UK AIRPROX BOARD

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Selected extracts from UKAB Reports for use by General Aviation Pilots

Book Number 9

Airprox in UK Airspace Involving General Aviation Pilots

Incidents reported July - December 2003

FOREWARD

If you are a new reader of these books - Welcome! If you are a regular reader - Welcome Back! I hope that you will find this publication of value as part of your overall flight safety awareness.

In this edition, I will begin with two very sincere 'thank you's'. Firstly, warmest thanks to my predecessor Gordon McRobbie who so successfully steered the UK's Airprox Board from its inception five years ago until his retirement in July 2004. Gordon's commitment to flight safety - latterly in the Airprox field - came strongly through to all who knew and worked with him. Best wishes for your retirement, Gordon!

My second 'thank you' is to the man who volunteered, some years ago, to put together this series of Airprox books, aimed specifically at General Aviation pilots who fly within the UK. Peter Skinner has been a Member of the Airprox Board - the group which assesses every UK Airprox, establishing Cause and Risk and making Safety Recommendations - since its formation and indeed was before that a Member of the Joint Airmiss Working Group. Peter's specialism is GA and in addition he brings a wealth of aviation experience and wisdom to the Board's deliberations.

So, to this edition. 'Regulars' will remember that the Airprox in the following pages are taken from the UKAB publication covering all Airprox in UK airspace. Peter collates a number of these, each relating to a particular theme. He then introduces each set of Reports, setting the context and highlighting the main lesson to be learned. As with all of the Airprox activity, there is no intention to allocate blame: the purpose is to find out what happened and then to disseminate 'lessons learned' so that the many can learn from the unfortunate experiences of the few.

The next two pages present some general information which I hope you will find of interest. We then turn to the first of Peter Skinner's themes, "Close Calls within Aerodrome Traffic Zones or in Proximity thereto". The second theme is "Conflict in the Flight Information Region" followed by "Beware of Glider Sites". Lastly, Peter highlights four Airprox which illustrate his final theme, "In the FIR there is Faith, Hope and Charity but the greatest of these is Look Out"!

Let's get started…

Peter Hunt

Peter Hunt
Director, UK Airprox Board

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GENERAL AVIATION (GA) SECTION

GA Airprox Risk - Howgozit?

In the UK's Airprox world, numbers relating to events assessed as either Risk Category A or B are often added together: this is because in both cases safety was not assured. The resulting total gives the number of 'Risk Bearing' Airprox for the sample being studied.

Figure 1 shows, for each of the last 10 years, the proportion of all GA Airprox that were assessed as risk bearing. A trend line - the linear variety looks reasonable - has been added: given the graph's scale, for all practical purposes the trend hasn't changed year on year. So, of the 120 or so GA Airprox each year, roughly 46% are risk bearing.

Figure 1: *'Risk Bearing' as a proportion of all GA Airprox.*

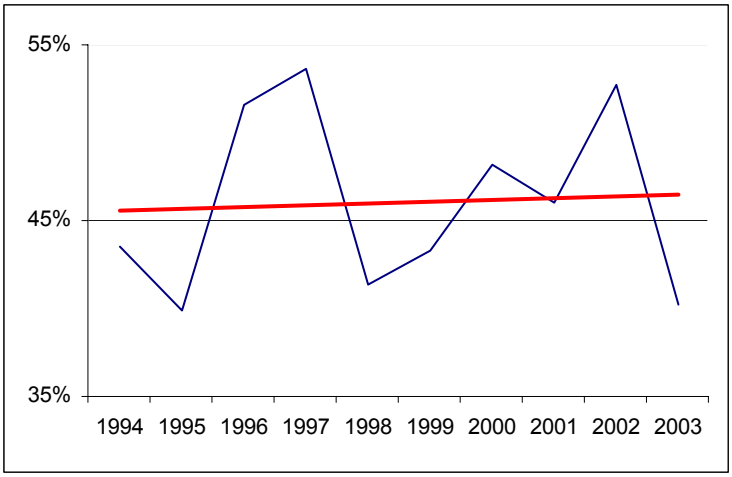


Figure 2 shows the proportion of these risk bearing Airprox that are Category A - "an actual risk of collision existed". Fitting a meaningful trend line to these results is difficult!

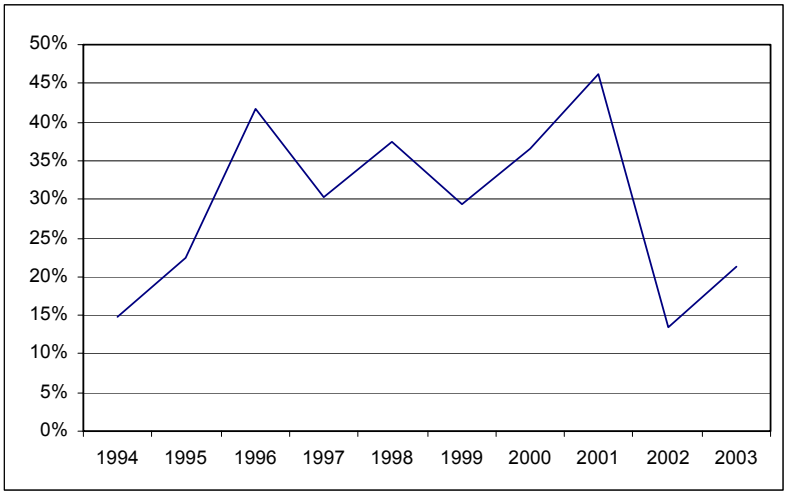
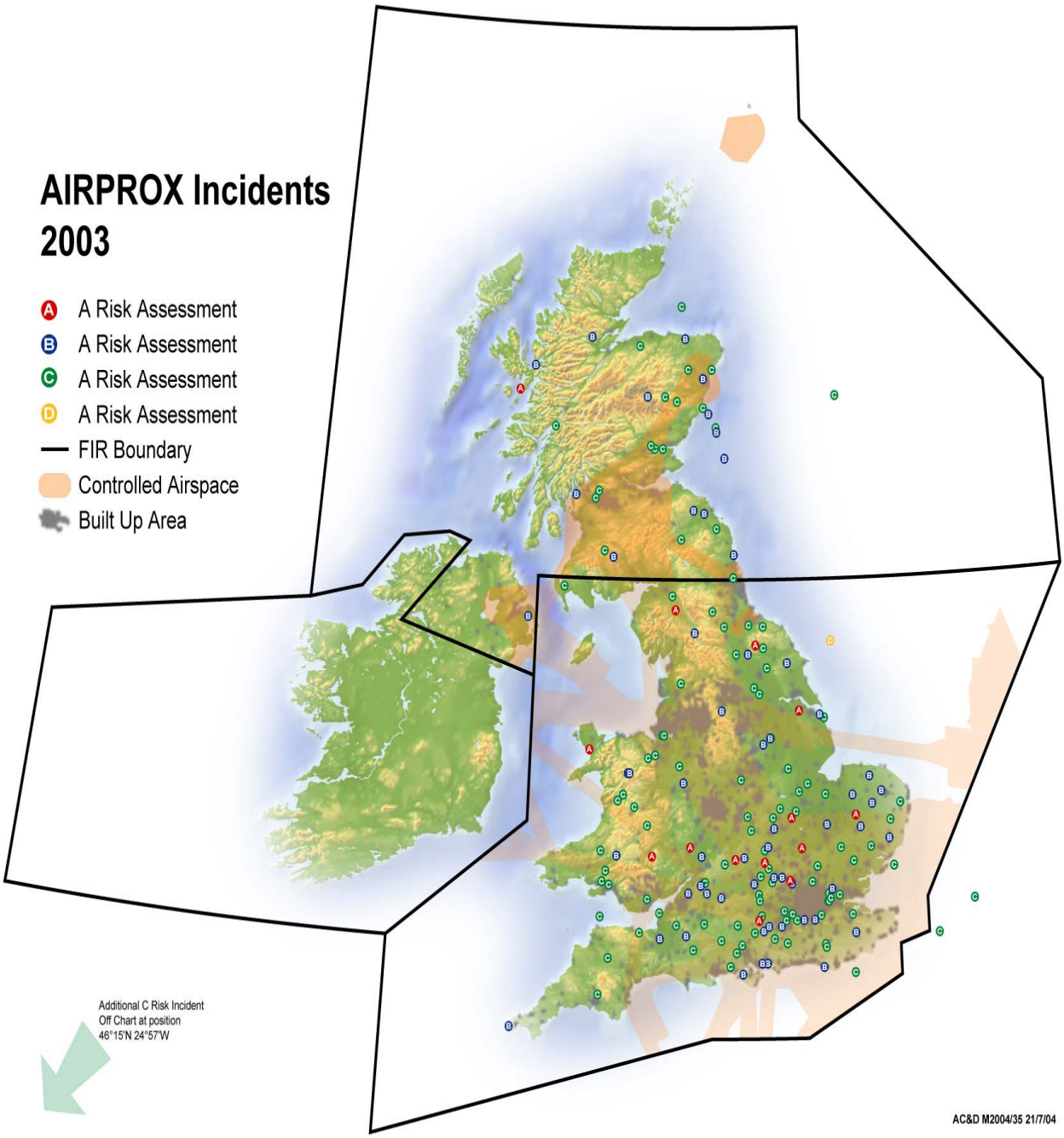


Figure 2: *Risk Cat A as aproportion of GA 'Risk Bearing' Airprox.*

As the chart shows, following an increasing trend over the period 1994 to 2001, there is a dramatic fall in the proportion of Risk Cat A Airprox to the new levels in 2002-03. The message to all GA pilots has to be - Keep up the Good Work!

Airprox in the UK - where do they happen?

Reproduced with permission of the Directorate of Airspace Policy's Aeronautical Charts and Data section, the chart below shows the location of all Airprox incidents in 2003.



Readers will wish to draw their own conclusions from the chart: one obvious point to make is that on a strict probability basis the more aircraft flying in a given area - the South East, for example - the more chance of an Airprox. Keep in mind also that the chart shows historical information and as such is no predictor of what might happen in 2004. 'Being seen' is every bit as important as 'Seeing'.

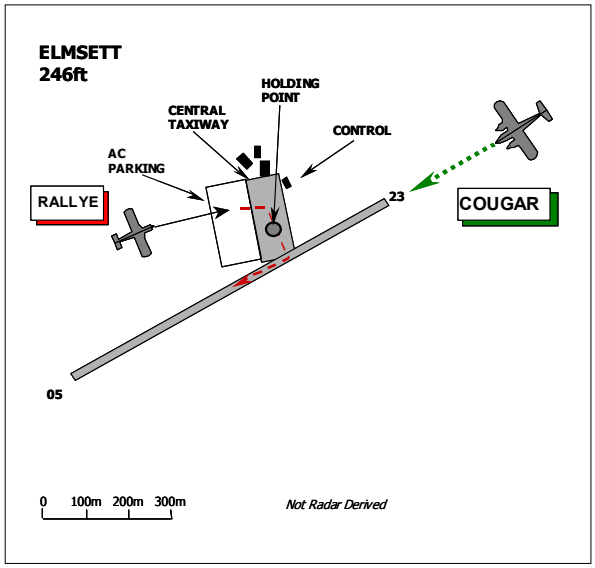
SECTION 1

CLOSE CALLS WITHIN AERODROME TRAFFIC ZONES OR IN PROXIMITY THERETO

Whilst helicopters can use a wide range of sites from which to land and take off, aeroplanes require an aerodrome of some sort. When there is more than a single aeroplane wishing to use the associated airspace, conflictions can arise. Hence, whether or not an Air Traffic service is available, much depends upon pilots acquiring a mental picture of the traffic pattern. This can be either from visual observation or radio transmissions, whether at an aerodrome, a glider site or a helicopter landing site. The standard procedures that are in place and that are learned by every pilot at their instructor's knee are there to be observed. In the absence of direction by Air Traffic Control, there is no substitute for the best thing we have - the standard overhead join, giving a visual opportunity to integrate safely into the traffic pattern

AIRPROX REPORT NO 141/03

Date/Time:	31 Aug 1230 (Sunday)	
Position:	5205N 00059E (Elmsett Airfield)	
Airspace:	Elmsett ATZ	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	Rallye	GA7 Cougar
Operator:	Civ Pte	Civ Pte
Alt/FL:	10ft (QFE)	200ft (N/K)
Weather	VMC CAVOK	VMC CAVOK
Visibility:	>10km	>10km
Reported Separation:	150ft H 40ft V	NR
Recorded Separation:	Not recorded on Radar Estimated 50ft V from Video	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE RALLYE PILOT reports flying in a white and maroon ac, which was not SSR equipped but the beacon was selected on. He had landed at Elmsett from Wattisham to refuel and was preparing to return to Wattisham on a Sunday when no ATC service was available at Elmsett [See UKAB Note(1)] but in very good weather and visibility conditions. Since Elmsett is within the Wattisham MATZ and their ATZs overlap, the published procedures, he thought, required notice of arrival/departure to be transmitted on Wattisham App (125.8) when no ATC service was available at Elmsett. He transmitted his intention to taxi to the RW and then, after looking in both directions, his intention to enter the RW for departure. He thought that either the other pilot was not listening on 125·8 or did not hear his transmissions. Shortly after lift off at about 50ft agl he saw another ac overtake him 150ft on his left and 40ft above him banking to the left. He did not take any avoiding action as he saw that the other ac was banking away from him and he assessed the risk of collision as low since the other pilot had seen him throughout.

THE GA7 COUGAR PILOT reports flying a red, black and white ac with strobes selected on and squawking 7000 with Mode C, from Stapleford to Elmsett. He was listening out on the Elmsett frequency of 130.9 since Wattisham App was closed, and made a blind call transmitting his intentions on that

frequency. While at 100kt and 200ft on the final approach to RW23, a single engined ac taxied from the concrete apron and without stopping at the holding point to look to see if any other ac were approaching, entered the RW in front of him and commenced a take off roll also without stopping. He retracted his landing gear, applied full power and executed a go around. He assessed that the risk of collision was low.

A REPRESENTATIVE OF THE AIRFIELD MANAGEMENT reports that at 1329hr local time on 31/08/03 a Rallye ac was seen on the airfield CCTV recording system, to taxi from the refuelling station and enter RW23 without stopping, forcing an ac on final approach to go around. The approaching ac was seen on the CCTV recording to pass over the touchdown area within 5sec of the time at which the Rallye entered the RW and is estimated to have been at 200m on the final approach at the time the Rallye entered the RW. As the overshooting ac closes, it is estimated they come within 50ft vertically of one another.

UKAB Note (1): Since this incident the management structure at Elmsett has changed and an Airfield Manager post has been established.

UKAB Note (2): In the UKAIP, Elmsett is published as being open from 0800-1600 daily in the Summer. All movements are PPR by telephone. In addition an A/G service is published as being available in the Summer 0800-1600 daily.

UKAB Note (3): The UKAIP states at Elmsett 2.17.6 - ATS Airspace

'Remarks

Elmsett ATZ is situated within the Wattisham MATZ. Establish initial RTF contact on approach with Wattisham on 125.8'

Ac intending to arrive at or depart from Elmsett aerodrome must be able to communicate with Wattisham ATC and Elmsett Radio. Ac without two way RTF may be permitted to operate with PPR. Pilots are reminded that Wattisham ATZ is permanently active.'

UKAB Note (4): The UKAIP states at Elmsett 2.20 –Local Traffic Regulations: Warnings

'(b) Taxiing beyond holding point Alpha is only permitted when ac are not taking off or landing.'

UKAB Note (5): Despite the above AIP entry it is understood that Elmsett A/G does not operate at the weekend and that pilots are notified of this when PPR is given. At the time of this incident no A/G service was available and from their reports it would seem that the pilots of both ac involved were aware of this. Further, although when Wattisham ATC is closed the Approach frequency of 125.8 is monitored by the SAR Flight Ops in order to ensure deconfliction of their ac from other Helicopter and Glider activity, no service is offered by them. Comprehensive arrival/departure procedures for operations from Wattisham outside the hours when ATC is published as being open, are contained at P160 Rmks 8 of the RAF Flight Information Handbook. They are not however, mirrored for Elmsett in the UKAIP entry which does not reflect the current situation and is unclear.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and a report from the airfield operators.

Although there were many secondary factors, this was in essence a very straightforward occurrence caused primarily by the Rallye pilot entering an active runway without checking that it was safe to do so. Specialist members considered that he made many mistakes in the lead-up to the incident. The video

recording shows that he did not stop at the holding point and apparently did not conduct full pre-take off checks. Further, he did not transmit his intentions on the published frequency for Elmsett.

That said, there were several inaccuracies in the UK AIP entry for procedures at Elmsett, which may have caused confusion in the minds of both pilots. At the time of the incident it was commonplace for the Elmsett A/G station not to be manned during the weekend at times when the airfield and ATZ were published as being open. All movements are PPR and apparently the practice was to inform pilots of the unavailability of A/G radio when they were given the PPR.

Current regulations are open to interpretation and not easily found, even by specialist staffs. The relevant reference is at CAP 452 Ch 3 Para 1, rather than in the more obvious location of the ANO or the UK AIP. This requires airfields to have (a minimum of) an 'A/G service during the published hours'. CAA DAP advise that the published hours for an A/G service should be the same as the published hours of activation of an associated ATZ which in turn are normally the same as the hours of airfield opening. This procedure was not followed at Elmsett.

The Rallye pilot was apparently aware that there was no A/G service available at Elmsett on the day of the incident and adopted, what he believed to be, a sensible alternative. However, this alternative was not the same as the procedures adopted by the Cougar pilot which were in accordance with the, albeit inaccurate, AIP entry. Further, there were discrepancies between the information published in the UK AIP and that published in Pooleys Flight Guide (and, although not relevant to this incident, the RAF Minor Aerodromes Flight Information Publication). Specialist Members also informed the Board that they would expect airfield operators to check their AIP entry and Pooleys Flight Guide regularly and to ensure that the information provided to other aviation publications is up to date and accurate.

Members concluded however, that the correct action of the Cougar pilot in executing a go-around when he saw the Rallye enter the runway had prevented a risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Rallye pilot entered the runway and took off into conflict with the Cougar which was on short finals.

Degree of Risk: C.

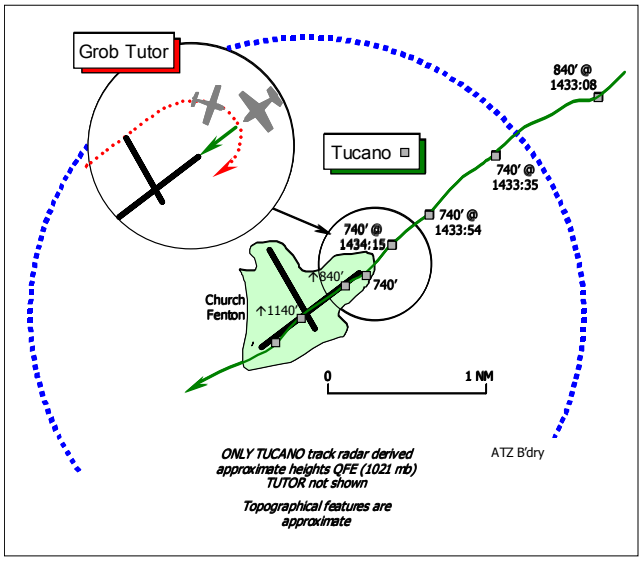
Contributory Factors:

The Elmsett A/G station was not manned as required by CAP452, Ch3, Para1.

AIRPROX REPORT No 145/03.

AIRPROX REPORT NO 145/03

Date/Time:	16 Sep 1434	
Position:	5350 N 00111 W (Finals RW24 Church Fenton - elev 29 ft)	
Airspace:	MATZ	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	Tucano T1	Grob Tutor
Operator:	HQ PTC	HQ PTC
Alt/FL:	700ft (QFE 1021mb)	800ft (QFE 1021mb)
Weather	VMC CLOC	VMC CLOC
Visibility:	15-20km	30km
Reported Separation:	100-150ft V	150ft V/150ft H
Recorded Separation:	NR	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TUCANO T1 PILOT, a QFI reports he was acting as the safety pilot with a refresher student flying an IF sortie under an IF visor from the front seat. They were flying a PAR 'azimuth only' approach to RW24 [RHC] at Church Fenton with a MDH of 670ft, whilst in receipt of a TALKDOWN from Church Fenton on 386·725MHz. A squawk of A4541 was selected with Mode C, but neither TCAS nor any other form of CWS is fitted. The ac has a black/yellow colour scheme and the landing lamps, HISLs and nosewheel lights were all on.

Heading 240° at 110kt on the approach, the student levelled the aeroplane just above MDH and accurately maintained 700ft Church Fenton QFE (1021mb). At about 2¼nm finals they were cleared to 'OVERSHOOT' with '3 in' the visual Cct - one of which was 'going around'. He immediately gained visual contact with a white Grob Tutor, which was 'going around' from the end of the downwind leg. As they commenced their *"go-around"* the Tutor turned to cross the extended centreline and it became apparent that he was at the same height as his Tucano. The Tutor pilot maintained his height at about 720ft QFE throughout the 'go-around' from downwind. As the Tutor approached from the starboard beam toward *"the merge"* he took control from the PF and descended to avoid a collision. The Tutor passed overhead in a level R turn about 100 – 150ft directly above his Tucano. He assessed that there was no actual risk of collision because he was visual with the Tutor continually from after the ATC clearance. However, he added that if he had not taken control from the student flying under the IF visor, there would almost certainly have been a collision.

THE GROB TUTOR PILOT, a student pilot, reports that he was a flying a 30min solo circuit consolidation sortie [trip 16 of the Elementary Flying Training syllabus] with Church Fenton TOWER on 225·5MHz. His ac has a white colour scheme; the landing lamp and HISL were on.

Flying right-hand downwind for RW24 RHC in the light ac Cct at a height of 800ft QFE, TOWER informed him that another Tutor ac was carrying out a practice forced landing and was crosswind between LOW & HIGH key. Accordingly, TOWER instructed him to 'go around'. He was also aware of a Tucano ac on a radar approach, which he had spotted at about 1½nm. As he started the turn into the 'go around', TOWER asked if he was visual with the Tucano radar traffic, which he confirmed he was. Upon rolling out of the turn on the 'DEADSIDE' of RW24, heading 210° at 80kt, he observed the Tucano out to starboard about 150ft away and 150ft below his ac. He assessed the risk of collision as *"low"*.

THE CHURCH FENTON AERODROME CONTROLLER (ADC) reports that he was acting as mentor to a controller under training (UT) in the TOWER position at Church Fenton. A locally based Tutor was circuiting to RW24 RHC when the student pilot called "Downwind Glide Roll", whereupon the UT reported one ahead between HIGH & LOW KEY and asked if the student was visual. The Tutor pilot replied negative, so he was instructed to 'go-around'. At about this point the 3nm call was received from TALKDOWN for the Tucano to 'overshoot'; a clearance delay - 'call by two' - was issued and broadcast on the TOWER frequency of 225·5MHz. At this point he turned his attention to the Tutor's position, concerned that its student pilot might get close to PFL traffic and he half expected him to go around from his current position. However, the Tutor pilot continued downwind and the PFL ac descending from HIGH KEY appeared to be making a wider pattern than normal, thereby remaining clear of the Tutor. The 2¼nm call was then received from TALKDOWN, so the Tucano was cleared to 'overshoot' and a broadcast was made. Shortly afterwards he noticed the Tutor pilot had turned crosswind in the vicinity of the Tucano that was executing a high overshoot. As there was no time to inform TALKDOWN of the Tutor's position, he instructed his UT to confirm that the Tutor pilot was visual with the Tucano radar traffic. The UT initially asked the Tutor pilot if he was visual with the overshooting Tucano, to which the pilot replied, "affirm". The Tucano crew executed their overshoot and did not appear close to the Tutor at the time. The subject ac were in closest proximity between the RW24 threshold and ¼nm finals. The Linton-on-Ouse SUPERVISOR informed him about 5min later that the Tucano pilot was filing an Airprox against circuit traffic.

[UKAB Note (1): The 1350UTC Church Fenton weather report gave a surface wind of 250/7kt; 30km nil weather; SCT @ 15000, BKN @ 25000; QFE 1021mb; cc BLUE.]

MIL ATC OPS reports that the student Tutor pilot was operating in the Church Fenton Cct with Church Fenton TOWER. The Tucano crew was being provided with a talkdown by Church Fenton TALKDOWN. At 1430:26, TALKDOWN advised the ADC by landline that the Tucano was *"…7 miles….to overshoot depart"*. This information was broadcast to the Cct traffic by TOWER at 1430:31, *"Tucano 7 miles to overshoot"*. The 5 mile call was received at 1431:30 and, once again, this information was broadcast to the aerodrome Cct traffic *"Radar Traffic 5 miles"*. At 1432:16, the Tutor pilot reported "[C/S] *downwind glide roll",* however, the ADC questioned whether the student pilot was *"…visual with* [other]*…traffic between HIGH and LOW KEY?"*, on discovering he was *"..not visual"* the Tutor pilot was instructed at 1432:26, to *"go around"*. The Tucano's 3-mile call was received from TALKDOWN at 1432:38, however, the ADC was unable to issue a clearance and TALKDOWN was instructed to *"…call by 2"*. The delay message *"Tucano 3 miles continuing"* was duly broadcast by TOWER to the Cct ac at 1432:44. TALKDOWN made the 2¼nm call at 1433:00, and a clearance "[Tucano C/S] *clear to overshoot 3 in"* was issued by the UT ADC at 1433:05, with the broadcast made on the TOWER frequency at 1433:08, *"Tucano 2 miles to overshoot"*. At 1433:25, the Tutor pilot reported that he was *"going around"* so the ADC enquired if he was *"visual with the radar traffic"*- the Tucano – to which the Tutor pilot reported *"visual"*. At 1433:46, TALKDOWN advised the Tucano crew they were at *"1 mile* [from touch-down] *approaching the missed approach point* [0·5nm finals for RW24] *slightly left of the centre-line*", whereupon the Tucano crew retorted, *"…just calling an Airprox on the going around ac"* and identified the Tutor ac by its registration letters. When asked for clarification the QFI advised *"He was too close to us, he appeared to er…..*[un readable words]*…on the approach and he was going around…I had to actually descend below him in order to miss him"*. The next call from the student Tutor pilot to the ADC was at 1435:57, when he reported *"…downwind roll"*.

As a result of a previous incident at Church Fenton [Airprox 3/02] an additional broadcast call for radar traffic at 5nm was introduced to aid the integration of IFR and circuiting VFR traffic. It is apparent that the rules for integrating radar traffic into the visual circuit as laid down in JSP 552 and amended by local orders were adhered to by the ADC and TALKDOWN. Furthermore, JSP 552 320.105.4 states that *"it is the responsibility of the pilot to avoid bunching in the circuit"*. 'Go around' procedures are at JSP 552 320.105.8, which stipulates:

When instructed to 'go around' pilots are to climb up and rejoin the circuit. If it is not safe to do this, ATC is to be informed instantly.

When overshooting, pilots are to do so to the dead side of the runway in use.

The Tucano crew was following a recognized IFR approach procedure and had been issued a clearance to use the runway. It matters little that the Tucano was intending to overshoot as the runway was his to use, therefore, as the Tutor had been instructed to 'go around', the student pilot should have given the Tucano a wider berth. Procedures have been reviewed in an effort to enhance safety. Whilst the clearance issued during a talkdown only requires the Cct state [the number in the Cct–3] to be passed, the Unit have developed a procedure whereby the ADC will (via the TALKDOWN controller) advise radar traffic that is at or inside the final clearance point of all ac going around in the visual Cct.

[UKAB Note (2): This Airprox is not shown on the Claxby radar recording. Only the Tucano is shown on SSR throughout its approach as it tracks the centreline to RW24 maintaining a height of about 740ft QFE (1021mb) – as converted from the indicated Mode C. The avoiding action descent reported by the Tucano QFI is not reflected on the radar recording, before the 'overshoot' is executed as the ac passes the vicinity of the upwind threshold.]

THE TUCANO PILOT'S UNIT comments that this incident highlights the potential hazards of mixing IFR & VFR traffic in a busy training aerodrome Cct. A collision was avoided here, because of the lookout and sound airmanship of the Tucano safety pilot. The solo Tutor student was clearly distracted by the PFL and the ATC instruction to 'go-around'. He then omitted to maintain visual contact with the Tucano during the 'go-around' by crossing the RW centreline in front of the instrument traffic. A review of procedures has now been completed by the Station, which has stipulated in the Flying Order Book that ac downwind in the Cct are to go-around behind instrument traffic when it is at or within 3nm finals.

THE TUTOR PILOT'S UNIT comments that there is always a risk of such incidents at training aerodromes such as RAF Church Fenton, when ac are making instrument approaches into a busy visual circuit. On this occasion, an EFT student with only limited flying experience went around as instructed but close to inbound traffic. Unless the Cct is sterilised for instrument traffic, all pilots have to ensure that they maintain adequate lookout as they approach the Cct, even if they are carrying out an instrument approach. RAF Church Fenton is after all a training base and QFIs must be cognisant of every ac, which might become a confliction.

[UKAB Note (3): This Airprox has some similarities to Airprox 3/02, which prompted further analysis of the intentions expressed by the Tucano crew for their approach.

Examination of the FENTON APPROACH transcript reveals that when prompted by the request for their minima at 1425:56, the Tucano crew responded with their intentions*"..670* [the MDH] ***to overshoot carry out missed approach procedure depart to the NE*** *030 for low-level abort practice"*. This was acknowledged by APPROACH, who at 1429:19, passed *"climbout details"* to the Tucano crew – *"…after your overshoot and once clear of the Church Fenton visual circuit you're cleared right turn own navigation heading 030 for your simulated low-level abort…".* The crew added directly afterwards *"..we are going to depart VFR to the NE…"*]

HQ PTC comments that both ac pilots had each other in sight and the Tucano QFI took control to prevent his student getting any closer to the Tutor. The Tutor student pilot should perhaps have delayed his turn to pass marginally behind, as well as above, the Tucano. (He has already had this basic airmanship lesson pointed out to him.) Nevertheless, despite the sound provisions of the Linton FOB, we are left with an uneasy feeling that there is something left unwritten about the "Common Law" of circuit priorities between VFR and IFR traffic. There have been too many, too similar reported lately to be confident that there is no confusion in anyone's mind.

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.

The HQ PTC member reinforced the Command's view that there was scant detail available on the principles applied within the visual Cct at military aerodromes in the main books of reference accessible by both pilots and controllers alike. He added that when executing a simulated IFR MAP, it was incumbent on pilots to exercise a sharp lookout when climbing away through the circuit area and the priorities between IFR and VFR traffic are not clearly laid-out for all to see plainly. Despite previous recommendations allied to this subject he opined that no headway had apparently been made at all and here was yet another Airprox encompassing this topic. Nevertheless, here the Tucano QFI safety pilot had done just that – even though his ac had priority as they flew through the Cct area - but his sound awareness and appreciation, coupled with his prompt avoiding action had forestalled a more serious situation. It was evident from the very comprehensive reports provided that the Grob Tutor's student pilot, forewarned by appropriate broadcasts and a prompt from TOWER had seen the Tucano on the approach at 1½nm from touchdown. In the Board's view, there were 2 possible explanations for what happened next. Either the student had not appreciated where the correct Cct priorities lay and thought, erroneously, that the Tucano crew would actively avoid his ac during his go-around. Alternatively, he had not realised how close the Tucano was when he flew cross-wind onto the DEADSIDE, which is when he reports he next saw it. Some thought the situation may have been complicated further by the heights of the respective ac – the Tutor in the light ac Cct at 800ft and in this instance the Tucano flying in toward the aerodrome just above the pilot's MDH at 700ft - whereas a more normal Cct height of 1000ft would have provided a greater degree or vertical separation between the two. The inexperienced Tutor student had been caught out here and the Board echoed his unit's sage words of advice to instructors. It was evident that the Tutor Student should have taken more account of the Tucano and ensured that he 'gave-way' to it, as was his responsibility, leading the Board to conclude unanimously that this Airprox had resulted because the Student Tutor pilot flew into conflict with the Tucano on final approach. Here the QFI was cognisant throughout of the ac in the Cct. Wisely he was looking out for them as they approached the Cct area, therefore he was in a position to take effective action when he realised that the Tutor was flying into conflict. The Board concluded unanimously, that his prompt avoiding action descent had removed the actual risk of a collision entirely.

The Board was also encouraged by the prompt review of procedures conducted by the unit. This had led to some sensible changes that student pilots could comprehend and adopt at the 'ab initio' stage, which would reduce the potential for a recurrence at Church Fenton. But some members were still concerned at the evident confusion over priorities in the circuit area as evinced by the investigation of this occurrence. This student was not alone and indeed he might be mollified to hear that instructors had also 'got it wrong' in recent years. The Board was reminded of similar previous Airprox reports, the recommendations made and the apparent reticence by MOD to rationalize the advice given. The CinC Fleet member explained that confusion was evident from the Tucano refresher student's RT to APPROACH and the controller's subsequent response. He emphasised that a VFR overshoot and an IFR MAP were essentially different procedures but what was then conveyed to the Cct traffic in the TOWER broadcast was that the Tucano would simply 'overshoot'. It seemed to some that this should be sufficient for pilots established in the Cct to think that the Tucano would climb out on the RW track, but differing perceptions between controllers and pilots of what is actually executed under certain procedures, priorities within the Cct and what is written in the regulations has been the subject of considerable debate between members in the past. Here, there was still scope for confusion as to what the Grob student expected the Tucano to do next. Military ATC procedures make no distinction with advisory TOWER broadcasts between an 'overshoot' from an azimuth only PAR to clear, a PAR to join the Cct, or a MAP. Military instructor pilot members recognised the potential for some uncertainty in this situation insofar as the 'overshoot' is a **visual** procedure (after applying power and initiating a climb),

the ac is first 'cleaned up' then flown onto the deadside (where one exists), with due regard to other Cct traffic, which the pilot must give way to if joining the Cct. In this instance, the Tucano was executing a MAP, an **instrument** procedure that involved climbing straight ahead over the RW allowing him priority. Some military controller members recognised these distinctions clearly, whereas others did not. They thought that once cleared at 2nm to 'overshoot', the runway was effectively the Tucano pilot's at that point. However, this view was made in full knowledge of the Tucano pilot's intentions after the 'overshoot', knowledge that had not been shared in as many words with pilots in the Cct. Notwithstanding the brief advice circulated by DASC after previous Airprox, the members felt there was room for further 'advertising' about these points, as they do not appear to have been 'hammered home'. The members recognised that these issues are not exclusive to training establishments, so the Board recommended that DASC on behalf of the military aviation community, in conjunction with HQ PTC, should conduct a widespread publicity campaign with particular emphasis on the interaction of instrument traffic within the visual circuit area, but with flying training units especially in mind.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Student Tutor pilot flew into conflict with the Tucano on final approach.

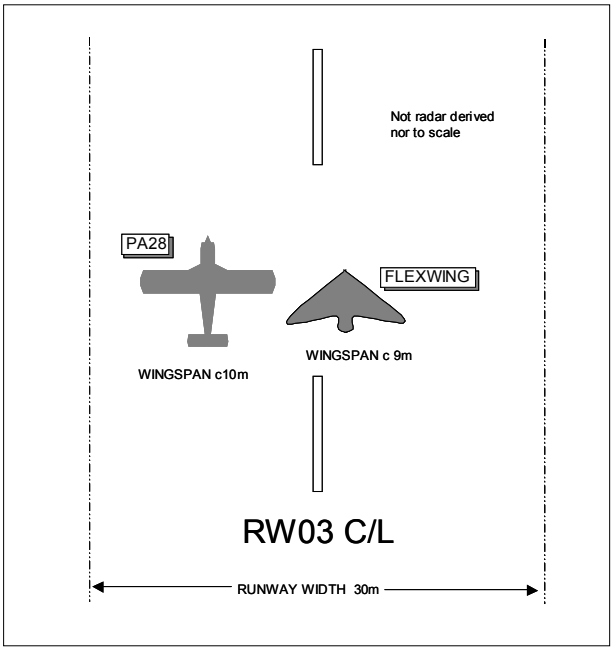
Degree of Risk: C.

Recommendation:

That DASC, in conjunction with HQ PTC, should conduct a widespread publicity campaign with particular emphasis on the interaction of instrument traffic within the visual circuit area especially at flying training units.

AIRPROX REPORT NO 165/03

Date/Time:	21 Oct 1157	
Position:	5218N 0048E (RW03 Sywell - elev 429 ft)	
Airspace:	ATZ	(Class: G)
Reporter:	*Sywell FISO*	
	First Ac	*Second Ac*
Type:	Mainair Mercury Flexwing M/Light	PA28
Operator:	Civ Trg	Civ Club
Alt/FL:	GL (QFE)	GL (QFE 996mb)
Weather	VMC NK	VMC CLBC
Visibility:	NK	10km
Reported Separation:	5ft H	NR
Recorded Separation:	NR	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE SYWELL FISO reports that the Flexwing M/Light was being flown by a low hours student carrying out LH ccts on RW03 and, on his 3rd cct, the M/Light pilot reported downwind. At the time 3 other fixed wing ac were joining, their pilots reported downwind in the order, AC1, AC2 and the subject PA28. The Flexwing pilot reported 2 ac ahead of him - being slow, AC1 and AC2 had overtaken him - and he was told to report final. AC2 reported final but as AC1 had called downwind before him, he asked the pilot of AC2 *"are you number one"* which he confirmed and it subsequently landed and vacated the RW. AC1 reported final and was told *"land at your discretion"*. The PA28 pilot then reported final and was told *"one reported ahead"*; to which he replied to the effect *"...and the microlight ahead"*, indicating that he saw AC1 and the M/Light. The M/Light pilot reported final and was told *"one reported ahead for a full stop"* i.e. AC1; this ac landed and vacated the RW. The M/Light pilot was told *"touch and go at your discretion"* and subsequently landed 200m along the RW from the T/Hold whilst the PA28 continued its approach. As the M/Light slowed to a walking pace the PA28 landed to the LHS of the M/Light, touching down abeam of it. He told the M/Light pilot to wait on the RW whilst the PA28 vacated the RW at the stop end. Later when he talked to both pilots, the M/Light pilot said he landed 2yd to the R of the RW C/L whilst the PA28 pilot said he landed on the RW. RW03/21 is 30m wide and at the time of the incident, separation appeared *"minimal"*. The PA28 pilot went on to say that he had expected the M/Light to climb away and he considered that a 'go-around' would have been unsafe.

THE MAINAIR MERCURY FLEXWING M/LIGHT PILOT reports flying solo ccts at Sywell and in receipt of a FIS from Sywell INFORMATION on 122·7MHz. After 40min of flying he was aware of 2 light ac behind him on the downwind leg so he called the FISO and requested that the ac take priority for landing ahead of him, which the FISO acknowledged and passed the information onto the other acs' pilots. Both of these ac overtook him and landed before him. After he called *"final for a touch and go"* the radio became very busy as the FISO gave taxying instructions to the pilots of the 2 ac that had just landed. Immediately after he landed, approx 2m to the R of the RW C/L, he was surprised to see another light ac touching down about 10m in front and 20m to his L, estimating the clearance between wingtips to be about 5ft. He then heard the FISO ask the ac's pilot if he was aware of the M/Light to which the pilot replied *"at the last minute"*. He thought the FISO then asked the ac's pilot to confirm that he had reported visual contact with the M/Light earlier on the approach; the pilot replied *"yes"*. He was then asked to

come to a full stop to allow the light ac to vacate the RW after which he was allowed to continue his training flight.

THE PA28 PILOT reports flying inbound to Sywell from Wellesbourne Mountford with 2 passengers and in receipt of an AFIS from Sywell INFORMATION on 122·7MHz. The visibility was 10km 2000ft below cloud in VMC, the ac was coloured blue/white and the nav, landing, taxi and anti-collision lights were all switched on. Whilst in the cct, he and both passengers all acknowledged that they could see 2 ac in front including a M/Light. When he reported downwind there was no apparent problem as he heard the M/Light pilot say that he was *"hanging around, that I will be up here for a while"*. He and his passengers discussed this, as they saw the Flexwing hovering near the airfield. The ac in front descended underneath the M/Light and landed without problems. By the time he had established on finals, all of those onboard were aware of their position relative to the Flexwing although it was by now at a higher altitude. He checked with his passengers to see if they were aware of anything else or maybe something he had missed. ATC asked if he could see the M/Light in front, to which he replied *"affirm";* it was ahead and still above. He asked the passengers if they, like him, thought the last message heard from the Flexwing pilot appeared to be true in that it was staying up and not coming down yet. He continued his descent without the M/Light being visible, but without any worries, as it was still above him like the previous ac. Suddenly, the M/Light appeared in front of him to the R of the RW C/L. He was concerned that the Flexwing might try a touch and go and that it might be safer to land well to the L of the RW C/L and allow it to continue with whatever its pilot had in mind. The thought of going around was considered but he believed that if the Flexwing did power-up and take off, there would have been a greater risk of collision or a near miss. Although only an AFIS was being provided, if there really had been a greater chance of an accident then someone from the Control Tower could have said something.

UKAB Note (1): The Airprox occurred outside of recorded radar coverage.

UKAB Note (2): The Rules of the Air Regulations 1996 Rule 17 Rules for avoiding aerial collisions para (6) Order of landing states: *(a) An ac while landing or on final approach to land shall have right-of-way over other ac in flight or on the ground or water. (b) (i)... in the case of two or more flying machines, gliders or airships approaching any place for the purpose of landing, the ac at the lower altitude shall have right-of-way, but it shall not cut in front of another ac which is on final approach to land or overtake that ac*. Para (7) Landing and take-off (b) states: *"A flying machine or glider shall not land on a runway at an aerodrome if the runway is not clear of other ac unless, the case of an aerodrome having an air traffic control unit, that unit otherwise authorises.* Rule 39 Flight within aerodrome traffic zones at an aerodrome having an aerodrome flight information service unit para (2) states: *An ac shall not fly, take off or land within an aerodrome traffic zone of an aerodrome to which this paragraph applies unless the commander of the ac has obtained from the aerodrome flight information service unit at that aerodrome information to enable the flight within the zone to be conducted with safety.* Para (3) states: *The commander of an ac flying within the aerodrome traffic zone of an aerodrome to which this paragraph applies shall: (a) cause a continuous watch to be maintained on the appropriate radio frequency notified for communications at the aerodrome or, if this is not possible, cause a watch to be kept for such instructions as may be issued by visual means.*

UKAB Note (3): The CAP410 Manual of Flight Information Services Part B Aerodromes states:

1.1 A Flight Information Service (FIS) provided at an aerodrome is a service provided to give information useful for the safe and efficient conduct of flights in the ATZ. From the information received, pilots decide the appropriate course of action to be taken to ensure the safety of flight whilst taking off or landing of flying in the ATZ.

1.2 A Flight Information Service Officer (FISO) provides an information service to ac that are flying or about to fly within the ATZ. Under Rule 35 of the Rules of the Air, FISOs at aerodromes are permitted

to issue instructions to a) departing ac about to move or moving on the apron and manoeuvring area up to the holding point of the runway to be used for departure; b) arriving ac moving on the manoeuvring area and apron, following the completion of the landing roll; and c) all other taxying ac intending to move or moving on the apron and manoeuvring area, including the crossing of runways. Elsewhere on the ground and at all times in the air, information shall be passed.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and a report from the aerodrome flight information service officer involved.

It was clear that there had been a misconception by the PA28 pilot as to his responsibilities when flying within an ATZ when the service was being provided by a FISO. From the information given by the FISO and from the other pilots' transmissions made on the frequency, the onus was then on the PA28 pilot to decide the appropriate course of action to be taken to ensure safe separation. Clarification on any doubts about the situation should have been sought at an early stage from either the FISO or the other pilot. The PA28 pilot should have heard the landing call from the FISO addressed to the Flexwing pilot so, irrespective of the height of the M/Light, the PA28 pilot should have positioned his ac to follow behind it. The option was always available to execute a go-around by moving onto the dead-side of the cct whilst overtaking the Flexwing and maintaining visual contact. Indeed, this is what the PA28 pilot should have done. Instead he had demonstrated poor airmanship by continuing his approach and then electing to land on the RW occupied by the M/Light, contrary to Rule 17 para 7 (b). This had caused the Airprox.

The Flexwing pilot had seen the PA28 only after it had landed just in front of and displaced slightly to the L of him. The actions taken by the PA28 pilot had not taken into account the possibility that his ac and/or the Flexwing could have deviated from the C/L without warning during their landing rolls which led the Board to conclude that safety had not been assured during the encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot continued to approach and elected to land on the RW that was already occupied by the Microlight, contrary to Rule 17 para 7 (b).

Degree of Risk: B.

AIRPROX REPORT No 104/03.

SECTION 2

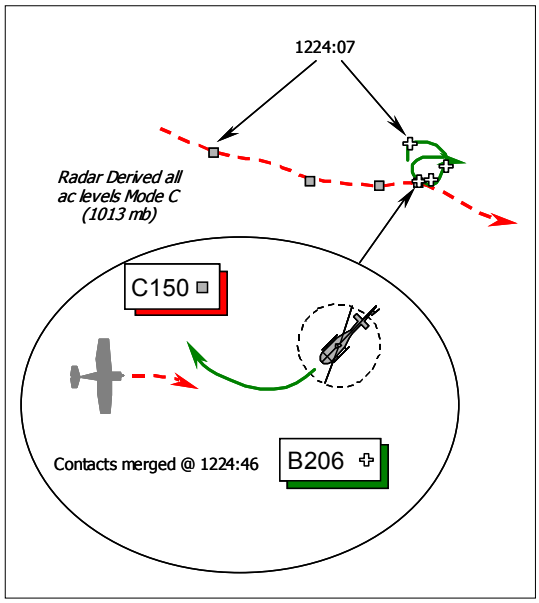
CONFLICT IN THE FLIGHT INFORMATION REGIONS

There is much aviation activity that takes place without the need for a designated aerodrome: that carried out by helicopters, microlights, gliding and parachuting for example. The degree of unpredictability of some of these operations leads to a further enhancement of the need to allocate but a few seconds to any cockpit task, or a part thereof, before again visually clearing the flight path. Microlights can appear in the proximity of a farmer's field. Parachutists - very difficult to spot in freefall - can descend from altitude in freefall or under an aerofoil canopy from quite some miles upwind from the drop zone itself. Helicopters fly into race meetings whether for vehicles or for horses. Para gliders take enjoyment from ridge soaring.

Objects on the ground, such as the "White Horses" that show up some 15 miles to the east of Swindon (or stately homes and their grounds, spread across the land) can often have the "honeypot" effect if additional activities are organised at the site. For example, these can include balloon flights.

AIRPROX REPORT NO 104/03

Date/Time:	6 Jul 1224 (Sunday)	
Position:	5231N 0043W (Rockingham Race Circuit, Nr Corby elev - 328ft)	
Airspace:	London FIR	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	B206 JetRanger	Cessna 150
Operator:	Civ Comm	Civ Club
Alt/FL:	2500ft (QFE 1010mb)	3100ft (QNH 1021mb)
Weather	VMC CLBC	VMC CLBC
Visibility:	45km	10km
Reported Separation:	75m H/100ft V	500ft V
Recorded Separation:	Contacts merged	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE B206 JETRANGER PILOT reports his helicopter has a silver & black colour scheme, but did not state if a HISL was fitted. A squawk of A7000 was selected with Mode C and a Skywatch CWS was fitted. He was tasked with the re-broadcast of a race meeting at Rockingham racetrack N of Corby this Sunday afternoon and was in receipt of a FIS from Northampton/Sywell on 122·7MHz, whilst operating VFR some 2000ft below cloud in excellent visibility flying out of sun. This evolution had been promulgated to other airspace users by NOTAM.

Flying a slow but tight right hand orbit at 20kt, passing 340° at 2500ft QFE (1010mb), he was visually tracking a sailplane about ¼nm to the N of his position when his passenger drew his attention to a single engine high wing monoplane [a C150] which he spotted 500m away flying towards them slightly below his helicopter. Skywatch had not provided a warning; to avoid the other ac, he reports he turned left and

climbed, as the aeroplane passed 75m away down the *starboard* side, and about 100ft below his helicopter without any sign of avoiding action being taken by the other pilot during the encounter. He provided the ac registration within his report, adding that the risk was *"medium/high"* and he believed that the other pilot was consulting a map at the time of the Airprox.

[UKAB NOTE: (1): AIS Central NOTAM Office advises that a NOTAM was issued for the activity undertaken by the JetRanger pilot. NOTAM H4152/03 promulgated, that, at *"EGHO"* – [erroneously suggesting that Thruxton aerodrome was the site of the activity] during the period 0845–1615 UTC on 06 Jul, *"Helicopter filming and camera rebroadcasting activity"* would take place within 2nm radius of a position *"5231N 00043W (ROCKINGHAM CIRCUIT, NORTHAMPTONSHIRE)"*, extending from the surface to 3500ft agl. The information transmitted from AUS to AIS Heathrow had included the Thruxton aerodrome ICAO location indicator and this was included erroneously in the NOTAM, but not detected by either AUS, AIS or indeed Thruxton or the JetRanger pilot, prior to this occurrence. Manager AUS advised that a typing error resulted in the incorrect ICAO indicator being included in the NOTAM, nevertheless, he contended that the narrative text included should have made the location plain.]

THE CESSNA 150 PILOT reports his aeroplane has a red & white colour scheme and the anti-collision beacon was on; a squawk of A7000 was selected but Mode C is not fitted. Whilst in transit from Leicester to Elmsett [UKAB Note (2): a direct track between these two aerodromes passes over Rockingham Circuit] he had tried to call Wyton APPROACH but they did not respond so he was not in receipt of an ATS during the Airprox. Flying at 3100ft QNH (1021mb), heading 115° at 83kt he spotted the JetRanger helicopter about 7nm away and had been watching it for a period he estimated of about 5min. It appeared to him that the JetRanger was in a stationary hover, with its nose pointing towards the Rockingham racetrack and he was content that his ac's track would take him clear down the helicopter's starboard side and some 500ft above it. He reasoned that as he was approaching the JetRanger from its right hand side, its pilot in the P1 position would spot his aeroplane (assuming that he was keeping a good lookout), so he maintained his course and speed as *"was required by the Rules of the Air".*

Approaching the JetRanger on a steady course in level cruise, he kept a keen lookout whilst reviewing his initial decision in case he might need to take avoiding action. He was then surprised to see the JetRanger turn sharply right, initially towards his aeroplane as it passed about 400m to *port* he reports and 500ft above his C150, before turning L onto a parallel course behind him. No avoiding action was taken as he was on the right and he was not sure which direction the helicopter pilot might take. At that time he concluded that the helicopter pilot had not seen his aeroplane approaching for the same amount of time that he had been in visual contact with the JetRanger. The risk was assessed as *"low"* initially but he believed it changed to *"high"* when the helicopter moved.

[UKAB NOTE: (3): In a further telephone conversation with the C150 pilot he explained that he had checked the NOTAMs before he had departed from Elmsett earlier that day. A copy of the UK Daily Navigation Warning summary had been reviewed, but the warning for the JetRangers activity had not been apparent to him, but not as a result of the NOTAM error highlighted here. He also checked them again before he left Leicester.]

[UKAB NOTE: (4): It is difficult to resolve the differing perceptions of the relative geometry of this encounter due to the very tight right hand orbit conducted by the helicopter at slow speed; no Mode C is evident at all on the Debden radar recording although the pilot reports the ac is fitted with altitude reporting. Furthermore, the altitudes reported do not jibe with the helicopter passing above the C150, upon which both pilots' reports agree. The reported The C150 is shown approaching the area on a steady course squawking A7000 [no Mode C fitted] as the helicopter turns R at 1224:07. The C150 closes from the W as the B206 continues in the R turn through S, but the aeroplane executes a slight L turn toward the helicopter and the contacts merge in azimuth shortly thereafter, at 1224:46. The JetRanger pilot's avoiding action L turn is not evident and the helicopter appears from the radar

recording to continue the R turn onto E as the C150 turns slightly R and opens to the ESE. The JetRanger then recommenced the orbit.]

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board expressed concern over the published NOTAM error revealed during the course of this investigation. Whilst uncomplicated mistakes such as occurred here cannot be eradicated entirely, this NOTAM had passed through several agencies that had not detected the error. Surprisingly, neither had the JetRanger pilot nor his company's operations department, but clearly they had done their best to ensure that the unusual activity had been promulgated to other airspace users. Nevertheless, several members thought that the simple inclusion of the coded location indicator *"EGHO"* in a NOTAM which clearly referred in the text to an activity at *"5231N 00043W (ROCKINGHAM CIRCUIT, NORTHAMPTONSHIRE)"*, was not necessarily significant unless the C150 pilot had utilised the AIS NOTAM website. The commendably frank and honest account provided by the C150 pilot had made it clear that he had not availed himself of this facility, but the UK Daily Navigation Warning Summary had been available to him at his local aerodrome, that he had referred to before departure and thus he should have been forewarned. This oversight in not carefully checking warnings was avoidable and a GA member observed that it had revealed some disappointing inadequacies in the C150 pilot's pre-flight planning. The lesson here for all pilots was – check ALL available aeronautical information very carefully - NOTAMS especially - as 'forewarned is forearmed'. However, the NOTAM warning other pilots of the activity did not accord the JetRanger pilot any exclusive use of this airspace, nor absolve him or the C150 pilot from their obligations under the 'Rules of the Air'. A pilot member suggested there was an obligation under the ANO, on the part of the C150 pilot, to avoid overflight of the race circuit where he should have expected more than 1000 persons to be assembled. However, this was a solitary view and others contended this was an unreasonable expectation; the Board agreed that the NOTAM error was not a fundamental factor within this encounter in the Open FIR, where 'see and avoid' predominates.

Ignorant about the promulgated warning, the C150 pilot was not specifically looking for the JetRanger after he had departed Leicester. Nevertheless, he had spotted the helicopter at a reasonable distance some 7nm away and had watched it closely as he flew towards Rockingham but took no avoiding action at all. From the other cockpit, the JetRanger pilot whose task necessitated a slow speed and tight turns in the hover, remaining in close proximity to the race circuit, had not seen the other aeroplane before his passenger spotted it and drew his attention to it. It would have been impossible to see the light ac when it was astern of his helicopter, but it should have been plainly in view during preceding orbits. Evidently, the approach of the C150 had defeated 'Skywatch', which had unfortunately not presaged the encounter and members also noted the absence of the helicopter's Mode C. Thus the JetRanger pilot was unaware of the C150 until it had flown into close quarters apparently to starboard, whereupon he turned L away from it as the aeroplane passed 75m and some 100ft below him. Conversely, the C150 pilot thought erroneously, that the helicopter was in a stationary hover and he was always approaching from its starboard side. This was not the case as the JetRanger turned R, but this was unknown to the C150 pilot at the time. Since the geometry was continually changing as the helicopter turned R, strict compliance with the requirements of the 'rules' was made doubly difficult. In this scenario, it would have been far better to give the helicopter a wider berth from the outset and the GA pilot member echoed the concern of pilot members, who were disappointed that having spotted the helicopter at 7nm and watched it throughout, the C150 pilot still flew into unnecessarily close quarters with the helicopter. Here was another salutary lesson – never assume that the other pilot has spotted your ac because the 'rules' will not help you if he has not seen you – so always be prepared to take positive action at an early stage to avert an awkward close quarters situation. In the Board's view, this entirely avoidable encounter had resulted because the C150 pilot had flown into conflict with the JetRanger.

Although the Cessna pilot had reported 500ft vertical separation at the time, this was at variance with the 100ft reported by the JetRanger pilot. Mode C data from both ac was not available and so this anomaly could not be resolved, but members though it unlikely that the helicopter pilot would have reported the event unless he believed the C150 had passed inordinately close. The radar recording did not reflect the lateral geometry reported, but at such a short range this was not surprising. A left turn as reported by the B206 pilot apparently toward the aeroplane seemed inconceivable in the circumstances and in view of the helicopter pilot's late sighting and robust avoiding action, some members suggested that safety had not been assured. Nonetheless the helicopter pilot had turned away (possibly to the R) from the C150 and others contended that however late the avoiding action was taken, even at the closest point when the contacts merged, apparently a minimum of 100ft vertical separation had existed. Though not a unanimous decision this latter view prevailed and the Board concluded that no risk of a collision had existed in the circumstances reported here.

PART C: ASSESSMENT OF CAUSE AND RISK

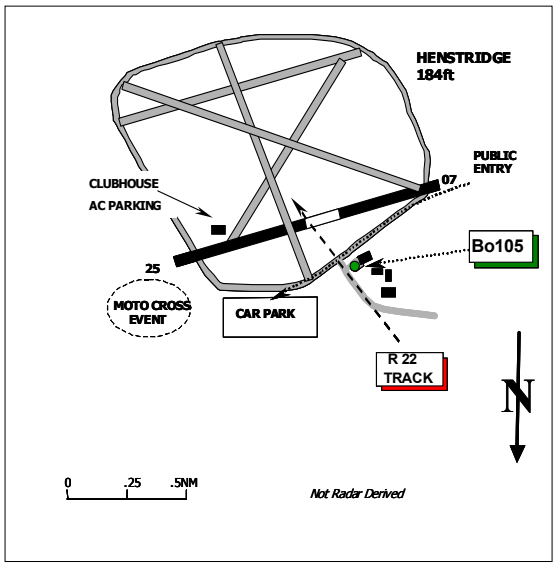
Cause: The C150 pilot flew into conflict with the JetRanger.

Degree of Risk: C.

AIRPROX REPORT NO 135/03

Date/Time: 17 Aug 1110 (Sunday)
Position: 5059N 00221W(Henstridge Airfield 182ft)
Airspace: Henstridge Airfield(Class: G)

	Reporting Ac	*Reported Ac*
Type:	Bo 105	R22
Operator:	Civ Comm	Civ Club
Alt/FL:	10ft (N/K)	200ft (QFE 1008 mb)
Weather	VMC CAVOK	VMC CAVOK
Visibility:	>10km	>10km
Reported Separation:	100ft V 25m H	150m
Recorded Separation:	NR	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BO105 PILOT reports that he was duty Air Ambulance pilot for the Dorset and Somerset Air Ambulance, bright yellow Bo105 from Henstridge. When he arrived at the airfield he was surprised to find a large number of caravans, trucks and other vehicles parked on the N side not far from his hangar (photograph provided) supporting a motocross event. Locally based gyrocopters, some 5 to 6 in number, were active on RW 07/25 and the taxiways, with fixed wing ac landing between the gyros. The N taxiway (passing very close to his location) was also being used by members of the public to gain access to the motocross event.

The ac was prepared and the crew briefed in accordance with the Company Orders and were declared online and available for tasking at 10:00 and 20 min later were dispatched to a road traffic accident.

AIRPROX REPORT No 135/03.

Departure from the field was difficult with cars and gyros on the taxiway, gyros on the duty RW, 07, and members of the public walking and cycling across the RW between the control tower and the motocross event. Due to the situation he was very aware of the need to exercise caution in any subsequent departures.

His 2nd call was at 12:08 and he manned the ac, called Henstridge local control and advised of his callout and that he would call before lifting. He was advised the duty RW was 07, that gyros were active on the RW and that there was a helicopter joining from the N (which expected to join the circuit on a left base leg). The inbound helicopter was advised of his start which he completed and carried out pre-take off checks, when a white van was driven past his ac to block off the taxiway 25m in front of him to prevent people from driving along the taxiway. As he called for taxi, the van driver, who he knew to be acquainted with his operations, left his vehicle and signalled him to hold, pointing above and behind. He lifted off slowly into a hover in order to check behind and saw the R22 at 100 ft agl passing 25m down his left side, so he held in the hover and passed a warning to the R22 pilot who did not join the circuit but flew through the centre of the downwind position over his helicopter, across a busy taxiway and then crossed the duty RW to his landing point. As he departed he advised the local A/G Operator of the incident. On his return he was advised that the R22 helicopter always joined that way and he was also informed that the A/G Operator was busy controlling other activities and perhaps could have been clearer about how the R22 was joining.

While he recognised that Henstridge is a non-licensed airfield there is still an expectation that pilots will abide by the Rules of the Air and join an airfield in a proper manner.

Since he did not see the R22 until it had passed him, he assessed the risk of collision as high.

THE R22 PILOT reports 3 months after the incident that he departed Bristol Lulsgate routeing to Henstridge and, as they passed Wincanton, he made a call to Henstridge Radio requesting the airfield information and was passed the Runway in use 07L QFE 1008 and wind light and variable. He acknowledged and requested a straight in approach to the landing site, to which Henstridge advised that a motocross event was taking place on the northern side of the airfield and that he should not over fly it and that gyros were active. They went on to advise him to fly to the W of the motocross event and he confirmed that he would. At 1nm to run he advised Henstridge of his position and confirmed his intent to fly W of the motocross event, to which Henstridge replied that in addition, the Air Ambulance would be departing shortly, and this he acknowledged.

As they approached, both pilot and crew first saw the Bo105 at ¾nm and were looking to their right on the ground to see if the rotors were running but neither could tell until they were about 200m away. They continued inbound 150m to the left of Bo105 which was still on the ground and passed it at about 200ft on their descent, as they were parallel to it, it lifted and called to say he was lifting. He thought that it must have frightened the Bo105 crew to see another helicopter on their left side higher, and coming in to land. They continued and landed by the clubhouse as normal and saw the Bo105 depart at speed along 07 just above the ground, over flying people, gyros and vehicles. At no time did he over fly the Bo105 but kept well to his left.

He considered there was no risk of collision since he had continually watched the Bo105 until passing it.

UKAB Note(1): Henstridge is an unlicensed airfield with no ATZ. There is an Air/Ground Operator during the published hours of operation and ‘all-day breakfasts’ are served.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board considered whether or not this incident actually was an Airprox or whether an MOR would have been more suitable; they decided however, since there had been similar precedents, that it was.

Since Henstridge is an unlicensed airfield with only an A/G radio service, the onus was solely on the pilots of the respective ac to achieve safe separation. Both ac were on the Henstridge frequency at the time and, had they communicated their intentions to each other, no doubt adequate separation could have been achieved. The reason that they did not and, in effect knowingly flew into conflict with one another, was of concern to the Board.

Expert helicopter members informed the Board that there was no obligation on Helicopters to join an airfield by means of the circuit, only an obligation to integrate safely with other ac. They also informed the Board that it is common to join as the R22 pilot did, indeed HEMS, Police and many other light helicopters routinely join in that manner. Further, since HEMS ac are afforded no priority over other ac movements, the normal rules of the air applied on this occasion. However, it should have been obvious to the R22 pilot that the air Ambulance was about to launch (on an emergency mission) and good airmanship would dictate that he should, not only have remained well clear of it, but also informed the Bo105 pilot that he was doing so. In addition this would have ensured his safe integration into the airfield traffic pattern. Members could not accept the R22 pilot's argument that he did not know the Bo105 was about to get airborne because he could not see if the rotors were turning. On balance however, the Board did agree that the Bo105 pilot had not been unwise to raise his ac into a low hover and turn to see the R22, again, had he made his intentions clear to the R22 pilot, the incident would probably have been prevented.

It was unclear to the Board whether the person in the 'White Van' was dispatched by the Aerodrome Authorities to block the taxiway, or whether he was a passer by. In any case, they commended his actions by reducing the risk, not only to the Bo105, but also to passers by.

While the Board recognised that many small airfields need to generate income from activities outside mainstream aviation to ensure their continued operation; such activities however, must be integrated safely with the operation of ac, which in an uncontrolled environment widens the scope for things to go wrong. It would seem that in this case, the activities were not safely integrated in that pedestrian and vehicular access to the ac operating areas was not restricted and the A/G operator was distracted from his primary duties. However, ultimate responsibility for the safe operation of ac lies with the captain and if the Bo105 pilot was not satisfied that he could operate safely from Henstridge on that day, he should have considered alternative arrangements.

Unlike the Bo105 pilot the R22 pilot had seen the other ac in sufficient time to take, what he considered to be, safe separation. At the point where the R22 passed the Bo105, the latter ac was stationary in a low hover and the Board therefore concluded that there had not been a risk of the ac colliding.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The R22 pilot flew close enough to the Bo105 to cause concern.

Degree of Risk: C.

AIRPROX REPORT No 100/03.

SECTION 3

BEWARE OF GLIDER SITES

Flight over glider sites has the potential hazard of confliction, not only with the glider itself but with the launching cable either during the climb or as the cable is falling after release. Even after becoming clear of the site and in normal soaring flight, a glider can be very difficult to spot, being of slender design and usually coloured white.

AIRPROX REPORT NO 100/03

Date/Time:	6 Jul 1017 (Sunday)	
Position:	5353N 0237W (O/H Chipping G/S - elev 600ft)	
Airspace:	FIR	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	ASK13	EC135T
Operator:	Civ Club	Civ Comm
Alt/FL:	700ft↓ (QFE)	1500ft (QNH 1020mb)
Weather	VMC CLBC	VMC CLBC
Visibility:	Unltd	>10km
Reported Separation:	nil V 100m H	nil V 400m H
Recorded Separation:	NR	

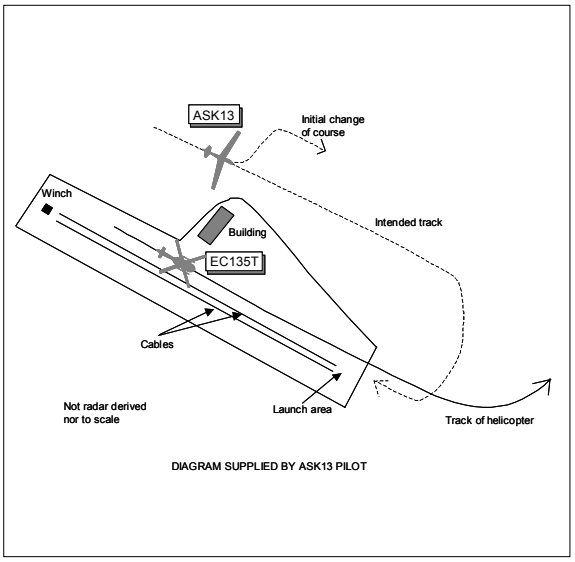


DIAGRAM SUPPLIED BY ASK13 PILOT

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE ASK13 PILOT reports flying solo heading 120° established on the D/W leg of a RH cct at Chipping Glider Site at 55kt and 700ft QFE descending. The visibility was unlimited 1500ft below cloud in VMC and the glider was coloured red/white but did not carry a radio. The site was active with winch launching operations, using 2 cables, up to 1250ft agl although, at the time of the Airprox, no other gliders were in the cct. She saw a dark blue/yellow coloured helicopter when it appeared abeam her starboard wing 100-150m away at the same level; it was flying straight and level down the length of the glider site. Her first reaction was to roll immediately to the L of her intended track to increase horizontal separation before turning back onto D/W heading and to indicate her awareness of the helicopter to its pilot. There was no indication that the helicopter pilot had recognised his position over the glider site or was aware of her position in the cct. She was concerned about the potential conflict if the helicopter altered course to the L to fly across her intended flight path. She reduced speed to 50kt whilst being gradually overtaken by the helicopter, which overflew the launch area and airfield boundary, before it eventually altered course to the L.

THE EC135T PILOT reports heading easterly at 125kt and 1500ft QNH 1020mb and in receipt of FIS from Blackpool APPROACH on 119·95MHz. The visibility was >10km 2000ft below cloud in VMC, the helicopter was coloured dark blue/yellow and strobe lights were switched on. TCAS was fitted to the ac. Near Chipping Glider Site he saw a white/red glider in his 10 o'clock range 500m at about the same

level, it had been initially obscured from view by the windscreen centre pillar. He made a slight R turn away from the glider, as the speed difference meant no greater action was required, the glider passed 400m clear to his L. He did not feel, at the time, that it had been an Airprox and he assessed the risk of collision as low.

CAA FLIGHT OPERATIONS INSPECTORATE HELICOPTERS (FOI H) reports that the helicopter was flying between 2 operational tasks and the GPS was programmed for a direct track which took it over the glider site. The EC135 crew became aware of the site and glider at a late stage but in time to avoid the glider. The crew have been reminded not to over-rely on GPS for VFR navigation and to be aware of terrain and airspace between waypoints.

UKAB Note (1): The incident occurred outside of recorded radar coverage.

UKAB Note (2): The UK AIP at ENR 5-5-1-1 promulgates Chipping as a Glider Launching Site centred 535301N 0023714W for winch launches where cables may be encountered to 3000ft agl, during daylight hours; site elevation 600ft. amsl.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and reports from the appropriate operating authorities.

Members were dismayed that the EC135T pilot had used a GPS track without adequately monitoring his progress subsequently by use of a map. This course of action had led him to overfly an active promulgated glider site below cable launch height, which could have resulted in a potentially serious incident, but had ultimately caused the Airprox. The ASK13 pilot was concerned to see the helicopter without warning just 100m on her R, in conflict and apparently without seeing her ac.

Without knowing the EC135T pilot's intentions, she had altered course to the L before regaining her D/W track and slowed her ac whilst she watched the helicopter overtake her, as it overflew the landing area, before it turned L to clear her intended track. Meanwhile the EC135T pilot had noticed the glider late, 500m away and had altered course slightly to the R and passed, he reported 400m away, whilst maintaining visual contact. Fortunately there had not been a winch launch in progress at the time and no other cct activity. The mutual sightings and subsequent actions taken by both parties were enough to persuade the Board that any risk of collision had been effectively removed.

PART C: ASSESSMENT OF CAUSE AND RISK

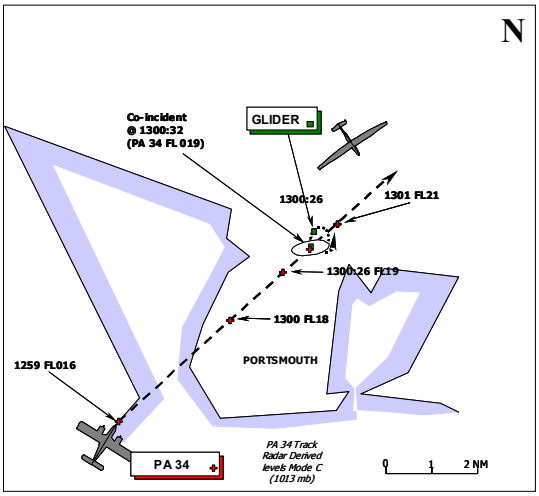
Cause: The EC135T pilot flew overhead an active promulgated glider site below cable launch height and close enough to cause concern to the ASK13 pilot.

Degree of Risk: C

AIRPROX REPORT No 138/03.

AIRPROX REPORT NO 138/03

Date/Time:	31 Aug 1300 (Sunday)	
Position:	5050N 0105W (Portsmouth)	
Airspace:	London FIR	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	SHK1 Glider	PA34
Operator:	Civ Pte	Civ Pte
Alt/FL:	2200ft	2000ft
Weather	VMC Below Cl	VMC
Visibility:	60km	>10km
Reported Separation:		
	'Close	'Not seen.
Recorded Separation:		
	Contacts Merge	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE GLIDER PILOT reports flying a white SHK1 glider with red wing tips, solo on a local sortie from Bembridge IoW. While overhead Gosport [UKAB Note (1): The position recorded on the radar is over the N edge of Portsmouth as shown on the diagram] at about 2200ft and heading 120° at 55kt in communication with Lee on Solent glider base, he had a very brief glimpse of another ac and considered that a collision was imminent so he made an instinctive steep climbing turn to the left, without time for thought. As the glider's nose was raised he lost sight of the other ac but he thought the pilot would have had a full plan view of the glider as it climbed. In the very brief time that he had him in sight he saw no sign of evasive action by the other ac. He was very shocked and landed at the nearest airfield which was Lee on Solent.

He believed that both pilots had been keeping a very poor lookout to let such a situation occur in very good visibility.

He only had the other ac in view for 3-4sec and this, together with the shock made his recollection of bearings and headings less than reliable.

THE PA34 PILOT reports en route from St Mawgan to Blackbushe and had routed via Isle of Wight at the request of his passenger for sight seeing. He was heading about 020° at 160kt, squawking 7000 with Mode C and his red and white ac had strobes and pulse lights switched on. He was aware that considerable gliding activity was taking place in the area due to the excellent conditions and the proximity to Lasham and other busy sites. He therefore requested the passenger to assist him with his lookout. He had no ATC service at the time but was preparing to ask for a RIS from Farnborough after coasting in. He reported that he does not normally operate the ac at such low altitudes, but the distance between the Isle of Wight and Blackbushe was so short that he saw little advantage of climbing higher than 2000ft for that leg. He visually acquired a number of ac but was not aware of the reporting glider.

UKAB Note (2): The Pease Pottage radar recording shows the PA 34 tracking NNE over Portsmouth in a gentle climb from FL016. At about 1300:26 a primary return believed to be the subject glider pops up in a left hand orbit in the PA 34's (now indicating FL019) 1130 position just inside ½ nm head on, and turning towards it. At that aspect it would have presented a very small visual target, coloured white with some Cu cloud in the background, for the PA34 pilot to acquire even in very good visibility conditions. At this time the ac are closing at about 210kt i.e. it took est 8.5sec to travel ½ nm. From the glider pilot's cockpit the PA34 would have initially been head on before disappearing out of view below his nose as

he took avoiding action. Since the sighting of the PA34 on a collision course was at the last moment, it cannot be determined whether the avoiding action taken by the glider pilot actually affected his flight path or whether the ac would have missed each other in any case.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board considered that during the summer months, particularly when the conditions were good for gliding, it is prudent for ac with a reasonably fast cruising speed to fly well below the base of the cloud, since gliders can congregate in that area (between 1500ft agl and the base of the cloud). Further, some Twin ac, particularly the PA34 do not have good visibility from the cockpit, especially over the engines, and the panel is quite high. In these circumstances it can be safer to cruise a little lower as it is both easier to see traffic against the sky and there is less chance of a collision.

GA expert Members also informed the Board that frequently there was little learning curve in the GA community as turnover of active personnel was very high and consequently experience levels were low. Further, although both were most desirable, TCAS was prohibitively expensive for most light ac operators and a lightweight transponder for gliders and other very lightweight ac had not yet come on the market.

It is very well known that gliders are very difficult to see, particularly in a head or tail-on aspect; the only certain way to avoid them is not to fly where they are. Glider pilots too, should be aware that their ac are very hard for other airspace users to see and are more than ever obliged to maintain a very good lookout.

In this case the majority of Board members believed that the, albeit very late, action by the glider pilot had been just sufficient to ensure that there had not been an actual risk of the ac colliding.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the PA 34 pilot and a very late sighting by the SHK1 pilot.

Degree of Risk: B.

AIRPROX REPORT No 126/03.

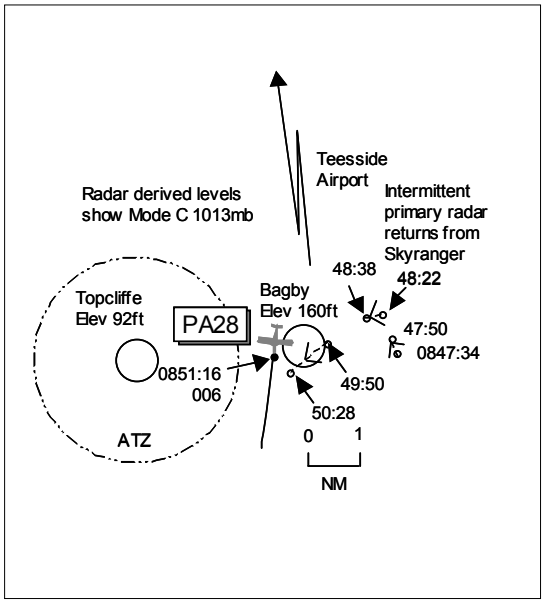
SECTION 4

IN THE OPEN FIR THERE IS FAITH, HOPE AND CHARITY BUT THE GREATEST OF THESE IS LOOK OUT

Flying an aircraft, be it an aeroplane, a helicopter, a glider or a microlight, is a demanding activity. There is the old saying that if God had meant us to fly, he would not have given us the railways. The great bulk of General Aviation operates under the "See and be Seen" maxim. Despite developments in electronic collision avoidance mechanisms, it will be quite some years before an effective and affordable device will become available for General Aviation activities. For example, a search for some years now has been going on to develop a Lightweight Transponder, suitable for universal use.

AIRPROX REPORT NO 126/03

Date/Time:	10 Aug 0851 (Sunday)	
Position:	5412N 0118W (W Abm RW06 T/ Hold Bagby - elev 160ft)	
Airspace:	FIR	(Class: G)
Reporter:	Bagby A/G Operator	
	First Ac	*Second Ac*
Type:	Skyranger	PA28
Operator:	Civ Pte	Civ Club
Alt/FL:	300ft↓ (QFE)	700ft agl (QNH)
Weather	VMC CLBC	VMC HAZE
Visibility:	NR	poor
Reported Separation:	not seen	50ft V 250m H
Recorded Separation:	NR	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BAGBY A/G OPERATOR reports that he heard a loud engine noise approaching from the N which he thought might be either an ac or motorcycle. He then saw a red/white ac crossing just to the W of the RW06 threshold tracking S at an estimated height of 300-500ft agl which was passing about 300m ahead of a Skyranger, without altering course; the Skyranger was turning in from a tight RH cct onto finals to land. After broadcasting a warning to the Skyranger pilot on the A/G frequency 123·25MHz, whose pilot did not see the conflicting traffic, he tried calling the offending ac but received no response. At the time, the visibility was about 3000m in haze below cloud and he assessed the risk of collision as high. Teesside ATC were contacted by telephone and provided him some details of a PA28 which had departed from the airport routeing to Southampton.

THE SKYRANGER PILOT reports flying inbound to Bagby from a private site approx 4nm to its SE and in communication with Bagby RADIO on 123·25MHz. Whilst turning his blue/white coloured ac R onto final approach RW06 at Bagby and descending through 300ft QFE at 55kt he was told by the A/G

operator of traffic crossing ahead of his flight path but no other ac was seen. He could only surmise that the other ac must have passed behind him as the vision ahead from his cockpit is exceptional.

THE PA28 PILOT reports heading approx S at 100kt en route from Teesside to Southampton squawking 7000 with Mode C. The visibility was poor owing to haze and his ac was coloured red/white and his strobe lights were switched on. After leaving the Teesside frequency, he attempted to contact Leeming Approach and then Fenton Approach to check for local activity, but he had not received any response to his transmissions, so his intention was to contact London Information for a service. The weather had caused him to fly at a low altitude (approx 700ft agl) but he was experienced at low-level navigation, a skill that he had received training in and which he also maintained currency in by practising, not just using it when the weather was bad. He was concentrating on maintaining a good lookout and on remaining clear of the Church Fenton ATZ. The combination of all of these factors probably led to him not looking at the map as often as he would normally and therefore passing very close to Bagby which he normally avoided, aware of how busy they can be. He first sighted a blue/yellow coloured, possibly low winged, single engined ac in his 2 o'clock position at a similar level, possibly slightly higher, crossing R to L. He turned R through 30° to pass behind and below the other ac, an emergency avoiding action break was not required, with vertical separation judged to be <50ft vertically and 250m horizontally. He assessed the risk of collision as slim.

UKAB Note (1): Met Office archive data shows the Leeming METAR 0850Z 03005KT 7000 HZ SCT080 SCT250 24/19 Q1016=

UKAB Note (2): Bagby is an unlicensed airfield situated 3nm E of Topcliffe Aerodrome situated within the Leeming/Topcliffe CMATZ. The UK AIP at ENR 2-2-2-4 states the Topcliffe ATZ is a circle radius 2nm centred on RW05/23 541220N 0012255W up to 2000ft aal active H24.

UKAB Note (3): The Airprox occurs outside of recorded radar coverage. The PA28 is shown initially on the Great Dun Fell radar recording and is identified from its 7041 Teesside squawk before it changes to 7000 and fades from radar at 0847:46 about 6nm NW of Bagby. Meanwhile at 0847:34 the Claxby radar recording shows an intermittent primary only return, believed to be the Skyranger M/Light, 1·8nm E of Bagby tracking NW. This radar return fades after a further 2 sweeps before reappearing at 0848:22 1·1nm NE of Bagby tracking SW. Again after showing for 3 sweeps the return fades but reappears just over 1min (0849:50) later 0·5nm E of Bagby tracking 225° in a downwind RH position for RW06. The primary return fades finally at 0850:28 0·5nm SW of Bagby. Forty-eight seconds later a 7000 squawk appears, believed to be the PA28, 0·7nm WSW of Bagby indicating FL006 (690ft QNH 1016mb) tracking 190° which is when the Airprox is believed to occur.

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 A/G operator.

It was noted that Bagby was an unlicensed airfield with no ATZ protection. However, the airfield is marked on charts. Members were critical of the airmanship displayed by the PA28 pilot when, shortly after getting airborne from Teesside, he continued on a cross country flight after weather had forced him to fly at a low altitude to maintain VFR. Although concentrating on look out and remaining clear of the Church Fenton ATZ ahead on his intended track, his attention to map reading was interrupted and this had led him to fly closer to Bagby than he intended. Flying into sun in hazy conditions, the PA28 pilot had then seen the Skyranger, albeit late, which was turning onto final approach for RW06. The late sighting had been a part cause of the Airprox. The Skyranger pilot had not seen the crossing PA28 at all which was also assessed to be a part cause of the incident, although a minority of members felt the non-sighting was understandable on the grounds that he had a reasonable expectation that other pilots would avoid flying close to Bagby airfield.

AIRPROX REPORT No 139/03.

There were two different perspectives of the incident reported. The A/G operator had seen the conflicting southbound PA28 and passed TI to the Skyranger pilot, believing that the Piper was at a similar height and passing in front of it from his viewpoint on the airfield. The PA28 pilot's viewpoint had been different. He saw the Skyranger in his 2 o'clock at about the same level crossing R to L and turned 30° R to avoid, passing an estimated 250m behind and <50ft below. The Skyranger pilot might not have expected to see/meet a crossing ac in that 'cct position' and would almost certainly have been concentrating on his ac v RW relative perspective viewpoint; he presumed that the conflicting ac must have passed behind him. These discrepancies could not be resolved by the Board. Two members believed that the PA28 pilot had discharged his duties with respect to 'see and avoid' in Class G airspace and had resolved the confliction effectively. However, this view was not shared by the majority. The PA28 pilot had been cognisant of Bagby' s existence but had flown through the cct in hazy conditions, seen the Skyranger late and turned to pass close behind it and just below. The Board agreed that his actions had been sufficient to remove the risk of an actual collision but the subject ac had flown in such close proximity that safety had not been assured during the encounter.

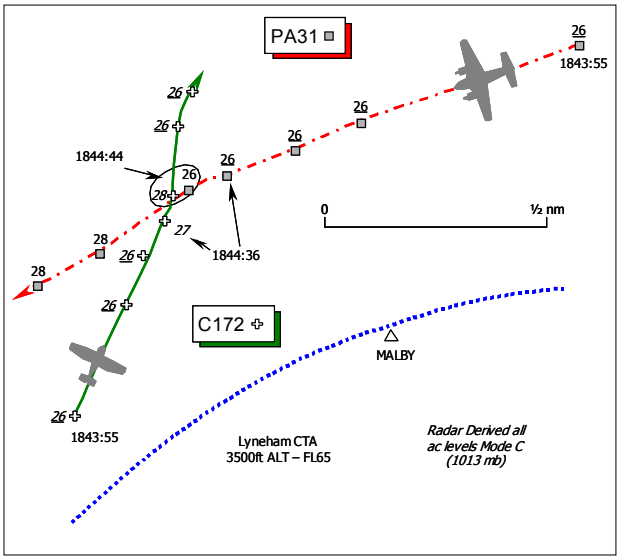
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the Skyranger pilot and a late sighting by the PA28 pilot in the vicinity of an unlicensed promulgated airfield.

Degree of Risk: B

AIRPROX REPORT NO 139/03

Date/Time:	2 Sep 1844	
Position:	5136N 0206W (7nm NNW of Lyneham elev - 513ft)	
Airspace:	London FIR	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	Cessna C172	Piper PA31-350T
Operator:	Civ Club	Civ Comm
Alt/FL:	2700ft	FL40
	RPS (1011mb)	SPS
Weather	VMC CLOC	VMC CLBC
Visibility:	30km	>10km
Reported Separation:		
	10-15m H/20ft V	NR
Recorded Separation:		
	Contacts merged	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE CESSNA C172 PILOT reports, over 5 weeks after the occurrence, that his aeroplane has a white colour scheme and the red anti-collision beacon, wing tip HISLs and navigation lights were all on, whilst inbound to Kemble for an overhead Cct join. He was not in receipt of an ATS after leaving Lyneham's frequency about 1½ min before the Airprox occurred, squawking A7000 with Mode C, but he was listening out on both the Kemble and Bristol frequencies. About 4nm S of Kemble, heading 020° at 110kt, he was descending from 3000ft RPS (1011mb), he thought, and had just completed an external lookout scan from L – R, whereupon he raised the right wing slightly to expose the airspace at 2-4

o'clock slightly above his high-wing monoplane. This revealed a low-wing twin [the PA31] flying straight and level towards him about 200m away at the same altitude. To avoid the other ac, he pushed the nose down and banked 50° to the L, whilst adding L rudder to increase his descent, as the PA31 passed 10-15m away to starboard and crossed obliquely astern from R – L about 20ft above his aeroplane with a *"very high"* risk of a collision. He opined that his ac's high-wing had obscured the other ac during his normal scan, adding that the only thing that *"saved"* him was a disciplined lookout and he *"…now believes in TCAS for light ac"*.

THE PIPER PA31-350T CHIEFTAIN PILOT reports some 5 weeks after the event that his aeroplane has a white colour scheme with red & blue stripes; the HISL was on. He was inbound from Oxford (Kidlington) to Bristol International, under an ATS [he could not recall whether it was a RIS or FIS] from Brize RADAR at about FL40 he thought; on first contact the controller passed traffic information about an ac flying in the opposite direction 7-8nm away. Later he was informed of traffic for a second time at a range of 1nm. South of Kemble, heading 240° at 160kt he first sighted the conflicting ac in level flight at the 1130 position - 400-500m away, closing from L- R and slightly below his ac – he quoted 100-150ft maximum. To avoid the other ac – a white high-wing Cessna - he promptly initiated a climb but then lost sight of the Cessna as it passed below his ac, so he could not determine the minimum separation when their flight paths crossed. He did not assess the risk but opined that without his avoiding action climb the Cessna would have passed about 100-150ft below with little or no horizontal separation. He cited the twilight conditions and high cloud cover as relevant factors, stating that the Cessna had appeared from a dark background.

MIL ATC OPS reports that the C172 pilot was instructed by Lyneham to free-call Kemble when abeam Hullavington some 2min before the Airprox occurred. The C172 pilot had been under a FIS and the controller does not remember there being any other traffic to affect the flight when released to Kemble. The PA31 pilot had worked Brize RADAR, although the controller has no recollection of controlling it. The FPS reveals that the PA31 pilot had been in receipt of a FIS and was logged 'off frequency' at 1844. Unfortunately, the Brize RADAR RT tapes had been reused before their involvement was discovered some time after the event.

The Clee Hill Radar recording shows the C172 changing squawk to A7000 at 1841:27; there was no traffic to affect this flight at that time. The PA31 is shown tracking SW, passing N abeam the Lyneham CTA squawking A3701, which was changed to A7000 at 1845:10, after the Airprox had occurred. Although it is evident that the PA31 pilot was in receipt of an ATS from Brize RADAR at the time of the Airprox, to the controller, this was nothing more than a routine unremarkable flight. Whether the PA31 pilot was receiving a RIS or FIS appears to be irrelevant as, according to the pilot's report, Brize RADAR did pass traffic information that enabled him to sight the other ac, although there is no transcript to support this.

UKAB Note: Analysis of the data provided by the Clee Hill Radar recording is rather inconclusive. The C172 is shown tracking 020° maintaining a constant 2600ft Mode C (1013mb) as the PA31 approached to close quarters from the NE consistently indicating the same level. At 1844:36, on the sweep before the contacts merge, the C172 is shown 100ft above the PA31 contrary to both pilots' reports. This perplexing geometry is further compounded on the next sweep at the CPA where the C172 is shown 200ft above the Piper and contrary to the reported avoiding action descent initiated by the C172 pilot on sighting the PA31, whose pilot reported an avoiding action climb that is clearly shown after the tracks cross. However, this anomaly could be explained by the inherent tolerances applicable to Mode C indications and the extremely large scale of the recording in this instance but does not permit exact determination of the minimum separation with confidence. Nevertheless, this was evidently an extremely close encounter. The PA31 pilot changed the SSR code at 1845:47, 1min after the occurrence.

AIRPROX REPORT No 139/03.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC authority.

It was unfortunate that the exact details of this occurrence had taken so long to come to light; although the reporting pilot had notified his intention to report the Airprox, requisite details were not available until 5 weeks later. This had impeded the investigation of this occurrence as ATC recordings are only retained for a maximum of 30 days unless impounded beforehand, thus there was no recorded RT information available in this instance to the Board, who implored pilots to file completed reports as soon as possible after the event. Nevertheless, there was no reason to doubt the veracity of the PA31 pilot's report; his ac had been identified some two weeks after the Airprox had occurred. He said he had been advised of the presence of the other ac by Brize RADAR during two transmissions of traffic information about the conflicting ac, firstly at 7-8nm, then at a range of 1nm and probably just before the PA31 pilot switched frequencies to Bristol. Therefore, on his part, this was a matter of 'see & avoid', though he reports that the Cessna was not spotted until it had closed to 4-500m away but fortunately slightly below his ac. In the gathering twilight, with all the C172's lights reported to be on, by all accounts this was a very late spot indeed and in the Board's view, one part of the cause. For his part the C172 pilot had dispensed with any assistance from ATC before this Airprox had occurred and was merely listening out on two frequencies that had provided no advantage. If he had heard the PA31 pilot call on the Bristol frequency it had clearly not provided a clue to the twin approaching rapidly from the NE to which, in this situation, he was required to give way under the 'Rules of the Air'. The Cessna pilot was commended for electing to clear his starboard wing blind spot above him when he did. This enabled him to glimpse belatedly the PA31 slightly above his ac a mere 10-15m away and allowed him to dive out of its way. Again, visual acquisition by the Cessna pilot of the PA31 had been very late and formed the other part of the cause. It was acknowledged, however, that approaching each other at co-altitude had presented each pilot with a smaller 'target' to see than would have been the case with some vertical separation.

Although the radar recording was fortunately still available and had contributed appreciably to the understanding of what had occurred during this very close quarters incident, it had not replicated the pilots' reports accurately. Here the radar recording had incorrectly suggested that the C172 had climbed over the PA31, whereas both pilots' accounts had agreed that the C172 had passed beneath the PA31. Such inconsistencies with Mode C (the tolerances for verified Mode C are +/– 200ft) were not unknown at close quarters, thus the Board accepted that both pilots had taken intuitive avoiding action and theirs was a true reflection of events. However, the C172 pilot's reported sighting distance was probably an under estimate; it is generally accepted that it takes at least 2 sec for a pilot to see and then change his ac's flight path and his reported dive coupled with a sighting range of 10-15m at these speeds did not jibe. Conversely, the PA31 pilot's estimate may have been slightly over optimistic. The radar recording did not reflect his ac's climb when he said he sighted the other ac, as it was still in level cruise 400-500m away - the climb was not shown until after the respective acs' tracks had crossed. Nevertheless, in the Board's view, this did not alter the seriousness of the encounter as the contacts had merged in azimuth with no indicated vertical separation from Mode C whatsoever just moments before the event. However, both pilots had managed to alter their acs' flight paths just in time to avert a collision, leading the members to agree unanimously that the safety of these ac had not been assured by any means.

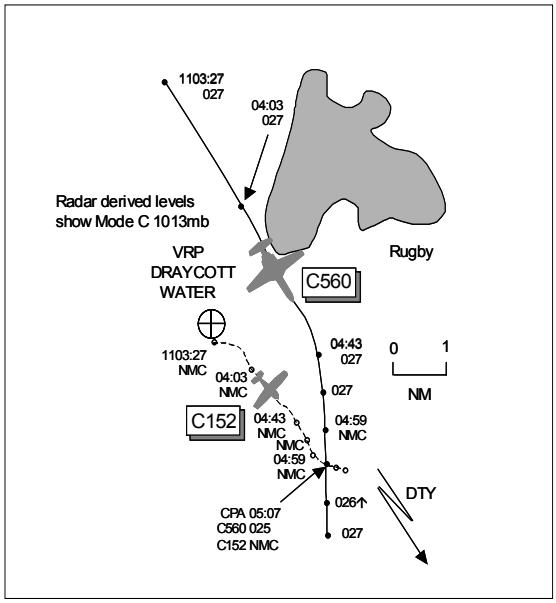
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Very late sightings by both the C172 pilot and the PA31 pilot.

Degree of Risk: B.

AIRPROX REPORT NO 199/03

Date/Time:	15 Dec 1105	
Position:	5217N 0116W (5nm S of Rugby)	
Airspace:	FIR	(Class: G)
	Reporting Ac	*Reported Ac*
Type:	C152	C560
Operator:	Civ Trg	Civ Pte
Alt/FL:	3125ft (QNH 1030mb)	3000ft (RPS 1023mb)
Weather	VMC CLNC	VMC CLNC
Visibility:	>20km	>40km
Reported Separation:	150-200ft V nil H	300-400ft V nil H
Recorded Separation:	returns merge	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE C152 PILOT reports flying a dual Flying Instructor's Course (FIC) sortie from Coventry and in receipt of a FIS from Coventry on 119·25MHz squawking 4650 NMC. The visibility was >20km in clear sky VMC the ac was coloured white and the anti-collision light was switched on. About 5nm S of Rugby he had almost completed HASELL checks prior to stalling, with lookout as the only outstanding check. Heading 130° at 90kt and 3125ft QNH 1030mb, he looked over his L shoulder - he was seated on the LH side - prior to the lookout turn, and saw a white Citation jet appear from behind the door post in his 7 o'clock position, only 300-400yd away in level flight about 150-200ft below. He had seen it too late to take any avoiding action as it had emerged from a blind spot behind and below his ac. As the Citation passed underneath he recognised the registration letters as a Coventry based ac. He thought that had the ac carried an unknown registration, he doubted if would have had time to read it fully as the ac was only in sight for about 2sec before it disappeared underneath his ac. He had been about to draw his student's attention to their present altitude, which was 125ft above their intended level of 3000ft. The student saw the Citation exit from below in his 1-1:30 position without altering its heading and shortly thereafter it commenced a climb. He thought the other ac was probably cruising at 200-250kt TAS and assessed the risk as high had the Citation crew not seen him or low if they had.

THE C560XL CITATION PILOT reports en route from Manchester to Oxford VFR at 3000ft Barnsley RPS 1023mb and in receipt of a FIS from Birmingham squawking an assigned code with Mode C. The visibility was >40km in VMC and the ac was coloured white with blue/red stripes. Near to Rugby heading 190° at 250kt flying into sun, TCAS gave a TA alert on traffic with no height readout at a range of 2nm; the display range was set at 6nm. Without any height indication, he thought that visual acquisition of the target was essential prior to taking action. Both he and the FO saw the conflicting traffic visually in their 1 o'clock range 1-2nm closing rapidly on a crossing track of about 130° at the same level. He disconnected the AP and commenced a slow non-aggressive, shallow descent (in view of being reported on, not aggressive enough) and estimated that they passed 300-400ft immediately underneath the other ac, a C152, before quickly diverging from its path. He assessed the risk as low-medium.

UKAB Note (1): Met Office archive data shows the Coventry METAR as EGBE 1050Z 32006KT 290V350 9999 FEW038 04/00 Q1030= and the Barnsley RPS 1100-1200 was 1023mb.

ATSI comments that the C152 departed Coventry at 1056 on track to the 'local area' VFR. Although not stipulated, this area is recognised locally as being to the E, in the region of Rugby, Daventry and Draycott. Approximately 3min later, the C560 pilot contacted Coventry Tower/Approach, reporting VFR at 3000ft on the RPS, routeing LIC to DTY then Oxford. The pilot estimated passing 3nm E of CT at 1102. The pilot was informed that CT was unserviceable and *"I just have a couple of contacts operating er local area VFR"*. Establishing that the ac was working Birmingham, the Coventry Controller offered the choice of a FIS with him or to stay with Birmingham, as they would probably be able to see the local traffic. The pilot opted to continue working the latter.

About 4min before the Airprox, which occurred at 1105, the C152 was informed that the ATS being provided was a FIS and TI was passed about two other ac operating in the 'local area'. No mention was made about the C560 transiting through the area. Other local traffic was warned about the C152.

The Airprox occurred in Class G Airspace, with both flights operating VFR under a FIS, the C152 with Coventry and the C560 with Birmingham; neither ac was radar identified. The MATS Part 1, Section 1, Chapter 1, Page 2, describes a FIS as *"a non-radar service provided, either separately or in conjunction with other services, for the purposes of supplying information useful for the safe and efficient conduct of flights. Controllers are not responsible for separating or sequencing ac."* Additionally, "*controllers will, subject to workload, provide pilots with information concerning collision hazards to ac operating in Class C, D, E, F or G airspace when self-evident information from any source indicates that a risk of collision may exist. It is accepted that this information may be incomplete and the controller cannot assume responsibility for its issuance at all times or for its accuracy."* Not utilising their radar display, Birmingham would not have been aware of the presence of the C152. Coventry was working the C152 and also was contacted by the C560 pilot who passed appropriate information about his flight. It was noticeable from the RT recording that the Coventry ADC/APP was, at times, using the ATM to pass TI to flights operating in the 'local area'. The Coventry MATS Part 2 allows use of the ATM to pass TI but states "*it must not be used as a surveillance radar by the Air Controller".* Arguably, sufficient details were given by the C560 pilot to prompt the Coventry Controller to pass TI on to the C152 pilot. However, he believed that Birmingham, whilst working the C560, would have seen the local traffic on the radar display as it would have been squawking the Coventry conspicuity code 4650 (Coventry not SSR equipped). In any case, he did warn the C560 pilot of the presence of VFR traffic operating in the local area. Additionally, the C152 was on frequency when the C560 pilot made a comprehensive report of his intentions with regard to routeing and altitude.

UKAB Note (2): Analysis of the Clee Hill radar recording at 1103:27 shows the C152 tracking E at Draycott Water VRP squawking 4650 with NMC with the C560 4·8nm to its NNW tracking 160° squawking 7000 indicating FL027 (3000ft RPS 1023mb or 3210ft QNH 1030mb). Just over 30sec later the C152 is seen tracking a nominal SE'ly track as the Citation passes W beam Rugby. 40sec later, as the C560 steadies on a 180° track, the C152 is in its 1 o'clock range 1·3nm. The subject ac converge with a constant relative bearing, NMC is shown on the Citation on the last radar sweep (1104:59) prior to the CPA, which occurs at 1105:07 as the radar returns merge, the C560 indicating FL025 (2800ft RPS or 3010ft QNH) whilst the C152 pilot had reported flying level at 3125ft QNH. The next 2 radar sweeps (8sec intervals) show the Citation climbing through FL026 before levelling at FL027, 1·2nm S 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 authorities.

This had been an encounter in the FIR where 'see and avoid' pertained with both crews in receipt of a FIS. The C152 instructor had noticed the Citation approaching from behind during his lookout scan and watched it pass underneath by 150-200ft, understandably concerned, in case his ac had gone

unsighted. Unbeknown to him, the C560 crew with the benefit of TCAS – that only gave a TA alert on the C152 owing to NMC - had been given a 'heads-up' to the Cessna's presence and had waited until visually acquiring it before taking action. The Citation crew had then commenced a descent to pass 300-400ft safely beneath the C152 whilst maintaining visual contact with it. However, with hindsight, the Citation pilot acknowledged that he could have increased the vertical separation. These elements left the Board in no doubt that this conflict had been resolved effectively by the C560 crew whose actions had removed any risk of collision.

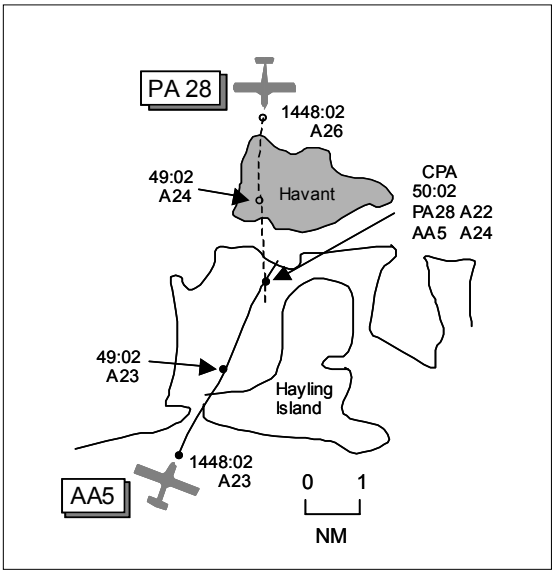
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict resolved by the C560 crew.

Degree of Risk: C.

AIRPROX REPORT NO 203/03

Date/Time:	17 Dec 1450	
Position:	5050N 0059W (2nm S Havant)	
Airspace:	FIR	(Class: G)
	Reporting Ac	*Reporting Ac*
Type:	PA28	AA5
Operator:	Civ Club	Civ Pte
Alt/FL:	2000-2500ft	2400ft
	(QNH 1022mb)	(QNH)
Weather	VMC CAVOK	VMC HZNC
Visibility:	NR	>10km
Reported Separation:		
	50-100ft V	<100ft V
Recorded Separation:		
	200ft V	



BOTH PILOTS FILED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PA28 PILOT reports flying a solo local cross-country flight from Blackbushe and he was 'listening out' with Goodwood on 122·45MHz squawking 0444 with Mode C. The weather was essentially CAVOK, the coast was visible from Petersfield, but slight haze/inversion was degrading the visibility when flying into sun. The ac was coloured white with blue/red stripes and the strobe lights were switched on. Near to Hayling Island heading 180° at 90-100kt and 2000-2500ft QNH 1022mb, he had put the map aside and was navigating by reference to the coast having just completed a frequency change from Farnborough to Goodwood. Unusually he had lowered the sun visor because of the low sun angle. He first sighted a conflicting ac, a low wing single engine fixed gear type, possibly white/ navy, as it emerged from the sun, from just R of his 12 o'clock range 150-200ft, slightly above him on an almost reciprocal heading; it filled one third of the windscreen horizontally. As he could see the other ac's wheels ahead of him he instinctively pushed hard/forward on the control column causing his map, flight guide and other equipment all to hit the roof; the other ac immediately disappeared upwards from

his view. He didn't see it for long enough to gauge whether they would have collided or if the other pilot had taken avoiding action but he estimated it passed 50-100ft overhead, assessing the risk of collision as high.

THE AA5 PILOT reports flying en route from Bembridge to Denham at 2400ft and 90kt squawking with Mode C. The visibility was >10km in slightly hazy VMC and the ac was coloured white/brown with anti-collision beacon and strobe lights switched on. Approaching Petersfield heading 030° workload was high as he was in the process of changing frequency from Solent Zone to Farnborough, 'heads-in' looking for the correct frequency. The skies were busy on the day with many ac airborne to mark the Centenary of Flight anniversary. On looking up he saw a white PA28 to his L 10 o'clock flying straight and level, possibly 400m range but it was difficult to determine, on a crossing track L to R at almost the same level, just slightly below. Immediately he took avoiding action by climbing to the R whilst the PA28 was seen to take avoiding action by pitching down but maintaining heading. He estimated he passed <100ft above the PA28 and he informed the co-pilot of the reason for his actions. His ac may have been unsighted to the PA28 pilot owing to the low sun in his direction of flight. This had been a very late sighting of the other ac and he assessed the risk of collision as high.

UKAB Note: Analysis of the Pease Pottage radar recording at 1448:02 shows the PA28 1·5nm NNW of Havant tracking 180° squawking 0444 indicating 2600ft QNH 1022mb with the AA5 in his 1 o'clock range 6·5nm tracking 025° squawking 7000 indicating 2300ft QNH. One minute later, the PA28 levels at and maintains 2400ft Mode C and both ac converge on a line of constant bearing, the AA5 indicating a steady 2300ft Mode C until 1449:56. The CPA occurs on the next radar sweep 6sec later, at 1450:02, as both ac returns merge, the PA28 now showing 2200ft descending and the AA5 2400ft climbing.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

Both reporting pilots agreed that their very late sightings had caused the Airprox and this was endorsed by the Board. The opportunity had been there for earlier sightings although from the PA28 cockpit, the pilot's lookout had been slightly degraded by the low sun and slight haze. He first saw the AA5 as it emerged from the sun just R of his 12 o'clock 150-200ft ahead slightly above and had reacted swiftly by pushing forward on the control column. He immediately lost sight of the AA5 as he went underneath but estimated it passed 50-100ft above. Meanwhile, the AA5, which had two pilots on board, was flying down sun but, having gone 'heads-in' whilst changing frequency, the handling pilot had only seen the PA28 on looking up; it was in his 10 o'clock range 400m crossing L to R and slightly below. He had immediately commenced a climbing R turn to avoid and had enough time to see the PA28 pitching down during its own avoiding action manoeuvre, passing <100ft below. Some members thought that, even though both parties took action, it had been effected too late to alter their respective flight paths to the extent that a collision risk existed. However, the majority of members believed otherwise and that the actions taken by both pilots had been effective in stopping the ac colliding. Nevertheless, the subject ac had passed in such close proximity that safety had been compromised to a significant extent during the encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Very late sightings by both pilots.

Degree of Risk: B.