

## **AIRPROX REPORT No 2014001**

Date/Time: 7 Jan 2014 1357Z

Position: 5153N 00211W  
(1.7nm WSW of Gloucestershire A/D  
- elevation 101ft)

Airspace: Gloucestershire ATZ/London FIR  
(Class: G)

	<u>Aircraft 1</u>	<u>Aircraft 2</u>
<u>Type:</u>	EC135	Tecnam P2006T
<u>Operator:</u>	Civ Trg	Civ Trg
<u>Alt/FL:</u>	2000ft QFE (996hPa)	2400ft QNH (1000hPa)

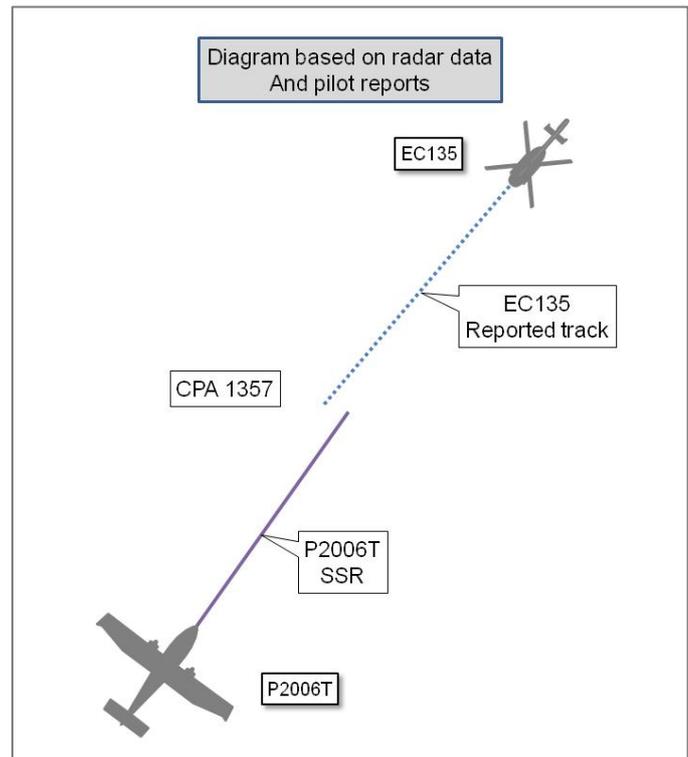
Conditions: VMC

Visibility: >20nm

Reported Separation:  
350ft V/0nm H    350ft V/NK H

Recorded Separation:

NK



## **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE EUROCOPTER EC135 T2+ (EC135) PILOT** reports operating VFR, carrying out standard helicopter circuits for RW22 right-hand at Gloucestershire airport (GLO). The lighting state was not reported; SSR was fitted. He had requested a 2000ft circuit for an auto-rotation to the airport; this request was approved and, shortly before levelling at 2000ft, ATC informed him of a fixed-wing aircraft joining from the south at 2000ft. Very shortly afterwards, he was also told of two other helicopters joining from the north. Tracking into wind (heading 220°, directly into sun) he levelled at 2000ft and was preparing to select the first engine to idle when his student pointed out the fixed-wing aircraft immediately ahead and slightly above. At the time, his workload was 'fairly high' because he was preparing for auto-rotation, but he felt that there was no requirement for avoiding action because the other aircraft was passing overhead. He had had his Traffic Collision Avoidance Device (TCAD) switched on until immediately prior to this exercise but a flurry of TCAD voice alerts had interrupted his exercise briefing so he switched the unit off to enable effective communication.

He assessed the risk of collision as 'Low'.

**THE TECNAM P2006T PILOT** reports operating a local VFR training flight at GLO, in receipt of a Basic Service from GLO ATC. White strobes and landing light were illuminated; SSR Modes C and S (elementary) were selected. After requesting joining clearance at 10nm SW of the airport, ATC offered a direct downwind join for RW22 right-hand. This was declined for a standard overhead join to RW22 right-hand. ATC then passed Traffic Information about an EC135 climbing to the overhead at 2000ft (he recalled) on the dead-side for an auto-



Tecnam P2006T

rotation. ATC then advised the EC135 pilot about his flight joining overhead from the SW. He instructed his student to reduce the ROD as they passed about 3000ft, and to stop descent at 2500ft for separation whilst looking for the traffic. At about 2nm and at 2400ft, positioning along the downwind leg, he saw the EC135 flying straight and level in his half past two position around 300-400ft below. It was slightly

ahead, crossing right to left, and subsequently on a diverging track through his half-past-ten position. There was little time to alter course and, with his level and heading, there was no risk of a collision. Therefore, he elected not to do anything 'excessive'; from sighting the traffic to it crossing slightly ahead and below was only about 5-6 sec. The pilot of the EC135 called ATC approximately 2-3 sec after he had seen the helicopter, reporting his intention of filing an Airprox.

He assessed the risk of collision as 'Low'.

**THE GLO AERODROME/APPROACH CONTROLLER** reports that the pilot of the EC135 was carrying out auto-rotation practice from 2000ft in the ATZ. He reported an Airprox with a P2006T joining the overhead to land RW22. Traffic Information was provided to both pilots, and both aircraft were continuously visible at all times. The pilot of the EC135 reported that he saw the joining aircraft (P2006T) late despite Traffic Information being provided because he was climbing into sun. The pilot of the P2006T advised that he was visual with the helicopter at all times and stopped his descent to allow the helicopter to pass safely beneath, before commencing his descent to join the circuit. Both pilots agree that Traffic Information was provided; the RTF recordings also reflect this. He reported that the minimum separation between the aircraft was 500ft vertical and 0.5nm horizontal.

## Factual Background

The GLO weather was:

METAR EGBJ 071350Z 21017G29KT 9999 FEW025 11/05 Q1000=

The GLO ATZ comprises a circle radius 2nm, centred on the mid-point of main RW09/27 and extending to a height of 2000ft above aerodrome level (elevation 101ft).

The Rules of the Air Regulations 2007<sup>1</sup> state that:

'Notwithstanding that a flight is being made with air traffic control clearance it shall remain the duty of the commander of the aircraft to take all possible measures to ensure that his aircraft does not collide with any other aircraft.'

The CAA Manual of Air Traffic Services Part 1 (CAP 493) states<sup>2</sup>:

'Aerodrome Control is responsible for issuing information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions between: a) aircraft flying in, and in the vicinity of, the ATZ.  
...'

## Analysis and Investigation

### CAA ATSI

CAA ATSI had access to GLO RTF, area radar recording, the written report from the GLO controller, together with written reports from the EC135 and the P2006T pilots. The area radar recording only showed the track history of the P2006T. There was no radar return for the EC135. The incident was discussed with the controller in order to provide a better understanding of the circumstances and geometry of the Airprox. The EC135 pilot was conducting an examination flight from the helicopter grass training area (heli-northwest) operating VFR in the standard right-hand helicopter circuit based on RW22. The EC135 pilot was in receipt of an Aerodrome Control Service from GLO Tower.

The UK AIP page AD 2.EGBJ-9 (14 Nov 2013), paragraph 5 states:

<sup>1</sup> Rule 8 (1)-Avoiding aerial collisions

<sup>2</sup> Section 2, Chapter 1, Page 1, Paragraph 2.1

(b) Helicopter circuits operate parallel to and inside fixed wing circuits up to a maximum of 750 ft QFE...

(c)(iii) 'Standard Helicopter Circuits': Circuits to/from most upwind available spot, not above 750 ft QFE...'

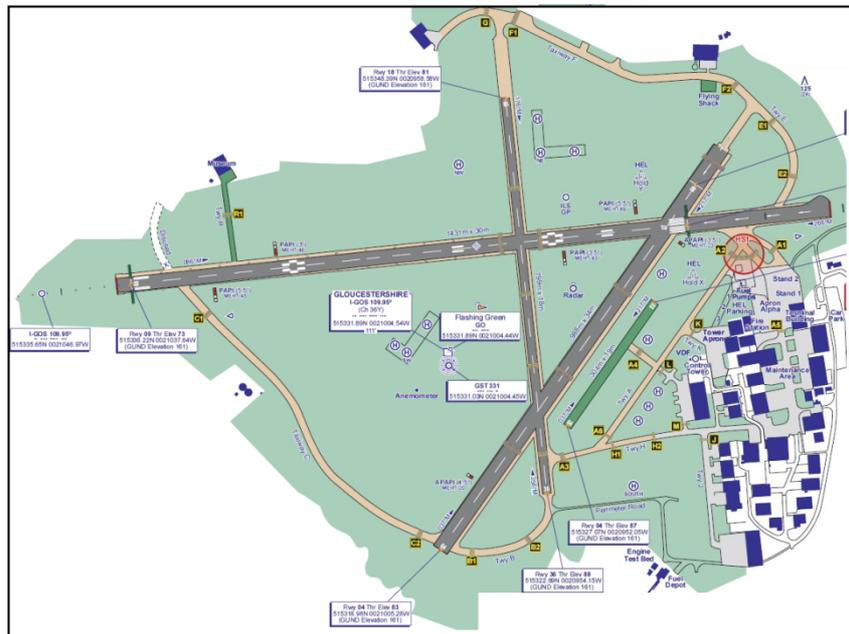


Figure 1: Extract from the UK AIP Page AD2.EGBJ-2-1, Aerodrome Chart

The P2006T pilot was operating a local VFR flight from GLO and was rejoining the circuit from the SW in receipt of an Aerodrome Control Service from GLO Tower. The GLO controller was operating a combined Tower and Approach Control on frequency 128.550MHz. The controller reported traffic levels as moderate and indicated that he was 'comfortable' with the workload. The EC135 pilot indicated using QFE and the P2006T pilot indicated using QNH.

At 1344:30 the EC135 pilot was operating VFR in the standard right-hand helicopter circuit for RW22. The P2006T pilot was operating VFR to the SW of GLO at FL35.

At 1351:30 the EC135 pilot requested a 2000ft circuit for an auto-rotation back to heli-northwest. This was commenced at 1356:08 and shortly afterwards, at 1357:40, the EC135 pilot requested to climb for a further auto-rotation exercise. The controller replied, "(EC135 C/S) report ready for the autorotation", which the pilot acknowledged.

At 1358:02 the P2006T pilot reported 6nm SW of the airport for rejoin. The controller instructed the P2006T pilot to join downwind but he requested an overhead join. This was approved and the controller advised, "(P2006T C/S) roger make a standard overhead join runway two two right-hand er report letting down on the deadside". This was acknowledged correctly and the controller added, "(P2006T C/S) traffic climbing into the overhead for autorotation is an E C three five". The P2006T pilot replied, "Roger (P2006T C/S)".

At 1359:18 the following RTF exchange then occurred:

ATC	"(EC135 C/S) traffic joining overhead from the southwest is a Tecnam".
ATC	"(EC135 C/S) did you copy"
EC135	"Apologies say again (EC135 C/S)"
ATC	"(EC135 C/S) traffic joining overhead from the southwest is a Tecnam"
EC135	"(EC135 C/S)"

The controller continued to pass traffic information to other pilots in, or rejoining, the circuit.

At 1359:50 the radar recording showed the P2006T 2.9nm SW of the airport at FL031 (height 2641ft based on QFE 996hPa, with 1hPa equal to 27ft).

At 1400:24 the P2006T was 1.4nm WSW of the airport indicating FL028 (height 2341ft) and it is considered likely that the Airprox occurred shortly after this time (Figure 2).

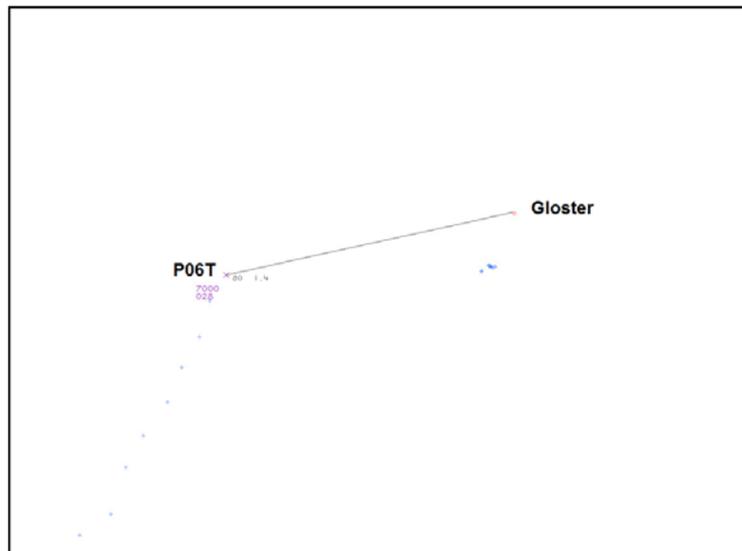


Figure 2 – Swanwick MRT at 1400:24

The P2006T pilot indicated that, when downwind at 2400ft QNH (height 2300ft), he sighted the EC135 in his half-past-two position, 400ft below, and crossing right to left. The P2006T pilot assessed that there was little risk of collision and elected not to alter course. [note: the controller confirmed that the P2006T was approaching for an overhead join and was above the downwind position at the time of the Airprox.]

At 1400:33 the P2006T was 1.2nm W of the airport at FL024 (height 2149ft) (Figure 3).

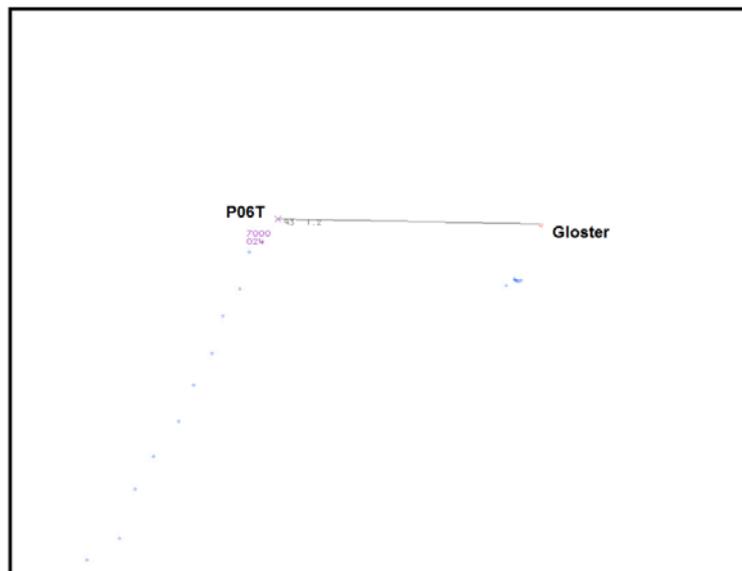


Figure 3 – Swanwick MRT at 1400:33

At 1401:01 the EC135 pilot reported ready to commence the auto-rotation, and the P2006T pilot reported descending on the dead-side. Both pilots continued without further incident.

In a subsequent telephone conversation the EC135 pilot indicated that he had been aware of the P2006T and two other helicopters joining. He was looking into sun and had not seen the P2006T

until it was directly overhead. He had initially estimated that the P2006T was 200ft above but later considered that it was probably 300-400ft above.

## Summary

The Airprox occurred within Class G airspace at the top of the GLO ATZ. Both pilots, operating under VFR, were receiving an Aerodrome Control Service from the combined Aerodrome/Approach controller. The EC135 pilot had requested, and been approved, for a climb to 2000ft QFE, prior to carrying out an auto-rotation. The P2006T pilot was cleared to join overhead the airport for a right-hand circuit to RW22. Traffic Information was passed to both pilots although the P2006T pilot was not given the height of the EC135. Nevertheless, the P2006T pilot had instructed his student to level at 2500ft and so was clearly aware that the EC135 would be high in the overhead. On sighting the EC135, the P2006T pilot assessed that there was little risk of collision and elected not to alter course. The EC135 pilot reported that his student pointed out the P2006T immediately ahead and slightly above. As the aircraft was passing overhead he considered that there was no requirement for avoiding action. Both pilots considered the risk of collision as 'Low'.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from both pilots, transcripts of the relevant RTF frequencies, area radar recordings, reports from the controller concerned and reports from the appropriate ATC and operating authorities.

The Board first considered the actions of the EC135 pilot and some Board members were perplexed as to why he had turned off his Traffic Collision Avoidance Device prior to the Airprox. However, a civil pilot (Helicopter) member explained that the advanced warning system fitted to that particular helicopter was very comprehensive and could result in a spate of intrusive and distracting voice alerts when conducting training missions. Because the need for effective voice communication was higher during helicopter training than for fixed-wing aircraft pilot training, he could understand why the helicopter pilot had turned off the equipment to facilitate cockpit communication.

Turning to ATC, the Board noted that, after the Gloster controller had cleared the EC135 pilot to climb to 2000ft in the overhead he had instructed the P2006T pilot to make a standard overhead join (which was also at 2000ft). Traffic Information was issued to the P2006T pilot about the EC135 climbing in the overhead but no information was passed about its operating height. Similarly, the EC135 pilot was informed about the P2006T joining in the overhead but, again, its altitude was not passed. The Board considered that this incomplete Traffic Information was a contributory factor to the Airprox.

As for the P2006T pilot, he had reported in his statement that ATC had informed him about the EC135 climbing to 2000ft but the RTF recording confirmed that this information had not in fact been passed. However, as a local pilot he either appeared to be familiar and aware that the EC135 would climb to 2000ft to commence auto-rotation training, or he may have heard ATC clearing the EC135 pilot to climb to 2000ft in a preceding transmission. The Board praised his actions in instructing his student to stop his descent at 2500ft (of which his student achieved 2400ft), to avoid conflict with the EC135. It was this effective and timely action that the Board considered had prevented the aircraft colliding and the Board therefore considered that the Risk was Category C.

Turning to the cause of the Airprox; the Board agreed that the controller had allowed both aircraft to route to the overhead at 2000ft and thereby into a conflict which had been resolved by the actions of the P2006T pilot.

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

Cause: Gloster TWR allowed the aircraft to fly into conflict, which was resolved by the Tecnam pilot.

Degree of Risk: C

Contributory Factor: Incomplete Traffic Information to the Tecnam pilot from Gloster TWR.

ERC Score<sup>3</sup>: 2

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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.