

AIRPROX REPORT No 2023127

Date: 21 Jun 2023 Time: 1027Z Position: 5211N 00010W Location: 1NM W Gransden Lodge

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DR400	RV7
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Unknown
Provider	Gransden Lodge	
Altitude/FL	FL016	NK
Transponder	A, C, S	A, S ¹
Reported		
Colours	White, Red	NR
Lighting	HISLs	Landing
Conditions	VMC	NK
Visibility	>10km	NR
Altitude/FL	1700ft	1500ft
Altimeter	NK	NR
Heading	'Various'	NR
Speed	75kt	NR
ACAS/TAS	FLARM	Other
Alert	Unknown	Information
Separation at CPA		
Reported	50ft V/25m H	200ft V/NR H
Recorded	NK V/0.2NM H	



THE DR400 PILOT reports that they were aerotowing a club two-seater glider to 3000ft in the immediate vicinity of Gransden Lodge gliding site, approximately ½ NM to the west of Little Gransden village. They were conducting a series of turns to port and starboard whilst in the climb, when they were confronted with a black Vans RV aircraft flying at speed from right-to-left at a similar height. Due to the port turn, the view was obscured by the starboard wing angle until the aircraft was seen passing immediately in front, from right-to-left. The Instructor in the towed glider spoke on the R/T at about same time, confirming the proximity of the Vans. There was no time to take avoiding action and, if it had been attempted, it may have caused problems for the combination of tug and glider. The Vans was believed to be on a NE/SW course and made no deviation at all.

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

THE RV7 PILOT reports that there is an LOA between the gliding club and Little Gransden and that the tug and glider were operating in the agreed area and as such, they [the RV7 pilot] were expecting, and had looked out for, traffic in that area. They were descending from the north to join crosswind and when looking out to the east, spotted a tug combination. This was also seen on the 'SafeSky' App. They opined that the other pilot had not seen their landing light, which was always 'on' with the master switch. They noted that they had not seen the DR400's either, presumably because they were higher, at around 1500ft, and the tug was 200ft below them.

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

¹ Mode C not seen on the radar replay.

Factual Background

The weather at Cambridge was recorded as follows:

METAR EGSC 211020Z 23010KT 180V270 9999 SCT032 23/13 Q1016=

Excerpts from the Little Gransden and Cambridge Gliding Club letter of agreement are reproduced below:

4. Aerotowing CGC Tugs will observe the glider exclusion zone, except for the 2 sectors shown on the map.

CGC Tugs planning to transit either of the 2 sectors will give a blind call on departure to Gransden Radio as follows:-

Eastern Sector. Once airborne but before sector entry. E.g. "Gransden Radio, Glider Tug TL climbing through the Eastern Sector"

Northern Sector. Once airborne but before sector entry. E.g. "Gransden Radio, Glider Tug TL climbing through the Dead Side"

N.B. Tug aircraft (where fitted) are to display strobes and landing lights when operating in either Sector

6. Little Gransden Traffic in the Vicinity of Gransden Lodge

Good airmanship decrees that Little Gransden traffic will remain clear of the CGC circuit area, and self preservation dictates that they avoid the winch cable up to 3000' QFE.

Aircraft needing to penetrate Gransden Lodge airspace should at least make a blind call to Gransden Lodge Radio on 131.280 MHz. Most gliders and tugs will maintain a listening watch on that frequency whilst in the vicinity of Gransden Lodge.

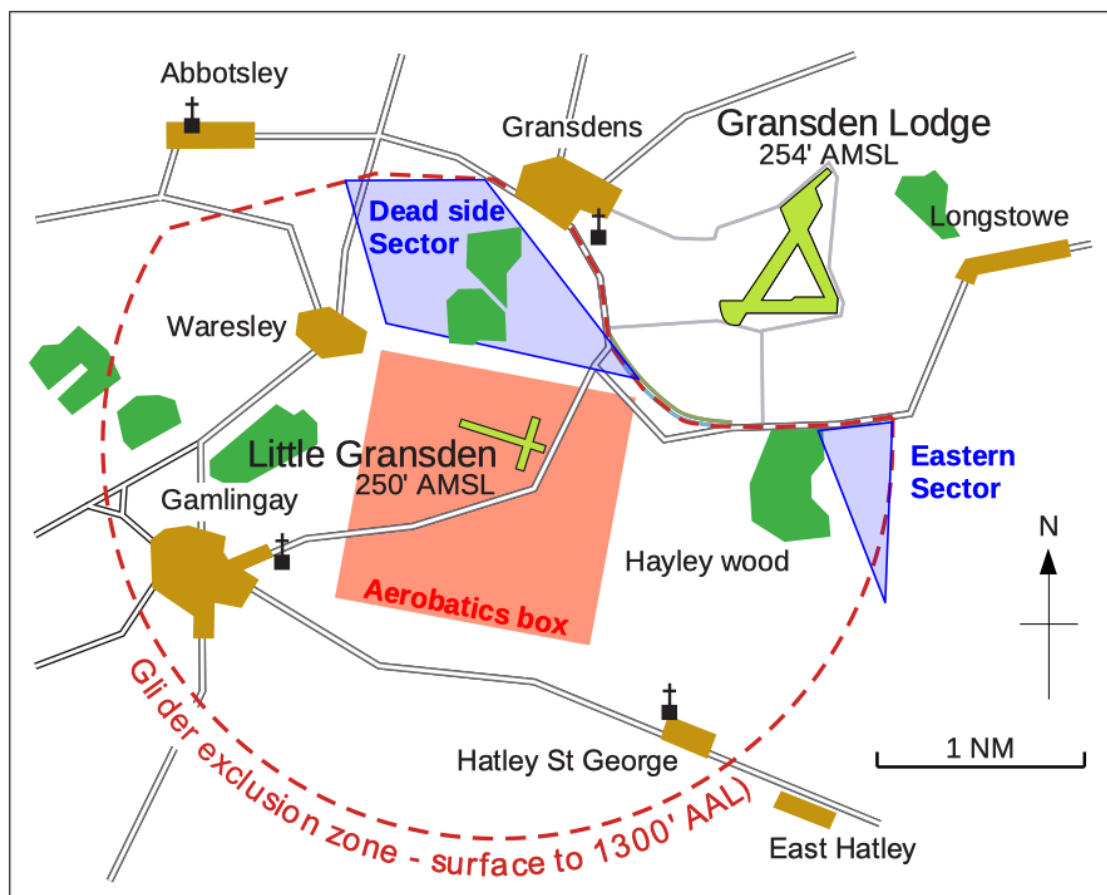


Figure 1

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The RV7 could be identified using Mode S data, however, the Mode C data was not available throughout. The DR400 could not be identified using Mode S data, however, an aircraft with a 0034 squawk (aerial towing) following the route described by the DR400 pilot could be seen (Figure 2).

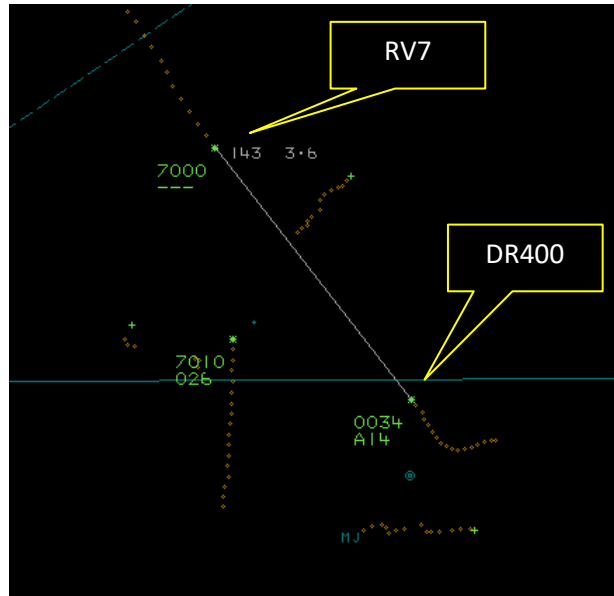


Figure 2 - 1025:54

The two aircraft continued to close (Figures 3 and 4), with the DR400 in a slow climb.

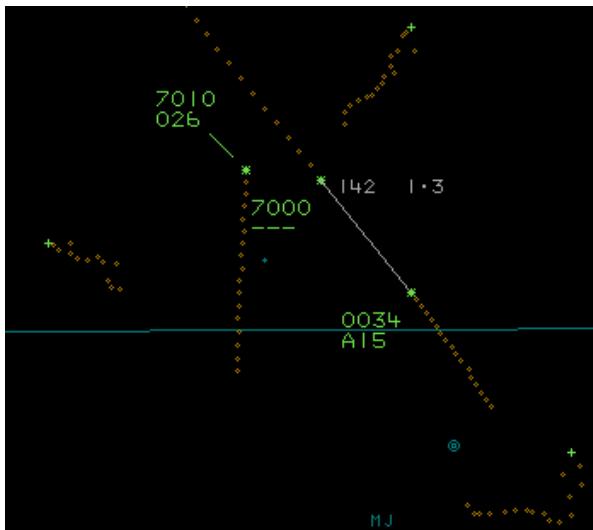


Figure 3 - 1026:30

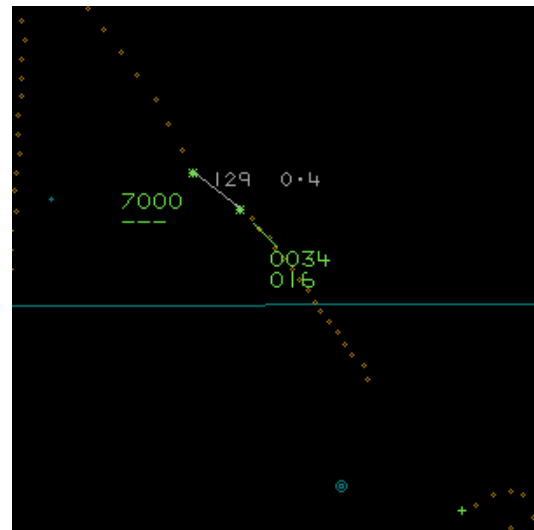


Figure 4 - 1026:46

CPA occurred at 1026:50, radar separation indicated a horizontal separation of 0.2NM. The DR400 was indicating FL016 but the altitude of the RV7 was unknown.

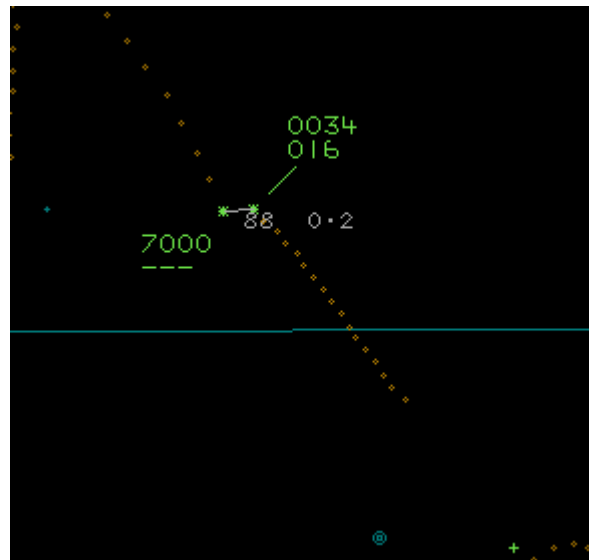


Figure 5 - CPA 1026:50

The DR400 and RV7 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.² If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.³

Comments

AOPA

It is good to see that there is an LoA in place between aerial activity sites providing codes of practice. In a non-radar environment, until there is a standardised electronic conspicuity, effective lookout is the final barrier for mid-air collision avoidance. Thankfully a collision was avoided on this occasion.

BGA

The DR400 aerotow followed procedures laid down in the LoA between the Operator of Little Gransden airfield and Cambridge Gliding Club. The DR400 is fitted with two wing-mounted high-intensity LED landing lights, which are always "on" with the master switch. The aerotow combination began its take-off roll from Gransden Lodge RW22 at 1023:53. The aerotow pilot confirms making the required radio call at about 1024:49, just before entering the "Dead side sector" at 1025:09. The combination turned right as it entered the sector, and exited its northern boundary at 1026:21.

Summary

An Airprox was reported when a DR400 and an RV7 flew into proximity 1NM west of Gransden Lodge at 1027Z on Wednesday 21st June 2023. Both pilots were operating under VFR in VMC, neither was in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs, GPS data from the DR400 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 discussed the actions of the DR400 pilot. They had been towing a glider and as such would have been less manoeuvrable than if they had been flying alone. The Board agreed that they

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

had followed the procedure outlined in the LoA between Gransden lodge and Little Gransden, and had made a call before entering the 'deadside area', the designated area at Little Gransden in which the glider and tug combinations are allowed to transit. This call had ensured that other Little Gransden users had been aware that the tug and glider were flying through. Members were heartened to hear of the existence of the LoA between the two units which, they were told by gliding members familiar with the area, usually worked well. Members briefly discussed whether the tugs and gliders could turn left out of Gransden Lodge to avoid Little Gransden altogether, but were informed that a hard left turn would be required, which could be dangerous for any glider pilots with limited experience. In the event, members noted that the DR400 had actually already flown through the area when the Airprox took place, and therefore this could be considered to have been a standard Class G occurrence. The DR400 pilot had not been receiving an ATS and so the pilot had not received any prior situational awareness that the RV7 had been in the vicinity (CF1). The DR400 pilot had estimated that the RV7 had been only 25m ahead, which members found hard to reconcile with the radar replay which gave a separation of 0.2NM, even taking into consideration the tolerances of the radar coverage, which could be up to 0.1NM adrift, still members thought that the estimation given by the pilot (and supported by the glider pilot being towed) could not be reconciled. In the end members wondered whether the DR400 pilot had been startled by the crossing RV7 which, feeling vulnerable due to their lack of manoeuvrability, had caused them to be concerned by its proximity (CF4).

Turning to the actions of the RV7 pilot, members noted that they had reported being familiar with the LoA and therefore they had expected to encounter gliders being towed in the vicinity. Although the pilot had not reported hearing the DR400 pilot's call on entering the deadside area, the RV7 pilot had reported that they had seen an indication on their SafeSky App (CF2), which had cued them to look for the other aircraft. Once they had seen the DR400, the RV7 pilot had not been concerned by the separation. However, members wondered whether the RV7 pilot could have given the DR400 a greater margin of separation to avoid startling the other pilot (CF3).

When determining the risk, members considered the reports from both pilots together with the radar screenshots and the GPS data provided by the DR400 pilot. They agreed that although the DR400 pilot had been concerned by the proximity of the RV7, because the RV7 pilot had been visual throughout, there had been no risk of collision; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023127			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
1	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				
2	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
3	Human Factors	• Lack of Individual Risk Perception	Events involving flight crew not fully appreciating the risk of a particular course of action	Pilot flew close enough to cause concern
4	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: C.

Safety Barrier Assessment⁴

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the DR400 pilot had received no prior situational awareness that the RV7 would be operating in the area until they became visual with it.

Airprox Barrier Assessment: 2023127		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	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	■	■	■	■	□			

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