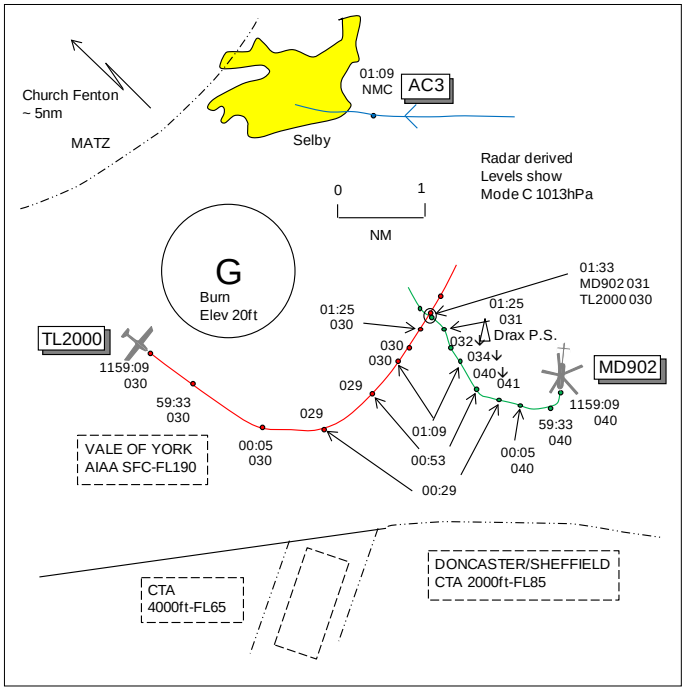
AIRPROX REPORT No 2012024

Date/Time:	25 Feb 2012 1202 (Saturday)	
Position:	5344N 00101W (8nm SE Church Fenton)	
Airspace:	VoY AIAA	(*Class: G*)
	Reporting Ac	*Reported Ac*
Type:	MD902	TL2000
Operator:	Civ Comm	Civ Pte
Alt/FL:	3000ft↓ RPS (1021hPa)	NR NK
Weather:	VMC CLBC	VMC CLOC
Visibility:	>10km	30nm
Reported Separation:	20ft V/50m H	50-100ft H
Recorded Separation:	100ftV/returns merge	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE MD902 PILOT reports flying a local sortie from Humberside, VFR and in receipt of a BS from Church Fenton on 126·5Mhz, squawking Modes S and C; TCAS 1 was fitted. The visibility was >10km flying 1200ft below cloud in VMC and the helicopter was coloured blue/yellow with anti-collision, nav and HISLs switched on. Initially they had been operating between 4000-4500ft Barnsley RPS 1021hPa on a photo detail at Drax Power Station. On completion a descent was started to a planned altitude of 1000ft on heading 350°across sun and 75kt. ATC was busy with GA traffic so their flightpath was cleared visually ahead and below. After several minutes in a gentle descent a TCAS TA was received showing 500ft below and ahead of them. A light fixed-wing ac was observed 0·5-0·75nm ahead and below which appeared to correspond to the TCAS contact. They stopped their RoD and re-assessed the contact which was passing clear. A light sports ac (LSA) was then seen out of the corner of the pilot's eye (8-9 o'clock) about 100m away moving rapidly from L to R simultaneously as the observer in the LH seat alerted the pilot to it. Owing to the rapid crossing rate the safest option was to execute a hard L max rate turn, which was carried out. The white/red LSA passed about 20ft below and 50m to their R and was observed to continue on an E'ly heading without deviation. The risk of collision was assessed as high. The incident happened very quickly, lasting only a few seconds, and was immediately reported to Church Fenton ATC. Had the RoD not been arrested the risk would have been higher still. The pilot could not say with any certainty which contact caused the TCAS alert; however, it almost certainly prevented a mid-air collision.

UKAB Note (1): The MD902 pilot was contacted to clarify the geometry of the encounter. Following the TCAS TA both the pilot and observer seated in the LH seat saw a light ac ahead assessing it was passing R to L at a distance commensurate with the TCAS contact (0·5-0·75nm). It did not appear to be an unrealistic contact distance; however, the TCAS was set at 10nm range, so as to include ac operating to/from Church Fenton, so accurate bearing and distance close-in is not as precise as it could be.

THE TL2000 PILOT reports en-route from a private site in Cheshire to Full Sutton [15nm NNE Drax Power Station], VFR and listening out with Full Sutton Radio on 120·1MHz squawking 7000 with Modes S and C. The visibility was 30nm flying out of sun, clear of cloud in VMC. About 10nm S of Selby heading 360° at 100kt routeing S and E of Burn gliding site he first saw a blue helicopter in his

4 o'clock range 50-100ft as it was passing behind his ac. No avoiding action was taken and he assessed the risk as low.

THE CHURCH FENTON APP CONTROLLER reports working 6-7 ac under a BS including the MD902 and 1 flight under a TS. The MD902 pilot reported that an Airprox would be filed on an ac that passed within 500ft and approx 100m. The MD902 was tracking 330° towards Selby when the other ac passed E'bound. The MD902 pilot reported the traffic as a light ac with 2 POB.

THE LINTON ON OUSE USMO reports a Supervisor is not rostered on Saturdays at Linton-On-Ouse in support of Church Fenton flying operations. The controller concerned was rostered with another to provide radar cover for Tutor ac with both controllers rotating the radar position. The MD902 pilot, who had been on frequency for some time under a BS, informed the controller that an Airprox had occurred. The Church Fenton APP position at weekends is demanding with the primary task of supporting 4 Tutor ac requiring a TS and providing a VHF service to multiple GA traffic flying in the local area and recovering to Sherburn-In-Elmet, one of the busiest GA airfields in the country. The controller's workload was high with ac on frequency and he did not see any radar contact in the area of the MD902. After the Airprox he did notice an intermittent 7000 squawk within 3nm of the MD902 but the flight was not on frequency. The radar coverage in that area is not good as the PSR and SSR heads are at Linton-On-Ouse so ac below 1500ft in that area may not show on radar and it may account for the intermittent 7000 squawk.

BM SM reports that this Airprox occurred 20·5nm SSE of Linton on Ouse, in the vicinity of Drax power station, between an MD902 in receipt of a BS from Church Fenton APP and a TL2000; both ac were operating VFR.

All heights/altitudes quoted are based upon SSR Mode C from the radar replay unless otherwise stated.

The Church Fenton METAR shows EGXG 251150Z AUTO 28009KT 9999 BKN035/// 09/01 Q1025=

APP described their workload as high, providing ATS to 7 or 8 ac at the time of the Airprox: 6/7 BS and 1 TS. At weekends, APP's primary task is to provide ATS to Church Fenton-based Tutor ac and to Sherburn-in-Elmet inbounds and outbounds.

[UKAB Note (2): The radar recording at 1159:09 shows the MD902 1nm SE of Drax Power Station tracking S at FL040 with the TL2000 5nm to its W tracking SE at FL030. The MD902 then commences a R turn, initially steadying on a track of 280° as the TL2000 commences a L turn onto a NE'ly track. By 1200:29 the TL2000, indicating FL029, is 2·1nm WSW of the MD902 which is turning onto a NNW'ly track indicating FL041. Both ac maintain these tracks, on a constant relative bearing, until immediately prior to the CPA.]

At 1200:53 the MD902 begins descending and at this point the TL2000 was 1·2nm W of the MD902, indicating FL029. At 1201:09 the SSR Mode C of the TL2000 and MD902 indicated 400ft vertical separation existed. At this point, the TL2000 was 0·9nm W of the MD902 in its 10 o'clock. The MD902 pilot reports gaining a TCAS TA on an ac "500ft below and ahead of the ac" and correlated that with a "light fixed wing ac…ahead at approx 0·5-0·75m and below." The only other ac that was "ahead" of the MD902 was 3·2nm NW, AC3, in the MD902's 12 o'clock, showing NMC.

The MD902 pilot reported that having correlated the TCAS contact with the "light fixed wing ac" they "stopped (the) RoD and re-assessed the contact which was passing clear." They then "saw a light sports ac out of the corner of (their) eye moving rapidly across (their) view L-R." The pilot then reversed the gentle R turn, executing a "hard L max rate turn" to avoid the TL2000, passing behind it. Based upon their report, the TL2000 pilot's first sighting of the MD902 was at around the CPA, as it passed through their 4 o'clock, 50-100ft behind.

[UKAB Note (3): The radar recording at 1201:25 shows the MD902 level at FL031 0·3nm E of the TL2000 which is maintaining FL030. The CPA occurs on the next sweep at 1201:33 when the radar returns merge, the MD902 having turned L onto a NW'ly heading with 100ft vertical separation.]

From the point that the confliction became evident between the MD902 and TL2000 at 1200:45 and the CPA at 1201:33, there was a constant exchange of RT between APP and a number of ac inbound to Sherburn-in-Elmet. The MD902 pilot's report states that "ATC was busy with GA so (they) visually cleared (their) flight path ahead and below." This suggests that the MD902 pilot was aware that there was a reduced likelihood that APP would be able to warn them of a definite collision risk.

Whilst Linton-on-Ouse suggest that the base of radar cover may have played a part in APP's ability to detect the confliction, this is unlikely given that the Airprox occurred at 3000ft, 20·5nm S of Linton. That said, BM SM contends that, given their workload, APP would have been unable to pass a traffic warning to the MD902 about the TL2000 and that there are no ATM aspects to this Airprox that warrant further analysis.

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 controllers involved and reports from the appropriate ATC authorities.

As this incident occurred in circumstances and conditions where both pilots should have been able to see each other in good time, Members wondered whether anything better could have been achieved; in particular, could a radar service have been obtained by either the TL2000 or MD902 flights? The area of the Airprox, within the Vale of York AIAA, is covered by Linton-on-Ouse, a LARS unit; however, this service is available on weekdays only. Church Fenton Approach is not a LARS position and it is tasked to provide services to station-based Tutors and Sherburn-in-Elmet GA traffic. It was unlikely that anything other than a BS could have been obtained from Doncaster Approach as it is not a LARS unit. The MD902 flight had obtained a BS from Church Fenton APP. However, the position was busy with its primary task so it was not surprising that the MD902 pilot could not call on the frequency to update his change in flightpath or that the developing confliction between the subject ac went unnoticed by the APP. Without any ATC assistance available, within this Class G airspace, it was solely down to both pilots for maintaining their own separation from other traffic through see and avoid. The MD902 pilot's SA was enhanced by ACAS equipment but it appeared that the pilot did not assimilate the information generated by TCAS correctly. The TCAS TA received on traffic 500ft below was thought by Members to almost certainly be the TL2000, which carried Mode C, but it seems that AC3 crossing ahead from R to L was acquired visually and erroneously correlated to the TCAS contact. With the known inaccuracies in azimuth, particularly at close ranges, Members agreed that it was imperative for pilots to use the relative height element of the TCAS system, which is known to be accurate, for effecting some vertical separation from the TCAS traffic until it has been positively established that the TCAS contact is definitely the ac seen visually. As it was, the MD902 pilot, having initially stopped the descent, was satisfied that the ac seen was not in conflict and had recommenced the descent. However, the TL2000 was still on a conflicting flightpath converging from the L, which the MD902 pilot then spotted in the 8-9 o'clock position 100m away, a late sighting and part cause of the Airprox. The Board recognised that the MD902 pilot's view from the RH seat, across cockpit, was undoubtedly degraded; however a pilot's lookout scan should take this into account and mitigate any risk by moving ones head or the ac's nose to clear the area concerned. A similar situation existed for the TL200 pilot, seated on the L, looking across to the front R quarter towards the converging helicopter. For his part, the TL2000 pilot had, after passing clear of Burn G/S, turned L towards Full Sutton but did not see the approaching helicopter until it was in his 4 o'clock passing 50-100ft behind, effectively a non-sighting and the other part cause of the Airprox.

Although the MD902 had right of way under the RoA Regulations, these rules only work if pilots see each other's ac in order to comply with them. The radar recording shows that from 1min prior to the

CPA, there was ample opportunity for both crews to visually acquire each other's ac. It was only at the very last moment that the MD902 pilot caught glimpse of the TL2000 as it closed rapidly from the L. Although a max rate L turn was executed, Members believed that this had been actioned too late to ensure an adequate safety margin leaving the Board in no doubt that an actual risk of collision existed during this encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Effectively a non-sighting by the TL2000 pilot and a late sighting by the MD902 pilot.

Degree of Risk: A.