



identified, called two sets of traffic to them, one 6 o'clock at 1.2nm away and one 12 o'clock ¼ nm at the same level. At the same time she could hear LARS calling her traffic to his aircraft. The contacts on the radar merged, there was a pause on the frequency, and then the Griffin reported that they would like to file an Airprox. She asked them to confirm their height, which they said to be 2000ft, they then continued their approach to Shawbury.

She perceived the severity of the incident as 'High'.

**THE SHAWBURY LARS CONTROLLER** reports controlling on the LARS position with 4 aircraft on frequency, with a mixture of Traffic Service and Basic Service, 3 of which required a MATZ crossing. A climb-out restriction was placed, and traffic information passed to the APP controller. The Tecnam was routing west-to-east, 3nm north, at 2100ft. The controller gave Traffic Information on another aircraft in his area, and then gave information on a Shawbury rotary (identified through its squawk) which had been indicating low-level but was now climbing and indicating a similar level and 3nm away. The pilot acknowledged the traffic and said he would "keep a sharp eye out". The LARS controller then called the traffic again at ½nm, and the pilot reported visual.

He perceived the severity of the incident as 'High'.

**THE SHAWBURY SUPERVISOR** reports that he did not witness the initial free-call from the Griffins because he was dealing with the lunch-time shift change-over, but a raise in vocal stress from the APP controller attracted his attention and he began to listen to the frequency. The APP controller told him that the Griffins were going to declare an Airprox. Seeing that they were in close proximity to the Shawbury ATZ, the Supervisor arranged a short notice ATZ crossing, although this subsequently proved unnecessary. Once the Griffins were on a safe heading, he arranged for the APP and LARS controllers to be relieved, and asked both pilots to contact him once they were on the ground so that he could brief them on the Airprox procedure. The Tecnam pilot contacted him and stated that he remembered transiting the Shawbury MATZ, of multiple tracks being called to him, and that he was visual with the helicopter. The Griffin pilot also rang and passed on his thanks to the APP controller as her Traffic Information ensured that his lookout was in the best direction to spot the civil traffic and without it they may not have seen the other aircraft.

## Factual Background

The weather at RAF Shawbury was reported as:

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METAR EGOS 281150Z 08011KT 9999 BKN022 BKN220 09/04 Q1016 WHT BECMG SCT028 BLU
METAR EGOS 281250Z 08012KT 9999 FEW026 BKN070 10/04 Q1016 BLU NOSIG
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## Analysis and Investigation

### Military ATM

The Griffin formation were placed under a Basic Service at 1249:26 by APP and then, at 1251:40, the Griffin transmitted, "*Shawbury Approach* [Griffin Callsign] *request Traffic Service and request instrument recovery with Golf.*" The geometry at the time of the transmission and the high traffic density in the area is displayed at Figure 1.

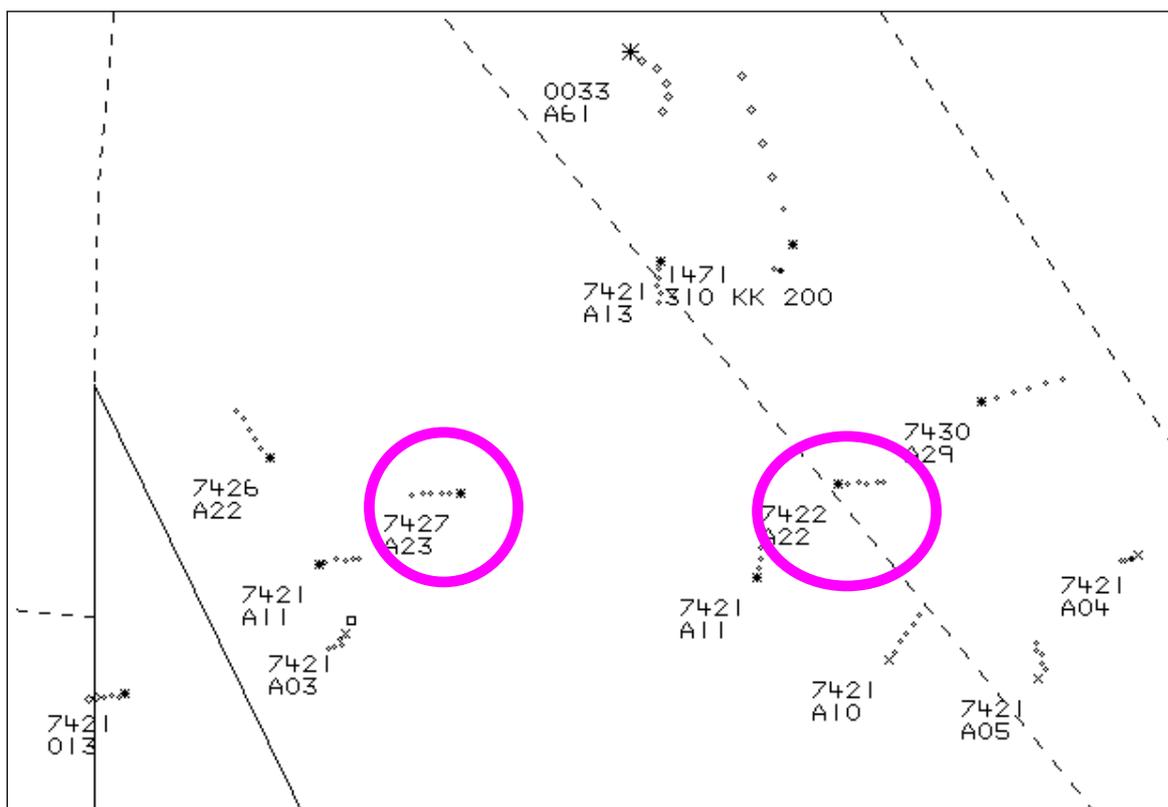


Figure 1: 1251:40 (Griffin squawk 7422/7402; Tecnam 7427).

The APP controller instructed the Griffin to squawk 7402 for identification. At 1252:07, the LARS controller called Traffic Information to the Tecnam. “[Tecnam callsign] *traffic east three miles tracking west indicating five hundred feet above.*” This was updated at 1252:22 with, “[Tecnam callsign] *further traffic east two miles tracking west indicating slightly below, believed to be a Shawbury rotary.*” The geometry at Figure 2 details the aircraft positions; the Tecnam pilot did not call visual but replied with “*keeping a sharp lookout.*”

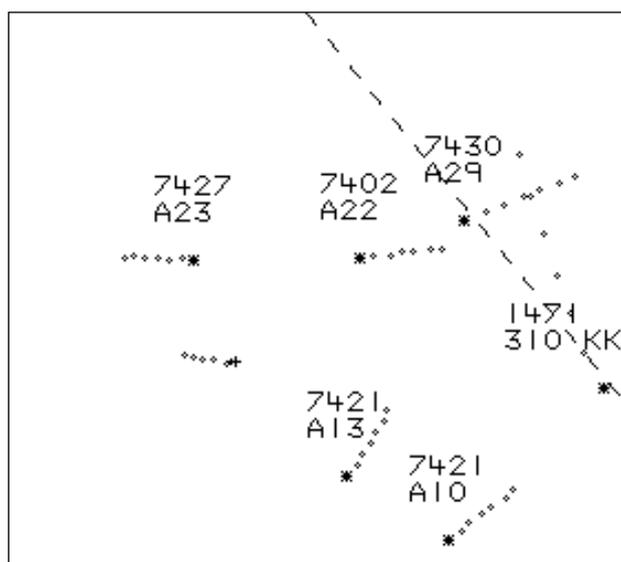


Figure 2: Aircraft geometry at LARS traffic update at 1252:22.

At 1252:34 the APP controller transmits, “[Griffin callsign] *identified, what type of service do you require and traffic six o'clock half a mile similar heading indicating six hundred feet above, further traffic twelve o'clock quarter of a mile, opposite direction indicating same level.*”

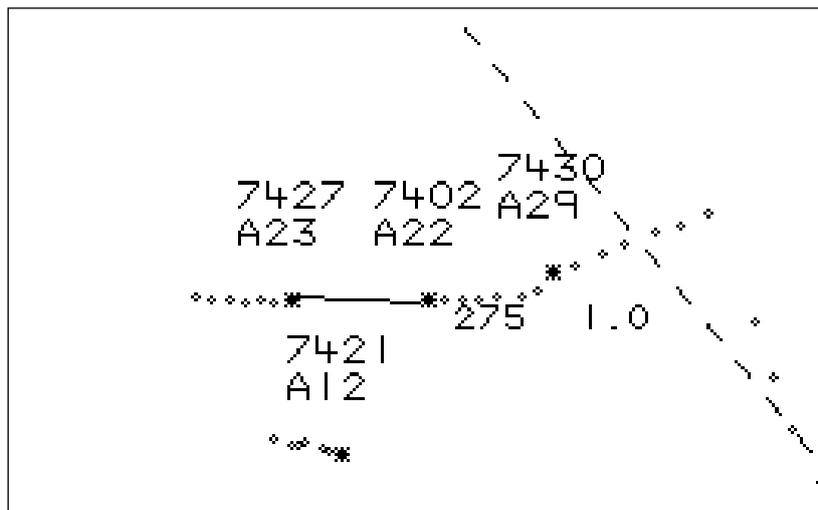


Figure 3: Aircraft geometry at Traffic Information at 1252:34.

At 1252:44, the LARS controller updates the Tecnam pilot with, “[Tecnam callsign] *that traffic now in your twelve o'clock, half a mile, opposite direction, similar height.*” The Tecnam pilot reported visual with the Griffin and Figure 4 shows the geometry at Closest Point of Approach (CPA) at 1252:47; the CPA on radar replay is 0.2nm at the same height.

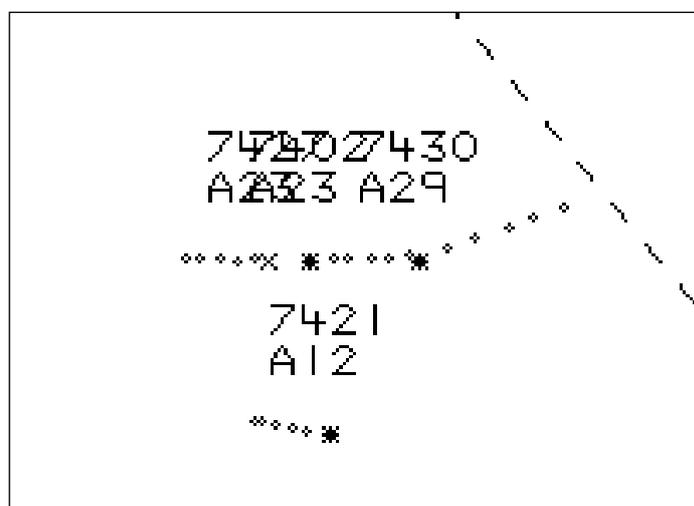


Figure 4: CPA at 1252:47.

The Griffin reports having an Airprox at 1252:56 and the APP controller acknowledges the report and places the Griffin under a Traffic Service at 1253:09.

The LARS controller demonstrated duty of care by passing and updating Traffic Information to the Tecnam under a Basic Service. The APP controller had attempted to get information on the Griffin when it was low-level and Traffic Information was passed as soon as the Griffin was identified on radar. Overall, APP was pro-active and always attempted to understand the traffic situation to aid Traffic Information. The Griffin pilot report acknowledged that the information from APP may well have averted a collision; he was in a busy phase of flight with an IF low-level abort and that will have impacted on lookout. The detailed Griffin report allowed various lessons to be identified and

recommendations to be made. The Tecnam reported seeing a helicopter at 4-6nm and also seeing it on TAS; the Tecnam pilot had contact with the Griffin, and had a markedly different perception of the risk of the incident to that of the Griffin pilot and the controllers.

Traffic Information was crucial to providing awareness during this incident and the actions of both controllers should be commended. The TAS worked for the Tecnam but the Griffin's TAS audio alert had been switched off during low-level formation flying. The lookout prompted by Traffic Information enabled the Griffin to take late avoiding action; however, the Tecnam pilot reported 0.5nm lateral separation with a much longer period of visual acquisition.

An open and honest report from the Griffin pilot enabled a better understanding of the incident and provided suitable areas for review. Having spent a week operating in a light traffic environment in a different location, a loss of situational awareness at Shawbury meant an IF abort was undertaken in an area likely to have high traffic density. In addition, better use of the TAS would have provided an earlier alert of the Tecnam. Shawbury is conducting a review of how TAS is managed on IF abort.

### **UKAB Secretariat**

Both pilots were equally responsible for collision avoidance and for not flying into such proximity as to create a danger of collision<sup>1</sup>. The geometry was 'head-on' and, if the pilots were aware of the other aircraft, they were both required to alter their courses to the right.<sup>2</sup>

### **Comments**

#### **HQ Air Command**

There are a number of contributory factors to this Airprox, the most significant of which is understanding why the Tecnam pilot continued to track directly towards traffic that he had already seen. This Griffin pilot has also highlighted in his report those things which he believes he could have done better. The location of the practice low-level abort was far from ideal (and probably led to the erosion of vertical separation that the Tecnam pilot thought would be sufficient), but one never knows when an abort might be necessary so we should not become overly concerned with the location of the exercise. That both ac involved had TAS fitted but that one had it disabled is more of a concern - these equipments are fitted to military ac to mitigate the risk of mid-air collision so it is imperative that they are appropriately employed. This incident has led to a review of TAS Standard Operating Procedures (SOPs) by the DHFS Standards Team at RAF Shawbury.

### **Summary**

An Airprox occurred on 28<sup>th</sup> March 2014 between a Griffin climbing out of low-level and in the process of being identified by ATC, and a Tecnam P2006 at 2100ft on a Basic Service and MATZ crossing with Shawbury LARS. The Tecnam pilot was visual with the Griffin and felt that there was no conflict, but the Griffin pilot acquired sight of the Tecnam after Traffic Information and took avoiding action to ensure separation.

### **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 photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first considered the actions of the Tecnam pilot who had reported that he was visual with the Griffin 4-6nm away, had received Traffic Information on two occasions, and had observed the

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

<sup>2</sup> *ibid.*, Rule 10 (Approaching head-on).

aircraft on his TAS. There was lengthy discussion about whether it was wise for him to have watched the Griffin formation climb up into his flight path on a converging vector without taking any precautionary avoiding action. Some members opined that he was clearly comfortable with the separation because he deemed avoiding action was not necessary, others felt that he would have been better placed to have taken an early turn not least because it would have been very difficult to assess the likely final separation when observing an aircraft head-on and climbing, but also because he could not be sure that the other aircraft's pilot had seen him and might not turn into conflict even if the Tecnam pilot felt that enough separation existed with the initial tracks.

The Board's discussion about the Griffin pilots centred around their actions as they conducted the practice low-level abort. The Board agreed with the Griffin pilot's own assessment that their abort location might have been better selected or coordinated with Shawbury ATC given the routinely busy nature of the airspace in that area. The Board also noted their comments about TAS selections and welcomed the Unit's review of procedures that had recommended moving the checking of TAS further up the priorities on the check-list prior to climbing. Some members wondered whether there had been a certain amount of "startle-factor" in the Griffin pilot's estimation of CPA given that the Tecnam pilot had not been concerned at all about any collision risk.

The Board commended both of the controllers involved for their pro-active controlling: the Zone controller had given accurate Traffic Information twice to the Tecnam, even though he was on a Basic Service; and the APP controller had managed to pass vital Traffic Information to the Griffin, even whilst in the process of still identifying them, and this had enabled its pilot to see and avoid the Tecnam.

The Board discussed the cause at length, and eventually agreed that because the Tecnam pilot had seemingly been visual with the Griffin from 4-6nm away, it had been the fact that he had then continued on track and flown close enough to the Griffin to cause its pilot concern that had been the root cause. As for the risk, a further extensive discussion ensued about whether the Tecnam or Griffin pilots had taken timely and effective action (a conscious decision not to take action through being visual with the other aircraft also constitutes 'timely and effective action'), or whether it had been the Griffin pilot's last-minute avoiding action that had prevented a collision. In the end, the Board could not reconcile the differing perceptions of risk but decided that because the Tecnam pilot had reported being visual with the Griffin throughout then there had been no risk of actual collision – Risk Category C.

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

<u>Cause:</u>	The Tecnam pilot flew close enough to the Griffin to cause its pilot concern.
<u>Degree of Risk:</u>	C
<u>ERC Score<sup>3</sup>:</u>	4

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<sup>3</sup> 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.