AIRPROX REPORT No 2011107

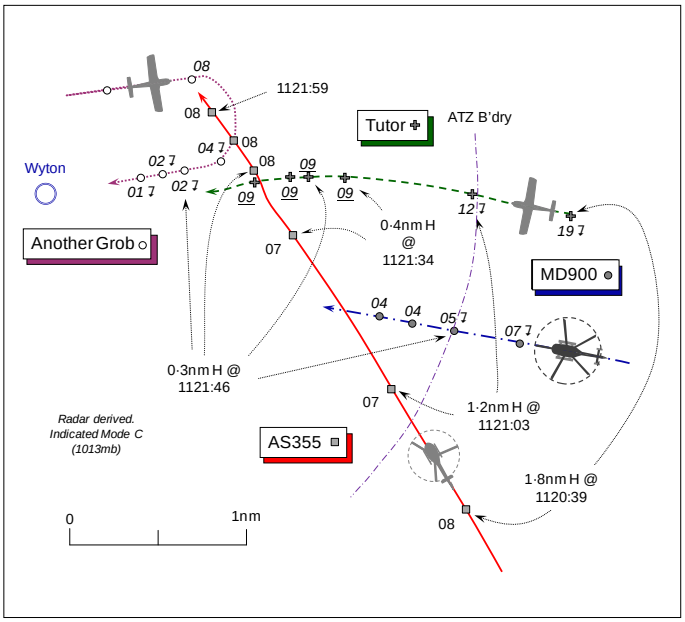
Date/Time: 19 Aug 2011 1121Z

Position: 5221N 00004W (1·3nm E of Wyton A/D - elev 135ft)

Airspace: Wyton ATZ (*Class:* G)

Reporter: Wyton ATC

	1st Ac	*2nd Ac*
Type:	Grob Tutor TMk1	AS355 F1
Operator:	HQ Air (Trg)	Civ Comm
Alt/FL:	800ft QFE (1015hPa)	1300ft NR
Weather:	VMC CLBC	VMC CAVOK
Visibility:	30km	>10km
Reported Separation:	Nil V/150yd H	>100ft V/500m H
Recorded Separation:	100ft V/0·3nm H	



CONTROLLER REPORTED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE WYTON AERODROME CONTROLLER (ADC) reports that the RW in use was RW26RHC with a busy visual cct active with three Tutors, plus another Tutor joining O/H and a police helicopter joining from the SE. He then noticed another unknown helicopter SE of the threshold for RW26RHC northbound at about 800ft Wyton QFE (1015hPa) that was crossing the path of the Tutor approaching the Deadside from Initials. The pilot of the unknown helicopter – the AS355 - was not in communication with TOWER as it crossed RW26 threshold directly in front of a Tutor. TI about the unknown AS355 was passed to all of the ac on frequency in the cct and also those joining. At about 1122UTC, just as the AS355 was N of RW26 threshold, the AS355 pilot called on the Wyton APPROACH (APP) frequency and the helicopter was identified.

The Wyton Weather was Colour State Blue, the prevailing visibility 30km and the cloudbase FEW at 3000ft, with SCT cloud at 25000ft.

THE GROB TUTOR T MK1 PILOT reports he was recovering to Wyton from a routine 25min AEF sortie. He was in communication with Wyton TOWER on 126·85MHz and a squawk of A7000 was selected with Modes C and S; a Traffic Advisory System (TAS) is fitted. The aeroplane is coloured white and normal lighting was displayed.

The RW26RHC was busy, with three in the cct, one joining overhead and a police helicopter approaching from the SE. He was visual with all of the traffic and their ac contact 'diamonds' were displayed on his ac's TAS. To the E of Wyton A/D, the TAS alerted him to the unknown helicopter with an advisory 'notice'. Between Initials and the Deadside for RW26RHC, flying wings level at 800ft Wyton QFE (1015hPa) heading 255° at 120kt, he first spotted the helicopter about ½nm away and realised it was not the police helicopter descending into the circuit but a dark-coloured civilian-registered Squirrel at the same height. Turning L would have taken his aeroplane towards the AS355 but turning R would have taken him across the cct towards other cct traffic. As his flight path was diverging (sic) with that of the Squirrel helicopter, he reduced his IAS to a safe minimum of 80kt for lateral deconfliction. The helicopter passed about 150yd ahead from L to R (S to N) at the same

height with a 'high' Risk of collision, before proceeding through the visual cct. He added that he did not want to try to climb over the AS355 in case its pilot took action to avoid the other ac in the cct. His recovery was then completed without further incident.

THE AS355 F1 PILOT reports he was flying single pilot in transit VFR from a private HLS at Chelmsford to York Racecourse and was in receipt of a BS from Cambridge APP on 123·6MHz. SSR was selected on but neither Mode S nor TCAS is fitted. The helicopter has a dark maroon livery and the red strobes were on.

Heading 310° at 110kt in a level cruise at 1300ft ALT after flying W of the City of Cambridge he recalls seeing a police helicopter whose crew reported recovering to Wyton on the RT and appeared to be on a diverging course. The white Grob trainer was first seen at a range of 1nm, 100ft above his helicopter and closing from his 2 o'clock. The Grob passed astern, 500ft away horizontally and >100ft above his helicopter at the closest point with a 'medium' Risk. He had stayed with Cambridge APP until he realised his geographical position and that he had infringed Wyton's 'airspace'. He switched frequency and gave Wyton APP a late call, who then advised him to continue en-route. Mistakenly, he had relied on the GPS fitted in the ac, which did not show Wyton A/D on its database. This, coupled with seeing the police helicopter flying away gave him a false indication that Wyton was further to the E. He opined that this infringement was a simple case of his erroneous assumption of his ac's position and the distraction of dealing with passengers on-board. He was informed later by Cottesmore ZONE that an Airprox report was being raised.

ATSI reports that the Airprox occurred at 1121:46 between a Squirrel AS355 F1 Helicopter and a Grob Tutor, 1·3nm E of Wyton A/D, within the Class G Wyton ATZ, which comprises a circle radius 2.5nm centred on RW08/26, extending from the surface to 2000ft above the aerodrome elevation of 135ft. The AS355 was operating on a VFR flight from a private site at Chelmsford to York Racecourse Heliport and was in receipt of a BS from Cambridge APP on 123.6MHz. The Tutor was on a local VFR training flight from Wyton A/D and at the time of the incident was in receipt of an Aerodrome Control Service from Wyton TOWER on 119.975 MHz. Cambridge Approach was providing an Approach PS without the aid of surveillance equipment. Wyton TOWER and APPROACH were operating as separate positions without the aid of surveillance equipment.

The Wyton 1050Z METAR: 28005KT 9999 FEW030 SCT250 18/09 Q1019 BLU=
The Wyton 1150Z METAR: 24005KT 9999 FEW030 SCT250 18/09 Q1019 BLU=

At 1111:10 the AS355 pilot contacted Cambridge APP and reported routeing from a private site in Chelmsford to York Racecourse at 900ft requesting a BS, which was agreed by the controller and the AS355 pilot instructed to report W abeam *"Cambridge".* At 1112:00 the Police MD900 helicopter pilot contacted Cambridge APP and was given TI on the AS355. The MD900 pilot reported at 1000ft and requested a routeing via the northern edge of Cambridge A/D en route to Wyton. The controller informed the MD900 pilot that he would provide a BS, and the MD900 pilot reported having the AS355 in sight. The MD900 was then issued with a clearance to proceed overhead Cambridge A/D. At 1113:00 the Cambridge APP controller gave TI on the MD900 to the AS355 pilot who reported having the MD900 in sight. At 1114:00 the AS355 reported passing W abeam *"the city"* and was told to keep a good lookout for gliders WNW of Cambridge. At 1117:30 the MD900 pilot reported clearing to the NW of Cambridge A/D and switching to Wyton, which was acknowledged by the controller.

At 1119:00, the MD900 pilot contacted Wyton TOWER for joining instructions and was told it was RW26, righthand, with 1 ac departing and 3 ac in the cct. At 1120:00 the subject Grob Tutor pilot contacted Wyton TOWER on instruction from Wyton APPROACH (134.050MHz) requesting a visual recovery for RW26 from the E. The Wyton TOWER controller informed the Tutor pilot that there was 1 ac departing, 3 in the cct and a police helicopter – the MD900 - joining from the SE.

At 1120:10, Cambridge APP asked the AS355 pilot if he wished to continue en-route with Wyton as he had no further traffic. At 1120:40 the AS355 reported going en-route to Wyton.

[UKAB Note (1): At 1120:39, radar recordings show the AS355 3nm SE of Wyton with the Tutor 2.9nm to the E of Wyton. The Tutor and the AS355 are 1.8nm apart at this point. The Police MD900 squawking the discrete code of A0054 is shown 4.7nm to the ESE of the A/D. At 1121:00 the Wyton TOWER controller saw the AS355 to the SE of the RW26 threshold and broadcast to 'All Stations' that an unknown helicopter was crossing RW26 northbound. At 1121:34 radar recordings show the Tutor approaching RW26 from the E at a range of 2nm from the A/D with the AS355 0.4nm to the SW of the Tutor on a converging, NW'ly track. The CPA occurs at 1121:46, at a position 1.3nm E of the A/D as the AS355 crosses from L - R ahead of the subect Tutor at a range of 0.3nm, whilst also passing astern of another circuiting Tutor that has just steadied on final.]

At 1122:00 the AS355 contacted Wyton APP apologising for the late call and informed the controller that he was transiting the zone to the E.

The report from the pilot of the Tutor stated that when his TAS alerted him about traffic the pilot believed it was the previously mentioned police helicopter, then realised it was an unknown helicopter – the AS355 - and reduced speed to avoid it. The pilot of the AS355 stated in his written report that he had relied on his GPS which did not show Wyton on the database. He remembered seeing the Police MD900 who had reported recovering to Wyton and appeared to be on a divergent course. The pilot remained with Cambridge APP and contacted Wyton APP when he realised his position.

The AS355 and the Tutor were both inside the Wyton ATZ. The Tutor was in receipt of an Aerodrome Control Service from Wyton TOWER. The AS355 had not obtained permission to enter the ATZ at Wyton. Rule 45 of the Rules of the Air Regulations 2007 states that at:-

> 'an aerodrome having an air traffic control unit', 'During the notified hours of watch of the air traffic control unit' 'an aircraft shall not fly, take off or land within the aerodrome traffic zone of an aerodrome unless the commander of the aircraft has complied with paragraphs (3), (4) or (5) as appropriate.'

Paragraph (3) states that:

> '(3) If the aerodrome has an air traffic control unit the commander shall obtain the permission of the air traffic control unit to enable the flight to be conducted safely within the zone.'

Furthermore paragraph (6) requires that:

> The commander of an aircraft flying within the aerodrome traffic zone of an aerodrome shall:
>
> > (a) cause a continuous watch to be maintained on the appropriate radio frequency notified for communications at the aerodrome; or
> > (b) if this is not possible, cause a watch to be kept for such instructions as may be issued by visual means; and
> > (c) if the aircraft is fitted with means of communication by radio with the ground, communicate his position and height to the air traffic control unit….at the aerodrome (as the case may be) on entering the zone and immediately prior to leaving it.

Wyton's hours of watch are notified in the UK AIP at ENR 2.2 as sunrise to sunset during the Summer period.

The written report from the AS355 pilot states that seeing the Police MD900 on a divergent course for Wyton reinforced his belief that Wyton was further E than it actually was. When the pilot realised his position he contacted Wyton APP apologising for the late call.

The Cambridge APP controller was not using surveillance equipment to provide a BS to the AS355 so would not have been able to assist the pilot in ascertaining that his position was close to the Wyton ATZ.

The Wyton ADC was unaware of the presence of the AS355 until it was seen SE of the RW26 threshold, flying northbound and was therefore unable to provide timely TI that might have assisted in preventing the Airprox. When the Wyton ADC saw the AS355 TI was immediately broadcast to all ac on the frequency. The AS355 pilot contacted Wyton APP after he had crossed the RW26 threshold in front of the Tutor.

HQ AIR (TRG) comments that the 'simple' mistake by the AS355 pilot created a very high potential risk for the multiple ac within the Wyton ATZ, the AS355 pilot and his passengers. That risk was well handled by the Tutor pilot, who maintained good situational awareness with the help of TAS and who took sensible actions to avoid a collision. The risk posed to the other cct traffic might also be worthy of consideration as it is not clear whether they saw the intruder or not. This incident is a salutary reminder that lapses in, or failures of navigation, on the part of any ac can result in infringements of supposedly protected airspace. Therefore, even in the visual cct, pilots should remain aware to the possibility of unknown traffic approaching from any direction.

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 controller involved and reports from the appropriate ATC and operating authorities.

The ATSI report shows that in the provision of a BS to the AS355 pilot, the Cambridge controller had no access to radar data and would, therefore, have relied on position reports from the AS355 pilot. Consequently, Cambridge APP would not have recognised how close the AS355 was to Wyton, before the controller prompted the pilot to call Wyton APP. The recorded RT and radar data shows that the helicopter was 3nm SE of Wyton at 1120:39, with a mere ½nm to run to the Wyton ATZ boundary, when the AS355 pilot switched from Cambridge APP to Wyton APP. Moreover, the AS355 pilot did not contact Wyton until 1122:00, when the radar recording shows the AS355 had already crossed through the final approach to RW26 and was infringing the liveside of the RH cct in opposition to the established visual cct pattern, whereas he should have remained clear of the airspace within the pattern formed by the circuiting ac.

It was evident that the AS355 pilot had not been aware how close he had flown to Wyton before he had sighted the Tutor and finally realised his position. The AS355 pilot reported that his ac's GPS database did not show Wyton A/D and Members were most surprised that this large, well established A/D, with it associated 2½nm radius ATZ, was not clearly delineated. Whilst the type and GPS equipment software version in use by the AS355 pilot was not revealed in his report, an experienced helicopter pilot Member was most concerned that the GPS database had not been kept accurately up to date and suggested inadequate pre-flight planning. Moreover, it was observed that CAA Safety Notices warn pilots operating VFR not to use GPS as a primary means of navigation. In the Member's view there was no excuse; the AS355 pilot's overreliance on GPS without apparent reference to an up-to-date chart was indicative of poor airmanship. The Board agreed that navigational errors by the AS355 pilot were the catalyst to this Airprox, however, this seems to have been a salutary lesson and the pilot has acknowledged his mistake. The result was that, contrary to Rule 45 of the Rules of the Air, the AS355 pilot did not obtain permission to enter the ATZ from Wyton ATC or monitor the frequency during the transit. Furthermore, he did not give way to the Tutor approaching from his right hand side and flew through the downwind leg at about cct height. The Board concluded, therefore, that the Cause of this Airprox was that the AS355 pilot entered the ATZ without permission, contrary to Rule 45 of the Rules of the Air (RoA), and flew into conflict with joining and established cct traffic.

The AS355 pilot had seen the subject Tutor joining the cct to his right from a range of 1nm, but still maintained his course and took no action to avoid it or increase the separation, even though he was required to 'give way'. Fortunately, the AS355 passed clear astern of another Grob on final but it seemed that the helicopter pilot might not have sighted the other circuiting Tutors, which were not mentioned in his account. Nevertheless, the alert Wyton ADC had spotted the AS355 and at 1121:00, made the 'all stations' broadcast, broadly when the AS355 was 1·2nm SSW of the Tutor and just after it had crossed the ATZ boundary. Alerted also by his ac's TAS, the Tutor pilot joining the cct reports he spotted the AS355 about ½nm away. Conscious that any avoiding action he took also had to account for the other traffic in the busy cct, the Tutor pilot wisely reduced his speed to afford the maximum separation against the then unknown and unpredictable AS355. This ensured that the helicopter passed no less than 0·3nm ahead of the joining Tutor and 100ft below it at the closest point, but also allowed the Tutor pilot the maximum freedom to manoeuvre if need be. All this convinced the Board that no Risk of a collision had existed in the circumstances conscientiously reported here.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The AS355 pilot entered the ATZ without permission, contrary to Rule 45 of the RoA, and flew into conflict with joining and established cct traffic.

Degree of Risk: C.