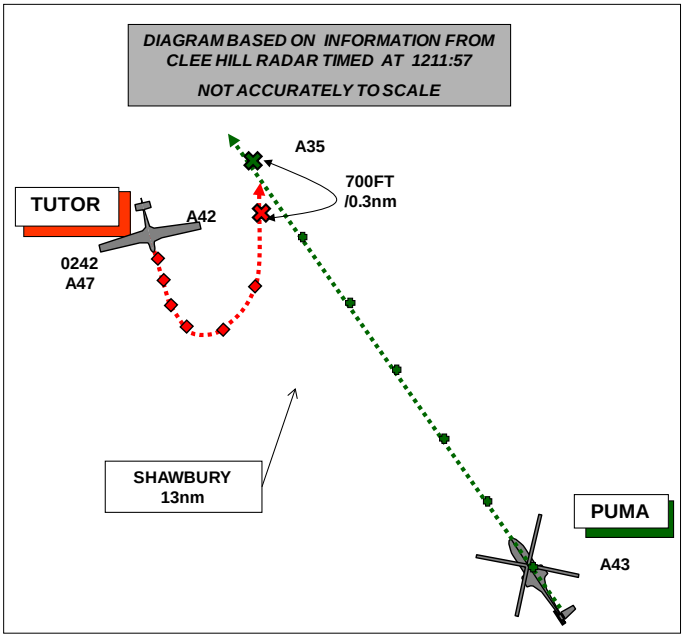
AIRPROX REPORT No 2011150

Date/Time:	24 Oct 2011 1212Z	
Position:	5235N 00233W (13nm SSE Shawbury)	
Airspace:	Shawbury AIAA	(*Class: G*)
	Reporting Ac	*Reported Ac*
Type:	Puma	Grob Tutor T Mk1
Operator:	HQ JHC	HQ Air (Trg)
Alt/FL:	4000ft RPS (964mb)	3000ft RPS
Weather:	VMC CLBC	VMC CLOC
Visibility:	20km	>15nm
Reported Separation:	0ft V/150m H	200ft V/800m H
Recorded Separation:	700ft V/0.3nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PUMA PILOT reports that they were flying an IFR transit leg from Benson, through Brize Norton's O/H and inbound for an ILS to RW18 at Shawbury. They had nav lights and white strobes switched on and were squawking 0220 with Modes C and S but TCAS was not fitted. At about 35nm from Shawbury, while heading 330° at 130kt, they called Shawbury APP [RAD] establishing two-way comms and requesting a TS. At about 15nm from Shawbury they were alerted to a contact at 5nm in their 11 o'clock (300° from them, in the vicinity of The Wrekin), which was reported to be a Tutor conducting aerobatics training, but they could not see the ac. Just inside a range of 14nm from Shawbury, they were updated on this traffic as being on the same bearing but then at 3nm. Within 10sec of this call from ATC, the ac was spotted on a reciprocal heading, judged to be about 1nm away and it appeared that it would pass down their port side. It was not known if the other ac was visual with them so to aid deconfliction the HP commenced a descent at about 600fpm. As soon as the descent was commenced the other ac was seen to start a descending LH turn; it kept the same alt as the Puma and barely moved from its position in the windscreen as it turned towards them. Still unsure as to whether the other ac was visual, the HP 'lowered the lever' and achieved greater than 2500fpm ROD in order to remove the conflict. The other ac passed about 150m behind them at the same level. The speed and rate of descent were maintained and after about 1min the crew turned the Puma to the L to ensure that the other ac was clear as it was unsighted in their 6 o'clock. The ac was recovered to 2500ft on the RPS, heading 360° towards Shawbury, and they completed the ILS without further incident.

He assessed the risk as being high.

THE GROB TUTOR PILOT reports flying an air experience GH sortie with a cadet in a white ac with navlights and strobes switched on and squawking with Mode C. While heading 060° at 120kt between Bridgenorth and Telford in Class G airspace in good VMC and in receipt of a TS operating between 3000ft and 6000ft from Shawbury Zone, they were notified of a helicopter approaching their vicinity from the S; the type was initially described as a Lynx but subsequently corrected to a Puma. They turned towards the helicopter so he could see it and gain an understanding of its relative track. He saw the Puma at a distance of about 2nm and about 500ft below them.

While the helicopter was maintaining a straight and level NW'ly track, he descended towards it on a NE'ly track, had a look at it and then made a climbing LH turn away from it, remaining well clear of it at all times and ensuring there was never any risk of collision.

With hindsight his best course of action would have been to turn away from the other ac as soon as he identified it. However, having spent nearly 2000hrs flying the Puma during his time in the RAF, on this occasion he manoeuvred to have a look at the helicopter from a safe distance before turning away and continuing with his sortie. He allowed the Puma pilot freedom to manoeuvre at all times and guarded the safety of both ac in the open FIR.

THE RAF SHAWBURY RADAR CONTROLLER (RAD) reports that at the time of the incident he had three ac on frequency, the Puma and two Squirrels in 'boxes A and C'. His traffic loading was low and RW18 was in use and the colour state was Blue, F/S.

The Puma was handed over to Shawbury from Brize for a LARS transit but was actually inbound (for ILS and depart VFR to Stafford) so he took the handover and gave STUD 9 as the contact frequency. The Puma was at 4000ft on the QFE 983mbs. He called traffic to the Puma at about 5nm in its 12 o'clock indicating slightly above and he informed the pilot that it was a Tutor believed to be carrying out aerobatics; the Tutor was in receipt of a TS from Zone. He gave the Puma a descent to 2500ft but the pilot did not take it initially. He called the Tutor again at about 2nm slightly above then called two further tracks which the pilot did not initially acknowledge; the pilot then came back asking for the information again as he was dealing with the Tutor.

After acknowledging the other two tracks the Puma declared an Airprox against the Tutor.

In the controller's opinion there was less than 0.5nm and about 300ft separation. He asked the Puma captain to give ATC a call once on the ground.

The Supervisor relieved him from the console so that he could write up his version of events and the RT tapes were impounded.

THE RAF SHAWBURY ZONE CONTROLLER reports that he had three ac in receipt of a TS on his frequency, which included the Tutor, an additional two ac in receipt of a BS and he was operating Shawbury low level frequencies.

The Tutor was flying GH between 3000ft and 6000ft Shawbury QNH 991mb to the W of Cosford while the Puma was transiting the area that the Tutor was operating in from S to N. As the Puma got closer he called it to the Tutor, initially as a Lynx with the indicated level but after checking with the RAD he changed the TI to reflect that the ac was a Puma and the Tutor pilot acknowledged the call.

The Supervisor then relieved him so that he could write up his version of the incident.

BM SAFETY MANAGEMENT reports that APP has reported that their traffic loading was low with 3 ac on freq in receipt of a TS, in addition to the incident Puma. Zone reported that they had 5 ac on frequency including the reporting Tutor and were operating the Shawbury low-level frequencies. Although neither controller reported the task complexity, both are experienced and it is likely to have been low.

The Tutor called Zone at 1158:25 and was provided a TS to operate, "*in the block three thousand feet to six thousand feet, south of Telford*" on the Shawbury QNH of 991mb. The Puma called APP at 1206:18, maintaining an NW'ly track; initial liaison was completed and the ac was instructed to, "*set Shawbury Q-F-E nine eight three milibars fly at four thousand feet*."

At 1209:55, Rad passed TI to the Puma on the Tutor as, "*traffic left eleven o'clock, five miles, manoeuvring, Tutor, indicating slightly above, believed to be doing aerobatics*" which was acknowledged. At that point, the Puma was indicating 4300ft and the Tutor was 6.4 nm NW of it, indicating 4800ft.

At 1210:13, Zone passed accurate TI to the Tutor on the Puma as, "*traffic south-east, five miles, tracking north-west, indicating slightly below, believed to be a Lynx*" which was acknowledged; Zone then corrected the ac type at 1210:26, which was again acknowledged by the pilot. No further updates to the TI were passed by Zone after that point.

CAP 774 states that:

> '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.'

At 1210:29 RAD instructed the Puma to descend to 2500ft QFE which the pilot readback. Subsequent to filing his report, the controller stated that the purpose of this descent was to position the Puma beneath the Tutor's manoeuvring block. At 1211:22, RAD updated the TI on the Tutor stating, "*previously called traffic, left eleven o'clock, three miles* (radar replay shows 1.9nm) *tracking south, indicating two hundred feet above*." The Puma pilot replied that they were visual with the ac and at that point 1.5nm lateral and 200ft indicated vertical separation existed. RAD then asked whether the Puma had commenced its descent; although the pilot replied, "*affirm*" this was not the case and the ac did not commence its descent until 1211:52.

The only break in the transcript of Zone's RT during the entire incident sequence occurred from 1211:32 to 1211:52; however, this break was immediately following the initial call by unrelated traffic where Zone would have been involved logging the details on a flight strip and looking to observe the ac's SSR code in order to identify it. This task will have been hampered by the fact that the pilot did not include a position report in his initial call to Zone.

At 1211:36 RAD passed TI to the Puma on unrelated traffic and was asked to, "*say again"* by the pilot; the TI was re-stated but not acknowledged. At that point, the Tutor was 1.1nm W of the Puma, tracking SE'ly and indicating 200ft above. At 1211:45, the Tutor commenced a left turn and, at 1211:52 the Puma commenced a descent. At 1211:54, RAD passed further TI on unrelated traffic to which the Puma replied, "*standby* [Puma C/S] *just bear with us due to traffic*." At that point the Tutor was 0.4nm S of the Puma, continuing its left turn through a heading of about 030°, indicating 4400ft, 700ft above the Puma. The Tutor maintained the left turn, rolling out momentarily in the Puma's 6 o'clock, before re-commencing a left turn to the S at 1212:09. The CPA occurred at 1211:57 as the Tutor positioned 0.3 nm in the Puma's 6 o'clock, 700ft above; the Puma indicated 3500ft at this point.

From an ATM perspective, RAD provided timely TI, which enabled the Puma crew to visually acquire the Tutor; also Zone's accurate TI allowed the Tutor pilot to visually acquire the Puma. Moreover, given Zone's workload and the RT loading, BM SM contends that Zone would have been unable to update the TI prior to the CPA.

HQ JHC comments that although the main cause of the incident was that the Tutor chose to fly close enough to the Puma Helicopter to cause the Puma crew concern, the high workload experienced by the Puma crew in observing the Tutor and assessing what the aircraft was going to do caused the handling pilot to delay in initiating the descent which contributed to the cause of this incident. This report will be distributed to remind JHC pilots of the requirement to comply in a timely manner with ATC instructions once read back.

HQ AIR (TRG) comments that the Tutor pilot's flight-path caused concern to the Puma crew. As he notes in his report, his decision deliberately to reduce his separation from uncoordinated traffic was unwise, but did not contravene any Regulation or Group Orders. The Puma pilot's concern would have been alleviated had the Tutor pilot informed ATC that he was visual and had this information then been passed to the Puma. HQ 22 Gp have been asked to review the need for orders regarding this kind of scenario and will publicise the potential distracting effects that apparently benign actions like this may cause, even for other military crews. In the event, there was no risk of collision.

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 recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

It was noted that the incident took place in Class G airspace where the respective pilots had a responsibility to see and avoid each other. Both pilots wisely opted for TS to assist with their lookout responsibility and timely and accurate TI from the respective Shawbury controllers enabled both to see the opposing ac.

The JHC Member observed that the Puma crew's uncertainty over the intentions of the closing Tutor caused them to maintain their flight path by disregarding their descent for a short period and this had disrupted the routine of their instrument approach. Pilot Members agreed that, although not contravening any regulations, deliberately closing with another ac even while keeping a safe distance and having it continuously in sight, can cause its crew concern. That was the case here, despite the radar recording confirming that the separation was adequate throughout.

However, since the Tutor pilot had the Puma is sight throughout the sequence, there was never any risk that the ac would have collided.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Tutor pilot flew close enough to the Puma to cause its crew concern.

Degree of Risk: C.