AIRPROX REPORT No 2011004

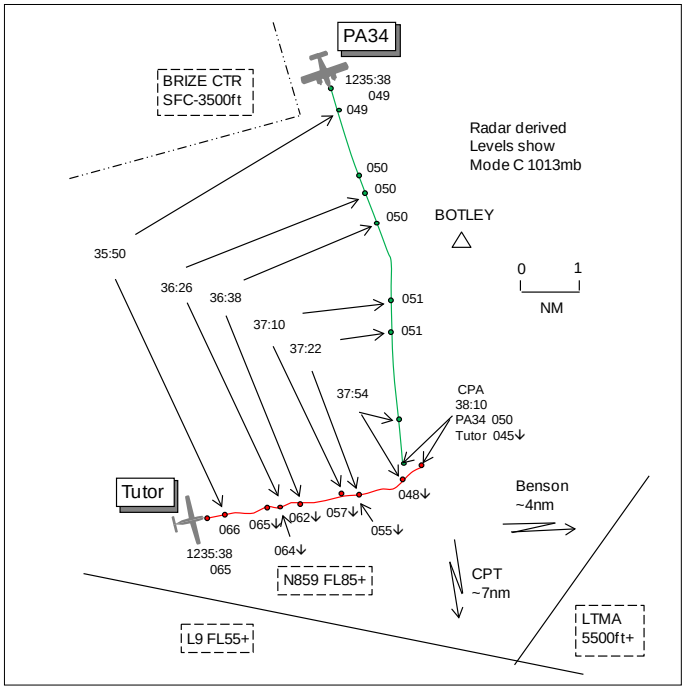
Date/Time: 20 Jan 2011 1238Z

Position: 5138N 00115W (8·5nm N CPT)

Airspace: Oxford AIAA (*Class: G*)

Reporter: LTC SW

	1st Ac	*2nd Ac*
Type:	PA34	Grob TutorTMk1
Operator:	Civ Trg	HQ AIR (TRG)
Alt/FL:	FL50	4500ft↓ (NR)
Weather:	IMC IICL	VMC CLAC
Visibility:	10km	>10km
Reported Separation:	Not seen	NR
Recorded Separation:	500ft V/0·3nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE LTC SW CONTROLLER reports that a "remain clear of controlled airspace" instruction had been given to Oxford ATC by the Coordinator for the PA34 requesting to join CAS at CPT and for the flight to call for join on his frequency 134·125MHz. The PA34 was observed on radar by him and the S Coordinator outside CAS approaching CPT before it called on frequency. Other traffic was also seen on a Benson squawk, 3611, outside CAS above FL50 and likely to conflict with the PA34. STCA low-severity (white) activated between the 2 ac and then the PA34 flight called reporting climbing to FL50 and requesting a TS. Identification and verification were carried out and a BS was provided; STCA high-severity (red) then activated. Following a read back of the service he gave TI to the PA34 flight on the other ac. Once passed, an airways joining clearance was issued. The frequency was fairly busy with other traffic and the PA34 was outside CAS below FL70 (unit terrain clearance level) on a BS. The controller was aware of the perils associated with flying outside CAS but in this situation he believed the safety of both ac had been compromised. He opined that a better and safer service could be provided in the area in conjunction with Brize and Benson. It was noteworthy that in the LTC SI 30/10 'Oxford Arrivals and Departures via Airways' there is no mention of how Brize and Benson coordinate with each other regarding Oxford departures joining at CPT.

THE PA34 PILOT reports flying dual on a local sortie from Oxford, IFR and in receipt of a TS from Brize LARS on 124·275MHz and then a BS from London on 134·125MHz, squawking 6016 with Modes S and C. On a standard CPT departure Brize gave TI twice, he thought, about another ac which at first was below and climbing and then when closer was called at the same level. The visibility was 10km but the cloud was scattered to broken and at FL50 they were between layers in intermittent IMC. Heading 175° at 150kt, despite looking for the other ac, it was not visible and they waited to get a further update from Brize but were then handed over to London. It seemed Brize no longer considered the other ac's proximity to be a factor and they continued en-route. No avoiding action was taken and they had not changed level but turned at Botly towards CPT.

THE TUTOR PILOT reports flying a dual training sortie from Benson and in receipt of a TS from Benson. He was on recovery for a radar to visual approach to Benson in VMC above broken cloud about 7nm NW of Benson when Approach alerted him to traffic on its way to CPT. He first saw the light twin-engine ac below in his 10 o'clock as he continued to descend, tracking perpendicular to it on a

heading of 060° at 120kt. He passed through its 12 o'clock at about the same level at what he deemed to be a safe distance. Descending through 4500ft the other ac passed behind and above, well before he entered IMC, and it continued to diverge as he completed his recovery. At no point was there any perceived risk and the other ac never deviated from its track.

ATSI reports that the Airprox occurred between a PA34 and a Tutor in Class G uncontrolled airspace N of CPT at FL50. The PA34 had departed Oxford on a training flight to Bournemouth and was in contact with LTC SW on 134·125MHz under a BS. LTC SW (OCK, WILLO and SW Deps sectors combined) was being operated by a tactical controller. There were no reported unserviceabilities and the controller was using Pease Pottage radar data on the situation display. ATSI assessed the RT loading on the LTC SW sector as high.

The PA34 departed Oxford having been instructed to remain clear of CAS and call for airways joining clearance on 134·125MHz. A UK Domestic Mode A code of 6016 was issued to the PA34 and displayed throughout its flight.

The LTC Manual of Air Traffic Services (MATS) Part 2 states:

> 'All departures from Oxford requesting an airways join at CPT are pre-noted to Brize Radar. On occasions, Brize Radar may provide a service to such departures subject to workload.'

Further provision is also made for Oxford ATC to pass details of departures towards CPT to Benson, when such departures will not be worked by Brize Radar.

At 1232:50 the PA34 appeared on the LTC SW controller's situation display 1nm SW of Oxford at FL021. The Tutor was operating at FL064, 6·9nm W of Benson, on Mode A code 3611. The PA34 continued on a S track and climbed to FL050.

At 1236:39 a low-level STCA activated on the LTC SW controller's situation display. The 2 ac were 5·3nm apart on converging tracks, the PA34 maintaining FL50 and the Tutor at FL63. At 1237:08 the PA34 called LTC SW requesting a TS. The SW controller identified the PA34 and a BS was agreed at 1237:18.

Pilots are notified in UK AIP ENR 1-6-1-1 (12 Mar 09) that no DS or TS will be available on any London Control frequency below FL070.

LTC SW issued TI to the PA34 flight at 1237:21, "*…traffic in your twelve o'clock three miles crossing right to left indicating flight level five five unverified*". The PA34 pilot replied, "*Roger*".

Within Class G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance.

CAP493 MATS Part 1, Section 1 Chapter 11 paragraph 3.5.1 states, with respect to traffic information under a BS:

> 'A controller with access to surveillance derived information shall avoid the routine provision of traffic information … However, if a controller considers that a definite risk of collision exists, a warning may be issued.'

At their operational positions, LTC SW controllers are provided with details of Benson Mode A code allocations and a quick access telephone button to Benson ATC.

High-level STCA activated at 1237:38 and at 1237:54 the Tutor is seen now tracking 060°, having turned L by about 15°, and passing through the 12 o'clock position of the PA34 range 1nm at FL048 descending.

[UKAB Note (1): The Tutor continues on a track of 060° and the CPA occurs at 1238:10, the PA34 maintaining FL50 on a S'ly track with the Tutor now in its 9 o'clock range 0·3nm and diverging indicating FL045, 500ft below. The ac were 8·4nm N of CPT.]

STCA deactivated at 1238:25 as lateral and vertical distance between the 2 ac increased. LTC SW cleared the PA34 flight to enter CAS on track CPT at 1238:41.

The PA34 departed Oxford in accordance with ATS procedures and displayed its UK Domestic Mode A throughout. Therefore, the agency providing a service to the PA34 was unknown to LTC SW. Further, when TI was passed by the LTC SW controller the PA34 pilot gave no indication of whether or not the traffic had been visually acquired. The Brize Radar controller appears to have transferred the PA34 to LTC SW whilst the ac was still in conflict with the Tutor. There was no available evidence to suggest that the Brize Radar controller attempted any co-ordination with LTC SW prior to transfer of the PA34 to LTC SW.

There is no explicit direction to controllers in CAP774 UK Flight Information Services to ensure that an ac outside of CAS in receipt of a service and remaining in confliction with other traffic should not be transferred to the next agency unless, the pilot has reported visual with the traffic and/or coordination has been attempted with the next agency.

The pilot of the PA34 requested a service notified as not available from London Control, i.e. a TS below FL70. The request for a TS may have been made in the knowledge that there was conflicting traffic not acquired by the PA34 pilot.

The SW controller gave a traffic warning on the Tutor, therefore it is highly likely that the SW controller considered that a definite risk of collision existed. This would be reinforced by activation of a high-level STCA alert. The visual manoeuvring of the Tutor relative to the PA34 would also compound the appearance of a collision risk.

The SW controller was unaware of the intentions of the Tutor. Means were available for the SW controller to contact Benson; however, there was only 1min between the initial call of the PA34 flight on the SW frequency and the recorded minimum distance between the ac. The SW controller's ability to coordinate with Benson may have been further limited by the high workload.

ATS procedures and agreements exist for the provision of service to aircraft departing Oxford to join airways, whereby Brize Radar may elect to provide a service to Oxford departures prior to transfer to LTC SW. However, there was no indication to the LTC SW controller that the PA34 was about to call having been in receipt of a service from Brize Radar: i.e. change from a Mode A code allocated to aircraft in receipt of a service from Brize to the UK Domestic Mode A code.

THE BENSON APPROACH CONTROLLER reports having been on the console for 2min when he saw the Tutor 3nm W of Didcot turn onto an E'ly heading. The flight was under a TS in the Vale operating between 4000ft and 7000ft on the Cotswold RPS of 1034mb. At this point he saw what he believed to be a CPT 'joiner' from Oxford to the SE of Abingdon heading S indicating FL50. He called this traffic to the Tutor pilot "(Tutor c/s) traffic North 3 miles heading S 1500ft below believed to be joining airways at CPT", which the pilot acknowledged. The Tutor continued E and he again called the traffic, "(Tutor c/s) previously called traffic North 3 miles tracking S 700ft below" which the pilot again acknowledged. He then answered a call from the ground controller and took a pre-note on a VFR departure. He then called the traffic again, "(Tutor c/s) previously called traffic N 1 mile tracking S same altitude" and the pilot called "visual". The Tutor was seen to descend below the other ac and turn NE for a short while before turning back to the SE. The Tutor pilot then called for an IFR recovery to initials so he was asked to set the Benson QFE 1029 and descend to height 2000ft, at which point the ac was heading SE. When the Tutor was 3nm SW of Benson the pilot reported visual with the airfield and he transferred to Tower on 127·15MHz.

THE BRIZE LARS CONTROLLER reports receiving a call from the relevant civil sector asking whether he had passed TI to an Oxford ac [the PA34], which had recently called on the London frequency, on a

Benson SSR code. He had released the PA34 to London about 10nm of CPT and, at the time, he had not seen any ac wearing a Benson code that he believed necessary to call. He was unaware of the time lapse between the PA34 flight leaving his frequency and calling London. He informed the Supervisor about the landline call. The London controller did not inform him of any Airprox.

HQ 1GP BM SM reports that the Airprox occurred between the PA34 working LTC SW in receipt of a BS outside CAS (that had up until 101sec before the incident been in receipt of a TS from Brize LARS) and a Tutor in receipt of a TS from Benson APP.

At 1234:43, the PA34 outbound from Oxford called requesting a TS, was identified and placed under a TS by Brize LARS.

At 1235:39, Benson APP passed TI to the Tutor flight on the PA34 stating, "*(Tutor c/s) traffic north, eight miles, tracking south, one thousand five hundred feet below, believed to be joining airways at Compton*", which was acknowledged by the pilot.

At 1235:48, Brize LARS passed accurate TI to the PA34 on the Tutor stating, *"(PA34 c/s) traffic right one o clock, six miles, crossing right left at one thousand five hundred feet above and I have your airways instruction when you're ready to copy*." The PA34 pilot replied, *"Roger and er standby (PA34 c/s)"*. Almost immediately afterwards the PA34 pilot transmits, *"Pass your message (PA34 c/s)"* and Brize replies, *"(PA34 c/s) London Control instructs PA34 c/s to remain outside controlled airspace squawk six zero one six and onwards frequency one three four decimal one two five"*. Brize LARS then, at 1236:25, told the PA34 pilot that his read back was correct and then instructed the PA34 flight to continue with London Control in accordance with their clearance, which is acknowledged immediately. At this point, the Tutor is approximately 5·3nm SW of the PA34, the Tutor indicating FL064 tracking E, having just commenced a descent at 1236:27. LARS stated in their report that at the point when they transferred the PA34 to TC SW, they, "*did not see any aircraft wearing a Benson SSR code that I believed necessary to call*." This point is underlined by LARS' conversation with TC SW immediately after the incident when they stated that they "*didn't see anything relevant to call to him*."

At 1236:39, STCA activated white between the 2 ac followed by activation of STCA red at 1237:38. At this latter point, 2nm lateral separation exists, with the Tutor indicating FL051.

At 1237:11, Benson APP accurately updated the TI to the Tutor, which is descending through FL056, stating, *"(Tutor c/s) previously called traffic north, three miles, tracking south seven hundred feet below*." A further accurate update was provided at 1237:46 with the Tutor approximately 1·5nm S of the PA34 indicating FL050. The Tutor pilot responded that they were visual with the PA34.

The CPA occurs at 1238:10 as the PA34 passes behind and above the Tutor, with 0·3nm lateral and 500ft vertical separation witnessed on the radar replay.

Benson APP provided a good level of service to the Tutor, enabling the pilot to become visual with the PA34 in time for the pilot to assimilate the situation and take action if necessary.

Given that Brize LARS provided TI to the PA34 on the Tutor at 1235:48, their later statement that they did not see anything at the point of transfer of control appears unusual. Unfortunately, given the passage of time since the occurrence it has proved impossible to explain this definitively; however, 2 possibilities exist. The first is that having passed TI to the PA34 flight on the Tutor, LARS considered that they had fulfilled their obligations within the terms of a TS and that they could therefore release the PA34 to TC SW. The second possibility is closely linked to the first, in that once LARS had provided TI to the PA34 on the Tutor their cognitive process may have discounted the Tutor such that they no longer perceived its presence when scanning the PA34's path to CPT. Given LARS' statement, this lends support to the latter hypothesis; however, there is no additional supporting HF evidence or assessment of taskload and/or workload provided by LARS that would lend weight such a hypothesis. What is clear is that LARS did not perceive there to be a confliction for the PA34 before CPT, despite the Tutor's presence only 5·3nm SW.

Notwithstanding the above, Brize LARS provided TI to the PA34 flight on the Tutor, which was updated by TC SW when approximately 2nms lateral separation existed, approximately 33sec before the CPA. Given that the PA34 pilot reported flying in intermittent IMC and was unable to visually acquire the Tutor, this again raises the question of the appropriateness of the type of service selected by the aircrew appropriate to the met conditions.

The Airprox was resolved by the Tutor pilot, aided by accurate and timely TI from Benson APP. It is reasonable to argue that the PA34 had sufficient timely information to take some form of action to avoid the situation but continued to fly their flight planned route, arguably taking confidence from the lack of updated TI from Brize LARS. It is possible to hypothesise as to why Brize LARS felt there to be no confliction for the PA34 and hence transferred control to TC SW; however, there is insufficient evidence to determine this conclusively.

HQ AIR (TRG) comments that the Tutor pilot had right of way and received a good level of service in order to get visual. The apparent small turn towards the PA34 occurred after becoming visual, was probably a result of manoeuvring to descend and remain visual, and did not significantly reduce the CPA. Agreeing with Air BM, both pilots possibly had the opportunity to manoeuvre earlier to avoid a confliction, one by expediting a descent, the other by turning briefly to avoid laterally. Whilst the rules of the air may indicate who is responsible for avoiding who, they always assume both parties are visual. Ultimately, even with right of way crews should always be prepared to act if it becomes apparent that the other ac is not taking sufficient effective action. The comment about level of service selected is also appropriate; crews should be prepared to request a DS if conditions are not sufficient to enable traffic to be detected and avoided visually.

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 authorities.

As 3 ATSUs were involved, there were 3 controllers with different viewpoints on the incident. Brize LARS had provided the IFR PA34 flight with a TS, as requested by its pilot, and passed TI on the Tutor when it was just over 5nm away. The airways clearance to remain outside CAS was then passed and the flight was transferred to London. At this time, the Tutor was 1500ft above the PA31 and just about to commence a descent. Members agreed that LARS had acted appropriately and had released the PA34 to London in good time for its pilot to obtain his joining clearance. Benson APP had passed timely and accurate TI on the PA34 3 times, the Tutor pilot reporting visual after the third call. For his part, LTC SW was understandably concerned as he was awaiting the PA34 flight to call on frequency when the STCA activated a low-severity alert. The PA34 pilot called requesting a TS and was provided with a BS, owing to the restriction imposed that LTC will not provide a TS nor DS below FL70. Controller Members sympathised with the LTC SW, faced with an unknown ac on a 90° closure angle which was apparently descending into confliction and without knowing its intentions. He elected to give a traffic warning to the PA34 flight. His 'mindset' was then further reinforced when STCA high-severity activated. However he was unaware that the VFR Tutor pilot had seen the PA34 and had elected to cross ahead, descending through its level, whilst maintaining visual separation against it; the PA34 pilot did not see the Tutor. Members agreed with the HQ Air Trg comments with respect to the suitability of the PA34 pilot accepting a TS from Brize whilst flying intermittently IMC and wondered whether a DS would have been a better service to be under until he had entered CAS. This was always subject to the ATSU being able to agree to the service provision and Members were acutely aware of the difficulties faced by controllers when endeavouring to provide a DS to an ac routeing to join CAS at a specific point with manoeuvring traffic ahead. A controller Member familiar with LTC operations informed the Board that an initial joining clearance would not be given until the flight called on frequency owing to the uncertainty of the departure time from Oxford and its time en-route. The airspace at CPT is complicated by Luton outbound flights climbing to FL70, the lowest available level, so invariably flights seeking to join are told to remain outside CAS until the controller is sure of traffic situation. With all parties discharging their responsibilities correctly, albeit in an isolated and uncoordinated manner, the Board believed that

LTC SW had, from the information presented, perceived a conflict between the IFR PA34 and VFR Tutor but there had been no erosion of normal safety standards or parameters.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A controller perceived conflict.

Degree of Risk: E.