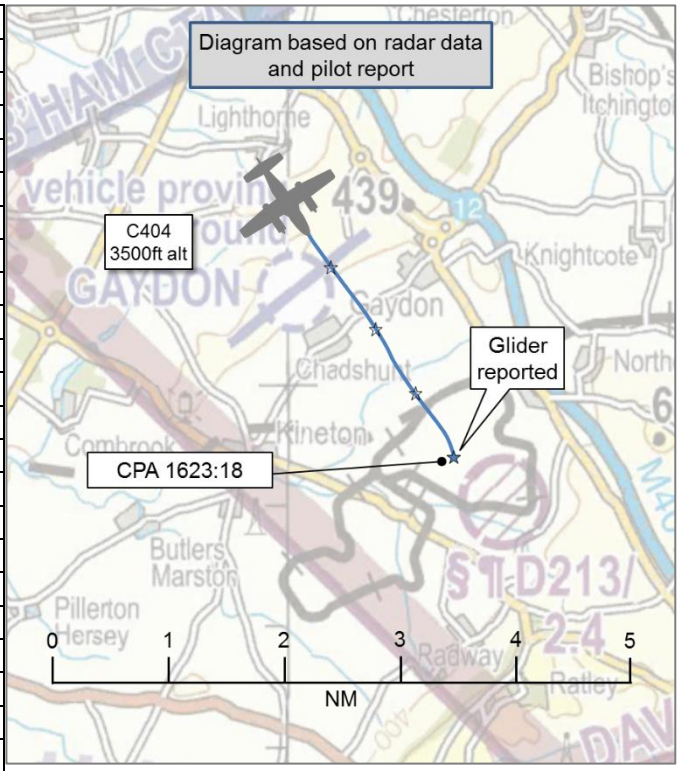
AIRPROX REPORT No 2019227

Date: 05 Aug 2019 Time: 1623Z Position: 5209N 00127W Location: 7nm NW of Banbury

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C404	Unknown Glider
Operator	Civ Comm	Unknown
Airspace	London FIR	
Class	G	G
Rules	VFR	VFR
Service	Traffic (Reduced)	
Provider	Birmingham	
Altitude/FL	3500ft	
Transponder	A, C, S	
Reported		
Colours	White/Pink/Purple	
Lighting	Ldg, Nav, Strobe	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	3500ft	
Altimeter	QNH (1008hPa)	
Heading	150°	
Speed	160kt	
ACAS/TAS	Not fitted	
Alert	N/A	
Separation		
Reported	0 V/0.5nm H	
Recorded	NK	



THE C404 PILOT reports that he had been tasked with an aerial survey overhead Daventry and Gaydon, altitude and heading as required for the task. At the time of the Airprox he was straight-and-level and preparing to start a teardrop turn onto the next line. He saw a glint from a canopy and, on seeing a glider, made an immediate 45° right-hand banked turn away from the conflicting traffic. At the time of the Airprox he was under a Traffic Service from Birmingham Radar. In the vicinity of Daventry, the Service had been reduced by the controller due to workload and traffic density but upgraded again once the C404 was over Gaydon because the aircraft would be passing in and out of controlled airspace. The controller had informed the pilot of the gliding competition and that there was significant traffic around his intended area of operation. The pilot was aware of a gliding competition from Husbands Bosworth but, when he arrived at the task site, the controller informed him that the competition was closed and to keep a good look out. He did not hear any gliders speaking on the radio and did not receive any Traffic Information on the glider from the Birmingham controller.

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

THE GLIDER PILOT could not be traced.

THE BIRMINGHAM AIR TRAFFIC INVESTIGATOR reports that the C404 pilot was in receipt of a Traffic Service, limited due to controller workload, and had been passed essential Traffic Information regarding glider activity in the Daventry area on his initial call. After reviewing the radar and R/T recordings around the reported time of the Airprox (+/- 10mins), there was no report of an Airprox on frequency and no evidence of any primary radar return within 5 miles of the C404.

A SHENINGTON GLIDING CLUB REPRESENTATIVE reports that Monday 5th August was a good cross-country day for gliders – Shenington Gliding Club had a task set, as would have several other clubs in the Midlands since there were several gliding competitions NOTAM'd for the week. The

organiser of the task week at Shenington confirmed that none of the participants in the task would have passed Wellesbourne around the time of the reported Airprox. It is possible that non-task participants from Shenington passed the reported area of the Airprox, but unlikely because, judging by the recorded time of landing for each aircraft, they would either have been too far away from, or too close to, the home airfield. The FISO on duty at Wellesbourne on 5th August has confirmed that there were no Airprox reported to him by radio on that day.

Factual Background

The weather at Birmingham was recorded as follows:

METAR EGBB 051620Z 24008KT 200V280 CAVOK 21/12 Q1008=

Analysis and Investigation

UKAB Secretariat

The C404 and glider 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] If the incident geometry is considered as converging then the C404 pilot was required to give way to the glider.[3]

Comments

BGA

There are a number of gliding clubs close to Banbury, and on a good soaring day such as this was it is likely that gliders will be encountered anywhere outside controlled airspace in this area.

Summary

An Airprox was reported when a C404 and an unknown glider flew into proximity near Gaydon at around 1623hrs on Monday 5th August 2019. Both pilots were operating under VFR in VMC; the C404 pilot was in receipt of a Traffic Service from Birmingham Radar but the glider pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the C404 pilot, a report from a local gliding club representative, radar photographs/video recordings, reports from the air traffic controllers involved and a report from the appropriate operating authority. 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 considered the actions of the C404 pilot and was encouraged to note that, conducting his task as a single-pilot operation, he had secured a Traffic Service with a nearby radar unit, albeit reduced/limited by the controller. Although already aware of potential gliding activity in the area, on initial contact the controller had also passed generic information to the C404 pilot about glider activity in the area (**CF3**). Whilst a Traffic Service should be of assistance to the pilot in the detection of other powered aircraft that are transponding, members acknowledged that, currently, very few gliders carry a transponder, and those that do must consider appropriate power management for other equipment (such as radio). Coupled with this, modern gliders present a very low radar cross-section and so detection with primary radar can also be unreliable. A GA member wondered if the C404 pilot may have been better served by conducting his task on a day when fewer glider competitions had been planned in the area, or perhaps at a different time that day. However, the glider member commented that,

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(1) Approaching head-on.
[3] SERA.3210 Right-of-way (c)(2)(i) Converging.

irrespective of competitions, on a good gliding day such as this, gliders could have been encountered anywhere outside controlled airspace and so programming the C404 pilot's task outside of competition times would have given no guarantee of there being fewer gliders airborne. Members agreed that lookout remains a vital part of operations in Class G airspace, and that see-and-avoid was the most likely barrier to mid-air collision to be effective in this encounter. In the event, the C404 pilot saw a glint from a canopy and then sighted a glider and the Board commended him for taking swift action in manoeuvring his aircraft away from the glider to achieve a reported 0.5nm of lateral separation, which most members considered to be a 'normal' degree of separation in a Class G VFR environment (**CF4**).

The Board then discussed other potential barriers to the mid-air collision risk, such as on-board collision warning systems (CWS) or augmenting the lookout capability through the use of another crewmember, and noted that the C404's operating authority had tasked the aircraft to conduct a survey without an on-board CWS and with only a single pilot. Members went on to discuss the requirements of EASA Part-SPO[4] and, in particular, AMC2 SPO.OP.230, and wondered if the C404 operating authority's risk assessment for the activity took full account of the availability and effectiveness, or otherwise, of the barriers to MAC in all areas and at all times of their operations. Board members agreed that single-pilot operations at low-level with neither a serviceable on-board CWS nor a supplementary crewmember to augment lookout led to the C404 pilot having no situational awareness of the presence of the glider until he sighted it (**CF3**). The Board therefore felt that there was scope for further mitigation, particularly given the operating areas and altitudes of aircraft routinely conducting survey work, and resolved to recommend that, 'The C404 operating company considers further mitigations to MAC for survey operations' and that 'The CAA considers mandating additional cockpit crew to enable enhanced lookout for single-pilot survey operations'.

Turning to the actions of the Birmingham controller, the Board commended his passing of generic Traffic Information of glider activity to the C404 pilot on initial contact (**CF3**) and agreed that, with only information of glider activity through the NOTAM system (**CF1**), there was little more that he could have done. There had been no primary or secondary radar return on the controller's screen in the vicinity of the reported Airprox, so the controller had had no way of identifying the confliction (**CF2**).

When considering the risk, the Board based their assessment on the C404 pilot's assessment and report of separation (0.5nm) and concluded that he had effectively removed the risk of collision by his action. Some members felt that safety had nonetheless been degraded (Category C), whilst others argued that his actions represented normal safety standards and procedures in VFR Class G airspace (Category E). The Chair took a vote and the majority view was for the latter assessment.

[4] https://www.easa.europa.eu/sites/default/files/dfu/Consolidated%20unofficial%20AMC%26GM_Annex%20VIII%20Part-SPO.pdf

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2019227		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
2	Human Factors	• Conflict Detection - Not Detected	
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
3	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• See and Avoid		
4	Human Factors	• Monitoring of Other Aircraft	Sighting report

Degree of Risk: E

Recommendations:

1. The C404 operating company considers further mitigations to MAC for survey operations.
2. The CAA to consider mandating additional cockpit crew to enable enhanced lookout for single-pilot survey operations.

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:

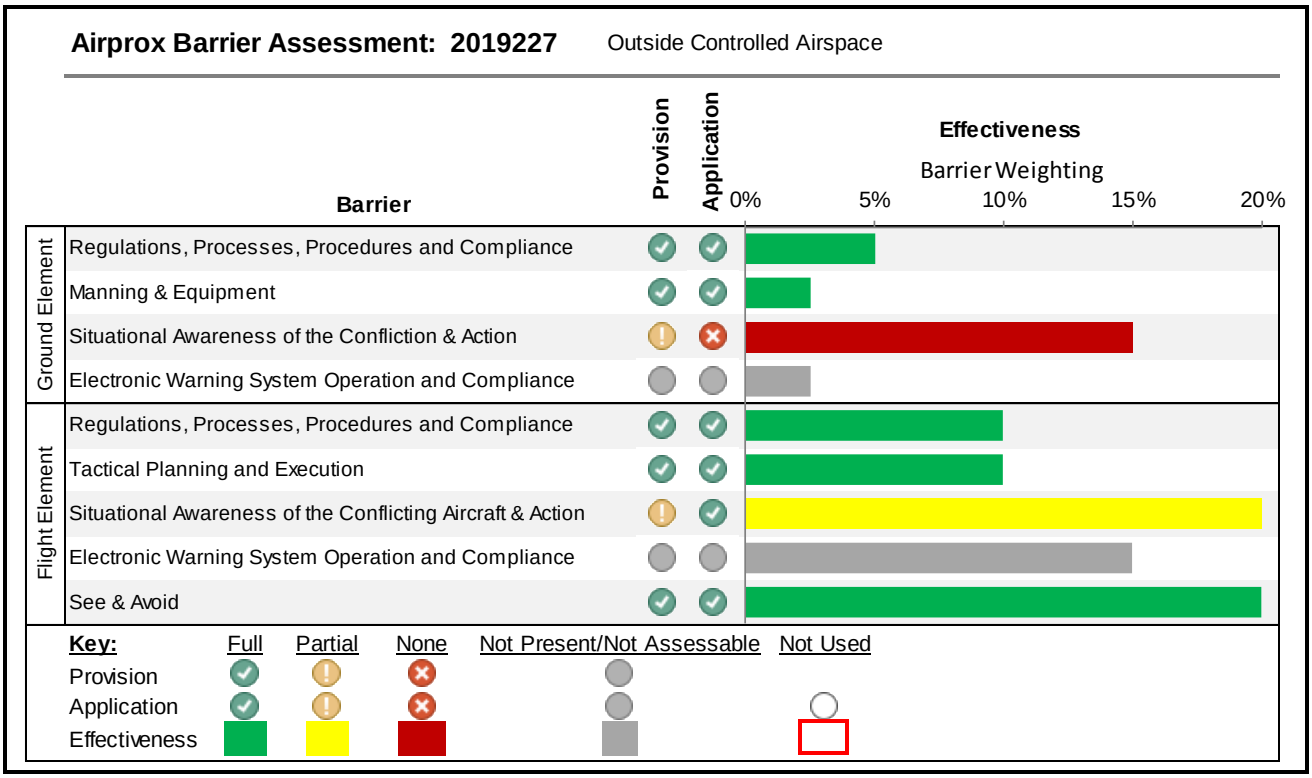
Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the controller had only generic information from NOTAMs regarding glider activity and the Airprox glider did not display on the radar screen.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the C404 pilot had only generic information on glider activity as passed by the Birmingham controller.

[5] 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: 2019227
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