

on the way through the MATZ in an effort to increase situational awareness for the controller and any other aircraft in the area. He reported again when he was in sight of his landing area and then spotted the Lancaster in his right, 3 o'clock position, around 1500m away and 300ft above him, and saw it turn right and climb. The R22 pilot started his descent and landed at Tattershall Park.

Before taking off again, the R22 pilot telephoned Coningsby ATC, who informed him that he had been calling on 120.80MHz, which was in use by RAF Waddington ATC at the time. They advised him to contact Coningsby Tower on 124.675MHz when he was ready for departure; He established two-way communications on that frequency, as instructed, but he continued to suffer from poor radio reception and reported the technical problem to the aircraft's owner on landing.

He assessed the risk of collision as 'None'.

THE TOWER CONTROLLER reports monitoring the Lancaster formation, which was taking-off and departing VFR for Waddington, and checking the Hi-Brite¹ for other traffic that may have affected them. He noticed a small contact around 1.5nm south-west of the airfield, tracking north. By using binoculars, a member of the ATC team identified it as a Robinson R44, 'or similar rotary' he thought. Estimating the helicopter's height at 500ft, the Tower controller immediately passed traffic information to the Lancaster formation who reported visual with the helicopter.

After the R22 had landed, the Tower Controller contacted the R22 pilot by telephone at Tattershall Lakes; following a discussion about the frequencies available for the pilot to contact Coningsby ATC on departure, he agreed to call Tower on 124.675MHz when he was ready for departure. The R22 pilot complied with this agreement but the Tower controller reports that the pilot's transmissions were unreadable.

Following the Airprox, the Tower controller contacted Waddington ATC and established that Waddington Zone had received a call from the R22 pilot on 120.8MHz, requesting a BS inbound to Tattershall Lakes, but that subsequent transmissions had been unreadable and had attracted no DF traces; consequently Waddington ATC had been unable to either identify the aircraft or establish satisfactory 2-way communication with the pilot.

He perceived the severity of the incident as 'Low'.

Factual Background

The Airprox was not shown on the NATS radar recordings.

The Coningsby weather at 1150 was:

METAR EGXC 071150Z 05004KT 9999 BKN035 25/17 Q1032 BLU NOSIG

Coningsby LARS VHF frequency, 120.8 MHz, was not available and was temporarily replaced by 123.3 MHz; a NOTAM had been issued as follows:

B1562/13 NOTAMN		(EGGN B1562/13)			
Q)	EGTT/QSECF/IV/B/E/000/100/5306N00010W030				
A)	EGTT	B)	1307040700	C)	1307090700
E)	CONINGSBY LOWER AIRSPACE RADAR SERVICE FREQ 120.8MHZ NOT AVAILABLE. USE FREQ 123.30MHZ				

¹ The Hi-Brite is monitor showing a slave of the radar display; it is used for situational awareness and is not licensed for providing air traffic services.

The reporting formation consisted of a Spitfire, a Hurricane and the Lancaster. The Lancaster and Hurricane were painted with camouflage markings and the spitfire was painted silver. The Lancaster had red beacon lights and transponder Modes A, C and S turned on. The formation was receiving an Aerodrome Control Service from the Coningsby Tower controller.

The R22 was a mainly green helicopter, operating VFR, recovering to a site at Tattershall Park, highlighted at Figure 1.

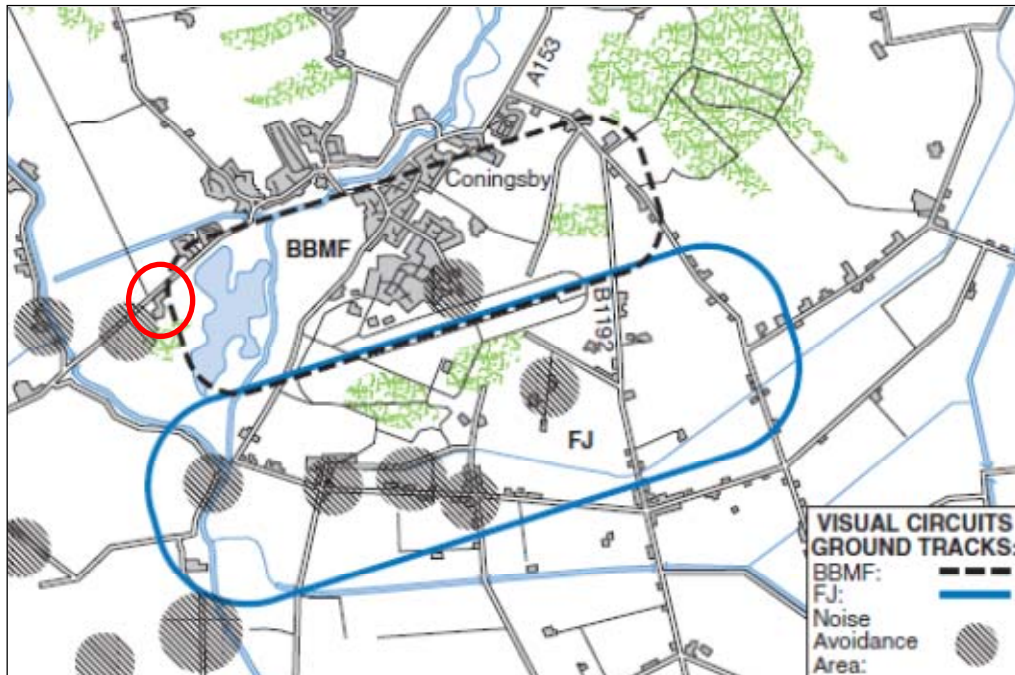


Figure 1: Location of Tattershall Park in relation to RAF Coningsby.

Analysis and Investigation

Military ATM Analysis

This report has been based on the occurrence reports submitted by the aircrews and ATC personnel involved, and the transcripts of the R/T and landlines.

The Coningsby Tower Controller reported moderate to low workload and that the complexity of the controlling task was 'easy'.

The Tower Controller reported that 'as the formation turned north side of the airfield...[they checked] the Hi-Brite to see if there [were] any conflictors...[and] spotted a small radar contact about 1.5 nm south-west of the airfield tracking north. The Local Assistant looked through the binoculars and spotted what looked like a R44 [UKAB Note: actually the the R22] or similar rotary'. The Tower Controller then advised the Lancaster formation (at 1045:53) that they were "watching an R44 flying south to north off the end of the 0-7 threshold, you can probably see him now, he's approaching toward the B-B-M-F end." The Lancaster formation questioned the R22's "altitude passing" and was advised by the Tower Controller that "it's got no Mode Charlie but he looks about 500 ft from out the tower." The Lancaster formation advised that they were "visual" with the R22, subsequently reporting that they first sighted the R22 with 1nm lateral separation and manoeuvred to avoid it. The R22 pilot reported first sighting the Lancaster formation at approx 1500m lateral separation.

Based upon the descriptions of both the Tower Controller and the Lancaster crew, it is clear that the R22 was operating within the Coningsby ATZ; however, Coningsby ATC did not receive any

R/T calls from the R22. The R22 pilot has related that he contacted Coningsby ATC on 6 Jul 13 to inform them that he would be flying into Tattershall Park the following day and reported that he was advised to utilise 120.80MHz to contact Coningsby. Subsequent investigation at Coningsby has determined that the R22 pilot may have spoken to one of the Flight Operations Assistants in Coningsby ATC; however, the call was not recorded and, given the time period that has elapsed between the incident and this investigation, it has not been possible to identify the assistant to seek their recollection of the call.

The R22 pilot also reported that on the day of the Airprox, he reviewed the pertinent NOTAMS and identified NOTAM B1562/13, but decided to operate in accordance with the frequency guidance given by Coningsby ATC on 6 Jul 13.

For the duration of the Waddington Airshow, Coningsby ATC had 'handed' 120.80MHz to Waddington ATC and were utilising NATO Common VHF Approach instead. Thus, when the R22 pilot attempted to establish R/T contact with Coningsby on 120.80 MHz, they were in fact calling Waddington ATC. The Coningsby Tower Controller reported that subsequent investigation with Waddington determined that the R22 had called Waddington for a Basic Service at approx 1030Z, but had then made 9 further unreadable transmissions between 1034Z and 1046Z. The R22 was reported as 'non-squawking' and no DF traces were associated with the aircraft, thus Waddington 'did not have any idea of where the ac was or what he was telling them'. It is worthy of note that the Coningsby Tower Controller reported that when the R22 subsequently departed Tattershall Park, their R/T transmissions were 'completely unreadable' and that the R22 pilot reported 'radio issues' to the aircraft owner on landing. Although the R22 pilot reported hearing an instruction from Waddington to 'report when in sight of your landing area', it appears that they did not receive specific clearance to enter the Coningsby ATZ.

Rules of the Air Regulation 2007, Rule 45 Paras 2 and 3 state that 'an aircraft shall not fly...within the aerodrome traffic zone of an aerodrome unless the commander of the aircraft [has] 'obtain[ed] the permission of the air traffic control unit to enable the flight to be conducted safely within the zone'. Para 6 states that 'the commander of an aircraft flying within the aerodrome traffic zone of an aerodrome shall...cause a continuous watch to be maintained on the appropriate radio frequency notified for communications at the aerodrome'.

It was pleasing to note the Tower Controller's awareness of the risk of airborne conflict posed to the Lancaster formation during their transit from Coningsby to Waddington without a surveillance based ATS. The Tower Controller's use of the Hi-Brite display, coupled with observation of the R22 from the TWR, allowed them to provide the Lancaster formation with a timely warning of the R22, aiding them in its visual acquisition. Citing the lead pilot of the 'Historic Flt', the 'prompt action by the tower controller averted a high risk of collision'.

Comments

HQ Air Command Comment

The Lancaster formation and Coningsby Tower worked well together to identify and resolve the conflict created by the R22 pilot's presence in the ATZ.

Summary

This Airprox occurred within the RAF Coningsby ATZ at approx 1046:10 on 7 Jul 13, between the Lancaster formation of 3 aircraft and an R22. The Lancaster formation had taken off from RW07, and was departing VFR to the west in communication with Coningsby Tower. The R22 was operating VFR, recovering to a site at Tattershall Park within the Coningsby ATZ.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available to the Board consisted of the reports from the Lancaster and R22 pilots, the Tower controller, the RT transcripts and the radar recording.

The helicopter members were asked to comment on the Airprox; they praised the R22 pilot for taking the effort to contact Coningsby by telephone before making the flight but could not understand his decision to disregard the NOTAM'd frequency. The NOTAM was active for 1 week and the Board appreciated that the R22 pilot believed that the reported ATC advice superseded the NOTAM; however, all agreed that it would have been prudent for the pilot to note both frequencies before the flight. Whilst the Board understood that the R22 pilot thought he heard a fragment of RT instructing him to "report when in sight of your landing area", the poor quality of RT meant that he could not have been certain that this was an instruction for him. The Board agreed that the R22 pilot had not obtained permission of the Tower controller and did not have sufficient information to enable the flight to be conducted safely within the ATZ². A member asked if the R22 presented any radio management problems which may have made the pilot's task more difficult; a member with experience on this type informed the Board that, whilst it was unlikely that the helicopter was fitted with multiple radios, the R22 radio fitment is normally easy to reach and it was apparent from the pilot's report that this aircraft's radio was not operating well.

When assessing the Risk the Board praised the ATC team for their pro-active use of all of the tools available to them to obtain accurate traffic information for the Lancaster formation. This enabled the Lancaster crew to see the helicopter, resulting in effective avoiding action, without which the Board concluded there would have been a clear risk of collision. The Board agreed on a Risk of C – timely and effective actions were taken to avoid collision.

The safety barriers³ pertinent to this Airprox were: 'controller action', 'aircrew rules and procedures', 'visual sighting', 'aircrew action' and 'situational awareness from RT'. The Board concluded that, as the traffic information lead to effective visual sighting and avoiding action, the remaining barriers had been 'effective'; the total number of POB was between 5 and 19 so an Event Risk Classification score of 10 was allocated.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause:	The R22 pilot entered the Coningsby ATZ and flew in to conflict with the Lancaster formation.
<u>Contributory Factor:</u>	Poor performance of the R22 radio.
<u>Degree of Risk:</u>	C.
<u>ERC Score:</u>	10

² Rules of the Air 2007, Rule 45, Flights Within Aerodrome Traffic Zones

³ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.