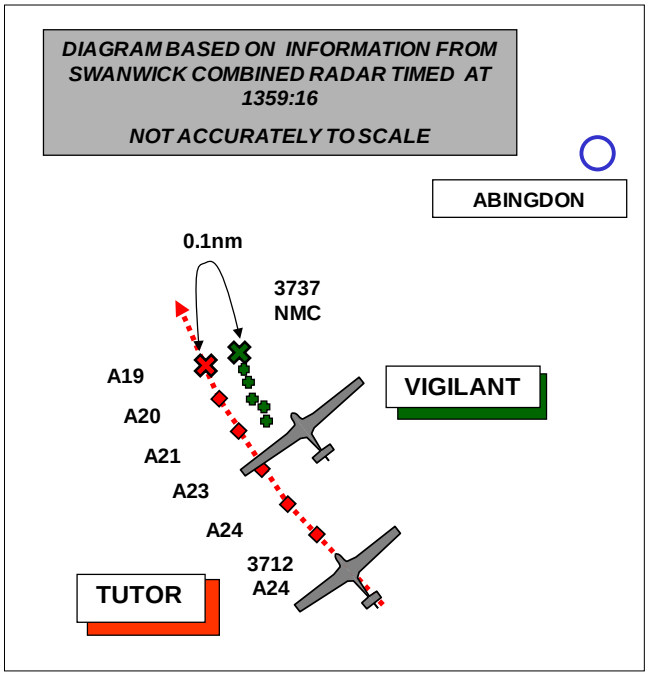
AIRPROX REPORT No 2012030

Date/Time:	10 Mar 2012 1359Z (Saturday)	
Position:	5138N 00122W (3nm SW Abingdon)	
Airspace:	Lon FIR	(*Class: G*)
	Reporting Ac	*Reported Ac*
Type:	Grob Vigilant	Grob Tutor TMk1
Operator:	HQ Air (Trg)	HQ Air (Trg)
Alt/FL:	1700ft QFE	2500ft QNH
Weather:	VMC CLBC	VMC CLBC
Visibility:	40km	30km
Reported Separation:	0ft V/100m H	0ft V/ 0.25nm H
Recorded Separation:	NR V/0.1nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE GROB VIGILANT PILOT reports flying a white and orange ac squawking 3737 with no Modes C or S available on a local instructor training sortie from Abingdon; he was listening out on Benson DIR frequency but no TCAS was fitted. While in a low workload situation, flying straight and level at 1700ft on the local QFE, heading 280° at 60kt, an unknown white Tutor ac appeared from the rear sector about 100m away on their port side on a parallel track, at the same alt, in a rapid overtake. Shortly afterwards, when about 200m ahead of them, the Tutor commenced a port wingover manoeuvre, climbing more than 300ft above its initial level, and it then departed to the S. Another Vigilant in the vicinity reported that a Tutor ac was also seen in the same vicinity and time conducting aerobatic manoeuvres. The Airprox was immediately reported to the Duty Instructor, who then informed RAF Benson ATC.

No avoiding action was possible and he assessed the risk as being Medium.

THE GROB TUTOR TMK1 PILOT reports he is an experienced civil and military pilot detached from the AEF at RAF Cranwell to RAF Benson. He conducted an area familiarisation flight at RAF Benson in Nov 2011, has flown there regularly since and was aware that gliders from Abingdon operate in the same area.

On the day of the incident he flew cadet Air Experience sorties in the Tutor in 'the Vale' from 2000-5000ft amsl while under a TS from Brize Norton in accordance SOPs. On return from the sortie concerned he was informed by the AEF Cdr that he had been involved in an Airprox with a glider flown by an examiner. The description of the event given was similar to part of one of the sorties he had flown where he overtook a glider while pointing it out to his cadet for training purposes; he therefore concluded that that must have been the incident reported and the timing and location passed confirmed this. He reported that if this was the incident, he had had full situational awareness of the glider and that there had been no risk of collision.

It appeared to him that the detail of the event had been poorly described by the glider pilot and it was his initial impression the glider pilot had low SA at the time. Later, he was informed that it was alleged that he had been conducting low level aerobatics. He was not aware of any RT report having been made.

Part of the ground training that the cadets receive prior to flying is to be responsible for looking out for other ac and for reporting them to the pilot. On the sortie in question, he was initially working at about 4500ft doing general handling and teaching the cadet, who was on his first flight, the effects of controls. He was working above a scattered cloud layer (3000-3500ft) but was over a large hole in the layer and was in sight of the surface. As part of his lookout routine he saw a Vigilant at about 3nm away working the same area, but below the cloud layer; he tried to point it out to the cadet but the cadet did not see it. Occasionally he was directly above the glider and it appeared to be flying on a N-S racetrack to the SSW of Abingdon or the NW of Didcot power station and was working in a similar area above him. He correlated the ac with his TAS which occasionally showed a 'solid white diamond' with no alt readout. He had previously been taught that is was how Vigilants manifested themselves on the TAS display because they were not fitted with Mode C. During this time Brize Radar called a contact with "no height information", which correlated with the Vigilant; he replied that he was visual and there was a "glider down there". He used the opportunity to explain to the cadet that ops in VFR airspace are deconflicted by the use of lookout, TAS and a TS, but the cadet could still not see the glider. He decided to exercise the cadet's ground training by flying towards the glider until he could see it and practise reporting it to him by using the clock code. He started in the glider's 7 o'clock at about a mile and 2000ft above. As the glider was heading roughly N at the time, he thought that it might be on recovery to Abingdon, so he was careful to assess his alt and distance from the Abingdon ATZ and resolved to break off the manoeuvre early if he perceived a risk of penetration of the ATZ. He accelerated his ac to about 140kt by descending in order to expedite the exercise and remain to the S of the ATZ.

He overtook the Vigilant about 300m to its L, on a parallel heading, and co-altitude, and proceeded to overtake it until he was in its 10 o'clock position; finally the cadet saw it and was able to report it.

At no stage did he have a crossing flight path and at no stage did he lose visual contact with it. He expected that the glider, being occupied by military pilots, would also not perceive a risk of collision during the pass; he would not have done this had it been a civil ac. In any case, he took care to keep adequate separation in order not to alarm the other crew by his proximity, and ensure that there was no risk of collision should the glider unexpectedly manoeuvre. He had also kept sufficient energy to escape upwards should the glider manoeuvre unexpectedly but it appeared to take no avoiding action.

As soon as the training objective had been met, he climbed and turned left away from the glider in order to increase separation and reposition for further training; he made a positive break away manoeuvre as one would when leaving formation in order to indicate to the Vigilant that he was leaving, although he was unsure whether the pilot had seen him.

BM SAFETY MANAGEMENT reports that the incident took place 2.7nm SSW of Abingdon, between a Vigilant and a Tutor, both operating VFR; the Vigilant pilot reported that they were in receipt of a "listening watch" from Benson DIR and the Tutor was in receipt of a TS from Brize Radar (RAD).

All heights/altitudes quoted are based upon SSR Mode C from the radar replay unless otherwise stated. RAD's report was submitted approximately 7 weeks after the incident.

While the Vigilant pilot reported being in receipt of a "listening watch" from Benson DIR, this was not the case. The Vigilant's operating unit was found to be utilising the VHF attributed to Benson DIR as a "quiet" freq whilst operating off circuit. Benson ATC does not monitor the freq at the weekend and was not aware that the Vigilant's unit utilised their freq.

HQ 22 (Trg) Gp Order 2307 for EFT states that:

"Aircraft Commanders **should** make all practicable use of RT and Air Traffic Services when operating in Class G airspace" and that "except where sortie profile and/or instructional content make it impracticable, [instructional and SCT] sorties **should** be conducted under a Traffic Service or higher."

RAF Benson is unable to provide a surveillance-based ATS to stn-based Tutor ac at the weekends due to manning constraints; consequently, Brize provides a LARS to RAF Benson AEF/UAS Tutor movements at weekends. Given the time that elapsed between the Airprox and RAD filing their report, and that nothing untoward was mentioned on freq at the time, RADs recollection of the incident was understandably vague; however, analysis of the tape transcript has shown that at the time of the Airprox they had at least 7 ac on freq, including 5 ac in receipt of a TS and they were attempting to sequence 2 para-dropping ac against a BZN inbound.

At 1348:47 the Tutor freecalled LARS was identified and placed under a TS. The incident sequence commenced at approximately 1353:53 when RAD passed TI to the Tutor on traffic, "*similar type er twelve o'clock, three miles, manoeuvring, indicating two thousand five hundred feet above*". Based on the radar replay, the subject of this TI is an unrelated Tutor 3.9nm SW of the incident Tutor, in its left 11 o'clock. The Vigilant was 3.1nm W of the incident Tutor in it's 12 o'clock and was not displaying SSR Mode C; RAF Vigilant ac are not equipped with Mode C capable transponders.

From 1353:53 until the CPA at 1359:16, the Tutor and Vigilant continued to manoeuvre within 1.2nm of each laterally. This accords with the Tutor pilot's report, stating that they became visual with the Vigilant 'at about 3 miles, working the same area as him but below the cloud layer'.

RAD passed TI to the Tutor on the Vigilant at 1357:53, stating "*pop up traffic, east-south-east, half a mile, slow moving, no height information*". The radar replay showed the Vigilant to be ½nm WSW of the Tutor, tracking NNW, with the Tutor in a right turn, descending through 3600ft. The Tutor pilot reported that they correlated this TI with a contact on his TCAS and with the Vigilant that they had previously sighted, replying to RAD that they were, "*visual with Vigilant now*". Notwithstanding the controller's use of the term 'pop-up traffic', given the altitude of the Vigilant and that it had maintained a constant track, it is unlikely that the ac had not previously 'painted' on radar and more likely that his scan had not previously detected the Vigilant.

At 1358:41 the Tutor, descending through 2900ft, rolled out on a WNW'ly track 0.8nm SE of the Vigilant. At 1358:52 the Tutor, descending through 2600ft, turned onto a NW'ly track, 0.6nm SE of the Vigilant. At 1359, having passed through the Vigilant's 6 o'clock and descending through 2400ft, the Tutor turned onto a NNW'ly track that paralleled that of the Vigilant; lateral separation was 0.4nm.

The CPA occurred at 1359:16 as the Tutor, indicating 2000ft, passed 0.1nm W of the Vigilant; the Vigilant pilot reported that the Tutor was co-altitude with him at the CPA.

The Tutor pilot reported that they manoeuvred their ac deliberately to teach their AEF cadet about lookout and that they maintained visual contact with what they believed to be adequate separation from the Vigilant throughout.

From the Vigilant pilot's perspective, notwithstanding their responsibility within Class G airspace to 'see and avoid', given the geometry of the incident they were unlikely to have been able to see the Tutor much earlier than they did. Notwithstanding the timing of the TI to the Tutor on the Vigilant, the Tutor pilot was visual with the Vigilant throughout the incident sequence and reported as such 1min 15sec prior to the CPA. Moreover, the Tutor pilot reported that having seen the Vigilant, his flight profile was considered and deliberate. On that basis, while the issues concerning the ATS provision by RAD are worthy of consideration, they were neither causal nor contributory to this Airprox (but have been addressed separately with SATCO Brize Norton).

HQ AIR (TRG) comments that while the Tutor pilot justifies in detail his logic for his actions, it was not necessary to get so close to the Vigilant in order to achieve his stated aims and such actions

have since been discouraged but not prohibited by HQ 22 Gp and 3 EFTS. HQ Air agrees that in this case there was no risk of collision because of the relative energy states and aircraft performances, but does not condone the unplanned and unroofed closing on any other ac.

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

The Board agreed that although the Tutor pilot had displayed questionable airmanship, they concurred the HQ Air comment above, also agreeing that there had been no risk of collision. Without condoning the deliberate closure of one ac on another without the pilot's knowledge or acquiescence, the Board observed that had the Tutor pilot overtaken on the right iaw the rules of the air (and afforded the cadet a better view of the Vigilant) or waggled his wings indicating that he had seen it, then perhaps the Vigilant crew would not have filed. Further, although the Tutor pilot reported that he left sufficient room for the Vigilant to manoeuvre, one Member disputed this based on the radar showing the ac as being separated by only 180m; in his opinion this was insufficient room for anything other than a gentle turn.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Tutor pilot flew close enough to the Vigilant to cause its crew concern.

Degree of Risk: C.