



**UK AIRPROX BOARD**

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**Selected extracts from UKAB Reports  
for use by General Aviation Pilots**

**Book Number 12**

**Airprox in UK Airspace  
Involving General Aviation Pilots**

## FOREWORD

Whilst the purpose of this publication remains unchanged - to highlight for the GA community some of the flight safety lessons identified from Airprox events which occurred in UK airspace - the emphasis in this edition is on Airprox involving a powered aircraft and at least one glider.

The particular Airprox in this book have been taken from "UKAB Report Number 14 January 2005 – June 2005", published in February 2006. Some of the tables and figures in the main report, relating to GA, have also been included here, along with a glossary of abbreviations that can appear in Airprox reports and – departure from past practice – some information on an Airprox Board Safety Recommendation. There's more details in UKAB Report Number 14 which is in the 'Publications' section of the recently-improved UKAB website - [www.airproxboard.org.uk](http://www.airproxboard.org.uk)

These 'GA books' are very much the brainchild of Peter Skinner, a Member of the UK Airprox Board since its formation and a GA specialist with a wealth of aviation experience. On this occasion however, the editorial chair is with Hugh Woodsend, the Airprox Board Member who specialises in gliding, a sport which he has enjoyed for 30+ years, with 3,500hrs in his gliding logbook to date. Those gliding hours are just a part of Hugh's aviation experience - over 20,000 hours flight time on 500+ types ranging from GA to large aircraft! And as well as keeping up the gliding and other GA flying, he's current as a test pilot on fast jets. In thanking Hugh for his work on this edition of the UKAB publication for GA aviators, I should add that he and I are advising on a parallel article which will appear in *Sailplane and Gliding* magazine.

Five main themes have been selected for this book: gliding sites, winch launches, speed, aerobatics and airspace. Most of these have featured during the last six months and Hugh has also drawn examples from earlier books to highlight the points. It is hoped that you will find the examples food for thought: all are intended to improve flight safety awareness.

Before inviting you to turn the page, I make no apology for reiterating two points from the Foreword of previous "GA Books". As with all of the UK Airprox Board's activities, there is no intention to allocate blame: the purpose is to find out what happened and then to identify the lessons. In this respect, tribute is again paid to those who reported their experiences honestly and openly so that fellow aviators might benefit.

*Peter Hunt*

Peter Hunt  
Director UK Airprox Board

## INTRODUCTION

### UK AIRPROX RISK CATEGORIES

Risk level assessments are made on the basis of what actually took place and not on what may or may not have happened. There are four agreed categories as follows:

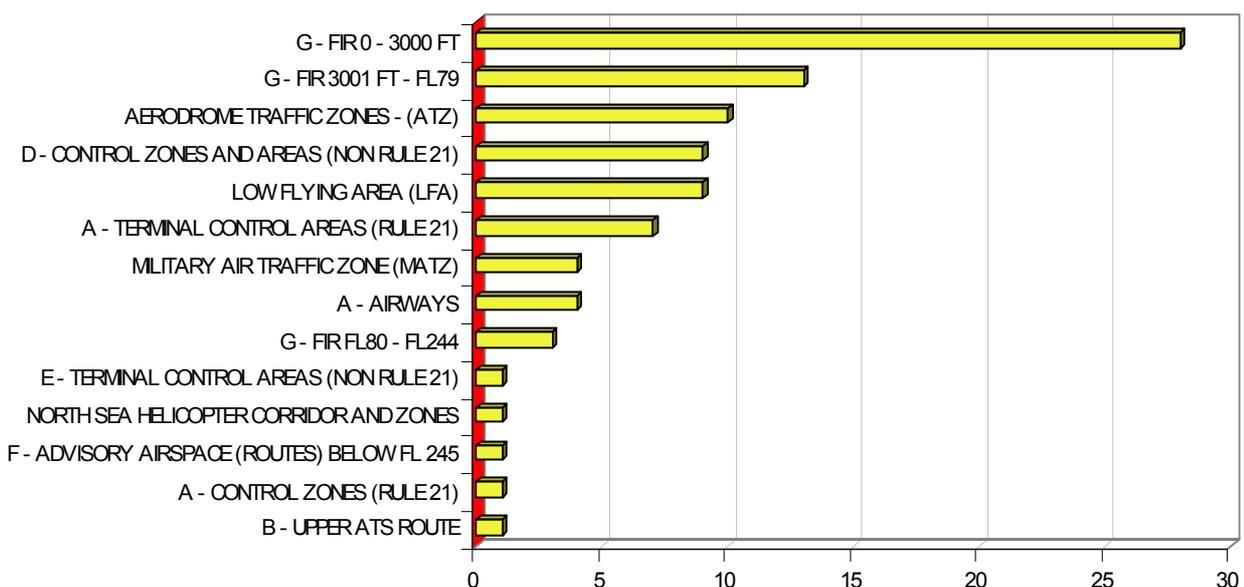
<b>A Risk of collision</b>	An actual risk of collision existed
<b>B Safety not assured</b>	The safety of the aircraft was compromised
<b>C No risk of collision</b>	No risk of collision existed
<b>D Risk not determined</b>	Insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

### PUBLICATION OF REPORTS

A key UKAB objective is to communicate effectively the lessons identified from Airprox events. Bi-annual 'hardcopy' Reports have been the primary means of communication, supported by presentations at flight safety meetings, cd-roms and the internet. The UKAB internet website, enhanced and developed in late-2005, is updated at least every month. The latest statistics are added, for example, as are details of the most-recent set of Reports assessed by the Board. The website address is [www.airproxboard.org.uk](http://www.airproxboard.org.uk)

### AIRSPACE IN WHICH THE CONFLICTS TOOK PLACE - JANUARY TO JUNE 2005

The figure below shows the various classes of airspace in which Airprox events occurred in the first six months of 2005. It was noted last year, when comparing Jan-Jun 2004 with the same period in 2003, that there had been an increase in the number of incidents in Class G airspace, the 'Open FIR', in the altitude band from ground level to 3,000ft. The increase was from 25 to 40 Airprox, equating to an increase in percentage terms from 29 to 37% of all Airprox in the period. As the figure shows, the number of such Airprox in Jan-Jun 2005 was 28, equating to 30% of the 92 Airprox. Notwithstanding this fall, the overall percentage of Airprox occurring in Classes F and G remains at approximately 75% of the total.



**Risk data** for GA Airprox which took place in the first six months of 2005 are given below with the 2004 data for comparison. The proportion of risk bearing (that is, Risk A plus Risk B) events is up but the absolute numbers are within one, 29 in 2004; 30 in 2005.

2004	Jan	Feb	Mar	Apr	May	Jun	Totals
Risk A	0	0	0	0	5	2	7
Risk B	3	1	1	9	2	6	22
Risk C	2	3	6	7	14	4	36
Risk D	0	1	0	0	1	0	2
Totals	5	5	7	16	22	12	67

2005	Jan	Feb	Mar	Apr	May	Jun	Totals
Risk A	2	0	1	1	3	3	10
Risk B	1	2	3	6	2	6	20
Risk C	2	2	6	5	6	6	27
Risk D	0	0	0	0	0	0	0
Totals	5	4	10	12	11	15	57

The 57 'GA' Airprox events in 2005 gave rise to 96 **causal factors** (any one Airprox event can have more than one causal factor), the most frequently assigned being as in the Table below. Sighting issues usually head the list, given that most GA Airprox occur in 'see and avoid' airspace. Attention is drawn to the sixth item in the list in the Table: reports of GA aircraft flying too close to a glider site occur on a regular basis. As the Airprox Inspector wrote in his report into one such Airprox: *The reason that winch launch glider sites are given special mention in the UK AIP is they require protection since winch cables can be lethal to any ac striking them as well as to the crew of the glider - winch wire strikes are not survivable accidents.*

Ser.	Cause	Totals:
1	DID NOT SEE CONFLICTING TRAFFIC	28
2	LATE SIGHTING OF CONFLICTING TRAFFIC	16
3	INADEQUATE AVOIDING ACTION / FLEW TOO CLOSE	9
4	PENETRATION OF CAS/SRZ/ATZ WITHOUT CLEARANCE	6
5	DID NOT TO SEPARATE/POOR JUDGEMENT	4
6	FLYING CLOSE TO/OVER GLIDER OR PARADROP SITE	3

**Safety Recommendations** are made from time to time by the Airprox Board. The serious Airprox 061/05 - full details later in this book - gave rise to onesuch which reads as follows: "In the light of this Airprox, the chart production company should review its policy with respect to the depiction on its VFR GPS charts of aerodromes where glider winch launching takes place."

Action? - The chart production company undertook to add a glider symbol for Lasham to its VFR/ GPS chart at the next regular update. To cover the issue of airports in addition to Lasham where glider launching also takes place, the chart production company subsequently informed UKAB that various options were being studied with the intention of depicting winch launch glider sites, especially in the UK, on their VFR GPS charts. In January 2006, UKAB was advised that the chart production company has decided on a number of general specification changes which will be applied to all its VFR+GPS and Glider charts on an "as revised" basis. These changes include several new symbols such as one for glider airfields where winch launching takes place. In future, the launch height will be indicated (provided that this information is officially published by the responsible State authority). VFR customers will be informed about the latest specification changes through a briefing bulletin and through respective information on the company's VFR website.

From an Airprox viewpoint, "this is what it's all about". A very responsible report of an Airprox from a pilot; further - open, honest - reports from other people involved; assembly of these inputs into a report for the Airprox Board's assessment; in-depth discussion identifying the lessons and a Safety Recommendation accepted and acted upon to reduce the risk of such a serious event in the future. Brilliant.

## List of Abbreviations

AAI	Angle of Approach Indicator	CLBL	Clear Between Layers
aal	Above aerodrome level	CLOC	Clear of Cloud
ac	Aircraft	CMATZ	Combined MATZ
ACAS	Airborne Collision Avoidance System	CPA	Closest Point of Approach
ACC	Area Control Centre	C/S	Callsign
ACN	Airspace Co-ordination Notice	CTA	Control Area
ACR	Aerodrome Control Radar	CTR/CTZ	Control Zone
A/D	Aerodrome	CWS	Collision Warning System
ADC	Aerodrome Control(ler)	DA	Decision Altitude
ADF	Automatic Direction Finding Equipment	DAAvn	Director Army Aviation
ADR	Advisory Route	D & D	Distress & Diversion Cell
AEF	Air Experience Flight	DF	Direction Finding (Finder)
AEW	Airborne Early Warning	DFTI	Distance from Touchdown Indicator
AFIS(O)	Aerodrome Flight Information Service (Officer)	DH	Decision Height
agl	Above Ground Level	DME	Distance Measuring Equipment
AIAA	Area of Intense Aerial Activity	DUA	Dedicated User Area
AIC	Aeronautical Information Circular	E	East
AIP	Aeronautical Information Publication	EAT	Expected Approach Time
AIS	Aeronautical Information Services	elev	Elevation
alt	Altitude	ERS	En Route Supplement
amsl	Above mean sea level	est	estimated
AOB	Angle of Bank	FAT	Final Approach Track
A/P	Autopilot	FIC	Flight Information Centre
APP	Approach Control(ler)	FIR	Flight Information Region
APR	Approach Radar Control(ler)	FIS	Flight Information Service
ARP	Aerodrome Reference Point	FISO	Flight Information Service Officer
ASACS SSU	Air Surveillance and Control System Standards and Safety Unit	FMS	Flight Management System
ASR	Airfield Surveillance Radar	FO	First Officer
ATC	Air Traffic Control	fpm	Feet Per Minute
ATCC	Air Traffic Control Centre	fps	Flight Progress Strip
ATCO	Air Traffic Control Officer	GAT	General Air Traffic
ATCRU	Air Traffic Control Radar Unit	GCA	Ground Controlled Approach
ATIS	Automatic Terminal Information Service	GCI	Ground Controlled Interception
ATM	Aerodrome Traffic Monitor	GMC	Ground Movement Controller
ATS (U)	Air Traffic Service (Unit)	GP	Glide Path
ATSA	Air Traffic Service Assistant	GS	Groundspeed
ATSOCAS	ATSs Outside Controlled Airspace	H	Horizontal
ATSI	Air Traffic Services Investigations	HISL	High Intensity Strobe Light
ATZ	Aerodrome Traffic Zone	HLS	Helicopter Landing Site
AWACS	Airborne Warning and Control System	HMR	Helicopter Main Route
AWR	Air Weapons Range	HPZ	Helicopter Protected Zone
BGA	British Gliding Association	HTZ	Helicopter Traffic Zone
BHAB	British Helicopter Advisory Board	HUD	Head Up Display
BHPA	British Hang Gliding and Paragliding Association	IAS	Indicated Air Speed
BINA ERS	British Isles/N Atlantic En Route Supplement	iaw	In accordance with
BMAA	British Microlight Aircraft Association	ICF	Initial Contact Frequency
c	circa	IFF	Identification Friend or Foe
CAA	Civil Aviation Authority	IFR	Instrument Flight Rules
CALF	Chart Amendment - Low Flying	ILS	Instrument Landing System
CANP	Civil Air Notification Procedure	IMC	Instrument Meteorological Conditions
CAS	Controlled Airspace	JOI	Joint Operating Instruction
CAT	Clear Air Turbulence	JSP	Joint Services Publication
CAVOK	Visibility, cloud and present weather better than prescribed values or conditions	KHz	Kilohertz
Cct	Circuit	kt	Knots
CFI	Chief Flying Instructor	km	Kilometres
CinC Fleet	Commander in Chief Fleet, Royal Navy	L	Left
CLAC	Clear Above Cloud	LACC	London Area Control Centre (Swanwick)
CLAH	Clear Above Haze	LARS	Lower Airspace Radar Service
CLBC	Clear Below Cloud	LATCC(Mil)	London Air Traffic Control Centre (Military) (West Drayton)
		LFA	Low Flying Area
		LFC	Low Flying Chart
		LH	Left Hand

LLZ	Localizer	SMF	Separation Monitoring Function
LJAO	London Joint Area Organisation (Swanwick (Mil))	SOP	Standard Operating Procedures
LoA	Letter of Agreement	SRA	Surveillance Radar Approach
LTMA	London TMA	SRA	Special Rules Area
MACC	Manchester Area Control Centre	SRE	Surveillance Radar Element of precision approach radar system
MATS	Manual of Air Traffic Services	SSR	Secondary Surveillance Radar
MATZ	Military Aerodrome Traffic Zone	STAR	Standard Instrument Arrival Route
mb	Millibars	STC	Strike Command
MHz	Megahertz	STCA	Short Term Conflict Alert
MoD	Ministry of Defence	SVFR	Special VFR
MRSA	Mandatory Radar Service Area	TA	Traffic Advisory (TCAS)
MSD	Minimum Separation Distance	TAS	True Air Speed
MTRA	Military Temporary Reserved Airspace	TBC	Tactical Booking Cell
N	North	TC	Terminal Control
NATS	National Air Traffic Services	TCAS	Traffic Alert & Collision Avoidance System
NDB	Non-Directional Beacon	TDA/TRA	Temporary Danger or Restricted Area
nm	Nautical Miles	TFR	Terrain Following Radar
NMC	No Mode C	TI	Traffic Information
NK	Not Known	TMA	Terminal Control Area
NR	Not Recorded	TRUCE	Training in Unusual Circumstances and Emergencies
NVG	Night Vision Goggles	UAR	Upper Air Route
OAC	Oceanic Area Control	UHF	Ultra High Frequency
OACC	Oceanic Area Control Centre	UIR	Upper Flight Information Region
OAT	Operational Air Traffic	UKDLFS	United Kingdom Day Low Flying System
OJTI	On-the-Job Training Instructor	UKNLFS	United Kingdom Night Low Flying System
OLDI	On-Line Data Interchange	UNL	Unlimited
PAR	Precision Approach Radar	USAF(E)	United States Air Force (Europe)
PFL	Practice Forced Landing	UT	Under Training
PF	Pilot Flying	UTA	Upper Control Area
PI	Practice Interception	UTC	Co-ordinated Universal Time
PINS	Pipeline Inspection Notification System	V	Vertical
PNF	Pilot Non-flying	VCR	Visual Control Room
PTC	Personnel & Training Command	VDF	Very High Frequency Direction Finder
QDM	Magnetic heading (zero wind)	VFR	Visual Flight Rules
QFE	Atmospheric pressure at aerodrome airport elevation (or at runway threshold)	VHF	Very High Frequency
QFI	Qualified Flying Instructor	VMC	Visual Meteorological Conditions
QHI	Qualified Helicopter Instructor	VOR	Very High Frequency Omni Range
QNH	Altimeter sub-scale setting to obtain elevation when on the ground	VRP	Visual Reporting Point
R	Right	W	West
RA	Resolution Advisory (TCAS)		
RAS	Radar Advisory Service		
RCO	Range Control Officer		
RH	Right Hand		
RIS	Radar Information Service		
ROC	Rate of Climb		
ROD	Rate of Descent		
RPS	Regional Pressure Setting		
RT	Radio Telephony		
RTB	Return to base		
RVSM	Reduced Vertical Separation Minimum		
R/W	Runway		
RVR	Runway Visual Range		
S	South		
SAP	Simulated Attack Profile		
SAS	Standard Altimeter Setting		
SC	Sector Controller		
ScATCC(Mil)	Scottish Air Traffic Control Centre (Military) (Prestwick)		
ScOACC	Scottish and Oceanic Area Control Centre		
SID	Standard Instrument Departure		

# Introduction

We are all aware that Class G airspace is for everyone; no one activity or type of flight takes precedence over another. We currently run at about 10% of all Airprox being glider related. One of the major difficulties is visibility; gliders are difficult to see visually and are becoming quite fast. Until we get suitable technology that can be properly powered by batteries, we are not going to have transponder or transponder-like visibility for all forms of un-powered flight. There are many who believe that even if we had it, one thousand blips on the radar screen may not help; we may need quite advanced intelligence to understand who is doing what. While we wait for that technology breakthrough, we can definitely reduce incidents through a better understanding of where gliders may be found and choosing routings and levels that minimise the chances of meeting them.

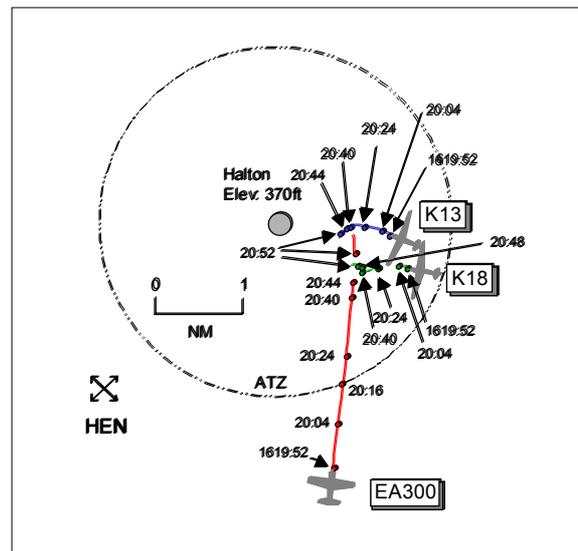
Hugh Woodsend

## Section 1 - Gliding sites

Halton has a zone around it which should not be penetrated without permission. It is quite difficult to see from certain directions and apart from cable launches to 2000' QFE, has a low ridge of hills beside it which will be used by gliders in northerly winds. We also had an incident at Husbands Bosworth where the crew of the PA28 were aware of glider activity and attempted to rely on heading adjustments. The advice is to route well clear of gliding sites and try to avoid the levels between 2000 and cloudbase on thermic days. Airspace permitting, you will find few gliders above cloudbase (or the inversion layer) and also few at low levels when soaring conditions are good.

### AIRPROX REPORT NO 010/05

Date/Time: 26 Jan 1621  
Position: 5147N 00043W (1nm SE Halton  
 A/D - elev 370ft)  
Airspace: ATZ (Class: G)  
Reporting Ac Reported Ac  
Type: K18 Glider Extra EA300  
Operator: Civ Club Civ Pte  
Alt/FL: 1300ft  
 (QFE 1019mb)  
Weather VMC CLBC  
Visibility: 15km  
Reported Separation:  
 150ft H  
Recorded Separation:  
 <0.1nm H



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE K18 GLIDER PILOT** reports heading 300° at 1300ft QFE 1019mb and 45kt flying solo in weak lift over the N facing ridge to the E of Halton and in communication with Halton on 130.42Mhz. The visibility was 15km across sun, the white/orange glider flying 5000ft below cloud in VMC. About 0.5nm E of Halton, well within the ATZ and after he had just scanned L, he first saw a single engine low wing

## AIRPROX REPORT No 010/05.

aerobatic monoplane as it crossed L to R through his 12 o'clock range 150ft at the same level. It was light coloured with dark horizontal stripes and was travelling very fast in a straight and level attitude. He thought the other ac had come from aft of his L wing tip and it had appeared too late to take any avoiding action. He opined that had the ac met 5sec later a collision would have been highly likely.

UKAB Note (1): The incident was witnessed by another glider pilot flying a K13 on the same ridge at 1100ft QFE who saw a tapered wing ac pass 50-60yd to the E of him on a N'ly track about 100-150ft higher.

**AIS MIL** reports that the EA300 pilot was traced and contacted one week post incident and he stated that he had been flying the reported ac but initially declined to complete a CA1094 as he did not consider it to be an Airprox. However he later agreed to complete an Airprox report form.

UKAB Note (2): Despite numerous follow-up requests from the UKAB Secretariat, the EA300 pilot eventually declined to submit a report.

UKAB Note (3): The UK AIP at ENR 2-2-2-2 promulgates Halton as a government aerodrome with an ATZ as a circle radius 2nm, centred on RW02/20, from the surface to 2000ft above the aerodrome elevation of 370ft and active daily from 0700 – 1900 or SS (1hr earlier in Summer). The A/G station – Halton RADIO – is promulgated as operating on 130.425MHz within the above hours.

UKAB Note (4): The UK AIP at ENR 5-5-1-2 promulgates Halton aerodrome as a Glider Launching Site for winch and aero tow launches where cables and tug ac may be encountered to 2000ft agl, during daylight hours; aerodrome elev 370ft amsl.

UKAB Note (5): The UK AIP at ENR 1-4-10 para 2.7.2, promulgates that for flight within ATZs situated in Class G airspace: *“When flying within an ATZ the requirements of Rule 39...must be complied with”*.

In order to comply with Rule 39 during the notified hours of operation the procedures to be adopted by pilots are stipulated at para 2.7.2.3:

Before taking off or landing at an aerodrome with an ATZ or transiting through the associated airspace, obtain...information from the A/G radio station to enable the flight to be conducted with safety.

Radio equipped ac must maintain a continuous watch on the appropriate radio frequency and advise the...A/G radio station of their position and height on entering the zone and immediately prior to leaving it.

Furthermore, para 2.7.2.4 stipulates that:

Failure to establish 2-way radio communication with the...A/G station during their notified hours of operation must not be taken as an indication that the ATZ is inactive. In that event...pilots should remain clear of the ATZ.

UKAB Note (6): Analysis of the Heathrow radar recording at 1619:52 shows a primary only return, believed to be the EA300, 2.9nm S of Halton tracking 010° with 2 other primary contacts ahead, believed to be the K18 and K13 gliders, both slow moving on generally W'ly tracks. The nearest contact, believed to be the K18, is in its 1 o'clock range 2.4nm whilst the K13 is 1230 position range 2.7nm. The EA300 continues to converge with the gliders and crosses the ATZ boundary at 1620:16. Meanwhile the K18 return fades, last paint at 1620:04 before reappearing 20sec later in the EA300's 1230 range 1nm, at which time the K13 is crossing ahead of it at a range of 1.5nm. As the EA300 reaches a position 1.2nm SE of Halton at 1620:40, the K18 is still in its 1230 position range 0.5nm and the K13 has commenced a L turn to the SW. On the next sweep the K18 fades before reappearing at 1620:48 1.1nm ESE of Halton, just to the N of its previous radar position, tracking WNW: however the EA300 is not seen. It is

estimated that CPA occurs at that time as the next sweep at 1620:52 shows the EA300 again, now 0.15nm NW of the K18, having passed the glider, but taking into account the subject ac's positions and speeds, it is estimated that the EA300 passed <0.1nm to the W of the K18. Thereafter the EA300 tracks N'y and is seen to pass 0.15nm to the E of the K18 on the next sweep.

**HQ PTC** comments that the JSAT(G), although a Service-sponsored organisation, operates under the aegis of the CAA and the BGA, but from an airfield on MOD land which is within an ATZ. They therefore have a continuing concern over the number of Airprox that occur both within and adjacent to the Halton ATZ. Although none of the parties to this incident were squawking Mode C, the corroborative evidence of the 2 glider pilots points to there having been an unauthorised penetration of the ATZ by the Extra pilot.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, radar photographs/video recordings and reports from the airfield operating authority.

Members were saddened that the EA300 pilot had decided not to cooperate with the investigation. It is to be hoped that a valuable safety lesson has not been lost as a result.

The Board was becoming very concerned at the high number of Airprox resulting from unauthorised penetrations of the Halton ATZ. Members had previously tried to determine why this was but apart from the local airspace constraints no obvious reason could be found. Halton is now a very busy GA and gliding airfield and, regardless of the command and control arrangements of the units located there, HQ PTC as the airfield operator was concerned that if this high number of infringements continued, there would be a serious incident in the near future. In order to try to determine the magnitude of the problem, HQ PTC has started to record statistics of Halton ATZ infringements. The GA Member reminded the Board that a previous UKAB GA booklet had already highlighted 'the Halton problem'.

Notwithstanding that this incident had not occurred with a glider on a launch, the BGA Advisor informed Members that there are frequent cable launches up to 2000ft, numerous aero tows going higher and self launches, 7 days per week. Although an ATZ should afford some degree of protection, at Halton and many other locations this is not the case and glider pilots must expect even some relatively high-speed ac (reducing detection time available): pilots must therefore maintain a high look out regime.

Although modern GPS-based navigation equipment was unquestionably very accurate, specialist Members suggested that it might engender a false sense of security, encourage point-to-point straight-line navigation and foster inadequate pre-flight planning and route study.

This had been a very close encounter with the glider pilot's estimated miss-distance being borne out by the radar recording. In the absence of any other information, it must be assumed that the EA300 pilot did not see the glider as, had he done so, he would most likely have given it a wider berth. The glider pilot did not see the EA300 until it crossed his nose about 150ft away at the same height when it had been too late to take any effective avoiding action. Since neither pilot appears to have seen the opposing ac which had been very close and co-altitude, the Board determined that there had been an actual risk of collision.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

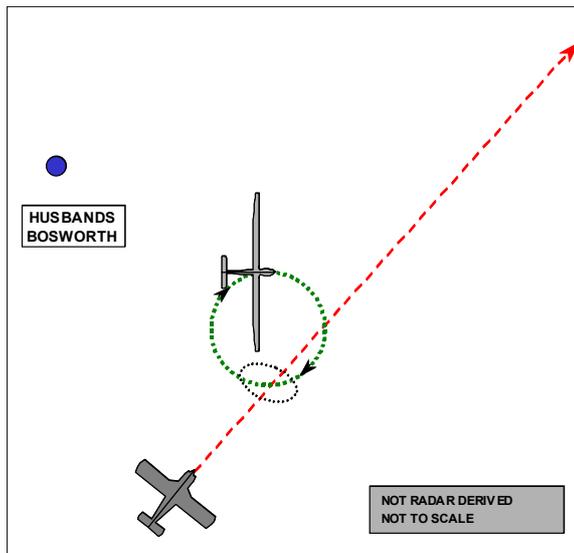
Cause: The EA300 pilot entered the Halton ATZ without complying with the requirements of Rule 39 and flew into conflict with the K18.

Degree of Risk: A.

## AIRPROX REPORT No 066/05.

### AIRPROX REPORT NO 066/05

Date/Time: 6 May 1315  
Position: 5225N 00101W (1.5nm SE  
Husbands Bosworth - elev 505ft)  
Airspace: London FIR (Class: G)  
Reporting Ac Reported Ac  
Type: LS8 Glider PA28  
Operator: Civ Pte Civ Pte  
Alt/FL: 3500ft 4000ft  
(QFE 999 mb) (RPS)  
Weather VMC CLBC VMC IN HAZE  
Visibility: >30km 10km  
Reported Separation:  
50ft V/O H 50ft V/100ft H  
Recorded Separation:  
NR



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE LS8 GLIDER PILOT** reports flying a white glider on a local soaring flight from Husbands Bosworth and listening out on their frequency. He had launched 15min previously and was gaining height in a thermal, circling right at 50kt about 1.5nm SE of the airfield and about 500ft below the cloud base of 4000ft agl [i.e. at about 4000ft amsl]. As he glanced into the turn to check for other traffic he was startled to see a light ac very close to him (100m away) and slightly below his glider. It appeared at that stage to be diving below him and after passing continued on track, turning slightly further to the N and slightly closer to Husbands Bosworth Airfield. The noise level was very high and he was not able to take any avoiding action in the time available, assessing the risk as being very high. The power ac was a low wing T tail 4-seater, apparently of all metal construction with ribbed control surfaces, and was coloured brown and white or cream. He was very concerned as around a dozen other gliders were soaring in the immediate area and it is well known that white ac are notoriously difficult to see, especially against a grey sky. The area is marked as an Area of Intense Gliding Activity with winch cables up to 3000ft.

The glider pilot was disappointed at his late sighting of the other ac due, in part, to distraction through a minor instrument problem; however, a circling glider pilot can often miss approaching traffic from his blind area.

UKAB Note (1): Husbands Bosworth is promulgated in the UKAIP ENR 5-5-1-3 as a 'Glider Launch Site' (by winch/ground tow (W) and tug aircraft/motor glider (T) up to 3000ft agl. There are no 'Areas of Intense Gliding Activity' promulgated in the AIP only 'Glider Launching Sites'.

**THE PA28 PILOT** reports flying a brown and white ac VFR from Bournemouth to Sandtoft at 130kt squawking 3721 (Cottesmore) and in receipt of a RIS from Cottesmore. They had been advised en route of intense glider activity and this was confirmed by many sightings as a result of which they had changed their heading to more Easterly to achieve more separation from them. In addition there had been a slight haze on the day of the incident. Both the pilot and his co-pilot had been keeping a good look out but both the traffic density and workload were high due to intense glider activity. When they were about 2nm S of Husbands Bosworth they were passed TI from Cottesmore on a contact in their right 10 o'clock at ½nm and shortly after he saw a white glider about 100ft away and slightly above them. He immediately commenced an "acute" dive missing the other ac by an estimated 50ft: he assessed the risk as being medium/high.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted solely of reports from the pilots of both ac.

The Board determined that both ac had been operating legitimately in a busy part of Class G airspace and therefore had an equal and shared responsibility for collision avoidance, albeit with 'power giving way to sail'. Obviously, this requirement can only be achieved if both pilots see one another's ac in sufficient time to act.

As it became apparent that there was heavy glider activity ahead, the PA28 pilot had sensibly intensified his (their) lookout and taken pre-emptive avoiding action based on apparently good TI from Cottesmore APP. His action had not, however, been sufficient to route around all the gliders in the area and, as he stated in his report, he had not seen the glider involved in the incident until it was an estimated 100ft (2 sec) away. It was therefore unlikely that his 'acute dive' would have generated very much (if any) additional separation in the time available. The glider pilot, possibly due to distraction, did not see the PA28 until it was too late and it had effectively passed him; he was therefore not able to avoid it. That being the case, and noting the probability that the PA28 avoiding action might have been too late to take effect before the ac passed, the Board considered that there had been an actual risk that the ac may have collided.

Even though, in this case it had not prevented the ac from coming very close the Board commended the PA28 pilot for opting for a LARS to assist his passage through congested airspace.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: Effective non-sighting by the glider pilot and a very late sighting by the PA28 pilot.

Degree of Risk: A.

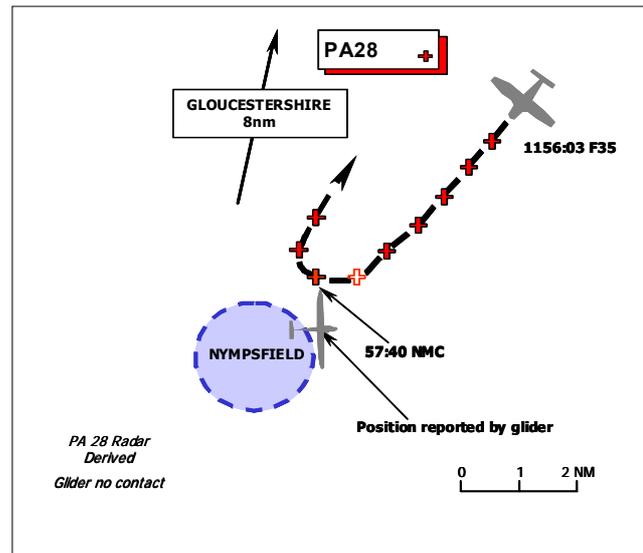
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## AIRPROX REPORT No 082/04.

### AIRPROX REPORT NO 082/04

Date/Time: 15 May 1157 (Saturday)  
Position: 5144N 00215W (2nm ENE Nympsfield)  
Airspace: London FIR (Class: G)  
Reporting Ac Reported Ac  
Type: LS4 Glider PA28R  
Operator: Civ Club Civ Club  
Alt/FL: 2600ft FL30  
(QFE )  
Weather VMC CLBC VMC CLBC  
Visibility: >5nm 15km  
Reported Separation:  
100ft V 0 H NR  
Recorded Separation:  
NR



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE LS4 GLIDER PILOT** reports flying a white glider on a local soaring sortie from Nympsfield and listening out on their frequency. He was at 2600ft QFE heading 090° at 60kt when he heard engine noise and very shortly afterwards a light ac passed directly over him 100ft above. The ac came from his 9 o'clock and departed to his 3 o'clock and he was able to identify it by type and registration number. Since he saw the other ac so late, he was unable to take any avoiding action and assessed the risk of collision as being high.

**THE PA28R PILOT** reports flying a blue and white ac from Gloucestershire to Dinard [see UKAB Note (2)] with strobes and the beacon selected on, in receipt of a RIS from Bristol [International] Radar. At the reported time of the incident he was heading 185° at 135kt and FL30. Until he was contacted, he was not aware of an Airprox occurring. However, he doubted the proximity as reported by the glider pilot and assessed the risk as none.

UKAB Note (1): The PA28R can be seen on the Cleve Hill radar recording squawking 7000 climbing to and maintaining FL35 Mode C on a SW heading. One min before the incident the squawk changed to 0414, a Bristol code, and descended to FL31. It is seen directly over the reported position at 1157:49 in a hard R turn. Immediately after, the squawk changes back to 7000 and the ac departed the area on a Northerly heading.

UKAB Note (2): The PA28R took off from Gloucestershire at 1150UTC outbound for Dinard and encountered a problem in the vicinity of Stroud (the Airprox position). The ac turned round and recovered to Gloucestershire where the problem was rectified before taking off again at 1220UTC for Dinard. In a subsequent telephone conversation the pilot confirmed that his report was for the first sortie and that he had not seen any gliders (this was not clear from the written version).

### PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, a radar video recording and reports from the air traffic controllers involved.

The BGA provided written comments, which were concurred by the Board and are summarised in the following. This was a worrying incident in that it took place on a weekend soaring day. Nympsfield and adjacent Aston Down both have more than 50 gliders based there and it is likely that more than 10 would have been flying in the area on such a day. Furthermore, had the PA28R turned back to Staverton a little later, he would have almost certainly have passed over the Nympsfield launching wire. Nympsfield also launches by aero tow in this area. No mention was made [by the PA28R pilot] of seeing any other traffic which may have meant that he was concentrating on navigation, autopilot and transponder activities rather than looking out. Some form of advisory routing advice could provide a way forward so that en-route light ac and helicopters avoid the busiest spots: in this case routeing just a little to the W would have minimised the risk. Gliders travelling in straight lines are almost impossible to see, but an ac operating below 150kts should see a circling glider much more easily. You can hear ac approaching quite often in gliders but it is often very difficult to establish their direction and reactionary manoeuvring without visual contact can exacerbate the problem. Most LS4 pilots will be experienced and the glider pilot having sufficient capacity to note the type and registration does indicate the encounter must have been relatively close.

Notwithstanding the BGA comments, both pilots had a responsibility to see and avoid each other. That neither did in time to take effective avoiding action was of concern to, and the reasons analysed by, the Board. Members agreed that the PA28R pilot had probably become distracted by his ac problem, deciding whether to return to Staverton, plotting a new course and changing frequency and squawk. A combination of these factors had probably led to a lapse in his lookout. If the glider pilot was circling, his picture of the surroundings would have been changing continuously. However if the PA28R came from his 9 and departed to his 3 o'clock, as he reported, then he was probably a little farther NE than the position reported. This would have meant that he had been in a position to see the PA28R for some time, albeit presenting a small target to acquire, not moving across his canopy and coming straight towards him. Members surmised that a combination of these factors had led to the glider pilot not seeing the other ac until it was too late to take avoiding action.

Since neither pilot was able to take any action to avoid the opposing ac, it had been only good fortune that prevented them from colliding: the Board judged that there had therefore been an actual risk of collision, grading the Airprox 'A' accordingly.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: Non-sighting by the PA28R pilot and effectively non-sighting by the LS4 glider pilot.

Degree of Risk: A.

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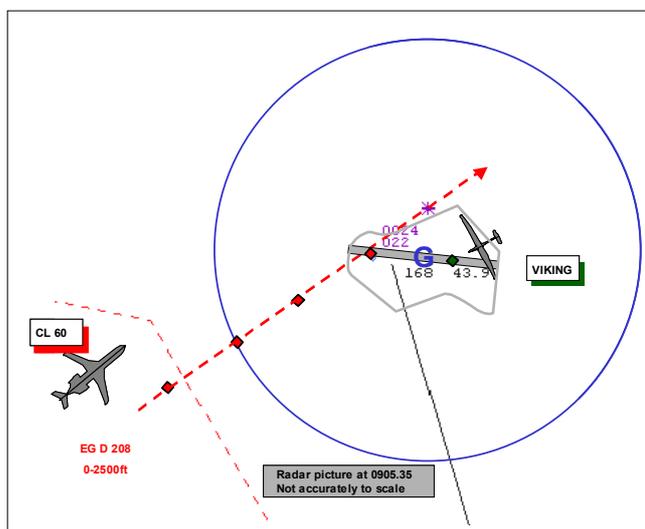
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## Section 2 - Winch launches

In 073/05, the calibration Challenger jet had not been advised of Watton's activities and flew across the site below winch height. In 155/04, a Chipmunk overflew Shalborne; the site is on the top of the hill so the winch height is even more of an obstruction as all winch heights on the charts are QFE. In 061/05, a Cessna 172 overflew Lasham which is the busiest gliding site in the country and narrowly missed an accident. The pilot's charts were not annotated with gliding sites and it was made worse by him being not precisely sure of his position. The particular chart publisher is now printing the sites on their charts but there may well be others who do not do so. Please check your charts, particularly the GPS moving maps and other radio en-route charts, if you are likely to be routing below 4000ft above the ground. In the Lasham incident we did some additional calculations which showed that if the crossing aircraft is above 120kts, there will be little chance for the gliding ground operations to stop the launch safely. Remember too that gliders, having launched, may well be quickly climbing in thermals and therefore the airspace above the winch launch may also be full of gliders.

### AIRPROX REPORT NO 073/05

Date/Time: 21 May 0905 (Saturday)  
Position: 5233N 00051E (1nm SW Watton Airfield - elev 207ft)  
Airspace: London FIR (Class: G)  
Reporting Ac Reported Ac  
Type: Viking Glider CL60  
Operator: HQ PTC Civ Comm  
Alt/FL: 1400ft 2000ft  
 (QFE 1002 mb) (N/K)  
Weather VMC CLBC VMC  
Visibility: 25km >5nm  
Reported Separation:  
 50ft V/150ft H NR  
Recorded Separation:  
 Not Recorded



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE VIKING T MK 1 GLIDER PILOT** reports flying a local training flight from Watton Airfield with a trainee in the front seat. After releasing the cable at 1600ft he turned to the S looking for lift and he was soon established in a thermal with a good climb, turning to the right. While passing through a heading of 240° at 1400ft [agl, equivalent to 1607ft amsl] and at 50kt, the trainee alerted him to another ac in their 2 o'clock: after becoming visual with it, he rolled to wings level to gain maximum separation. No avoiding action appeared to be taken by the other ac that resulted in it passing within 150ft to his starboard side. The other ac, grey in colour, had 2 rear mounted turbo fan engines, winglets and was flying with undercarriage lowered in a NE direction. He radioed Watton Radio on the local frequency to inform them, by which time the other ac had flown directly over the launch point and departed to the NE. He assessed the risk as being high.

**THE CL60 PILOT** provided a brief report. He reports flying a calibration sortie at Lakenheath in contact with Lakenheath GCA. During the sortie he saw a glider about ¼nm away while he was in a left turn at 200kt that was taking him clear of it. He assessed the risk as being low.

**THE GLIDING CLUB Duty Instructor** reports that at about 0900 a small business jet ac flew close to Watton Airfield, slightly to the SE of their operating area. It had its landing gear down and appeared to be transiting in a NE direction. At 0907 the same ac transited directly over Watton Airfield from a SW direction heading NE. [See UKAB Note (2)]. A Viking pilot who was airborne at the time called on the radio to bring this to his attention. The DI immediately ceased gliding operations and requested that the Viking pilot return to base which he did. The Viking pilot, on his return, reported that the jet had been in close proximity to him (150ft H/50ft V). The DI rang Norwich Airport ATC who informed him that the ac was not in contact with them but was showing a calibration flight squawk. Five minutes later they informed him that RAF Lakenheath was controlling the ac. The DI called Lakenheath RAPCON (Radar Approach Control) who confirmed that the ac was a CL60 Challenger and had been calibrating the approach to RAF Lakenheath. When he informed the RAPCON controller that they were operating at Watton and had experienced an Airprox with the ac he declined to give any further details.

Shortly after, the RAPCON supervisor called to inform him that the ac would be operating later in the day and if he had any problems to contact the USAF Airfield Operations Flight Commander. He informed the Supervisor of his intention to start operating again and passed their operating frequency, requesting that they keep ac well clear of Watton.

**HQ AIR CADETS** comments that this Airprox is also the subject of a reported infringement of the Watton Volunteer Gliding School (VGS) published gliding location. There appears to have been a breakdown by the Lakenheath controllers in that they controlled the CL60 in such a way that it came into conflict with the gliding site and an airborne glider. Whether the RAPCON were not aware of the gliding activity at Watton or simply overlooked them is not known. However, the ac was 'controlled' through Watton's overhead, at a height and in a direction that made conflicts probable. The VGS have now instituted a system whereby they will contact Lakenheath at the start and completion of each day's activities.

UKAB Note (1): Watton is promulgated in the UK AIP Mil at Vol 3 1-2-5-4 and the as a glider site to be avoided by 2nm, operating up to 3000ft at weekends and public holidays and other times by NOTAM and also as a warning at UK AIP at ENR 5-5-2-1.

UKAB Note (2): The radar replay shows the CL60 pass directly over Watton airfield at 0905.30 heading NE at F022 (~2000ft amsl or ~1800ft agl) and disappear out of the picture to the NE. The recording ends at 0911.30 and the CL60 does not show again.

**MIL ATC OPS** reports that a CL60 was undertaking a scheduled flight check at Lakenheath under a RIS from Lakenheath Approach Control (APP) at 2000ft QNH 1005mb. After one approach, the CL60 declared a problem and requested to hold to the SW of Lakenheath in an attempt to rectify the problem. APP suggested that the CL60 crew should hold to the NE of Lakenheath as no traffic was observed in that area. The CL60 crew agreed and routed the ac to the NE. The aircraft's holding pattern was in an area about 8-18nm NE of Lakenheath. APP subsequently, received notification that the CL60 had flown close to some gliders operating from Watton Airfield.

The holding pattern that the CL60 crew flew routed it (on at least one occasion) directly overhead Watton Airfield at 2000ft taking it directly through the active glider site and into conflict with a glider. Although APP could not see any conflicting traffic on radar a warning should have been given to the CL60 crew regarding the active glider site.

**HQ PTC** comments that this was a clear infringement of the Glider Site and we are disappointed that the RAPCON apparently did nothing to warn the pilot of the CL60. However, the combination of unusual circumstances is such that there is unlikely to be an identical repetition of the event. Moreover, the VGS and the RAPCON have introduced measures that should prevent any similar event from occurring.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

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

Members noted that the circumstances surrounding this incident were complex; however, despite several other factors the ac involved was a civilian ac operating under the UK AIP, not its military equivalent. That being the case, there was no mandatory avoidance of the Watton Gliding site; the site was however promulgated as operating up to 3000ft (as at Note (2)) and Members determined that if the pilot opted to operate in that area and at that altitude, it was incumbent on him to take notice of any pertinent restrictions and warnings. Although there was no actual obligation for Lakenheath RAPCON to notify the CL60 pilot of any airspace restrictions, having quite understandably suggested that he may wish to operate there because it was less busy than the area the pilot requested, ATC specialists considered that it would have been appropriate, particularly since the pilot was not UK based, to provide him with warning of hazards including active glider sites. Lakenheath ATC should have been aware of the much-increased level of GA and gliding activity which takes place at weekends and that it may be a hazard to an ac operating at 2000ft. It was accepted however, that there are many glider sites and ATZs in the area and the ultimate responsibility for avoiding them and for collision avoidance in Class G airspace lies with the ac captain. One Member suggested that if holding is required to rectify a fault then perhaps flying at a slightly higher level (weather permitting) would have kept the CL60 clear of most ATZs, MATZs and glider sites.

Due to the apparent discrepancy in the descriptions of the sighting between the 2 pilots, Members thought that the CL60 pilot had most probably seen a different glider and therefore had not seen the reporting ac since he had only mentioned one in his report. Further there was no 'left turn' by the CL60 evident on the radar recording until well after the event.

It was also suggested by a gliding expert that a pilot from the USA may not be familiar with the hazards associated with winch launched gliders since the majority of gliders there are launched by areotow which is much more akin to normal ac operations. Winch cables are very dangerous to other ac therefore all locations operating them are promulgated as hazards in the UK AIP. Winch wirestrikes are not normally survivable by the crews of either ac involved.

In this case however even, allowing that the CL60 had overflown the launch site, the glider involved had not been on a launch but was soaring in the local area. His student had alerted the instructor to the intruder in sufficient time to allow him to take action to ensure that any risk of collision was eliminated.

The Board welcomed the proposed telephone dialogue between the two locations to notify one another of their operations and were surprised that it had not occurred previously.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The CL60 flew over a notified and active glider site.

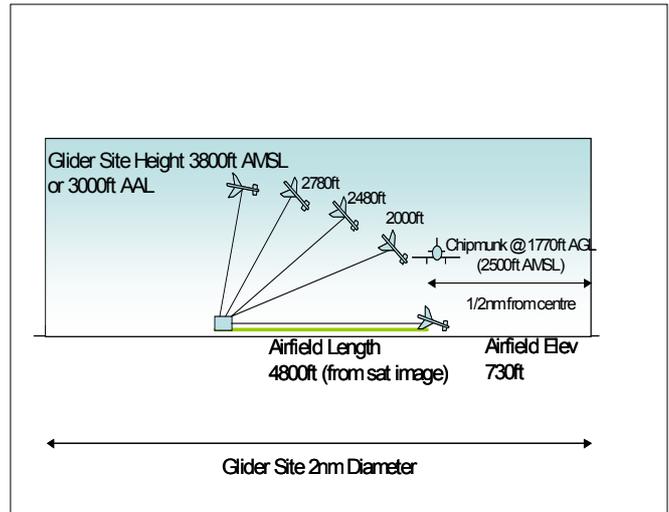
Degree of Risk: C.

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**AIRPROX REPORT NO 155/04**

Date/Time: 28 Aug 1357 (Saturday)  
Position: 5120N 00132W (Rivar Hill Airfield - elev 730 ft)  
Airspace: London FIR (Class: G)  
Reporting Ac Reported Ac  
Type: Astir Glider Chipmunk  
Operator: Civ Club Civ Pte  
Alt/FL: 800ft 2500ft  
 (QFE 987 mb) (RPS)  
Weather VMC CLOC VMC CAVOK  
Visibility: >10km >10km  
Reported Separation:  
 100ft V/O H Not seen  
Recorded Separation:  
 Not recorded



**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE ASTIR PILOT** reports that he was at 800ft on a winch launch from Rivar Hill Airfield, heading 180° at 60kt and 45° nose-up when he saw a Chipmunk ac with military markings and was able to describe the colour scheme. [UKAB Note (1): He also reported seeing another similarly marked Chipmunk but did not describe its relative flightpath or timing]. The (first) ac crossed 100ft directly above him from his right to left. He was not able to take any avoiding action in the time available and assessed that it was safe to continue with the launch. He assessed however that the risk was high as he opined that the other pilot had not been aware of the airfield. In the opinion of the winch driver, with a slight variation in timing or position, there could have been a collision or the reported ac could have hit the winch cable with fatal consequences.

**THE CHIPMUNK PILOT** reports that at the time of the occurrence he was returning from Henstridge to Halton at 2500ft amsl and 95kt having flown outbound on the same route that morning. The route took him N from Gillingham then tracked via Westbury to Newbury Race Course and then NE direct to Halton. This route aimed to keep him clear of D123/D124 which he had ascertained by telephone in the morning were active up to 3000ft. The NOTAMS and Weather were checked before the morning departure.

The visibility on the return leg was excellent with only scattered cloud at a base of 4000ft. Because of the number of gliding sites en-route and because they had seen gliders in the air around Upavon, Keevil and Rivar Hill in the morning, he and his passenger were keeping a sharp lookout on the return trip. VFR navigation was straightforward with landmarks appearing on time and in the correct place. His planned track aimed to take him N of the Rivar Hill side, and though not as obvious as the other glider sites mentioned above, he noted it on both legs.

He did not observe any gliders in the air around Rivar Hill on his track and thought that he had flown clear of the site. His ac is based at a mixed-use grass airfield with winch and tug launches and opposite circuits for powered and unpowered ac and thus he is very glider cautious. He could not conceive that he would ever fly directly over an active gliding site.

UKAB Note (2): The nearest METAR available was the 1350 for Lyneham:

EGDL 281350Z 26010kt 9999 SCT 035 BKN 050 18/16 Q1013 BLU NOSIG=

## **AIRPROX REPORT No 155/04.**

The Cotswold RPS for 13-1400 was 1009mb.

UKAB Note (3): Rivar Hill is promulgated as a Glider Launching Site up to 3000ft agl in the UK AIP ENR 5-5-1-4 operating daily during daylight hours.

UKAB Note (4): A direct track from Westbury (town) to Newbury Racecourse passes approximately 0.8nm N of the centre of the Rivar Hill Glider site.

UKAB Note (5): Although several intermittent contacts are shown on the radar recording, it has not been possible to determine which, if any, of those are the glider and Chipmunk in question. Further, there is no contact corresponding to the second Chipmunk reported by the glider pilot.

UKAB Note (6): The elevation of Rivar Hill Airfield being 730ft puts the glider at an altitude of 1,530ft, climbing steeply, at the time of the Airprox. On a comparable altimeter baro setting, the Chipmunk would have been at an altitude of approximately 2,440ft.

### **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac and a radar video recording.

The BGA Advisor provided a written comment in which he advised that Rivar Hill is notoriously difficult to see in all light conditions. He stressed that it is most important that all ac keep well away from winch cables, as any collision would almost certainly remove a wing especially if the cable speed is high as it acts similarly to a chainsaw. Additionally, should the ac strike half way up the cable length, up to  $\frac{3}{4}$  mile of cable (the top half) may wrap itself around the ac's fuselage and tail with disastrous effects. He also pointed out that once a glider is in the launch phase there is little chance of the pilot seeing conflicting traffic unless it is slow and comes from behind, because of the extreme climb angle. Similarly, the winch driver will probably not see any traffic until quite late since they must maintain an unbroken watch on the launching glider. Although others at the control point may see potential danger, there will always be a delay in communicating the stop signal to the winch driver.

There are frequent incursions, mainly by light ac into active glider sites, and procedures, if followed, should be robust enough to disclose the presence of intruding ac. While accepting the BGA advice above, assuming that the position of the Chipmunk reported by the glider pilot was accurate, Members considered that in this case the Launch Control Party should have seen the Chipmunk approaching before the launch was commenced and ordered a delay until the area was safe.

Members were in little doubt that the Chipmunk pilot had planned his route correctly but had flown closer to Rivar Hill than he intended. Although the Rivar Hill Glider site is very difficult to see, as it is a grass strip and blends into the farmland background, the Chipmunk pilot was familiar with it and should have offered it a wider margin.

The glider pilot however saw the Chipmunk and, from his height, he could have abandoned the launch and landed safely back on the strip if he had considered that there was any risk by his proceeding. He opted however, to continue which implied to the Board that there had been no risk that the ac would have collided.

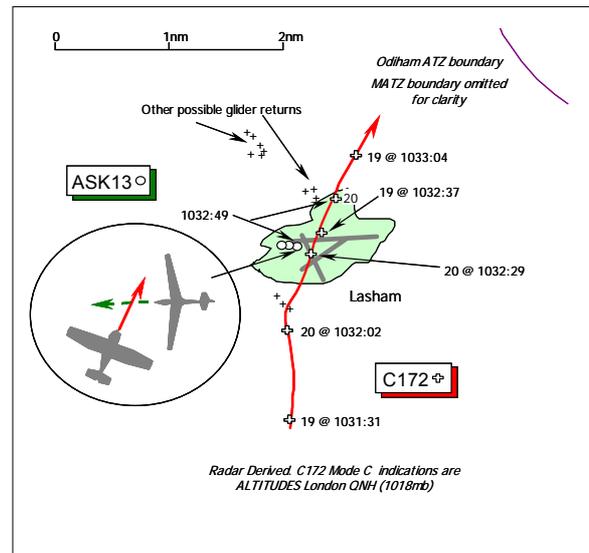
### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The glider was launched into conflict with the Chipmunk which was flying very close to a notified glider site.

Degree of Risk C.

**AIRPROX REPORT NO 061/05**

Date/Time: 6 May 1032  
Position: 5111N 00101W (Overhead Lasham elev 618 ft)  
Airspace: Odiham MATZ (Class: G)  
Reporting Ac Reported Ac  
Type: ASK 13 Glider C172  
Operator: Civ Trg Foreign Private  
Alt/FL: 1500ft 2000ft  
 (QFE 996mb) (QNH)  
Weather VMC CLBC NK NR  
Visibility: >10nm 30nm  
Reported Separation:  
 20ftV (2000ft)  
Recorded Separation:  
 Not recorded

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE ASK 13 GLIDER PILOT**, a gliding instructor, reports that he was executing a winch launch from Lasham aerodrome with a trainee, about 2000ft below a cloudbase of about 4000ft and with a visibility in excess of 10nm on a heading of 270°, out of the sun. Whilst climbing through about 1500ft Lasham QFE (996mb) at 55kt his trainee first alerted him to the presence of another ac. At the same instant he first saw the Cessna himself, some 20ft away as it was passing obliquely under his glider from the 10 to the 4 o'clock position about 20ft below his glider. He could not take avoiding action whilst on the cable so he continued to the top of the launch. The pilot of the white Cessna ac – it was either a C172 or C182 - did not appear to alter course to avoid his glider, but he stressed that whilst on the winch launch the climb-rate is high and the visibility is limited from his glider, which has a red fuselage and white wings.

UKAB Note (1): The UK AIP at ENR 5-5-1-3, promulgates Lasham Glider launching site as active during daylight hours for winch and aerotow launches which may attain a height of 3000ft agl, above the site elevation of 618ft amsl. Lasham is not a licensed aerodrome nor does not have an ATZ; the Class G airspace above the glider site is just within the boundary of Odiham MATZ sfc to 3000ft above the Odiham elevation of 405ft.

**THE C172 PILOT** reports he was flying his white Cessna from the Isle of Wight to Cambridge VFR. The intended route was Sandown – Havant – Lasham – Olney – Cambridge at a planned transit altitude of 2500ft. Before taxiing at Sandown, he adjusted the QNH correctly because he compared it to the Isle of Wight elevation of 60ft [The elevation promulgated for Isle of Wight/Sandown in the UK AIP is 55ft]. Passing N of Havant heading 360° at 100kt, he contacted London INFORMATION on 124.60MHz, to receive flight information, during which he “heard” a new QNH being transmitted on the RT; this might possibly have been the QNH for “another area” because now he is sure it was a wrong QNH. Nevertheless, “in case of gusts and clouds” he descended to an altitude of 2000ft. He tried in vain to contact London Radar but at last, to the S of Lasham, he contacted Odiham, he thought, on 125.25MHz, [it was actually Farnborough LARS] to give information about his position, altitude and heading. At first the controller tried to give him a squawk; during this RT interchange “time was passing and he reached the glider site in a low altitude”. However, he stressed that on his [Chart manufacturer’s name given] **VFR GPS Chart EG-2, United Kingdom, Edition 2005, 1:500 000 for Lasham and Odiham you will not find a glider site** [or such activity marked at either Lasham or Odiham] and he provided a sample copy of a chart fragment. In his view it would be better if the glider site were marked on the chart.

## AIRPROX REPORT No 061/05.

After he had contacted Cambridge on RT he noticed he had the wrong QNH set. He is “so sorry about this incident” but queried if any of the glider crew “looked at the sky” before the glider was launched. He did not report sighting the subject glider or any others but assessed the risk as “high”.

UKAB Note (2): A comparison of the chart used by the C172 pilot - with the appropriate chart legend obtained from the manufacturer - and the equivalent CAA 1:500 000 graphic reveals that the VFR GPS Chart EG-2, United Kingdom, Edition 2005, 1:500 000 does not depict that there is a Glider site at Lasham nor does it specify the use of cables or the maximum elevation that they could attain. Consultations with the Chart manufacturer revealed that it is not their practice to insert information about gliding activity at aerodromes – specifically the danger from winch cables - on any of their European charts.

**THE LASHAM GLIDER SITE LAUNCH POINT CONTROLLER** reports that the ASK 13 winch launch was commenced after checking ahead, above and behind for other ac. The powered ac was then seen to be converging with the glider’s anticipated “Top of Launch” height of about 2000ft AAL as it was being launched through a height of about 1500ft aal.

He estimated that the surface wind was 300/10-15kt; the visibility about 75km, with the cloudbase at about 3500ft.

**THE FARNBOROUGH LARS CONTROLLER** reports that the C172 pilot called on frequency at 1032 stating that he was at 2000ft overhead “my airfield”. The C172 was identified from the assigned A0434 squawk when the ac was positioned about ½nm N of Lasham airfield, indicating 2000ft altitude Mode C and the pilot was advised of his position. Although the pilot’s intended routeing was requested his RT was difficult to interpret. Traffic information was passed to Odiham RADAR. As the C172 was tracking towards their overhead so the C172 pilot was asked if he would accept a climb to 2500ft to avoid Odiham. The ac was then observed to climb as requested and tracked N from Odiham switching to an en-route frequency at about 1040UTC. Shortly afterwards, notification was received from Lasham of an Airprox in their vicinity which appeared to correspond to the flight path of the C172.

UKAB Note (3): The Airprox is not illustrated clearly by the Heathrow radar recording as, perhaps understandably, the glider is not shown at the time of the Airprox. However, the C172 squawking A7000 – subsequently identified from the allocated Farnborough squawk - is shown approaching Lasham from the S on a northerly course flying at an indicated 1900–2000ft London QNH (1018mb) unverified Mode C, which is maintained throughout. Many primary returns are shown in the vicinity of Lasham throughout the period which are, in all probability, manoeuvring gliders. After a slight course alteration onto a NNE heading at 1032:02, the C172 crossed the Lasham aerodrome boundary level at 2000ft QNH. At 1032:29, the C172 indicating 2000ft approaches the area of the winch launch which was situated just to the N of and parallel to RW27. No contact that might be the ASK13 is readily apparent until after the aeroplane has cleared to the N of RW27 at 1032:37, indicating 1900ft London QNH. At 1032:49 a succession of 3 returns are evident which in all probability is the glider flown by the reporting pilot; a height of 1500ft Lasham QFE (996mb) – the reported height of the ASK13 at the time of the encounter - would equate to an altitude of about 2160ft London QNH (1018mb). The C172 then clears to the NNE of Lasham on a steady course indicating 1900ft QNH.

**ATSI** reports that the C172 had departed from Isle of Wight/Sandown and planned to route to Cambridge via Havant – Lasham – WOD. The pilot contacted Farnborough LARS at 1031:10, but used the incorrect callsign of ‘ODIHAM TOWER’. After dealing with another call, the controller requested the ‘other station’ to try again; the C172 pilot then passed his flight details and gave his position just after 1031:30, [UKAB Note (3): The Farnborough RTF transcript gives only 30sec and 1min time injects] as “...we are 1 mile south of your field and we cross your field in (sic) 2000 feet...”. Later analysis of the radar recording shows the C172, at 1031:31, to be 1½nm due S of Lasham. At least three primary returns, probably from gliders, can be seen within a mile of the overhead. The Farnboro’ controller advised that she would provide a FIS and requested that the pilot squawk A0434. This squawk had to be repeated and the radar

shows that the pilot initially selected A3434 at 1032:25, just moments before the Airprox probably occurred. The controller requested that the code be reset and, at 1033:05, the C172 was identified approximately ½nm N of Lasham. The controller informed the C172 pilot of his position but no mention was made of sighting any gliders. No ATC causal factors were disclosed.

UKAB Note (4): Later at 1038:30, Farnboro' advised the C172 pilot "*...for future reference...your position when you called me up was overhead Lasham and then you actually flew overhead Odiham in future you have to avoid the Odiham Aerodrome Traffic Zone*". To which the C172 pilot responded by apologising". The C172 pilot was instructed to freecall his en-route frequency some 8nm N of Odiham.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequency, radar video recordings, a report from the air traffic controller involved and a report from the appropriate ATC authority.

Board Members recognised that a glider on a winch launch will climb rapidly – a RoC of 1500-2000ft/min was not untypical, at a high 'pitch attitude' – thereby limiting the pilot's lookout ahead which would make detection of other ac from the air difficult. From the glider pilot's perspective the Board believed that there was nothing he could do when the C172 was spotted just 20ft away as it passed some 20ft below his glider. It appeared to the Board that any attempt to abort the launch and disconnect from the winch-wire at that stage could potentially have been disastrous and might have allowed a falling wire to damage the under-flying C172. The Board agreed that in the few seconds available, all the glider instructor could do was continue to the top of the launch, thereby climbing clear of the other aeroplane.

The Lasham glider site launch point controller reports that the winch launch was commenced after checking ahead, above and behind for other ac. Members debated the efficacy of this visual check as the C172 had approached from the S, almost perpendicular to the direction of launch, and the other ac was evidently not detected by their lookout regime. The Board's gliding Advisor later explained that at Lasham the launch party signaller will look all around, above and behind before giving the signal to take up slack on the cable. Before the winch driver opens the throttle he will also look from his end of the runway. During the slack take up, whilst a lookout will be maintained, the primary focus will be on potential difficulties with the launch itself - cable snagging, release system malfunction, over-run of the cable etc. After the commencement of the launch run there is a period in which the launch should not be aborted as experience has shown that 'low aborts' can lead to accidents. When the glider is fully visible to the winch driver he will concentrate on guiding the launch by looking only at the glider. The BGA does not recommend aborting launches unless absolutely necessary, but instructors at the launch site will still be keeping an eye open for potential hazards on the ground and in the air. On an average day at a site like Lasham, 3 launches might be aborted at the lookout stage due to other ac. Flying at 100kt over the period of the launch – about 1½min - would place the C172 just under 2nm away which, coupled with possible obscuration by the local terrain or trees, makes it very difficult to spot a small light ac. Therefore, whilst a good lookout is maintained during the launch it was feasible that a light ac might not be spotted before the initiation of the winch launch. This was still a concern to at least one Member insofar as the primary method of checking the safety of the launch was not failsafe and could not necessarily guarantee to detect another ac which might potentially be in very close proximity to the glider when it was still being launched on the cable. The Member noted that the approaching C172 was neither seen nor heard. Consulted subsequently in this latter respect, the Board's gliding Advisor noted that at winch sites, general ambient noise plus the radio from tugs and winches are relayed by speaker from the launch bus/vehicle for safety purposes. Signals for the launch itself, primarily by light, are also relayed by sound signals. Unless there is virtually no activity at the launch point, sounds from an approaching ac will not be heard. The winch driver is in an enclosed cabin. When launching is taking place, it is likely the engine will be running at all times, except when the cables are being towed back, which again makes it extremely unlikely that an approaching powered ac will be heard.

## AIRPROX REPORT No 061/05.

The C172 pilot was evidently not aware before this Airprox had occurred that Lasham was a very busy glider site, promulgated in national AIPs as such, with intensive glider launching in progress at the time. His route had been planned to pass just to the E of Lasham, which was only marked on the VFR GPS chart that he used as an “airport” and so, in the Board’s opinion, this Airprox had its origins at the pre-flight planning stage. Even so, to plan to route so close to an aerodrome was not in itself a sound practice as there was immediate potential for a conflict with arriving/departing traffic. But if such a route was undertaken it demanded an intensive lookout so as to spot any conflicting traffic at an early stage. Moreover, good airmanship demanded that the aerodrome ATC be contacted in good time to advise of the transit, elicit traffic information and if necessary, obtain permission to enter the ATZ where appropriate. Here, the C172 pilot – who was not apparently familiar with the local area at all - may have been confused as to which aerodrome he was approaching. The Farnborough RT transcript revealed that he had addressed his call to Odiham, whereas he was actually communicating with Farnborough RADAR, who can provide a service to flights in transit. He then said he was “...1 mile south of your field”, presumably referring to Odiham, whereas he was actually approaching Lasham from the S and analysis of the radar recording had clearly shown that the C172 had flown through the area of the winch launch at Lasham. Moreover, as he had not seen the glider on the winch at all, at the distances reported it seemed very surprising. One theory postulated was that the radar recording showed that the C172 pilot had incorrectly selected A3434 just moments before the aeroplane overflew Lasham and the RT transcript reveals that the controller requested that the required SSR code be reset. So it seemed highly probable that the C172 pilot was ‘heads-in’ his cockpit selecting the appropriate SSR code at the time the Airprox occurred. Consequently, the C172 pilot did not detect the rapidly climbing glider at all as he flew over Lasham.

The Board was briefed on the consultations with CAA Directorate of Airspace Policy (DAP - the producer of the CAA VFR topographical charts) by UKAB secretariat staff and also discussions with the company that produced the chart the C172 pilot was using. As had been explained at UKAB Note (2), CAA charting provided comprehensive information about the hazards associated with glider launch sites – including Lasham - which was not the case with the commercial chart used by the C172 pilot. It was mentioned that if the C172 pilot had consulted the UK AIP or a CAA chart – both of which could have been accessible to him before he planned his flight – it should have been evident to him that a significant hazard existed along his route from the glider launching activity at Lasham. Consultation with the chart manufacturer also suggested that other documents produced by that company – if consulted by the C172 pilot – might have revealed the same information as that in the UK AIP. There was a view, therefore, that although the chart in use by the C172 pilot did not provide information on the gliding activity at Lasham such information was readily available from other sources. The Board Members empathized with the C172 pilot’s dilemma, using his chart in good faith and expecting it to provide him with the fullest information of any hazards. Nevertheless, in the Board’s opinion it remained the C172 pilot’s responsibility to avail himself of the most complete information obtainable from which to plan his route and which should have been available to him – albeit from other sources – which was a salutary lesson for the unwary. The Board unanimously concluded, therefore, that the cause of this Airprox was that the C172 pilot overflew the Lasham Glider launching site, which was not marked on his chart as such, and flew into conflict with the ASK13 glider.

Whilst the vertical separation that pertained here could not be ascertained independently this was certainly a close call by all accounts. The potential for catastrophic damage to the C172’s airframe from the winch-wire was readily apparent and evidently the unsighted C172 pilot was completely oblivious to the presence of either the wire or the attached glider. The glider pilot was also powerless to prevent this occurrence. Mere seconds separated these two ac from being in exactly the same piece of sky above Lasham. The Board concluded, unanimously, that a definite risk of collision had existed in the circumstances reported here because no action had been taken by any of the individuals involved to avert this close quarters situation: therefore, it was purely fortuitous that a collision did not ensue.

Returning to the issue of the depiction of glider sites on commercial charts: in the Board’s view air charts should provide a comprehensive warning of the dangers posed to other airspace users and so the Board

was minded to make a Safety Recommendation on this topic. The Board was briefed that currently, there is no regulatory oversight of commercial aeronautical publications such as the chart produced here, which was of concern to the Board. Whilst recognising the inherent limitations of the medium it seemed that such glider launch sites should be marked on charts to provide pilots with the fullest information about these locations and so the Board charged the Chairman with formulating a Recommendation to the chart production company on this topic to do just that.

Post Meeting Note: Subsequent to the Board meeting, the Chairman raised the charting issue with the CAA's Director of Airspace Policy. These discussions, coupled with discussions with the company concerned, subsequently elicited an undertaking from the chart production company to add a glider symbol for Lasham to their VFR/GPS chart at the next regular update. Whilst this is a very helpful development, it was evident that this did not cover the issue of airports in addition to Lasham where glider launching also takes place. The chart production company was requested to consider this point, subsequently informing UKAB that various options are being studied with the intention of depicting winch launch glider sites, especially in the UK, on their VFR GPS charts. Such a change would be introduced with the next routine revisions: UKAB would be advised of the company's plans.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The C172 pilot overflowed the Lasham Glider launching site, which was not marked on his chart as such, and flew into conflict with the ASK13 glider.

Degree of Risk: A.

Recommendation: In the light of this Airprox, the chart production company should review its policy with respect to the depiction on its VFR GPS charts of aerodromes where glider winch launching takes place.

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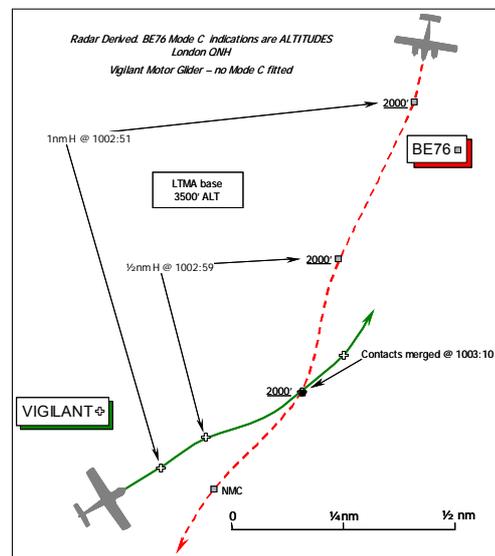
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## Section 3 - Speed

General Aviation speeds have been gradually rising for some time. We have quite a number of light aircraft which are very fast as well as a significant number of Warbirds, Twins, Turboprops and Jets. You have some chance of seeing gliders below 150kts but the chances diminish rapidly as the speed rises. Those flying the upper end of GA aircraft should consider trying to obtain clearances to route in the bottom of controlled airspace, rather than Class G; you will find ATC are sympathetic. Again where possible, especially on good cumulus days, try and adjust the levels and routing to minimise the risk. In the more mountainous regions of Wales and Scotland and the Pennines, gliders may well be flying up to FL 245 in wave on good wave days. Elicit some help from your friendly Met person to advise you of these conditions if you are using higher levels, particularly above 6000ft. Those flying the very fast light aircraft might consider operating lower in thermic conditions where there will be less glider traffic and gliders should also be more visible above you. I picked out another Airprox from 2004 which illustrates the same problem and involved a Hunter flying over the ridge at Nympsfield.

### AIRPROX REPORT NO 048/05

Date/Time: 16 Apr 1000 (Saturday)  
Position: 5146N 00050W (4.3nm WSW Halton - elev 370 ft)  
Airspace: London FIR (Class: G)  
Reporting Ac Reported Ac  
Type: Vigilant BE76  
Operator: HQ PTC Civ Trg  
Alt/FL: 1600ft 2000ft  
 (QFE 998mb) (QNH)  
Weather VMC CLBC VMC CLBC  
Visibility: 20km 10km  
Reported Separation:  
 Nil V/100ft H nil V/100ft H  
Recorded Separation:  
 Contacts merged in azimuth



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE VIGILANT PILOT**, a QFI, reports his motor-glider has a white and high visibility orange colour-scheme. All the ac's lighting including the HISLs and anti-collision lights were also displayed whilst conducting a dual instructional sortie from Halton. He was operating VFR some 200ft below cloud with an in-flight visibility of 20km and in communication with Halton RADIO A/G Station on 130.42MHz. A squawk of A7000 was selected but Mode C is not fitted.

Whilst repositioning to remain a safe gliding distance from the aerodrome after descending from a sequence of stalling exercises, they had climbed to a height of 1600ft Halton QFE (998mb) and had just levelled the ac to brief his student for the next phase of the sortie. Some 4nm SSW of Halton heading N, he thought, at 60kt, a blue and white coloured low wing ac - believed to be a twin - appeared in his 11 o'clock position 100ft away rolling R and descending past his port wing about 1½ wingspans away - he estimated about 100ft - heading in a SW direction (240°). No avoiding action was taken as the other ac had emerged from the cloud base on a reciprocal heading in conflict with a "high" risk of a collision.

**THE BEECH BE76 DUCHESS PILOT**, a flying instructor, provided a concise and frank account reporting that he was instructing a student on a dual sortie in his blue and white ac. He was not in receipt of an ATS, but squawking A7000 with Mode C whilst operating VFR in VMC some 1000ft below cloud with a visibility of 10km. TCAS is not fitted.

Flying in level cruise at about 2000ft QNH some 3nm NE of Princes Risborough heading approximately 240° at 140kt, a white Grob motor glider – the Vigilant - was spotted in level flight at 11 o'clock 100ft away. No avoiding action was taken owing to the late sighting as the MG passed 100ft away to port at the same level with a “moderate” risk of collision. He opined that the Grob has a small profile, was virtually head-on and white in colour against the cloud backdrop, adding that it probably appeared from behind the blind spot above the windshield.

He observed that this area is used by 2 fixed-wing training organisations at Booker plus numerous private owners, as well as the Halton ac. Extreme vigilance is required by all pilots; nevertheless with most ac involved in general handling manoeuvres, late sightings are inevitable. He stressed that white ac with small head on profiles complicate the matter.

UKAB Note (1): The Heathrow 10cm radar recording confirms in broad terms the separation reported by both pilots and illustrates this Airprox quite clearly. The BE76 is shown approaching the Vigilant from the N steady on a SSW course maintaining 2000ft Mode C London QNH (1010mb) throughout. The Vigilant was proceeding generally NE, not a heading of N as the pilot describes, converging with the BE76 and at 1003:10, both contacts merge about 4.34nm WSW of Halton aerodrome. The Vigilant pilot reports he was flying at 1600ft Halton QFE (998mb): an altitude of 2000ft London QNH (1010mb) would equate to a height of about 1640ft Halton QFE.

**HQ AIR CADETS** comments that both ac were operating close to cloud, which would have contributed to their late sighting of each other. The proximity of Halton to the Luton CTR/CTA and the overlying London TMA coupled with the Brize Norton CTR and Benson MATZ causes considerable congestion in the area, which aggravates the problem. Further reducing the available airspace with a low cloud base only serves to compound it. Another close encounter in very congested but ‘open’ airspace.

**HQ PTC** had no further comment to add.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, radar video recordings and a report from the Vigilant pilot's operating authority.

The Board recognised that this Airprox in the ‘see and avoid’ environment of the Open FIR was entirely a lookout issue where both instructors had seen the other ac – probably at the same moment – about 100ft away but were unable to do anything about it. Both of the predominantly white coloured ac had approached at a virtually head-on aspect to each other, at a near constant relative bearing with virtually no relative motion to draw attention to either. Thus early visual detection by the pilots against the backdrop of the cloudscape was defeated and the presence of each other's ac masked until the last moment. It was in similar scenarios to this incident – at a head-on closing geometry - that the PTC TCAS trial had proved so effective. Indeed 30sec warning had been achieved, which attested to the desirability of a collision warning system to supplement lookout scan. The Board wholeheartedly endorsed the acquisition of such equipment to assist pilots and its use could well have averted this Airprox. Although this was an extremely late sighting by both acs' crews, neither instructor could probably have done anything about it in the time available. The Board agreed unanimously, therefore, that the cause of this Airprox had been effectively, a non-sighting by both pilots.

## AIRPROX REPORT No 089/05.

Regarding the inherent risk, both pilots' accounts correlated as to the relative geometry and the separation that pertained. The radar recording had confirmed that the contacts had merged in azimuth with no appreciable horizontal separation supporting both pilots' reports. However, it was not feasible to determine with absolute certainty the vertical separation that pertained here because the Vigilant was not fitted with Mode C. Nevertheless, the Vigilant pilot's reported height of 1600ft Halton QFE (998mb) and the BE76 pilot's altitude of 2000ft London QNH (1010mb) suggested a height separation of about 40ft which was very close indeed. At a closing speed of about 200kt and a sighting range of 100ft neither crew would probably have been able to significantly alter their acs' flight path to take effective avoiding action, suggesting that any separation that existed was purely fortuitous. The Board agreed, again unanimously, that in the circumstances reported here an actual risk of collision had existed.

### PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Effectively, a non-sighting by both pilots.

Degree of Risk: A.

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## AIRPROX REPORT NO 089/05

Date/Time: 17 Jun 1323

Position: 5118N 00005W (3nm WNW Kenley  
elev 566ft)

Airspace: London FIR (Class: G)

Reporting Ac Reported Ac

Type: Viking Glider BE200

Operator: HQ PTC Civ Comm

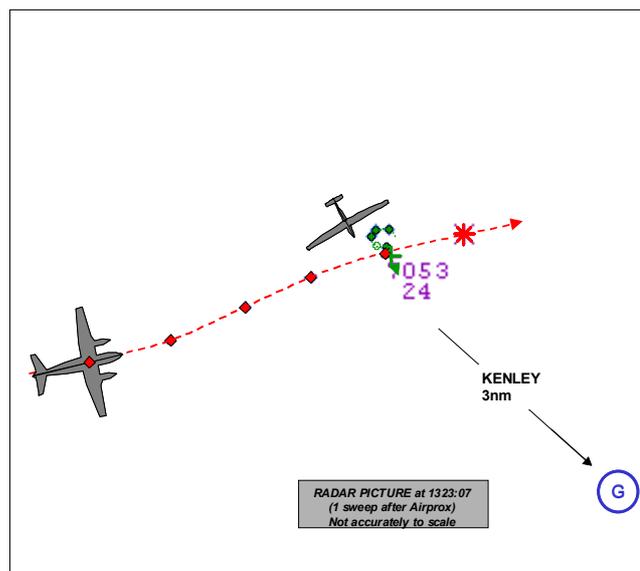
Alt/FL: 1520ft agl 2400ft  
(QFE NR) (QNH 1027 mb)

Weather VMC CLBC VMC CAVOK

Visibility: >10km >10km

Reported Separation:  
50ft V/Nil H 200ft V/O H

Recorded Separation:  
Contacts merge



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE GROB VIKING PILOT** reports flying a day-glo and white glider on an instructor check sortie in an area of good lift near Kenley and in radio contact with them. One minute after establishing in a thermal at 1520ft (Kenley QFE) and in a 30-40° LH turn at 55kt, 3nm WNW of Kenley he saw a BE200 heading directly towards them at the same height. When it was about 50-75ft away it executed an avoiding manoeuvre by climbing and turning left, passing about 50ft over their glider. Due to the late sighting, possibly due to their thermalling turn, they did not have time to take any avoiding action and they assessed the collision risk as being high. They reported the incident to Kenley Radio who passed the details to Thames Radar.

**THE BE200 PILOT** reports flying a VFR positioning flight from Exeter to London City in a Blue ac with HISLs and strobes switched on but no TCAS fitted. At the time of the incident he was squawking as directed and in receipt of a RIS from Thames Radar and was on a Radar Heading of 090° at 230kt and

2400ft on the London QNH. His track took him approximately 3nm N of the Kenley Gliding Site. Thames Radar then began radar vectoring him for an instrument approach at City, with an initial Radar Heading of about 040°. Immediately on rolling out on this heading a glider was sighted about 1nm ahead and slightly below so he resumed a heading of 090° to ensure adequate separation behind the glider. However, the glider turned left onto a S heading and the pilot had obviously not sighted them, the glider passing directly under them about 200ft below. They had the glider in sight throughout and, although it passed directly under their ac, the risk of collision was assessed as nil. Having made the heading change further avoiding action was not possible due to the TMA above and as the risk of collision was nil, climbing into it was considered to be both unnecessary and considerably more hazardous.

UKAB Note (1): The recording of the Heathrow radar shows both ac throughout.

**ATSI** reports that the BE200 pilot contacted Thames Radar at 1320:30 when it was approximately overhead Epsom at 2400ft. The controller was busy and so he requested the crew to standby before, at 1321:50, requesting the pilot to pass his details; this was done and a 7053 squawk was allocated. The controller then told the BE200 pilot that he was now in receipt of a RIS: however he did not inform the pilot that he was identified nor did he advise him of his position (which was 5nm W of Kenley). This is a requirement in MATS Part 1, Section 1, Chapter 5, page 9 Table 5. There were at least 2 primary contacts operating in the vicinity, one of which was in the BE200's 12 o'clock position at a range of 2.8nm, but the controller did not pass any TI to the pilot. Ten sec later the controller instructed the crew to turn left heading 040° and advised them to expect vectoring for an ILS approach to RW28 at London City. Twenty sec later the pilot advised that he was "*..coming onto a heading now trying to miss a glider*". The controller replied "*Okay that's fine it's Kenley to the southeast of you then...*". At the time the BE200 was 2nm NW of Kenley.

The UK AIP notifies Kenley as a gliding site, active from sunrise to sunset up to an altitude of 2286ft. MATS Part 1, Section 1, Chapter 3, page 3 para 1.5 (Radar Information Service) states that a RIS is an air traffic radar service in which the controller shall inform the pilot of the bearing, distance and, if known, the level of the conflicting traffic. In this case the glider was clearly visible on radar and in conflict with the BE200, however, the controller did not comply with the requirements of MATS Part 1 as no traffic information was passed. The unit's MATS Part 2, page THS-58, does state that controllers should, whenever possible, avoid routeing any flight below altitude 2500ft within 2nm of Kenley and this was complied with.

**HQ PTC** comments that although this was perceived as being a close call from the glider pilot's perspective it seems that the BE200 pilot had enough time take a reasoned best course of action within his limited scope. We shall leave comment on the ATC aspects to others. This was clearly no infringement of the gliding site itself and the present satisfactory liaison with Biggin Hill was not a factor.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, 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.

In this incident both pilots had been operating legitimately, VFR in Class G airspace, and therefore had an equal and shared responsibility for collision avoidance. The area in which the incident took place is very congested due to lateral and vertical airspace restrictions and several busy major and minor airfields located in the vicinity. The Beech pilot had been operating under a RIS (unlimited) from Thames Radar and Members considered that he could have expected information on all other traffic to affect him that could be seen on the radar. This view was reinforced since the Beech had been placed on a (conflicting) Radar Heading by the Thames Controller. The Board was told by a Member very familiar with ATC operations in that area that it can be very busy with non-squawking traffic and that glider tracks

## AIRPROX REPORT No 006/04.

are generally difficult to predict; however, the majority view was that at the very least a general warning of 'glider activity' would have alerted the Beech pilot to the conflict at an earlier stage thus facilitating an increased avoidance distance. Notwithstanding, the Beech pilot had seen the glider and in sufficient time to take avoiding action that he reported as suppressing any risk. Further, in order to achieve this separation he did not have to make use of the vertical plane which would have resulted in a risk by penetrating the CAS above. Although the glider pilot had seen the Beech late, he verified that by that time it was already visibly taking avoiding action. Further, the position of the glider's left-hand orbit would have made it difficult for the pilot to see the fast approaching Beech much earlier. Effective lookout by glider pilots orbiting at relatively slow speed in a thermal can be very difficult; nonetheless it is most important that they are aware of this and develop techniques to overcome it. Although Members debated whether or not the prime cause had been a sighting issue the Board concluded that this had been an FIR conflict that attracted no risk of collision.

### PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict in Class G airspace.

Degree of Risk: C.

Contributory Factor: Late sighting of the BE200 by the glider pilot.

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## AIRPROX REPORT NO 006/04

Date/Time: 24 Jan 1439 (Saturday)

Position: 5142N 0219W (2nm SW Nympsfield  
G/S - elev 700ft)

Airspace: FIR (Class: G)

Reporting Ac Reported Ac

Type: LS4 Glider Hunter

Operator: Civ Pte Civ Pte

Alt/FL: 2000ft↑ c2000ft

(amsl) (RPS)

Weather VMC CLBC VMC CLBC

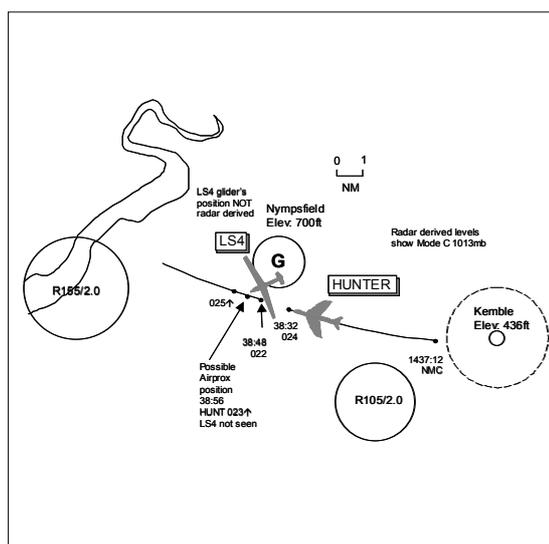
Visibility: 10km

Reported Separation:

50ft V 100m H not seen

Recorded Separation:

not recorded



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE LS4 GLIDER PILOT** reports soaring at 45kt at 2000ft amsl about 3nm SW of Nympsfield and in communication with other gliders on 130-125MHz. The weather was VMC 1500ft below cloud and the glider was coloured white with an orange nose; no transponder or lights were carried. Whilst turning R through heading 250° the Hunter was first seen over her L shoulder in her 7-8 o'clock position about 200m away, converging. Her R turn was continued, as it was taking her away, but there had been no time to take any avoiding action and the Hunter passed about 100m to her L and 50ft above by the time her glider was turning through a parallel heading. The Hunter was dark coloured overall flying in a level attitude heading approx 280°. She assessed the risk of collision as high. At the time of the incident

there had been about 15 other gliders ridge soaring at similar heights within 1nm of her ac, two other glider pilots had observed the encounter.

**THE HUNTER PILOT** reports heading 270° at 250kt and about 2000ft RPS on a dual local sortie from Kemble. The visibility was 10km 500ft below cloud in VMC and the ac was painted in desert camouflage scheme, he thought. He had not seen the reporting glider during his transit of the area towards the River Severn. At the time, he was changing frequency from Kemble to Bristol to obtain an ATS and changing his transponder settings from 7000 to a Bristol assigned code.

**ATSI** comments this Airprox took place on a Saturday when Filton Radar is not available and Bristol International takes on the LARS responsibility in the Filton area and to the N of it. The Hunter pilot called the Bristol LARS controller at 1438 advising that he was 5 miles W of Kemble at 2500ft on the RPS, heading NW towards the Estuary. The controller confirmed that the ac type was a Hunter and the pilot requested a RIS. The controller responded by advising that there were a lot of primary contacts in the area and allocated a squawk of 0410. Shortly afterwards, the controller informed the pilot that he had passed the observed traffic and that nothing further was showing, on radar, ahead. He placed the aircraft under a RIS, limited owing to its altitude. The time between the Hunter pilot making his first call, and being placed under a service was 45 seconds. The pilot made no mention of any other ac seen or that he had been involved in an Airprox. No ATC errors were disclosed in this incident.

UKAB Note (1): Met Office archive data shows the Cotswold RPS 1400-1500UTC as 1013mb and the actual QNH in the Nympsfield area as 1017mb.

UKAB Note (2): The UK AIP at ENR 5-5-1-4 promulgates Nympsfield as a Glider Launching Site centred 514251N 0021707W for winch and aerotow launches where cables may be encountered to 3000ft agl, during daylight hours; site elevation 700ft amsl.

UKAB Note (3): Analysis of the Clee Hill radar recording proved inconclusive as only the Hunter is seen but the LS4 glider pilot did provide a GPS and barograph log for the flight. The Hunter begins painting on radar at 1437:12 2.4nm W of Kemble tracking 280° squawking 7000 with NMC. By 1438:32 the Hunter is flying 1.9nm S of Nympsfield tracking 290° and showing Mode C for the first time at FL024 (2520ft QNH 1017mb). After fading for one radar sweep, 16secs later the Hunter reappears 1.5nm SSW of Nympsfield squawking 0410 indicating FL022 (2320ft QNH) climbing. The Airprox is believed to occur about the time of the next radar sweep (1438:56), the Hunter is climbing through FL023 (2420ft QNH) and the LS4 pilot's data log places the glider in the same area 2nm SW of Nympsfield at about 2000ft amsl.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, radar video recordings and reports from the appropriate ATC and operating authorities.

The gliding advisor to the UKAB said that a local agreement was in place between the Hunter operator at Kemble, Aston Down and Nympsfield. 'Fast jet' traffic should route after departure towards Michael Wood service station on the M5 (almost on the extended C/L of the Kemble RW) at about 1000ft before turning R and climbing over the Severn Estuary. This procedure was worked out to provide separation against the two gliding airfields and other users of the Cotswold edge. Members noted that as the Hunter's track had taken it 1.5nm SSW of Nympsfield Site, it would be very likely to encounter gliding activity. As gliders are usually predominantly white and notoriously hard to see, particularly against a background of white cloud, any procedure, which provides segregation, should be followed – 'best practice' being the order of the day. However, this conflict occurred in Class G airspace, where 'see and avoid' pertained and from the reports received, it was clear that the Hunter pilot had not seen the reporting LS4 glider. This had caused the Airprox.

## **AIRPROX REPORT No 006/04.**

Fortunately the LS4 pilot had seen the Hunter approaching from the rear L quarter on a converging track and, after quickly assessing that her R turn was taking her away from it, she continued the turn whilst watching the 'fast jet' pass 100m away abeam on her LHS and 50ft above. At the time, she had reported flying at 2000ft amsl, which is confirmed on the data log, and the radar recording shows the Hunter crossing the area at 2300-2400ft QNH. With the glider unsighted from the Hunter cockpit, any collision avoidance was left to the LS4 glider pilot. This was accomplished by her continuing to turn R but the Board agreed that the subject ac had passed unnecessarily close, to the extent that safety was not assured during the encounter.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: Non-sighting by the Hunter pilot.

Degree of Risk: B.

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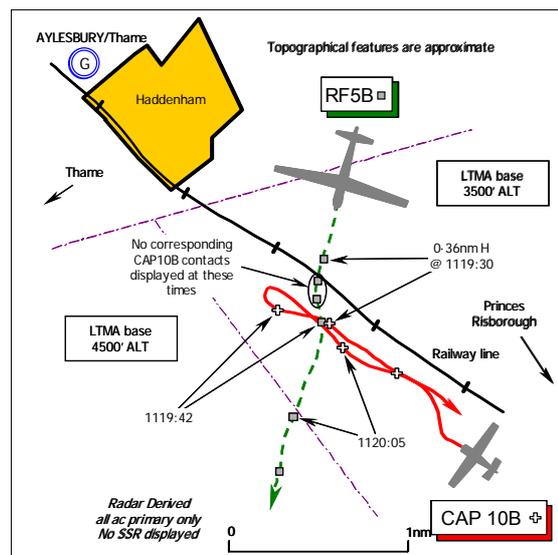
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## Section 4 - Aerobatics

We have had a couple of incidents where aerobatic have met other aircraft in Class G airspace. We do not have many areas which are free of traffic, especially at lower levels, so a special lookout, especially between manoeuvres, should be made. Please try and keep clear of cloud as this will impair visibility and do not be tempted to turn off the squawk because you are operating close to controlled airspace. ATC would prefer to see you and have the opportunity of providing avoidance when required than for you to remain invisible and conflicting with passing traffic.

### AIRPROX REPORT NO 026/05

Date/Time: 6 Mar 1119 (Sunday)  
Position: 5145N 00054W (2nm SE of Haddenham)  
Airspace: London FIR (Class: G)  
Reporting Ac Reported Ac  
Type: Sportavia RF5B CAP10B  
Operator: Civ Pte Civ Trg  
Alt/FL: 2800-3000ft 2500-3400ft  
 (QNH 1029mb) amsl  
Weather VMC CLBC VMC NK  
Visibility: 10km NK  
Reported Separation:  
 20m H Not known  
Recorded Separation:  
 Not recorded



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE SPORTAVIA RF5B MOTOR GLIDER PILOT** reports his ac has a predominantly white colour-scheme with yellow trim. SSR is not fitted.

The flight was conducted with his co-owner as a passenger - who is also a PPL holder - they had departed from Peterborough/Sibson aerodrome and were en-route to Popham VFR in level cruise at 3000ft QNH (1029mb) in VMC some 500ft clear below cloud whilst listening out with Cranfield on 122.85MHz, but he was not in receipt of any ATS.

At the time of the Airprox he had been flying for about 30min in the cruise between an altitude of 2800 - 3000ft to keep clear of cloud and well below the lower levels of the Luton CTA in the area some 5nm S of Milton Keynes. Heading 205°, some 3nm E of Little Horwood disused aerodrome he thought, [UKAB Note (1): The radar recording reveals the Airprox actually occurred some 2nm SE of AYLESBURY/Thame Glider site at Haddenham] at 90kt, the white CAP10B was first seen low, in his 11 o'clock about 50m away as it flew towards him climbing and rolling R. To avoid a collision with the CAP10B, he very quickly dived down in a port turn as the other ac passed some 20m ahead of his ac – he stressed this was just a little more than his ac's wingspan of 17m - from L- R with a "very high" risk of a collision. Whereupon he realised that the CAP10B was inverted – as it flew into his 2 o'clock high position – before its pilot completed a barrel roll to a wings-level upright position as it flew away from them. As they continued southbound away from the area where the Airprox occurred, both he and his passenger noticed that the CAP10B had continued with its aerobatic manoeuvres well behind them.

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The flight to Popham was continued with no further incidents. He added that his ac has excellent all-round vision from the omni-visual cockpit except downwards because of the low-wing.

He stressed that he has been flying for over 42 years with an amateur PPL with over 1370 power flying hours and over 1900 gliding hours, including over 1000 hours as a BGA full rated Instructor with a CFI rating for 2 Gliding Clubs. His passenger is also a current glider pilot and they have not seen anything, not even another glider in a thermal, pass as close as the CAP10B did.

**THE CAP10B PILOT** reports his ac is coloured white and on the day of the Airprox he was operating VFR from Denham aerodrome and was not in receipt of an ATS. Although SSR is fitted, Mode C was selected off.

Although he has no recollection of the event itself he provided a frank and very comprehensive account: his logbook shows that his chock-chock times to/from Denham were 1045-1140 UTC, thus placing him airborne at the time of the reported Airprox - 1119. The flight was a dual aerobatic training sortie for a moderately experienced qualified pilot with whom he had flown once before. The operating area chosen was along a stretch of railway line which tracks approximately 300° between the towns of Princes Risborough and Thame; this railway line constituted the axis for their aerobatics - 180° clearing turns were carried out either between manoeuvres or as they approached the limits of their operating area, typically after 2 manoeuvres. The flight consisted of a transit flown to the operating area below 2500ft amsl, completion of the appropriate checks, followed by his demonstration and student practice of a variety of aerobatic manoeuvres, using a base altitude of 2500ft. Typically, looping manoeuvres in the CAP10B have a vertical extent of 800ft.

Since commencing operations from Denham in late January, he has flown some eighteen sorties with a similar profile in the same area. On a typical occasion, he sights 5-6+ other aeroplanes in reasonably close proximity as they transit the area, some of which pass sufficiently close for him to suspend manoeuvring for the duration of their passage. He recalls nothing untoward about the flight in question and he therefore concludes that either he sighted the other ac and did not consider its presence as a threat to their safety or the other ac remained unsighted at all times. It is somewhat sobering to contemplate the latter case, due to the heightened lookout required during aerobatics.

It is clear that, for a variety of reasons, the area to the NW of the Chiltern Hills is a busy piece of sky. Maybe there is a case for alerting other pilots to regular aerobatic practice areas in a manner similar to that carried out in, say, France. One has to ask why a White Waltham based aeroplane is forced to conduct its training flying from Denham, thus limiting the choices of aerobatic operating area to a dramatic extent.

UKAB Note (2): The Heathrow Radar recording does not illustrate this Airprox clearly. Nevertheless, the RF5B Motor glider is shown as a primary contact approaching the Airprox location [no SSR fitted], which occurred to the W of the of the railway line to the SE of Haddenham. Meanwhile the CAP10B is shown on a generally northwesterly course, but does not display SSR at all. The two ac are shown some 0.36nm apart at 1119:30, just before primary contact on the CAP10B is lost for two sweeps, during which the Airprox occurred. The CAP10B ac is not evident again until 1119:42, when it is shown flying away on the RF5B's starboard beam at a range of 0.24nm, presumably after the CAP10B has crossed from L-R ahead of the RF5B. Meanwhile the avoiding action L turn (and dive) reported by the RF5B Motor glider pilot is evident. The CAP10B then turns about and proceeds SE bound astern of the Motor glider that continues southbound.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac and radar video recordings.

Whilst understanding the CAP10B pilot's difficulties in the choice of an area to undertake the training, this locale beneath the LTMA was perhaps in retrospect not a good place to conduct aerobatics. The presence of CAS from an altitude of 3500ft had the unwelcome effect of compressing the myriad of other airspace users - all vying for passage and the use of the limited Class G airspace available - into this narrow piece of the FIR where the principle of 'see & avoid' predominates. The CAP10B pilot's suggestion of separate areas for aerobatics did not meet with widespread support amongst the Board Members, the GA Member opining that there was little justification for 'exclusive aerobatics' areas in the already confined airspace over the heavily populated areas of southern England. Whilst the main railway line SE of Haddenham might be a useful reference feature for aligning the axis of an aerobatic manoeuvre, Members warned that it was probable that other GA pilots would be encountered navigating along it, heightening the potential for encounters - although not the case here. The radar recording had shown that this Airprox had occurred a little further down the RF5B pilot's track than he at first thought, just as he was crossing the line feature. He reported the CAP10B was first seen only 50m away to port and indeed the small CAP10B would have been a difficult ac to spot closing on a fairly steady relative bearing until it finally crossed ahead of the Motor Glider. It was evidently a very late sighting on the RF5B pilot's part which in the Board's opinion was part of the cause.

The Board commended the CAP 10B pilot for his comprehensive account which had revealed that although he could not recall anything untoward about the flight, he had surmised that either he had spotted the other ac and did not consider its presence a threat or the other ac had remained unsighted at all times. In the former case it seemed inconceivable to the Board that a pilot would continue to execute an aerobatic manoeuvre across the nose of another ac at the distances reported if he had actually sighted the other ac in time to do anything about the confliction. Such an action would be foolhardy in the extreme so the Board dismissed this possibility. Alternatively, as the CAP10B pilot had himself suggested, in all probability he had not seen the RF5B Motor Glider at all beforehand which the Board agreed in their experience was far more likely despite the excellent visibility from this ac's cockpit. In this crossing scenario the CAP10B pilot was required by the 'Rules of the Air' to give way to the RF5B but it would not have been feasible to comply with these responsibilities if he had not sighted the other ac in time to do so. The CAP10B pilot's suggestion that the "heightened lookout required during aerobatics" made it more likely that other traffic would be spotted was, in a Members' opinion, a questionable assumption. Just because a pilot is actually looking out of the cockpit for visual cues during aerobatics does not necessarily imply that a pilot's lookout to detect other ac during the manoeuvres was any better: his view was probably concentrated only into the airspace into which the ac was about to fly and possibly to the detriment of an all-round scan for other ac entering the chosen airspace. This Airprox illustrated that point of view quite clearly. The Board concluded, therefore, that this Airprox had resulted from a non-sighting by the CAP10B pilot and a very late sighting by the RF5B pilot.

The radar recording had not shown the CAP10B at the critical moment as it crossed ahead of the RF5B, possibly because of the high-energy manoeuvres being flown in this ac of small cross-sectional area, which made it doubly difficult for the primary radar to detect at these altitudes and so far from the radar head. Therefore, the minimum separation that pertained could not be confirmed independently with any certainty. Nonetheless, the predicted track of the CAP10B in relation to the RF5B contact suggested that the minimum separation reported by the latter's pilot was possibly not too far wide of the mark. The reported avoiding action L turn was shown, but at a speed of 90kt the dive might have been the most effective form of avoiding action to get out of the way of the inverted CAP10B. Despite the avoiding action taken, at these relative distances with only one pilot aware of the proximity of the other ac, which was conducting aerobatic manoeuvres of an unpredictable nature, the Board concluded an actual risk of a collision had existed in the circumstances reported here.

Whilst not specifically germane to this incident, the Board noted that the radar recording had shown that the CAP10B was apparently not transponding on either Mode A or C throughout the encounter, despite the pilot's report that the ac was so fitted. Members wholeheartedly recommended that pilots select their SSR transponders to an appropriate conspicuity code with Mode C to make their ac more 'visible', both

## AIRPROX REPORT No 075/05.

to ATC radars and also to other ac's TCAS equipment. Here, although the RF5B pilot was not in receipt of a radar service, the selection by the CAP10B pilot of the special purpose code of A7004 [Aerobatics & display] would have made his ac far more apparent to controllers at SSR equipped ATSU's with an indication of what he was doing. Thus, if necessary, they could have either given his ac a wider berth or informed other pilots in receipt of an ATS flying in the vicinity that aerobatics were being conducted. Purely in the interests of flight safety, the Board recommended that GA pilots use their SSR equipment to the maximum extent feasible, in line with national guidelines and the SSR operating procedures stipulated within the UK AIP at ENR 1-6-2-1.

### PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the CAP10B pilot and a very late sighting by the RF5B pilot.

Degree of Risk: A.

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## AIRPROX REPORT NO 075/05

Date/Time: 31 May 1103

Position: 5143N 00202W (4½nm N of Kemble)

Airspace: London FIR (Class: G)

<u>Reporting Ac</u>	<u>Reported Ac</u>
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<u>Type:</u> LS6 Glider	Extra 300
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<u>Operator:</u> Civ Pte	Civ Pte
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<u>Alt/FL:</u> 2300ft	2000ft
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(QNH)	(1026mb)
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<u>Weather</u> VMC CLBC	VMC CLBC
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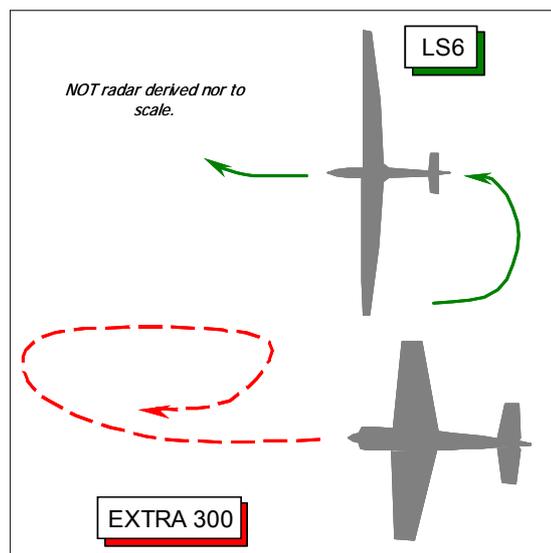
<u>Visibility:</u> 30km	>10km
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Reported Separation:

800ft	>1000ft
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Recorded Separation:

Not recorded



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE LS6 GLIDER PILOT** reports, with an accompanying data logger trace, that whilst en route to East Anglia at an altitude of 2300ft, she stopped to circle to the L in the weak lift overhead Cirencester Park (51° 43"N, 002° 02"W), some 800ft below the cloudbase in clear air with an in-flight visibility of 30km. After completing a L turn passing 270°, she saw a powered ac which at first she thought might have been a Jet Provost because of its shape against the light. This ac was climbing vertically some 800m away off to the SW, perhaps at the western edge of the woods. Having completed that manoeuvre, the other ac – the Extra 300 - was now about 400m to the S flying E towards the town of Cirencester and below her glider, when she realised it was not a jet but a single-engine monoplane with prominent broad red and white stripes on the wings. She turned to the N to present as big a shape to the other pilot as feasible to aid conspicuity but as it passed abeam it pulled into another loop. As she believed that the Extra pilot had not seen her glider she turned away more to the N. When she next saw the ac it was to the S inverted above her, 10° from the vertical as it rolled off the top in her direction and dived whereupon she feared that it might hit her tail. She increased speed to more than 120kt to get out of the way, but

the next time she saw the Extra, it was alongside some 300m away to the S and she was not outstripping it. When she saw it again, it was continuing to do aerobatics in the area she had first seen it.

Assessing the risk as *“very high if the other pilot had not seen her glider”*, at no time during this episode did the pilot of the other ac give any indication that her glider had been seen nor did she see anything that appeared to be avoiding action. She knew that the cloud base was 3100ft amsl and when the other ac was above her, it was clear of cloud, so the furthest it could have been from her vertically above was 800ft but it looked a lot closer than that and she said it was *“very frightening”*.

**THE EXTRA 300 PILOT** reports that his ac has red/white striped upper surfaces and the HISLs were on whilst conducting aerobatics some 4nm N of Kemble. He was not in receipt of an ATS whilst operating under VFR, in VMC about 1500ft below the cloud base and with a flight visibility of >10km. The SSR including Mode C was selected off.

Whilst initiating a looping manoeuvre with a climbing flight path through 2000ft heading NW at 170kt the glider was first seen in a slight L banked attitude 1nm away at R 1 o'clock, high. To avoid the glider he continued the loop but applied bank so that the canopy was towards the glider so as to remain in sight as he rolled over the top and behind to position on L side of glider more than 1000ft away. As he did so, the glider continued turning L so he remained on the inside of the turn for the full 360° of the turn. He waggled and selected smoke 'on' to indicate that he had seen the glider and to increase his conspicuity. The glider then departed to the W at about 160kt.

He stressed that at no stage did he get closer than 1000ft and it was more likely it was 1500ft. Visual with the glider at all times he assessed the risk as *“nil”*.

UKAB Note (1): The Clee Hill Radar recording does not illustrate this Airprox clearly as primary radar contacts which might be associated with the reported track of the glider and the Extra pilot's reported aerobatic manoeuvres are only shown occasionally. Although the glider pilot provided a copy of the GPS data log, which illustrated the glider's track made good, the radar recording did not display the Extra's track sufficiently to enable the two to be compared and thereby enable the geometry of this encounter some 4½nm N of Kemble to be established with any certainty.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac and radar video recordings.

Although the glider pilot had provided a comprehensive report together with an accompanying data-logger trace, it was explained that it was not practicable in this instance to relate this data to the occasional and intermittent radar data available on the Extra as its pilot conducted his manoeuvres. Consequently, it was not feasible to replicate with absolute certainty the geometry of this encounter independently nor the minimum separation that pertained here. Nevertheless, it was clear that the Extra pilot had detected the presence of the glider during his manoeuvres at some stage and broken off into the inside of the glider's turn. Whether he had done this before or after the glider pilot had seen the Extra was not entirely obvious but he had apparently tried to indicate this sighting to the glider pilot by selecting smoke 'on'. This was evidently to no avail, as the smoke was not apparently seen by the other pilot. The Chairman pointed out that it was most important to clear one's flight path when performing aerobatics, as it very difficult for other pilots to determine your trajectory and where you will go next, as others plainly have no insight into the sequence of the manoeuvres being executed. Therefore it is quite difficult for other pilots to predict where the 'empty' airspace will be in which to fly in order to give the aerobatic ac as wide a berth as feasible if it is not immediately apparent that the pilot executing the aerobatics has seen them beforehand. Hence the importance of the wing waggle or smoke acknowledgement. But then this might also be missed or misinterpreted as has happened here and it was clear from the glider pilot's report that she was very concerned. The Extra pilot himself reports he

## **AIRPROX REPORT No 075/05.**

flew no closer than 1000ft which, in the Board's view, was still relatively close if it is not immediately apparent that the other pilot has seen you beforehand. Therefore, the Board concluded that this Airprox had resulted because the Extra 300 pilot flew his aerobatic manoeuvres close enough to the glider to cause its pilot concern. Because both pilots had seen each other's ac no risk of a collision had existed.

Whilst not intrinsic to the cause or risk in the circumstances reported here, as neither pilot was in receipt of an ATS, the Extra 300 pilot had reported that though SSR including Mode C was fitted and available it was selected 'off'. This was not always advantageous in busy airspace where an ATSU might be attempting to provide a radar service to other pilots. Controller Members stressed the importance of squawking the aerobatics conspicuity code of A7004 together with Mode C to assist in the provision of comprehensive traffic information and collision avoidance to other ac in the vicinity. Moreover the lack of SSR data also renders ac not squawking invisible to TCAS thereby preventing this extremely efficient and reliable equipment from acting to forestall collisions when necessary. With the aim of improving flight safety for all concerned the ATSI Advisor offered to approach the editor of the GASIL with a view to promulgating the foregoing amongst the GA community.

[Post Meeting Note: Through the good offices of ATSI, the editor of the GASIL agreed to include an article in a future edition of this publication regarding the use of A7004 by pilots carrying out aerobatics.]

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause The Extra 300 pilot flew his aerobatic manoeuvres close enough to the glider to cause its pilot concern.

Degree of Risk: C.

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## Section 5 - Airspace

In 200/04 we had an incident between a Hawker 800 and a glider near Dunstable. This highlighted several interesting problems. The Hawker was leaving Luton on a standard departure routing which was used infrequently. Inadvertently he strayed slightly off course and met a glider in class G. There is actually a very good liaison between Luton and Dunstable and local procedures generally work very well. However the lesson highlighted here is to ensure that pilots are briefed on what lies behind a certain route (ie what it is avoiding) and for pilots, especially those on IFR plans, to be fully aware of the need for extra vigilance if their route takes them into Class G airspace for part of the flight.

### AIRPROX REPORT NO 200/04

Date/Time: 3 Nov 1406

Position: 5153N 00035W (10nm W Luton Airport )

Airspace: London FIR (Class: G)

Reporting Ac Reported Ac

Type: ASK21 Hawker 800

Operator: Civ Trg Civ Pte

Alt/FL: 2900ft 3000ft  
(QNH ) (QNH )

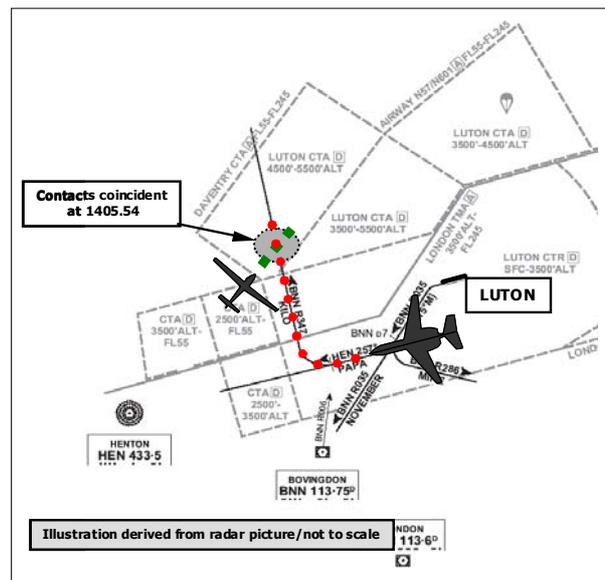
Weather VMC CAVOK VMC CAVOK

Visibility: NR NR

Reported Separation:  
100ft V/O H 5-600ft on the diagonal

Recorded Separation:

Contacts merge



### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE ASK21 PILOT** reports flying a white glider in contact with Dunstable Radio in a straight and level glide heading 030° at 45kt when an HS125 overtook him very quickly from his blind spot in the starboard quarter behind the wing root. He assessed the risk of collision as being high.

**THE HAWKER 800 PILOT** reports flying a private flight from Luton to Aberdeen IFR. He departed on KIL0 departure climbing to 3000ft, which is the height for the PAPA departure. On passing 1800ft they contacted Luton Departures and informed them they were on the KIL0 departure climbing to 3000ft. They followed the departure track at 3000ft and were later told they were on a RIS. While established on the 347°R from BNN they were given TI regarding a contact in their 10 o'clock at an unknown height. They advised they were looking and eventually saw the traffic 200ft below and 200m to their left in their 8 o'clock position. A few moments later they were instructed to climb to FL100.

**LTCC** reports that he was under training as TC Luton Int Controller mentored by an experienced controller. A Hawker 800 was released on a Standard Departure Route (SDR) to the NE. The SDR initially goes to 3000ft then up to 4000ft before turning N to avoid the Dunstable gliding site. The pilot initially called climbing to 3000ft: both he and his mentor assumed the pilot would continue to follow the SDR and climb to 4000ft before turning N but he did not. They both became distracted by contacting NW Deps for a further climb to FL100 for the Hawker 800, co-ordinating the level with Essex Radar and discussing London Mil handover procedures. As the ac left CAS it was placed on a RIS and TI was

## AIRPROX REPORT No 200/04.

passed on a primary contact to the W of Dunstable. The Hawker pilot reported visual, they thought saying it was 500ft below. On reflection he was not fully aware of the altitudes of this SDR departure and felt that he should have briefed himself better before commencing training.

**ATSI** reports that at the time of the Airprox, the Hawker pilot was in communication with the TC Luton Intermediate Controller (LUT INT). An experienced controller, who was training under the supervision of a qualified Mentor, manned the position. Both the workload and traffic loading were described as 'light'.

Amongst other duties, LUT INT is responsible for monitoring Luton departures to ensure that radar and/or vertical separation is provided against Luton inbound aircraft and other aircraft operating in Luton's CAS. A LoA exists between Luton Airport and the Dunstable Gliding Club whereby when RW26 is in use at Luton a portion of the Luton CTR and CTA, from the surface to 3500ft, is delegated to Dunstable (provided Low Visibility Procedures are not in force).

The Hawker pilot established communications with LUT INT Trainee at 1402:25, advising he was following a "...*Kilo Departure climbing three thousand (sic)*". The controller responded by requesting the pilot to squawk ident. At 1403:35 the controller transmitted "*C/S outside controlled airspace it'll be a Radar Information Service*" and this was acknowledged. At that time, the Hawker was 6nm WSW of Luton Airport, tracking W at 3000ft. A primary return can be seen in its 2 o'clock position at a range of 5nm tracking NW. At 1404:40, LUT INT had co-ordinated a climb for the Hawker pilot to FL100 with the TC NW Deps controller. Shortly after this, the Hawker pilot made a right turn onto a N'y heading, still maintaining 3000ft. LUT INT passed TI on the previously mentioned primary contact as being in its 12 o'clock at a range of 3 miles.

At 1405:35, the Hawker pilot was cleared to climb to FL100. At that time, the primary contact was in his 12 o'clock at a range of 1½nm crossing from left to right ahead. Shortly afterwards, the controller instructed the Hawker pilot to turn onto a heading of 360°. Almost immediately afterwards the pilot reported that he "... *had contact with the traffic it was a glider about three hundred feet below us*". The controller acknowledged this and advised that there was "...*no further traffic at the moment*". The ac was subsequently transferred from the LUT INT's frequency at 1410:00, but at 1430, the TC Group Supervisor N received a telephone call from the glider pilot advising that he wished to file an Airprox.

The Mentor reported he had arrived on duty and was not expecting to be training anyone. He had been rostered to occupy the Stansted Radar position but was changed to the LUT INT position with a trainee. He described the environment as very noisy with staff arriving and departing. Due to the location of the position in the Ops Room, a number of staff pass by on their way to their duty sector. This he found a distraction, coupled with other controllers stopping to talk to him. Added to this was the fact that the Trainee was an experienced controller who was extending onto the LUT INT position and the Mentor candidly admitted that he was not paying as close attention as he should have been to all of the Trainee's actions.

In order to standardise the procedures for IFR departures from Luton that are routing off airways, a series of SDRs has been devised. The Hawker pilot had been cleared on SDR Kilo. The UK AIP AD 2-EGGW-6-7 describes the Kilo Departure from RW26 as follows: '*As soon as practical after passing the end of the runway but not below 500'AAL, turn left onto BNN VOR R035. At BNN D7 turn right onto HEN NDB QDM 257°. At BNN VOR R006 turn right onto BNN VOR R347 until clear of controlled airspace*' and the altitude associated with this procedure is 4000ft.

The Mentor recalled that they did discuss the departure of the Hawker but could not recall whether this took place before or after the ac had departed. He advised that Luton Tower simply clear the aircraft on the departure route with no level specified. Although the tracks are displayed on an overhead transparency above the radar position, no levels are shown. For RW26 there are four routes: two have

an associated altitude of 2400ft, another of 3000ft and the Kilo departure which is 4000ft. He went on to say that such departures are not commonplace.

Investigations indicate that, on this occasion, there was a degree of confusion associated with this departure. The pilot of the Hawker submitted a written report in which he states: *'Departed on a Kilo departure climbing to 3000 feet, which is the height for the Papa Departure'*. The Trainee LUT INT controller stated in his report *'The SDR initially goes to 3000 feet then up to 4000 feet before turning North avoiding the Gliding site'*. The MATS Part 2, page LTN 8.2 Para 8.2.7.3 (Use of SDR Juliet and SDR Kilo) states: *'Due to the close proximity of the Dunstable gliding site, SDR Juliet or SDR Kilo departures must not be given an altitude restriction below 4000 feet prior to departure. Similarly, such departures cannot be vectored off the SDR routeing until level at altitude 4000 feet'*.

When the pilot of the Hawker established contact with LUT INT he clearly stated that he was climbing to 3000 feet. The Trainee believed this to be normal for such a departure, however, as discussed previously it is not. The Mentor was distracted and did not hear this call. Both Mentor and Trainee were aware that Dunstable gliding site was active as they had a strip placed in their 'active bay'. When the crew were first passed TI on the primary contact, reference to the radar would have shown that the Hawker was maintaining 3000ft and was within the Dunstable designated airspace. The Trainee did not pick this up and again the Mentor was distracted by other staff members and did not react to the situation.

As the Hawker followed the SDR, it penetrated the Dunstable designated airspace and, on crossing the northern boundary, entered Class G airspace. The Trainee did not inform the pilot that they had left CAS, as is required in MATS Part 1, but, apparently, provided a RIS to the ac. After the initial passing of TI no further details were passed to the Hawker pilot as the ac was cleared to climb. The crew made no mention of an Airprox on the LUT INT controller's frequency and so no reporting action was taken at that time.

It is evident that the crew of the Hawker only climbed to 3000ft instead of 4000ft as promulgated in the Kilo SDR from Luton Airport. This took the aircraft through the Dunstable designated airspace and, as it crossed its N edge, the ac came into conflict with the glider. Although the Hawker crew had stated that they were only climbing to 3000 feet, and not 4000 as required, the LUT INT Trainee did not pick this up. At the time, his Mentor was not closely monitoring his actions and neither heard this transmission nor noticed that the Hawker pilot had levelled off below the correct level.

The Mentor, aware that the Trainee was an experienced controller, did not monitor his actions as closely as required. Furthermore, the Mentor permitted himself to become involved in discussions with other members of staff at the expense of his primary duty, that of monitoring his Trainee.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC authority.

The BGA advisor was not able to attend the meeting but submitted a written report which is summarised as follows. The long-standing arrangements between Dunstable and Luton work very well as long as the correct procedures are followed. In this case however, neither the Hawker pilots nor the controllers noticed the altitude deviation at the time. The report given to the BGA indicated that the miss-distance had been very close.

It was pointed out to Members that despite the thorough and comprehensive report on the ATC aspects of this incident, the actual occurrence took place in Class G Airspace where the 'see and avoid' principle

## AIRPROX REPORT No 200/04.

is the prime means of collision avoidance. It took place below the base of the TMA and just outside the Northern boundary of the area of the Luton CTR allocated to Dunstable for gliding operations. It follows logically, therefore, that this incident was in essence a sighting issue.

The glider was on a steady NE'ly heading and the Hawker approached it with a high rate of overtake from its 4-5 o'clock where it would have been obscured to the glider pilot by his ac's wing and fuselage. Although this does not absolve him from looking into the blanked areas by conducting clearing turns, Members considered that the occurrence had evolved so quickly that the glider pilot could not reasonably have been expected to see the Hawker. In any case, under Rule 17.2 of the Rules of the Air it was the responsibility of the Hawker pilot to avoid the glider. Despite being at the incorrect altitude for the Kilo departure, the SDR actually ended a couple of miles prior to the point of incident and although the controller did not notice the incorrect altitude, he had given timely and accurate TI on the glider to the Hawker pilot. Members noted that the visibility from a Hawker 800 cockpit is not good, particularly in a climbing attitude; further the glider would have been almost tail-on, presenting a very small target to acquire. However, having been given lateral TI that indicated that there was an ac presenting a hazard, acquiring and nullifying the hazard should have been a priority to the Hawker crew. That they did not before it was too late to do anything about it was of concern to the Board who therefore determined that the safety of the respective ac had not been assured.

The part played by the Hawker pilot's deviation from the SDR was the topic of debate by Members. Some considered that even if the Hawker had been at the correct departure altitude and the Airprox did not actually occur, the pilot could still have expected to encounter gliders in that position and altitude. The other point of view was that the incident should be viewed as it occurred and that being at the wrong altitude for the departure had directly contributed to the incident. This discussion led to Members agreeing that, although this had not been a direct cause of the Airprox, it had been a contributory factor and that the same applied to the controller not noticing the altitude deviation.

A Member with expert knowledge referred to other deficiencies in the way ATC had handled the Hawker. The Board agreed that these had not been significant factors in this Airprox.

The Board commended the open and honest reporting by both the Hawker pilot and the Luton Int controllers.

The NATS Advisor informed members that, as a result of this incident, the SDR plate has been modified slightly to clarify the procedure. In addition, action is in place to improve the safety nets to detect incidents such as this one at an early stage.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: An effective non-sighting of the glider by the Hawker 800 pilot.

Degree of Risk: B.

Contributory Factors: The Hawker 800 pilot did not fly the SDR correctly, which went undetected by the Luton Int Controller.

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