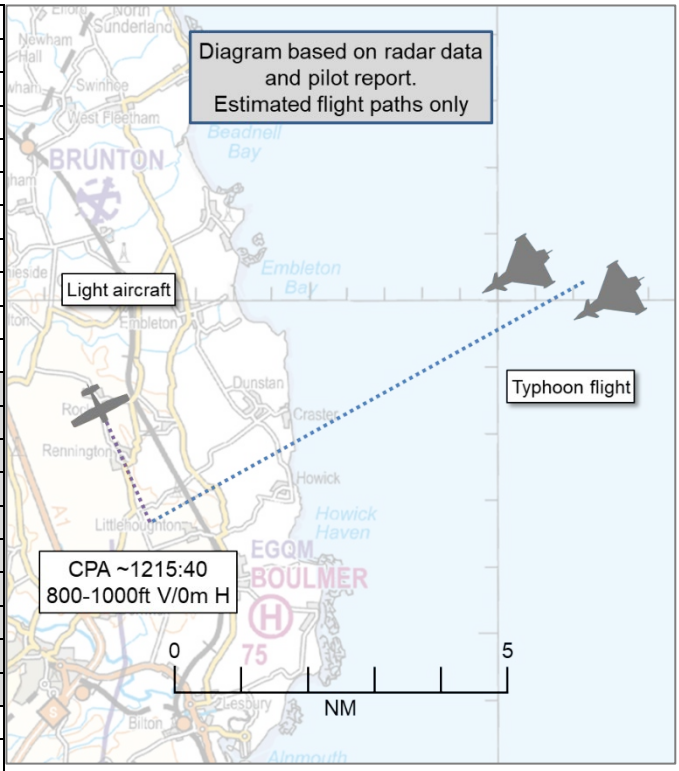
AIRPROX REPORT No 2025236

Date: 12 Nov 2025 Time: ~1216Z Position: 5527N 00139W Location: 3NM NE Alnwick

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Typhoon No.3	Light aircraft
Operator	HQ Air (Ops)	Unknown
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VFR	NK
Service	Traffic Service	NK
Provider	Swanwick Mil	NK
Altitude/FL	1380ft	NK
Transponder	A, C, S	None
Reported		Not reported
Colours	Grey	
Lighting	Nav, HISL	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1380ft	
Altimeter	RPS (992hPa)	
Heading	241°	
Speed	450kt	
ACAS/TAS	Not fitted	
Alert	N/A	
	Separation at CPA	
Reported	800-1000ft V/0m H	NK
Recorded	NR	



THE TYPHOON PILOT reports having completed the first part of the sortie as a 4-ship. [They] conducted AAR and then operated as 2 separate pairs. [Typhoon No.4] (who [had a non-functioning data-link] throughout) had the tactical lead as [Typhoon No.3 – the reporting Typhoon pilot] had corrupted mapping which meant that the aircraft's depicted position on the [display] did not match reality. The aircraft's navigation system and waypoint steering remained unaffected and were accurate. They were assessing the functionality of [an aircraft software standard] and [Typhoon No.3] had initially [had a functioning data-link], but after a known failure condition [with the software standard] had subsequently [lost data-link functionality]. This failure then caused Air-to-Air TACAN information to occult. [The 2-aircraft flight] transited to Northumberland with Swanwick and, once clear of controlled airspace, were in receipt of a Traffic Service. The following is a timeline of events during the entry into low level: starting from 1211:00, and around 7000ft, [the 2-aircraft flight] was established in fighting-wing formation in sight of [the] surface and routeing northbound.

1211:35 - Swanwick gave a traffic call "*Left 10 o'clock, 9 miles, 6600ft*" [which the Typhoon No.4 pilot acknowledged].

1212:25 – [Typhoon No.4 pilot] requested an update on traffic [and was told] "*Left 9 o'clock, 7 miles, 6000ft*" [which they acknowledged].

1213:13 - [The 2-aircraft flight] declared VMC below and en-route. Swanwick cleared [them] to continue and squawk conspicuity. [The 2-aircraft flight] was now at ~4000ft and began a right-hand teardrop to descend over the sea and line up for the first leg of the low-level route. [Typhoon No.4 pilot] had radar set in 70/70 scan, range scale 40NM, [Typhoon No.3 pilot's] radar had been [locked] to another track which faded during the turn and left the radar in a 45/45 scan looking 45° left and 17° high.

1214:32 - [Typhoon No.3 pilot] was directed to take Line Abreast formation, now routeing westerly and descending to around 2000ft.

1214:51 - [Typhoon No.3 pilot] selected Mode S On, squawking 7001.

1215:35 - [Typhoon No.3 pilot], still in a gradual descent at 1730ft AGL (1750ft AMSL), gained sight of a white, single-engine, high-wing (they thought) light-aircraft above and to the right, crossing right-to-left. [They] initiated a bunt, banked to the right and called "*3, light aircraft my nose, descending*".

1215:40 - [Typhoon No.3 pilot] called "*Over the top of me ...now*". [Typhoon No.3 pilot] was at 1330ft AGL (1380ft AMSL).

On initial visual detection, [Typhoon No.3 pilot] did not assess an immediate collision risk, but did choose to manoeuvre to increase separation. At the point of passing underneath the light aircraft, [Typhoon No.3 pilot] recalled the visual assessment [of vertical separation] to be about 800-1000ft. [The 2-aircraft flight] continued with the low-level route and completed the sortie with nothing further to report. At the point of the assessed Airprox, the formation was still on frequency with Swanwick and had not yet switched to Low-Level Common. Due to having already heard [Typhoon No.4 pilot] call 'en-route' to Swanwick, [Typhoon No.3 pilot] had the mental model of not being on an ATC frequency and therefore did not report an Airprox to ATC. With hindsight, even having changed frequency, it may have been worthwhile to re-contact Swanwick and report the Airprox. Neither [formation member] had radar SA [on] the [other] aircraft whilst routeing westbound. [Typhoon No.3 pilot] had, given no sensor contact, received no alerts. [The formation members] did not believe the conflict to be the same aircraft as called by Swanwick. Post-flight review of ADS-B recording showed 3 aircraft ivo [the 2-aircraft flight] during entry to low level: [an] aircraft at 6000ft (believed to be the traffic called by Swanwick), another aircraft at a lower altitude but further south and a possible candidate for the conflicting aircraft whose ADS-B data put it at roughly the right altitude, however, the location jumped around significantly. [UKAB Note: Analysis of the available ADS-B information strongly indicated that none of the aircraft mentioned were in a position and altitude that related to the subject light aircraft]. Contributing factors were assessed to be: [a] lack of [data-link] Recognised Air Picture (RAP) due to both [Typhoons having no data-link functionality], [the] increased workload of [Typhoon No.3 pilot] due to reduced positional SA (due to the corrupted mapping issue), reduced range SA [on Typhoon No.4] (due to the [lack of Air-to-Air TACAN information]) and [Typhoon No.3 pilot] slow to set-up [their] radar [in an appropriate scan] due to focus on flying in formation.

The pilot assessed the risk of collision as 'Medium'.

THE LIGHT AIRCRAFT PILOT could not be traced.

THE SWANWICK MIL CONTROLLER reports that the incident occurred almost a month [before being notified] and their recollection of the event required them to watch a radar replay of the incident. [The 2-aircraft Typhoon flight] requested a low-level descent north of Newcastle TMA. They were descended to 5000ft on the regional pressure [setting] over water near land. Traffic was called which was manoeuvring to the northwest at approximately 8 miles from [the Typhoon flight], operating over land at approximately 6000ft but was not in any confliction. They recalled the traffic on request but this was no longer a factor as [the Typhoon flight] had already passed the traffic [and] not within 5NM. [The Typhoon flight] called VMC below, there was no other traffic seen on radar to affect, so they went en-route. No Airprox was reported on the frequency at any time after the event in question and the controller therefore was unaware of an Airprox.

THE SWANWICK MIL SUPERVISOR reports they recollected that nothing was declared with regards to an Airprox for [the Typhoon flight].

Factual Background

The weather at Newcastle Airport was recorded as follows:

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METAR EGNT 121220Z 27008KT 230V290 9999 FEW031 14/08 Q0999=
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METAR EGNT 121150Z 25007KT 190V290 9999 FEW032 15/08 Q0998=

Analysis and Investigation

Military ATM

Background

Initially operating as a four-ship formation of Typhoons, they split into separate two-ships following air-to-air refuelling. The second pair consisted of Typhoon 3 and Typhoon 4, with Typhoon 4 as the lead.

Sequence of Events

At 1211:15, the Formation was given a descent to achieve VMC "*descend to altitude 5000 feet on the Tyne 992 hectopascals, report Victor Mike Charlie below, report approaching*."
The formation read this back.
At 1211:31, the Swanwick controller provided Traffic Information to the Formation. "*traffic left 10 o'clock 9 miles manoeuvring indicating 6600 feet hugging the coastline*."
At 1212:20, the Formation requested an update on the previously called traffic, which was provided "*now left 9 o'clock at uh 7 miles indicating 6000 feet*."
At 1212:32, the Swanwick controller provided another update "*now tracking westbound in land*."
At 1213:11, the Formation [pilots] declared they were now VMC and continuing en-route.
At 1213:28, the Swanwick controller terminated the radar service on the Formation.

CPA could not be determined.

Local BM Investigation(s)

A local investigation was conducted by Swanwick following the event to identify the ATS-related causal/aggravating factors. The Airprox was not declared on frequency and happened after going en-route to Low Level. All relevant traffic was called to the formation whilst on frequency.

Great Dunfell radar was on maintenance on the 12th November. This is likely to have significantly increased the base of radar cover (BORC) ivo EGNT [Newcastle Airport]. Normally the BORC north of EGNT is between 600ft to 2000ft. With this radar on maintenance, the BORC was significantly higher. This could have been a causal factor resulting in the conflicting aircraft not displaying on radar.

2 Gp BM Analysis

The Airprox was not declared on frequency and occurred after the formation had gone en-route to Low Level. While the formation was still on frequency, all relevant Traffic Information had been passed and the Swanwick controller acted appropriately.

UKAB Secretariat

The Typhoon and unknown light aircraft pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] The Typhoon flight faded from radar at 1214:10, about 1½min before CPA. An MLAT-derived track was available up to shortly after CPA, but it did not display the light aircraft and the Typhoon tracks were subject to significant position error due to their low altitude.

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

Swanwick Mil Investigation

The Swanwick Mil Investigation found a causal factor, as follows:

> 'Great Dunfell radar was on maintenance on the 12 November. This is likely to have significantly increased the base of radar cover (BORC) ivo EGNT [Newcastle]. Normally the BORC north of EGNT is between 600ft to 2000ft. With this radar on maintenance, the BORC was significantly higher.'

With an associated recommendation, as follows:

> 'When radars used by 78 Sqn are on planned maintenance, these periods of outage should be NOTAM'd. The NOTAM should expressly state that the BORC is going to be significantly higher and that this is likely to have a detrimental effect on the quality of the service received in the surrounding area and that this is going to affect lower level aircraft more significantly.'

The recommendation was rejected.

Comments

HQ Air Command

A comprehensive Local Investigation found that the Typhoon aircrews had conducted a thorough pre-flight planning cycle and had launched to conduct a trials sortie. Once airborne, the aircraft suffered a number of minor avionics issues which reduced the levels of situational awareness across the formation due to lack of data link transfer between aircraft. Nevertheless, the crews were content that they could safely conduct the low-level portion of the sortie, albeit necessitating a greater reliance on see-and-avoid to ensure safe separation from other air users. The crews were unaware that the radar service they had obtained from Swanwick was compromised in that the base of radar cover was higher than usual for their entry to low-level, but they were in sight of the surface with good met visibility so they should have been able to clear their flightpath effectively. A more optimised air-air radar set-up from the flight lead may have enabled earlier detection of the conflicting traffic, but ultimately see and avoid worked as the [pilot of the] Typhoon nearest the civilian traffic was able to gain visual, react and manoeuvre in sufficient time to increase separation at CPA.

Summary

An Airprox was reported when a Typhoon and a light aircraft flew into proximity 3NM northeast of Alnwick at approximately 1216Z on Wednesday 12th November 2025. The Typhoon pilot was operating under VFR in VMC in receipt of a Traffic Service from Swanwick Mil. The light aircraft pilot was most likely operating under VFR in VMC, but it is not known whether they were in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the Typhoon pilot, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board members agreed that the lack of radar coverage due to maintenance (**CF1**), had resulted in an increased base of radar cover, which had meant that the Swanwick controller had had no situational awareness on the light aircraft (**CF2**) and therefore had been unable to pass Traffic Information to the Typhoon pilots. The Board noted the Swanwick(Mil) investigation recommendation and members were disappointed that it had been rejected. The Board also agreed that the lack of situational awareness in the Typhoon cockpits with regards to the light aircraft (**CF3**) had resulted in their flying into proximity with it, but the Typhoon No.3 pilot had seen the light aircraft in sufficient time to bunt and had increased separation at CPA to a reported 800-1000ft. The Typhoon No.3 pilot had undoubtedly been concerned

by the proximity of the light aircraft (**CF4**), but the Board felt that separation at CPA was such the risk was best characterised as Risk E, normal parameters applied.

CF1: Maintenance activity had resulted in a significantly higher base of radar coverage.

CF2: The light aircraft had been at an altitude that precluded its detection by the remaining surveillance equipment and hence of which the Swanwick controller had had no situational awareness.

CF3: The Typhoon pilots had had no off-board or on-board detection of the light aircraft and hence of which they had had no situational awareness.

CF4: The Typhoon No.3 pilot had been concerned by the proximity of the light aircraft.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025236			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Manning and Equipment			
1	Technical	• Radar Coverage	Radar Coverage	Non-functional or unavailable
	• Situational Awareness and Action			
2	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
3	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• See and Avoid			
4	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment[2]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

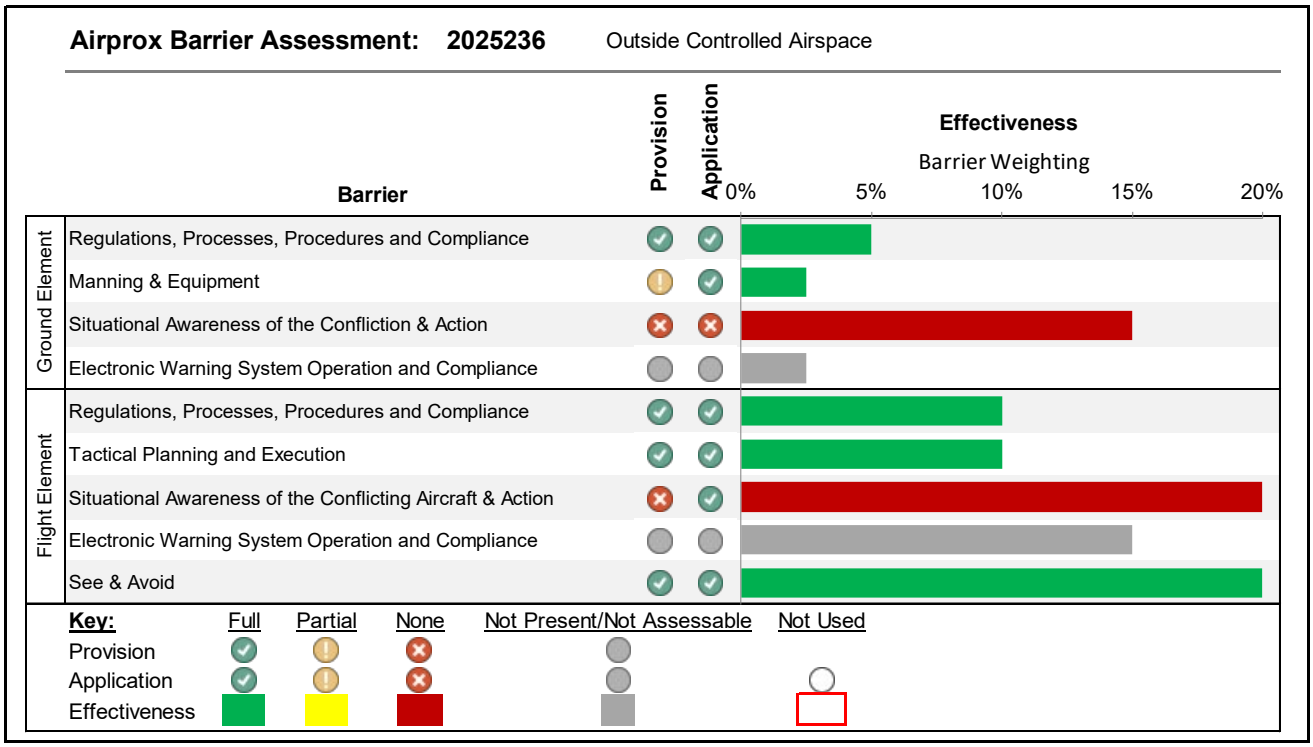
Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the light aircraft had not been detected by surveillance equipment and consequently the Swanwick controller had been unaware of its presence.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Typhoon pilots had not detected the light aircraft until sighted by the No.3 pilot.

[2] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.


Airprox Barrier Assessment: 2025236
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness