



UK AIRPROX BOARD

ISSN 1479-3881

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

Book Number 8

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

Incidents reported January - June 2003

FOREWORD

This is the eighth General Aviation (GA) 'Airprox Extract' that has been compiled specifically to promote air safety awareness amongst GA pilots who fly in the UK. Like all of the other books before this one, its purpose is all about raising awareness on matters of air safety and learning lessons from mistakes made by other pilots.

Once again the book is divided into sections that serve to highlight common situations - and once again we are indebted to Peter Skinner, the GA member on the UK Airprox Board, for picking out all of the entries in this volume to illustrate three themes. Peter has many years experience as a pilot but is the first to acknowledge that none of us is ever too experienced or too good at flying to be immune from making mistakes. Once this basic truth is accepted and appreciated, real progress can be made in flying more safely.

Peter's first section illustrates seven examples of conflicts in what is commonly referred to as 'The Open FIR', areas of Class G airspace where the bottom line is see and avoid. When this breaks down, for whatever reason, encounters can be very close. Section 2 is devoted to 'Unauthorised Penetration of an ATZ' ... or nearly doing so. A further six examples of what can and did happen in these 'avoidable' cases makes worthwhile reading. Finally, Peter closes with three illustrations in Section 3 of what can happen if a wide berth is not afforded to events on the ground, or to someone seen ahead doing aerobatics.

All of these incidents happened last year and any number of 'does and don'ts' can be extracted from them and underlined. What has to be kept in mind is that they are presented not to allocate blame or liability, but simply to show what can go wrong, often quickly and unexpectedly. They are accounts of events that happened to others. If you can learn from their unfortunate experiences and avoid the same or similar events happening to you, then this book has done its job.

Enjoy your flying ... enjoy your safety.

Gordon McRobbie

Gordon McRobbie
Director, UK Airprox Board

GENERAL AVIATION (GA) SECTION

GA Risk Results

It is unsurprising that the largest of the three pilot groups who fly in UK airspace - GA pilots - get involved in more Airprox each year than either of their CAT or Military pilot counterparts. This is borne out by the profiles represented at Fig 8. Furthermore, as a group, GA pilots have the widest variation in experience levels and they fly in the most diverse range of aircraft types. At one end of the scale are extremely experienced professional aviators, handling state of the art aircraft and equipment, while towards the other end are less experienced GA pilots enjoying flight in Microlights and Hanggliders. The point is that much of the GA pilot population in between 'turns-over' fairly regularly and this can give the appearance of the same mistakes being repeated regularly. However these 'error cycles' are probably no more than a reflection of 'new learning curves' unfolding every three years or so.

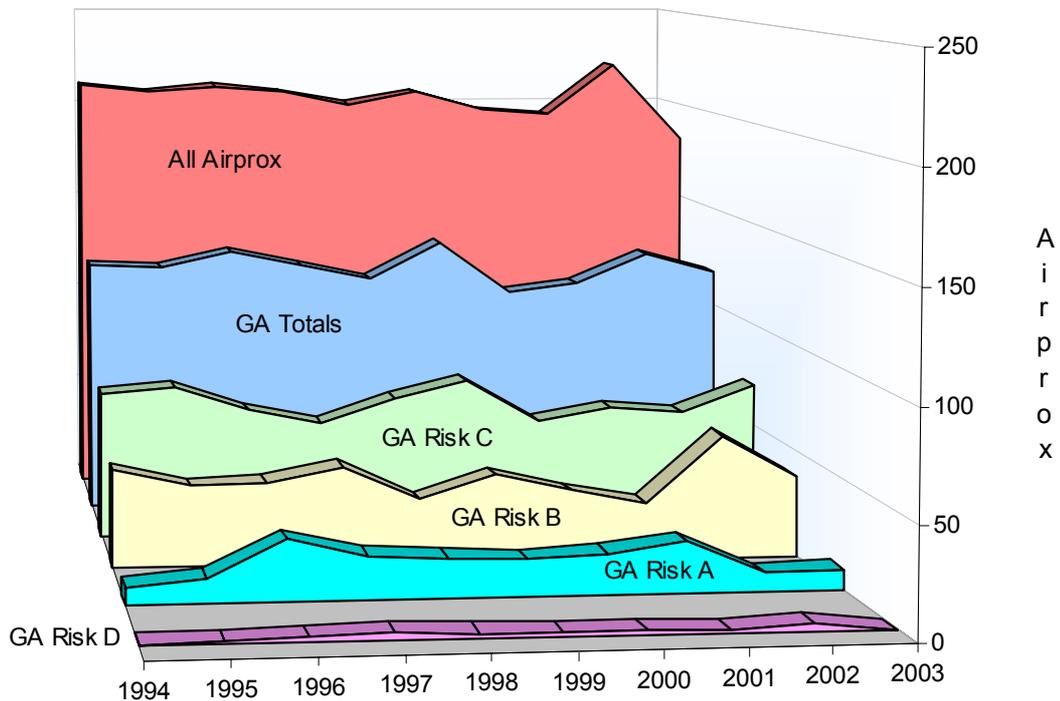


Figure 8: GA Risk distribution 1994 - 2003

Precise details on GA Airprox numbers over the last ten years are set out below in Table 5, but it is easier to see what trends are running by referring to Fig 8. GA Totals have undulated in a band between 108 and 134, but the average annual count is 121, or about 60% of the All Airprox totals. In both 2002 and in 2003 the number of Risk A results were well below those experienced in the six consecutive years before that. This is encouraging progress. Moreover, the number of Risk B outcomes during 2003 was well down on the figure for 2002, which is another sign of improvement. The third area where progress shows through is in the number of Risk C returns; these rose significantly from 45% of the GA Total in 2002 to 59% in 2003. If the theory on the influence of 'changing experience levels amongst GA pilots' does hold water, these improvements might sustain for another year before downward ripples re-establish themselves once more.

Table 5: GA Risk data 1994 - 2003

GA Data	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
GA Risk A	8	11	28	20	18	17	19	24	9	10
GA Risk B	46	38	39	46	30	41	33	27	58	38
GA Risk C	70	73	61	54	66	74	54	60	57	70
GA Risk D	0	1	2	3	2	2	2	1	3	0
GA Totals	124	123	130	123	116	134	108	112	127	118
All Airprox	212	208	211	208	201	208	198	195	221	181

GA Airprox Rates

Fig 9 depicts GA risk results expressed as a rate - the number of times a result occurred in 100,000 flying hours. Two profiles are shown; one covers all GA Airprox, while the other covers *risk bearing* ones. Using rates in this way allows us to see at a glance if things are generally getting better or worse.

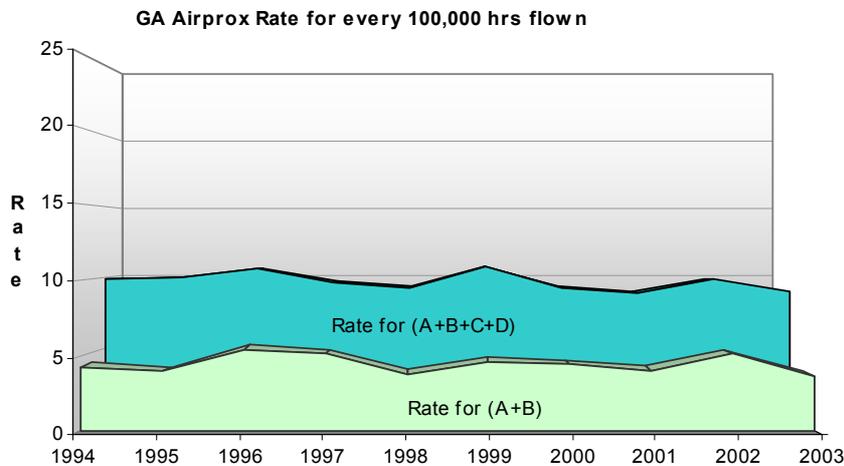


Figure 9: GA Risk Rates

Inspection of the Rate for (A+B+C+D) again highlights a three year cycle, reflected also to a lesser extent by the *risk bearing* profile. Both profiles tell us that there is no sign of things getting worse, rather that moderate improvements are achieved, if not sustained. On a positive note the *risk bearing* rate achieved last year was the best one for ten years.

Table 6: GA Airprox rates per 100,000 flying hours

GA Rates	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Rate for (A+B)	4.29	3.96	5.46	5.18	3.83	4.64	4.48	4.05	5.19	3.67
Rate for (A+B+C+D)	9.85	9.95	10.59	9.66	9.26	10.72	9.30	8.89	9.84	9.03
Hours flown in K	1259	1237	1228	1273	1252	1250	1162	1260	1290	1307

GA Causal Factors

Difficulties in seeing the other aircraft persists as the most common reason for 'GA Airprox'. The same problem is experienced by Military pilots. It is a complex topic with no *quick fix* solutions. Excluded from the 'ENTERED CAS' column are the two untraced Microlights referred to on page 9 (Fig 7).

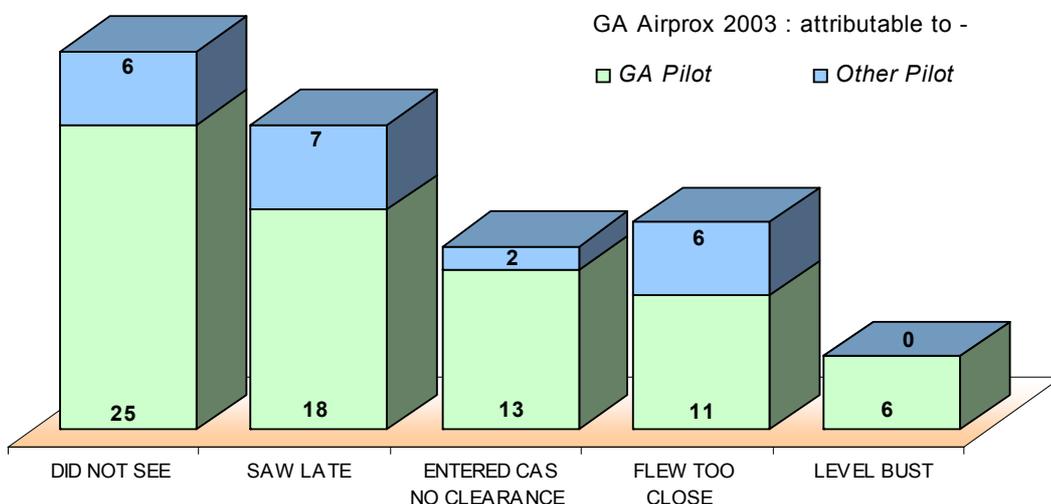


Figure 10: The most common reasons for Airprox involving GA pilots during 2003

SECTION 1

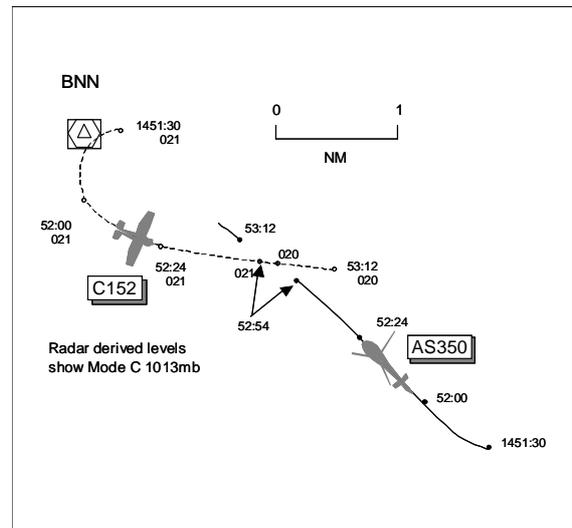
GENERAL AVIATION ACTIVITIES WITHIN CLASS G AIRSPACE – THE OPEN FIR -

“There are Faith, Hope and Lookout and the greatest of these is lookout”.

It is quite understandable that General Aviation activities are concentrated within Class G airspace, colloquially known as the “Open FIR”. Broadly speaking, there are few restrictions and little guidance regarding VFR flight, other than as set out under the Rules of the Air Regulations which inter alia, include the rules for avoiding “Aerial Collisions”. During flight training, all pilots learn the basics of these rules whilst studying for and then being successful in achieving the grant of a pilot’s licence. With the passage of time, some of the finer details regarding the measures to be taken in ensuring avoidance of collisions tend to fade. Further, there are a number of diverse aviation activities within the open FIR which can often be somewhat incompatible, each with the other. A parachutist in freefall from a higher altitude can be very difficult to spot although avoidance can be enhanced by noting the position of the drop zones and considering the prevailing wind vector. Gliders are launched by means of a cable which can go up to 2000ft or more, collision with which can quite spoil your day. Increasingly, public transport aircraft are operating from aerodromes that are themselves outside controlled airspace. The range of speeds employed is not helpful. These can vary from military jets, often fast and low to helicopters which can be virtually stationary.

AIRPROX REPORT NO 8/03

Date/Time: 7 Feb 1453
Position: 5142N 0031W (2nm SE BNN)
Airspace: FIR (Class: G)
Reporting Aircraft Reported Aircraft
Type: C152 AS350
Operator: Civ Trg Civ Pte
Alt/FL: 2300ft
 (QNH 1019mb)
Weather IMC IICL NK
Visibility: 3000m NK
Reported Separation:
 50ft V NK H NK
Recorded Separation:
 not recorded



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE C152 PILOT reports flying a local dual ‘instrument appreciation’ sortie from Denham and receiving a RIS from Northolt on 126.45MHz. Flying about 2nm S of BNN VOR, in and out of broken cloud, level at 2300ft QNH 1019mb at 85kt, ATC warned him of unknown traffic. Turning L onto 090° to avoid, he ‘popped’ out of cloud into a gap and, on looking to his R, he was surprised to see a conflicting ac, a dark blue coloured twin/single squirrel helicopter, in his 2-3 o’clock very close and 50ft below; it was then seen to turn L to avoid him. As he was already turning L and heading away from the helicopter, no further avoiding action was required, and it was seen to pass very close to his R and behind about 50ft below. He assessed the risk of collision as high. Although the TI passed had been timely, no height

AIRPROX REPORT No 8/03.

information had been given, as the other ac did not have Mode C selected, which would have helped with his collision avoidance manoeuvre.

THE AS350 PILOT was contacted several months post incident and could not recall any incident occurring in the vicinity of BNN VOR. He regularly operates from a private location near Watford and was fully aware of his obligations (see and avoid) when flying under VFR in this very busy area of airspace. He expressed concern at the lack of provision of ATC service in the area between the Luton and Heathrow CTRs.

MIL ATC OPS reports the C152 freecalled Northolt Approach (APP) at 1422:18 “ *out of Denham for exercise in the local training area ...requesting Radar Information Service*”. A squawk was allocated however this took sometime to be displayed, consequently the ac was not formally identified until 1424:48 and placed under a RIS. At 1433:55 and 1447:56 TI was passed to the C152 pilot on two different radar returns in the area. APP was relieved by another controller before more TI was passed at 1452:25 “*...traffic south west three miles tracking north west no height information*” followed by, at 1454:39, “*...further traffic to the east two miles tracking west no height information*”. At 1454:47 the C152 pilot requested “*...descent to two thousand one hundred feet*” which was approved and at 1455:02 the pilot reported “*...victor mike now like to down grade to flight information service...*”. Two min later the C152 pilot called “*...back to Denham...*” but no mention of an occurrence was made on the Northolt frequency.

Analysis of the Heathrow radar recording at 1451:30 shows the C152 in a LH turn rolling out on a SE heading at 1452. The reported conflicting helicopter is SE of it, just over 3nm away, on a reciprocal track, both ac continue to close.

APP was unaware of the Airprox until several hours after the event and, other than recalling the provision of RIS, remembered nothing unusual about the flight. With the benefit of the radar replay and RT transcript, it is evident that although TI on the conflicting helicopter was passed, the position was inaccurate. Consequently, by tracking SE, the C152 pilot probably thought he was tracking away from the traffic that had been reported to him as “*...traffic south west three miles tracking north west...*” whereas he was heading towards it. There was no conflicting traffic in the reported position and reference to SW by APP was incorrect. Nevertheless, under the rules for RIS “*The pilot is wholly responsible for maintaining separation from other ac whether or not the controller has passed traffic information*”. However, on this occasion he was probably not helped by the incorrect call. Additionally, as the two ac remained on a constant converging course, and without the benefit of SSR on the helicopter, it could be argued that APP should have re-called the traffic in accordance with the rules of RIS. This would have, most likely, corrected the original position report and provided enough information for the C152 pilot to sight the confliction. In mitigation, the controller had only just taken over the position with a student and, quite probably, did not assimilate the incorrect position as passed by the student controller.

UKAB Note: Analysis of the Heathrow radar recording shows the C152 indicating FL021 (2280ft QNH 1019mb) and a primary only return, believed to be the conflicting AS350 helicopter converging from the SE of BNN VOR until 1452:54, when the helicopter fades from radar in the C152's 1 o'clock range 0-33nm. The C152 continues on a steady easterly track, indicating FL020 (2180ft QNH) on the next sweep 4 sec later, which is maintained, until the helicopter reappears on radar at 1453:12, 1.5nm SE of BNN, 0.8nm to the WNW of the C152.

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 video recordings and reports from the appropriate ATC and operating authorities.

Members agreed that the C152 pilot's election to operate under a RIS was inappropriate when flying in IMC – under a RIS the pilot remains responsible for maintaining separation from all other traffic, something he could hardly discharge if flying in cloud. It was noted that he was already established in a L turn when warning was given of traffic to the SW – information that proved to be inaccurate, but he thought he was flying away from it. Subsequently, he had been surprised, as he broke cloud, by the sudden appearance of the AS350 coming towards him. The brief information supplied by the AS350 pilot, admittedly several months post incident, did not elucidate on his cockpit viewpoint except that nothing memorable had occurred near to BNN. It was therefore not possible to know whether the apparent turn executed by the AS350 pilot, observed by the C152 pilot, had been to avoid the Cessna or had been purely co-incidental for some other reason. On the limited information available, members believed that the Airprox had been caused by a very late sighting by the C152 pilot and an apparent non-sighting by the AS350 pilot. The helicopter pilot's comments, with reference to lack of provision of ATC service, were noted. However, irrespective of his experiences on previous flights, without calling and requesting an air traffic service from Northolt or Luton on each occasion, the pilot would not know if a service would be offered/available. The C152 pilot had been able to arrange a RIS. Also noteworthy was that the AS350 was not squawking although it was not known if the equipment had been unserviceable. It is recommended that an ac's transponder is switched on, with the conspicuity code selected with Mode C, if carried, thereby presenting ATC at SSR equipped airfields with an enhanced radar picture and better situational awareness of the traffic situation.

Turning to risk, the reporting C152 pilot had seen the helicopter late in his 2-3 o'clock position, very close and 50ft below. The geometry of the encounter had fortunately meant that his flight path was already taking his ac away from the helicopter, which was seen to pass behind and below. However, the Board agreed that the ac had passed in such close proximity to such an extent that safety had been compromised.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A very late sighting by the C152 pilot and an apparent non-sighting by the AS350 pilot.

Degree of Risk: B

AIRPROX REPORT No 32/03.

AIRPROX REPORT NO 32/03

Date/Time: 4 Apr 1437

Position: 5257N 0033 W (Grantham Lincs)

Airspace: Lincs AIAA (Class: G)

Reporting Aircraft Reported Aircraft

Type: PA28-161 Firefly 260

Operator: Civ Pte HQ PTC

Alt/FL: FL75 FL75

Weather VMC VMC

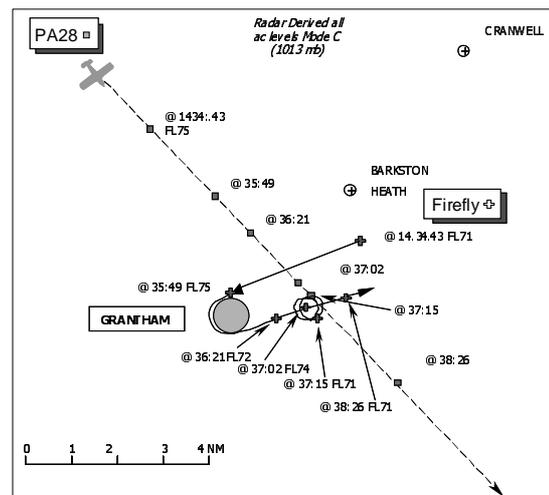
Visibility: 30km 10km+

Reported Separation:

0 V < 1nm H 100ft V 1nm H

Recorded Separation:

100ft V 0.75nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PA28-161 PILOT reports that he was flying a white ac with a gold and purple stripe, with strobes and the beacon switched on, on a sortie from Kirknewton (5nm S of Edinburgh) to Cambridge. He was in receipt of a RIS from Waddington Zone squawking 3606; Mode C was not fitted. Weather was good VMC above cloud with visibility reported as 30km with the sun in the 3 o'clock position. At 1435, while overhead Grantham level at FL75 heading 150° at 125kt he was alerted to another ac by ATC, although they did not have its height. However, he saw it in his 2 o'clock position, closing rapidly, at the same height on a collision course. Almost at once the other pilot commenced a sharp climb and which he initially thought was avoiding action. However, the manoeuvre turned out to be the first of two loops. The other ac closed rapidly, and in view of his much higher speed and highly unpredictable course, the safest way to proceed was to commence a sharp descent to just above the tops of the clouds. He assessed the risk of collision as medium.

He added that his passenger thought that she had seen the other ac emerge from cloud in a climb shortly before they were warned of its presence by ATC, although he did not see this himself.

UKAB Note(1): This incident occurred inside the Lincs AIAA. The PA 28 pilot complied with the UK AIP advice to seek a Radar Service when transiting this area.

THE FIREFLY 260 PILOT reports that he was flying a yellow and black ac on a JEFTS sortie from Barkston Heath in good VMC with a visibility in excess of 10km above a haze layer up to 2500ft. He was not in receipt of an Air Traffic service but was squawking 2642C. While heading 003° at 140kt at approx 1440 and about FL75 but manoeuvring close to the Barkston overhead (*inside the Lincolnshire AIAA*), he saw a white ac with dark red stripes in his 9 o'clock position 1000ft below and no closer than 1nm distant. The other ac was in a descent and he avoided it by turning away to the right. He stated that there was no risk of collision.

UKAB Note (2): From the Firefly pilot's reported time and the fact that the PA 28 did not descend until after the Airprox had occurred (RT Transcript), it would appear that the Firefly pilot's first sighting of the PA 28 may have been shortly after the event.

MIL ATC OPS reports that the PA28 pilot called RAF Waddington Zone (ZONE) at 1419:55, 10nm N of Gamston, and requested a RIS. The pilot stated he was passing FL60 for 75 and ZONE instructed him to "squawk 3606...identified RIS...climb report level FL75. Limited traffic information (TI) from all

around, holding you in secondary radar only”, which was acknowledged and the pilot stated he would report at FL75. No relevant conversation is recorded on the transcript until 1435:49, when ZONE passed TI “traffic right, 2 o’clock, range 4nm, manoeuvring, indicating FL75 climbing”. Twenty seconds later, the pilot of the PA28 replied “we’re leaving err...he’s seen us first” (believed to be referring to the aerobatic ac). ZONE then updated TI, “C/S, previously reported traffic now right, one o’clock, range 2nm, manoeuvring, indicating slightly below, descending”. The PA28 replied “we’re watching him, he’s...doing aerobatics. I think we are going to descend to FL55 for clearance”. At 1437:16 ZONE proceeded to handover the PA28 to Cottesmore Approach, “descending out of FL75 for FL55...to avoid the traffic just N of him by one mile, which is aerobating apparently. He was visual with it”. A minute later, before he transferred to the Cottesmore frequency, the PA28 pilot advised “I’m considering filing a near miss with that aerobating ac. ”.

Analysis of the Claxby Radar video recording shows the PA28, 7nm NW of Barkston Heath tracking SE squawking 3606 (no Mode C) at 1434:43 as the Firefly can be seen manoeuvring 2nm S Barkston Heath on a 2642 squawk, indicating 071 Mode C. At 1435:49 the PA28 is 3½nm W Barkston Heath maintaining a SE track whilst the Firefly is 4nm S of the PA28 tracking WSW indicating 075 Mode C. At 1436:21 the Firefly completes a left turn onto E indicating 072 Mode C as the PA28 converges 3nm from the N. Maintaining a SE track, at 1437:02, the PA28 and the Firefly converge. The latter ac climbs passing 074 Mode C, then rapidly descends to 071 Mode C and 13 seconds later, 4nm S Barkston Heath, the 2 contacts close to less than one nm separation before diverging on a 90° angle.

In accordance with JSP 552 paras 235.115 and 135, ZONE, (*JSP 318A valid at time of incident*) using SSR only, correctly placed the PA28 under a limited RIS, and passed accurate and timely TI on the 2642 squawk, later traced to be a Barkston Heath-based Firefly. Under the rules of RIS *“the controller will only update details of conflicting traffic...if the controller considers that the conflicting traffic continues to constitute a definite hazard”*. ZONE updated the TI and although the pilot of the PA28 intimated that he was visual with the Firefly after the first TI, the controller proceeded to update the TI as the 2 contacts converged which evoked a decision from the PA28 pilot to descend away from the manoeuvring Firefly.

HQ PTC comments that this encounter should not have surprised the PA28 too greatly within the Lincs AIAA. Waddington Zone acted properly within the terms of a RIS to advise the PA28 of the Firefly’s presence and he was able to see and avoid it. We have been assured that the Firefly pilot, who was instructing a trainee instructor, carried out all the appropriate checks and clearing turns before entering his aeros and that he was at all times clear of cloud iaw the VFR.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available to the UKAB 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.

Members commended the PA28 pilot who was properly in receipt of a RIS, as recommended in the UK AIP for transits of the Lincolnshire AIAA, but the Board concurred the PTC observation; he should not have been surprised to encounter an ac conducting high energy manoeuvres in that vicinity as that is one of the main purposes of the AIAA. Nonetheless the PA28 pilot’s airmanship had been sound in requiring assistance to transit a very congested AIAA. Good TI from Waddington Zone allowed the PA28 pilot to acquire the Firefly visually and to ensure lateral separation of ¾nm was maintained prior to his decision to descend. Military controllers advised that they do not routinely use the aerobatics squawk (7004) favouring instead the dedicated Lincs AIAA squawk (2641/2) that provides them with more useful information. Members accepted the HQ PTC assurance that the Firefly pilot conducted clearing turns and checks prior to starting his aerobatics but these had not disclosed the PA28 which was not seen until after his series of loops had been flown.

AIRPROX REPORT No 32/03.

The Board emphasised the importance of clearing the airspace prior to conducting any manoeuvres which involve rapid changes of flightpath since once started these changes require the pilot to divert much of his attention away from all-round lookout during the period of the manoeuvre.

The radar replay verified the aircrew estimates of the miss distance of about 1nm and furthermore the PA28 pilot remained visual with the Firefly throughout and was always in a position to turn further away if need be. The Board concluded therefore that no risk of collision had existed.

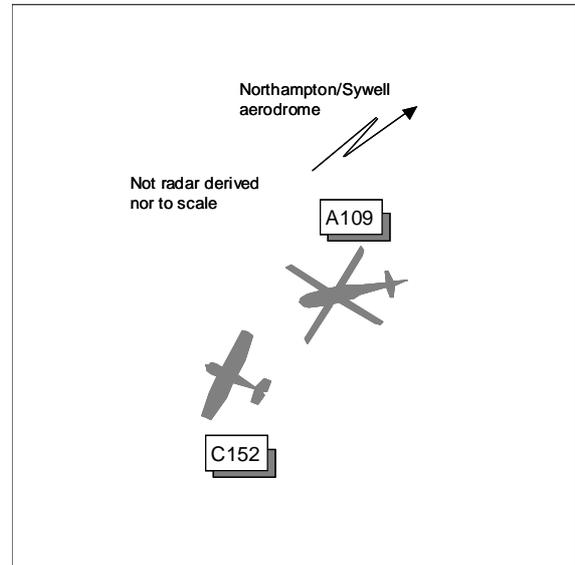
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in the Lincolnshire AIAA resolved by the PA28 pilot.

Degree of Risk: C

AIRPROX REPORT NO 43/03

Date/Time: 30 Apr 0855
Position: 5218N 0050W (1.5nm WSW Sywell - elev 429 ft)
Airspace: ATZ (Class: G)
Reporting Aircraft Reported Aircraft
Type: C152 A109
Operator: Civ Trg Civ Comm
Alt/FL: 600-700ft↑ 1000ft
(QFE 989mb) (QNH 1004mb)
Weather VMC CLBC VMC CLNC
Visibility: >10km >10km
Reported Separation:
50-100ft V 150-200ft V 100m H
Recorded Separation:
not recorded

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

THE C152 PILOT reports flying an instructional cct training sortie on RW21 RH from Northampton/Sywell and in communication with Sywell INFORMATION on 122.7MHz. The visibility was >10km 2000ft below cloud in VMC, the ac was coloured white/red and his strobe lights were switched on. After completing 4 ccts, the student climbed straight ahead to 500ft and completed a R turn onto heading 300° onto the crosswind leg at 65kt. Climbing through 600-700ft QFE, he noticed a movement (to his R) out of the corner of his eye (seated in the RH seat) and on looking down saw a helicopter, a blue Agusta, passing very close underneath, estimated at 50-100ft separation, from R to L. It was so close that at no time could he see the whole helicopter, only part of the rotor disc and fuselage. No avoiding action was taken as there had been no time to react, they were already established in a climb on the crosswind leg and the helicopter was already passing underneath. He assessed the risk of collision as very high.

THE A109 PILOT reports on departure from Sywell at 140kt to a private site near Cheltenham and in communication with Sywell INFORMATION on 122.7MHz. The visibility was >10km in VMC, the helicopter was coloured blue on top and cream underneath and his strobe lights were switched on. His intention was to cross the RW03 threshold and pass underneath the D/W leg of the visual cct at 1000ft QNH (600ft QFE) on an initial track of 270°. He levelled off manually and then 'looked in' to select Alt and Hdg hold but as he looked up, he saw a red/white Cessna in his 10 o'clock about 500m away 150-200ft above. There was no time to react but he did not feel that a collision was a possibility. The Cessna passed from L to R, about 150-200ft above and 100m ahead when in his 12 o'clock position. His planned track should have taken him beneath ac in the D/W leg but he subsequently understood that the Cessna was still climbing crosswind which would account for the poor height separation. There was a strong southwesterly wind which may have allowed the Cessna to commence its crosswind R turn (at 500ft) earlier than usual and hence into conflict, however the reporting pilot later stated that his track had been in the normal place. Although he had operated from Sywell for 11 years and was familiar with the local rules, he agreed that in future he would aim for a point under the D/W leg abeam the RW midpoint.

UKAB Note (1): The UK AIP at AD2-EGBK-1-1 and 1-2 promulgates Northampton/Sywell ATZ as a circle 2nm radius centred on longest notified runway 03/21 position 521819N 0004734W to 2000ft above aerodrome elevation of 429ft and active in summer from 0800-1800 or Sunset and by arrangement. The AFIS or A/G is promulgated as operating on 122.7MHz within the above hours.

AIRPROX REPORT No 43/03.

UKAB Note (2): The Airprox is not seen on recorded radar. At 0853:20 a primary only return is seen 1.5nm SW of Sywell tracking W, believed to be the A109. Approx 16sec later another primary only return pops up, 1nm ESE of the A109, tracking WNW believed to be the C152.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

Members wondered why the Agusta pilot had gone 'heads in', to select his A/P on, at a critical time. His safe departure from Sywell through the visual cct should have been his first priority, maintaining a good look out for joining/leaving and established cct traffic whilst listening out on the RT frequency for cct calls to build on and improve his situational awareness of the traffic situation. For whatever reason, it appears that the A109 pilot had not assimilated the C152's position from RT transmissions nor seen it getting airborne into the cct. In electing to depart the cct on a westerly track, the Agusta pilot had flown into conflict with the C152 and this had caused the Airprox.

The C152 pilot had only seen the helicopter, immediately prior to it passing beneath his ac, understandably, as it was approaching obliquely from behind. He was still climbing crosswind with no time to react, as the A109 passed an estimated 50-100ft below. After levelling at 1000ft QNH (about 600ft QFE), the A109 pilot saw the Cessna (post 'heads-in') in his 10 o'clock range 500m about 150-200ft above. Although he had no time to react, he assessed that the ac were not going to collide and watched the C152 cross ahead 150-200ft. However, the Board agreed that the A109 pilot had flown in such close proximity to the C152, during his departure, that the safety of both ac had not been assured.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The A109 pilot flew into conflict with the C152.

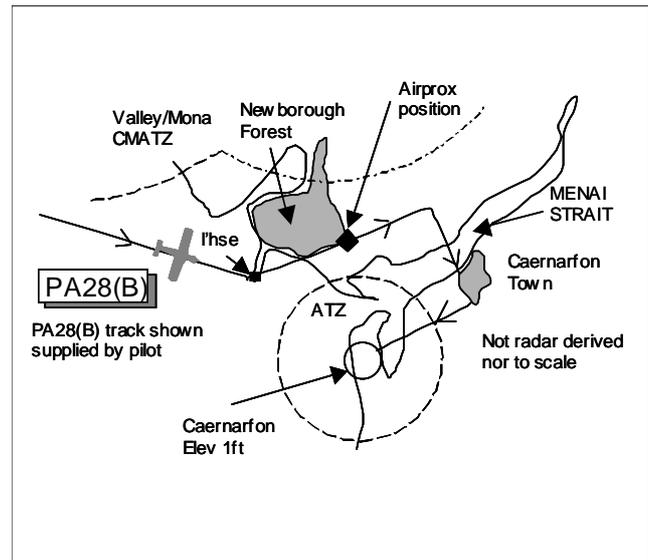
Degree of Risk: B

AIRPROX REPORT NO 47/03Date/Time: 5 May 1505Position: 5309N 0422W (3nm NNW of Caernarfon Airfield - elev 1ft)Airspace: FIR (Class: G)Reporting Aircraft Reported AircraftType: PA28(A) PA28(B)Operator: Civ Trg Civ PteAlt/FL: 2000ft↓ 1600-1700ft↓
(QNH 1009mb) (QFE 1009mb)Weather: VMC CAVOK VMC CAVOKVisibility: 50km NKReported Separation:

nil V 5m H nil V 10m H

Recorded Separation:

not recorded

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

THE PA28(A) PILOT reports flying a dual instructional training sortie from Caernarfon and he was in communication with Caernarfon RADIO on 122.25MHz squawking 7000 with NMC. The visibility was 50km in CAVOK, the ac was coloured red/white and the anti-collision and strobe lights were switched on. Near to Newborough Forest, Anglesey (3nm NNW of Caernarfon) turning R from heading 270° in a descent from 2000ft QNH 1009mb at 90kt, he heard another pilot report downwind (RW26 RH cct height 800ft) which he assimilated in his situational awareness picture as being >2nm to his S and 1200ft below in the ATZ. Despite maintaining a good lookout, he was therefore surprised to see another ac just R of his 12 o'clock, the subject PA28(B), about 5m away at the same level. An emergency turn to the L was executed, the other PA28 passing 5m clear to his R with nil vertical separation. He assessed the risk of collision as 'very severe'. After landing, he spoke to the pilot who was unfamiliar with the airfield but had not elected to join overhead.

THE PA28(B) PILOT reports flying inbound to Caernarfon from Ireland and he was in communication with Caernarfon RADIO on 122.25MHz squawking 7000 with Mode C. The weather was CAVOK and the ac was coloured white/grey/red with anti-collision and strobe lights switched on. Having been unable to establish RT contact with London INFORMATION during his crossing of the Irish Sea, he had contacted Caernarfon RADIO 20nm from the coast (Valley RADAR were closed). After receiving the RW information and sighting the airfield, he turned to orientate the ac for the visual cct and landing for RW26 RH – his VFR flight guide stated join below 1300ft. He had landed at Caernarfon the previous day and was using local landmarks (Menai Strait and Caernarfon Town NE of A/D) to facilitate this. Whilst maintaining a lookout for other ac in the cct and descending through 1600-1700 ft QFE to cct height at 100kt, he saw another ac slightly to the starboard of his nose about 300m away on an intercept path. He executed a slight deviation to port, as did the opposing ac, which was seen to pass 10m clear to his R at about the same level. He assessed the risk of collision as medium/high. After landing he spoke to the instructor of PA28(A) who had briefed him on his apparent error in calling downwind when not at cct height or within the ATZ. In reality, he was in the correct position relative to the RW but should not have reported 'downwind' until at cct height; he did call 'base leg' albeit a bit far out (over the town). The instructor also suggested joining overhead in future in view of his unfamiliarity with the airfield. His incorrect call was unfortunate but he thought that it did not absolve anyone from their responsibilities to maintain a good lookout; he had not seen the other ac and they had not seen his ac until it was almost too late (300m is little time given opposite direction closing speeds of 100kt). As this incident had

AIRPROX REPORT No 47/03.

worried him, he discussed it with another flying instructor at his base airfield and undertook a refresher flight 4 days later on A/D joining procedures and associated RT calls.

UKAB Note (1): The UK AIP at AD2-EGCK-1-3 Para 2.22 Flight Procedures states:

(a) The aerodrome is in the vicinity of the Valley MATZ. Civil aircraft are to fly at 1500ft or below (Holyhead QNH) in the Menai Straits area.

(d) Circuit height; 800ft aal. Aircraft joining overhead are to join the circuit at 1300ft aal. Circuit direction: Runways 02 & 26 - RH.

Para (d) was amended 7 Aug 03 to: *Circuit height 800ft aal. Aircraft are requested to join overhead not above 1300ft aal. Circuit direction: Runways 02 & 26 – RH.*

UKAB Note (2): The Airprox occurred outside recorded radar coverage.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available was only the reports from the pilots of both ac.

Members commended the PA28(B) pilot for undertaking refresher flying post incident. It was agreed that the RT call 'downwind' made by PA28(B) pilot had been misleading and that positioning to join overhead the airfield would have been a better option to allow safe integration into the visual cct. However, these two elements did not absolve both pilots from maintaining a good lookout for conflicting traffic (see and avoid). The PA28(A) was general handling to the N of the ATZ, the PA28(B) joining the cct from the NW and, although the weather and visibility were both excellent, both pilots only saw each other at an extremely late stage which had caused this Airprox.

Although the PA28(A) pilot's first sighting distance was thought to be underestimated, he had executed an avoiding action L turn, watching the other PA28 pass 5m clear to his R at the same level. PA28(B) pilot had seen PA28(A) 300m ahead and turned slightly L as (B) also turned L, estimating separation as 10m at the same level. Nevertheless, both pilots agreed that they had passed abeam of each other by a very small distance - that members thought was dangerously close - which left most wondering whether the late turning actions taken by both pilots had been effective in preventing collision or if they had missed more by chance. On the balance of probability, the Board concluded that there had been an actual risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Extremely late sightings by both pilots.

Degree of Risk: A

AIRPROX REPORT NO 64/03

Date/Time: 4 Jun 1140

Position: 5325N 0019W (Beverley Linley Hill CCT)

Airspace: UKDLFS LFA 11 (Class: G)

Reporting Aircraft Reported Aircraft

Type: C150 Tornado GR4

Operator: Civ Trg HQ STC

Alt/FL: 1000ft 1045ft agl
(QFE 1009 mb) (Rad Alt)

Weather VMC Rain VMC Below
Cloud

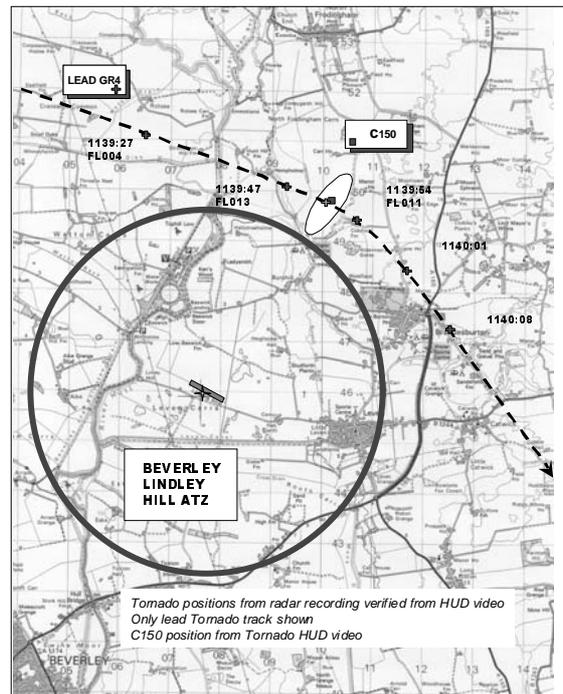
Visibility: 8km 20km

Reported Separation:

7m V 50ft H 100ft V

Recorded Separation:

Not recorded

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

THE C150 PILOT reports that he was on an instructional sortie from Beverley Linley Hill in a white C150 with red stripes in receipt of an Air Ground service from Beverley squawking 7000 but Mode C was not fitted. While heading 300° at 78 kt on the downwind leg of a visual circuit he had an Airprox with 4 Tornados, later identified by Humberside. First sighting was at 350m range with the Tornado passing 7m above. No further details were given.

THE HUMBERSIDE APP CONTROLLER reports that at 1143 he was called by the Cessna pilot to state that he had just been involved in an Airprox with a Tornado while operating in the Beverley Linley Hill ATZ. He met the Tornado head-on in the downwind leg and requested that a radar recording be retained. This was passed to the LACC supervisor and to AIS Mil. The weather was recorded as 210/06, 8k in rain showers, Few at 020, +16 +14, QNH 1010.

THE TORNADO GR4 PILOT reports that he was leading a 3-ship formation of grey Tornado ac on an authorised, booked, low-level tactical mission in the UK Low Flying System, within Class G airspace with HISLs selected on and squawking 7001C. He was turning to the NE of Beverley Linley Hill Airfield at position N5335-661 W00019 00 on to a hdg 130° true, at an altitude of 1045 ft agl with a TAS of 426kt, when his number 2 who was some 15sec (1½ nm) behind and displaced to the left as the formation was taking separation prior to joining Donna Nook AWR, called "tally right, 2 o'clock. Light ac". Both the Navigator and he looked right in order to get sight of the contact but nothing was seen. They were then informed on the radio that an Airprox was being filed by the light ac.

On return to base they scrutinised the HUD video and saw a light ac fitting the description passing down his left hand side. It is worthy of note that the No2 pilot called the contact after it had passed the leader, who had no chance of seeing it at that late stage. The leader subsequently assessed the miss-distance as being 50ft H and 100ft V. At closest point they were just to the NE of Lindley Hill ATZ. He assessed the risk of collision as high, as they were unsuspected.

AIRPROX REPORT No 64/03.

STATION COMMENTS The SFSO studied the HUD video and listened to the R/T and intercom chatter and discussed the incident with several of the formation members including the leader. He was satisfied that the formation was properly authorised and flying in accordance with current low flying regulations. Owing to poor radio reception with Donna Nook AWR, the formation had climbed to 1000ft agl in order to get clearance to join the range. At the same time the ac were on slightly diverging flight paths to gain safe separation for the range join. The altitude prevented the light ac from being sky-lined and therefore seen much earlier; the divergent flight paths caused some perspective changes when the light ac was called causing the crew to look the other way. Unfortunately, the call came after the leader had already passed the light ac. The miss-distance quoted on the pilot's initial report is, he thought, somewhat pessimistic, the margin being in his opinion greater by at least a factor of 2.

This event was an Airprox in Class G airspace, where despite the fact that the No2 called the contact, circumstances prevented the lead crew from seeing it. He concurred with the Tornado pilot's assessment of a high risk of collision.

UKAB Note (1): The published ATZ for Beverley Linley Hill, from which the Military Avoidance Area is derived, is 2nm up to 2000ft agl with the airfield elevation shown 3ft.

UKAB Note (2): A thorough analysis was conducted of both the radar recording and of the Head-Up Display (HUD) video, which was provided by the Stn concerned. The Cessna is not seen at any time on the radar recording; it does however, show all 3 ac in the Tornado formation splitting into 3 individual elements in about 2nm line astern approximately 1min before the incident. The lead Tornado passes, as accurately as can be measured from the radar recording, 2½nm to the NE of Beverley Lindley Hill with the other 2 Tornados passing 2¾nm to the NE. The track of the lead ac is verified by the HUD video, which shows it tracking very close (within 50m) of Hunt Hill Farm and Hempholme (2.52nm N of the airfield datum measured on OS Sheet 107) both of which can be identified with a reasonable degree of certainty. In addition the IR signature of an ac can be seen momentarily on the HUD video as it passes down the left side of the lead ac, presumably due to the high closure rate, on a reciprocal heading. It is estimated that it passes less than 50m to the left and just below. It is therefore concluded that the Cessna is flying 6/700m outside the NNE boundary of the Linley Hill ATZ, heading 300° at between 950 and 1000ft agl.

HQ STC comments that this appears to be a case where 'see and avoid' did not work in class G airspace. It serves to highlight the dangers of flying at 'popular' heights, and the dangers of relaxing lookout when attending to other tasks. It also highlights the dangers of flying extra large circuits and thus leaving the protection of notified traffic zones.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available to the UKAB included reports from the pilots of both ac, radar video recordings, the Tornado head-up display recording, reports from the air traffic controller involved and reports from the appropriate operating authority.

The Board considered it inadvisable for light ac to leave the protection of an ATZ when flying in the circuit pattern since the sole purpose of ATZs is to afford protection to ac in the vicinity of an airfield. Having said that, there was an obligation on both pilots involved to see and avoid in Class G airspace. It is clear that the Tornado pilot did not see the C150 and although the C150 saw the Tornado it was too late to effect any avoiding action. Members therefore concentrated on trying to establish why these simultaneous lapses had occurred. They thought it most likely that both pilots were preoccupied with other priority tasks at the time immediately leading up to the Airprox.

The lead Tornado pilot and his navigator became distracted by their inability to establish communication with Donna Nook Range. Further they were aware that they were close to Beverley and were most

assiduous in ensuring that they remained clear of the ATZ (just). They did not consider the possibility of encountering an ac at circuit height outside the ATZ just as they climbed from low-level to 1000ft in order to try to talk to Donna Nook. In addition, members considered that although legal, planning to fly so close to an ATZ was probably unwise. It was unfortunate that the formation was reverting to 'trail' for range entry as the cross cover at that stage was lost and the call by the number 2 pilot came too late to be effective.

The C150 pilot thought that the circuit he was flying was within the confines of the ATZ, whereas the actual pattern flown was considered by GA specialists on the Board to be excessively wide. Although the wind was from the SW, it was not deemed to be of a strength such that it was a significant factor. It was therefore most likely that the pilot was primarily concentrating on instructing his student which may have degraded his routine lookout. Further it appeared from his report that although he saw the leader, he was not aware of the number 2 and 3 ac in 2 and 4nm trail respectively which were also a threat to him, albeit with slightly more lateral displacement.

Given these conditions, neither the Tornado pilot nor the C150 pilot had been in a position to influence in any way the final separation distance between them as they passed each other in opposing directions. What little separation that had existed was a matter of chance and for that reason members concluded that there had been an actual risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the Tornado lead crew and a very late sighting by the C150 pilot, too late to take any avoiding action.

Degree of Risk: A

AIRPROX REPORT No 69/03.

AIRPROX REPORT NO 69/03

Date/Time: 6 Jun 0836

Position: 5118N 0018W (1.5nm W Epsom
R/Course - elev 417ft)

Airspace: FIR (Class: G)

Reporting Aircraft Reported Aircraft

Type: AS355 PA28

Operator: Civ Comm Civ Pte

Alt/FL: 1750ft 2100ft

(QNH) (QNH)

Weather VMC CLBC VMC CLBC

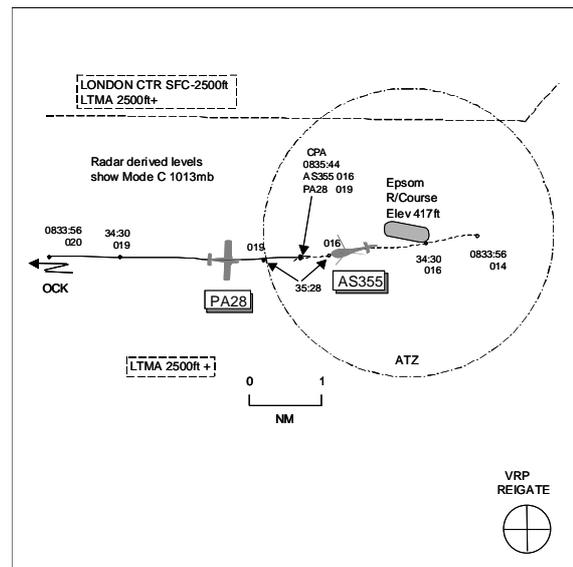
Visibility: 15km 10km

Reported Separation:

200ft V 50-75ft V <100m H

Recorded Separation:

Returns merge 300ft V



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE AS355 PILOT reports heading 275° at 90kt flying solo en route from Norwich to Fairoaks at 1750ft QNH and in receipt of a FIS from Farnborough on 125.25MHz, he thought. The visibility was 15km, 2000ft below cloud in VMC, the ac was coloured silver/black and the anti-collision, strobe, position and landing lights were all switched on. Having passed through the Epsom temporary ATZ, he thought, whilst in two-way communications with Epsom and Farnborough, he spotted a blue/white low winged single engine ac 250m ahead. He executed a descending L turn through 30° to avoid it, passing 200ft below and almost directly underneath the other ac. As the traffic passed he made a R banked turn, with increasing torque to create a loud 'blade slap' which produced no reaction from the other ac's pilot. He assessed the risk of collision as high.

THE PA28 PILOT reports flying solo en route from Fairoaks to Southend cruising at 2100ft QNH and in receipt of a FIS from Farnborough 125.25MHz. The visibility was 10km, 3000ft below cloud in VMC, the ac was coloured blue/yellow and the anti-collision light was switched on. Prior to the flight he had checked the NOTAMS using the NATS Aeronautical Information System via the internet, as he knew there was a racing event taking place, but he did not see any mention of it in the information received. Two miles W of Epsom heading 090° at 100kt, he spotted a helicopter, in his 1030 position 500m ahead and 150-175ft below and, as he was about to turn hard R to minimise any risk, the helicopter turned hard L across his path, crossing 300m ahead and 50-75ft below apparently climbing. It was a sharp (purposeful) manoeuvre (S turn) with a large bank angle and the helicopter was seen to pass <100m to his R and 50-75ft below, almost close enough to read the ac's registration letters. He assessed the risk of collision as medium, if no avoiding action had been taken, as the helicopter may have been in a climb.

ATSI comments that the PA28 had contacted Farnborough LARS (125.25MHz) at 0829, routing Fairoaks to Southend at 2000ft. The flight was placed under a FIS but not identified, Farnborough SSR was out of service. However, TI was passed about traffic also in contact with LARS, which was on a parallel track. Once past OCK the PA28 was advised to freecall Biggin at 0834.

Meanwhile, the AS355 had called the Farnborough APR (134.35MHz) at 0828, routing via Epsom Downs to Fairoaks. The pilot was informed that he should have contacted LARS but was kept on the frequency. Again the flight was not identified and he was provided with a FIS. A position report, approaching the Epsom overhead (he was in contact with the heliport), was obtained from the pilot at

0833, to enable TI to be passed on a departing Learjet. Three minutes later the pilot reported wishing to file an Airprox on a light aircraft. By this time the PA28 had left the LARS frequency, about 2 minutes previously.

It is open to conjecture whether, if both a/c had been on the LARS frequency, TI would have been passed to the subject ac in respect of each other (Proximity Warnings-MATS Part 1, Section 4, Chapter 3, Page 2 applies). However, Farnborough did not have SSR available and the pilots did not report routeing via the same point.

UKAB Note (1): NATS Aeronautical Information Service comments that the following NOTAMS were promulgated: -

B1126/03 0306060001 0306072359 London Control Zone tempo hel routes and procedures for the Epsom Oaks and Derby Day race meetings. UK AIP S16/2003 refers.

L1270/03 0306060900 0306072000 daily 0900-2000 Temp Licensed Heliport at Epsom Racecourse 511842N 0001525W elev 417ft. A/G EPSOM RADIO or EPSOM TOWER freq 121.17MHz.

B1191/03 0306060900 0306072000 daily 0900-2000 temp ATZ established for Epsom Heliport 511842N 0001525W Rad 2nm sfc-2000ft agl.

UKAB Note (2): The Farnborough APP frequency RT transcript at 0837:00 reveals that the AS355 pilot transmitted "*Farnborough AS355 c/s ma'am do you have any other traffic in this area I'd like to report an Airprox*". The APR replies "*AS355 c/s I've no known traffic in that area my Lear fortyfive is two miles south of the field*". The helicopter pilot responds "*and AS355 c/s that's copied er just passed through Epsom Down station I believe that's protected airspace er had a er right hand side pass light aircraft light blue in colour monoplane*". This transmission was acknowledged by the APR who was subsequently informed by the helicopter pilot that the other ac was flying in the opposite direction at 1800ft on QNH 1018mb.

UKAB Note (3): The Farnborough 0820Z QNH was 1018mb.

UKAB Note (4): Analysis of the Heathrow radar recording at 0833:56 shows the AS355 1nm E of Epsom Racecourse tracking 265° squawking 7000 indicating FL014 (1550ft QNH 1018mb) with the PA28 in its 12 o'clock range 6nm tracking 090° squawking 7000 indicating FL020 (2150ft QNH). At 0834:30 the AS355 is 0.33nm SE of Epsom indicating FL016 (1750ft QNH) with the PA28 head on range 4.2nm maintaining FL019 (2050ft QNH). The subject ac continue on steady tracks until the radar returns merge at 0835:44, with the PA28 indicating FL019 (2050ft QNH) and the AS355 FL016 (1730ft QNH).

UKAB Note (5): The incident occurred within the lateral limits of the Epsom temporary ATZ at 0836 but prior to the NOTAM'd activity time of 0900Z.

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 video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Clearly there had been a misunderstanding by the AS355 pilot about being afforded some protection (i.e. flying in an ATZ promulgated by NOTAM), which was subsequently found to be incorrect - the NOTAM showed an activation time of 0900Z. Although the PA28 pilot had not obtained the correct NOTAM information prior to departure, as chance would have it, this had not affected the outcome during his transit of the area. Consequently, in the absence of promulgated airspace, this had been an

AIRPROX REPORT No 69/03.

encounter in the 'open' FIR (Class G airspace) and the Airprox was assessed accordingly. Both pilots had been going about their 'lawful business', whilst flying under VFR, and had flown into conflict which had caused the Airprox.

Two different sighting perspectives were apparent for both cockpits. The PA28 pilot had seen the helicopter in his 1030 position range 500m and, as he was about to turn R to increase separation, saw the helicopter turn L across his path, watching it pass 300m ahead before it turned R to pass 100m clear to his R, just below. Members wondered why the helicopter pilot, after seeing the PA28 250m ahead, had elected to turn L when normally the initial reaction would be to turn R, in accordance with the Rules of the Air Regulations 1996 Rule 17 Rules for avoiding aerial collisions. As it was, the helicopter pilot chose to manoeuvre as he did, turning L and descending to pass an estimated 200ft almost directly below the PA28. Although the mutual sightings by both pilots, combined with the actions taken by the AS355 pilot, had meant that the ac were not going to collide, the Board believed that the subject ac had flown in such close proximity to each other, that safety had not been assured during the encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict in the FIR

Degree of Risk: B

AIRPROX REPORT NO 71/03

Date/Time: 5 Jun 1612

Position: 5156N 0101W (5nm NNW WCO
NDB)

Airspace: FIR (Class: G)

Reporting Aircraft Reported Aircraft

Type: C152 PA28

Operator: Civ Trg Civ Trg

Alt/FL: 2250ft↑ NR
(QNH 1019mb) NK

Weather VMC CLBC VMC CLOC

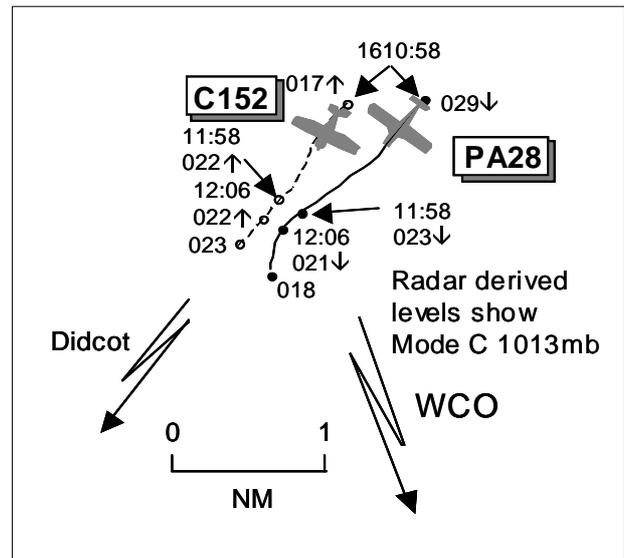
Visibility: 40km NK

Reported Separation:

5m V 25m H NR

Recorded Separation:

100ft V 0.1nm H

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

THE C152 PILOT reports flying a dual training sortie from Halton and in communication with Halton RADIO on 130.42MHz squawking 7000 with Mode C. The visibility was 40km 2000ft below cloud in VMC, the ac was coloured white/green and the nav, landing and strobe lights were all switched on. The student was carrying out a climbing/descending exercise and, prior to commencing climb, was using Didcot Power Station as a straight and level visual reference at 1500ft QNH 1019mb. After completing a lookout scan, which involved lifting both wings tips, the student commenced climbing on heading 220° at 65kt (best ROC speed) with intentions to level at 2500ft QNH. The student was then maintaining the climb using the 'DABLE' mnemonic - Direction, Airspeed, Balance, Lookout, Engine. Climbing through 2250ft QNH the student, apparently alarmed, alerted him to an ac on the port side. He leaned over for a better view and saw a PA28 coloured maroon/cream in his 8-9 o'clock position range 25-30m approaching on a converging course at an overtake speed from behind, from slightly below (estimated 5m vertically) in what appeared to be a climb. The other ac had initially been hidden from his view, seated on the RHS, as it was slightly below the window and came from behind. He thought his student had unknowingly applied a little R aileron at this stage. The PA28 was exceedingly close on the LHS (25m); he could see at least two people on board and see the registration letters and believed it to be 2-5sec from collision. Before he could take action himself, the other pilot did by rolling L away from him and descending rapidly, ending up 200-300ft below them and diverging on a heading of 200°. He contacted Benson Zone to report the Airprox and stated the separation to be 100m horizontally and nil vertically. However, on reflection, considering his formation display experience and taking into account ac size/relative position, he considered the separation to be 25m and 5m respectively.

AIS MIL reports that when PA28's operator was contacted, the ac was reported to have been on the ground at the time of the incident. However, after carrying out a radar analysis, tracking the conflicting ac to its destination and identifying it as the subject PA28, the reported pilot was identified and agreed to complete a CA1094, 3 weeks post incident.

THE PA28 PILOT reports flying a dual training sortie from Elstree and in receipt of a FIS from Elstree on 122.4MHz squawking 7000 with Mode C. The weather was VMC, the ac was coloured maroon/white and the anti collision light was on. This had been one of several flights during the day, none of which caused her to conflict with other traffic in her professional opinion as a full time flying instructor.

AIRPROX REPORT No 71/03.

UKAB Note (1): The PA28 instructor was contacted by UKAB, 6 months post incident to discuss the incident which occurred during a climbing/descending exercise in the vicinity of Westcott. After describing the scenario, as shown by the radar recording, she didn't remember there being an incident. Both she and the student were maintaining a good lookout and would like to think that she had seen the C152 as a matter of course but couldn't be sure.

UKAB Note (2): Analysis of the Heathrow recorded radar at 1610:58 shows the C152 5.5nm N of WCO NDB tracking 210° squawking 7000 indicating FL017 (1880ft QNH 1019mb) climbing with the PA28 0.5nm to its E tracking 225° squawking 7000 indicating FL029 (3080ft QNH) descending. Both ac continue on almost steady flight paths, the C152 climbing at 500fpm and the PA28 descending at 600fpm. At 1611:58 the PA28 is descending through FL023 (2480ft QNH), 0.175nm E of the C152, which is climbing through FL022 (2380ft QNH). NMC is displayed on the PA28 on the next radar sweep, the CPA occurs a further 4sec later at 1612:06 when the PA28 is indicating FL021 (2280ft QNH) 0.1nm E of and 100ft below the C152. The next radar sweep shows the PA28 in a L turn away from the C152, eventually steadying on a track of 180° 12sec later at FL018 (1980ft QNH), as the C152 levels at FL023 (2480ft QNH).

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

Members found it hard to believe that the PA28 pilot had not seen the C152, particularly when the C152 student and instructor could see the PA28 clearly close by. Both flights were being conducted in the student-training regime where 'in-cockpit' teaching requires good CRM to be exercised - to balance the 'heads-in' monitoring with maintaining a lookout scan. The opportunity had been there to see the Cessna ahead, whilst descending on a slowly converging track at a slow overtaking speed; a good lookout scan should have disclosed the conflicting Cessna's presence. However, from the information given to the Board, it was agreed that the PA28 pilot had flown into conflict with the C152, which she did not see.

Although the C152 crew initially did not have the opportunity to see the PA28 approaching from behind, they had seen it very late, 25m on their LHS, just below their level and converging. As the Cessna instructor was about to take avoiding action, the PA28 was seen to break away to the L and descend. With the PA28 pilot not seeing the C152, having flown in such close proximity, the Board could only surmise that the L turn made by the PA28 had been purely fortuitous. This was enough to persuade the Board that during this encounter there had been an actual risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot flew into conflict with the C152 which she did not see.

Degree of Risk: A

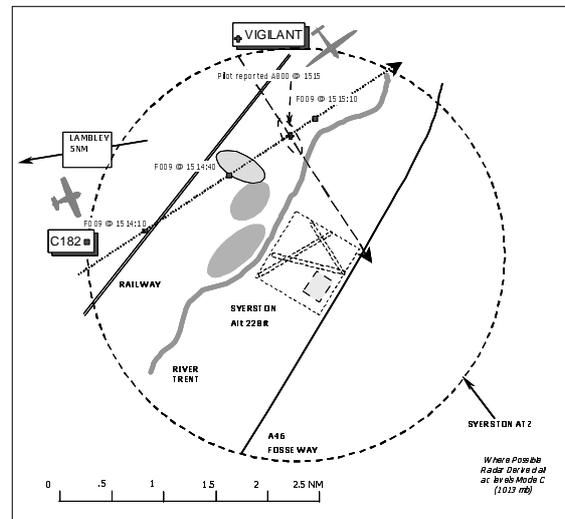
SECTION 2

UNAUTHORISED PENETRATION OF AN AERODROME TRAFFIC ZONE OR FLYING IN CLOSE PROXIMITY WITH THE BOUNDARIES THEREOF.

Established aerodromes have the benefit of a dedicated Aerodrome Traffic Zone. The location of these are depicted on aeronautical charts. With the 1:25000 series, the depiction will often include the layout of the runways themselves. This provides an opportunity, in conjunction with an appreciation of the surface wind, of assessing the likely traffic pattern both within the ATZ and the surrounding airspace.

AIRPROX REPORT NO 26/03

Date/Time: 30 Mar 1515 (Sunday)
Position: 5403N 0056W (Syerston)
Airspace: Syerston ATZ (Class: G)
Reporting Aircraft Reporting Aircraft
Type: Vigilant T1 Glider C182
Operator: HQ PTC Civ Pte
Alt/FL: 800ft
 (QFE 1012 mb) (N/K)
Weather VMC HAZE VMC HAZE
Visibility: 5km into Sun
Reported Separation:
 50ft V 200m H c200ft V ~1/4nm H
Recorded Separation:
 N/R



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE VIGILANT T1 (MOTOR) GLIDER PILOT reports that he was flying a local sortie with HISL on heading 160° at 70kt and was rejoining the circuit for runway 34 at Syerston, on an extended downwind leg, descending to 800ft (circuit height) on a QFE of 1012mb. He scanned right into the crosswind leg of the circuit (which was into sun) and observed the Cessna, pointing directly towards him, slightly below, heading NE following the Nottingham – Newark railway line. He initiated a slight climb to increase separation further and the Cessna continued up the railway on an undeviating track, at about 750ft AGL. His estimate of separation was 50ftV and 200m H which closed rapidly as the C182 passed below.

THE C182 PILOT reports that he was flying solo from Lambley (5nm W Syerston) to South Scarle (10nm NE Syerston) on a Northerly heading at 120kt in a Blue and White ac, with wing strobes switched on. Due to the late notice he was unable to recall much detail about the incident but did remember seeing a motor glider about ¼nm away but considered that avoiding action was not necessary.

THE STATION COMMENTS that this would appear to be a straightforward case of a light ac track-following with insufficient associated lookout. The day was saved by an aware Vigilant pilot.

Although Airproxes are reasonably rare at Syerston, infringements are all too familiar. The adjacent A46 trunk road, river Trent and now the railway line allow pilots to adopt the “easy” nav technique.

AIRPROX REPORT No 26/03.

AIS (MIL) reports that the radar replay does not record the Airprox, despite both ac painting shortly before the incident. Although the Vigilant is SSR equipped, the pilot informed them that it is standard procedure to switch it off when joining the circuit. They believe that the Airprox occurred shortly after the Vigilant had switched the SSR off.

HQ PTC comments that the Syerston ATZ is over-endowed with line features and staff there fear that this will not be the last such intrusion. Educational publicity about Syerston has been tried through the medium of GASIL in the past but this pilot could not have been more local. We shall discuss with ACCGS what further measures they might take.

UKAB Note (1): The Syerston ATZ is class G airspace of 2nm radius centred on the mid point of 07/25 up to 2000ft agl. Permission to enter is available 0830-SS from Syerston Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

The limited information available to the UKAB consisted of reports from the pilots of both ac and a radar video recording. Although limited, this was sufficient to conduct the investigation with a high degree of certainty.

It was clear from the radar replay that the C182 entered the Syerston ATZ without permission and tracked about 1¼nm NW of the airfield datum. Although the actual Airprox was not recorded, the Board agreed that it had occurred at the position stated by the Vigilant pilot. Moreover the precise miss-distance could not be determined, but it was clear that the Vigilant pilot saw the C182 in time to take effective avoiding action; this was confirmed by the C182 pilot's estimation that he required no action. In the opinion of the Board, there was therefore no risk of collision.

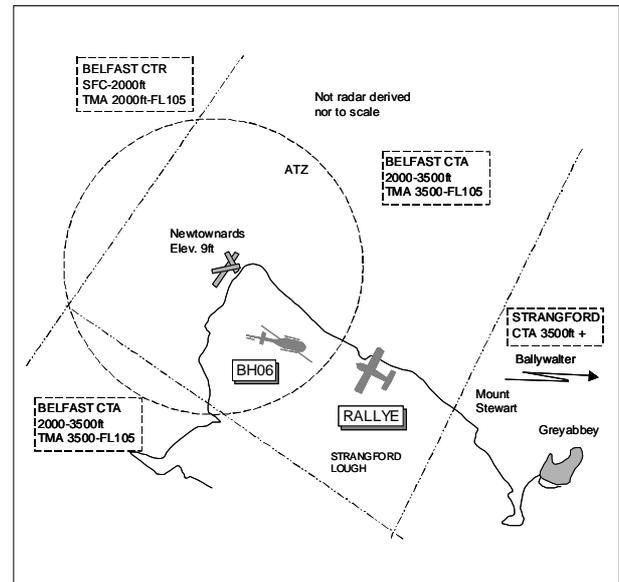
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Unauthorised penetration of the Syerston ATZ, in hazy conditions, by the C182 pilot, who flew into conflict with the Vigilant.

Degree of Risk: C

AIRPROX REPORT NO 30/03

Date/Time: 22 Mar 1705 (Saturday)
Position: 5434N 0540W (1nm SE Newtownards A/D - elev 9ft)
Airspace: ATZ (Class: G)
Reporting Aircraft Reported Aircraft
Type: BH06 JetRanger Rallye110
Operator: Civ Trg Civ Pte
Alt/FL: 1000ft 1200-1500ft
 (QFE 1020mb) (QNH)
Weather VMC HZBC VMC HZBC
Visibility: 4000m 1-2nm
Reported Separation:
 nil V 100ft H 200-400ft V
 0-25-0-33nm H
Recorded Separation:
 not recorded

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

THE BH06 JETRANGER PILOT reports flying a dual training flight (operators proficiency check) with another Captain as the PF whilst he conducted the flight check (training Captain) from Newtownards; they were in communication with Newtownards RADIO on 128-3MHz squawking 7000 with Mode C. The visibility was 4000m in haze, 2000ft below cloud in VMC and the ac was coloured red/white/grey, anti-collision and nav lights were switched on. The RW in use was RW22 LH with a cct height of 1000ft for fixed wing ac and helicopters and 700ft for microlights; 2 Grob motor gliders were in the cct. He lifted off parallel to the RW, climbed to 500ft and turned L onto the crosswind leg, levelling at 1000ft. During this climb, he heard a pilot call on frequency (the Rallye 110 c/s) asking for airfield information which was passed by the A/G operator but this was not read back. About 1nm SE of the airfield whilst turning L from heading 130° at 80kt onto the D/W leg, he saw a fixed wing light ac 200ft ahead at the same level heading approx 330° towards the airfield. He took control of the helicopter and executed a R turn to avoid the ac which passed 100ft down his port side. After rolling out of the turn, he noticed the ac approach the SE airfield boundary and then carry out a 180° turn to the R to pass back through the D/W leg whilst continuing on a track to vacate the cct. He made a broadcast on the frequency stating that an unknown ac had entered the cct pattern and he believed it to be the Rallye ac that had called earlier; no response was received from this transmission. Shortly thereafter, the A/G operator asked the Rallye pilot for his position which was given as 2nm S of the airfield. The airfield information was passed again and, following advice to join O/H for RW22, a broken transmission was heard but no positive readback of the information. The Rallye was then observed to carry out a standard overhead join. As it established into the cct pattern, he made an air to air broadcast to the Rallye pilot stating that he had entered the cct perpendicular to the D/W leg at cct height and that an Airprox would be filed owing to the avoiding action that had been necessary to avoid him; no reply was heard. He assessed the risk of collision as high.

THE RALLYE110 PILOT reports eight months after the incident that he was flying solo inbound to Newtownards from Carlisle and in communication with Newtownards RADIO on 128-3MHz squawking 7000; Mode C was u/s. The visibility was generally 5nm, 100-200ft below cloud, reducing to 1-2nm in haze layers in VMC and the ac was coloured orange/white. Earlier, he had descended from 3500ft to about 1600ft on the Belfast/City QNH to remain below CAS and had coasted in about 2nm S of Ballywalter before crossing over to Strangford Lough just N of Greyabbey. He switched on his landing,

AIRPROX REPORT No 30/03.

nav and spotlight to ensure max visibility, owing to haze layers and the setting sun (15-20° above horizon), for his approach to the airfield. He closed his flight plan with Belfast/City Approach, changed frequency to Newtownards and called for airfield information when he was passing Mount Stewart. His initial and subsequent call went unanswered so he entered a rate 1 RH orbit, which kept him between a house on the headland and Mount Stewart, at ranges 2-4nm respectively, SE of the airfield. Three orbits were completed whilst he checked the frequency, headset jacks/plugs and his handheld standby radio; his level fluctuated between 1200-1500ft (Belfast QNH) to remain below haze/thin cloudbanks and above cct height. During the 4th orbit, two-way communication was established on the 3rd or 4th attempt however, the reply received was in a broad Irish accent which he could not understand. On finishing that orbit passing through heading 320° at 60kt, he saw a JetRanger helicopter in his 11 o'clock range 0.75-1nm away in level flight, 0.25-0.33nm offset and 200-400ft below. He judged there was no risk of collision so he continued his turn, whilst increasing his bank-angle and 'wagging' his wings to increase his relative movement and visible area to the other pilot; the helicopter was seen to continue on a diverging straight track down his LH side. His initial thought was that Belfast Approach had not informed him of any other cross country traffic in the area as he had not heard any departing cct traffic on the Newtownards Radio frequency. The helicopter pilot called him and after a brief exchange of information, when he confirmed that he had seen the BH06 and after passing him his ac registration, the JetRanger pilot stated that an Airprox would be filed. During the subsequent join, his approach calls were lost by Newtownards whilst he descended through a thin haze/cloudbank at 1000ft but he received all airfield and cct information satisfactorily and continued to land. After landing, the A/G operator was able to receive his transmissions. Later he informed the CFI that the JetRanger pilot had claimed that he had infringed the ATZ and would be submitting an Airprox report. The CFI told him that the airfield was temporarily below its licensed operating minima and was accordingly officially closed with an inactive ATZ at the time.

UKAB Note (1): During a subsequent telephone conversation with the CFI at Newtownards, he confirmed that he had spoken to the Rallye110 pilot and informed him that the airfield had been closing at the time of the incident. It transpired that the aerodrome normally closed at 1700, not 1730 as promulgated in the UK AIP, unless flying commitments required otherwise and the CFI agreed to review the UK AIP entry to reflect flying activities at the aerodrome.

UKAB Note (2): Met Office archive data shows the Belfast/City METAR EGAC 1650Z 17006KT 5000 HZ FU FEW020 10/06 Q1020=

UKAB Note (3): The UK AIP at AD2-EGAD-1-2 promulgates the Newtownards ATZ as a circle radius 2nm centred on RW04/22 position 543452N 0054131W from sfc to 2000ft above aerodrome elevation of 9ft, active in Winter 0900-1730 with A/G service available during those hours.

UKAB Note (4): The Airprox occurred outside recorded radar coverage.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac.

Without the benefit of a radar recording, members could not reconcile the disparate accounts reported by both pilots on the position and geometry of the incident. Although the CFI had confirmed that the airfield was in the process of closing, the ATZ was active at the time with the A/G operator talking to both of the pilots involved. The BH06 Training Capt, a locally based pilot, said that as he turned DW within the ATZ he saw the Rallye. The Rallye pilot, however, had reported holding clear, outside the ATZ at 2-4nm distance and between 1200-1500ft. Members believed that the Rallye pilot should have ensured that he remained well clear of the ATZ laterally or vertically whilst attempting to sort out his radio problems. Moreover, if he had approached for a standard overhead join, normally at 2000ft subject to CAS limitations, this would have taken him above the established cct traffic, although members

recognised that attaining this altitude may have been precluded because of the prevailing weather conditions. There was insufficient information to confirm that the Rallye pilot had not integrated safely into the cct, therefore members could only surmise that this had been a conflict near the boundary of the Newtownards ATZ.

Turning to risk, the Rallye pilot said he saw the JetRanger over 0.75nm away and continued turning R, as the helicopter passed clear to his L by 0.25-0.33nm and 200-400ft below. The BH06 Training Capt was undoubtedly surprised to see a conflicting ac approaching head-on as he turned onto the DW leg. On seeing it, albeit late, 200ft ahead at the same level, he took control from the PF and reversed the turn back to the R to avoid the other ac by 100ft at the same level. Although members were unable to resolve the reported separation discrepancies, they were sure that both pilots were describing the same encounter and it was clear that the BH06 Training Capt's actions, in taking control, had been sufficient to avoid an actual collision. However, these actions - taken at such a late stage by the BH06 Capt - persuaded the Board that safety had not been assured during the encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

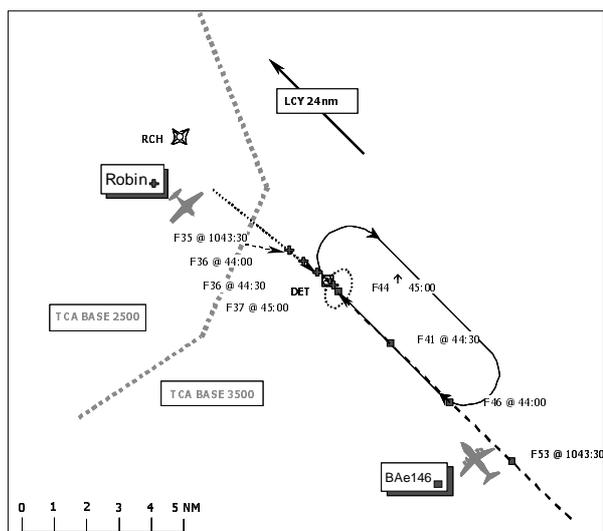
Cause: Conflict near the boundary of the Newtownards ATZ.

Degree of Risk: B

AIRPROX REPORT No 35/03.

AIRPROX REPORT NO 35/03

Date/Time: 14 Apr 1045
Position 5121N 0036E (3nm SE DET)
Airspace: London TCA (Class: A)
Reporting Aircraft Reported Aircraft
Type: BAE146-200 Robin DR500
Operator: CAT Civ Trg
Alt/FL: 4000ft FL39
(QNH 1012mb)
Weather VMC HAZE VMC
Visibility: 5km
Reported Separation:
200ft V 0 H NK
Recorded Separation:
0 H 700ft V



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BAE146 PILOT reports heading 315° at 4000ft on the QNH of 1012 and 250 kt inbound to Detling VOR from Paris for an approach to London City Airport. He was under the control of Thames Radar in marginal VMC with a visibility of 5000m in light haze below cloud. He saw 2 ac ahead and below him on the TCAS and watched the first one pass below (500 to 1000ft) on the left side, then immediately he had a TCAS RA “climb”, very probably for the second ac. The second ac was identified by the First Officer at 1km on the nose as a white Robin DR 400 with blue leading edges in level flight 200ft below (confirmed on TCAS) with no horizontal separation. He climbed to 4400ft before descending back to 4000ft.

THE ROBIN DR500 PILOT reports that he did not consider that this incident constituted an Airprox and declined to provide details required in a CA1094. However, he agreed that there had been an occurrence and gave a written account.

The sortie was an IMC rating renewal revision accompanied by a QFI with the pilot operating as P1. Take off from Rochester was at approximately 0944Z for a 1¼hour sortie consisting initially of GH followed by NDB/VOR holds at RCH and DET. During the flight, he could not recall the time, he flew a simulated Southend NDB/DME procedural approach to Rochester RWY 20, changing from the QNH of 1014 to the airfield QFE. Following a go-around he tracked on the assigned radial towards DET, intending to climb, not above 3500ft, when clear of the LTMA 2500ft restriction.

During the climb the instructor suggested that the pilot lift the “Foggles” to look at a BAe 146 above and in the 12 o'clock. They both watched the passage of this ac and considered the separation to be normal. Both pilots regularly operate from Rochester and are familiar with the visual appearance of separation of London City inbounds. They considered that no avoiding action was necessary and they observed none by the 146. However, after refitting the “Foggles” and continuing the climb he glanced towards the transponder and found it reading FL39 and initiated an immediate descent. He subsequently realised that both altimeters had been left to the Rochester QFE setting.

UKAB Note (1): Rochester is 436ft AMSL resulting in a QFE calculated as 1000mb.

On his return to Rochester he asked the AFISO if Thames Radar had made enquiries regarding his entry into the London TMA and was advised that no call had been received. Had any enquires been made he intended to explain the circumstances of the incident to Thames Radar.

THE THAMES RADAR CONTROLLER reports that at about 1042 a BAe 146 from Paris called on frequency descending to 4000ft (QNH) inbound to DET VOR. He was cleared outbound DET heading 300° for vectoring for an ILS RW 10 at London City. At 1044 the BAe 146 pilot called a TCAS climb and was observed reaching 4400ft when a 7000 Squawk emerged just behind, indicating 3800ft. This was the first time that the Controller had observed the other ac. The pilot of BAe 146 reported returning to 4000ft shortly afterwards.

The pilot reported to Thames that as he started to climb, the ac was sighted and identified as a DR400 (he thought) with white wings with blue leading edges. The pilot also said that the TA messages prior to the RA reported that the ac was 200ft below and that he flew directly above the intruder with 500ft separation. Shortly after, the pilot announced that he wished to file an Airprox and the controller agreed to speak to him on the telephone after landing. During the conversation the information was confirmed and the pilot said that prior to the occurrence several TAs were received on another 7000 squawk with no Mode C that was sighted approximately 1000ft below and so he was surprised when the events leading up to the Airprox unfolded. They agreed that the pilot would file an Airprox (pilot) report and that the controller would file an Air Traffic Occurrence report.

UKAB Note(2): The Pease Pottage radar replay clearly shows the ac approaching one another on reciprocal headings about ½nm SE of DET with the BAe 146 climbing through FL44 (presumably following his TCAS RA) with the Robin passing directly below at F37.

ATSI reports that a BAe146-200 was inbound to London City and the pilot contacted Thames Radar, reporting approaching DET at 4000ft, the controller instructed the pilot to leave DET heading 300°. At the time there were several ac squawking 7000 in the area, including the DR500, which was approximately 7.5nm in the 12 o'clock position of the BAe146 flying in the opposite direction to it indicating 3700ft. The radar equipment at Thames Radar is not fitted with STCA so no 'alerting facility' was available.

The controller was engaged in vectoring a number of ac and he did not notice the Mode C of the 7000 squawk initially. Shortly afterwards the pilot of the BAe146 reported a TCAS climb against 'a DR400'. The controller reported that he then saw a 7000 squawk emerging from the return of the BAe146 with an unverified Mode C readout of 3800ft

MATS Part 1, Section 1, Chapter 6, Page 4, para 9 states that 'controllers should not normally allocate a level to an ac which provides less than 500ft vertical separation above the base of a control area'. In this instance, the base of the LTMA SE of DET is 3500ft therefore, the allocated level of 4000ft complied with this requirement.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available to the UKAB 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.

The Board was informed that owing to its relocation from Heathrow to the London Terminal Control Centre at West Drayton, Thames Radar now has STCA.

The Board considered the DR500 pilot's refusal to submit a CA1094 most disappointing and not in keeping with the current open reporting ethos in the UK.

AIRPROX REPORT No 35/03.

The Board was also informed that the single most common cause of GA pilots failing Instrument Rating Tests is forgetting to reset their altimeters from QFE to QNH following a go-around. This is widely publicised and in this incident should have been well known to, and specifically checked by, the QFI. Members therefore considered that he should have picked up the omission at a much earlier stage and told the handling pilot to rectify it, thereby preventing the infringement of CAS and consequently the Airprox. This in itself may not have prevented the TCAS RA as they had apparently planned to fly to just below the base of the London TMA. Members pointed out that, although this is technically quite legal; it is poor airmanship; where possible, pilots should apply a 500ft buffer, as is the case above the base of CAS.

Members believed that the reason the Robin crew “considered the separation to be normal” could be explained as follows: the 146 captain had already taken effective avoiding action by climbing to FL44, as a result of the TCAS RA, by the time that they saw the conflicting ac. Although the BAe 146 pilot estimated the vertical miss-distance as being 200ft, this probably increased after the Robin disappeared out of his view below the nose and was actually greater as the 2ac crossed about 10sec later with the 146 in a climb and the Robin having commenced his descent. The Board concluded that by following the TCAS recommended avoiding action in a timely manner the 146 captain had prevented a close encounter. This had been watched by the Robin crew and therefore there was no risk of collision.

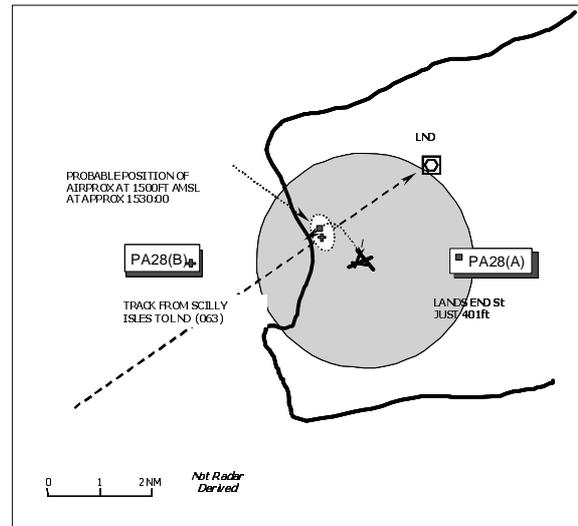
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Unauthorised penetration of Class A airspace by the Robin crew who flew into conflict with the BAe146.

Degree of Risk: C

AIRPROX REPORT NO 48/03

Date/Time: 5 May 1530
Position: 5006N 0540W Lands End St Just
Airspace: (Lands End ATZ) (Class: G)
Reporting Aircraft Reported Aircraft
Type: PA28-140 PA28-161
Operator: Civ Training Private
Alt/FL: 1000ft 1500ft
(QFE 998 mb) (QNH)
Weather VMC Below Cloud VMC
Visibility: + 10km + 10km
Reported Separation:
100m H 20/50ft V N/K
Recorded Separation:
N/A

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

THE PA28-140 PILOT (PA28 (A)) reports that following 50min of dual instruction he was flying solo within Lands End ATZ. He was the only ac in the circuit and was on his 2nd of 3 circuits practising glide approaches heading 260° at 100kt and 1000ft agl on a QFE of 998mb. On the crosswind leg of the circuit for 35LH he carried out a visual scan for traffic in preparation for turning, first looking left to right and back to left before commencing a left turn on to the downwind leg. Immediately on commencing the turn he became visual with PA28 (B) passing down his left side in the opposite direction. The ac was sighted in his 10 o'clock position approximately 100m horizontally and less than 50ft below him. He immediately rolled out of the turn remaining visual with the ac passing down his left side. After it had passed he recommenced the left turn onto the downwind leg. He was aware that Lands End ATC were in contact with the ac and they saw it at the same time as he did and informed the pilot of PA 28(B) that he was passing through the ATZ. In a previous transmission the other pilot had been asked if he was remaining clear of the ATZ to which he replied in the affirmative saying he was tracking towards the LND VOR and would pass N of the ATZ.

While PA28 (A) pilot was in visual contact with the other ac it appeared to remain on course taking no avoiding action and did not at any time state that he was visual.

THE PA28-161 PILOT (PA28 (B)) reports that the co-owners of the ac filed a VFR flight plan for a flight from Compton Abbas (Dorset) to St Mary's, Isle of Scilly. On the morning of the flight he called St Mary's ATC who gave them the reporting points for the inbound leg and then he confirmed that he would be using GPS to report distances. The outbound leg was flown without incident.

At St Mary's he was told that a flight plan was not obligatory for the return so he did not file one. They departed St Mary's at approximately 1510 and were cleared to transit the corridor at 1500ft. They reported at the points requested and at the 2nd point (18nm to go to LND) they contacted Lands End and were told to report at LND. Subsequently the Lands End Air Ground Operator (see note UKAB Note 1) asked him to avoid the Lands End ATZ but he already had Lands End in sight and was probably already in the ATZ at that point. As he reported LND the Air Ground Operator pointed out that he had entered the ATZ and he apologised. At no point did they see PA28 (A).

AIRPROX REPORT No 48/03.

UKAB Note (1) In the UK AIP Lands End ATS (Summer) is notified as TWR (ATZ) Mon –Sat 0800-1700. Therefore it was Lands End TWR who instructed him to remain clear of the ATZ. See also the ATCO's report.

Careful analysis post the request to submit an Airprox report and further study of the current Southern England 1:500,000 chart and the AFE Visual Flight Guide diagram of the Lands End Transit Corridor confirms that the track followed took them about 1nm inside the Lands End ATZ. He now accepts that a more prudent course may have been to climb to above 2400 ft thus passing over the ATZ (as on the outward flight) or to divert left to cross the North Cornwall coast at LND 280° 3nm, which would have taken him clear of the ATZ, and then to proceed to LND.

LANDS END ATCO reports that at 15:27 the PA28 (A) was lining up RWY 35 for left hand circuits and the pilot was passed TI on an eastbound PA28 at 2000ft QNH 1014. At 1527:20 PA28 (B) pilot reported 8DME W of LND and was passed TI on the circuit ac and on a C152 on the N coast; the pilot was told to report passing LND. At 1527:59 the PA28 (A) pilot was cleared for take off on RWY 35, QFE 998. Shortly after PA28 (B) pilot called descending to 1500ft on the QNH to remain VMC. At 1529:35 the pilot of PA28 (B) was asked to confirm that he was remaining N of the ATZ to which he responded affirm. At 1530:03 PA28 (B) was seen S of PA28 (A), which was on the crosswind leg about to turn downwind when the reported pilot was informed by ATC that he had 'cut up circuit traffic'.

The weather was reported as 32014kt 40km SCT016 09/06 QNH 1014 with significant glare off the sea looking W from tower position. The airfield elevation is 401ft.

UKAB Note (2): Neither ac was seen on the radar recording. Since neither the Controller nor the pilot of PA28 (B) reported the miss-distance, only the reporting pilot's estimate of 100m horizontally and 20/50ft vertically is available.

ATSI reports that there were no ATC implications apparent in this Airprox.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted only of reports from the pilots of both ac and a report from the air traffic controller involved.

Members considered the infringement of the Lands End ATZ by PA28(B) was the major factor of significance leading to this incident. The pilot's decision not to file a flight plan on the return leg was not considered by the Board to have contributed to the incident. They did however, think that he may have either been uncertain as to whether or not he had clearance through the zone and direct to the LND until it was too late to avoid it either laterally or vertically or, a more likely scenario was that he had become preoccupied with his GPS navigation and simply not considered the significance of the ATZ. If he was faced with any doubt as to his clearance, Members agreed that a more prudent course of action would have been to question ATC; however, had he planned to avoid the Zone to the N in the first instance this incident would not have occurred. It was unfortunate that PA28(B) was transiting at 1500ft which was almost the same altitude as the circuit height at 1000ft QFE, and thus bringing it into conflict with the other PA28.

The pilot of PA28(A), despite being in the circuit pattern within the ATZ, by virtue of his good lookout had seen the opposing ac, rolled away from it and, although separation had been closer than was comfortable, his action had prevented any risk of collision. Members considered however, that since the pilot of PA28(B) had not seen the other ac, that safety had not been assured.

Despite PA28(B) pilot stating in his report that a more prudent course of action would have been to climb to 2400ft above the zone, Members believed that, since he had already had to descend to 1500ft to

remain VMC, this may not have been possible to accomplish (while remaining VMC) in the prevailing cloud conditions.

PART C: ASSESSMENT OF CAUSE AND RISK

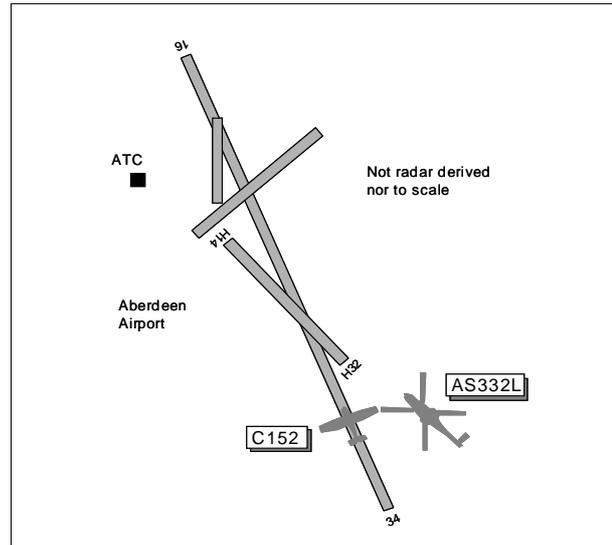
Cause: PA28(B) entered the Lands End ATZ without permission and flew into conflict with PA28(A) which he did not see.

Degree of Risk: B

AIRPROX REPORT No 84/03.

AIRPROX REPORT NO 84/03

Date/Time: 21 Jun 1638 (Saturday)
Position: 5712N 0212W (RW34 Aberdeen - elev 215ft)
Airspace: ATZ (Class: D)
Reporting Aircraft Reported Aircraft
Type: C152 AS332L
Operator: Civ Trg CAT
Alt/FL: 100ft↑ 100ft↑
(QFE) (QFE)
Weather VMC CLBC VMC CLBC
Visibility: 40km 30nm
Reported Separation:
50ft V 100ft V&H
Recorded Separation:
not recorded



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE C152 PILOT reports he was a student PPL flying a solo cct training sortie from Aberdeen on RW34 RH and in receipt of an ATS from Aberdeen TOWER on 118.1MHz. The visibility was 40km beneath an overcast cloudbase in VMC and the anti-collision, landing and nav lights were all switched on. He had been cleared for a touch and go on RW34 and was aware, from the RT, of inbound helicopter traffic which he heard call 'visual with the landing'; he completed his approach and landing. On raising the flaps and applying full power, he became aware of a helicopter overhead and close to his port side. At this point, he felt it was unsafe to abort his take-off so carried on into a shallow climb. When passing the RW34/32 intersection at 100ft QFE and 70kt, he asked ATC for an early R turn, as the helicopter, estimated to be 50ft above him, appeared to be turning back across his path from L to R. The request was denied, ATC asking him to carry on as the helicopter was accelerating away; the remainder of the cct was completed without incident. He assessed the risk of collision as high with a potential vortex wake hazard.

THE AS332L PILOT reports inbound to Aberdeen IFR and in receipt of an ATS from Aberdeen TOWER on 118.1MHz. The visibility was 30nm below cloud in VMC and he was squawking an assigned code with Mode C. He had been given clearance to make an approach to RW32 and requested to report when on RB. There were two light ac on final, a Cessna on short final for a touch and go and another ac at approx 3nm for a go around. Approaching the airfield, ATC told him to "keep it tight" and to pass behind the first ac (sighted initially 2nm away and by now on very short final) and to approach on RW32. He slowed the helicopter down in order to comply with the ATC instruction however, confusion then arose as to which ac he was cleared to pass behind. He was under the impression that he was cleared to pass ahead of the ac just touching down and increased speed to do so, believing this to be correct; he could not see another ac and assumed this was the 'second one' referred to by ATC. At no point could he remember ATC asking for confirmation that he was visual with the second ac. Unfortunately, by the time he realised his error, he could not slow down sufficiently to pass behind and had to cross ahead of the ac on RW34. The go around was commenced at 70kt, approx 100ft above and to the L of the ac to avoid wake turbulence problems and this was followed by a tight RH cct and landing on RW34. He assessed that there had been no risk of collision. He opined that there had been a breakdown in CRM between both crewmembers in not ensuring that they both fully understood the ATC clearance. He believed an assumption was made by the FO that he, the Capt (PF), had understood the clearance; this was never confirmed and his actions were never questioned until it was too late. Also, ATC had not

asked for confirmation that they had visually identified both ac and the ATC instruction to *"keep it tight"* had added to the confusion. Crew tiredness was also cited, with both members being high on hours and it had been on a long duty day.

THE ABERDEEN ADC reports the C152 was DW RH low level for RW34, its pilot having reported visual with the AS332L, which was 4nm NE of the airfield and visual with the Cessna. Another ac was at 6.5nm on a NDB approach for low approach and go around RW34. The C152 was cleared for a touch and go RW34 and then he asked the AS332L to keep its cct tight behind the C152 owing to the NDB approach traffic at 4nm. The C152 touched down but he thought the helicopter was turning in too quickly for RW32 so he repeated that the Cessna was on a touch and go. From his view from the VCR it appeared that the AS332L was on approach to RW32 but had not yet crossed the main RW. The helicopter pilot then reported *"going around"* at what seemed to be high speed over the RW with the Cessna on its take-off run. The Cessna pilot asked for an early R turn out but from his perspective the AS332L was pulling away quickly and turning R so he advised the Cessna pilot to continue straight ahead. Subsequently, both ac carried out a cct and landed safely.

UKAB Note (1): The Aberdeen METAR shows EGPD1620Z 33003KT 9999 FEW030 BKN037 15/07 Q1015=

ATSI reports that the C152 was operating in the cct RW34 at Aberdeen and at 1631 it was cleared for a touch and go, into a low level RH cct. Approximately 2min later the AS332L called on the Tower frequency and was instructed to report RB RW32 (helicopter only RW). The pilot was passed TI on the C152 as *"There's a Cessna One Five Two who's just on a touch and go this time. He's just rolling this time for departure off three four. He's turning right for a low level circuit for three four right hand"*. The pilot replied that he would *"try and keep an eye out for him"*.

The controller's plan was for the C152 to approach ahead of the AS332L and, to this end, he asked the C152 pilot to make a reasonably early R turn because of helicopter traffic 6nm NE for RW32. Shortly afterwards, the C152 pilot reported visual with the helicopter and DW for a touch and go. He was requested to report ready to turn RB. The helicopter pilot was informed that the light ac was early DW, well ahead, to which the pilot reported visual.

When the C152 pilot reported ready to turn base, at 1636, he was instructed to keep it reasonably tight because of NDB approach traffic at 6.5nm. Shortly afterwards, he was cleared for a touch and go, followed by a LH cct. A transmission was then made to the ac on the NDB approach to RW34, warning that it would be a late clearance for a go around because of a helicopter on approach to the cross RW32. At 1637:09, the AS332L was instructed to *"keep it tight for three two please the Cessna's just about to do his touch and go. There's another aircraft on a four mile for a low approach and go around."* The pilot replied *"visual with the landing"*. The AS332L pilot stated in his report that he was under the impression that he was cleared to pass ahead of the ac just touching down, as he assumed this to be the second ac referred to. (He had been informed that the second ac would be carrying out a go around). His transmissions to ATC did not indicate that was his understanding.

The controller stated in his CA1261 that he thought that the AS332L was turning in too quickly for RW32, behind the C152. Consequently, he warned its pilot that he would not be able to issue a landing clearance until the RW was vacated by the C152 carrying out a touch and go. The pilot of the AS332L reported going around to the L. However, the controller said he could see the AS332L going R and instructed the C152 to continue ahead, instead of approving its request for a R turn.

From the reports received from both pilots, that they were visual with each other, it is understandable why the controller believed that the situation was resolved. He had no reason to believe that the AS332L would not position behind the C152 and ahead of the other traffic, until he was able to detect the former turning in too tight. Based on the view from the VCR, he took positive action to resolve the situation.

AIRPROX REPORT No 84/03.

The MATS Part 1, Section 2, Chapter 1, Page 1, states that: "*Aerodrome control is responsible for issuing information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions between: a) aircraft flying in, and in the vicinity of, the aerodrome traffic zone and b) aircraft taking off and landing*". Although the controller passed appropriate TI to the pilots of the subject ac, he did not issue a number in the traffic sequence to either, or, for that matter, to the other ac on approach. It is open to conjecture whether this would have resolved the situation.

UKAB Note (2): The Airprox occurred outside recorded radar coverage.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

It was felt that the student pilot in the C152 had been placed in an unenviable situation, one in which a more experienced pilot would probably have stayed on the ground and not continued with the take-off. The ADC had asked the student to fly a 'low level' cct and to 'keep it tight' which were tasks thought by some to be perhaps too demanding for a student to complete. But, as the pilot's experience level would have been unknown to the controller, it was thought by others that the student pilot could have declined to comply if he had been unhappy with any ATC instruction. Against this background the Board analysed what had happened. ATC had passed appropriate TI and there was no reason to doubt that the subject ac would not integrate safely as both pilots had reported visual with each other. The AS332L Capt had positioned onto RB for RW32 and reported 'visual with the landing' after being asked to 'keep it tight'. Next, the ADC noticed the AS332L apparently turning in too tight behind the C152 and had warned the helicopter pilot that he could not issue landing clearance until the C152 had vacated the RW on its touch and go; the AS332L pilot had then reported going around. Although the AS332L Capt had later reported confusion in the cockpit as to the traffic sequence, he had not questioned the ADC's instructions and had simply flown into conflict with the C152 that was taking off on RW34. This had caused the Airprox.

The C152 pilot had been unaware of the AS332L's proximity until it appeared 50ft overhead and to his L then starting to turn R on its go around. At that stage he had elected to continue his take-off into a shallow climb only to be denied a R turn away subsequently by ATC as the helicopter converged laterally to cross his track while accelerating away from the Cessna. The AS332L Capt had chosen at a late stage to abort his approach onto RW32 and in doing so had flown 100ft above the Cessna before turning R and executing his missed approach. The Board were clear that the actions taken by the AS332L pilot were enough to avoid an actual collision, but the resulting flight path flown meant that safety had not been assured during the incident.

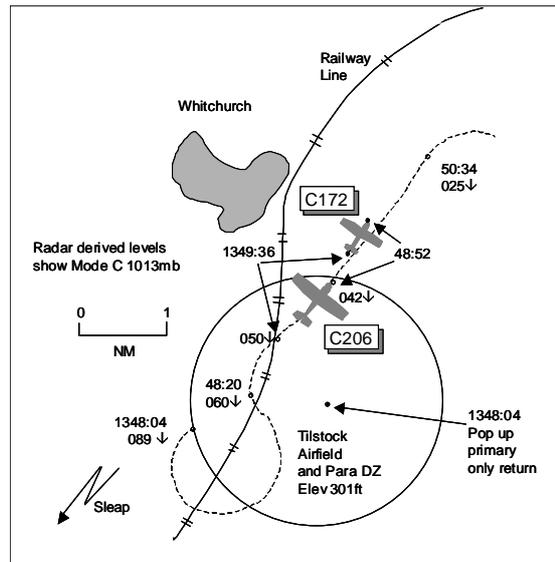
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Contrary to ATC instructions, the AS332L Capt flew into conflict with the C152, which was taking off.

Degree of Risk: B

AIRPROX REPORT NO 95/03

Date/Time: 28 Jun 1351 (Saturday)
Position: 5259N 0238W (3.5nm NNE Tilstock A/D - elev 301ft)
Airspace: FIR (Class: G)
Reporting Aircraft Reported Aircraft
Type: C172 C206
Operator: Civ Pte Civ Club
Alt/FL: 2500ft 3000ft↓
(QNH 1015mb) (N/K)
Weather VMC CLBC VMC CAVOK
Visibility: 25km >10km
Reported Separation:
nil V 50ft H nil V 300m H
Recorded Separation:
not recorded

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

THE C172 PILOT reports flying solo en route from Sleaf to Barton at 2500ft QNH 1015mb, at 110kt and he was reporting and listening out on the Shawbury frequency 120.77MHz. The visibility was 25km, 1000ft below overcast cloud in VMC, the ac was coloured white/blue and the nav, anti-collision and strobe lights were switched on. No transponder was fitted. He had changed frequency from Sleaf to Shawbury at Whitchurch and did not receive any response to his RT calls to indicate that ATC were open. About 3nm N of Whitchurch whilst flying straight and level following a line feature (railway line), he scanned over his shoulder to approx 4 o'clock and saw a high wing single engine blue/red coloured ac, possibly a C172, turning away to the R at a range of 50ft, at the same level. He felt that it must have approached from behind and below as he had been carrying out a horizontal scan over 180°, looking upwards (for possible cloud/ac) and downwards to ensure nearness to the line feature. He assessed the risk of collision as high.

UKAB Note (1): During a subsequent telephone conversation with the C172 pilot (6 months post incident) he couldn't remember much about the incident details. He had not been aware of any activity at Tilstock as he would have normally expected notification of it from Sleaf Radio or from Shawbury who were closed.

THE C206 PILOT reports on recovery to Tilstock having completed a para-drop descending at 130kt in CAVOK conditions. The ac was coloured blue/red and he was squawking 0033 with Mode C. Descending through 3000ft, he saw a high wing single engine ac, coloured white with dark markings, about 3nm away flying straight and level tracking approx N. He continued his descent, passing about 300m behind the other ac, from its 6 through to its 4 o'clock positions whilst in a slight R banked turn. He assessed the risk of collision as nil. After landing he was informed that a high winged single engine ac had just infringed the DZ with parachutists under canopy, the timing and track of the ac was consistent with it being the reporting ac.

UKAB Note (2): The UK AIP at ENR 5-5-3-4 promulgates Tilstock as a Free Fall Drop Zone, a circle radius 1.5nm centred 525551N 0023905W from FL150 active normally during daylight hours, Fri from 1400 & Sat & PH Winter (Summer 1hr earlier); and other times as notified. Activity notified on the day to Shawbury ATC or LACC outside hours of Shawbury; alternative contact Tilstock RADIO 122.075MHz.

AIRPROX REPORT No 95/03.

UKAB Note (3): Met Office archive data shows the Shawbury 1350Z QNH 1015mb.

UKAB Note (4): Analysis of the Clee Hill radar recording proved inconclusive. Two 0033 para-drop squawks are seen manoeuvring adjacent to Tilstock prior to the Airprox, one climbing, whilst the other is believed to be the C206, which it is seen to commence a descent from FL100. At 1348:04, as the C206 0033 squawk is seen 1.5nm W of Tilstock in a LH orbit passing through heading 260° descending through FL089 (8840ft QNH 1015mb), a pop-up primary only return appears overhead Tilstock, (possibly the C172) for one radar sweep. At 1348:20 the C206 is seen 0.75nm W of Tilstock, stopping its L turn on a NW track and turning R descending through FL060 (ROD 2500fpm) before rolling out on a track of 025° at 1349:36 1nm NW of the DZ. Simultaneously a primary only return pops up 1.7nm N of the DZ, believed to be the C172, tracking 025° before fading completely from radar 16sec later when the C206 is 0.84nm behind it on a similar track descending through FL042. The C206 continues on a steady NNE track until a R turn is seen to commence at 1350:34 as it descends through FL025 thereafter continuing descent and turning back towards Tilstock. The Airprox is believed to occur at this time as both pilots describe this manoeuvre.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

Members initially discussed the events leading up to the Airprox. Although there was no radar information to show that the C172 had flown through the Tilstock Free Fall DZ, it was clear that if its pilot had followed the railway line, as he said he did, this would have led to an infringement of the DZ. This DZ is shown clearly on the 1:500000 charts and the area should have been avoided if there had been doubt about its activity status. However, thorough pre-flight planning would have disclosed the hours of operation and the frequencies to call to check the activity status. Moving on to the reported Airprox, the C206 pilot saw the C172 at 3nm range but had then elected for whatever reason to fly within 300m of it before turning away back towards Tilstock. In doing so the C206 pilot had flown close enough to cause concern to the C172 pilot and this had caused the Airprox.

Turning to risk, members could not resolve the discrepancies in the separation distances reported by both pilots. The C172 pilot was undoubtedly surprised when he noticed the C206 in his 4 o'clock, reported as 50ft away, at the same level turning away. Unbeknown to him, the C206 pilot had seen the C172 and maintained visual contact with it whilst he descended. It was unclear why the C206 pilot had chosen to fly so close - he reported 300m separation - to the C172 but he had, without knowing its pilot's intentions. However, it was agreed that the C206 pilot was always in the position to manoeuvre to avoid the C172 which led the Board to conclude that there had been no risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The C206 pilot flew close enough to cause concern to the C172 pilot.

Degree of Risk: C

SECTION 3

A further three 78(Risk Category C), 81(B), and 91(B) are more general – flying in close proximity to events on the ground including glider sites and one caused during the conduct of aerobatics.

AIRPROX REPORT NO 78/03

Date/Time: 15 Jun 1031

Position: 5204N 0101W (O/H Silverstone - elev 508ft)

Airspace: FIR (Class: G)

Reporting Aircraft Reported Aircraft

Type: BH06 JetRanger Sukhoi SU26

Operator: Civ Comm Civ Comm

Alt/FL: 2000ft AEROS
(QNH 1020mb) (N/K)

Weather VMC CLNC VMC CAVOK

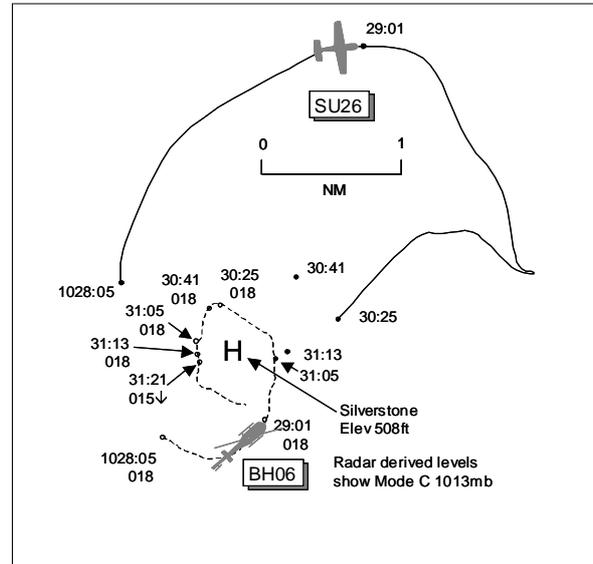
Visibility: 30km NK

Reported Separation:

300m H 0.5nm H

Recorded Separation:

0.5nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BH06 JETRANGER PILOT reports flying on a local sortie (rebroadcast of racing) from Silverstone making blind calls on Silverstone frequency 121.07MHz and being in receipt of a FIS from Cranfield on 122.85MHz squawking 7000 with Mode C. The visibility was 30km in VMC, the helicopter was coloured black/silver and the strobe, pulse, landing and anti-collision lights were all switched on. His activity had been NOTAM'd. Flying at 2000ft QNH (Cranfield 1020mb) in a 5° AOB L turn, passing through 180°, at 60kt, he saw a blue/red coloured Sukhoi aerobatic ac in his 9 o'clock position range 300m in a vertical climb passing through his level streaming white smoke. The sortie was abandoned and an autorotation was entered to land at Silverstone whilst the Sukhoi continued to display. As he made his approach to the heliport, the Sukhoi's lowest altitude was seen to be 350ft agl and it continued to display for 15min in the Silverstone overhead. No blind calls were made by any other ac during his sortie and no squawk was observed on TCAS. Also, no other activity had been NOTAM'd to take place nor notified by the event organisers. He assessed the risk as medium.

THE SUKHOI SU26 PILOT reports flying an unlimited aerobatic sequence in the area to the N and E of the racing cct outside the aerodrome boundary. The weather was VMC in CAVOK conditions, the ac was coloured blue/white and he was squawking 7000 with Mode C, he thought, but carried no lighting. On arrival in the area at about 1020Z he had called Silverstone RADIO but had received no response. Turweston RADIO informed him that there was no ATC at Silverstone on that day so he remained on the Turweston frequency during his display, as it was his intended destination airfield. He had seen the BH06 about 1.5nm away as it appeared to be in a hover 1500ft agl over the race cct which was well clear of his display area. Although he called it, the helicopter did not respond to his calls on either frequency. He had maintained visual contact with the helicopter throughout his display routine and had remained at least 0.5nm away from it. He believed that its pilot would have seen his ac easily as it was producing large volumes of smoke and, having monitored the BH06's movements, was disappointed that it had not landed or cleared the area. Its position over the crowd was safe from his point of view,

AIRPROX REPORT No 78/03.

as he was not permitted over the cct for display purposes. At many motor racing and other events, helicopters and balloons are airborne behind the crowd line whilst display flying is in progress. He believed that there had been no Airprox nor risk of collision. This air display was conducted iaw CAA permission Ref: 9/99/15-1127/2003 and was coordinated with Silverstone race cct/event organisers who had in turn notified the helicopter operator of the intended display timings.

DAP comments that AUS did not receive either an Unusual Aerial Activity notification from the aerobatic pilot concerned nor a copy of the CAA Permission subsequently issued by CAA SRG. Because of this, no NOTAM or deconfliction action was taken by AUS. However, a NOTAM Navigation Warning (NW) was issued by AUS to cover the helicopter filming activity at Silverstone and should have alerted the aerobatic pilot to the planned presence of the helicopter on the day.

UKAB Note (1): NOTAM H3035/03 valid 15/06/03 0600Z to 1830Z promulgated helicopter filming and camera rebroadcasting activity within a 2nm radius of position 5204N 00101W (Silverstone Race Circuit, Northamptonshire) from surface to 2500ft agl.

UKAB Note (2): The UK AIP at AD 3-EGBV-1-3 promulgates Silverstone as a Heliport centred 520417N 0010100W active by arrangement, daylight only with A/G available by prior arrangement on 121.07MHz.

UKAB Note (3): Analysis of the Cleve Hill radar recording at 1028:05 shows a 7000 squawk 0.75nm SW of Silverstone Heliport (on the SW boundary of the Motor Racing Circuit) passing through heading 120° in a slow LH turn indicating FL018 (2000ft QNH 1020mb). At the same time, a primary only return is seen, believed to be the SU26, 1nm NW of the Heliport tracking 010° in a R turn which is continued until it reaches 2.25nm ENE of the heliport where it abruptly changes course to the NW before fading from radar at 1030:25 on a SW track 0.75nm to the ENE. Meanwhile, the BH06 has continued in a slow LH turn and, as the SU26 fades, has progressed to a position 0.38nm NNW of the Heliport turning through a WNW heading. Intermittent returns are seen on the SU26 thereafter at 1030:41 to the NE and then two further returns at 1031:05 and 1031:13 about 0.3nm to the E of the Heliport before fading completely. This is believed to be when the Airprox occurs with the BH06 tracking S, 0.5nm to the W of the SU26, as the BH06 is seen 8sec later to commence a rapid descent (ROD 2000ft fpm) and turning L to the SE before fading from radar.

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 operating authorities.

Reports from both pilots indicated two very different viewpoints on the incident as seen from either cockpit. The SU26 pilot was aware of the helicopter's activity and carried out his aerobatic display in the knowledge that his operating area was outside the race circuit perimeter, clear of the associated crowd and therefore adequately separated from the helicopter's area of operations. In contrast to this situation, the BH06 pilot was surprised to see the Sukhoi appear, 300m away adjacent to the Silverstone race circuit in a vertical aerobatic manoeuvre; his sortie had been NOTAM'd and he had no prior knowledge of this unexpected aerobatic activity. Members agreed that this incident had the potential for becoming a serious situation as the intentions of the SU26 pilot were unknown to the helicopter pilot. However, exhibiting good airmanship, the BH06 pilot took early positive action to the perceived threat, and carried out an immediate landing - the recorded radar indicated 0.5nm lateral separation - which the Board agreed had been effective in preventing an Airprox, and reducing a potentially serious incident to a 'sighting report'. Members noted that although no SSR responses were seen on radar from the SU26, its pilot thought he was squawking 7000 with C whereas an aerobatic code of 7004 should have been displayed during the aerobatic manoeuvring.

Of more concern to members was the fact that the SU26 pilot had received CAA permission for an aerobatic display but this had not resulted in the promulgation of a NOTAM. Although the event organiser/display director should have de-conflicted the two activities in the Silverstone overhead as part of a safety brief and ensured that a NOTAM had been issued, DAP/AUS were unaware of the planned SU26 display beforehand from either direct notification from the event organisers or a copy of the permission granted directly to the Sukhoi pilot from CAA SRG. Although other airspace users would have been aware of the BH06 activity from the helicopter NOTAM, the aerobatic display went undisclosed. The Board agreed that this should not occur and that a review should be undertaken by the CAA of the existing arrangements.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Sighting report.

Degree of Risk: C

Recommendation: The CAA reviews arrangements to ensure that when a 'Permission to Display' is issued, this results in a NOTAM being promulgated.

AIRPROX REPORT No 81/03.

AIRPROX REPORT NO 81/03

Date/Time: 15 Jun 1337 (Sunday)

Position: 5210N 0120E Easton (13nm E Wattisham)

Airspace: FIR (Class: G)

Reporting Aircraft Reported Aircraft

Type: YAK52 Untraced light ac

Operator: Civ Pte NK

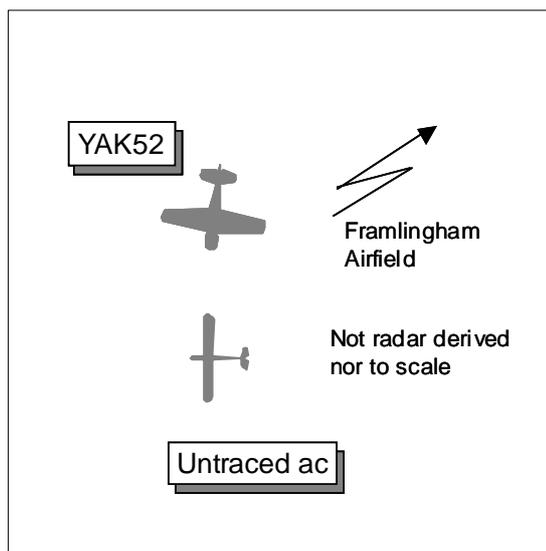
Alt/FL: 500ft NK
(QFE) (NK)

Weather VMC CLNC NK

Visibility: 10km NK

Reported Separation:
<50ft V NK

Recorded Separation:
not recorded



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE YAK52 PILOT reports flying an aerobatic display with Article 70 permission at Easton and he was listening out with Elmsett RADIO on 130.9MHz; no transponder was fitted. The visibility was 10km in VMC and the ac was coloured white/yellow and black and carried no lighting. Heading 190° at 160kt rolling out of a 45° dive during the 'pull up' recovery from a 'Cuban eight' manoeuvre, a white coloured high wing single engine ac with tricycle u/c and thin fuselage, possibly a Jabiru or similar type, was seen about 25-30m ahead, crossing the display line L to R (E to W) at the same height (500ft agl). He took 'severe' avoiding action by diving his ac, passing <50ft immediately underneath the other ac, whose pilot appeared to be unaware of the occurrence, and he assessed the risk as serious. The incident was witnessed by other pilots on the ground who thought the offending ac might have been from Framlingham airfield close by (3nm to the NE). This had been the second time that this sort of encounter had happened to him and he believed that a major factor in the incident was that, although all the paperwork had been completed and permission granted (CAA Ref 9/99/15-1027/2003), no NOTAM had been issued for this single item display/event. Bearing in mind the ease of NOTAM information gathering available to pilots via on-line systems (internet), the lack of a NOTAM meant the other pilot would have been unaware of the organised event with 4000+ people gathered and consequently led to a breach of Rule 5-1(d). Furthermore, he believed that all displays carried out by Display Authorised (DA) pilots should be NOTAM'd, irrespective of their size. It should not be left to an arbitrary decision by AUS. He had specifically requested NOTAM action for previous small displays but to no avail.

AIS MILITARY reports that despite extensive tracing action, the identity of the reported ac remains unknown. The Debden radar recording shows an intermittent primary only return manoeuvring overhead the stated incident position but no other ac returns are seen to transit the area. Procedural enquiries to airfields adjacent to the incident site, including Framlingham, did not reveal any ac movements which correlated with the reported ac description and the timing of the incident. Tracing action was terminated 1 month post incident.

DAP reports that AUS did not receive either an Unusual Aerial Activity notification from the aerobatic pilot nor a copy of the CAA permission subsequently issued. Because of this no NOTAM or deconfliction action was taken by AUS.

UKAB Note (1): The Rules of the Air Regulations 1996 Rule 5(1) d (i) states that *“an aircraft shall not fly over, or within 1000 metres of, any assembly in the open air of more than 1000 persons assembled for the purpose of witnessing or participating in an organised event except with the permission in writing of the Authority and in accordance with any conditions therein specified and with the consent in writing of the organisers of the event”*.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included a report from the YAK52 pilot.

This had been an unfortunate incident for the YAK pilot. During recovery from an aerobatic manoeuvre, he had seen another ac as it crossed 25-30m ahead of his projected flight path at the same level. Members were cognisant that there was always a risk in Class G airspace that an ac may fly through inadvertently, irrespective of whether a display was NOTAM'd or not. Although the onus was on the YAK pilot to clear the area into which he was flying, this had been understandably a late sighting during an aerobatic display, of the crossing ac whose pilot was apparently unaware of the confliction. This had caused the Airprox.

Fortunately, the YAK pilot saw the conflicting ac in time to take avoiding action, by diving his ac to pass <50ft beneath it, so removing the risk of an actual collision. However, the Board agreed that the ac had flown in such close proximity, apparently with one pilot unsighted, that the safety of both ac had not been assured during the encounter.

Subsequently the YAK pilot's perceptions, with respect to arbitrary NOTAM action, were found to be incorrect. However, members were concerned that the YAK pilot had received permission from the CAA to display but this had not resulted in a NOTAM being promulgated. It transpired that DAP/AUS were not aware of the planned display but should have been, so the event had gone undisclosed to other airspace users. Normally notification was received direct from the event organiser/display director or, as a back up measure, a copy of the permission granted to the YAK pilot was received from CAA/SRG; either would result in NOTAM action by DAP. The Board agreed that an internal breakdown in communication had occurred and that a review should be undertaken by the CAA on existing arrangements.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the YAK52 pilot during his aerobatic display and a probable non-sighting by the pilot of an untraced ac.

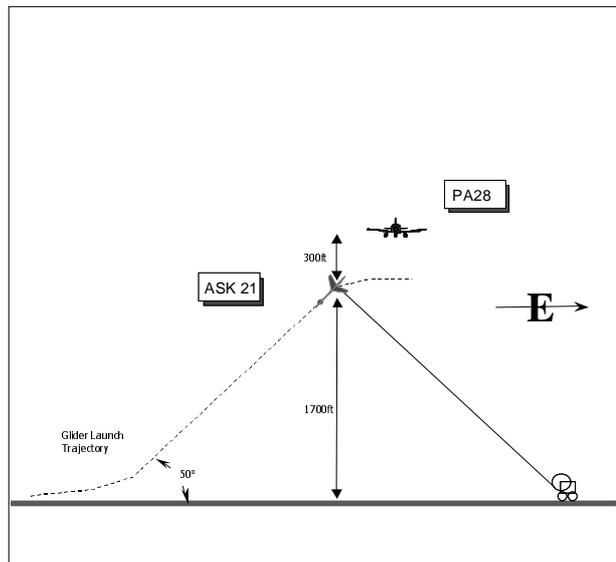
Degree of Risk: B

Recommendation: The CAA reviews arrangements to ensure that when a 'Permission to Display' document is issued, this also results in a NOTAM being promulgated.

AIRPROX REPORT No 91/03.

AIRPROX REPORT NO 91/03

Date/Time: 29 Jun 1453z (Sunday)
Position: 5111N 0103W (Overhead Lasham - elev 618 ft)
Airspace: Lasham Glider Site (Class: G)
Reporting Aircraft Reported Aircraft
Type: Ask 21 Glider PA28
Operator: Civ Club Civ Club
Alt/FL: 1700ft 2300ft
(QFE 994 mb) (QNH 1006mb)
Weather VMC CAVOK VMC Below
Visibility: 20km 10km
Reported Separation:
0H 300ft V NR
Recorded Separation
N/R



(Glider pilot's diagram of the incident)

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE ASK 21 GLIDER PILOT reports heading 090° at 60kt flying a winch launch with a student at the controls in a white and orange glider. Once established in a full climb at an angle of approx 50° nose up, a PA28 was spotted to their left (N) coming towards them, which he assessed would overfly their extended trajectory. Once at a reasonable height for the circuit, 1700ft agl on a QFE of 994, they released early from the winch to allow vertical separation from the PA28 which continued on an undeviating southerly heading. Their rate of climb was about 3000fpm so there was very little time between seeing the ac and releasing the cable, (he estimated between 5 and 10sec). He estimated that with that climb rate, it would have been a further 5sec until their flightpaths would have conflicted. As he could not see the cockpit of the PA28, he assumed that the other pilot could not see them and he assessed that they would have collided had he not taken avoiding action by releasing early.

THE PA28 PILOT'S report was received 6 months after the event. He reported flying a white and blue ac with strobes and nav lights selected on and squawking with Mode C. He flew from Blackbushe routing to the Isle of Wight and returning to Blackbushe. A few minutes after take off he was heading 173° at 100kt and 2300ft on a QNH of 1006 in receipt of a FIS from Farnborough on a route that he had flown many times before. He was aware of the Lasham glider site and thought that he could see the airfield to his port away from his wing tip. He saw gliders all over 1km from his ac and slightly below his Alt but neither he nor his passengers saw a glider close to them. He did not consider that there had been any danger at any time as he planned to route from Blackbushe, turning on to a track of 173° over the centre of Basingstoke which would avoid Lasham airfield.

He had a clear view of the gliders all round him and cleared his flightpath ahead. His workload at the time was low and his passengers were also looking out, however he stated that in future he would avoid Lasham by a larger margin.

ATSI reports that initially there was some confusion regarding the timing of this incident as some reports referred to local time and others to UTC. Eventually however, it was confirmed that the incident had occurred when the PA28 was outbound from Blackbushe and not on its return.

The PA28 pilot called Farnborough LARS at 1445:00 and advised that he was outbound from Blackbushe for the Isle of Wight, level at 1500ft on a QNH of 1007 and was requesting a FIS. At this time the ac was within the Blackbushe ATZ tracking W, was allocated a squawk of 0434 and shortly afterwards at 1446:50, was identified by Farnborough 4nm N of Odiham. The pilot reported that his Alt was now 2400ft; the Controller confirmed he was providing a FIS and passed TI on conflicting traffic not involved in the Airprox. The radar prints indicate that around 1449, the PA28 pilot made a left turn on to S. Farnborough LARS did not specifically mention Lasham activity, however, he did pass TI to another ac at 1446:30, stating that he was about to pass some gliders. The pilot of that ac reported seeing around 7 operating between 3 and 5000ft.

Meanwhile the PA28 continued on a southbound track towards Lasham. The UK AIP page ENR 5-5-1-3, states that Lasham is a notified glider launching site with a vertical limit of 3000ft above aerodrome level, active from sunrise to sunset. It would have been reasonable for the Farnborough Controller to believe that since the PA28 was operating from Blackbushe, the pilot would have been fully aware of Lasham and its associated activity. Farnborough LARS was busy handling numerous ac requesting FIS/RIS or RAS and, given the known high level of gliding activity, it may have been prudent to broadcast a general warning to this effect as part of a FIS.

The Airprox was reported as taking place at 1453, the precise time that the PA28 passed directly overhead Lasham, still displaying the 0434 squawk but since he had no Mode C displayed, his Alt was unknown. No mention was made by the PA28 pilot of passing close to any gliders and, at 1454:30, he left the Farnborough frequency.

UKAB Note (1): The Heathrow radar recording shows the PA28 squawking 0434NMC on a S heading passing through an area where several primary returns are painting, just after 1450. At 1451:48 the PA28's contact and a pop-up primary return merge just to the N of Lasham. Shortly after at 1453.19, the 0434NMC contact also merges with another pop-up primary return. Considering the reported time of the incident (1453) and the proximity to the reported (and radar verified) position of the incident, it is probable that the second merge is the reported Airprox.

UKAB Note (2): The only Alt information available is from the pilots' reports. The glider pilot reported the incident as occurring at 1700ft agl (equating to 2300ft amsl) while the PA28 pilot reported to Farnborough that he was at an Alt of 2400 ft 6min before the incident, and that his planned Alt for the leg was 2300ft.

UKAB Note (3): Lasham is promulgated in the UKAIP as a Glider Launching site up to 3000ft agl (3618ft amsl) at position 5111.12N 00101.55W.

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 controller involved and reports from the appropriate ATC and operating authorities.

The Board noted the late submission of the PA 28 pilot's report and considered that after 6 months his recollection of events might have been less than clear. While he may have flown the route from Blackbushe to the Isle of Wight many times, it is clear from the radar recording that he did not commence his left turn on to a southerly heading over the centre of Basingstoke, as reported, but further E causing him to track directly over Lasham airfield at a height reported to ATC a few minutes before as being 2400ft amsl. This was 1200ft the height notified in the AIP up to which winch launches take place. The Board agreed unanimously that by, albeit not deliberately, flying over a notified and active glider site the existence of which was well known to the PA 28 pilot, his actions had caused the Airprox and had posed a danger to both gliders and his own ac. Although the pilot saw several gliders, he reported that none

AIRPROX REPORT No 91/03.

came close to him; the radar recording however, shows that there were 2 merges indicating that he may have come close to two. Additionally, the Board thought it likely that the airfield that he reported as seeing to his port side 'away from the wing tip' was Odiham which could appear similar from the air.

Members discussed at length the degree of risk in this incident. Fortunately the glider pilot's lookout was effective and he saw the PA 28 while conducting the winch launch. His considered and effective avoiding action in releasing from the launch early had prevented a collision, but the two ac still came close together with reduced separation, although the distance was difficult to determine. The Board noted that PA 28 pilot said that he was squawking Mode A and C, but no Mode C was seen on the radar replay suggesting that Mode C had not been switched on. This factor prevented an accurate determination of the ac's altitude and thus the vertical separation. The glider pilot said, however, that he released the cable at 1700ft agl equating to 2300ft amsl, therefore it is probable that the actual vertical separation from the PA28 was less than the 300ft that he reported. An additional observation by the Board was that the glider ground launch party should have been in a position to see the approach of the PA 28 and warn the pilot accordingly.

In the end members decided by a small majority that although the glider pilot had done enough to prevent an actual collision, risk levels had been compromised to an extent where safety had not been assured.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot flew over a notified active Glider Launching Site, below the maximum height of the cable, into conflict with a launching glider, which he did not see.

Degree of Risk: B
