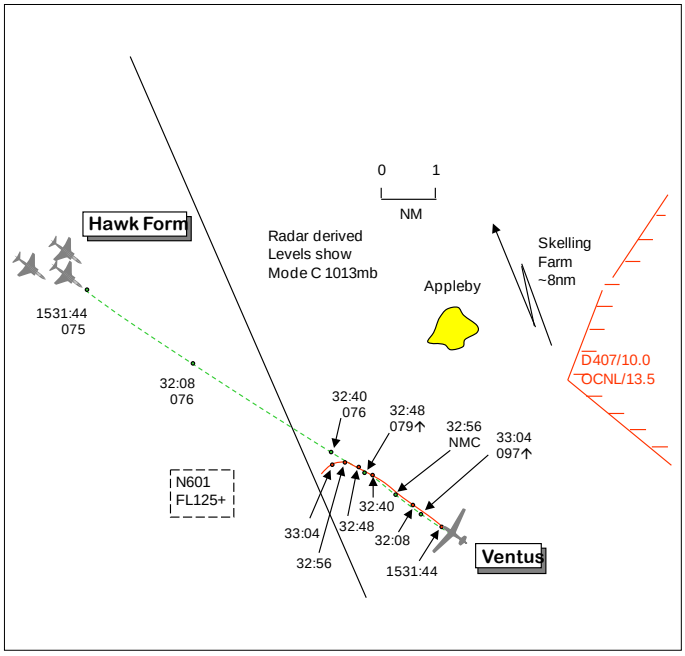
AIRPROX REPORT No 2010146

Date/Time:	24 Sep 2010 1533Z	
Position:	5432N 00231W (3nm SW Appleby)	
Airspace:	LFIR	(*Class: G*)
	Reporting Ac	*Reporting Ac*
Type:	3x Hawk	Ventus B Turbo
Operator:	HQ AIR (OPS)	Civ Club
Alt/FL:	FL75	8095ft (QFE)
Weather:	VMC CLAC	VMC CLAC
Visibility:	20km	50km
Reported Separation:		
	>50ft	50-100ft
Recorded Separation:		
	Nil H	



BOTH PILOTS FILED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE HAWK LEAD PILOT reports the formation pulled up from low-level through a gap in the cloud in the Penrith area post a low-level 2v1 evasion sortie. A recovery to Leeming was initiated and the formation changed frequency to Leeming Approach 386·575MHz to acquire a radar service, squawking 7000 with Modes S and C. The cloud tops were 5000ft and FL75 was selected for transit owing to fuel considerations whilst remaining below CAS in good VMC at the correct quadrantal. The visibility was 20km and the ac were coloured black with landing-lights and HISLs switched on. The formation was established in the cruise heading 130° at 300kt in loose arrow, heavy side R with No2 swept slightly low and 50m L of the lead. The WSO of the lead ac was still attempting to get the formation identified when the lead pilot saw a glider about 0·5nm away head-on slightly low and just L of the nose. Concerned about the collision risk for his No2 the lead pilot immediately commanded the formation to "pull-up, pull-up" on the VHF formation chat frequency. All ac pulled up to avoid the glider. The incident occurred too quickly to assess if the glider pilot had taken any avoiding action. The pilots of No2 and No3 ac both saw the glider during the avoidance; No2 assessed that his original flightpath would have taken him to within 50ft of it. He assessed the risk as high commenting that the white glider against the white background nose-on presented a very thin cross-section that contributed to a late spot.

THE VENTUS B TURBO PILOT reports flying solo on a local sortie from Skelling Farm heading 315° at 60kt and 8000ft and listening out on Glider Common on 129·975MHz. The visibility was good, 50km, in clear air flying in wave lift about 4000ft above lenticular wave clouds but he could see the ground with clear skies above. When S of Appleby, all of a sudden 3 Hawks in formation appeared about 300m straight ahead at the same level. Within a second they had split in front of him, the centre jet flew straight up and over between 50 and 100ft above, close enough to see joins in the riveted panels where the wings are attached to the fuselage, whilst the other 2 jets broke diagonally up and outwards passing each side. He was not alarmed by this; seeing each other head-on is very difficult and he thought the Hawk pilots did well to see his ac and take avoiding action. He had no time to take avoiding action and he assessed the risk as high.

HQ 1GP BM SM reports that this Airprox involved a formation of 3 Hawks in the process of pulling-up from low-level and recovering to their base, and a glider. Due to a problem with the PC controlling

the unit's RT and landline recording, there was a discrepancy between the timing of the radar replay and tape transcript.

At 1532:26 (transcript timings) Leeming Approach (APP) states that the formation is identified and it is reasonable to argue that this will have occurred no more than 5sec after the SSR Mode 3A code was displayed on the Watchman radar display. On the radar replay, the Hawk formation's SSR Mode 3A assigned code appears at 1533:50, which allows us to approximate APP's identification of them as being at 1533:55 (replay timings). This provides a difference between the transcript and replay timings of 1min 29sec, which means that the formation's initial call to APP occurred at approximately 1533:04.

On the radar replay, the reported ac is clearly visible, with the CPA occurring at 1532:47. Although there is a little leeway in the calculated timings, it is clear that the Hawk formation had probably not yet initiated comms with APP, or, if they had, it may have been during the initial call. Consequently, there is no BM SM input required.

HQ AIR (OPS) comments that that this is another example that highlights the limitations of the see and avoid principle as the sole means of deconfliction. If both ac had been IFF and TCAS equipped a greater separation distance may have been achieved. It was a good spot by the Hawk leader who calmly and swiftly directed effective avoiding action.

UKAB Note (1): The radar recording clearly captures the incident. At 1531:44 the Hawk Formation is seen 6·5nm W of Appleby tracking 125° squawking 7001 and indicating FL075 with a primary only contact, believed to be the Ventus glider, 3·5nm S of Appleby in its 12 o'clock range 7·5nm. The subject ac continue on opposite direction head-on tracks, the Hawk Formation showing level at FL076, when just under 1min later at 1532:40 the ac are head-on with 0·8nm separation. The next sweep 8sec later at 1532:48 shows the ac having just passed, the Ventus now in the Hawk Formation's 6 o'clock range 0·2nm, with the Hawk's Mode C indicating FL079 and climbing. It is estimated that at the CPA the ac passed with no lateral displacement. The ac now rapidly diverge and on the next sweep the Hawk Formation shows NMC before reappearing on the next sweep at 1533:04 indicating FL097 climbing. By now the Ventus is seen to be turning L 1·9nm to the NW of the Hawk Formation.

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.

An experienced glider pilot Member stated that this was a known wave area situated over the Pennine chain where gliders could be operating, in the right conditions (particularly in W'ly and E'ly winds), up to FL195. Within this Class G airspace all crews were responsible for maintaining their own separation from other ac through 'see and avoid'. Members agreed with the HQ 1Gp Advisor's comment that the Hawk leader had done well to spot the white glider against a white background in a head-on encounter, seeing it probably as soon as was reasonably possible given the circumstances. The Ventus pilot saw the Hawk formation later but he too had been faced with sighting 3 ac, with known small target aspect qualities, head-on, albeit the Hawks nose light frequently facilitates earlier sightings. After sighting the glider 0·5nm ahead the Hawk Leader was able to warn his colleagues on the VHF 'chat' frequency and the formation pulled-up to avoid, the Ventus pilot estimating the closest Hawk passed 50-100ft above. Bearing all of these elements in mind, the Board believed that this Airprox had been a conflict in Class G airspace where the Hawk formation leader had done enough to remove the actual risk of collision but safety had not been assured during the encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G airspace resolved by the Hawk formation leader.

Degree of Risk: B.