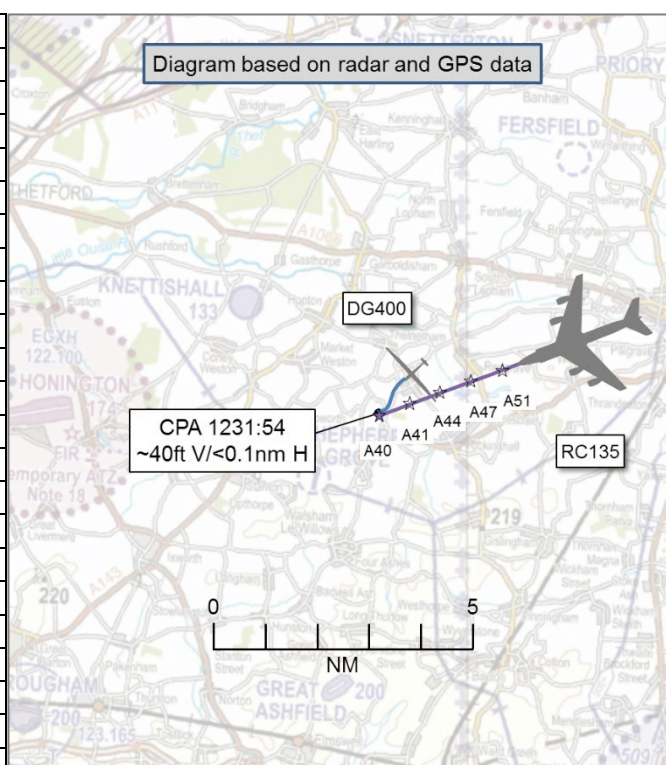


AIRPROX REPORT No 2019142

Date: 06 Jun 2019 Time: 1232Z Position: 5220N 00057E Location: 17NM E Mildenhall

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DG400	RC135
Operator	Civ Gl'd	Foreign Mil
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	IFR
Service	None	Unknown
Provider	N/A	Lakenheath
Altitude/FL	4040ft	4000ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White, red	White, grey
Lighting	Not fitted	NK
Conditions	VMC	VMC
Visibility	50km	10km
Altitude/FL	4019ft	4000ft
Altimeter	GPS	NK
Heading	210°	270°
Speed	65kt	180kt
ACAS/TAS	FLARM	TCAS I
Alert	None	None
Separation		
Reported	0ft V/100m H	0ft V/<0.3NM H
Recorded	~40ft V/<0.1NM H	



THE DG400 PILOT reports gliding on a leg from Tibenham to Cambridge, avoiding the Lakenheath MATZ. His general track was 210° but he had just turned on to 190° when he saw a 'KC135', he thought, to his left on a westerly heading at the same level and on a collision course. He turned to the right and watched the 'tanker' go past. He was shocked at how close it came. He did not see the 'KC135' take any action. He resumed heading of 210° and encountered strong wake turbulence. He also called Lakenheath on R/T and reported the Airprox.

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

THE RC135 PILOT reports that they were on final approach to RW29 at RAF Mildenhall, being vectored to intercept the localiser. As they approached their final course, the co-pilot noticed a glider out of the right window, co-altitude and within 2000ft laterally. The pilot noted that they were being vectored in a known traffic corridor and that the glider did not display on TCAS. There was no apparent communication between the glider pilot and ATC with regard to his position and intent. The glider was operating below a scattered cloud deck as they descended to approach altitude. Lakenheath approach made multiple traffic calls due to increased glider activity in the local area but was unable to track the subject glider due to the lack of a transponder. The crew had an observer in the jump seat but did not see the glider until it climbed and turned away from them. The pilot noted that it was impossible to see the glider, wings level, silhouetted against the scattered cloud layer. Ultimately, they were not forced to alter their flight path to avoid the glider and were able to completed the approach safely.

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

THE LAKENHEATH CONTROLLER did not file a report for National reasons.

Factual Background

The weather at Lakenheath was recorded as follows:

METAR EGUL 061256Z 24014G17KT 9999 SCT046 19/07 A2982 RMK A02A SLP101 T01910072 \$=

Analysis and Investigation

UKAB Secretariat

The DG400 and RC135 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as converging then the RC135 pilot was required to give way to the DG400².

Summary

An Airprox was reported when a DG400 and an RC135 flew into proximity at 1232Z on Thursday 6th June 2019. Both pilots were operating in VMC, the DG400 pilot under VFR not in receipt of a FIS, the RC135 pilot under IFR but under an unknown FIS.

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.

Members first questioned the lack of a report from the Lakenheath controller and were advised that USAFE-UK were currently examining questions of liability, accountability, privacy and security concerning foreign nationals partaking in the Airprox process. The Board understood the USAFE-UK position and hoped that the issue could be resolved constructively and quickly.

From the RC135 pilot's report, it was evident that the Lakenheath controller had passed Traffic Information on glider contacts in the area. However, given the vectors passed to the RC135 pilot, the Board surmised that the controller did not have specific situational awareness of the DG400 on radar (**CF1**) and consequently could not detect the conflict (**CF2**). Similarly, without the availability of such assistance from the controller, it appeared that the RC135 crew had no way of gaining situational awareness specific to the DG400 (**CF3**). Some members wondered whether the RC135 pilot was aware of his responsibility to give way to gliders, whether or not he was 'being vectored in a known traffic corridor' but, ultimately, the Board agreed that in this case it appeared the RC135 crew had not detected the DG400 until at or about CPA anyway, and so the point was somewhat redundant (**CF5**). That being said, operating large aircraft with reduced lookout capabilities in Class G see-and-avoid airspace required robust mitigation strategies, especially when doing so in areas where other aircraft might not be visually significant or equipped with any electronic conspicuity.

Members noted that several factors had contributed to the late sighting by both pilots: the relatively poor contrast of a white glider against the scattered cloud background; the lack of compatible electronic conspicuity devices (**CF4**), and the relative geometry of the RC135 closing from astern the DG400. Members discussed whether the DG400 pilot could have usefully been in R/T contact with Lakenheath in order to inform them of his intentions but agreed in the end that the glider pilot could reasonably have been in contact with a number of agencies in the area in which the conflict occurred (Norwich, Marham, Wattisham, Farnborough, London Information or Lakenheath) and so the use of a particular frequency for any of those units' benefit would largely be a matter of fortuitous selection. That being said, as he tracked further towards the Mildenhall approach path at 4000ft, there was increasing relevance in him establishing contact with Lakenheath, the radar controlling agency for Mildenhall, if he was able.

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.

In the event, the DG400 pilot saw the RC135 at what the Board considered to be a late stage (**CF6**) and took avoiding action. For their part, it seemed that the RC135 crew did not see the DG400 in time to take any effective avoiding action, albeit they were able to assess that sufficient separation had been achieved by the glider pilot. Noting the actual achieved separation as derived from comparison of the RC135 radar track and the glider's GPS data file, members agreed that the separation at CPA and the DG400 pilot's report indicated that safety had been much reduced below the norm. Accordingly, the Board assessed the risk as Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2019142			
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
• Electronic Warning System Operation and Compliance			
4	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
• See and Avoid			
5	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
6	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B.

Recommendation: Nil.

Safety Barrier Assessment³

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 Lakenheath controller did not detect the DG400.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the RC135 crew were not aware of the proximity of the DG400 and therefore could not give way or take avoiding action before CPA.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because neither aircraft's traffic alerting system was compatible with the other aircraft.

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

See and Avoid were assessed as **partially effective** because the DG400 pilot saw the RC135, albeit at a late stage, and took avoiding action.

