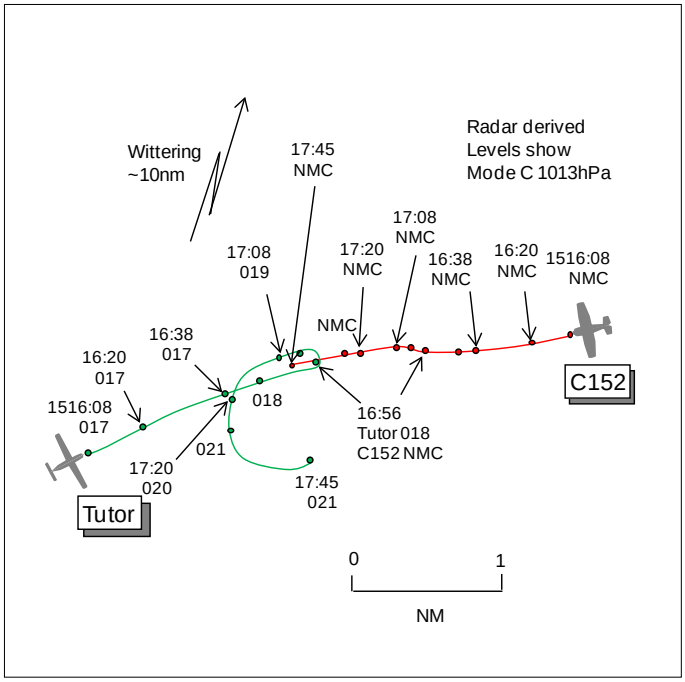
AIRPROX REPORT No 2012013

Date/Time:	14 Feb 2012 1517Z	
Position:	5226N 00032W (11nm SSW Wittering)	
Airspace:	LFIR	(*Class: G*)
	Reporting Ac	*Reported Ac*
Type:	Tutor	C152
Operator:	HQ Air (Trg)	Civ Club
Alt/FL:	2000ft RPS (1018hPa)	2000ft QNH (1024hPa)
Weather:	VMC CLBC	VMC CLOC
Visibility:	15km	>10km
Reported Separation:		
	Nil V/1·5nm H	2-300ft V />1000m H
Recorded Separation:		
	0·7nm H 1516:56	
	0·6nm H 1517:45	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TUTOR PILOT reports flying a dual local navex training sortie from Cranwell, VFR and in receipt of a reduced TS from Cottesmore on 130·2MHz, squawking with Modes S and C. The visibility was 8-15km flying 2000ft below cloud in VMC and the ac was coloured white with strobe, landing and nav lights all switched on. Heading 055° out of sun at 120kt level at 2000ft RPS 1018hPa, TI was given at range 4nm and again at 2nm before a single-engine Cessna was seen visually in his 1 o'clock at range 1·5nm heading towards him at the same level. An emergency L break turn onto S was taken as avoiding action until he became visual with the Cessna again and the previous heading was resumed. No solid TAS data was available throughout the incident. He assessed the risk as medium.

THE C152 PILOT reports flying a dual local navex training sortie from Peterborough Conington, VFR and in communication with Conington Radio on 129·725MHz, squawking 7000 with NMC. The visibility was >10km flying clear of cloud in haze in VMC and the ac was coloured white/red/blue; ac lighting was not reported. About 2nm S of Oundle heading 281° (tracking 259°) flying into sun towards Harrington disused aerodrome at 2000ft QNH 1024hPa and 90kt (G/S 68kt W/V 340/35) he spotted a Grob Tutor about 1500m or more away in his 11 o'clock high (approximately 500ft above) wings-level heading away from his ac. A few seconds later the Tutor commenced what appeared to be a 60° banked turn to port away from his ac whilst appearing to lose height until rolling wings-level heading about 090°. It then tracked in the opposite direction with a distance no closer than 1000m, passing down his port side about 200-300ft above. The Tutor made no attempt to turn away from his ac at any point, he thought, and he did not feel it necessary to take avoiding action. Once the Tutor was in his 7 o'clock and >1000m away it turned to track NE'ly and at that point he returned his attention to his student's progress with the navex. He assessed the risk as none. In his experience, having instructed for over 10yr and >3500hr total time, he did not believe this to have been an Airprox. If, at any stage during the flight, he felt that he was approaching an Airprox he would have taken action to avoid the other traffic. This was not the case during this flight and at all stages he felt he was remaining clear of all other traffic.

BM SAFETY MANAGEMENT reports that this Airprox occurred between a Tutor T1 operating VFR in receipt of a TS from Cottesmore Zone and a C152, operating VFR speaking to Conington Radio.

All heights/altitudes quoted are based upon SSR Mode C from the radar replay unless otherwise stated.

The Tutor was operating on a navigation exercise, routing via Kettering and Peterborough before RTB at Cranwell and contacted Zone at 1457:56 following a radar handover from Cranwell ATC. The Tutor's TS was reduced by Zone as Cottesmore were providing an ATS SSR-only; this was neither causal nor contributory to this Airprox.

Zone, manned by an experienced trainee and mentor, described their workload as medium with 7 ac on freq, with low task complexity.

At 1515:06, Zone passed TI to the Tutor flight on the C152 as, *"…traffic twelve o'clock, five miles, opposite direction, no height information"* which was not acknowledged and was thus re-iterated at 1515:18 as, "…*traffic twelve o'clock, four miles, opposite direction, no height information*." The updated TI was acknowledged by the Tutor pilot with c/s. The C152 was not fitted with a Mode C capable transponder and the lack of height information could be considered to have been an aggravating factor in this Airprox.

At 1516:35, Zone provided a further accurate update to the TI for the Tutor flight stating, "…*previously reported traffic slightly right of your twelve o'clock, two miles, opposite direction, no height information*", which was acknowledged by the Tutor pilot.

At 1516:56, with the C152 0·7nm E of the Tutor in it's one o'clock, the Tutor commenced an initially tight L turn onto W, which then continued steadying onto a NE'ly track to pass 0·6nm S of the C152 at 1517:44, having climbed approximately 300ft. This latter time reflects the CPA.

Both pilots report flying at 2000ft, with the Tutor operating on the Barnsley RPS of 1018hPa and the C152 on 1024hPa, equating to 180ft vertical separation. It is likely that these were the reported operating altitudes and thus the vertical separation prior to the avoiding action taken by the Tutor.

Based upon the C152 pilot's report, it appears that their first sighting of the Tutor was as it steadied briefly on W, after that ac had commenced its avoiding action turn at 1517:04, and immediately prior to its continued turn to port to steady NE'ly. It is probable that the C152 pilot's visual acquisition of the Tutor was hampered by them flying into sun and the haze and it is likely that the turn by the Tutor changed the C152's perspective, enabling them to sight it.

Although the Tutor pilot's report mentions that they became visual with the C152 with around 1·5nm lateral separation, the instructor has subsequently amended this to around 0·5nm. Moreover, they have confirmed that they executed the "emergency left break" having become visual with the C152, continuing the L turn until they regained visual contact with it as they passed to the S.

In this instance, Zone provided a good level of accurate TI for the Tutor, which enabled the pilot to take decisive action to avoid the confliction.

HQ AIR (TRG) comments that the TI provided was timely and was updated sufficiently to enable the Tutor pilot to gain visual contact. The information could have been used at an earlier stage to attempt to break the collision in a more controlled manner thorough a small heading change. Based on the radar picture, the sighting appears to have occurred at around 1nm, which is reasonable considering the geometry of the event. Whilst the avoiding action taken was effective in controlling the closure, it put the conflictor into a position where it could not be seen. A turn through 90° or less would have allowed sight of the conflict to be maintained, permitting subsequent avoiding action to be made if required. Whilst the actual risk of collision was nil in this case, the potential risk was high up to the point where the sighting occurred and the avoiding action was taken.

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 AIR Ops Member informed the Board that pilots are taught emergency break turns during flying training; however, the SOP is to turn through 90° and then roll wings-level to re-assess the threat ac. The Tutor pilot was given a good level of TI by Cottesmore Zone and, although the potential for confliction should have been apparent owing to the relative bearing remaining constant, the pilot continued on track. A small heading change early on was all that was needed to deconflict the flightpaths. It was at about 1nm range that the Tutor pilot saw the C152 and took avoiding action by executing a 180° turn away, resulting 0·7nm separation at the CPA. It was as it rolled out onto a W'ly heading that the C152 instructor first saw the Tutor, and then watched it turn across his track to pass clear on his LHS. Members agreed that these sightings, although apparently late, had occurred in reasonable time given the head-on geometry (small target aspect) compounded by the C152 flying into sun. From the C152 pilot's viewpoint, unaware the Tutor had already turned through 180°, nothing untoward had happened and the subsequent manoeuvring by the Tutor pilot was a non-event. Looking at the geometry from the recorded radar, Members agreed that the ac's tracks were always in potential conflict and this had led to the Airprox. However, with the Tutor pilot's sighting and robust action taken, which resulted in adequate separation, and the C150 pilot's sighting, the Board concluded that any risk of collision had been removed and that normal procedures, safety standards and parameters had pertained during this encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict in Class G airspace resolved by the Tutor crew.

Degree of Risk: E.