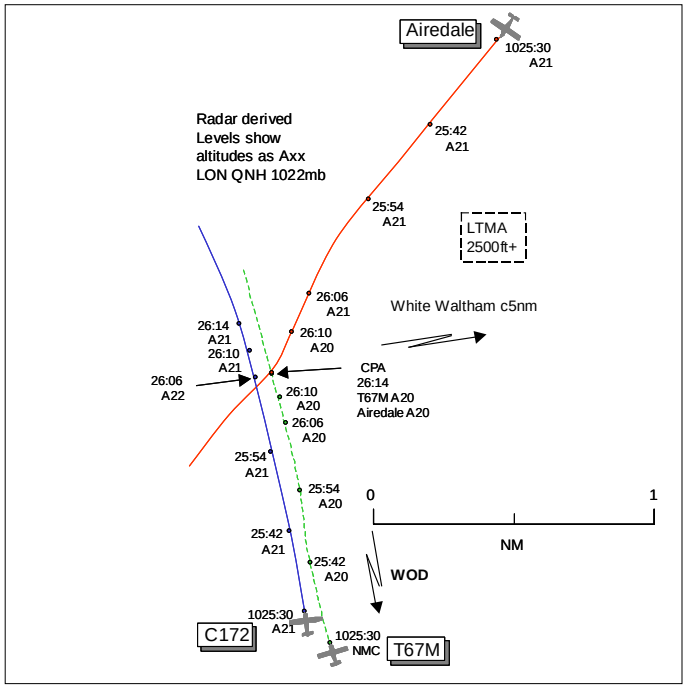
AIRPROX REPORT No 2010041

Date/Time:	3 May 2010 1026Z	
Position:	5129N 00053W (2·5nm WOD)	
Airspace:	LFIR	(*Class: G*)
	Reporting Ac	*Reporting Ac*
Type:	C172+T67M Formation	Beagle Airedale
Operator:	Civ Pte	Civ Pte
Alt/FL:	2000ft (QNH 1024mb)	1900ft (QNH)
Weather:	VMC CLBC	VMC CLOC
Visibility:	>30km/Unltd	>10km
Reported Separation:		
C172	50ft V/100m H	100ft V/400m H
T67M	30ft V	Not seen
Recorded Separation:		
C172 v Airedale	50-100ft V/0·2nm H	
T67M v Airedale	Nil V/Returns merge	



ALL THREE PILOTS FILED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE C172 PILOT reports en route to Wellesbourne VFR and in loose formation with a T67M whilst under a BS from Farnborough W on 125·25MHz, squawking an assigned code with Modes S and C. The visibility was >30km flying 1000ft below cloud in VMC and the ac was coloured white/blue with strobe lights switched on. The route flown was via Guildford, WOD NDB and then on towards WCO whilst the T67M was flying slightly behind and to starboard. In the vicinity of WOD heading 355° at 100kt and 2200ft he saw another ac, a high-wing single-engine type coloured white/blue, about 200m away to his R and 50-100ft below on a near collision course. The other ac was very close to his R windscreen pillar, so he thought it had been concealed behind it previously, which would have contributed to his late sighting. He quickly determined that the other ac, although close, would pass behind him with no risk of collision which it did about 2sec later about 50-100ft below and 100m laterally. His attention turned immediately to the T67M which was going to get much closer to it. He considered whether he could alert the T67M pilot to the other ac by making an RT call but there was too little time to say anything that could have helped without making things worse. It was difficult to see exactly how the other ac would appear to the T67M pilot – below/above or relative position. The T67M did have 2 pilots onboard so he hoped 1 of them would see the conflicting ac; however, they did not until they were very close. With the visibility being excellent and having a pax who was new to light ac flying, he had not wanted too much radio work so did not consider a higher level of service. However, he later realised that he had omitted to tell Farnborough that he had another ac in formation. The T67M pilot then reported the Airprox to Farnborough a few minutes later. He assessed the risk of collision as low.

THE T67M FIREFLY reports en route to Wellesbourne in two-ship loose formation with a C172 and listening out on the Farnborough W frequency, squawking 7000 with Modes S and C. The visibility was unlimited flying 1000ft below cloud in VMC and the ac was coloured yellow/black with strobe lights switched on. The C172 was responsible for navigation whilst he concentrated on holding formation 300m R echelon with his co-pilot providing a general lookout for traffic and handling the radio. The C172 flight was in communication with Farnborough; however, he missed the C172 pilot's

initial call owing to finger trouble selecting the frequency after transferring. It later became apparent that the C172 pilot had not made it clear to Farnborough that they were in formation and, as he missed that point, he didn't call to make his presence known. However, 2min before the Airprox Farnborough asked the C172 pilot if he was in formation and was given a positive response. When 2nm N of WOD heading 350° at 100kt and 2000ft, his co-pilot saw a conflicting ac, a high-wing single-engine ac, only as it passed directly underneath, possibly because the ac had been obscured by the windscreen hoop or the ac's wing. He, the handling pilot, saw it about 1sec before the CPA, the ac appearing as a white flash below and to the R before it passed about 30ft below, too late to take any avoiding action. The other ac appeared to be tracking 240° and climbing but without having taken any avoiding action. He assessed the risk as high. He reported the Airprox to Farnborough a minute after the CPA, this being his first call on frequency.

THE BEAGLE AIREDALE PILOT reports en route to Popham VFR and in receipt of a BS from Farnborough W on 125·25MHz, squawking an assigned code with Mode C. He had been transferred from Farnborough N as he approached Marlow, which he then passed O/H avoiding the Wycombe Air Park ATZ and Heathrow CTR. He had passed his flight details and was given another squawk; the area was usually busy so he kept a good lookout. When in the Henley area heading 215° at 90kt and 1900ft he saw a Cessna in his 2 o'clock about 1nm away on a reciprocal heading slightly above. He turned slightly towards the S to maintain separation and watched it pass 100ft above and 400m clear to his R with no risk of collision; no TI had been received from Farnborough on this traffic. Only after being contacted by RAC Mil was he informed that a Firefly [T67M] had been in loose formation with the Cessna. He had not seen the T67M as at the time he was pre-occupied with watching the Cessna; he had not been told about any ac flying in formation.

THE FARNBOROUGH W CONTROLLER reports operating at medium intensity with a relatively high turnover of traffic and with a significant number of contacts seen on radar throughout the service area. The C172 was receiving a BS routeing OCK Bagshot at 2100ft QNH 1022mb. When the ac was 1nm NW of Bagshot Mast he told the pilot that he had manoeuvring traffic in his immediate vicinity which he acknowledged. A few miles later he noticed that this contact appeared to be following the C172 so he told the Cessna pilot about it again and asked if he was flying in company with another ac, which he confirmed. The Cessna pilot had not told him previously of this fact nor had the identity of the other ac been offered. As there was no requirement to obtain a c/s for the second ac he did not do so. At about 1026 a pilot called using an unfamiliar c/s [T67M] stating that an Airprox had occurred. He scanned his fpss but did not have an ac with that c/s so he asked the pilot if he was receiving a service from Farnborough as he was concerned that he may have discarded the fps. The T67M pilot replied that he was in company with the C172 and that the Airprox occurred W of White Waltham at 1025. At that time the C172 was N of Henley tracking N and the T67M pilot reported the other ac was high-wing, possibly a C152. The reported ac was not on frequency, he thought, and as there were multiple radar returns in the area it was not possible to identify the ac. He took some details down and then transferred the C172 and T67M to LARS N. The C172 pilot did not file an Airprox on frequency.

ATSI reports that the Airprox occurred 4nm SW of White Waltham below the London TMA in Class G airspace. The Beagle Airedale was VFR en-route to Popham and in receipt of a BS from Farnborough LARS W. The Slingsby T67M (Firefly) was not talking to Farnborough at the time of the incident, but called afterwards to report an Airprox. A C172 en-route to Wellesbourne Mountford was VFR and also in receipt of a BS from Farnborough LARS W. It later emerged that the Firefly was following this C172.

METAR EGLF 031020Z 36016KT 9999 VCSH SCT031 08/01 Q1022=

At 1008:30 the C172 pilot reported 3nm NW of Dorking at 2000ft and Farnborough agreed to provide a BS, issuing a squawk of 0436 and QNH 1022mb.

At 1020:05 the Airedale flight called Farnborough and a BS was agreed. Farnborough provided a squawk of 0433 and QNH 1022mb. The radar recording shows the Airedale tracking SSW and indicating an altitude of 2100ft. At 1023:32 the Farnborough controller observed that an unknown ac

is following the C172 and asked, *"C172 c/s are you in company with another aircraft"*. This was confirmed by the C172 pilot but no other details were provided. At this point radar recording shows the C172 tracking N approximately 8nm SSW of the Airedale.

[UKAB Note (1): The 3 ac continue to converge, the radar recording showing at 1026:06 the C172 tracking 350°and indicating 2200ft QNH, crossing from L to R 0·3nm ahead of and 100ft above the Airedale, which is tracking 205° having just turned L about 15°. Meanwhile the T67M is in the Airedale's 11 o'clock also crossing from L to R at a of range 0·4nm indicating 100ft lower. Four seconds later the C172 is seen diverging away from the Airedale at a range of just under 0·2nm with vertical separation of 100ft whilst the T67M closes to a distance of just over 0·2nm in the Airedale's 1130 position at the same level. The CPA occurs on the next sweep at 1026:14 as the T67M and Airedale's radar returns merge with both ac indicating 2000ft QNH. The normal radar picture range shows the ac labels overlapping and garbling.]

The T67M flight then contacted Farnborough radar at 1028:10 and advised *"T67M c/s Slingsby T67 we're following er C172 c/s and we've just had an Airprox"*. The controller's written report states that he was unable to find any flight details for this ac and asks, *"Roger are you receiving a service from me"*. The T67M pilot replied, *"negative not at this time"*. Farnborough responded *"Roger in that case stand by"* and this was acknowledged. At this point the distance between the 2 ac involved is 6nm and the controller was not aware that the Airedale was the other ac involved.

The T67M pilot reported that the Airprox occurred at approximately 1025 abeam White Waltham and that the other ac was a high wing Cessna, possibly a C152. Shortly afterwards the C172 and T67M were transferred en-route.

The Farnborough controller reported multiple contacts in the area. The radar recording set at the normal operational range shows a number of contacts in the area, together with Heathrow arrivals on RW09L, resulting in a complex picture with a degree of label overlap and garbling.

The controller was providing a BS to the Airedale and C172, but not to the Firefly. MATS Pt1, Section 1, Ch 11, Pg4, para 3.1 defines: *'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'.*

Due to the multiple contacts in the area and garbling of SSR labels, the controller was not aware that the ac had passed in close proximity and was unable to pass any warning to the pilots. MATS Pt1, Section 1, Ch 11, Pg4, para 3.5.1, states: *'Pilots should not expect any form of traffic information from a controller, as there is no such obligation placed on the controller under a Basic Service outside an Aerodrome Traffic Zone (ATZ), and the pilot remains responsible for collision avoidance at all times. However, on initial contact the controller may provide traffic information in general terms to assist with the pilot's situational awareness. This will not normally be updated by the controller unless the situation has changed markedly, or the pilot requests an update. A controller with access to surveillance derived information shall avoid the routine provision of traffic information on specific aircraft, and a pilot who considers that he requires such a regular flow of specific traffic information shall request a Traffic Service. However, if a controller considers that a definite risk of collision exists, a warning may be issued to the pilot*'.

MATS Pt1, Section 1, Ch 11, Pg5, para 3.6.1, states: *'Whether traffic information has been passed or not, a pilot is expected to discharge his collision avoidance responsibility without assistance from the controller'."*

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of all 3 ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC authorities.

Although the C172 and T67M pilots reported flying in loose formation Members wondered whether they had had any formal training. This discipline is an item covered extensively in military flying training but is not covered in the PPL syllabus; however, it is offered as a post PPL training course by a few flying establishments in the UK. Apart from the actual flying aspects – maintaining/moving formation position and pilot's responsibilities within the formation including lookout - RT discipline, including check-in and loss of RT procedures, is a crucial element. It is not difficult, but it needs to be thought about beforehand and briefed thoroughly. SOPs for each of the flying elements is to check-in on frequency before the formation leader communicates with ATC to pass the formation's flight details. In the event the C172 pilot did not do this and the T67M pilot, who was slow to come up on the new frequency and did not check in, missed the C172 pilot's initial RT exchange with the Farnborough controller, who was unaware of the ac being in formation. Later the controller noticed the T67M flying close to the C172 and eventually the formation situation was revealed. Phraseology to be used for inter-formation exchanges is another aspect of this discipline so the C172 formation leader should have been aware of the appropriate calls to make to warn the T67M pilot of the conflicting traffic. The UKAB will examine the possibility of writing a guide for GA pilots highlighting the tasks and responsibilities associated with leading and flying as a wingman in a formation.

As this incident occurred in Class G airspace below the LTMA, the pilots were responsible for maintaining their own separation from other ac through 'see and avoid', irrespective of the ATS being provided. Under a BS, pilots should not expect any specific TI on other ac. The controller was under no obligation to monitor the flight, and did not see the confliction on radar so no warning was passed. Members were acutely aware of the possible blurring of services, which could lead to pilots under a BS provided by a radar equipped ATSU believing that they may be getting a 'better' service than they actually are. The formation pair and Airedale had approached each other on a constant relative bearing, a situation where an ac appears as a stationary target in the pilot's field of view with no relative movement. Both the C172 and T67M pilots believed that the converging Airedale had probably been hidden by ac structures. These known blind spots should be taken into account during the lookout scan and can be alleviated by either moving the ac's flightpath or the pilot's head to clear the blind areas. Members agreed that the cause of the Airprox was that the C172 formation leader had, for whatever reason, seen the Airedale late whilst the T67M pilot, whose lookout scan was degraded owing to his attention being drawn towards the leader for his station keeping, only saw the Airedale as it passed beneath, effectively a non-sighting, whilst the T67M passed unsighted to the Airedale pilot. Under the Rules of the Air, the T67M pilot should have given way; clearly this was not possible owing his non-sighting of the conflicting Airedale.

Turning to the Risk, the C172 pilot saw the Airedale late and quickly judged that it was going to pass close, estimated separation 50-100ft vertically and 100m horizontally, but with no risk of collision with his aircraft. The Airedale pilot had seen the C172 and had manoeuvred his ac to the L ensuring adequate separation margins were maintained, his estimated separation distances being borne out by the radar recording. However, the T67M and Airedale had then passed each other purely by chance, the T67M pilot seeing the Airedale as a white flash passing 30ft below with the Airedale pilot unaware of this close call; the radar recording at the CPA indicated nil separation. These facts left the Board in no doubt that a definite risk of collision had existed during this encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the Airedale pilot, effectively a non-sighting by the T67M pilot and a late sighting by the C172 formation leader.

Degree of Risk: A.