

INDEX AND ASSESSMENT SUMMARY Meeting Date: 10 February 2010**Totals: 10 Risk A: 1 Risk B: 2 Risk C: 7 Risk D: 0**

<u>No</u>	<u>Reporting</u>	<u>Reported</u>	<u>Airspace</u>	<u>Cause</u>	<u>Risk</u>
2009-074	Tornado F3 (MIL)	Grob 115 D2 (CIV)	G	<p>Late sightings by the F3 crews and the Grob 115 pilot.</p> <p>Safety Recommendations:</p> <p>It is recommended that:</p> <p>1. The MoD should review the performance of the Watchman primary ASR and associated SSR system at RAF Leuchars to ensure that it provides appropriate coverage in the lower airspace commensurate with its rôle.</p> <p>2. ATC and aircraft operators at Dundee airport, together with RAF Leuchars staff, should review the requirement for agreed General Handling Areas and Air Traffic procedures to improve the mutual deconfliction of civilian light aircraft and military fast jets operating in this vicinity.</p>	B
2009-082	X-Air Microlight (CIV)	BE99 King Air (CIV)	G	Conflict in the Dunkeswell circuit resolved by the X-Air pilot.	C
2009-84	ASG29	DA42	G	Late sightings by the pilots of both aircraft.	A
2009-089	B757-200 (CAT)	B737-800 (CAT)	A	The LTC Capital controller climbed the B737 into conflict with the B757	C
2009-090	AS365 (CAT)	PN68 (CIV)	G	Sighting Report in an HPZ.	C
2009-094	B737-800 (CAT)	A320 (CAT)	C	The LAC S1/24T controller descended the A320 into conflict with the B737.	C
2009-096	DHC-8 (CAT)	Typhoon (MIL)	F/G	The Typhoon pilot climbed above his assigned and coordinated level into conflict with the DHC-8.	C

2009-110	C42 Ikarus (CIV)	Chinook (N/K)	G	The Chinook crew flew close enough to the Ikarus to cause its pilot concern.	C
2009-113	Mooney M20C (CIV)	Lynx Mk8 (MIL)	G	The Lynx entered the Kemble civil airfield avoidance area and flew into conflict with the Mooney M20C.	C
2009-121	Grob Tutor (MIL)	Model Ac (CIV)	G	Conflict with a model aircraft in the Cranwell ATZ. Safety Recommendation: Director UKAB note: CAP 658 covers model ac flying and a safety recommendation might not be necessary. We will research further.	B

-end-

AIRPROX REPORT No 2009-074

Date/Time: 16 July 1402

Position: 5633N 00239W (12nm
NE of Leuchars - elev
38ft)

Airspace: Scottish FIR (Class: G)

Reporting Ac Reported Ac

Type: Tornado F3 Grob 115 D2

Operator: HQ Air (Ops) Civ Trg

Alt/FL: 4000ft 4000ft
QFE (1014mb) QNH

Weather: VMC CLBC VMC NR

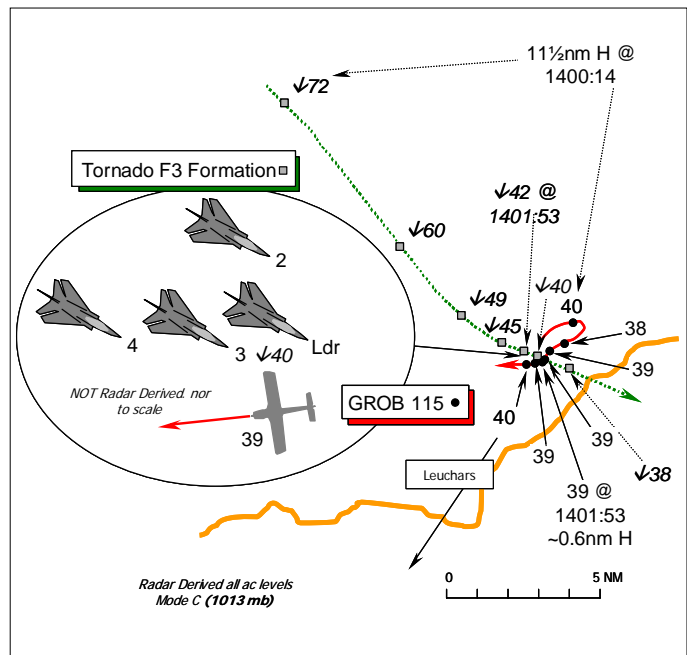
Visibility: >25km >30km

Reported Separation:

300-400ft V/200m H 100ft V/500m H

Recorded Separation:

100ft V as SSR contacts merged [-0.3nm H]



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TORNADO F3 PILOT reports he was leading a formation of 4 grey F3s on recovery to Leuchars after taking part in a CQWI sortie. The formation disposition was 'Arrow heavy side right' but in the descent he had Nos 2&3 in reverse Vic with No 4 tied on in 1nm trail. Scottish Mil provided a TS in transit and, whilst descending the formation through a 2800ft thick cloud layer heading 145° at FL90 at Mach 0.55, he was given the following TI at 1359:25 "[C/S] traffic 12 o'clock 12 miles right left indicating FL40". This was the last and only traffic update he received from Scottish Mil before being handed over to Leuchars APPROACH (APP) at 1400:04. At this point, before taking his formation across, he should have requested an update on the previously called traffic but did not do so. Upon contacting Leuchars APP the formation was identified, placed under a TS and he then requested further descent. No further traffic calls were received from APP, nor was he given any indication he was in an area of poor radar performance. He was flying under VFR, in good VMC at FL70, when APP instructed him to descend to a height of 3000ft QFE. Approaching a position 12nm NE of Leuchars, in the area between Carnoustie and Arbroath, heading 112° whilst descending through 4000ft QFE at Mach 0.62, he had relaxed the formation into 'Arrow heavy side right', whereupon he saw the other ac – a white Grob 115 D2 – at the same time as his No2 transmitted the position of the Grob to the other formation members. He saw the Grob about 3sec before the Airprox, which occurred at 1401:56; a collision risk was apparent to his No3 who actioned a pull to avoid the Grob. Minimum vertical separation was 300-400ft vertically and 200m horizontally and he assessed the Risk of a collision as "high". Whilst positioning the formation to release flares that had to be dispensed over the sea, changing formation and all the while receiving calls from ATC regarding controller training his workload was moderate to high. It was also the first time in 4 years that he had led a 'four-ship' recovery.

THE GROB 115 D2 HERON PILOT reports that he was conducting an instructional VFR flight teaching Stalling - Part 1, whilst in receipt of a BS from Dundee on 122.9MHz. A squawk of A7000 was selected with Mode C on; Mode S is not fitted. The HISLs were on and his aeroplane is coloured white.

He had been operating in one of their general handling (GH) areas at 4000ft Dundee QNH for the previous 10min. About halfway between Arbroath and Carnoustie, some 1 1/2nm 'onshore', he had just completed another 180° lookout turn onto 260° and was in the process of teaching the setup of

the fully developed stall with the speed decreasing from 90kt. He opined frankly that his eyes were inside more than they should have been, but when he looked to the R he saw the closest F3 in his 4 o'clock turning left behind him at a range of about 500m - possibly descending. He then saw two other F3's outside the first ac and slightly further behind him but he did not know if they were turning. Upon looking forward he saw a fourth F3 passing in front and a little lower (possibly turning slightly right and descending). As far as he was aware, all the jets were descending from altitude for recovery to Leuchars and continued to descend offshore. Minimum separation was 100ft vertically and 500m horizontally.

He opined candidly that this was obviously a late sighting on his behalf due to workload – for which he had no excuse and he wondered that instead of working Dundee, if he had obtained a BS from Leuchars ATC, would they have given him a 'heads-up' about the fast jets in the area. He also postulated whether it would be worthwhile talking to Leuchars more than he does at present because he is aware how very busy Leuchars ATC are at times.

THE LEUCHARS COMBINED APPROACH, DIRECTOR AND LARS CONTROLLER reports that he was instructing a trainee controller whilst working Leuchars APP, DIRECTOR and LARS combined on the APP position. ScATCC(Mil) handed over the formation of 4 F3s in a position about 100° ANGUS 5nm descending to FL70. During the handover, traffic in their 12 o'clock - 12 miles was notified as having been called. This traffic was squawking A7000 and indicating FL40 Mode C. Shortly after the formation leader called on frequency the A7000 squawk disappeared from radar as did the primary radar return. On initial contact the F3 leader requested descent and was given 3000ft QFE for a radar to visual approach, before being asked if his formation had sufficient fuel for instrument recoveries for controller training. The F3 leader gave a negative response and then requested to route out to sea before recovery to dispense some flares, for which he was given his own navigation.

Another flight then called on 126.5MHz requesting a BS from Bass Rock heading N for a MATZ crossing. At the same time the ScACC landline rang and were told to standby, before one of the F3 Formation called to say that they had got close to a Tutor in the vicinity of Barry Budden and did we have any traffic in that area. By that stage the F3 formation were about 10nm off the coast but there were no radar returns showing anywhere in the Barry Budden area.

It was noted that although the Watchman primary ASR, SSR and other equipment was all fully serviceable and operating on a 40nm range, permanent echoes persist in the vicinity of the Airprox location which is "standard" for the Leuchars Watchman. The Leuchars Weather was reported to be CC: BLU; Vis: 50Km; SCT @ 2500ft, SCT @ 9000ft, BKN 25000ft; RW27RHC; QFE: 1014mb.

DAATM reports that the Leuchars APP position was manned by a Mentor and controller who was training in the APP and DIRECTOR (DIR) positions but held endorsements for DEPARTURES (DEPS) and ZONE. Although not common practice, especially when training is taking place, the APP, DIR and ZONE tasks were combined; the traffic levels were low and within the controllers' capability.

At 1359:41 ScATCC (Mil) Assistant 5 (ASST5) called APP to handover the F3 formation. At the end of the handover, ASST5 provided somewhat vague information regarding traffic that had been called to the F3 "*Stud 4, has traffic in his 12 o'clock has been called*"? APP did not state that they had radar contact with the called traffic but replied "*Yep Leuchars.*" The ATSU's investigation report indicates that there was a radar return indicating FL40 squawking A7000 that could have been the ac called to the F3 formation by ScATCC (Mil) [displayed at some stage]. At 1400:13, the F3 formation leader checked in with APP at FL70 requesting further descent. APP identified the F3 at 1400:21, provided a TS and gave the weather details including an instruction to set the Leuchars QFE of 1014mb. At 1400:36, after reading back the QFE set, the lead F3 pilot was given an instruction by APP to "*..descend to height 3000ft*". No mention of the traffic previously called by ScATCC (Mil) was made. The Leuchars ATC report indicates that the radar contact that could have been the conflicting traffic had faded from radar and was therefore not considered a factor. The Aberdeen Radar recording obtained from ScATCC Mil, based on the 30nm range scale, shows the conflictor maintaining FL40

Mode C squawking A7000. The conflictor was initially crossing the F3 from right to left as reported by ASST5 but turned back in a westerly direction. The conflictor and the F3 then maintained a constant bearing until the point of the Airprox. At 1400:38, the F3 formation leader was asked if elements could carry out evolutions for controller training to which the lead F3 pilot replied that they could not as the formation had to route out to sea to dispense some flares. The F3 leader stated that they would route behind Bell Rock before recovering under their own navigation. Between 1402:13 and 1402:55 an unrelated landline call and a freecall from an aircraft requiring a Basic Service was dealt with by APP. At 1403:58 the F3 reported “..2 [reporting on behalf of the formation] *we just had a close [indistinguishable word] with a Tutor somewhere in the vicinity of Barry Budden, you got any traffic there at the moment?*” APP replied negative before the F3 formation recovered to Leuchars without further incident.

APP provided the F3 formation with a TS iaw CAP774. The F3 formation were given a descent instruction through the level of an aircraft known to have been in the vicinity of the formation but which was no longer showing on the Leuchars radar display. ASST5 informed APP of traffic in confliction with the F3, which had been called to the formation, during the handover but the information was ambiguous and was not appropriately acknowledged by APP. The F3 formation leader did not ask for, and was not given, an update on the conflicting traffic by APP after the initial traffic information call from ScATCC (Mil); nor was the F3 leader informed that the conflicting traffic had faded from radar.

The Leuchars unit investigation report states that, although the controller in this incident did not break the rules of the provision of a Traffic Service, controllers are being mentored to improve their radar skills in order to prevent a reoccurrence of this type of incident. Furthermore, whilst not considered a contributory factor in this incident, band-boxing [combining] of operating positions whilst training is in progress will only occur in extremis.

ATSI reports that the Transcription Unit visited Dundee to obtain the RTF recording over the period of the Airprox; however, this was not possible due to a reported disc read error. Consequently, no RTF recordings were available for this Airprox; the Unit is in the process of changing its recording equipment. Dundee ATC is not radar equipped and thus had no knowledge of the presence of the Tornados.

HQ AIR (OPS) comments that pilots conducting training and general handling in the vicinity of busy airfields should be advised to obtain a TS if at all possible, equally traffic once notified as a potential confliction should be given a wide berth until it is visually identified. The crews involved in this Airprox were lucky that they did not come any closer, both elements could have done more to maintain separation. Leuchars has already taken action to minimise occurrences of “bandboxing”. This Airprox will be forwarded to DAATM to consider whether this practice needs to be restricted further.

UKAB Note (1): Just at the time the lead pilot was ‘checking-in’ with APP, the Aberdeen Radar recording shows the Tornado F3 formation as a single SSR contact identified from the lead ac’s squawk of A0201, descending through FL72 verified Mode C at 1400:14, with one of the F3 formation elements in trail. Simultaneously, the Grob 115 is shown squawking A7000 and indicating FL40 unverified Mode C in the jet’s 11:30 at a range of 11½nm, just before the Grob turns R about from ENE onto a generally WSW’ly course. The F3 formation maintains a SE’ly course descending through FL49 – some 1000ft above the Grob indicating FL39 – which is 2.8nm away at 1401:34 and now tracking westerly. The Grob crosses through the jet’s 12 o’clock from L to R. However, the picture quality and large scale of the recording, coupled with the absence of primary radar contact on the individual formation elements is not conducive to accurate measurement of the range/CPA. The F3 formation seems to pass marginally astern of the Grob into its 4 o’clock whilst descending through FL40, just as the lead F3’s SSR contact merges with that of the Grob indicating FL39, broadly substantiating the overall geometry of the encounter as reported. Minimum horizontal separation is in the order of 0.3nm just as the F3’s Mode C indicates a descent through the indicated level of the Grob.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant Leuchars RT frequency, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

This Airprox occurred in Class G airspace where each operator had an equal responsibility to 'see and avoid' other ac. Whereas the Grob pilot was receiving a BS from a non radar-equipped ATSU and, in the Board's view, given the stage of training of his Student, was solely reliant on his own lookout scan to detect other ac, the F3 formation leader had wisely obtained a radar service to enhance his situational awareness.

It was evident from the F3 leader's comprehensive account that his formation had been under a TS from ScATCC (Mil) and the presence of the Grob 115 had been pointed out to him as it crossed ahead some 12nm away, prior to the hand-over to APP. Unfortunately the transcript of the ScATCC (Mil) frequency was not available, but there was no reason to doubt the veracity of the F3 leader's report on this aspect and he had clearly referred to recorded data whilst writing his account that had proved so helpful here. The military area controller Member thought that the TI given by ScATCC (Mil) showed commendable awareness on the part of Controller 5 as the F3s were still at FL90, some 5000ft above the Grob's indicated level, at the time but when they descended for recovery the contact could potentially be a factor. It was significant that the direction of the Grob had been specified as crossing from R – L, which the radar recording had shown was accurate when it was given. Board Members realised that without any further updated TI this might have instilled a belief in the F3 leader that the Grob had cleared to the NE of his intended track and was thus no longer a factor during their recovery. However, the Grob 115 had subsequently turned about and was now re-crossing the F3's track from L - R. Although ScATCC (Mil) ASST 5 had highlighted to Leuchars APP that the contact had been called to the F3s, considerable debate revolved around the issue of a traffic update by APP. Whilst the F3 leader had not asked for further TI on the Grob, controller Members were overwhelmingly of the view that, if the Grob had been shown on the Leuchar's displays, it should have been evident to the controllers that it continued to pose a definite hazard and thus further TI was warranted. The APP Mentor reported that shortly after the formation leader called on frequency the Grob's A7000 squawk together with its primary radar return had disappeared from his radar display. The Air Command fast-jet Member suggested that poor radar performance to the N of Leuchars was a known issue and the APP Controller had reported that the Airprox had occurred in an area where permanent echoes persist. The area controller Member contended that traffic information can only be provided if a radar contact is displayed. However, the DAATM Advisor stressed that, if the Grob's contact had faded or entered an area of permanent echoes, this should have been mentioned to the F3 crews, and no mention had been made of a known area of poor radar performance in the Unit report. The civilian Area Member, who is familiar with this airspace, suggested that, if it is an area of known poor radar performance, the TS should have been limited accordingly; however, there was no such limitation placed on the radar service evident from the Leuchars APP RT transcript. The Board agreed that aircrew should be warned when approaching areas of poor radar performance unless the warning is already promulgated in standing orders or instructions. [Post meeting Note: The Leuchars Flying Order Book (FOB) states that *"Owing to poor radar performance, radar services will be reduced in the sector 230° - 280° from Leuchars beyond 10nm and within 10nm of the radar overhead."* This Airprox occurred some 12nm NE of Leuchars – outside of the area of poor radar performance noted in the FOB.] Whilst the Leuchars controllers might have assumed that the contact (the Grob 115) had now flown below coverage, APP had been aware of the contact ahead and below the F3s and had issued instructions for the formation to descend through the level of that ac. The Board agreed with the Command's view that the loss of contact was significant and the F3 leader should have been advised that no updates were possible.

There is currently no stipulated requirement for terminal ATSUs to record their displayed radar picture. Although the Aberdeen radar recording had captured the Airprox - 12nm NE of Leuchars and well within theoretical solid radar cover of the Leuchars Watchman - the Board was keenly aware that it was not indicative of the picture displayed to the controllers at Leuchars. The absence of any return at all from the Grob on a fully serviceable radar – especially SSR - in the period leading up to the

Airprox was of considerable concern to controller Members. The composite structure of the Grob would not enhance its detection by ASRs, and primary radar can also be susceptible to a host of different variables that can attenuate the received radar return. However, the Grob was transponding on Modes A & C, which should have aided the ac's conspicuity, and it was therefore surprising that the Grob was not displayed to the Leuchars controllers. Controller Members considered that the circumstances surrounding this Airprox warranted a technical investigation into the radar performance. This was the overwhelming view of the Membership who agreed a Safety Recommendation was justified. Consequently, the Board recommended that the MoD should review the performance of the Watchman primary ASR and associated SSR system at RAF Leuchars to ensure that it provides appropriate solid radar coverage in the lower airspace commensurate with its rôle.

Fast Jet Pilot Members noted that no AI radar contact had been gained by the F3 formation on the Grob 115, as none had been alluded to in the formation leader's account. Therefore, in compliance with APP's instructions and without any further prompt from ATC about the presence of the Grob, the F3 formation descended towards the light ac unaware that the Grob had turned about and was crossing unseen directly ahead. It was not until the lead pilot spotted it about 3sec before they passed, at the same time as his No2 transmitted the position of the Grob to the other formation members, that any of the F3 crews were aware of its presence. This was undoubtedly a late sighting by the formation crews and part of the Cause. However, despite the lateness of the sighting, there was time for the No3 F3 to take effective action to avoid the Grob. This 'pull' by the No3 F3 pilot had reduced the risk of a collision, but at the distances reported here, with 5 ac involved and little time or space to react, the Members agreed unanimously that the safety of the ac involved had been compromised.

From the Grob pilot's candid report, it was evident that he had sighted the F3s at a late stage, just as he was 'bracketed' by the formation with no time and little space to effect any avoiding action. The Members agreed unanimously that a late sighting by the Grob 115 pilot was the other part of the Cause. Members recognised that the Grob pilot was operating VFR within Class G airspace whilst legitimately conducting his training flight, but he had mentioned that he was operating in one of their GH areas. Further discussion with the Grob pilot revealed that these GH areas are to de-conflict other training flights originating from Dundee, but the Grob pilot had obviously considered the possibility of enhancing his situational awareness by obtaining an ATS from Leuchars. Without any radar, in the Board's view, Dundee was not the best option here and under a BS from Leuchars the controllers were under no remit to pass TI, which did not seem to fit the bill. Clearly if the Grob instructor wanted to receive TI then a radar service was appropriate; a TS would enhance his overall situational awareness, if it was compatible with his task, and in this case could have resulted in a warning of the hazard posed by the formation. To that end the Board suggested that Dundee based civilian training ac should make use of a TS, when available, from Leuchars Radar. Whether Leuchars knew of the Grob pilot's 'GH areas' was unclear, but if training flights are regularly conducted in the area through which fast jets also recover, further liaison would be worthwhile. [Post Meeting Note: these 'GH Areas' are only used internally by this flying training unit.] The Board's intent here was to suggest communication so that each was aware of the activities that were taking place in the local area; perhaps some simple arrangements could be made to establish which GH areas are in use on the day, with the overall aim of improving mutual deconfliction between military fast jets and light training ac. After a wide ranging debate the Board elected to make a further Safety Recommendation, that ATC and aircraft operators at Dundee airport, together with RAF Leuchars staff, should review the requirement for agreed General Handling Areas and Air Traffic procedures to improve the mutual deconfliction of military fast jets and civilian light aircraft operating in this vicinity.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Late sighting by the Grob 115 pilot and the F3 crews.

Degree of Risk: B.

Recommendation:

(i) The MoD should review the performance of the Watchman primary ASR and associated SSR system at RAF Leuchars to ensure that it provides appropriate solid radar coverage in the lower airspace commensurate with its rôle.

(ii) ATC and aircraft operators at Dundee airport, together with RAF Leuchars staff, should review the requirement for agreed General Handling Areas and Air Traffic procedures to improve the mutual deconfliction of civilian light aircraft and military fast jets operating in this vicinity.

AIRPROX REPORT No 2009-082

Date/Time: 2 August 1600 (Sunday)

Position: 5052N 00313W
(Dunkeswell Aerodrome
circuit elev: 839ft)

Airspace: Dunkeswell ATZ (Class: G)

Reporting Ac Reported Ac

Type: X-Air Microlight BE99 King Air

Operator: Civ Pte Civ Comm

Alt/FL: 500ft NR
QFE (998mb) (N/K)

Weather: VMC CLOC VMC NR

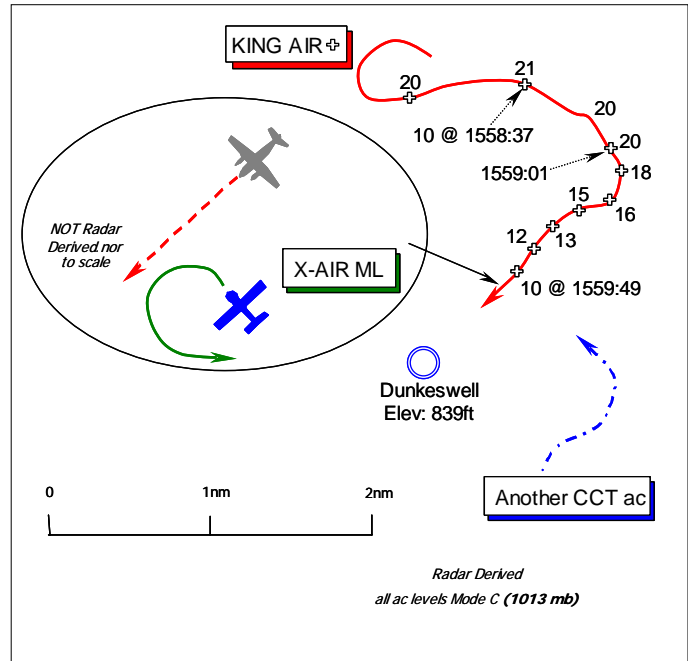
Visibility: 20nm NR

Reported Separation:

50ft V/150m H NR

Recorded Separation:

Not recorded



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE X-AIR MICROLIGHT (ML) PILOT reports that he was inbound to Dunkeswell under VFR from a private strip and was in communication with Dunkeswell RADIO on 123-475MHz. At a range of 2nm he had called with his intentions to join on a L base-leg for RW23L to land. Whilst established on base-leg descending through 500ft QFE (998mb) heading 320° at 50kt just about to turn final, a parachuting ac – the BE99 King Air – joined the cct onto final at a higher speed and at a low angle of approach. It seemed that the King Air pilot had assumed he had precedence to land and when in his 2 o'clock - 300m away made a late call of finals to land. This forced him to take immediate avoiding action in his microlight by turning to port into a left orbit to avoid a collision with the white/silver King Air that passed 150m to starboard and 50ft above his microlight with a “high” risk of collision.

His microlight is coloured blue with yellow leading edges. An Airprox was reported to Dunkeswell on landing.

THE BE99 KING AIR PILOT reports that he was operating VFR from Dunkeswell and in communication with Dunkeswell RADIO whilst executing parachute drops. A squawk of A0033 selected with Mode C. He was not aware of any Airprox and can only assume that the ML was in the aerodrome pattern and that he overtook it with separation that was sufficient from his perspective, but insufficient from the point of view of the ML pilot.

The King Air cruise speed is about 200kt; it flies at 150kt in the pattern with gear down, 120kt on approach and 100kt over the RW threshold.

UKAB Note (1): The UK AIP at AD2-EGTU-1-2 promulgates the Dunkeswell ATZ as a circle radius 2nm centred on the longest notified runway 05/23, extending from the surface to 2000ft above the aerodrome elevation of 839ft amsl and active daily in Summer from 0830-1700, with an A/G Service from Dunkeswell RADIO on 123-475MHz. Circuit height for RW23 is 800ft. At note at EGTU AD 2.22 b. states: *No overhead joins as parachuting is in operation 7 days a week between daylight hours.* c. *Subject to parachuting pilots may request an overhead join only when in two-way communication with the A/G radio station otherwise the pilot is to join on the downwind or base leg for the RW in use.*

UKAB Note (2): This Airprox is not shown clearly on radar recordings; although an ac is evident as a primary contact circuiting L in Dunkeswell's RW23 pattern downwind, before turning base leg at about 1nm, it is perceived to be following the X-Air ML, which is not evident at all. The Burrington Radar shows the BE99 King Air, squawking A0033, on a wide R base leg at 2000ft unverified Mode C (1013mb) – the QNH was also (1013mb). At 1559:01, the BE99 turns R inbound onto a long final at a range of 1¾nm from the aerodrome and then commences a continuous descent. Radar contact on the BE99 is then lost after it passes 1000ft Mode C (1013mb) at a range of about 0.8nm from the aerodrome at 1559:49. The X-Air ML pilot reports the Airprox occurred at 1600 UTC, thus the reported close quarters encounter with the BE99 is not replicated on the radar recording.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and radar video recordings.

Here it was evident that the BE99 pilot was involved in parachuting at the aerodrome. Whilst parachute drops were not actually in progress at the time of this Airprox, overhead joins are not permitted when parachuting is taking place - this is promulgated in the AIP for all concerned. Therefore it was evident that both ac here had joined the Dunkeswell cct from opposite directions on their respective base leg joins. A GA pilot Member opined that it was incumbent on operators at multi-activity aerodromes not only to broadcast their intentions on RT, but also to ensure that their procedures and the nature of their activity is well known to other aerodrome users - especially visitors - by ensuring the fullest information is available in the UK AIP and popular commercial flight guides.

The Board was briefed that, in general, aerodromes are not required to record their A/G Stations' RT traffic. It was unfortunate, therefore, that the absence of an RT recording did not allow the Board to determine independently what calls had been made on the Dunkeswell frequency within the cct pattern. Moreover, it was not feasible to determine when the respective 'final' calls were made. It seemed from the recorded radar data, coupled with the X-Air ML pilot's account, that the BE99 pilot had joined from a wide R base-leg onto a long final before he made a call of 'finals to land' when in the X-Air's 2 o'clock some 300m away; at this point, the X-Air pilot had just established on a shorter L base. It seemed that the BE99 pilot was not aware of the proximity of the much slower ML on base leg as he made his approach to the aerodrome, which resulted in this conflict on 'final'; conflicts of this type can readily occur when such dissimilar ac types as these are operating in the same cct. Whilst the nature and size of MLs can make them very difficult to see, the BE99 pilot should have been able to hear the RT calls by the ML pilot. Therefore he should have been looking out for the ML when it's pilot reported on RT that he was established on L base. From the brief account provided it seemed plain that the BE99 pilot was either not aware of the Airprox or, if he had seen the ML, he was not concerned at the reported 150m horizontal separation at the time. Whilst there was no reason to doubt the veracity of the ML pilot's report, the exact geometry of the encounter could not be verified without a radar contact on his ac. Nevertheless, in the light of the ML pilot reporting that he was forced to take immediate avoiding action by turning to port into a left orbit to avoid a collision, the Board concluded unanimously that this Airprox had resulted from a conflict in the Dunkeswell circuit that had been resolved by the X-Air ML pilot. The Board also agreed that, when baulked in the cct by the faster BE99, the ML pilot had wisely given-way to the faster twin thereby removing any Risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict in the Dunkeswell circuit resolved by the X-Air microlight pilot.

Degree of Risk: C.

AIRPROX REPORT No 2009-084

Date/Time: 28 July 1411

Position: 5207N 00040W (4.3nm
NW Cranfield)

Airspace: London FIR (Class: G)

Reporting Ac Reported Ac

Type: ASG 29 DA 42

Operator: Civ Pte Civ Trg

Alt/FL: 2700ft NR
(QNH) (QNH 1016)

Weather: VMC CLBC VMC NR

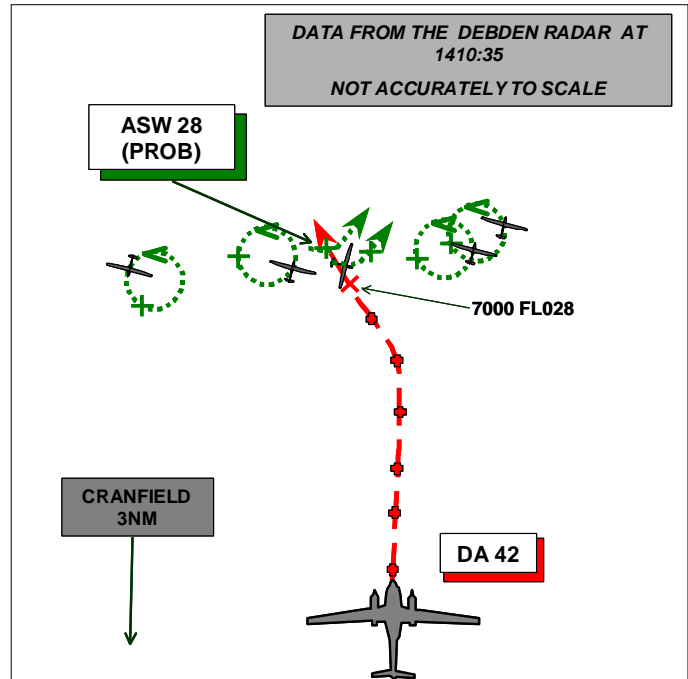
Visibility: >10km NR

Reported Separation:

0ft V/50m H 100ft V/ 200m H

Recorded Separation:

NR (See Note: (2))



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE ASG29 PILOT reports flying a white glider with a red fin, competing in the National Gliding Championships from Husbands Bosworth. He was flying on a task with turn points of Crowland – Newport Pagnal – Papworth – Husbands Bosworth. He was cruising after a climb just past Newport Pagnal, heading towards Bedford, looking for a suitable cloud for his next climb when he saw a Twin Star ac with its strobes and landing lights on (this caught his attention very quickly) at the same level in his 1230 position, about 300m away and closing quickly. He immediately turned hard left and pulled, waiting for the bang! He then rolled out and continued his task not seeing the ac again. He thought [incorrectly] that it might have been Coventry-based and returning there, as it seemed to be tracking from Cranfield to Coventry.

He has FLARM fitted to his glider and he also has a logger trace, a copy of which he helpfully provided. He reported the incident on landing and assessed the risk as being high.

UKAB Note (1): At about the reported time of the Airprox the glider datalogger trace shows that the glider makes a hard left turn in a position 334°/3.9nm from Cranfield.

THE DA42 PILOT reports flying on a local asymmetric instructional flight under VFR in a white ac with strobes selected on. They were in receipt of a Basic Service (BS) from Cranfield APP and were squawking 7000 with Modes C and S. The student had been the handling pilot until level off (approx hdg 360° at 120kt), when the instructor took control to demonstrate the effects of a port engine failure. During the demonstration, the rear seat passenger pointed out a glider in their 2 o'clock position and about 300ft above. The glider appeared to be circling in a thermal. Immediately after, the instructor saw another glider directly ahead (about 300m away and 100ft above); it also appeared to be turning in an anti-clockwise [to the left] direction, directly towards them so he initiated a left turn to avoid it.

UKAB Note (2): An analysis of the Debden Radar shows the incident. At 1410 the DA42 can be seen tracking North, squawking 7000 and indicating 2700ft on the London QNH of 1017mb, towards a group of at least 5 primary only contacts manoeuvring 3-4nm NNW of Cranfield. At 1410:28 the DA42 turns about 20° to the L as one of the primary contacts, in its 12 o'clock at ½nm and tracking about 170°, also turns left. The track taken up by the DA42 (about 340°) takes it directly towards a

second primary contact, passing very close to it (less than 0.1nm) at 1410:52. Although that contact is intermittent and its track cannot be determined, at that time the DA42 was steady on 340° and its Mode C indicated that it had climbed from 2800ft to 3100ft; at the time the glider's datalogger showed it to be fairly level just above 1000m (3280ft) amsl on a 'straight' track.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and a radar video recording.

The Gliding Member suggested that since the competition task as described by the ASG29 pilot seemed quite short, the weather that day might have been 'poorish' with a reduced cloudbase. He advised that GA and Military pilots flying VFR in the vicinity of notified (NOTAMED) gliding competitions should stay well clear of airfields and operating areas. It was pointed out, however, that normally such NOTAMs only promulgate the event and timings and not routes [actual NOTAM at UKAB Note (3) below]; daily route details have to be determined by telephone using the number provided. Another pilot Member considered that, even having read the NOTAM, bearing in mind the distance of the incident from Husbands Bosworth, he would not have considered the gliding competition a significant factor in planning a flight such as the DA42's.

UKAB Note (3): The following is the text of the actual NOTAM:

```
EGTT/QWGLW/IV/M/W/000/050/5226N00103W005
MAJOR BRITISH GLIDING ASSOCIATION GLIDING COMPETITION INC X-COUNTRY ROUTES.
MAIN ACTIVITY WI 5NM RADIUS PSN 5226N 00103W (HUSBANDS BOSWORTH GLIDING CLUB,
LEICESTERSHIRE). UP TO 50 GLIDERS AND 8 TUG ACFT MAY PARTICIPATE. GLIDERS WILL NORMALLY
OPERATE BELOW THE INVERSION LEVEL OR BTN THE TOPS OF ANY CU CLOUDS AND 500FT AGL. AFTER
LAUNCH MOST ACFT MAY BE CONCENTRATED JUST DOWNWIND OF THE SITE OR ON THE FIRST LEG OF
THE X-COUNTRY RTE. FOR INFO ON ROUTES FOR THE DAY AND LIKELY ETD CONTACT GLIDER CONTEST
CONTROL TEL 01858 881582. RTF CONTACT
127.575MHZ.
AUS 09-07-0166/AS2.
LOWER: SFC UPPER: 5000FT AMSL
FROM: 25 JUL 2009 00:00 TO: 02 AUG 2009 23:59
H2485/09
SCHEDULE: SR-SS
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Husbands Bosworth is 25nm N of the incident position

Notwithstanding the NOTAM, both pilots were operating legitimately in Class G airspace conducting their respective activities; therefore both had an equal and shared responsibility to see and avoid other ac. Although the ANO requires powered ac to give way to sailplanes, 'see and avoid' depends on early acquisition by both pilots, which is often not easy. Glider pilots often fly tight orbits during which they need to monitor their instruments to ensure that they are getting 'lift'. Similarly, instructors flying GA instructional flights need to devote some of their capacity to teaching and monitoring their students. In both cases the first, but nonetheless safety critical, activity to suffer can be lookout. Further, visually acquiring small cross-sectioned white gliders against a background of light summer cumulous cloud can also be very difficult regardless of a conscientious lookout. Members agreed that in these circumstances it is always wise, as the ASG29 pilot did, to assume the opposing pilot has not seen your ac and react immediately.

The Board noted, and were grateful for, the detailed and apparently accurate reports and data provided by both pilots, which allowed them to analyse the precise details of the encounter. From the description provided by the ASG29 pilot it was clear that the DA42 identified was the one involved; the, albeit incomplete and projected, radar data suggested that the CPA had been very close laterally, in the Board's view slightly less than the 200m reported by the DA42 pilot. The Airprox Board Inspector who investigated the incident reiterated that the diagram, although based on radar data was a compilation of several very intermittent primary only returns taken from several

consecutive radar sweeps; the gliders appearing on one sweep and disappearing on the next making it impossible to determine an accurate position or track before, at or after the CPA. In his opinion, the positions shown on the diagram are reasonably accurate and there were at least 5 gliders in the area. Given the number of gliders in the area, it was possible that the DA42 pilot had not seen the glider that he came closest to; furthermore, it could not be determined whether the DA42's left turn shown on radar was the avoidance turn reported by the DA42 pilot or an earlier turn for some other reason. However, given the similarity in the accounts provided by both pilots, the Board concluded that it was likely that the DA42 pilot did see the reporting glider, albeit at a late stage. Of note, although pilots seldom mention it, Members noted that the DA42's lights had first caught the glider pilot's attention. While its utility can vary enormously in differing light conditions, as witnessed in this case, lighting can be a most important factor in visually acquiring other ac.

There was considerable discussion regarding the degree of risk. Since Members agreed that the DA42 instructor had most likely seen the reporting glider, discussion focussed on whether the respective pilots' reactions had been in sufficient time for their ac to change their respective flight paths sufficiently to remove the risk of collision. Ignoring the forward speed of the glider as it orbited, the DA42 had been closing at 120kt or about 62m/sec; assuming that the pilot's estimate of his first sighting distance of 300m was accurate, he had just under 5sec to see the glider, assimilate the threat, make a control input and for the flightpath of the ac to change by enough to ensure the safety of both ac. Although this was considered possible, Members agreed unanimously that due to the lateness of the sightings, the subsequent reactions by both pilots had probably not been early enough to prevent a risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Late sightings by the pilots of both ac.

Degree of Risk: A.

AIRPROX REPORT No 2009-089

Date/Time: 17 August 0624

Position: 5122N 00101W (10nm
SE of COMPTON VOR)

Airspace: London TMA (Class: C)

Reporting Ac Reported Ac

Type: B757-200 B737-800

Operator: CAT CAT

Alt/FL: FL210 FL204↑

Weather: VMC NR VMC NR

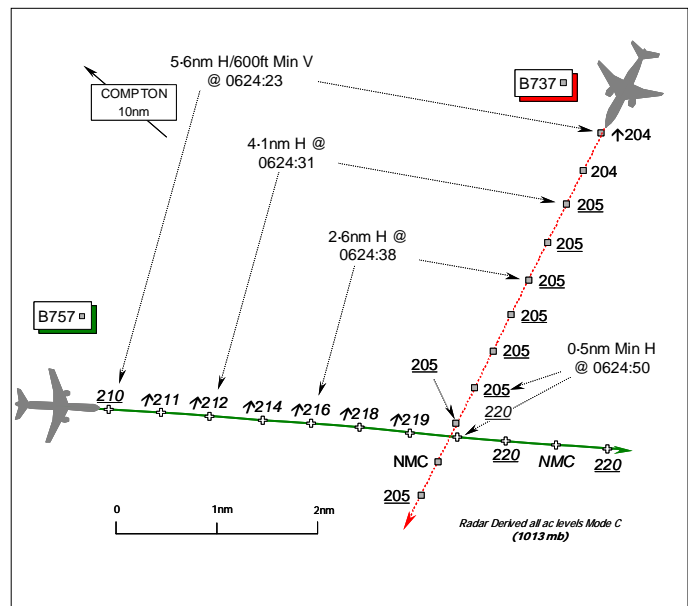
Visibility: 10km+ 10km

Reported Separation:

1000ft V NR

Recorded Separation:

600ft Min V @ 5-6nm H
0-5nm Min H @ 1500ft V



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE B757-200 PILOT reports that he was eastbound from Bristol International Airport under IFR and had just called London CONTROL [LAC S25] on 132.165MHz. Approaching a position 10nm SE of COMPTON VOR, on a radar heading of 100° at 300kt, level at FL210 in VMC whilst waiting for a further climb a TCAS CLIMB RA was enunciated [at 0624:19]. The 1st Officer PF disconnected the AP and followed the demanded RA, whilst he as PNF looked for the other ac. [At 0624:33 the B757's CLIMB RA weakened to ADJUST VERTICAL SPEED.] Another controller then issued an instruction to expedite a climb to FL270. Once clear of conflict [enunciated at 0624:56] the PF re-engaged the AP and initially started to descend as he had not heard the further climb instruction to FL270. They saw a B737-800 cross from L to R about 1000ft below his ac. An Airprox was reported to LAC on the frequency in use.

He added that ATC was very busy at the time and they were given 3 frequency changes in a few minutes. The controller spent so long transmitting the climb clearance and apologising, that neither he nor the B737 crew was able to report the TCAS RA on RT. It seemed that the B737 had been cleared to climb to the same level by a previous sector, but the controller on our frequency [LAC S25] was expecting the B737 to stop its climb at FL200. ATC apologised and said the B737 had been given the wrong level by the previous SC [TC Capital]. He assessed the risk of collision as "high".

THE B737-800 PILOT reports he was outbound from London Stansted to Newquay under IFR and in receipt of a RCS from London CONTROL. Approaching a position 030° SAM 22nm heading 200°(M) level at FL200, the controller cleared them to climb to FL210 and instructed them to change frequency to 132.165MHz [LAC S25]. Climbing wings level at 1000ft/min at 290kt, VMC between layers, he was unable to check-in immediately with the [LAC S25] controller as the new frequency was very busy. The subject B757 [he reported the company C/S] was on their right about 1000ft above them. As they climbed a TCAS "advisory" [the B737 crew was issued with a TA at 0624:06] was enunciated so he reduced their RoC. A TCAS RA ADJUST VERTICAL SPEED was then enunciated [at 0624:26 instructing the pilot to reduce the RoC] as they passed FL204, which was followed in accordance with TCAS instructions and company procedures. When he made contact on 132.165MHz, the controller appeared to be aware of the situation. The B757 was not seen visually; he assessed the minimum vertical separation as 800ft from TCAS and the Risk "medium".

THE LTC CAPITAL CONTROLLER (TC CAP) reports that he was working the Sector bandboxed which was relatively busy but nothing unusual for the time of day. Another flight had been co-ordinated at a non-standard level of FL170 eastbound off L9, which involved a re-think for a previously co-ordinated northbound overflight through COMPTON VOR (CPT) inbound to Coventry that had also been agreed at FL170. Due to this flight requiring descent for Coventry at some stage, he had spent a few moments agreeing FL160 with TC SW and S19. Returning to the CPT area he climbed the B757 outbound from Bristol to FL210 and transferred it to S25 in good time some miles W of CPT. Subsequently the B737 out of Stansted was climbed to FL210 to de-conflict it from traffic departing Birmingham that was being vectored behind the B737. After the B737 was also transferred to S25 he realised almost immediately, aided by STCA, that FL210 was still occupied by the B757 now well inside CAPITAL Sector's airspace abeam CPT. (He noted that Bristol jet departures seldom actually get into CAPITAL's airspace due to their climb profile). Realising what had happened he phoned S25 primarily to resolve the ongoing conflict between the B757 and B737, but also to apologise for the error. S25 PLANNER expressed surprise that the B737 was also climbing to FL210 but they believed that CAPITAL was still working the ac; this was not the case and hence he could not resolve the conflict on RT by stopping the B737 at FL200. The B757 was subsequently climbed out of FL210 and the conflict was resolved, but he believes that prescribed separation was not achieved.

THE LAC SECTOR 25/26 PLANNER CONTROLLER (S25 PLAN) reports that when the B757 crew checked in on transfer from TC CAP, the ac was tracking E on a radar heading maintaining FL210. The B737 was tracking SW on a standing agreement from TC CAP. At around 6:22 he received a phone call from TC CAP reporting that they had climbed the B737 to FL210, into conflict with the B757. He immediately highlighted this to the trainee ATCO and OJTI operating S25/26 TACTICAL, who gave the B757 crew an expedited climb. The B737 crew checked in passing FL204 and was given a climb to FL210 when safe to do so.

THE LAC SECTOR 25/26 TACTICAL CONTROLLER (S25 TAC) reports that the B757 was flying a radar heading of E level at FL210. The B737 was climbing towards SAM but not on freq when STCA was triggered. His PLANNER received a phone call advising that the B737 was climbing to FL210 in conflict with the B757. The B757 crew were instructed to 'expedite climb' to avoid the B737 and traffic information was given to the B757 crew. The B737 crew then called on the Sector frequency and was given a climb back to FL210 "when safe". During this period the traffic level was moderate to busy with the trainee 'plugged-in'. He estimated that prescribed separation was eroded to 4nm horizontally/600ft vertically.

ATSI reports that the LTC CAPITAL Sectors – COMPTON & VATON - were combined. Additionally, in view of the traffic situation, it was not considered necessary for a Co-ordinator to be in position. The combined radar controller/co-ordinator described his workload as moderate, with most of the traffic being in the COMPTON section.

The B737 crew established communication with TC CAP at 0619, reporting turning L heading 215° and climbing to FL160. Shortly afterwards, the B757 crew contacted the sector heading 100°, at FL180. The ac was SW of Lyneham, in LAC S23's airspace but released to TC CAP. The 'Standing Agreement' level from LAC S23 to LTC is FL180, level abeam KENET. The conditions are: "*Where traffic is transferred on a radar heading, this heading will be retained until the aircraft enters TC Capital airspace*". The subject ac were about 60nm apart at the time. After confirming which flight had called him, the controller instructed the B757 crew to climb to FL200 and after dealing with other traffic, a further climb to FL210 was issued. This is the Standing Agreement level for transferring the ac to LAC S25. The B757 crew was then transferred to S25 TAC. At the time, the B757 was some 24nm from CPT i.e. still not in TC CAP's airspace (its western boundary is approximately 5nm W of CPT). TC CAP could not recollect whether he had removed the B757's fps from the display in the belief it would be climbed above his sector before reaching the boundary - the upper limit of TC CAP is FL215. The LAC MATS Part 2, Page BCN-23, states:

"The aircraft is released for climb to S25 [TAC] up to FL270 whilst within the confines of S23, irrespective of whether the aircraft is transferred from TC Capital or S23. Where the traffic is

transferred on a radar heading, the heading will be retained until the aircraft enters S25 airspace”.

The LTC MATS Part 2, GEN-136, states:

“A Flight Progress Strip may be discarded from the active bay when the subject aircraft is clear of all conflicts within the geographical area defined on the strip designator. The final strip on the Flight Progress Display Board should be retained until the subject aircraft is clear of all conflicts/potential conflicts within the sector AND has been transferred off the frequency. Where a controller opts to discard the final strip before the subject aircraft has left the physical confines of the sector boundary or the RMA (Radar Manoeuvring Area), he/she should ensure that such action will not compromise the completeness of the traffic picture for him/herself or another controller who may refer to the strip display or use it for handover/takeover purposes”.

The radar recordings, timed at 0620:58, as the B757 is being transferred, show the subject ac on conflicting tracks 45nm apart - the B737 maintaining FL160 and the B757 passing FL196.

At 0621:21, the B737 crew was instructed to climb to FL190 and 30sec later to FL200. When the latter instruction was issued, the radar recordings show the subject ac still on conflicting tracks, 35nm apart - the B757 passing FL207 and the B737 FL162. The TC CAP controller explained that the stepped climb was in respect of the B757. Having instructed the B737 crew to climb to FL200, the controller became busy co-ordinating traffic in the southern part of the sector.

After finishing his telephone call concerning the traffic co-ordination TC CAP instructed the B737 crew to climb to FL210 at 0623:00, the Standing Agreed Level with S25. He explained that he assumed that S25, in accordance with usual procedures, had climbed the B757 out of FL210 but in fact this had not occurred and it was still maintaining that level. He believed he might have observed on the radar display another ac [of the same company as the B757], which was tracking about 18nm behind the subject B757 at FL230, and he might have erroneously believed that this was the B757. The subject ac were now 22nm apart, with the B757 maintaining FL210. The B757's Mode S Selected Flight Level (SFL) DAP shows it's SFL as FL210. [Mode S information is only currently displayed to TC controllers – it is not accessible on LAC displays.] After turning traffic outbound from Birmingham to pass behind the B737, the TC CAP controller transferred the latter flight to S25 at 0623:35, requesting that the pilot report his heading to S25 TAC. TC CAP commented that he had still overlooked the presence of the B757 at FL210. He added that, in future, he will 'box' the SSR labels of aircraft eastbound from Bristol, to make him more aware of their presence. The radar recording shows the subject ac, at this time, 14.9nm apart - the B737 passing FL196 and the B757 maintaining FL210.

The TC CAP controller stated that he became aware of the potential conflict when STCA activated. Radar recordings show this occurring at 0623:50, shortly after the B737 was transferred. He immediately telephoned S25 to warn them about the situation. He asked S25 PLAN if the B737 was being stopped at FL200. The S25 PLAN was surprised to hear from the TC CAP controller, that it was climbing to FL210. At the time, as the B737 crew had not yet contacted S25 TAC, at 0624:10 TC CAP called the ac on his RT frequency, but received no reply.

The S25 TAC was operating with a trainee. The B757 crew contacted the sector at 0622:10, reporting at FL210, heading 100° - the trainee acknowledged the call. There was no requirement for the flight to be climbed at this point. Subsequently, some 2min later, having observed STCA activating and overhearing S25 PLAN's telephone call, intimating that the B737 was climbing to FL210, the S25 TAC mentor took over the frequency and instructed the B757 crew, at 0624:23, to *“expedite your climb now Flight Level 2-7-0 good rate of climb please”*. By now, the two ac were 5-6nm apart, the B757 still at FL210 and the B737 at FL204. The pilot of the B757 replied *“[C/S] is already in the climb”*. During this transmission, an audio alarm is heard in the background. Traffic information was passed *“there's traffic beneath you climbing to ?????? looks like he's..descending back to Flight Level 2 hundred now”*. As soon as the pilot acknowledged this transmission, the B737 crew contacted the sector. The controller apologised for the situation, continuing *“you can climb now*

Flight Level 2-1-0". Neither pilot reported receiving a TCAS alert on the frequency, the pilot of the B757 stating later, in his written report, that he was not able to alert the controller to his TCAS RA because the frequency was too busy. Just before leaving the frequency, the pilot of the B737, commented that he would be filing a report. S25 TAC explained the incident briefly. The pilot reported "*unfortunately I couldn't I was unable to talk to you at the time 'cause you were busy talking to somebody else*".

The radar recordings show that the B737 stopped its climb at 0624:31, when it was at FL205. At the time, the B757 was in its 1 o'clock – 4.1nm away, passing FL212. By the time the distance between the ac reduced to 2.6nm, vertical separation had increased to 1100ft - the B757 indicating FL216 and the B737 FL205. As the 2 ac passed 0.5nm apart, vertical separation was 1500ft, as the B757 continued its climb.

TC CAP did not ensure that standard separation would exist between the subject ac when he transferred the B737 to S25 TAC climbing to the same level as the B757. In the process he had overlooked the presence of the B757, mainly because he assumed it would have been climbed above FL210 by S25 TAC.

UKAB Note (1): NATS Ltd helpfully provided an assessment of the TCAS warnings received during the encounter using the InCAS simulation tool in conjunction with Resolution Advisory (RA) messages downlinked via Mode S extracted by the ATM Safety Monitoring Tool (ASMT). The InCAS simulation based on radar track data from the Cromer (the Airprox diagram is based on the Heathrow 23cm recording) single source radar indicates that 0624:06 the B737 crew was issued with a TRAFFIC ALERT (TA). Five seconds later at 0624:11 the B757 crew was also issued with a TA. At 0624:19 the B757 crew was issued with a CLIMB RA while in level flight at FL210. Seven seconds later at 0624:26 while climbing through FL204 the B737 crew was issued with an ADJUST VERTICAL SPEED RA instructing the pilot to reduce the RoC. At 0624:33 the B757's CLIMB RA weakened to an ADJUST VERTICAL SPEED RA instructing the pilot to reduce the RoD. The simulation indicates that CLEAR OF CONFLICT was issued to both crews at 0624:56.

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.

The Board considered whether the presence of a trainee controller on S25 TAC might have caused a slight delay in the climb of the B757 out of FL210 to a higher level. However, the ATSI Advisor explained that the trainee had no reason to climb the B757 any earlier and was not compelled to do so. He opined that a qualified controller, working the Sector alone, might well have been a bit quicker off the mark and perhaps this explained why TC CAP assumed that the level had been vacated by the B757. An experienced area controller Member said that, with hindsight, this was a simple mistake by TC CAP who, prompted by the STCA, realised what had happened and immediately took steps to correct his error. From the comprehensive reports provided the root cause of the Airprox was plainly evident; the Board concluded with little further debate that this Airprox had resulted because the TC CAP controller had climbed the B737 into conflict with the B757.

It was clear that STCA had proved it's worth here by alerting the TC CAP controller and S25 TAC mentor to the impending conflict. Consequently the S25 TAC mentor was able to initiate prompt corrective action by instructing the B757 crew to expedite a climb at a good rate out of FL210. Although the S25 TAC mentor was swift to act, it was evident that TCAS was already interceding as the pilot's reply of "*..already in the climb*" indicated that the B757 crew was responding to their CLIMB RA and the next recorded radar sweep immediately after the controller's climb instruction was transmitted shows the B757 in the climb. Whilst controller Members were surprised that the S25 TAC mentor had not prefixed his transmission with 'avoiding action' it was plain that the B757 crew had reacted promptly to their RA. Controller Members emphasised that avoiding action in the vertical

plane should be emphasised as such using the prefix “*avoiding action*”; simply requesting an expedited climb will not necessarily achieve the desired response. It was also evident from the radar data that the B737 crew had levelled their ac in response to their ADJUST VERTICAL SPEED RA, instructing the crew to reduce their RoC. CAT pilot Members pointed out the importance of using the correct RT phraseology when reacting to a TCAS RA. It was unfortunate that neither crew were able to advise S25 TAC that they were reacting to their TCAS RA, which removes any further responsibility from the controller for initiating avoiding action. Whilst not intending to be critical of the crews, it was worth repeating here the latest RT phraseology from CAP 413 Edition 19, which specifies that pilots should report TCAS manoeuvres as “[C/S] TCAS R-A” and then reporting (even if it was not possible to notify the controller that an RA had occurred) “[C/S], clear of conflict” coupled with either: “*..returning to (assigned clearance)*” or, “*(assigned clearance) resumed*”. Nonetheless, in this Airprox both crews’ swift response to their respective RAs ensured that vertical separation was quickly restored, as 1100ft of vertical separation was achieved before horizontal separation reduced below 2.6nm, and 1500ft was evident as the B757 crossed 0.5nm ahead of the B737. Given these circumstances, the Members agreed unanimously that there was no Risk of a collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The LTC CAPITAL controller climbed the B737 into conflict with the B757.

Degree of Risk: C.

AIRPROX REPORT No 2009-090

Date/Time: 13 Aug 1154

Position: 5402N 00043E (Cleeton Platform – elev 187ft 40nm ENE OTR)

Airspace: HPZ/LFIR (Class: G)

Reporting Ac Reported Ac

Type: AS365 PN68

Operator: CAT Civ Comm

Alt/FL: Helideck 300ft (QNH 1018mb)

Weather: VMC CLOC VMC CLNC

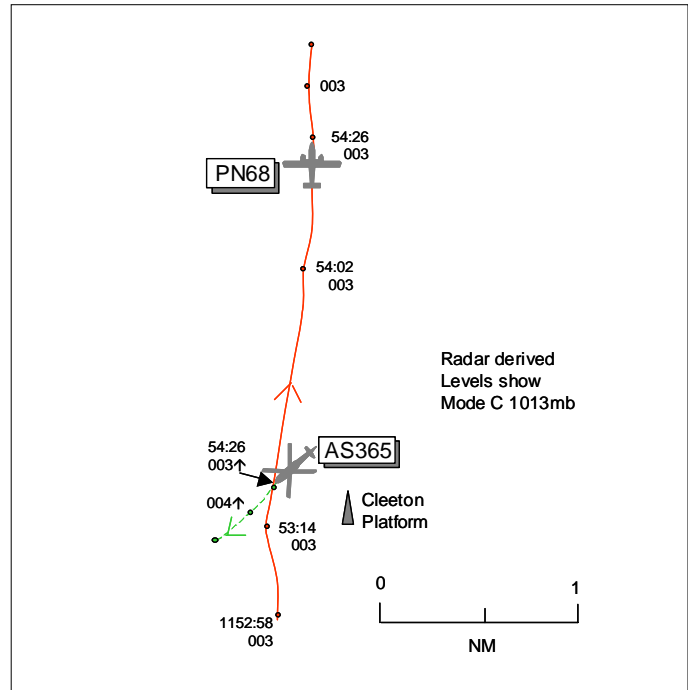
Visibility: 10km 30km

Reported Separation:

63ft V/0-25nm H 150ft V/>0-5nm H

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE AS365 PILOT reports on the helideck of Cleeton Platform ready for departure to Humberside, VFR and in receipt of a Flight Watch from Company Logistics (Log) on 129-875MHz squawking 0234 with Mode C. On the previous leg they were inbound to Cleeton from Humberside and following an SK76 to the same deck with a time spacing of 10min. Whilst under the control of Anglia Radar their details were passed to Company Log offshore and Flight Watch cover was acknowledged by them before they requested descent and frequency change with Anglia. At this time they were made aware of a fixed wing ac, the subject PN68, operating within the Ravenspurn field at low level, not above 250ft. Anglia Radar then established comms with the PN68 pilot, who was at the time operating close to the Cleeton Platform, advising him of the intentions of his AS365 and the SK76 ahead. The PN68 crew was told to stay clear and to the E of the platform until both the inbound SK76 and his AS 365 were clear of the platform. Anglia actually vectored the PN68 away from the platform to facilitate the approach and landing of the SK76. Whilst maintaining comms with Anglia they relayed positional reports of the PN68 to the SK76 flight prior to its departure from Cleeton Platform, as it is not possible to communicate with Anglia from deck level. They, in turn, then landed on the Cleeton Helideck. At 1153 they transmitted a full departure call on the field frequency including time of lift (1253A), number of crew, pax, weights of pax baggage, freight, fuel quantity, cruise altitude and time enroute; this was acknowledged by Company Log. Ready to lift into the hover he, the Capt, requested a final lookout scan from himself and co-pilot to ensure their departure path was clear, in particular looking for the PN68 as nothing had been heard post landing as to its whereabouts. Looking hard over his L shoulder the co-pilot spotted the PN68 in his 7 o'clock range 0-5nm on a N'y track to the W of Cleeton Platform at a height of 250ft (calculated as 63ft above the helideck, height 187ft) before passing within 0-25nm to the W of the platform on a N'y heading and maintaining such, crossing their departure path of 340° (surface wind 340° 10kt); he immediately aborted the take-off. Had they not sighted the PN68, noting it was approaching from behind, they would have lifted and departed on what must be considered to have been a very dangerous situation. Once the PN68 had cleared away, having crossed the departure track, they departed and reported the incident to Anglia Radar. The PN68 pilot then asked ATC what the problem was as he had been maintaining a listening watch on the field frequency. In that case the PN68 pilot would have heard their departure call and should have responded with either a position report or at least deviation from his track to avoid conflict. Furthermore, the PN68 pilot did not respond to earlier attempts to

communicate with him on the field frequency nor did he establish RT comms with BP Log to make his movements known within the field. He assessed the risk as medium.

THE PN68 PILOT reports flying a wildlife survey VFR from Humberside to Liverpool and in receipt of a BS from Anglia Radar on 128.925MHz (Box 1) and a listening watch with Ravenspurn Oil Rig on 129.875MHz (Box 2), squawking 0224 with Modes S and C; TCAS was fitted. During the N-S transects in and out of the Cleeton HPZ not above 300ft, he was asked by Anglia Radar to report turning N and S owing to a helicopter wanting to lift from the rig platform and a second helicopter approaching the same rig. Whilst routeing N away from the rig, Anglia Radar passed him the Ravenspurn oil rig frequency which he confirmed, informing the controller that he would maintain a listening watch on comms Box 2. He also informed Anglia of his intention to turn onto a S'bound track which was acknowledged with 'roger'. On approaching the rig, E abeam, Anglia asked if he could maintain his current track to enable a helicopter to lift to the N and the second helicopter to make an approach to land on the platform. Anglia informed both helicopter flights of his position, 1nm E of the rig S'bound. He informed Anglia that he was visual with both helicopters and was told that the controller would inform him when it would be OK to turn N. He tracked S for an additional 8nm before the controller said it was OK to turn N. As he tracked toward the start point for his next transect he was still in 2-way comms with Anglia, below radar cover, whilst maintaining a listening watch on Ravenspurn frequency on Box 2. Approaching the start point of the next transect waypoint he was visual with the helicopter on the platform and at this time its pilot was communicating with the rig operator. On passing 0.5-1nm W abeam, about 150ft above the helicopter on the rig, on a N'y track at 110kt, he was at a safe and legal distance from the rig platform whilst he continued to monitor the rig frequency and maintained visual contact with the helicopter, which was stationary on the platform; he continued on a constant heading, altitude and speed. Before lifting the helicopter pilot confirmed with Anglia Radar his position [actually after lifting, having left the Flight Watch frequency and after establishing 2-way comms with Anglia] at which point its pilot was informed that his ac was over 1nm N of the rig routeing N away. The helicopter pilot had confirmed on the Ravenspurn frequency that he was visual with his PN68 and continued to lift from the platform. No avoiding action was taken or was necessary and no TCAS TA or RA warnings were received during the incident. He assessed the risk as low.

THE ANGLIA RADAR CONTROLLER reports the AS365 pilot on first call, soon after lifting off the Cleeton rig within the Ravenspurn HPZ, reported that a twin-engine fixed wing ac had crossed his departure track as he lifted off the rig. When the AS365 pilot called, the PN68 was already showing to the N of the AS365 and tracking N, indicating 300ft. The PN68 was already working within the Anglia area of responsibility under a BS carrying out a wildlife survey not above 500ft amsl on the Humber RPS. TI had already been given to both flights as the AS365 had entered the Ravenspurn HPZ and the AS365 was told that the PN68 was carrying out a survey transiting through the HPZ on N-S runs not above 500ft. The PN68 pilot had been asked earlier to contact the HPZ on Box 2 (frequency 129.875MHz) and was informed that the AS365 was landing on the Cleeton rig.

ATSI reports that the UK AIP, Page ENR 1-15-1, states the procedures for the 'Southern North Sea Low Level Air Traffic Services and Helicopter Operating Procedures'. The 'Introduction' explains the services available: *'To enhance flight safety and expedite Search and Rescue in the Southern North Sea Airspace, a Deconfliction Service, Traffic Service, Basic Service and Alerting Service is available from the Air Traffic Service Unit (ATSU) at Aberdeen Airport (Anglia Radar). These services are available to helicopters operating in support to the off-shore oil and gas industry and to civil and military aircraft transiting the area at and below FL 65'*. Additionally, ENR 1-15-2 states: *'Pilots of civil and military fixed-wing aircraft intending to fly within the area of responsibility of Anglia Radar are strongly advised to make use of the services provided. Whenever possible civil aircraft should be flown above the Transition Altitude at the appropriate quadrantal level. Pilots are also advised that the helicopters on the inter-platform flights in the same field complex normally operate at 500 ft amsl and frequently carry underslung loads which limit the pilots ability to take sudden avoiding action'*.

Accordingly, the PN68 was receiving a BS (due low altitude) from Anglia Radar. The sector was manned by a mentor and trainee and traffic levels were described as medium. The PN68 was

carrying out a wildlife survey at 300ft RPS 1015mb, routing N/S through the Ravenspurn Oil Field, which is situated approximately 40nm ENE of OTR.

In the period leading up to the Airprox, there were 2 helicopters inbound to the Cleeton Platform receiving an offshore DS from Anglia Radar, the second of which was the subject AS365. Cleeton platform is situated at the western end of the Ravenspurn Helicopter Protected Zone (HPZ). HPZs are described in the UK AIP, Page ENR 1-15-2: *'HPZs are established to safeguard helicopters approaching and departing platforms and for helicopters engaged on extensive uncoordinated inter-platform flying. Inter-platform flying by civil helicopters within HPZs contained within the OSA (Offshore Safety Area) will be conducted on the company or field discrete frequency. HPZs consist of the Airspace from sea level to 2000 ft ALT contained within tangential lines, not exceeding 5 nm in length, joining the neighbouring circumferences of circles 1.5 nm radius around each individual platform helideck'*. They are within Class G airspace and there is no requirement to obtain a clearance to enter the zones.

The PN68 flight was informed about the first of the 2 helicopters, an SK76, inbound to Cleeton at 1127. The SK76 pilot was then advised about the presence of the PN68. At 1132, Anglia asked the pilot of the PN68 *"are you talking on your box other box to the Cleeton Ravenspurn field"*. The pilot replied *"No I haven't no but if you give me his frequency I er give them a call"*. The frequency was passed and acknowledged correctly. Just after this, the AS365 contacted Anglia Radar en route to Cleeton. At 1137, the PN68 pilot reported *"maintaining listening watch on the Ravenspurn frequency"* and was advised about the AS365. Shortly afterwards, the pilot of the AS365 requested an early descent and frequency change. He was informed *"not below one thousand feet for the moment there is also (PN68 c/s) believed to be talking to the Cleeton not showing on radar at the moment last seen on radar to the north of the Ravenspurn he's going through the field on a survey not above two hundred and fifty feet further descent will be at your discretion"*. The PN68 was then identified, still on a BS and TI was updated to both flights. The PN68 flight was requested to route S of the platform to allow the SK76 to depart and the AS365 to land. The PN68 pilot confirmed he would continue S until advised, not above 500ft. Subsequently, the pilots of the subject ac reported sighting each other. Once the PN68 flight was clear of the departing SK76 helicopter, it was informed, at 1147:30, there was no restriction on its turn N'bound.

No further calls were made by the subject ac until some 6min later, when, at 1154:15, the AS365 contacted the frequency. The Anglia Controller informed the pilot *"the Partenavia's believed to be just to the north of you range of about one mile tracking northbound at low level not above five hundred feet"*. The pilot commented *"he was aware that we were out????? and he's just flown straight through our departure track here at low level and he's not speaking to anybody in the field at all"*. Radar recordings show that, at 1153:18, the PN68 passed very close to the W of the Cleeton platform, indicating 300ft. The pilot of the PN68 later stated *"I have been maintaining listening watch on the Ravenspurn frequency as you said I was visual contact with both aircraft the one on the rig and the one approaching the rig as I was heading southbound to accommodate"*. The controller explained the confliction was on the N'bound track, adding *"I think you need to actually call them every time you go through the HPZ because the HPZs are not under the control of Anglia Radar to actually tell them what you are doing"*. The pilot asked if the helicopter pads had any radar and was advised they were not equipped.

Anglia Radar is responsible for providing an appropriate ATC service, depending on the surveillance and VHF cover, to helicopters *'from off-shore installations, from the time two-way communications is established with the ATSU, until the time that the pilot is in contact with the destination landing pad or other agency'*.

'A Basic Service is an ATS provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. A Basic Service relies on the pilot avoiding other traffic, unaided by controllers. It is essential that a pilot receiving this service remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight. 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 ATZ, and the pilot remains responsible for collision avoidance at all times’.

The Anglia Radar controller passed appropriate TI to both flights as the AS365 approached the Cleeton Platform. In fact, the controller issued more information and advice than is required for the provision of a BS. The pilot of the PN68 would have been aware, as a result of this information, of the presence of the AS365 on the Cleeton Platform. The controller was unaware that the AS365 was departing from the platform, as lifting calls are made on the field frequency. TI, about the PN68, was issued to the pilot of the AS365 as soon as he contacted the frequency after departure from Cleeton.

THE NATS UNIT REPORT provided additional background information. The Capt of the AS365 telephoned the Aberdeen Watch Manager shortly after landing post-incident and explained that his company had become involved because the Cleeton Helideck Landing Officer (HLO) had reported the incident as he saw it to Company Logistics. Also, this had been a second confliction (first on the 11th August) between a company helicopter and the PN68 offshore, which had led to an internal occurrence report being generated and the company contacting the PN68 operator advising them of the proper procedures to be followed within the HPZs. The AS365 Capt stated that the crew of the SK76, who departed Cleeton ahead of his arrival, had tried to call the PN68 pilot twice before they lifted on the field frequency but had not been able to make contact. The PN68 pilot also spoke to the Aberdeen Watch Manager and stated that he had not heard the SK76 flight trying to contact him but he had heard the AS365 pilot say on the Ravenspurn frequency that they were visual with his ac whilst on the helideck. He was under the impression that traffic in the HPZ was under the control of Anglia Radar and flights would call Anglia prior to lifting from an installation. Although he had been maintaining a listening watch on the field frequency he had not realised that common practice for helicopters flights operating within the HPZs to make calls reporting their intentions and giving position updates.

UKAB Note (1): The Claxby recorded radar does not capture the Airprox owing to the helicopter being stationary on the helideck. At 1152:58 the PN68 is seen as a secondary only response about 0.6nm SW of Cleeton Platform tracking N indicating FL003 (360ft RPS 1015mb). After passing within 0.5nm W abeam the platform at 1153:14, the ac continues tracking N'ly maintaining FL003. The AS365 first appears at 1154:25 0.4nm WNW of the platform tracking SW indicating FL003 and climbing whilst the PN68 is by now 1.8nm to its N and diverging.

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 and operating authorities.

It was clear to Members that there were some misconceptions within both cockpits of the subject ac. The AS365 pilot was apparently expecting more protection within the HPZ than was available; a HPZ is not an ATZ nor is it exclusive to helicopter traffic. The HPZ is within Class G airspace with no ATC service available, the frequency being manned by ground personnel and is licensed for administrative and logistic purposes associated with safe offshore operations. The DAP Advisor commented that the procedures followed by helicopter operators whilst flying within the HPZ were established by local agreement, there being no procedures promulgated for traffic transiting a HPZ – clarification of fixed wing procedures in the UK AIP are pending. Similarly, the PN68 pilot had believed erroneously that Anglia Radar controlled helicopter traffic in the HPZ with flights calling on the frequency prior to lifting. The PN68 flight was in receipt of an ATSOCAS from Anglia, the pilot being responsible for maintaining his own separation from other traffic through ‘see and avoid’. The PN68 pilot was listening out on the Ravenspurn frequency and could have announced his intentions but there was no requirement to do so. The Anglia controller was responsible for providing a service to traffic within the OSA, albeit limited owing to the limitations of RT and radar coverage. This service is provided to helicopter traffic until flights leave the frequency immediately prior to landing on the platform and after flights return to the frequency after lifting. Anglia Radar had informed the PN68 about the departing

SK76 and AS365 when it was inbound but could not warn about its impending takeoff because Anglia would be unaware of how long the helicopter would be stationary on the rig prior to departure. The PN68 pilot had seen both helicopters when inbound and had later heard the AS365 pilot's call on the Ravenspurn frequency broadcasting his intention to lift. He saw the AS365 on the helideck and he had heard its pilot report being visual with the PN68. Members agreed that the PN68 pilot was always in a position to manoeuvre his ac away from the AS365 should it have become necessary. The AS365 crew had shown good situational awareness and their actions in delaying their takeoff had quickly averted the potential conflict and effectively removed any risk of collision. This left the Board able to conclude that this incident was a sighting report in a HPZ.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Sighting report in a HPZ.

Degree of Risk: C.

AIRPROX REPORT No 2009-094

Date/Time: 20 Aug 1147

Position: 5113N 00030W (5nm SSW
OCK)

Airspace: UIR/UA34 (Class: C)

Reporting Ac Reported Ac

Type: B737-800 A320

Operator: CAT CAT

Alt/FL: FL360 ↓FL350

Weather: VMC CLBL VMC CLAC

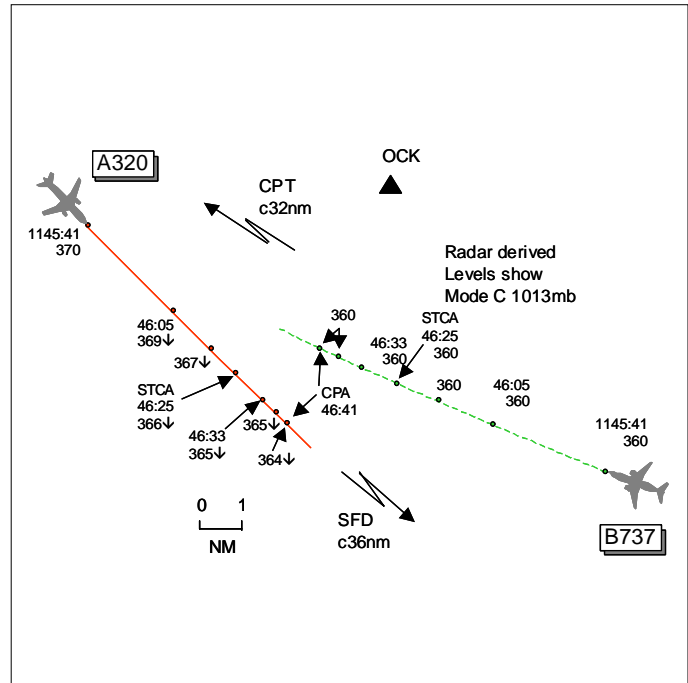
Visibility: 50km >10km

Reported Separation:

Nil V/3nm H NK V/5nm H

Recorded Separation:

400ft V/2nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE B737 PILOT reports enroute to Ireland IFR and in receipt of a RCS from London on 134.460MHz, squawking 0447 with Modes S and C. About 15nm NW SFD heading 330° at 450kt and FL360, an A320 was first seen 2000ft above and descending from R to L. A TCAS TA alert was generated and the A320 was seen to clear through their level on their LHS by 3nm at which time ATC issued a late avoiding action turn of 90°. No RA warning was received and he assessed the risk as moderate to low.

THE A320 PILOT reports enroute to France IFR and in receipt of a RCS from London squawking with Modes S and C. During an enroute descent through FL350, he thought, heading 180° at M0.78 a TCAS TA alert was received. Another flight was instructed to take avoiding action and they saw a B737 pass down their LHS about 5nm away with no significant threat.

THE S1/24 TACTICAL reports being monitored by a safety controller following a period of extended absence. It was a busy lunchtime session including a number of Manchester inbounds from the S and there was a lot of verbal coordination with S2T. The A320 was cruising at FL370 towards SFD and this flight was required to be level at FL310 by SFD. The B737 was heading towards CPT from the SANDY area cruising at FL360. The S1/24T gave the A320 flight instructions to descend to FL360 and STCA alerted the S1/24T to the traffic which led to a loss of separation. Immediate avoiding action was given to the B737 flight to head 030° and then the A320 flight was told to climb to FL370. Both crews reported they had traffic on TCAS but neither reported an RA warning.

THE S1/24 SAFETY/MONITORING CONTROLLER reports the S1/24T had done a very busy/complex session and it was coming to an end when the controller descended the A320 through the level of the overflying B737. He advised the S1/24T to give avoiding action (as he had no training box due to monitoring), which was done, and he was confident that there was no risk of collision as the A320 had already passed over the top of the B737. Both flights reported visual and TCAS.

THE S1/24 PLANNER reports the Sector had experienced a busy period handling various Manchester TMA inbound ac and an array of overflights and LTMA outbounds. The traffic situation on S1/24 had peaked and sector workload was declining when he became aware of the S1/24 T

issuing avoiding action to the B737 and A320. There was a loss of separation of approximately 2-3nm and he informed the LAS.

THE LAS CENTRAL reports the sector was configured with Sectors 1 and 24 bandboxed, Sector 2 on its own and Sectors 25 and 26 bandboxed. TLPD had earlier indicated that S2 was going to be very busy and it had been regulated but the decision had been taken to take the restriction off due to lack of demand. TLPD indications were that all the sectors were busy but not excessively. The S1/24 T was returning to work that day, following an extended period of absence, so was being monitored by an OJTI. He believed the S1/24T held competency but not recency on the Sector having last worked in July. At about 1145 he was standing near to Sector 1/24 position when he noticed STCA activating and saw a loss of separation occurring; S1/24T was heard to issue avoiding action. He made arrangements for the Tactical and Planner controllers to be relieved immediately. The OJTI told him that he considered the Sector at the time to be overloaded and the Planner thought it was extremely busy.

ATSI reports that the S1/24T was being monitored by a safety controller because this was her first day of operation, having just returned to duty after a long period of absence. (This role is described later). The controller described her workload as high, due to the number of ac on the sector and the need to carry out much coordination with S2. However, the traffic levels were beginning to subside at the time of the Airprox. The fact that the 2 sectors were combined was not considered by either the controller concerned or the local ATC investigation, to have been a causal factor.

The A320 crew established communication with S1/24, at 1135, reporting, incorrectly, at FL360 towards MID. The flight was actually maintaining FL370 and the pilot corrected his error shortly afterwards, reporting at the correct level. The controller commented that she had not registered the incorrect level. The ac was routed direct to SFD. For the next 4min the controller was very busy dealing with other traffic in the sector, before the B737 flight made its initial call on the frequency. The pilot reported at FL360, direct to CPT, the transmission being acknowledged by the controller. Due to a direct routeing issued by S2, the ac was further S than its planned route i.e. via SANDY/BIG. The controller could not recollect if she was aware of its exact position and routeing. She added that, if the sector had not been so busy, she would have moved the fps from the BIG/MAY to the SAM/GWC bay to show any potential conflicts with S'bound traffic via MID e.g. the A320. Consequently, any potential confliction between the subject ac would not have been readily observed from the fps display. The RT recording shows that, again, over the next 4 to 5 minutes the frequency was busy.

At 1145:40, the S1/24T instructed the A320 flight to descend to FL360 i.e. the same level as the B737. This descent instruction was to separate the A320 from other N'bound traffic at FL350 [before descending the flight further to FL310 by SFD]. At the time, the subject ac were 14.3nm apart, on potentially conflicting tracks. The controller then turned her attention to traffic in the NW part of the sector. Approximately 30sec later STCA activated between the subject ac. This was the first time the controller, or the safety controller, became aware of the situation and she immediately issued avoiding action instructions to the B737 flight "*...avoiding action turn right immediately heading Zero Three Zero*". The pilot replied "*Left heading Zero Three Zero B- and we have the traffic*". NB He did report a L turn, not R as instructed but as he did have the traffic in sight, he would have been unlikely to turn towards it. The controller then turned her attention to instructing the A320 flight to "*...climb climb Flight Level Three Seven Zero*". The pilot read back the instruction adding "*we had that traffic as well we did get a TCAS*". The B737's pilot then stated that he had received a TCAS alert also. The radar recordings show that neither ac reacted to their respective ATC instructions to climb or turn before they had passed each other 2nm apart and separated by 400ft vertically, the A320 descending through FL364 with the B737 in its 8 o'clock level at FL360. The required separation was 5nm horizontally or 1000ft vertically.

The S1/24T said that she had overlooked the presence of the B737, when instructing the A320 to descend to the same level. The positioning of the fps, due to the B737's direct routeing, did not show the confliction. Additionally, the B737's SSR label was overlapping with other returns at the time and also she may have forgotten its presence because she had not communicated with the ac following

its initial call some 5min earlier. She added that she was moving some SSR labels at the time, to overcome the amount of label overlapping but this, she believed, did not include the B737's.

The S1/24T had completed her last full shift in December 2008. However, since that time she had undertaken the requisite (at the time) number of 3 'Keep in Touch' (KIT) days. The last of these was in July 2009. On these days, she worked 4hr on a console, 1hr for each position she held a Certificate of Competence. On these occasions, an On the Job Training Instructor (OJTI) had been monitoring her as a safety controller. On the day of the Airprox, the S1/24T had been briefed by her line manager that she would be operating on her own licence, with a safety controller, who would assist her as necessary. This situation would occur for 2 cycles, followed by a check of her competence. The safety controller in position, at the time, had monitored her in that role during her previous 'KIT' days. He had not received a briefing on his responsibilities prior to plugging in with the controller but had agreed with her that she was operating on her licence. As far as he was concerned, he believed he was there to provide confidence not instruction, albeit there was some confusion in his mind about his duty of care as a safety controller. He was not using a training box. During the period immediately leading up to the Airprox he had been distracted by an operational matter with S2. Consequently, he did not register the S1/24T instructing the A320 flight to descend to FL360. He became aware of the situation at the same time as the S1/24T, i.e. when STCA activated. It is understood that the issue of controllers returning to work after a long absence is being reviewed and the results will be publicised in the next addition of the Unit Competence Scheme.

As a result of a number of incidents, including this Airprox, a TOI (059/09) has been issued by LAC, with an effective date 14/09/09, to address the issue of direct routeings to CPT from the SE:

Temporary Operating Instruction (LAC): Westbound VESAN Traffic Sent Direct to CPT – Trial

Introduction

Following a number of losses of separation in the past few weeks ATSI, the CAPC Group and AC Ops have become concerned that the relative position of westbound traffic, sent off route by S2 towards CPT, may not always be correctly assimilated by the S1/24 Controller when climbing or descending southbound traffic through MID. The PFS on the S1/24 may also not be conducive to the correct representation of conflicts, as a CPT strip on the westbound traffic may not show a conflict which actually occurs in the MID area as the strips are in different bays. In addition, controllers may not always spot the westbound traffic (which may be several miles south of its flight planned track) on radar. Therefore, for a trial period of three months, the following procedure is to be adopted. This procedure will become effective on 14th September 2009.

Following the detailed losses of separation on LUS, it has been agreed that ATC Procedures will facilitate a LUS workshop to examine the problems associated with LUS strip bays and strip production.

Procedure

S2 controllers should exercise caution prior to sending Westbound traffic from VESAN direct to CPT at times when there may be a high number of southbound ac. This traffic must be coordinated with S1/24 before reaching SANDY. Traffic must not be sent direct before reaching VESAN.

The S2P must send an electronic point out to S1/24 T & P on any traffic sent direct as above.

The S1/24T should consider moving the PFS on the westbound traffic into the most relevant bay to reflect any changed conflict points.

Additionally, a local recommendation has been made, as a result of the number of incidents, for the LAC Operations Department to determine the best solution for highlighting ac on direct routeings in potential confliction with ac on standard routes.

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 and operating authorities.

The NATS Advisor informed Members that the comment by the Safety controller (OJTI) to LAS Central, that he believed the Sector was overloaded, was made immediately after the controller had been relieved from the position. This was at odds with his written report and his post incident debrief where he said that it had been a busy session but it was coming to an end. Analysis had shown that although Sectors 1 and 24 were bandboxed, no traffic was on S24 at the time and the combined Sector had not been overloaded. Although the Safety controller had not received a briefing prior to commencing his time on the Sector, he had monitored the S1/24T previously during her 'KIT' days and had continued to offer her support to boost her confidence but not provide instruction as an OJTI.

[Post Meeting Note: The role of the Safety controller had evolved to accommodate situations such as these, whereby a member of staff had fulfilled the requirements of competency but not recency. Since this event, NATS and the CAA have agreed that this is not an appropriate solution. NATS has issued clarification on this aspect of the UCE scheme such that any controller returning to work in LTC or LAC following long term absence will be regarded as a trainee controller operating under the responsibility of an OJTI.]

The Sector was undoubtedly busy but Members were concerned that there had been opportunities to detect the potential conflict and subsequently take proactive action to avert it. The S1/24T had apparently not been able to detect the confliction from the PFSs, as she had not moved the appropriate strip in the PFS display. The A320 was flying further S than its planned route on a direct track to CPT issued by S2 prior to transfer to S1/24T's frequency. The NATS Advisor stated that during their investigation, the S1/24T had said that she wasn't too busy to move the PFS but that she was out of practice. Members welcomed the NATS introduction of a TOI with respect to direct routeings, the Advisor informing Members that data was still being collected with an action ongoing to produce new procedures. The conflict should also have been apparent from the radar but the B737's SSR label was apparently overlapping other radar returns and the S1/24T had been moving SSR labels to reduce the screen clutter immediately prior to the incident. It was also noteworthy that the safety controller was assisting the S2 with another operational matter when the S1/24T controller descended the A320 into conflict with the B737, which had caused the Airprox.

Turning to risk, the Board noted that S1/24T only became aware of the confliction as STCA activated, the A320 having already crossed through the B737's 12 o'clock with the two ac about to pass port to port. The S1/24T issued an avoiding action R turn to the B737 flight and then climb instruction to the A320 flight. The B737 crew were already aware of the A320's presence from their TCAS display and visually acquired the ac well above and descending whilst crossing obliquely from R to L. A TCAS TA was generated and they watched it pass clear on their LHS. The A320 crew also received a TA alert and saw the B737 passing well clear down their LHS. The radar recording revealed the A320 commencing a descent after crossing through the B737's projected track and passing 2nm clear with vertical separation of 400ft with tracks diverging. This geometry when combined with the visual sightings were enough to allow the Board to conclude that no risk of collision existed during this encounter.

Members noted that the use of incorrect phraseology by aircrew about TCAS traffic alerts could lead ATCOs to believe that a flight was reacting to an RA. SOPs only require aircrew to announce an RA warning; the TA is the heads-up alert to crews of a potential confliction and a warning to be prepared for a possible RA shortly thereafter. Any additional non-essential RT could block the frequency at a crucial time when avoiding action may be issued by ATC. However, pilot Members added that although TA warnings are rare whilst flying within CAS, should crews become aware of conflicting or unusually proximate traffic, they should not hesitate to inform ATC of its presence.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The LAC S1/24T controller descended the A320 into conflict with the B737.

Degree of Risk: C.

AIRPROX REPORT No 2009-096

Date/Time: 27 Aug 1458

Position: 5357N 00348W (30nm NW Blackpool)

Airspace: ADR W2D/FIR (Class: F/G)

Reporting Ac Reported Ac

Type: DHC-8 Typhoon

Operator: CAT MOD FTR

Alt/FL: FL170 ↑FL160

Weather: VMC CLAC VMC CLAC

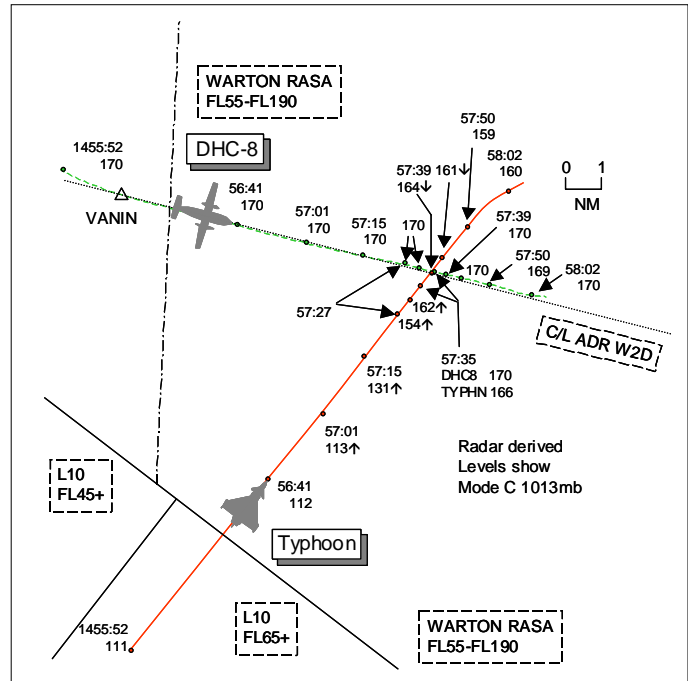
Visibility: 40km >10km

Reported Separation:

Nil V/Nil H 500ft V/1-2nm H

Recorded Separation:

600ft V/0-4nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE DHC-8 PILOT reports enroute to Leeds IFR on ADR W2D at FL170 and in receipt of a PS and TS from MACC squawking 1405 with Modes S and C. They were given TI on a military fast jet climbing to 1000ft below their level in their 2 o'clock range 10nm, which was coordinated. Heading 100° at 250kt they 'saw' other traffic matching the location on TCAS at 5900ft below. The visibility was 40km but owing to a layer of cloud some 2500ft below they were unable to establish visual contact. The traffic began to climb at a rapid rate as ATC notified them again of its position. The ac changed from 'other' to 'proximate' and then a TA alert was received when it was 1300ft below. It went through 1000ft below as they were replying to ATC so they were able to call out the separation "700, 600, 500, 400ft". At this point it was in their 3 o'clock at approximately 0.5nm and closing rapidly as an RA 'descend' was annunciated and actioned immediately. The lateral separation on the TCAS display was negligible with the other traffic indicating in their position and 00 difference in altitude. The RA lasted <2sec however, there was no 'clear of conflict' call so after the vertical target bars of the RA disappeared they undertook a smooth recovery from FL167 back to FL170. By now the other ac was displayed 1000ft below and tracking away in their 8 o'clock. ATC were informed of their TCAS descent and recovery to FL170. At no time did they have the other ac visual. He assessed the risk as high.

THE TYPHOON PILOT reports flying a local sortie from Warton and in receipt of a TS from Warton on 341.775MHz squawking 3677 with Mode C. This Airprox occurred following a poorly executed level-off from a rapid (15° flightpath) climb from FL110 to FL160. Heading 040° at 450kt GS the ac ballooned through FL160 to FL165 before rapidly regaining the cleared level; the total time above FL160 was 10sec. Radar contact with the other ac was established at >15nm during transit and this track was monitored during the climb. It was backed up with a radio call at 8nm split range from ATC with a 'tally' established during the climb. The other ac, a DHC-8, passed above and to the R with separation at the CPA of 500ft and 1-2nm. He assessed the risk as low.

ATSI reports that the DHC-8 was routing from Belfast City to Leeds, via ADR W2D, at FL170. The MACC WALSY and IOM Sectors were combined, the traffic loading being described as moderate.

On first contact with the sector, at 1452, the pilot was informed "it is a Procedural and Traffic Service on Whiskey Two Delta". The pilot read back "Traffic Service Whiskey Two Delta". At the time, the ac was over the IOM, routing to VANIN. Approximately 2min later, at 1454:44, Warton ATC telephoned

the WALSY Planner, to coordinate the subject Typhoon against the DHC-8. Warton advised the Planner about traffic on a Warton squawk (3677), which was S of the DHC-8. The Planner confirmed contact and then Warton asked if the Typhoon could be climbed 1000ft below the DHC-8 to FL160 and then above it when 5nm clear. The Planner agreed, reading back the coordination as stated and Warton confirmed the flight was coordinated. The radar timed at 1454:44 shows the Typhoon, at FL110 and tracking NE, 22nm S of the DHC-8. At 1455:50, information was issued to the DHC-8 *"...traffic information currently in your half past one range of ten miles crossing from right to left will be climbing to a thousand feet below your level coordinated military fast jet"*. The pilot responded *"Okay got????? on TCAS."* [UKAB Note (1): Separation measured at 13nm.]

At 1457:25, the WALSY Tactical Controller advised the pilot of the DHC-8 *"...if you haven't seen that traffic it's in your three o'clock range of about a mile and a half two thousand feet below you"*. The radar timed at 1457:27 shows the two ac on conflicting tracks, 1.3nm apart. The Typhoon is passing FL154. There was no reason for the MACC Controller to believe that the Typhoon was going to climb above FL160, the level coordinated. The Typhoon was not equipped with Mode S. The pilot of the DHC-8 replied to the TI transmission *"...yeah he's now a thousand below eight hundred below six hundred below – five hundred below"*. There were then part simultaneous transmissions. The controller initially acknowledged the call, continuing *"avoiding action then turn right to avoid he seems to have passed just below you"*. The pilot replied *"TCAS RA descending"*.

In the period leading up to the Airprox, Warton was providing the Typhoon with a Radar Service as it crossed airways to the N of Anglesey at FL110. The pilot requested to climb to FL180, when clear of the airways and then to descend into low level in the Lakes. At 1456:40, after the coordination had been completed between Warton and the WALSY Sector, the pilot of the Typhoon was informed *"...left controlled airspace it's a Traffic Service you're cleared in a block surface to One Six Zero initially traffic north of you eight miles One Seven Zero on the Advisory Route"*. The pilot replied *"Copied climbing to One????? Zero"*. The controller confirmed with the pilot that he was climbing to FL160. The pilot reported level at FL160 at 1457:37. The radar recording, timed at 1457:35, shows the Typhoon at FL166, 0.5nm SW of the DHC-8. It was at this time that the WALSY Controller issued the avoiding action turn to the DHC-8. In the event, the Typhoon, at FL164, passed 0.4nm behind and 600ft below the DHC-8 on the next radar sweep at 1457:39, the CPA. The DHC-8 was still maintaining FL170, though shortly afterwards it descended in response to its TCAS RA. [UKAB Note (2): At 1457:50 the St Annes recorded radar shows the DHC-8 descending 100ft to FL169 which is maintained for 8sec before returning to FL170 at 1458:02.]

The pilot of the DHC-8 subsequently reported on the frequency that he did not sight the Typhoon. He added that he had descended about 300ft in response to the RA. The pilot of the Typhoon reported to Warton *"it was a flawed excursion up to plus four hundred feet till it got to Sixteen Four straight down to Sixteen"*.

As a result of this Airprox, the use of W2D was suspended during the hours of Warton Operation, pending a longer-term review of the utilisation and activities. A NOTAM (B1590/09) was issued, effective 2359 on 8/09/09: 'ADVISORY ROUTE W2D IS NOT AVBL FOR FLT PLANNING BTN IOM AND FIWUD BTN 1000-1800 (WINTER) 0900-1700 (SUMMER) MON-FRI'.

The UK AIP, Page ENR 3-1-2-5, describes ADR W2D. The levels of the Class F route, between IOM-VANIN-MORBY-FIWUD, are a base of FL55 and an upper limit of FL185.

The MATS Part 1, Section 1, Paragraph 6, defines a Procedural Service: *'A Procedural Service is an ATS where, in addition to the provisions of a Basic Service, the controller provides vertical, lateral, longitudinal and time instructions, which if complied with, shall achieve deconfliction minima against other aircraft participating in the Procedural Service. A controller shall provide deconfliction instructions by allocating levels, radials, tracks, and time restrictions, or use pilot position reports, aimed at achieving a planned deconfliction minima from other aircraft to which the controller is providing a Procedural Service in Class F/G airspace'*.

The MATS Part 1, Section 1, Paragraph 4, defines a Traffic Service: 'A Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the avoidance of other traffic is ultimately the pilot's responsibility'.

MOD FLIGHT TEST REGULATOR (DE&S) comments that, in a frank and honest report, the pilot of the Typhoon admits that this was a poorly executed level-off which negated the correctly applied service by Warton Radar and the associated coordination agreement. As a result the Typhoon pilot broke that coordination and flew sufficiently close to the DHC-8 to cause a TCAS RA. The Head of the MFTR has spoken to the pilot concerned during which the seriousness of this issue was reiterated. Consequently, an assurance has been obtained that procedures will be thoroughly reviewed to ensure that, as far as is practical, this situation does not arise again.

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 and operating authorities.

Members could add little to the reports submitted above. It was clear that following Warton APR's coordination with MACC WALSY/IOM and subsequent acknowledgement by the Typhoon pilot, neither controller had reason to doubt that the Typhoon would not level at FL160. The Typhoon pilot had established radar then visual contact with the DHC-8 but, whilst avoiding it, he had climbed above his assigned and coordinated level and into conflict with the DHC-8, which had caused the Airprox.

Understandably the DHC-8 crew were concerned when, having received TI on the Typhoon from MACC, they were unable to acquire it visually and TCAS indicated a close call with an RA 'descent' command, which they actioned. MACC had issued avoiding action, as the RA was being followed, but by this time the ac were passing and the avoiding action would have been ineffective. Pilot Members thought that the extended previous transmission made by the DHC-8 crew (counting down the height difference) had been inappropriate as it had blocked the frequency unnecessarily and had denied MACC the chance to issue earlier avoiding action. That said, the Typhoon pilot had kept the DHC-8 in sight and was taking visual separation on it when he climbed through FL160. These actions taken by the Typhoon pilot allowed the Board to conclude that any risk of collision had been effectively removed during this encounter.

Although MACC and Warton had subsequently agreed to suspend use of W2D during Warton operating hour, the DAP Advisor added that the long-term review of Class F airspace is still ongoing, with a likely completion by Spring 2011.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Typhoon pilot climbed above his assigned and coordinated level into conflict with the DHC-8.

Degree of Risk: C.

AIRPROX REPORT No 2009-110

Date/Time: 10 September 1500

Position: 5059N 00221W
(Henstridge elev 184ft)

Airspace: London FIR (Class: G)

Reporting Ac Reported Ac

Type: C42 Ikarus Chinook

Operator: Civ Pte N/K

Alt/FL: 2000ft 2000ft
(N/K) (QNH)

Weather: NK VMC

Visibility: 10km >10km

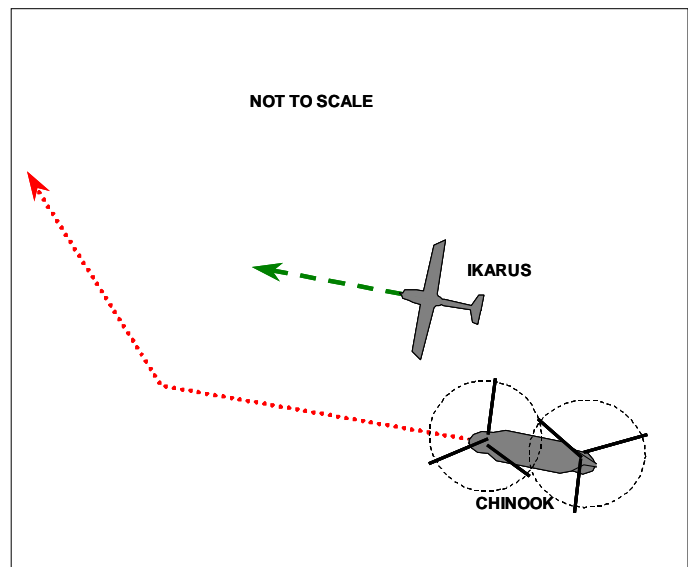
Reported Separation:

0ft V/20ft H 0ft V/0.3-0.5nm

H

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE C42 IKARUS PILOT reports flying a white and red ac with no lights or SSR fitted on a solo private flight. While climbing out of Henstridge Airfield at about 2000ft, heading 260° at 80kt en-route to Dunkeswell, he was just about to change frequency (Yeovil 127.35) when he was 'undertaken' at very close proximity (estimated as 20ft) on his left by a Chinook helicopter. The helicopter then crossed from his left to right and climbed slightly. He was unable to take any avoiding action and the wake turbulence encountered rocked his ac from 45° left bank to 45° right bank. He assessed the risk as being high.

THE CHINOOK PILOT reports flying a camouflaged green ac with HISLs selected on, on a MOD contracted flight trial from RAF Waddington landing at Yeovil airfield. Since he was not contacted for some time after the incident, some detail of the otherwise unnoteworthy incident might have been forgotten. Nevertheless, at the time his Chinook was recovering to Yeovil, in contact with Westland APP, squawking with Mode C while heading 260° at 2000ft and 120kt in good VMC conditions and in a steady cruise when the non-handling pilot in the left-hand seat saw, and warned the crew about, a light ac in their 2 o'clock position at about 2nm. The handling pilot (in the right-hand cockpit seat) and crewman (in the starboard side of cabin) acknowledged the sighting. Initially they maintained track to pass to port of the light ac, as it was not felt necessary to manoeuvre to the starboard side prior to overtaking, as sufficient lateral separation existed between them. This action also ensured that the light ac was in the handling pilot's best field of view and also probably the best field of view for the fixed wing pilot. Once clear of the ac, as called by the crewman, he made a right turn to position the ac for an approach to Yeovil. From the Chinook crew's perspective, the event was unremarkable as they passed between 0.3 and 0.5nm from the ac and so he assessed the risk as being low.

UKAB Note (1): Initially it was assumed that the Chinook was operated by the RAF; only when it was positively established that it was not, was the operator and pilot contacted resulting in a delay of just over a month.

UKAB Note (2): Neither ac was seen on any recorded radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac.

The Board noted that the sudden and unexpected appearance of large ac in fairly close proximity can understandably cause pilots of a small ac great concern. Further it is not unusual for pilots to underestimate their proximity to very small ac (or other unexpectedly small objects) since the eye can assimilate them as being similar to more familiar slightly larger ac (a C150/172 is similar to but about 25% bigger than an Ikarus).

Members agreed, however, that it is always wise for large helicopters to give light ac a wide berth, to be predictable and to fly below them if possible to reduce significantly any wake turbulence risk. The Board considered that the Chinook crew, having spotted the Ikarus at range and knowing that they would need to cross its track, would have been better advised to have turned to pass behind it. That said, Members agreed unanimously that the Ikarus pilot had significantly underestimated the horizontal separation of the Chinook (he reported 20ft). Although with no radar data to assist them it was not possible to determine with any degree of accuracy the actual separation, it was thought likely to be at least 100m to the port as it overtook. At that distance the Ikarus would not have encountered any wake turbulence from the Chinook but it was more likely that this was felt after the Chinook had turned across the Ikarus's track (at the same height) as it turned inbound to Yeovil.

Although the risk from wake turbulence may have been significant, the Board only assesses the risk of collision and not any risk resulting from other factors; in this instance Members were satisfied that there was no risk that the ac could have collided since the Chinook pilots and crewman were visual with the Ikarus throughout their overtaking manoeuvre.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Chinook crew flew close enough to the Ikarus to cause its pilot concern.

Degree of Risk: C.

AIRPROX REPORT No 2009-113

Date/Time: 25 September 1337

Position: 5138N 00204W (DW)
RW26 Kemble - elev
433ft)

Airspace: Kemble ATZ (Class: G)

Reporting Ac Reported Ac

Type: Mooney M20C Lynx MK8

Operator: Civ Pte HQ Navy Cmd

Alt/FL: 900ft 1500ft
(QFE) (RPS)

Weather: VMC CLBC VMC NR

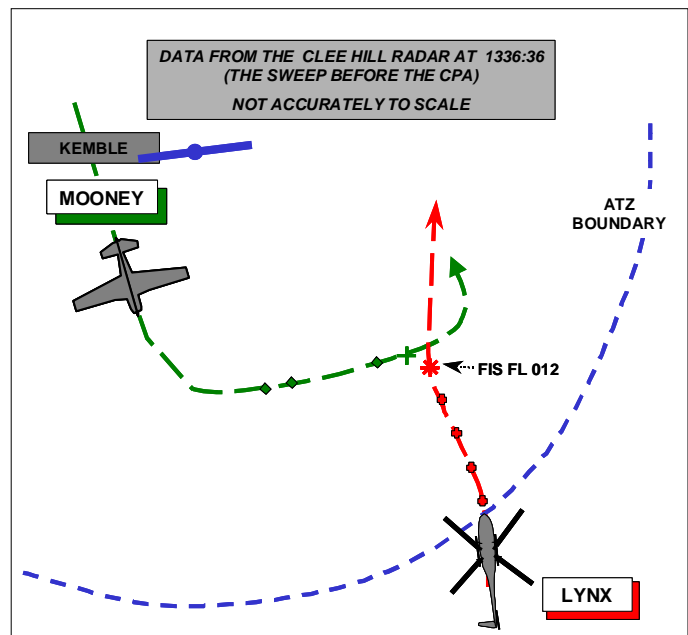
Visibility: >25nm >25km

Reported Separation:

300ft V/2-300m H 100ft V/0.5nm H

Recorded Separation:

NR (See UKAB Note (2))



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE MOONEY M20C PILOT reports that he had flown a cross-country nav ex from Swansea to Kemble in an orange and white ac with nav and landing lights on and squawking 7000 with Mode C and S, he thought. He had spoken with Kemble Radio and had joined the circuit at 1000ft QFE on the Crosswind leg for RW26 directly over 'the numbers' at about 110kts. The downwind leg was uneventful and as he positioned onto the base leg at 900ft QFE and 90kt he was immediately aware of a grey Lynx Helicopter in his 'inside' at 9 o'clock approximately 300ft above and 300ft away horizontally and on a similar heading. He continued to track the ac visually and continued his descent. As he turned onto final approach the Lynx had now passed to his right so was no longer above the final approach to RW26. He continued the circuit and assessed the risk as being low to medium and reported the incident to Kemble TWR after he had landed.

THE LYNX MK8 PILOT reports flying a grey ac with all lights on squawking London FIS having just transferred from Lyneham Zone. They were near Kemble airfield when they saw an ac ½nm away initially in their 9:30/10 o'clock position slightly lower, tracking to pass behind and below. As the ac was on his left and they were VFR they elected to 'stand on' by maintaining their height, course and speed. After passing astern and below, the other ac reappeared in his 4/4:30 position, appearing to have altered course away from them slightly and descended a small amount. At no time did he deem a risk of collision existed as they estimated the ac to remain at least ½nm away throughout.

UKAB Note (1): Although the geometry of the incident as reported by the Lynx crew would seem to agree with that reported by the Mooney pilot, they described the ac that they saw as a 'white high winged single engined Cessna' whereas the Mooney is predominantly Orange and is low winged.

UKAB Note (2): The Lynx paints on the recording of the Cleve Hill radar throughout the incident transiting the Lyneham Zone on a track of about 340° at an indicated Level of FL016 (2000ft amsl). At 1334 Lyneham ATC warned the Lynx crew that South Cerney was active and cleared them to change frequency; shortly after the ac descended to FL012 (1600ft amsl) and continued to the NNW towards Kemble, passing 1.25nm to the E of the centre of the airfield. There is a very intermittent primary only contact that, on the limited information available, appears to be the Mooney following the track reported by its pilot, flying downwind just under 1nm S of the RW; the contact disappears as it turns base and on the sweep before the CPA. From the reports and by projection it appears that the

Lynx (indicating FL012 – 1620ft amsl – 1200ft agl) crossed from S to N almost directly above the Mooney as the latter turned onto base leg at a reported height of 900ft agl.

UKAB Note (3): After descending from 2000ft amsl the Lynx was required to operate in accordance with the rules promulgated in the UK Low Flying Handbook at 01.02.04. This states that:

‘Light Propeller Driven and RW ac are to comply with the airspace reservations listed in this document when operating between the Surface and 2000ft agl/amsl’.

Further at Part 1-2-2-4 (LFA2) Kemble is listed as Civil Aerodrome to be avoided by 2nm 0800-1700 Summer. Although the wording of the entry is very slightly ambiguous, the 2nm avoidance is clearly marked on UK Low Flying Charts.

The Lynx Detachment Commander comments that the student front-seat crew were on a sortie from a ship to Stafford HLS, under the supervision of an experienced Qualified Observer Instructor who was in the rear of the ac. The student crew believed themselves to be clear of all controlled airspace and airfield boundaries throughout the sortie and were speaking to ATC agencies throughout; the aircraft commander, although disadvantaged by his seating position aft and facing to starboard, had no obvious reason to doubt this assertion. The light fixed wing traffic concerned was spotted at relatively close range but no risk of collision was deemed to exist. Additionally, as the other ac was approaching from the helicopter’s port side, action was taken iaw the RoA i.e. the crew elected to maintain heading, height and speed, and monitor the traffic carefully. It was considered by the crew that the other ac had passed at a safe distance and no risk of collision had existed at any stage. No further action was deemed appropriate but all crews have been re-briefed on the importance of maintaining a good lookout, especially in the vicinity of other airfields of likely air activity.

The Lynx Squadron Commanding Officer comments that it is possible the student crew may have either been temporarily uncertain of their position or had misinterpreted their map, and had strayed into reserved airspace; as a consequence, their application of rules of the air was based on an incorrect assumption that they were in unreserved, Class G airspace. Nevertheless, they had seen the other aircraft in time to take avoiding action, which was not deemed necessary. This incident will be used to highlight to all crews the potential hazards of navigating through the airspace to the north of Lyneham.

HQ Navy Command has nothing further to add to the Squadron Commanding Officers comments.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, a radar video recording, reports from the air traffic controllers involved and reports from the Lynx operating authority.

The Low Flying Advisor informed the Board that, in order to remove any ambiguity, in the Military Low Flying Handbook all references to height/altitudes have been standardised as height agl.

Although there was some discussion regarding the Kemble ATZ it was pointed out that the Lynx had been operating in accordance with the Military Low Flying Handbook in which Kemble is promulgated as a ‘Civil Aerodrome to be avoided’ by a mandatory 2nm in Summer (i.e. up to 30 Sep); this (military) avoidance coincides with the ATZ as promulgated in the Civil AIP. The Board agreed, therefore, that there was no doubt that the Lynx was required to avoid Kemble by 2nm and that the student crew had inadvertently penetrated this avoidance area, most likely because they had been uncertain of their precise position. Although some Members were surprised that the ac commander did not sit on the flight deck, the Board accepted that the seating location of the QOI in the rear makes it impossible for him to monitor visually and continuously the ac’s position. Accepting that they were not aware that they were flying through the circuit of an active airfield, the Lynx crew’s subsequent action on

seeing the Mooney was reasonable. Although there was no radar verification, it was the Board's opinion that since the pilots of both ac were visual with each other, there was no risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Lynx entered the Kemble Civil Aerodrome Avoidance area and flew into conflict with the Mooney M20C.

Degree of Risk: C.

AIRPROX REPORT No 2009-121

Date/Time: 27 September 1310 (Sunday)

Position: 5300N 00029W
(1.5nm S of Cranwell
Airfield Datum)

Airspace: Cranwell ATZ (Class: G)

Reporting Ac Reported Ac

Type: Grob Tutor Model Ac

Operator: HQ AIR (Trg) Civ Pte

Alt/FL: 800ft NR No Diagram possible
(QFE) NR

Weather: VMC NK

Visibility: 25km NR

Reported Separation:

20-40ft V/10m H NR

Recorded Separation:

NR

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE GROB TUTOR PILOT reports flying a local Air Experience flight in a white ac with all lights switched on and with SSR selected to standby as he was within the MATZ. On recovery to Cranwell, he joined for RW01, heading 010° at 800ft and 120kt. Having previously reported radio-controlled model ac activity at 350ft whilst flying at 500ft at 1.5DME from Cranwell on the final approach to RW01 earlier in the day, he elected to stay high as he thought this would minimise the risk of collision with the radio-controlled ac that would be at a lower altitude. As he ran in on the deadside, he saw a radio-controlled ac 30m away in his 10 o'clock position and 50ft below him so he turned right to ensure adequate separation. Whilst looking out in the turn he noted a second radio-controlled ac 10m away in his 12 o'clock tracking directly towards him 20-40ft below. The height separation that currently existed was only due to his entering a slight climb on initial contact with the first model. On seeing the second radio-controlled ac he took more aggressive avoiding action by breaking the ac up and to the right on the light buffet. Once clear of the second ac he continued a climbing right hand turn to note the position and activity level of the model ac and reported the position to Cranwell TWR before continuing to join the circuit. He assessed the risk of collision as being high and reported the Airprox to Cranwell TWR.

UKAB Note (1): Although the Grob shows on the recording of the Claxby radar throughout the period, the model ac do not show at any time.

UKAB Note (2): The Cranwell ATZ is promulgated in the UKAIP ENR 2-2-2-2. It is 2.5nm in radius, extends up to 2000ft aal and is active H24.

UKAB Note (3): The ANO Sect 1 Regulation 98 promulgates Regulations for small ac. A small ac is defined as one which weighs more than 7kg without fuel (and less than 20kg) and is required to gain the permission of ATC to operate inside an ATZ during its promulgated hours of operation. Ac that are less than 7kg are not regulated by the ANO.

The British Model Flying Association (BMFA) conducted a most thorough investigation into the incident including a report from the pilot of the model ac. Their report is summarised below.

The model was being flown at an event at a farm, about 1.5nm S of Cranwell. The weather was CAVOK and at the time only 2 ac were airborne, but they were not part of the competition. Although the site had been used for events for several years, usage was described as light.

The ac concerned were being flown in a circular pattern to remain within a thermal and the ac that came into conflict with the Grob, the higher of the two, had a 7ft wingspan.

The pilot reported that he was surprised that the incident was reported as an Airprox as he considered that the Grob had only changed course after it had passed both the ac. He also considered that there were no safety issues or concerns. He was aware that Cranwell was active with full size ac and at all times he flew his ac in a manner that ensured safe separation.

Two ground witnesses stated that a light ac had overflown the location several times that day but were unable to assess the miss distance during this incident.

There was an anecdotal report that there was an informal arrangement with Cranwell ATC whereby they were informed of significant model activity and they '*directed air traffic away from model flying activity*'; Cranwell ATC, however, had no record or recollection of any such agreement and were not aware of the activity on the day concerned. It was thought likely that in the past, the activity had simply taken place when 01 was not the duty RW.

The BMFA made several recommendations including that large events or large ac flying will only take place with the agreement of Cranwell ATC. All flying during their normal operating hours will be notified to Cranwell.

DAATM commented that this Airprox was not notified to Cranwell ATC and therefore have no comment. There is no letter of agreement between the Lodge Farm and RAF Cranwell for notification of model ac activity and further there is no record of RAF Cranwell ATC or Ops ever having been advised of such activity either officially or unofficially. RAF Cranwell was therefore totally unaware that model ac operate in that vicinity.

HQ AIR (TRG) comments that had positive communication and agreement taken place between the model ac operators and Cranwell ATC prior to the model ac event this Airprox could have been avoided.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilot of the Grob, the BMFA, the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board was disappointed to note that the model flying event was not notified to RAF Cranwell, who, had they been aware of it, could have agreed procedures ensuring the safe conduct of the respective flying activities. More disturbing, however, was that, even after this incident, there is no record of the operator of the model flying field having had any contact with RAF Cranwell.

The Board discussed whether a recommendation regarding the operation of model ac in ATZs was warranted but Members agreed that the guidance in CAP 658, 'Model Aircraft a Guide to Safe Flying', is adequate if it is adhered to; in the absence of a direct link with the model ac pilot or the site operator, the Board requested that the BMFA draw their attention to this guidance. Nevertheless, they urged the operator of the model ac flying field and RAF Cranwell to enter a dialogue to ensure the safe conduct of their respective activities.

Since the Grob pilot did not acquire the (closest) model ac until late and he was not able to manoeuvre to avoid it, Members unanimously agreed that Safety had not been assured.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Conflict with a model ac in the Cranwell ATZ.

Degree of Risk: B.