and A400 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]. The A400 was required to give way to the glider, which he did.

Comments

HQ Air Command

The A400 was just completing its delivery flight from Seville to Brize Norton and arrived in the area on what was a busy flying day. The A400 would have been relying on TCAS, Traffic Information and good lookout to avoid other users of the air. It is a shame that the first 2 barriers appear to have been inhibited due to the glider being equipped with (quite a rare occurrence) but not using its transponder, or speaking with ATC. Whilst ATC were doing their best to provide a good service, they can only report on what they see and primary returns of gliders are notoriously weak/intermittent. In the end 'see and avoid' remained the final barrier and was used successfully.

BGA

Good lookout was an effective barrier in this case, and it's good to see proactive reporting by the glider pilot. On such a busy gliding day, FLARM Radar would likely have helped the Brize Approach Controller with situational awareness of glider traffic. We continue to encourage glider pilots to turn on transponders when they are fitted.

Summary

An Airprox was reported when a glider and a A400 flew into proximity at 1125 on Saturday 23rd July 2016. The glider pilot was operating under VFR in VMC, the A400 pilot, IFR in VMC. The glider pilot was not in receipt of an ATS and the A400 pilot was in receipt of a Traffic Service from Brize.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first looked at the actions of the glider pilot. They noted that although the glider was fitted with a transponder, it wasn't switched on at the time of the Airprox. The glider member informed the Board that this was probably because of concerns about battery life, and that few gliders have powerful enough batteries to keep the transponder functioning for long flights. Whilst accepting this as a problem, members thought that operating close to Brize Norton with its large aircraft operating in the vicinity would surely be one of the times when switching on the transponder would be paramount. Not only would it have allowed ATC to see the glider and so pass Traffic Information to other aircraft,

[1] SERA.3205 Proximity.

it would also have triggered the TCAS in the A400 to alert its pilot about the presence of the glider. Members also noted that the glider pilot did not call Brize ATC until after the incident, although they were aware that some glider pilots may not have an RT licence, they thought that for those that do, an information call to ATC to alert them of their routing would also provide vital Traffic Information, and in this case might have prevented the incident. Nevertheless, the Board noted that the glider pilot was entitled to fly where he was and, in Class G airspace, see-and-avoid was the main mitigation against mid-collision.

Turning to the A400 pilot, although he was operating under IFR, he was VMC and receiving a Traffic Service from Brize ATC. However, he did not receive any specific Traffic Information either from ATC or his TCAS due to the fact that the glider was not displaying on the ATC radar screen or electronically cooperating with the aircraft CWS due to lack of SSR. In the end, the successful barrier for the A400 pilot was look-out, although some members commented that, in a busy Class G ATC environment, the A400 pilot might have been better served by ensuring, as he did later, that he was well clear of cloud and able to see and be seen rather than 'skirting a broken cloud-base at 2800ft' as he had reported. That being said, the Board thought that the A400 pilot had probably seen the glider as early as the prevailing circumstances permitted and, although the separation was probably not as great as he would have wished for, they thought that there was very little more that he could have done to subsequently increase the separation.

Finally, the Board looked at the actions of the air traffic controller. Without a transponder it is unlikely that a glider would give a solid radar indication due to its small radar cross-section, and so the controller had no way of knowing that it was operating in the area. That said, he had given Traffic Information on other slow-moving and intermittent contacts in the vicinity so, had he received information on the glider's position either from SSR or an RT call, there was no reason to think that the controller would not have given Traffic Information. Noting the BGA comments about FLARM at Brize Norton, the RAF ATC member told the Board that, whilst it is correct that Brize does not have a FLARM receiver in ATC, even if they did controllers cannot use it to control with, and it would be on a separate computer screen, not the radar display. Therefore, any Traffic Information would have been generic, not specific to the A400 and this glider. That being said, the Board recalled previous recommendations to the military to install FLARM receivers within ATC as a means of improving general situational awareness of the locations that were busy with gliding traffic.

In determining the cause, the Board quickly agreed that because both pilots were entitled to operate the airspace and had probably seen each other as early as prevailing circumstances permitted, the incident was best described as a conflict in Class G, resolved by the A400 pilot. That being said, they also agreed that the glider pilot not selecting his transponder on in this busy airspace was contributory to the Airprox. The Board noted that the A400 pilot had reported the need to conduct a 'hard-left emergency break' to achieve 500m separation, but that the glider pilot reported seeing the A400 in only a gentle turn. The Board concluded that the glider pilot had probably only seen the A400 (in his rear sector) after it had completed the avoiding-action turn and was reversing back onto track. As a result, the risk was assessed as Category B, safety margins had been much reduced below the norm.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G resolved by the A400M pilot.

Contributory Factor: The Arcus pilot did not have his SSR transponder selected on.

Degree of Risk: B.