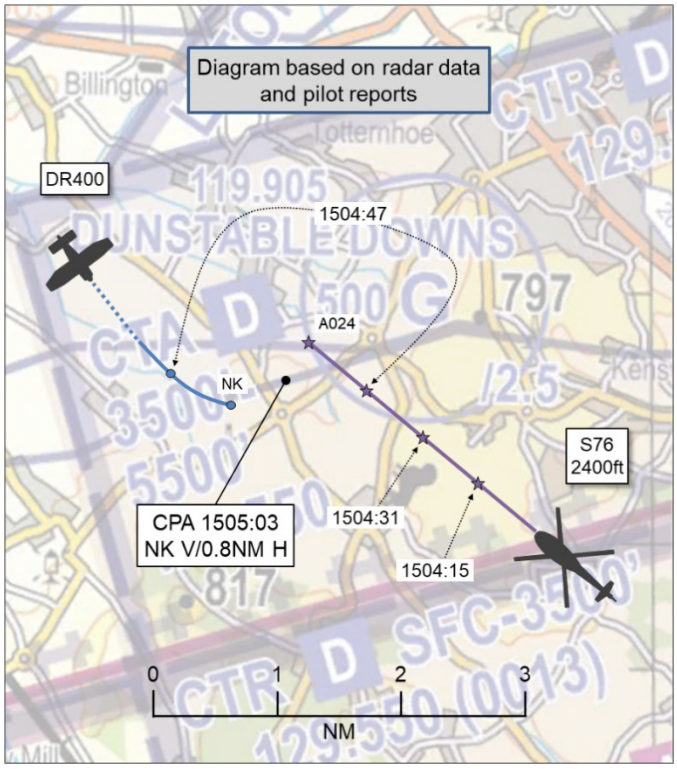
AIRPROX REPORT No 2024011

Date: 26 Jan 2024 Time: 1505Z Position: 5152N 00035W Location: 1.5NM WSW Dunstable Downs

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DR400	S76
Operator	Civ FW	Civ Comm
Airspace	Luton CTR	Luton CTR
Class	D	D
Rules	VFR	VFR
Service	None	Radar Control
Provider	N/A	Luton Radar
Altitude/FL	NK	2400ft
Transponder	Off	A, C, S
Reported		
Colours	White, red	White, green, yellow
Lighting	Beacon, landing, taxy	Nav, anti-col, strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1000ft	2400ft
Altimeter	QFE	QNH
Heading	"*rate 3 turn*"	NK
Speed	105kt	145kt
ACAS/TAS	FLARM	TAS
Alert	None	None
Separation at CPA		
Reported	200ft V/600m H	"*not seen*"
Recorded	NK V/0.8NM H	



THE DR400 PILOT reports that they were engaged in glider aero-towing operations from London Gliding Club at Dunstable Downs. The glider was released at 1000ft QFE.

Owing to the proximity of a noise-abatement area, the DR400-tug pilot could only make a minimal right turn (the norm after release). After ensuring vertical separation from the glider, they commenced a steep left turn through approximately 230° to position for recovery and to ensure they passed comfortably below the glider. About halfway through the manoeuvre, they saw a helicopter in straight-and-level flight heading towards them, slightly above their altitude. They believe it was an Agusta, possibly an A109 (it had retracted undercarriage).

It was immediately obvious that they would be close but, by continuing, their paths would not result in collision as the helicopter was above them. They continued the turn and passed far enough behind and below the helicopter to be comfortable, but not so far that the vortex would be an issue. The incident was nominally low-threat but the cause may be worth examination: London Gliding Club operates inside Luton's Airspace under a Letter of Agreement (LoA) and does not possess an ATZ. This encounter would have occurred inside the ATZ had there been one. At a practical level, it happened in the normal area for a glider circuit.

[The pilot of the DR400 opines that] they have no doubt the helicopter pilot was on a valid path, controlled by Luton. The LoA works very well, but a possible issue is that Dunstable Downs airfield is at the foot of the Chiltern Ridge, so traffic approaching from the east, through south-east to south at low levels will be unable to visually acquire the airfield and its environs until they are already in the circuit area and so may be less able to evaluate the likely position of glider and tug traffic. Had the glider remained on-tow to a more normal 2000ft, the helicopter would have overtaken close to the combination from behind.

They saw no evidence that the helicopter pilot had seen them, although the pilot may well have made the same judgment (that no manoeuvring was required). Another helicopter passed through this area at a higher level earlier in the day. They submitted this Airprox report to highlight that the nature of the terrain makes timely visual acquisition of Dunstable Downs airfield impossible from this flight direction and altitude and, as such, it may be necessary for Luton's procedures to offer more explicit guidance to traffic of this type.

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

THE S76 PILOT reports that, due to the time elapsed since the incident, they regret that their memory of the details of the flight are a little vague. That said, they have no recollection of seeing an aircraft at the time. However, if the reported position is correct, they would have been in Luton's controlled airspace and in receipt of a Radar Control Service. They do not recall the Luton [controller] alerting them to the presence of another aircraft in the area near Dunstable Downs or indeed for any of their transit through their CTA/CTR. Any other aircraft in that area would have also been in controlled airspace. As they passed the glider site, they were above the area that is delegated to gliding and other activity, which extends vertically to 1500ft [they believe]. No TAS Traffic Alert was triggered.

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

THE LUTON RADAR CONTROLLER reports that they have subsequently been advised that a glider pilot, [who had not been on their frequency] had filed an Airprox. The other pilot involved was [flying in the S76], to whom they were providing a service at the time. [The pilot of the S76] did not mention the close proximity of other traffic.

Factual Background

The weather at Luton was recorded as follows:

```
METAR EGGW 261520Z AUTO 28013KT 9999 NCD 07/M01 Q1031
METAR EGGW 261450Z AUTO 27012KT 9999 NCD 08/M00 Q1031
```

The entry in CAP493, Section 1, Ch.5. Integration of VFR Flights with IFR Traffic in Class D CTR/CTA/TMA provides the following guidance:

3. Control of VFR Flight

3.1 [..] Separation standards are not prescribed for application by ATC between VFR flights or between VFR and IFR flights in Class D airspace. However, ATC has a responsibility to prevent collisions between known flights and to maintain a safe, orderly and expeditious flow of traffic. This objective is met by passing sufficient Traffic Information and instructions to assist pilots to 'see and avoid' each other as specified at Section 3, Chapter 1, paragraph 2A.2. [reference unavailable].

Analysis and Investigation

CAA ATSI

ATSI has reviewed the information available against the NATS report which is very comprehensive and has nothing further to add.

NATS Unit Investigation

Executive summary:

The pilot of [the S76] was given a VFR clearance by the Luton Intermediate Director to transit Luton controlled airspace, to the west of Dunstable Downs, and informed of Dunstable gliding activity. The pilot of [the DR400, flying] the Dunstable Downs' 'tug' aircraft subsequently reported an Airprox with [the S76] as they passed 1NM WSW of Dunstable Downs airfield. The pilot of [the DR400] was not in communication with the Luton Intermediate Director and the pilot of [the S76] did not report an Airprox on the frequency.

Description of the event:

The Luton Intermediate Director (GW INT) was experiencing high workload. In addition to providing a Radar Control Service to commercial traffic, multiple GA pilots were requesting a Traffic Service outside controlled airspace (CAS) and CTR transits. At 1456:29 (all times UTC) the controller began to limit service provision outside CAS in accordance with CAP774.

Dunstable Downs gliding area, situated predominantly within the Luton CTR (Class D), was active in Areas 1 and 5 which had been promulgated to the Luton Approach function as required for RW25 Luton operations.

A Letter of Agreement (LoA) between NATS and the London Gliding Club established procedures for the use of the area by gliders operating VFR without being in communication with the GW INT controller.

The pilot of [the S76] contacted the GW INT frequency at 1457:32 and requested "*to cross through the [Luton] overhead and then northbound.*" The GW INT responded, "*it's a bit busy for that I'm afraid, I can give you west of Dunstable?*". This was agreed by the pilot and a clearance issued to "*transit controlled airspace remaining west of Dunstable Downs not above altitude two thousand four hundred feet VFR*", which was read back correctly. The pilot was then also informed "*just to confirm, it's a reduced Traffic Service due to controller workload*" which was acknowledged.

The pilot of [the S76] was informed they were receiving a Radar Control Service (RCS) at 1501:29 and told "*Dunstable are gliding just north of the centreline there, so keep a good lookout as you go through their airspace*". [The S76 pilot] entered the Luton CTR at 1503:58. A primary contact, tracking north-west, had just ceased displaying on radar to the north-west of the gliding area (see Figure 1).

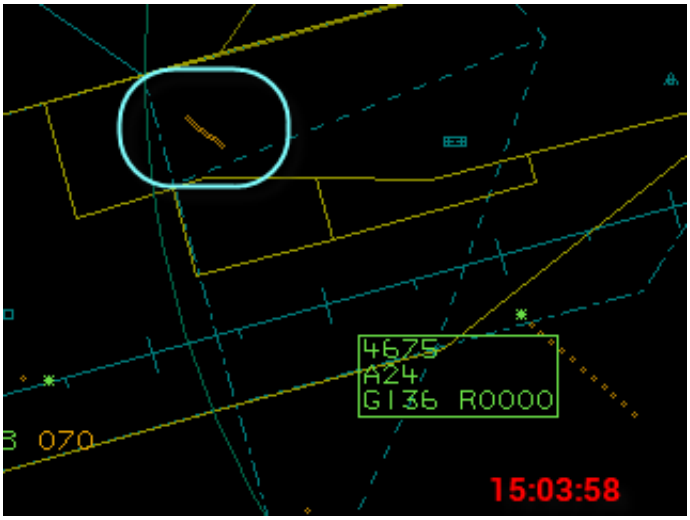


Figure 1 – The trail of a primary-only contact.

As [the S76] continued on the same track, a primary contact appeared at 1504:26, potentially related to the previous track (see Figure 2). Note: This primary target correlated to the position reported to UKAB by the pilot of [the DR400].

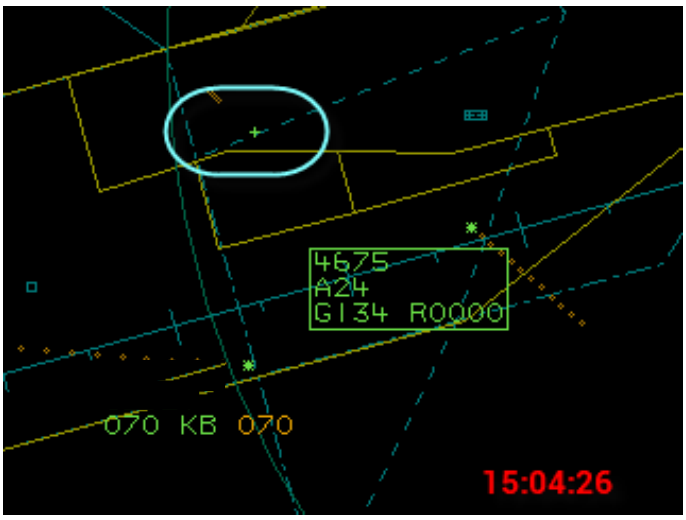


Figure 2 – A primary-only contact appeared.

Controller workload remained high for the next three minutes, as indicated by the RT occupancy graph. A number of telephone co-ordinations were also carried out during this period.

No Traffic Information was passed to the pilot of [the S76] on this primary contact, potentially due to controller workload at the time. As the returns passed abeam each other, the primary contact turned immediately left to track behind, resulting in a closest point of approach of 0.7NM laterally (see Figure 3). The pilot of [the S76] did not report an Airprox on the frequency.

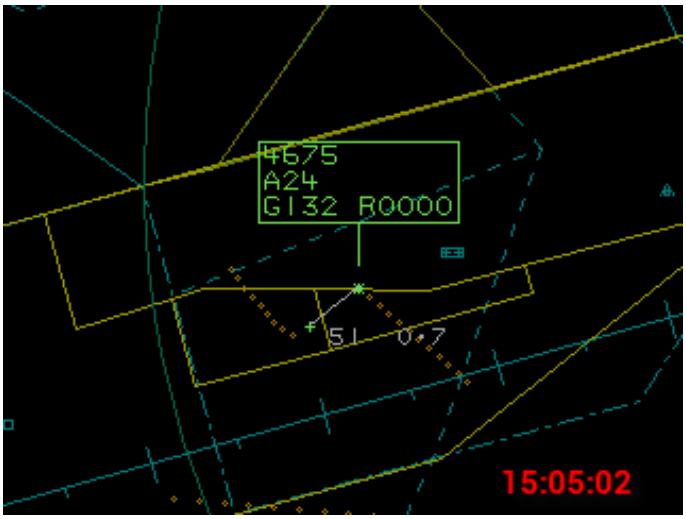


Figure 3 – Possible CPA.

A further primary contact appeared at 1505:22, passing 0.8NM to the west of [the S76] at 1505:34, however, the trajectory of the first contact suggested this was more probable to have been [the DR400]. [The S76 pilot] vacated the Luton CTR at 1505:40 and was subsequently provided with a reduced Traffic Service at 1506:26.

Investigation:

Information available to the investigation included:

- CA4114 from the Luton Intermediate Approach Controller (GW INT).
- LoA NATS/London Gliding Club April 2023.
- ATM Procedures document 'London Gliding Club (LGC) Safety Review of TC Luton VFR/SVFR Procedures' (November 2020).
- 1:500,000 VFR Chart.

Airprox Event:

UKAB notification confirmed on the 19th February 2024, the conflicting aircraft were [the DR400], operating as the Dunstable Downs tug aircraft and [the S76] routing from [take-off airfield] to a private landing site [in the north of England]. The location of the confliction was reported as being 1.5NM WSW of Dunstable Downs at 1505.

Radar data correlated with the above Airprox report, with the location being approximately 1NM WSW of Dunstable Downs airfield. No transponder information was received from [the DR400] and therefore the identity of the aircraft could not be confirmed. Due to controller workload, the GW INT informed pilots operating outside CAS that they were receiving 'Reduced Traffic information' advice.

CAP774 1.11 details:

> 'In high workload situations, which may not always be apparent from RTF loading, controllers/FISOs may not always be able to provide timely traffic information and/or deconfliction advice. High workload situations may not necessarily be linked to high traffic density.
>
> High traffic density can cause difficulty interpreting ATS surveillance system data and may affect RTF loading or controller/FISO workload to the extent that the controller/FISO is unable to pass timely Traffic Information and/or deconfliction advice on all traffic'.

The GW INT initially refused the pilot of [the S76] their request to transit through the Luton overhead due to workload and traffic, offering an alternative transit to the west of Dunstable Downs. Information on the gliding activity was passed.

As the pilot of [the S76] was provided with an RCS, no primary or secondary tracks were visible on radar, however a primary contact subsequently appeared to the north-west of the Dunstable gliding area as [the S76] routed west of the airfield on a north-westerly track (see Figure 3). No Traffic Information was passed on this primary track, potentially as a result of controller workload at the time (see Figure 4). The lateral distance between the two tracks maintained at 1.1NM prior to the primary return turning an acute left turn onto a track that would pass behind [the S76], reducing the closest point of approach to 0.7NM.

Note: UKAB had previously informed Safety Investigations that the pilot of [the DR400] had reported a confliction with another aircraft at 1338, however clarification was received the conflicting aircraft was identified as [the S76].

[DR400] Conspicuity:

With the exception of [the S76], no other transponding aircraft were observed operating within the Dunstable Downs area at the time of the Airprox.

The track assessed as [the DR400] was not displaying Mode A (7010 conspicuity squawk for Dunstable Downs tug) or Mode C. The Letter of Agreement (LoA) between NATS and London Gliding Club stipulated in section A.3.1.2:

> 'With the exception of gliders, it is a legal requirement for any transponder equipped aircraft operating under the terms of this agreement within the area of operation shall utilise the transponder to the maximum serviceable extent, selecting SSR code 7010 with altitude information selected.'

This was also in accordance with SERA 13001 Operation of an SSR transponder which specifies:

> 'When an aircraft carries a serviceable SSR transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.'

Previous events (OBS-166736 – Aug 2022, OCC-167575 – Sep 2022) highlighted issues caused to Luton Approach controllers regarding tug aircraft not displaying Mode A and/or Mode C and the subsequent impact on the approach function.

ATC/pilot procedures in relation to Dunstable Downs:

The entry in the UK AIP for EGGW AD 2.22-8 details:

> 'Intense gliding, hang-gliding and paragliding activity takes place with winch cables up to 2500ft QNH during daylight hours at Dunstable Downs.'.

and advises:

> 'Pilots of aircraft operating under VFR, or on a Special VFR clearance are advised to avoid these areas if at all possible. In addition, pilots operating on a Special VFR clearance are advised that due to the nature of these activities they cannot be given separation from gliders, aircraft towing gliders, hang-gliders, paragliders or microlights within these designated areas. Traffic Information will NOT be passed by ATC.'.

The Letter of Agreement (LoA) between NATS and the London Gliding Club states (A.2.1.2.2):

> 'TC Luton will advise all VFR/SVFR transit flights of the intense gliding activity and if necessary, shall advise the pilot to avoid the immediate vicinity of Dunstable Downs whenever Dunstable 07 Airspace or Dunstable 25 Airspace has been activated.'.

The LTC MATS Part 2 LTN 10.5 provided LTC Luton procedures regarding gliding activity within the Dunstable Downs areas and the Chiltern Ridge Soaring Area. 10.5.9 detailed:

> 'If a VFR/SVFR Luton arrival, departure or transit is likely to route through any activated airspace, TC Luton shall notify the pilot of the intense gliding activity and if necessary, shall advise the pilot to avoid the immediate vicinity of Dunstable Downs. TC Luton shall pass generic Traffic Information based on reported or observed activity.'

The Dunstable Downs airfield was annotated on the VFR chart as an area surrounding the airfield and not the entire gliding areas as depicted in LTC MATS Part 2 LTN (see Figure 4 and 5). As such, pilots were potentially unaware of the scope of the activity and may assume gliding/winch activity was limited to the depicted area at altitude 2500ft, whereas the entire Dunstable gliding area is active in places up to altitude 4500ft within the Luton CTA.

Figure 4 (VFR Chart)

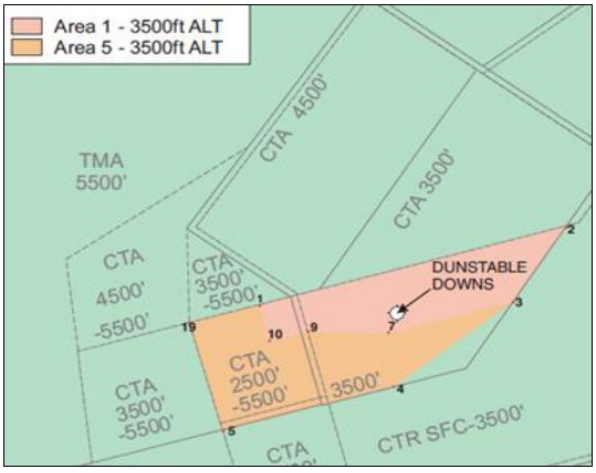


Figure 5 (LTC MATS Part 2 LTN Chart)

The Chiltern Soaring Ridge area, an extension of the Dunstable gliding area, was also not depicted on the VFR chart. The UK AIP provided lat/long co-ordinates of the extended gliding areas with altitude limits displayed, in addition to a chart displaying ATS Airspace Vertical Limits (see Figure 6), however these limits were not transposed onto the VFR chart.

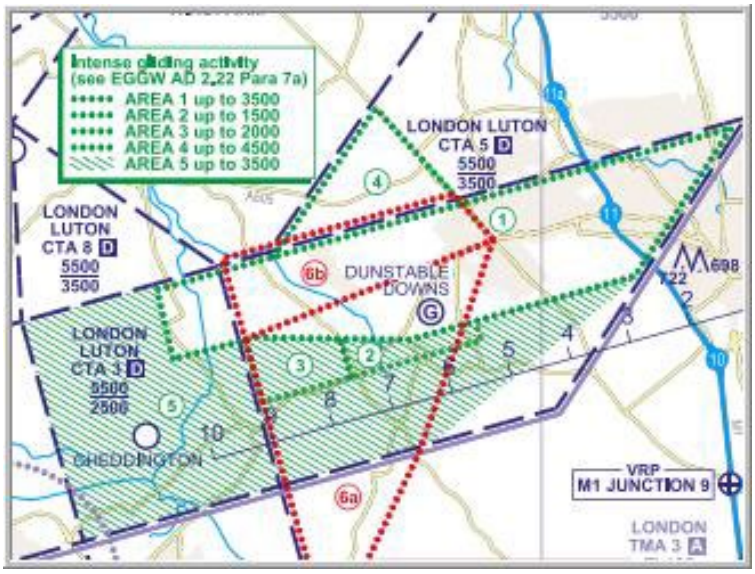


Figure 6 - ATS Airspace Vertical Limits

The GW INT complied with the requirements in regard to the VFR transit of [the S76] to the west of Dunstable Downs, informing the pilot that gliding activity was taking place. Although Traffic Information on individual primary targets was not provided, the workload of the GW INT at the time would potentially have precluded them from observing intermittent primary activity. Due to time elapsed between the event and notification from UKAB (received 19th February 2024), the GW INT report stated they had no recollection of the event.

Conclusions:

Causal Factors:

The pilot of [the S76] had initially requested a transit of the Luton CTR via the Luton overhead, however, this was refused due to busy traffic levels and controller workload. A transit to the west of Dunstable Downs was subsequently agreed.

As [the S76] entered the Luton CTR on a RCS, the GW INT provided information on glider activity and advised the pilot to keep a good lookout.

As [the S76] entered controlled airspace, a primary contact appeared on an opposite direction track, approximately 1NM west of the aircraft track. During a period of high frequency occupancy, Traffic Information was not passed by the GW INT to the pilot of [the S76]. This contact ceased to display shortly afterwards, with subsequent primary contacts intermittently observed.

The pilot of [the DR400] subsequently submitted an Airprox report to UKAB regarding a confliction with [the S76] that occurred 1NM WSW of Dunstable airfield.

As [the S76] passed abeam the reported position of the Airprox, a primary radar contact was visible. The reporting pilot was operating a DR400 ‘tug’ aircraft with no transponder information evident, potentially not in accordance with regulation and stipulated within the LoA.

As part of this investigation, it was observed that VFR charts did not depict the extent of the Dunstable Downs gliding area and its varied altitude limits. Pilot awareness of glider traffic locations on a VFR transit may therefore be uncertain and limited to the area surrounding Dunstable airfield.

The closest point of approach between [the S76] and [the DR400] was assessed from NODE radar as 0.7NM laterally. The Mode C of [the S76] recorded the aircraft at 2400ft, however no height information was available for [the DR400] and therefore no assessment of vertical separation could be made.

Recommendations and Actions:

Actions already taken: Previous event APX-152276 identified two recommendations around NATS procedures around aircraft transiting Dunstable Downs. These recommendations:

- Aligned wording between NATS documents and LoA.
- Reviewed MATS Pt 2 procedures for aircraft transiting Dunstable Downs and assessed no change to procedure was required.

In this scenario, the Luton Approach controller fulfilled their MATS Part 2 and defined responsibilities in advising a transiting aircraft reference Dunstable Downs and it remains a pilot's responsibility to see and avoid potential conflicts.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The S76 could be positively identified from Mode S data. A primary-only contact was observed in the vicinity of the S76 which, by reference to the narrative report provided by the pilot of the DR400, was assessed to have been the DR400 (Figure 7). The diagram was constructed and the separation at CPA determined from the radar data.

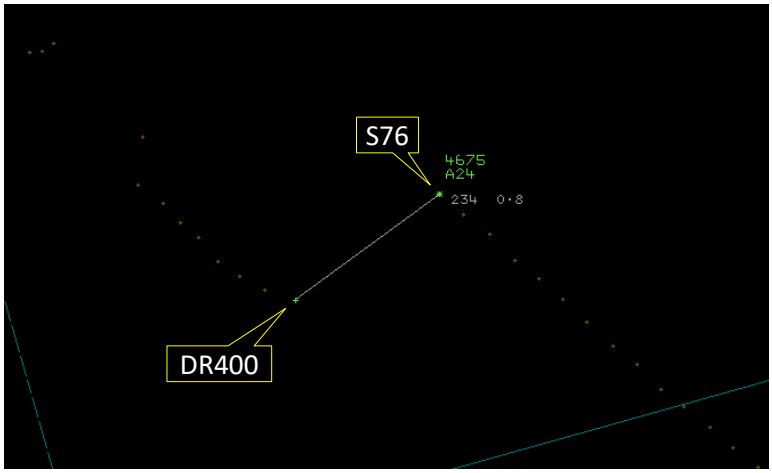


Figure 7 – CPA at 1505:03

The DR400 and S76 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] When an aircraft carries a serviceable SSR transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.[3]

Comments

BGA

Dunstable Downs airfield is a very busy gliding site, active 7 days per week, year-round. London Gliding Club has been based there since 1930, coexisting amicably with nearby Luton Airport since it opened in 1938. The current framework for this cooperation is a Letter of Agreement with NATS (which operates the Luton CTR and CTA) that authorises LGC gliders, tugs and tug/glider combinations to fly within designated sections of the Luton Class D airspace without establishing radio contact with NATS controllers. These LoA arrangements are summarised in Luton's AIP entry

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[3] (UK) SERA.13001 Operation of an SSR transponder.

(see AIP EGGW AD 2.22-8 "Gliding, Hang-gliding, Paragliding and Microlight Activity - Luton CTR/CTA" and AD 2-EGGW-4-1).

When Luton is using RW25, as on this day, gliders, tugs and tug/glider combinations operating under the LoA fly in Dunstable Gliding Areas 1 and 5 (as shown in Figure 8) at up to 3500ft AMSL without directly contacting NATS controllers. In addition, gliders are winch-launched from Dunstable Downs airfield to altitudes up to 2500ft AMSL, as notified in AIP ENR 5.5 and indicated by the '/2.5' adjoining the airfield symbol on CAA VFR charts. Overflying this or any other glider winch site below its notified maximum winch altitude risks encountering high-tensile-strength cable connecting a launching glider to the winch on the ground.

As the Board has previously noted, pilots operating in Class D airspace under VFR are responsible for their own separation from other aircraft (see GM1 SERA.8015(a)). While such VFR flights do, in general, receive Traffic Information in respect of all other flights and traffic avoidance advice on request (SERA.6001(a)(4)), AIP EGGW AD 2.22-8 notes that "Intense gliding, hang-gliding and paragliding activity takes place" within the Dunstable Gliding Areas, where "Traffic Information will NOT be passed by ATC", and that "Pilots of aircraft operating under VFR, or on a Special VFR clearance are advised to avoid these areas if at all possible."

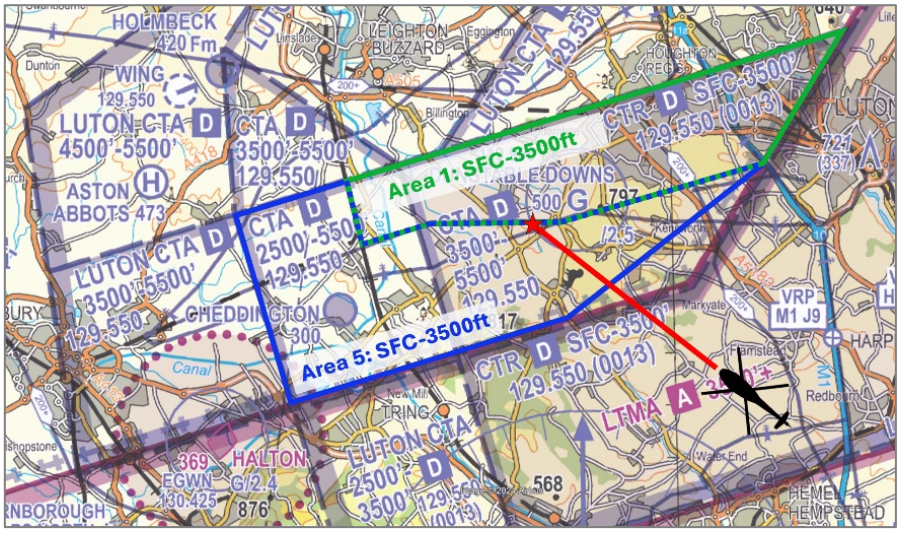


Figure 8 - Dunstable gliding areas active at the time of the Airprox

Summary

An Airprox was reported when a DR400 and an S76 flew into proximity 1.5NM west-southwest of Dunstable Downs at 1505Z on Friday 26th January 2024. Both pilots were operating under VFR in VMC, the DR400 pilot not in receipt of an ATS and the S76 pilot in receipt of a Radar Control Service from Luton Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate operating authorities. 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 pilot of the S76, and members noted that they had been refused an overhead crossing of Luton due to the controller's high workload. Surmising that the Luton controller had identified a suitable gap in departures from Luton, a transit of controlled airspace to the west of Dunstable Downs had been offered which the S76 pilot had accepted. Members noted that the pilot of the S76 pilot had been in receipt of a reduced Traffic Service when outside controlled airspace which had converted to a Radar Control Service (RCS) once within the bounds of the Luton CTR. One

member suggested that operating under an RCS may have provided the S76 pilot with a feeling of additional 'protection', albeit erroneously, regarding separation from other aircraft.

Members noted that the Luton controller had passed a caution that "*Dunstable are gliding just north of the centreline there, so keep a good lookout as you go through their airspace*" and turned to the selection of the specific route 'west of Dunstable' chosen by the pilot of the S76.

Members noted that the symbol depicting Dunstable Downs on VFR navigational charts is a circle with a scaled-radius of 1NM. It was noted that the area delegated to glider activity, as listed in the AIP entry for Luton, described a considerably larger area. Further, members noted that the delegated area had been sub-divided into 5 distinct areas with varying vertical limits, each active or otherwise according to the runway direction at Luton. Members felt that the pilot of the S76 may not have appreciated the extent of the gliding activity at Dunstable Downs when they had routed approximately 1NM to the west of the 'centre of the circle' on the VFR navigational chart. It was agreed by members that it would have been most prudent to have selected a course further westwards.

Turning their attention to the actions of the pilot of the DR400, members were disappointed that the transponder fitted to their aircraft had been switched off. Notwithstanding that the pilot of the DR400 had not flown in accordance with the Letter of Agreement between the London Gliding Club and Luton Airport, members agreed that, apparently, they had not flown in accordance with the SERA regulation on the operation of a transponder. Regarding the visual acquisition of the S76, it was noted that the pilot of the DR400 had assessed that there had not been a risk of collision and members agreed that they had had ample time to have carefully considered the safest course of action.

Members next considered the actions of the Luton controller. Acknowledging that they had passed a caution to the pilot of the S76 on the gliding activity at Dunstable Downs, some members felt that the generic nature of the caution (that there had been "*gliding just north of the centreline")* may not have been adequately descriptive of the extent of gliding that day. Members turned their attention to the radar replay and noted that a primary-only contact had been observed for approximately 1min leading up to CPA. One member with particular knowledge of Terminal Control explained that the appearance of a primary-only track in the area of intense gliding activity would not, necessarily, have prompted the Luton controller to have passed Traffic Information, particularly when their workload had been high. Indeed, the member recalled the entry for Luton in the AIP under AD 2.22-8d that notes that:

> Pilots of aircraft operating under VFR, or on a Special VFR clearance are advised to avoid these areas if at all possible. In addition, pilots operating on a Special VFR clearance are advised that due to the nature of these activities they cannot be given separation from gliders, aircraft towing gliders, hang-gliders, paragliders or microlights within these designated areas. Traffic information will NOT be passed by ATC.

In conclusion, members were in agreement that the pilot of the S76 had flown into an area of significant glider activity and had, perhaps, not fully appreciated the geographic or vertical extent of gliding operations. It was also agreed by members that the electronic conspicuity of the DR400 had been rendered ineffective by the pilot of the DR400 having switched-off their transponder. Although the pilot of the S76 had not visually acquired the DR400, members were in agreement that the pilot of the DR400 had had plenty of time to have visually acquired the S76 and to have considered the safest course of action. Members were satisfied that normal safety margins had pertained and that the separation between the aircraft had been such that there had not been a risk of collision. As such, the Board assigned Risk Category E to this event and agreed on the following contributory factors:

CF1: The Luton controller had generic situational awareness of gliding activity at Dunstable Downs.

CF2: The pilot of the DR400 had not complied with the Letter of Agreement procedure and SERA regulation in relation to the operation of the transponder fitted to the DR400.

CF3: The pilot of the DR400 had not operated the transponder fitted to the DR400.

CF4: The pilot of the DR400 had not had situational awareness of the presence of the S76 until it had been visually acquired. The pilot of the S76 had generic situational awareness of the presence of gliders at Dunstable Downs.

CF5: The electronic conspicuity equipment fitted to the DR400 would not have been expected to have detected the presence of the S76. The TAS fitted to the S76 was rendered ineffective by the DR400 pilot's transponder selections.

CF6: The pilot of the DR400 had been concerned by the proximity of the S76.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024011			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
2	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	• Tactical Planning and Execution			
3	Human Factors	• Transponder Selection and Usage	An event involving the selection and usage of transponders	
	• Situational Awareness of the Conflicting Aircraft and Action			
4	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			
5	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			
6	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment[4]

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

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the pilot of the DR400 had not complied with the Letter of Agreement procedure and SERA regulation to have operated the transponder fitted to the DR400.

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

Tactical Planning and Execution was assessed as **partially effective** because the transponder fitted to the DR400 had not been operated.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the pilot of the DR400 had not had situational awareness of the presence of the S76 until it had been visually acquired.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the electronic conspicuity equipment fitted to the DR400 would not have been expected to have detected the presence of the S76, and the DR400 pilot's transponder selection defeated the TAS fitted to the S76.