

AIRPROX REPORT No 2014221

Date/Time: 19 Nov 2014 1348Z

Position: 5354N 00023W
(Beverley)

Airspace: London FIR (Class: G)
LFA 11

Aircraft 1 Aircraft 2

Type: C150 Tucano

Operator: Civ Trg HQ Air (Trg)

Alt/FL: 400ft 350ft
QFE (1018hPa) RPS (1014hPa)

Conditions: VMC VMC

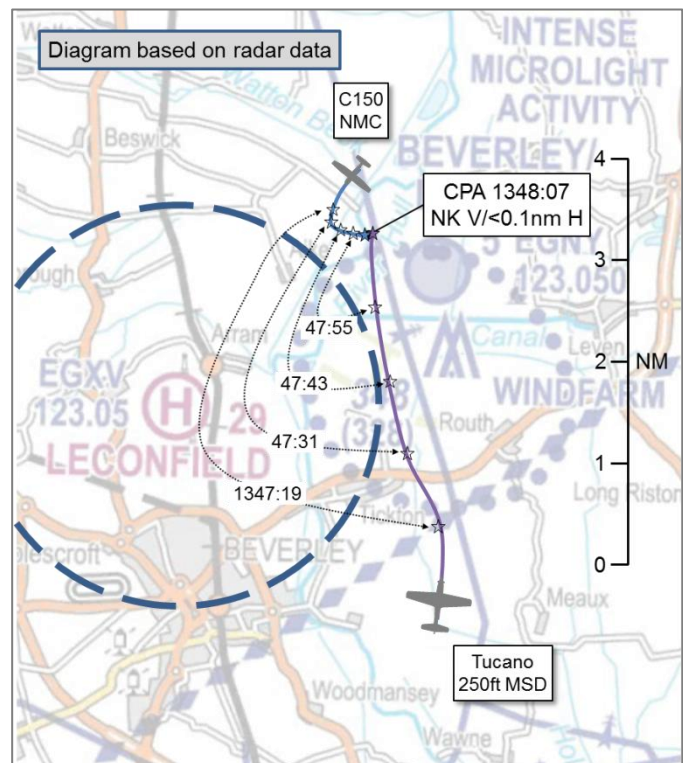
Visibility: >5km 9km

Reported Separation:

100ft V/300m H 0ft V/0.5nm H

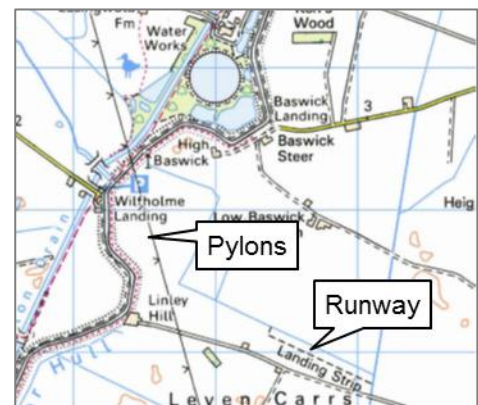
Recorded Separation:

NK V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE C150 PILOT reports instructing a student on his second training detail of the day, approaching first solo. The red and white aircraft had anti-collision beacon and navigation lights selected on, as was the SSR transponder with Mode A. The aircraft was not fitted with a TAS. The pilot was operating under VFR in VMC, in receipt of an A/G Information Service with Beverley Radio. At the time of the incident the aircraft was in the 'Beverley Group A' left-hand visual circuit to RW12, with the student in control. Conditions were overcast but with good visibility within the circuit. After turning final at 500-600ft agl, an RAF Tucano was observed passing on a northerly heading, at a similar level, between the RW12 threshold and pylons short of the threshold. At this point the student was in a stable approach heading 120° at 70mph IAS, descending to land having just passed over the pylons. The Tucano was observed first to bank 'significantly' towards the landing aircraft and then away before proceeding on a northerly heading. The instructor took control of the aircraft and landed safely before handing control back to the student for the resumption of training. The instructor noted that the student was about to be sent on his first solo but that that was postponed due to repeated military traffic incursion of the Beverley visual circuit.



He assessed the risk of collision as 'High'.

THE TUCANO PILOT reports instructing a low-level navigation exercise in the Vale of York. The black aircraft had strobe, navigation and landing lights selected on, as was the SSR transponder with Modes A, C and S. The aircraft was fitted with a TAS. The crew were operating under VFR in VMC, not in receipt of an Air Traffic Service but listening out on the UHF Low-Level Common frequency. As they routed to the east of Leconfield, heading north at 240kt, the crew picked up a 'TCAS contact', with no Mode C, in the 11 o'clock, at a range of about 4nm. The instructor gained visual contact with a high-wing, single-engine, red-and-white light-aircraft at a range of about 1nm in the 10-11 o'clock position and about 100ft below. He judged that there was no collision risk and attempted to talk the student (PF) into gaining visual contact as well. The student became visual with the aircraft at a range

of about 0.5-1nm in the 9-10 o'clock. The instructor assessed that a turn to the right would result in them losing visual with the aircraft below the wing and, because their flight-path ahead was clear, he elected to remain wings level. He stated that he was aware that the plan took them close to the landing strip and had briefed its location and the need to look out for potential traffic.

He assessed the risk of collision as 'Low'.

Factual Background

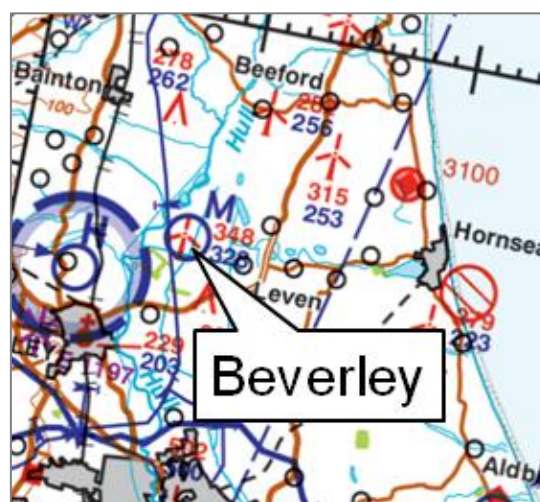
The weather at Humberside was recorded as follows:

METAR EGNJ 191350Z 12005KT 9999 FEW010 SCT020 12/09 Q1021

Analysis and Investigation

UKAB Secretariat

The C150 and Tucano pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision¹. The Tucano pilot was required to remain clear of the pattern of traffic formed by aircraft intending to land at Beverley². The CPA diagram on page 1 uses the 1:250,000 scale Topographical Air Chart as the background image. The relevant extract from the map available to the Tucano crew is shown below:



The dashed circle to the southwest of Beverley is a 2nm radius military-only avoid to 2000ft for SAR operations at Leconfield, and does not appear on CAA VFR charts.

The Tucanos in this Airprox and Airprox 2014220 were initially a formation pair, but had split to fly individual low-level routes at 30min spacing.

NATS Ltd area radar recordings were used to calculate the CPA.

Comments

HQ Air Command

This incident occurred in the congested airspace to the north of the Humber and only 30 minutes after a comparable incident detailed at Airprox Report No 2014220. Although comment may be made regarding the choice of navigation features in close proximity to a light-aircraft site, and the subsequent distraction from lookout that this may cause, the Tucano crew chose this route to

¹ Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

² *ibid.*, Rule 12 (Flight in the vicinity of an aerodrome) as reflected in Military Flying Regulations.

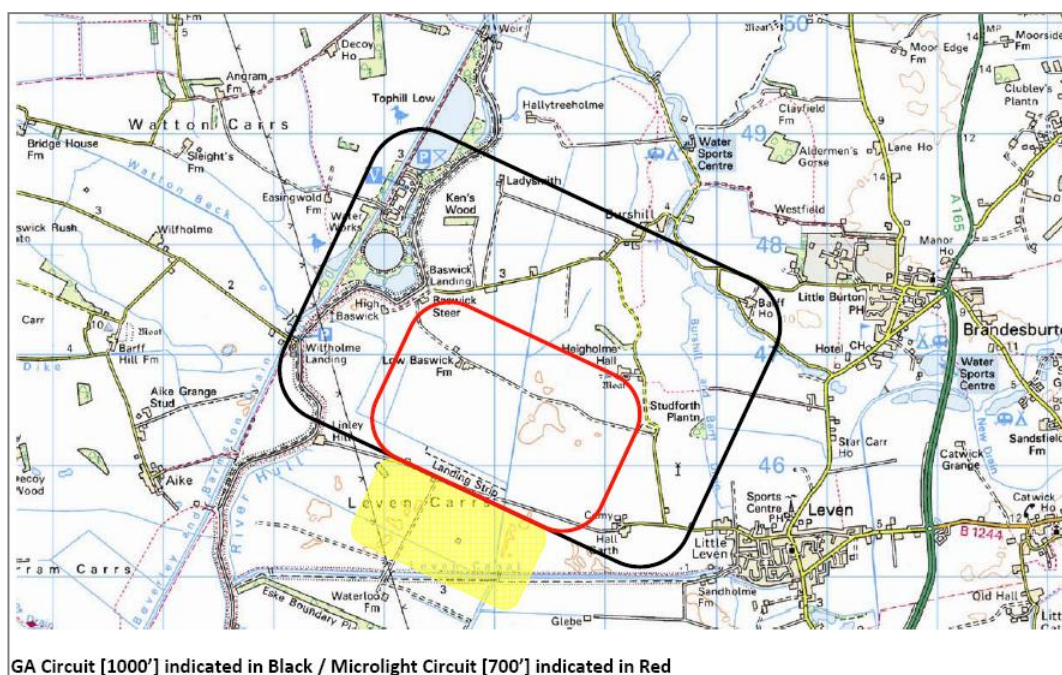
remain clear of mandatory avoids and NOTAM warnings nearby. The location of the airstrip was specifically briefed, supplemented by the requirement to concentrate lookout as they approached this area. In addition to the increased vigilance demonstrated by the crew as they approached the Beverley area, the crew also received TAS-cueing allowing them to become visual with the conflicting aircraft as they approached the landing strip. The Tucano crew assessed that there was no risk of collision and opted not to take avoiding action because a manoeuvre would have resulted in a loss of visual contact.

Guidance in the UK Military Low Flying Handbook (UKMLFHB) states that aircrew flying in the vicinity of light-aircraft sites should be aware that traffic may be encountered and that higher levels of activity are indicated by a letter 'A' on the low flying charts (LFC). It is worthy of note that, at the time of the incident, the Beverley/Linley Hill site was not identified as a site with high levels of activity. Recent updates to the UKMLFHB and LFC have annotated Beverley/Linley Hill as a site of increased activity providing amplifactory detail in the narrative for Low Flying Area 11.

Given that this incident occurred in close proximity to a similar event experienced by the paired aircraft in this formation, there may have been an opportunity for information regarding the activity at the Beverley site to have been passed to the trail aircraft. This information could have resulted in formulation of an alternative plan or increased vigilance from the trailing crew.

Beverley Airfield Manager and ATO Accountable Manager

The proximity of transiting military aircraft to the microlight visual circuit is of particular concern. Microlights operate at 700ft within the GA circuit at 1000ft, as illustrated below:



Had microlight traffic been active at the time of this incident, or during another incident reported earlier on the same day [Airprox 2014220], the risk of collision would have been very significant. Military traffic transiting through the Beverley visual circuit constitutes a serious safety hazard to an airfield with a high level of training and general aviation activity, as evidenced by Airprox 2014105 which occurred on 8th July 2014.

It should not be the responsibility of established aviation training centres to 'protect' themselves from military incursions. Rather, such military traffic should heed the published information at their disposal and route clear. When over-flight at low-level is operationally necessary, as opposed to being simply expedient, then a call on the Beverley A/G frequency, currently 123.05MHz, may be

made, whereupon current A/G information will be given. This is routinely done by SAR Operations at Leconfield and others transiting in the vicinity.

Summary

An Airprox was reported when a C150 and a Tucano flew into proximity at 1348 on Wednesday 19th November 2014. Both pilots were operating under VFR in VMC, the C150 pilot in receipt of an A/G Service from Beverley and the Tucano pilot not in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings and reports from the appropriate operating authorities.

The Board noted that this was one of 2 similar Airprox (the other being 2014220), which occurred in the same place on the same day and to which many of the same observations applied. The Board noted that the C150 pilot was in the visual circuit, conducting an instructional sortie, and had turned onto final when he saw a Tucano pass between himself and the runway threshold. The Tucano crew had received TAS Traffic Information on the C150 at a reported range of 4nm, and the instructor achieved visual acquisition at a reported range of 1nm in the left 10-11 o'clock. Board members were unable to reconcile the reported separation range of ~0.5nm with the radar replay CPA of <0.1nm. Members were briefed on the 'see-and-avoid' responsibility of military aircraft pilots at low-level in order to avoid traffic at small airfields, but it was pointed out that the requirement for an airfield's visual circuit was not simply to 'see-and-avoid' but rather to 'keep clear', as set out in MAA RA2307 (1) (Rules of the Air) which states at paragraph 15 (Flight in the Vicinity of an Aerodrome.):

'An aircraft, while flying in the vicinity of what the Aircraft Commander knows, or ought reasonably to know, to be an aerodrome or whilst moving on an aerodrome, **should**, unless otherwise authorized by an ATC unit, be flown such that it will:

- a. Conform to the pattern of traffic formed by other aircraft intending to land at that aerodrome, or keep clear of the airspace in which the pattern is formed.
- b. ...

Due to the high energy states of low flying aircraft in the UK Military Low Flying System, it might not be possible to avoid every minor aerodrome, helicopter landing site and microlight site en-route. The UK Military Low Flying Handbook states those sites that have mandatory avoids, and the avoidance criteria for each site, and Aircraft Commanders **should** observe these stated avoids by the stipulated distances and heights. Nevertheless, Aircraft Commanders **should** also endeavour to plan to avoid other unstated minor sites where possible.'

Members agreed that it had been entirely possible for the Tucano pilot to have avoided the airfield entirely, that he had a responsibility to remain clear of the pattern formed by traffic in the visual circuit, and that he had sufficient situational awareness to do so. Additionally, members wondered whether the first Tucano pilot (Airprox 2014220) could have relayed information concerning activity at Beverley. Similar to the assessment in Airprox 2014220, members agreed that the cause of the Airprox was that the Tucano pilot had flown through the approach path at Beverley airfield and into conflict with the C150. Members were content that he had seen the C150 at sufficient range to take collision avoiding action if necessary but, with a separation of <0.1nm, the considered that safety margins had been much reduced below normal. Members also observed that an aircraft at high-speed and low-level, passing between an aircraft on final approach and the landing runway would be a cause for concern for safety anyway, especially should a trainee pilot be in the aircraft on approach.

In both Airprox 2014220 and 2014221, the Board discussed at length the reported level of activity at Beverley airfield, and the means by which that information could be distributed to the wider aviation community, including military operators. It was established that chart information would be the primary means of indicating activity, and that the CAA VFR chart did so with a note of 'Intense

Microlight Activity' in the vicinity of Beverley airfield which is also listed as a Training Aerodrome in the current UK AIP ENR 5.5-14, dated 2 Apr 2015. However, the Board noted that the Military Low-Flying chart of the time did not have the same warning as the CAA VFR chart (the empty circle symbol denoted an airfield with 6 movements or less per day). Members were heartened to note that Beverley airfield was now listed as a site of increased activity in the UK Military Low Flying Handbook, and appeared as such on the low-flying chart. Members also considered a suggestion that Beverley airfield management should acquire licensed airfield status in order to provide a level of visual circuit protection through provision of an ATZ. Whilst it was agreed that this was a sensible option, members pointed out that Rule 12 of the Rules of the Air (and as reflected in Military Flying Regulations) should be sufficient in itself to require other aircraft to remain clear of the pattern of traffic intending to land.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Tucano crew flew through the approach path of a promulgated and active light-aircraft site and into conflict with the C150.

Degree of Risk: B.

ERC Score³: 2.

³ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.