AIRPROX REPORT No 2011130

Date/Time: 28 Sep 2011 0912Z

Position: 5204N 00005E (2nm SW Duxford – elev 125ft)

Airspace: FIR (*Class: G*)

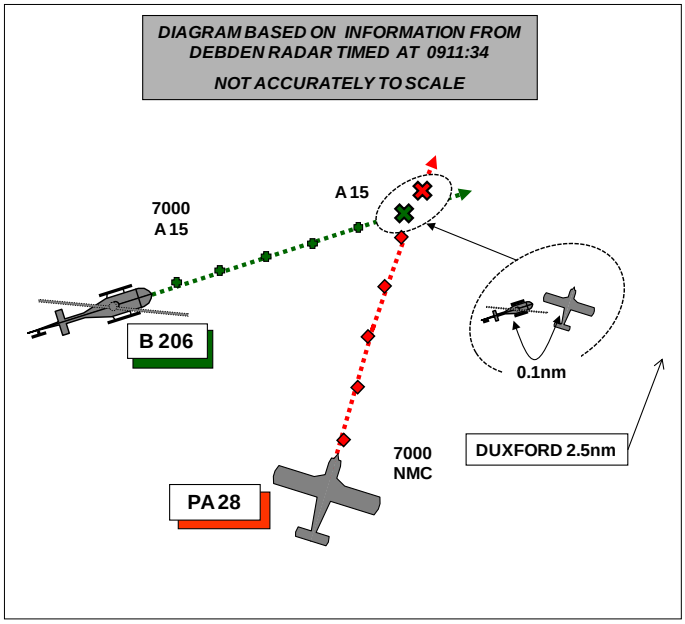
	Reporting Ac	*Reported Ac*
Type:	Bell 206	PA28
Operator:	Civ Pte	Civ Pte
Alt/FL:	800ft QFE	1100ft QNH
Weather:	VMC NR	VMC NR
Visibility:	>40nm	3000m

Reported Separation:

0ft V/50ft H 0ft V/150m H

Recorded Separation:

NR V/0.1nmH (See UKAB Note (2).



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BELL 206 PILOT reports flying a private flight to Duxford in a white and blue helicopter with strobes and nav lights switched on, in receipt of an A/G [BS see ATSI report] service from them. Due to an event at Duxford there was a NOTAM and an AIC outlining the Special Procedures in force for Duxford. They were heading 060° at 100kt having joined the cct downwind for RW24 at 800ft QFE when they were overtaken from the 4 o'clock by a rapidly descending PA28 which passed an estimated 50ft away. There were 3 very experienced pilots on board the helicopter at the time and they all considered they were very lucky that the PA28 had actually missed them. He provided a diagram showing the track of the PA28 and they agreed that its pilot clearly had not seen them. In their view the PA28 pilot demonstrated a lack of airmanship by joining a busy and active circuit incorrectly and dangerously.

He considered the risk as being very high and reported the incident to A/G.

THE PA28 PILOT reports that he rented the PA28 from a flying school and had flown to Panshanger to collect a passenger who occupied the P2 seat on the following short flight to Duxford to visit the Museum. The ac was blue and white with strobes switched on and they were squawking 7000 with Mode C; Mode S and TCAS were not fitted. He had received PPR from Duxford and was aware that an exhibition was taking place and had the AIC describing procedures for the event in the ac. They made contact with Duxford Info about 10nm S, were given a BS and were heading 060° at 100kt, having been instructed to join left downwind for RW24. He was aware of a helicopter that had also been advised to join downwind from the W but did not see it until he was established midway downwind when he saw it at a similar altitude in his 4 o'clock position [UKAB Note: The ac had already crossed]. Its speed appeared similar to his. His passenger saw it at the same time and kept it in sight. Given their relative positions, he suggested to the FISO that he could make a short approach to land from his present position, but he was advised that was not approved for fixed wing ac and was instructed to continue downwind for a normal approach avoiding Duxford village. He turned slightly right to avoid the village with the helicopter traffic in sight, anticipating that the B206 would then turn behind him to make a short approach; he heard it being cleared accordingly and saw it land as he was on base leg. He heard no mention of an Airprox until after landing when the

marshaller mentioned that the helicopter pilot intended to file an Airprox. The marshaller also stated that he had seen both ac downwind and felt there was no conflict. He immediately visited the tower and spoke to staff who advised that the other ac's pilot had not visited them. He visited the tower again at about 1245Z prior to departure and spoke to one of the FISOs who mentioned that a passenger from the helicopter had visited the tower. They had spoken to him, reviewed the R/T tapes and did not feel there was any need for him to leave details as they felt no report was required.

He was only advised of this Airprox report on 9 Dec by the successor company to the flying school which had ceased operations at the end of Sept.

He considered the risk to be none.

ATSI reports that Duxford has an ATZ, which comprises a circle radius 2nm, centred on the midpoint of RW 06/24 and extends to a height of 2000ft aal (elevation 125ft).

The B206 helicopter, inbound from Thruxton and the PA28, inbound from Panshanger, were both operating VFR, in receipt of a BS from Duxford Information.

Duxford Airport is promulgated as being subject to PPR and an Aerodrome Flight Information Service is provided (Duxford Info). During the period 27-29 September 2011, a special exhibition event, 'Helitech 2011' was promulgated.

CAA ATSI had access to RTF and area radar recordings and reports from both pilots.

The Stansted weather was:

METAR EGSS 280850Z 13006KT 7000 NSC 17/16 Q1028=
METAR EGSS 280920Z 13007KT 8000 NSC 17/16 Q1028=

At 0907:02, the PA28 contacted Duxford Info reporting at 2000ft; the FISO advised the PA28 pilot, RW24 LH cct was in use, QNH 1028, QFE 1024. The radar recording at that time shows the PA28, squawking 7000 with no Mode C positioned 10.2nm SW of Duxford Airport. The FISO asked the PA28 pilot to report downwind LH.

The B206 helicopter contacted Duxford at 0907:45, reporting at Bassingbourne; the FISO advised RW24 LH cct, QNH 1028, QFE 1024. The radar recording at that time shows the B206, squawking 7000 with Mode C indicating 1800ft, positioned 6.1nm W of Duxford. The FISO asked the B206 pilot to report downwind LH routeing via Royston to avoid Fowlmere. At 0908:41, the radar recording shows the B206 turn onto a SE'ly track to avoid Fowlmere and then turn ENE towards the LH traffic pattern for Duxford RW24.

At 0911:16, the B206 reported, *"B206 C/S is now downwind left-hand for Runway two four".* The FISO replied, *"B206 C/S roger…*". Radar recordings show the B206, indicating an alt of 1500ft, outside the ATZ and 2.4nm SW of the ARP, tracking 080°, with the PA28 converging from its right on a NE track, in the B206's 2 o'clock at a range of 0.6nm.

At 0911:28 radar recordings show the two ac in close proximity, still outside the ATZ, with the PA28 crossing the B206 from right to left.

At 0911:30 the PA28 was advised, *"PA28 C/S er you're welcome to do as you wish but you will find it easier overall if you park southside there's a very efficient minibus service across make it easier for your departure".* The PA28 pilot replied, "*PA28 C/S and we're just entering left downwind for two four."* The FISO responded, *"PA28 C/S roger are you visual with the er Bell Jet-ranger"?* The PA28 pilot transmitted, *"Negative position".* The FISO advised, *"Just reported downwind".* At 0911:34, the radar recording shows the ac tracks had crossed, with the PA28 in the B206's eleven o'clock at a range of 0.1nm with the B206 indicating an altitude of 1500ft.

At 0912:01 the PA28 pilot reported, *"Yeah we're visual now he's in our er three o'clock we're just outside him tight inside him*". The PA28 pilot's report indicated that the pilot*, "*was aware of a helicopter also advised to join downwind from the west but did not see it until I was established midway downwind when I saw it at a similar altitude in my 4 o'clock position". [After the Airprox] Radar recordings show the PA28 turning downwind 0.3nm N of the B206.

At 0912:09, the FISO advised the B206 pilot, *"and er B206 C/S are you visual with the fixed wing on your inside".* There was no immediate response from the B206 pilot but the PA28 pilot transmitted, *"Round the Village PA28 C/S or could we make a short approach from here if you prefer";* the FISO replied, *"er no sorry that doesn't work for non-Duxford based fixed wing so er right around the village for a two mile final please"* and the PA28 pilot acknowledged, *"Wilco PA28 C/S*".

At 0912:47, the FISO transmitted, *"...break er Jetranger B206 C/S from your present position do you want to make an early left turn for Runway two four",* the pilot replied, *"Affirmative Sir thanks very much for that and I think we ought to report an Airmiss…".*

At 0913:58 the B206 reported, *"short final for two four",* and the PA28 reported, *"two mile finals two four";* both ac landed without further incident.

Both ac were in receipt of a BS from Duxford Information (FISO). CAP774, UK Flight Information Services, Chapter 2, Page 1, Paragraph 1, states:

> 'A Basic Service is an ATS provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility.'

The Manual of Flight Information Services, CAP410 Part B, Chapter 1, Page 1, Paragraph 1, states:

> '1.1 The FISO's area of responsibility is the aerodrome, the aerodrome traffic zone and the immediate surrounding local area.
>
> 1.2 The FISO **may** pass traffic or essential aerodrome information to anyone who calls on RTF. Any traffic information passed can relate only to known traffic operating, or intending to operate within the area of responsibility.'

Paragraph 7.4, states:

> 'Landing direction and traffic information on known traffic flying within the ATZ and the immediate surrounding local area is normally passed when the ac is still some distance away from the ATZ. This enables the pilot to determine if it is safe to proceed with the flight as planned and to intelligently position the ac in relation to other ac in the circuit pattern….'

The PA28 was already on frequency when the B206 contacted Duxford and the PA28 pilot indicated being aware of a helicopter joining; however, the B206 may not have been aware of the PA28. Had the FISO passed TI, this would have aided the situational awareness of both pilots. CAP774, UK Flight Information Services, Chapter 2, Page 1, Paragraph 5, states:

> 'Whether traffic information has been passed or not, a pilot is expected to discharge his collision avoidance responsibility without assistance from the controller/FISO.'

Both ac were positioning to join downwind and routed to a point 2.4nm SW of the airfield. The inbound PA28 on a N'ly track crossed in close proximity to the B206 which had reported 'downwind'. Both ac were still outside the ATZ at this point. CAP774, Chapter 1, Page1, Paragraph 2, states:

> 'Within Class F and G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance and terrain clearance, and they should consider service provision to be constrained by the unpredictable nature of this environment.'

The PA28 pilot did not acquire the B206 helicopter visually until after they had crossed; it is not clear from his report when the B206 pilot first sighted the PA28. PA28 pilot's report indicated a flight visibility of 3000 metres in haze and the B206 pilot indicated 40nm plus. The CAA Safety Sense Leaflet 13a (June 2005), which is based on the ICAO Circular 213-AN 130, states:

> 'See-and-avoid' is recognised as the main method that a pilot uses to minimise the risk of collision when flying in visual meteorological conditions. 'See-and-avoid' is directly linked with a pilot's skill at looking'.

The Airprox occurred when the two ac, positioning SW of the airfield, to join downwind, came into close proximity while outside the Duxford ATZ. In Class G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance.

Had TI been passed it may have aided the SA of the respective pilots.

UKAB Note (1): Although the PA28's altitude cannot be determined, the radar recording showed that both ac appeared to be complying with the special procedures in force, the B206 joining from Gate W (Royston) and the PA28 from Gate S (Barkway/Nuthampstead).

UKAB Note (2): The recording of the Debden Radar shows the incident as depicted above with both ac heading almost into sun. Further it shows that the incident took place 2.5nm SW of Duxford, not in the cct as reported by the B206 pilot. The B206, squawking 7000 with Mode C, turns left at 0910.27 and approaches the CPA tracking about 080° at an alt of 1500ft. After the turn the PA28, squawking 7000 with no Mode C, is in its 2 o'clock closing on a line of constant bearing but pulling slightly ahead (of the B206). At 0911:25 the ac are 2.3nm SW of Duxford (about to enter the ATZ) with the PA28 0.3nm in the B206's (still indicating an alt of A15) 1.30. On the next sweep the separation is 0.2nm the PA28 still in the B206's 1.30. On the subsequent sweep, as the ac cross the ATZ boundary, the PA28 had crossed under 0.1nm ahead of the B206.

The radar recording shows that at the CPA the B206 is indicating an alt of A15 (1375ft agl). The PA28 reported that he was at an alt of 1100ft, but this might refer to the point when he first saw the B206, some time after the CPA. The radar also showed that the B206 did not descend to cct height (1125ft amsl) until 0912:28 (established), 53sec after the ac had crossed.

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 authorities.

The Board noted that the radar recording showed that the incident took place on the boundary of the ATZ at 0911:34; this, however, was 18sec after the B206 had called 'downwind' at a position about 2.4nm from the ARP. At that time the PA28 was already on frequency but was still in transit from Gate S in the descent from 2000ft. Members agreed that this call would have misled the PA28 pilot into believing that the B206 was much further ahead and not a threat, when in reality it was very close to him closing from off his left wing. Members also agreed that the ac had crossed unseen to the PA28 pilot, who at the time was in a fairly lengthy, largely non-operational conversation with ATC from a point 4 sec before he passed just ahead of the B206. Members found it more difficult to ascertain when the B206 pilot first saw the PA28 on his right descending from above and closing. A helicopter pilot Member familiar with the B206 informed the Board that the view from the right hand seat that the pilot would have occupied to the right and above, is relatively uncluttered and fairly good; that being the case they could not determine why the B206 pilot had not seen the PA28 until it

passed close (reported as 50ft and radar verified as less than 0.1nm) in front of him. Bearing this in mind and that the B206 did not take any avoiding action Members agreed that the B206 pilot had not seen the PA28 (which had right of way under the RoA) until too late to take any avoidance. Members noted that at the CPA the B206 was level at an alt (radar verified) of 1500ft and the PA28 had no Mode C but the pilot reported that he was in the descent from 2000ft to cct height (1000ft); that being the case they could not determine the vertical separation but opined that it was also very close.

Since neither pilot had seen the opposing ac in time to take any evasive action and the flight vectors were very close, Members agreed unanimously that there had been a risk that the ac would have collided.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the PA28 pilot and effectively a non-sighting by the Bell 206 pilot.

Degree of Risk: A.