

## AIRPROX REPORT No 2011146

Date/Time: 20 Oct 2011 1533Z

Position: 5525N 00154W (24nm NW Newcastle)

Airspace: SFIR/OTA E      (Class: G)  
Reporting Ac      Reported Ac

Type: PA23      Hawk T Mk1

Operator: Civ Pte      HQ Air (Ops)

Alt/FL: FL70      <FL60-70  
RPS

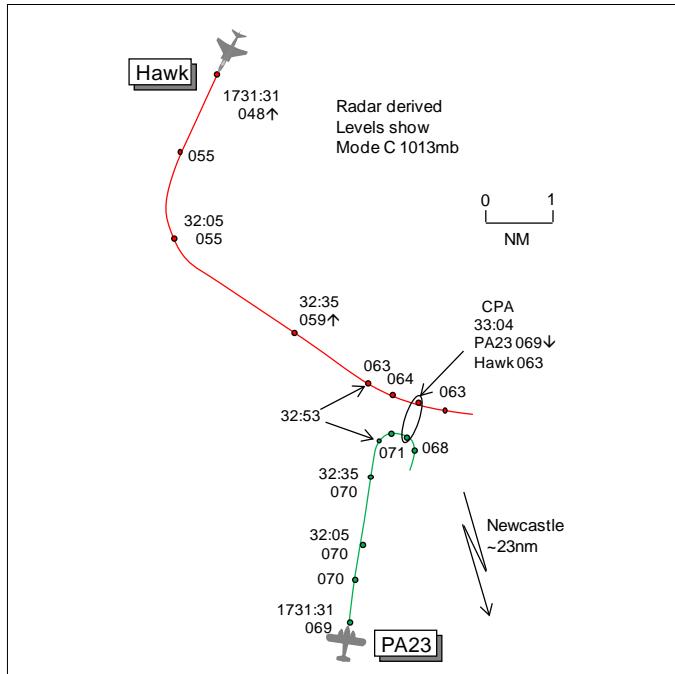
Weather: IMC KLWD      VMC CLBC  
Visibility: NR

### Reported Separation:

<800ft V/      Not seen  
<0.25nm H

### Recorded Separation:

600ft V/0.5nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE PA23 PILOT** reports en-route to an airfield near Peterhead, IFR and in receipt of a TS from Newcastle on 124.375MHz he thought [actually ScACC TAY Sector 124.5MHz], squawking an assigned code with Modes S and C; TCAS 1 was fitted. His route was through Class G airspace via ALASO, MADAD and DENOG and just short of the NW corner of the Newcastle CTR he had turned direct to MADAD, after informing ATC, to avoid clipping CAS and to cut the corner. There was a warm front approaching from the W and he was cruising at FL70 in cloud in IMC, which he entered just before Newcastle, and the A/P was engaged. Tracking 017° at 135kt about 24nm NW of NATEB just prior to the incident Newcastle sic [TAY] advised him of a contact in his 9 o'clock range 11nm and he replied that he was in IMC. His MFD was in mapping mode at range 15nm to ensure he avoided the Newcastle CTR and the range ring was set at 3.75nm. Shortly afterwards he noted a contact on the TAS, appearing on the MFD in his 0900-0930 position 2000ft below and climbing towards him. When it was apparent that neither its climb nor its relative position were changing he disengaged the A/P and began a steep 360° climbing turn to the R, hoping to turn inside what he thought was the projected track of the contact. Before and during the turn the TAS gave an audible warning which meant the traffic was <0.5nm away horizontally and within 800ft vertically. He recalled that the screen showed much less than 0.5nm but he could not recall the relative height difference or the subsequent positions of the other ac. Newcastle sic [TAY] stated the other ac had been working a Mil frequency and he confirmed that he wished to report the incident. He assessed the risk as high.

**THE HAWK T MK1 PILOT** reports being unaware of the Airprox until after being contacted by RAC Mil. At the time of the incident he was not under a radar service, operating in OTA E on a bounce sortie and was capping at FL60-70 below cloud in 10km visibility squawking 7001 with Mode C. He did not see the reporting ac.

**THE SCACC TAY CONTROLLER** reports acting as an OJTI to a trainee providing a TS (at the pilot's request) to a PA23 IFR en-route to Peterhead at FL70. They initially worked the flight SW of Newcastle, transferred it to Newcastle, and then worked it again when it was N of Newcastle. The Sector was busy (several Aberdeen inbounds) and they were in the process of asking for a Planner.

When the PA23 was approximately 20nm NNW of NATEB fast-jet traffic squawking 7001 was spotted and called twice (at about 15nm and 10nm range) before it disappeared from radar. This traffic then popped-up again about 7nm NW of the PA23. At 1533 further TI was called at about 2nm as the traffic was indicating FL055 climbing. The PA23 pilot stated that he had TCAS and was taking his own avoidance and then appeared to carry out a very tight RH orbit. At this stage the conflicting traffic was indicating FL067, he thought. He estimated that the conflicting traffic passed <0.5nm and <500ft from the PA23; this would have been less had the PA23 not turned. The PA23 pilot stated that it was too close for comfort and that he was in IMC. TAY advised him that he would be filing an Airprox and asked the pilot for his TCAS equipment fit. Interrogating the Mode S of the conflicting traffic gave a c/s but this was later found to be incorrect. No avoiding action was given and none was requested.

**ATSI** reports that the Airprox occurred at 1533:09 UTC, in Class G airspace, 24nm to the NW of Newcastle Airport.

The PA23 was operating an IFR flight from Blackpool to Longside Airfield, Peterhead, Aberdeenshire and was in receipt of a TS from ScACC (TAY Sector).

The Hawk was on a training exercise in the military training area OTA-E and was operating in a CAP up to a maximum FL060-070, displaying the Military low flying conspicuity squawk 7001. The pilot reported listening out on a low flying operational frequency and not being in receipt of a radar service.

CAA ATSI had access to area radar recordings, RT recordings and written reports from the 2 pilots, the TAY controller and the NATS unit investigation report.

METAR: EGNT 1520Z 24008KT 9999 FEW032 09/04 Q1022=

The PA23 had been in receipt of a TS from Newcastle Radar on a squawk of 3755 and routed to the W of Airway P18 and the Newcastle CTR. The PA23 pilot was advised that the Otterburn Danger Area was active up to 18000ft and the PA23 pilot reported that he would be tracking a couple of miles E of the Danger Area. At 1526 the PA23 flight was instructed to change to a Scottish squawk of 3623. The Newcastle controller then terminated the radar service and transferred the PA23 to Scottish Control on frequency 124.5MHz (TAY Sector).

At 1527:43, the PA23 flight contacted ScACC (TAY Sector) requesting a TS. TAY instructed the PA23 pilot to squawk ident and a TS was agreed.

At 1528:21, TAY advised, “*(PA23 c/s) there is traffic in your eleven o'clock range about fifteen miles it's fast moving from left to right indicating flight level four seven unverified.*” The PA23 pilot replied, “*(PA23 c/s) looking out.*” The radar recording shows the PA23 positioned, 16nm NW of Newcastle Airport, with the Hawk in the PA23’s 11 o’clock at a range of 18.9nm indicating FL048 and squawking 7001.

At 1529:20, TAY updated the TI, “*(PA23 c/s) that traffic is still in your eleven o'clock range about ten miles now erm no height information crossing from left to right.*” This was acknowledged, “*(PA23 c/s) copied.*” The radar recording shows the PA23 at FL069 and the Hawk with NMC. At 1529:38, the Hawk faded from radar coverage.

At 1531:31, the radar recording shows the Hawk reappear in the PA23’s 11 o’clock at a range of 8.5nm. The PA23 was indicating FL069 and the Hawk was indicating FL048.

At 1532:38, just after STCA activated a low-severity (white) alert, TAY updated the TI, “*Er (PA23 c/s) in your eleven o'clock range about one mile indicating flight level six zero unverified.*” The PA23 pilot responded, “*Er yeah I've got him on my collision system and I'm just going to make a steep turn and try and get away from him.*” The radar recording shows the 2 ac were converging at a range of

2·5nm, with the PA23 maintaining FL070 and the Hawk passing FL059 in the climb. Eight seconds later (1532:45), STCA changed to high severity (red).

At 1532:53, the radar recording shows the PA23 commencing a RH turn, with the Hawk, indicating FL063 at a range of 0·9nm. The PA23 continued in a tight RH turn as the Hawk passed NE abeam. The PA23 pilot reported, “Yeah that was a bit too close for comfort.”

At 1533:04, the CPA, the PA23 was indicating FL069 and the Hawk, indicating FL063, was shown passing 0·5nm NE of the PA23. As the PA23 continues in the R turn the separation begins to increase and the 2 ac diverge.

The PA23 pilot advised TAY that he intended to file an Airprox report. In the following discussion the PA23 pilot indicated that he carried a TAS. The pilot reported flying in thick IMC and that he couldn't see a thing, adding that the other ac was climbing and getting closer and closer.

The Hawk pilot's written report indicated that the Hawk pilot was not in receipt of a radar service. The Hawk pilot indicated that he was operating below cloud at 6000ft with a flight visibility of 10km. The report does not give details about any other ac in the vicinity and the pilot was not aware of the Airprox at the time of the event.

The Hawk pilot was not in receipt of a radar service. The PA23 was in receipt of a TS from ScACC (TAY Sector). CAP774, UK Flight Information Services, Chapter 3, Page 1, Paragraph 1 and 5, states:

'A Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the avoidance of other traffic is ultimately the pilot's responsibility.'

The controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot. However, high controller workload and RTF loading may reduce the ability of the controller to pass traffic information, and the timeliness of such information.'

TAY updated the PA23 on the position of the Hawk and the PA23 pilot received a warning on the ac's TAS. This resulted in the PA23 pilot taking avoiding action by completing a steep R turn to avoid the Hawk.

The PA23 pilot was flying in IMC and it is not clear why the PA23 pilot did not request a DS, which would have required the controller to try and achieve the deconfliction minima.

**HQ AIR (OPS)** comments that the Hawk pilot must have been flying VFR; the height at which he was CAPing seems to be inconsistent with the weather conditions reported by the PA23 pilot. The PA23 was IMC at FL70, in "thick cloud" whereas the radar derived flight level of the Hawk was FL64 and it has not been possible to determine the Hawk's actual separation from the cloudbase. It behoves all military pilots to abide rigidly to the limits of VFR flight and maintain 1000ft clear of cloud wherever possible, and to make best effort to obtain a radar service if they cannot maintain VMC. Nevertheless, if the PA23 pilot had obtained a DS then he would almost certainly not have got so close to the Hawk as earlier avoiding action could have been given and should have been 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.

Members wondered why the PA23 pilot had only asked for a TS when a DS would have been more appropriate for his flight in IMC. ScACC TAY is tasked with the provision of ATSOCAS N of Newcastle and a DS is available, subject to traffic and workload. The PA23 pilot did not report being in IMC and when passed TI had replied "looking out" and "copied". There was no compunction on TAY to offer a DS in the circumstances as the pilot had made the initial level of service request. TAY had seen the Hawk and passed accurate TI to the PA23 pilot, twice, before it faded from radar. After reappearing again, TAY again passed TI on the Hawk when separation had reduced to 2·5nm with the ac indicating FL60. The PA23 pilot saw the approaching Hawk on TAS and, about the time that TAY gave the last TI, he elected to execute a tight RH orbit to break the conflicting flightpaths. At this time he was unaware that the Hawk would be levelling-off below cloud which had resulted in vertical separation of 600ft as they passed at the CPA of 0·5nm. Members agreed with the HQ Air Ops comments that given the Wx conditions reported by the PA23 pilot, it appeared the Hawk was not remaining 1000ft below cloud in order to remain in VMC. It was also noted that the squawk selected by the Hawk pilot was not appropriate while he was flying a CAP at medium level. The 7001 squawk is for conspicuity descending into or operating in the low flying system or when a radar service is required on climbing out from low-level.

Although the PA23 had right of way under the RoA, with the ac flying in cloud and not visible to the Hawk pilot, the PA23 pilot was put in an unenviable position of having to take action on a conflicting climbing ac approaching at high speed. Given that neither ac was visible to the other pilot, the Board assessed this Airprox as a conflict in Class G airspace. Because the PA23 pilot had turned away before it became apparent that the Hawk was levelling off below him, the Board agreed that he had resolved the conflict. As the Hawk had levelled-off below cloud, and the PA23 had turned away, the Board assessed that safety had been assured during this encounter.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: Conflict in Class G airspace resolved by the PA23 pilot.

Degree of Risk: C.