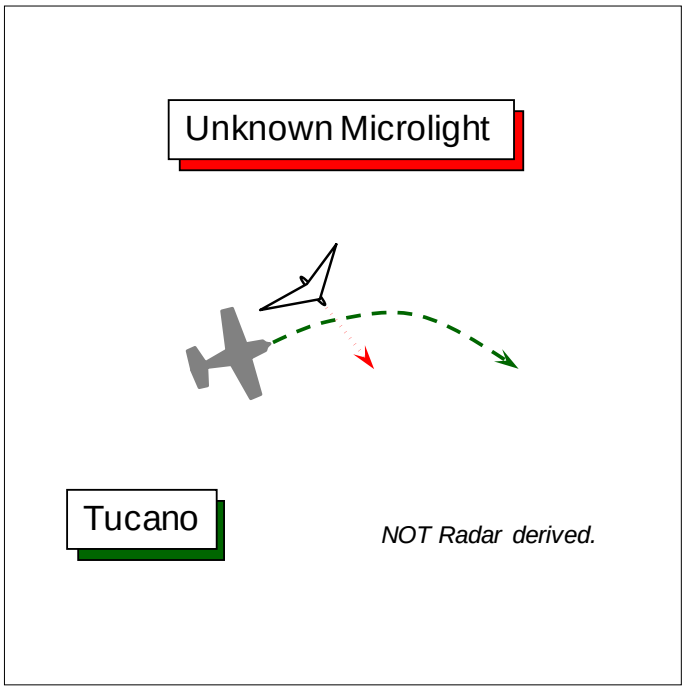
AIRPROX REPORT No 2011054

Date/Time:	6 Jun 2011 1207Z	
Position:	5406N 00105W (7.5nm E of Linton-on-Ouse)	
Airspace:	Vale of York AIAA (*Class:* G)	
	Reporting Ac	*Reported Ac*
Type:	Tucano T Mk1	Microlight
Operator:	HQ Air (Trg)	Civ Club
Alt/FL:	2500ft RPS (1002mb)	NR NR
Weather:	VMC CLBC	VMC CLOC
Visibility:	40km	15nm
Reported Separation:	200ft V/nil H	Not seen
Recorded Separation:	Not recorded	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE SOLO STUDENT TUCANO PILOT's AUTHORISING OFFICER reports his student was flying a solo VFR NAVEX and was in transit to his low-level entry point clear beneath SCT cloud at 3500ft. He was not in receipt of an ATS, having terminated the BS with Linton and was now listening out on the LFS frequency of 278·00MHz. The LFS conspicuity squawk of A7001 was selected with Mode C. TCAS I is fitted, Mode S is not.

Flying level at 2500ft BARNSLEY RPS (1002mb), some 6nm E of Linton-on-Ouse heading 070° at 240kt, whilst conducting his pre-low-level checks he flew into close proximity with up to 6 micro-light (ML) ac. Initial avoiding action against these ac, brought him into further conflict with an additional ac – a white high-wing ML with an 'open structure'. He gained visual contact with this ML at a late stage and it was first seen ½nm away and 50ft above his aeroplane, flying straight and level, crossing from L-R. To avoid the single ML he executed a rapid descent and it passed 200ft directly above his aeroplane with a 'high' Risk of collision.

Before the Airprox occurred – up until about 30secs before the initial avoiding action was taken - he had been under a BS, but no information about these contacts had been passed to him under this service. No TCAS TA's were indicated. No NOTAMs were in force highlighting multiple ac flying in close proximity. The Tucano is coloured black with yellow stripes; the 3 strobes, nav lights and 2 landing lights were all on.

THE LATCC (MIL) RADAR ANALYSIS CELL (RAC) reports that a total of 12 ML sites were contacted in the vicinity of Linton-on-Ouse during tracing action. Each ML site replied promptly, all in a helpful and cooperative manner before the location of the specific ML club was ascertained.

THE MICROLIGHT CLUB reports that 7 flex-wing ML ac departed from Husthwaite ML Site over a 20min period bound for Cromer in VMC. None of the 7 pilots airborne saw the Tucano flown by the solo student pilot or any traffic in the area of the reported Airprox, 6nm E of Linton-on-Ouse.

THE LINTON-ON-OUSE ATC SUPERVISOR (SUP) reports that the Tucano pilot departed Linton-on-Ouse visually under a BS and went 'en-route' once clear of the MATZ. ATC had been aware of a number of primary contacts that had crossed the approach lane to RW21RHC on a SE track. The

DEPARTURES (DEPS) controller had not called these contacts to the Tucano pilot as they were not on a 'threatening' heading when he called going enroute.

Subsequently, the Tucano pilot free-called APPROACH to request a TS and stated that a close quarters encounter with a group of ML ac had occurred. The pilot requested to speak with the Duty Aircrew Officer on Stud 10 to report the incident and then decided to carry on with the sortie and switched to his en-route frequency. The pilot did not indicate at the time that an Airprox would be filed but in a subsequent telephone call later confirmed that he would.

The Linton-on-Ouse ATC Unit Safety Management Officer (USMO) was informed, but the incident had occurred whilst the Tucano was operating autonomously.

SATCO LINTON-ON-OUSE comments that a glider vs Tucano mid-air collision is deemed their No1 Risk at Linton; everyone has been working towards mitigating this risk to as low as reasonably practicable. Every effort is being made through contact with the various gliding and light ac groups in this area. The controller correctly only gave information to the Tucano pilot that was relevant until the time of his departure from the frequency. The controller could not be expected to anticipate any changes of course by both the Tucano pilot and the MLs.

HQ 1GP BM SM reports that this Airprox occurred between a Tucano operating VFR on the low-level common frequency and one of a group of flex-wing MLs operating VFR.

Prior to the Airprox, the Tucano had been in receipt of a BS from Linton DEPS whilst departing to the E, VFR, from Linton's RW21RHC. At 1207:16, the Tucano pilot reported going en-route, which was acknowledged at 1207:19. The SUP states that the Tucano went en-route at the edge of the MATZ, which accords with the radar recording that shows the Tucano exactly 5nm E of Linton-on-Ouse.

Throughout the Airprox sequence, the MLs are not shown on the radar recording. However, the SUP reports that 'ATC were already aware of a number of primary contacts that had crossed the approach lane to RW21RHC on a south-easterly track'. Moreover, the ATSU's investigation found that APP had 'previously called the primary only contacts to another ac who they would affect before they went en-route but due to the heading [of the Tucano] they were not a risk at the time they went en-route. Subsequent to departure from the freq [the Tucano] turned towards the contacts.' DEPS has subsequently stated that he believed that as the Tucano pilot declared his intention to go en-route, he was trying to locate a phone number for Humberside APP in order to handover another flight being provided with a TS. APP has also stated subsequently that after the Tucano went en-route, he questioned DEPS as to whether he had called the primary radar contacts, to which DEPS replied that he believed that they were not a factor.

At 1207:51, the Tucano pilot called APP, which went un-answered. At this point the Tucano is shown 7·5nm E of Linton-on-Ouse and has started a slow turn to the R. At 1208:08 the Tucano student pilot called again about 8.5nm E, reporting that "*they've come across at least half a dozen paragliders on the 0-9-0, range 9 miles, level about….2 thousand feet*." APP replied that they had "*multiple primary contacts there*." At this point, the Tucano has manoeuvred approximately ½nm S of the track that it was following earlier at 1207:51.

The student's authorising officer reports that his student's 'initial avoiding action against visible ac brought him into further conflict with an additional ac. On gaining visual contact with this subsequent ac at a late stage, avoiding action was taken.'

It is this subsequent ac that is the subject of the Airprox report, with the student pilot reporting his first sighting at a range of 0·5nm and 50ft vertical separation. Significantly, none of the ML pilots report seeing the Tucano.

Although not shown on the radar recording, it is likely that the CPA occurred shortly before 1207:51, when the Tucano first called APP. Given the proximity of the CPA to the point where the Tucano

switched to the LFS frequency, the fact that DEPS did not pass a warning about the MLs to the Tucano requires closer examination.

The radar replay appears to show that the Tucano maintained its track after leaving DEPS' freq at 1207:16 until 1207:51, the approximate time of the CPA. Further investigation with the ATSU has found that the controllers' perception that the Tucano had 'turned towards the contacts' came about after the initial report was filed. Whilst this turn is not apparent on the radar replay, it may have been apparent on the unit's Watchman SRE display, or it may have been perceived as a result of the representation of the primary only contacts relative to the Tucano. Furthermore, how the primary only contacts were displayed to the controller on the Watchman SRE display and whether they were intermittent or continuous [which is not reflected by the LATCC (Mil) recording] will have had a bearing on DEPS decision making process. Moreover, it is clear from DEPS response to APP about them considering that the primary contacts were not a factor, that DEPS was aware of the primary contacts. It would also be reasonable to suggest that DEPS' attention was distracted while 'heads-in' looking for Humberside's phone number for what was a higher priority task: provision of a surveillance based ATS to the other ac. Notwithstanding the proximity of the CPA to the point where the Tucano switched en-route, without further evidence it would be irresponsible to create a hindsight-biased argument suggesting that it might have been appropriate for DEPS to pass TI to the Tucano.

Whether in receipt of a BS or having switched en-route, the Tucano pilot's responsibilities to 'see and avoid' other ac whilst operating VFR remained unchanged. Despite the relatively small size and low speed of the MLs, combined with the solo student Tucano pilot's workload as he conducted pre-low level checks, he maintained an effective scan allowing him to visually acquire the MLs and to take appropriate action to remain clear. Furthermore, the student pilot maintained his visual scan, which enabled him to sight the subject ML, albeit late and take further avoiding action.

HQ AIR (TRG) comments that the student pilot took prompt and positive action on sighting the MLs, which can be difficult to see at the best of times. It is not clear that the adoption of a BS would have resulted in TI as the controller did not consider the primary-only contacts to be a factor. The risk of a mid-air collision is a constant hazard in any flying operation, particularly in Class G airspace with ac that are not transponding. RAF Linton rightly consider the risk of collision with a glider, or indeed a ML, to be high and have taken all reasonable measures to reduce the risk. Ultimately, a sound lookout provides the last but also the main line of defence. It is disappointing that no report was generated by the ML pilot involved, who must certainly have been aware of this incident and so is possibly not any of those spoken to by the investigator.

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 ATC Unit involved and reports from the appropriate ATC and operating authorities.

It was evident from the SUP's report that Linton-on-Ouse ATC was aware of the presence of a number of contacts displayed on their ASR transiting through the approach to RW21 and to the E of the MATZ. These contacts might well have been the MLs seen by the student Tucano pilot and it was unfortunate that none of the ML pilot's had called to request an ATS or advise of their transit. The Board was most surprised that none of the pilots from the seven MLs saw the Tucano, and the absence of a report from the subject ML pilot had led to an incomplete account of this Airprox. Whilst the ML pilots were flying quite legitimately in Class G airspace, if they were able to communicate on VHF RT, a call to Linton ZONE would have been sound airmanship and might well have prompted a useful warning to the Tucano pilot that would have assisted his SA.

It was not surprising that the small MLs were not shown at all on the available LATCC (Mil) radar recordings and the HQ 1GP report had emphasised that it was not possible to determine what was actually displayed to the DEPS controller at the time as, in general, military terminal ATSUs do not

currently have the facility to record their radar data. The HQ 1GP report also suggests that without further evidence it would be irresponsible to create a hindsight-biased argument. However, a pilot Member disagreed with this view and advocated strongly that the Airprox process was based entirely on hindsight and that there were lessons to be learned for the benefit of the aviation community as a whole. Here, it was reported that DEPS had not considered it appropriate to pass a general warning to the Tucano pilot under the BS provided before the pilot switched 'en-route' at the MATZ boundary, but it was only moments later that the pilot encountered the group of MLs. Whereas DEPS might well have been engaged on other tasks, there was a fine balance to be struck over service priorities. It might be that passing a warning to the Tucano pilot could have been more appropriate at that stage and it was evident that APP had felt sufficiently concerned about it to query this with his colleague. Whilst there was no compunction upon the controller to pass TI under a BS, controller Members agreed that if another contact had been plainly displayed to the controller in such a position as to pose a hazard to traffic under service then 'best practice' would be to warn the pilot. This was the MAA's view and it seemed that this Airprox was a good example of where just such a warning would have provided a helpful 'heads-up' to the student pilot.

Even without the benefit of this warning from ATC, the Tucano pilot's lookout scan had later detected the group of MLs, enabling him to steer clear before he encountered the reported ML. However, his authorizing officer's account states that he had seen the subject ML at a late stage ½nm away and 50ft above his aeroplane. Nevertheless, pilot Members noted the Tucano pilot had seen it in sufficient time to assess the situation and enter a rapid descent, passing 200ft clear below it, and thereby resolve the conflict. Therefore, the Board agreed that this Airprox had resulted from a conflict in Class G airspace resolved by the Tucano pilot. Moreover, the Tucano pilot's robust avoiding action had, in the Board's view, effectively removed any Risk of a collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict in Class G airspace resolved by the Tucano pilot.

Degree of Risk: C.