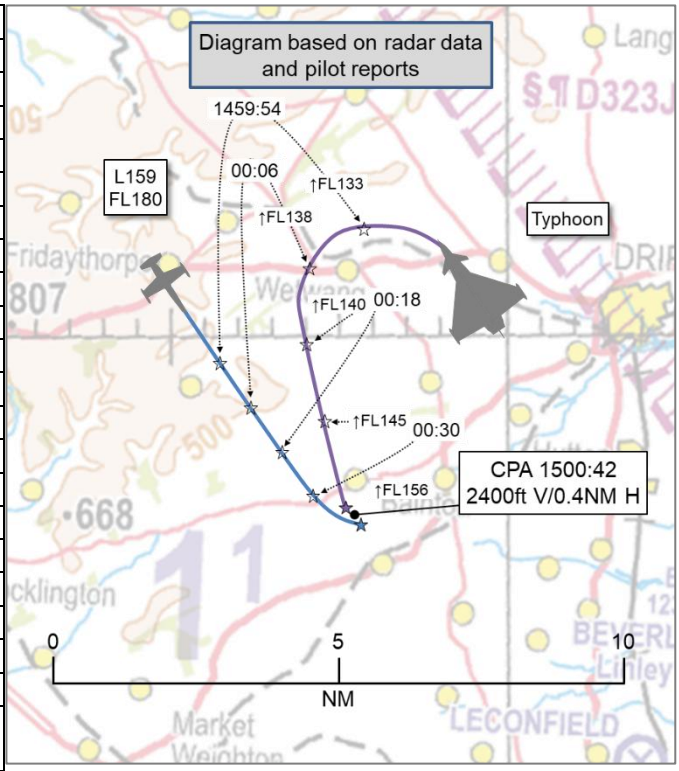
AIRPROX REPORT No 2025090

Date: 08 May 2025 Time: 1501Z Position: 5357N 00034W Location: 4NM S Wetwang

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Aero L159	Typhoon
Operator	Civ Comm	HQ Air (Ops)
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Traffic
Provider	Boulmer	Swanwick Mil
Altitude/FL	FL180	FL156
Transponder	A, C, S	A, C, S
Reported		
Colours	NR	NR
Lighting	NR	NR
Conditions	VMC	NR
Visibility	NR	NR
Altitude/FL	FL180	NR
Altimeter	NR	NR
Heading	144°	NR
Speed	220kt	NR
ACAS/TAS	TAS	Not fitted
Separation at CPA		
Reported	'1-2NM in the 6 o'clock'	Not Seen
Recorded	2400ft V/0.4NM H	



THE L159 PILOT reports transiting out to EGD323 under a Traffic Service when they became aware of a Typhoon (believed to be [the Airprox Typhoon]) operating to their southeast and then east. They were initially told (at 1454:45) that the traffic was on their nose, FL240 tracking northwest. They acquired radar contact and tracked the aircraft as it descended to FL100-120 at 1458:27 at a range of 5.3NM. The radar dropped the track for 10sec from 1458:52 to 1459:03, however, on reacquisition it was 4.4NM away heading 120° at FL120, well below their level. They called visual at 1459:19 as they saw it in a turn, low in the 10 o'clock position about 5NM away, and called to [Boulmer] that they thought it was in the CAS NOTAM (a warning that was active up to 16,000ft) and, at 1459:55, they identified it to [Boulmer] as a Typhoon. They lost visual but were aware that it was sliding into the 8 o'clock. They commenced a left turn to aid visual reacquisition at 1500:20 and became visual with a Typhoon low in the 7 o'clock heading south about 2000ft below. They turned promptly to head east to increase separation. At that point they received a broken call from [Boulmer] detailing [another formation] 20NM away. The Typhoon had by then passed through the 6 o'clock and they saw it climbing out in the right 2 o'clock, heading about 210°, 3000ft above. They requested the incident to be followed up as they suspected the separation [at CPA] was one to 2 miles.

The pilot perceived the severity of the incident as 'Medium'.

THE TYPHOON PILOT reports they were number 2 [Typhoon 2] of a pair of Typhoons conducting a composite sortie. There was a late addition to the sortie profile prior to walk, requiring only [Typhoon 2] to conduct some test serials with the Joint Threat Emitter (JTE) at Staxton Wold. Due to the late change, CADS was not updated. After the first portion of the sortie, [they] completed AAR and then transited from AARA 8 to the Vale of York (VoY) with Swanwick Mil at FL240 with a request to operate FL050-FL300. At 1454 [they were] cleared to operate in the block FL050-FL290, with Swanwick Mil requesting [they] operate no further north than RAF Leeming. Traffic was also called at this time that was correlated to a radar contact [which was] not assessed to be [the L159]. There were 2 additional contacts on radar.

One at 35,000ft, which was discounted, and another at [a bearing and range of] 324°/24NM, altitude 14,000ft, heading 150°, which [in hindsight was assessed] to be [the Airprox L159]. Of note, there were no correlated [data-link tracks] associated with any of these 3 contacts, despite other [data-link tracks] being transmitted. [The Typhoon pilot] began the serials with the JTE, which involved assessing in-cockpit indications at various altitudes and approach angles to the emitter. This was not dynamic tactical manoeuvring and was initiated at FL265. At 1457:34 Swanwick Mil called "Traffic northwest 10 miles tracking southeast FL180", which [they] acknowledged, assessing it to be the radar contact previously at 14,000ft. [They] initiated a spiral descent and 2min later, at 1459:30, were established at FL110 heading south with all JTE serials completed. At 1459:44 [they were] in a left-hand turn through north in a gradual climb. Swanwick Mil was notified that [they were] complete above FL240. [They were] then cleared to operate FL050-FL240. At 1500:15 [the formation lead Typhoon pilot] contacted [them] to organise a re-join over East Anglia. At 1500:42 [they] reported to Swanwick Mil they were complete in the VoY and requested a climb to FL240 and route to East Anglia. Swanwick Mil cleared [them] to climb to FL230 and own navigation to East Anglia. There was no information on traffic provided at that time. [They were] on a heading of about 140° and in a 9° nose up (NU) climb (note climb rate is not displayed as a default and Typhoon Force SOP is to climb at 8° NU in administrative phases of flight). At 1500:56 [they] passed through FL180 and subsequently levelled at FL230, transiting to East Anglia. [They] had no situational awareness as to the proximity [of the L159] and were unaware of an Airprox until notified. [They] received one traffic call against a contact now believed to be [the L159] when at 10NM separation. [They] had serviceable [data-link] and were receiving [data-link tracks] of other contacts in the VoY, however, there were no [data-link tracks] correlated to the 2 contacts within the VoY that were a potential conflict with [the Typhoon], one of which was now believed to be [the L159].

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

THE BOULMER CONTROLLER reports WC4 was in control of [the L159 formation] (2 x L159), transiting to EGD323D/E. [The Airprox L159] was at FL180, approaching EGD323K. Swanwick Mil was in control of [the Airprox Typhoon]. WC1 had previously called Swanwick Mil ref [the Typhoon] and was told they were cleared to operate at FL240 and would maintain until further notice. This information then changed when WC2 assistant called about [the Typhoon] and was told that they were cleared in a block 5000ft to FL290 in the Vale of York. WC4 and WC2 were in a landline call discussing the RTB plan for [another formation], in an attempt to transit via EGD323K to also avoid [the Typhoon]. This was due to [the other formation] being low on fuel. At 1502 [the L159 pilot] transmitted "I've just [had] a Typhoon climb through my level at my 6 o'clock within 1 mile". On looking at the [radar] history plots, it was evident that [the Typhoon] had indeed passed within close range of [the L159]. ADS-B replay also showed a sharp climb for [the Typhoon] whilst closing on [the L159] from 14,000ft to 20,000ft when passing its level of FL180.

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

THE BOULMER SUPERVISOR reports they were also the controller.

THE SWANWICK MIL CONTROLLER reports they were working [the Typhoon] in the Vale of York, FL50 to FL290, between ERKIT and the edge of the EGD323 complex. At 1457 a track was called to [the Typhoon pilot] at a range of 10NM as it was tracking close to their working area but remaining about 5NM to the west. At 1459 [the Typhoon] started tracking southeast towards the contact though they were not converging. No update to Traffic Information was requested by the pilot. Having watched the radar replay to refresh the situation, at about 3NM [the Typhoon was at] FL140, at ½NM behind at FL150, and at ½NM in front at FL160. [The Typhoon remained] clear of [the L159], and if there was a risk of collision further Traffic Information would have been passed.

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

THE SWANWICK MIL SUPERVISOR reports, from what they recalled, that they had recently returned to the Operations Room after a short break with another Supervisor covering in their absence. Shortly after, they received a phone call from who they believed to be [a Boulmer] Assistant requesting Traffic Information. They were not under the impression that any form of coordination was being set with the

caller not being a controller, rather Traffic Information and an affirmation of what was happening at the time of the call to settle any concerns. As the Traffic Information was requested on [the Typhoon] they noticed traffic beginning to egress from the EGD323s which they could tell was the reason for the call. Noticing the Tac [controller] had just changed the Cleared Flight Level to FL240 and traffic was passing below, they confirmed [the Typhoon] would be maintaining FL240 on its route to the VoY, and therefore any EGD323 egress below could be disregarded. They did not hear "request coordination" and therefore none was set. Shortly after, [the Typhoon] entered the VoY and commenced [manoeuvring]. The previous Traffic Information issued on the phone was null and void once the call ceased, and they were told that they would receive a call back from a controller to initiate co-ordination if necessary. The next call received was again requesting more Traffic Information rather than coordination. They gave updated Traffic Information to [Boulmer] on [the Typhoon's] operations at the time of the call. After passing the Traffic Information, [the L159] continued to be vectored through the area in which [the Typhoon] was executing high energy manoeuvres which inevitably then interacted with each other.

Factual Background

The weather at Leeds/Bradford Airport was recorded as follows:

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METAR EGNM 081520Z 06006KT 010V100 9999 BKN033 12/04 Q1022=
METAR EGNM 081450Z 07006KT 350V130 9999 BKN033 12/04 Q1023=
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Analysis and Investigation

Military ATM

An Airprox occurred on 8 May 25 at 1500 within the Vale of York.

Background.
The L159 [pilot] was transiting to the EGD323 complex and in receipt of a Traffic Service from the 19 Sqn Weapons Controller [a Boulmer controller]. The Typhoon [pilot] was general handling in the Yale of York, working FL050-FL290 and in receipt of a Traffic Service from the 78 Sqn Tac controller [a Swanwick Mil controller].

At 1454:27, the [Boulmer] controller provided Traffic Information to the L159 [pilot] regarding the Typhoon "*maintain FL180 until in the airspace for traffic on your nose, 25 miles, FL240 tracking north-west*".

At 1454:48, the [Swanwick Mil] controller cleared the Typhoon [pilot] to general handle "*operate initially in the block FL050-290 report 1 minute to completion*".

At 1457:32, the [Boulmer] controller contacted [Swanwick Mil] requesting the intentions of the Typhoon [pilot]. The [Swanwick Mil] Planner answered the call and informed the [Boulmer] controller that the Typhon was "*operating in the block FL050 to FL290 currently in the Vale of York*".

At 1457:33, the [Swanwick Mil] controller provided the Typhoon [pilot] with Traffic Information regarding the L159 "*traffic northwest 10 miles tracking southeast similar speed indicating FL180*". This was acknowledged by the Typhoon pilot who then subsequently restated their working block.

At 1458:00, the L159 [pilot] requested a further climb, and the [Boulmer] controller responded with the updated position of the Typhoon, "*traffic BRAA 120/7, now FL190 manoeuvring. That's the previous traffic, who appears to be in a right-hand turn*". The L159 [pilot] responded with "*system contact*" to which the [Boulmer] controller then approved the requested climb to FL350.

At 1459:45, the Typhoon [pilot] called complete above FL240 and the [Swanwick Mil] controller reset the operating block to FL050-FL240.

At 1501:03, L159 [pilot] transmitted "*That traffic that was orbiting in my left 10 o'clock a minute ago has just climbed up through my height in my six…about a mile or two behind me, departing 210, continuing to climb*."

CPA occurred at 1500:43, with a separation of 0.4NM laterally and 2400ft vertically**.**

Local Investigation.
A local investigation was conducted by [Swanwick Mil]/Boulmer following the event to identify the ATS-related causal/aggravating factors. The investigation found whilst phraseology may not have been standard, as per CAP413, it was [a] blending of tactical and ATC wording and was not unique to this event. All controllers involved performed their task to an appropriate standard.

Analysis.
Overall, the controlling from both [Swanwick Mil] and [Boulmer] was to a satisfactory standard. When Fast Jet [pilots] general handle, they change headings and/or altitudes rapidly and without the need to inform the controller which can result in a busy controller being unable to update Traffic Information immediately.

UKAB Secretariat

The L159 and Typhoon 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 climbed through the same level as the L159 approximately 20sec after CPA, 2NM to the south-southwest of the L159 which, by that time, was on an easterly heading.

Coningsby Occurrence Investigation

[Typhoon] climbed through [L159] level without updated traffic information or coordination.

Phraseology Deviation. Traffic Information passed to [L159 pilot] using BRAA[2] format – non-standard for the airspace and not CAP 413 compliant.

Controller Performance. Traffic Information not updated after initial point out; climb clearance issued despite potential conflict.

Pilot Performance. [L159] pilot retained full SA. No confusion reported despite BRAA usage. All Tac C2 and aircrew parties trained in BRAA tactical communication standard.

[Boulmer] Weapons Controller (WC2) prompted Weapons Controller Assistant (WCA2) [to contact Swanwick Mil] regarding [Typhoon] as [another formation] was recovering to Coningsby at FL220.

[Swanwick Mil] informed WCA2 that [Typhoon] was operating the block 5000ft to FL290. This information was passed to [the other formation] who called 'sensor contact'. Due to the proximity of the traffic to [the other formation] and unpredictable climbs, WC2 attempted to contact WC4 to relay this information and to also coordinate a level through EGD323K which was occupied by [another L159] to maintain lateral separation against [the Typhoon]. At this point, prior to the Traffic Information being passed regarding [the Typhoon], [the L159 pilot] reported that [the Typhoon] had climbed through their block between 1-2NM of lateral separation in the 6 o'clock position.

The investigation found the following Outcome, Cause and Contributory Factor:

Outcome: Loss of safe separation between [Typhoon] ([Swanwick Mil] control) and [L159] ([Boulmer] control). [L159 pilot] reported [Typhoon] passing within 1-2NM through their block in the

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] Passing Traffic Information in a defined format, that being: Bearing, Range, Altitude, Aspect.

6 o'clock position. Both pilots deemed event to be classed as an Airprox. [Typhoon pilot] was unaware that Airprox had occurred until contacted by Boulmer after discussion with pilot of [L159].

Cause: Both controllers gave Traffic Information calls on conflicting aircraft as required in accordance with CAP 774. [L159 pilot] obtained sensor and visual contact, which was voiced to [Boulmer], therefore communications were minimised. [Typhoon] pilot acknowledged Traffic Information call on [L159] two minutes prior to Airprox.
Recommendations: [Swanwick Mil] controller has been given verbal debrief on when pertinent to call previously reported traffic to improve Duty of Care. Event has been briefed to Boulmer [controllers].

Desired focus points:

- Separation tools (Plan, Coordinate, Mode C separation, UK FIS, Avoiding action).
- Phraseology when passing Traffic Information iaw CAP 413.
- Duty of Care iaw CAP 774.
- Routine (Recognise, Analyse, Prioritise, Decide, Act (review))

Contributory Factor: Boulmer controller was distracted by an internal phone call regarding coordination to expedite [other formation] direct to Coningsby due to ‘low fuel’. It was during this phone call that [Typhoon] climbed through the level of [L159]. This was unseen by controller as their eyes were drawn to [other formation] which was northeast of [L159] and [Typhoon] by approximately 20NM.

Observations: Similar incidents have occurred in the same location (overhead North Dalton, North Yorks) between departing Teesside aircraft and Typhoon working in large altitude blocks. Where possible, military fast jets are operated in segregated airspace to minimise the risk of MAC. This airspace is in short supply, therefore [the Typhoon] was to operate in the Class G Vale of York AIAA as an alternative to complete their tasking. Despite receiving a radar service to mitigate the MAC risk, the human factors vulnerabilities of this option were exposed on this occasion. Supervisory lessons from the occurrence have been identified by Air C2 and the pilots have been reminded of their MAC mitigation responsibilities in Class G airspace.

This Airprox resulted from a breakdown in standard traffic update procedures. While [the L159] pilot maintained full situational awareness and no collision risk materialised, the situation constituted a safety degradation. Both agencies have acted to rectify internal procedural deviations and improve coordination with adjacent units to prevent recurrence.

The following measures have been implemented:

1. Immediate cessation of BRAA usage outside Managed Danger Area (MDA) during transit phase, with refresher training issued on CAP 413 phraseology to all controllers, including examples during daily morning unit brief. [Post-Board Note: Clarification on use of BRAA and Bullseye has since been published. MAA letter dated 21 Aug 25 confirmed, following discussions with CAA, that Air Tactical C2 trained controllers (i.e. RAF Weapons Controllers and RN Fighter Controllers) delivering Air Tactical C2 are permitted to use BRAA and Bullseye outside of SUA and concurrently with an ATS when such terminology is more practicable or appropriate.]

2. All controllers across Air C2 Force have been issued guidance on application of Duty of Care, iaw CAP 774.

3. Event utilised as a training aid. Captured for synthetic use and will be used for Human Factors training as a case study.

Typhoon DDH Comment: This incident highlights the dangers of aircraft manoeuvring in large height blocks in non-segregated airspace frequently used by transiting formations. All controllers involved in this incident have been debriefed about the importance of updating traffic calls when relevant and awareness of this has been raised across controlling communities at both Boulmer and Swanwick

Mil. All flying units involved have also highlighted this incident internally. The Typhoon DDH is aware of previous incidents in this area and was involved in the investigation of this incident and Typhoon STANEVAL is also aware.

Comments

HQ Air Command

This incident highlights the risks of operating in non-segregated airspace, particularly in the Vale of York. The Typhoon pilot was passed Traffic Information on the L159 around 3 minutes before CPA; however, at no point was there a datalink track associated with that contact. The Typhoon pilot had been cleared own navigation East Anglia and was climbing through FL180 at the time of CPA, but was not given updated Traffic Information and so had no Situational Awareness of the L159 at the time, and was unaware of the Airprox until being contacted after the event.

Summary

An Airprox was reported when an Aero L159 and a Typhoon flew into proximity 4NM south of Wetwang at 1501Z on Thursday 8th May 2025. Both pilots were operating under VFR in VMC in receipt of a Traffic Service, for the L159 pilot from Boulmer and for the Typhoon pilot from Swanwick Mil.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers 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 first discussed the hazards associated with military operations and training in non-segregated airspace, in this case in the Vale of York. Traffic Information had been passed to the Typhoon pilot on the L159 but there had not been a data-link track, although it was noted that such data-link tracks were not designed to operate for safety of flight purposes. The L159 pilot had been fully aware of the Typhoon from Traffic Information and their own radar contact. Members agreed that correct Traffic Information had been passed to the Typhoon pilot, and acknowledged, and a military ATM member briefed that although correct Traffic Information had been passed, a duty of care consideration might have warranted a Traffic Information update, and that this consideration had been promulgated with a Standards Bulletin to controllers. The Board discussed the provision of further Traffic Information and agreed that, because the Typhoon pilot had not called sensor contact or visual, an update may have been called for. Members also noted the need for a balance between controller workload and an appropriate level of Traffic Information for any given situation. In this case there had been significant vertical separation until at a late stage so a lack of further Traffic Information to the Typhoon pilot had been understandable. Equally, the Typhoon pilot could have requested updated Traffic Information should they have felt the need to do so. Although the L159 pilot had initially had situational awareness on the Typhoon via radar contact and Traffic Information, and had seen it, they had subsequently lost visual but regained it as the Typhoon had passed from north to south, initially below in the 7 o'clock position and then climbing through the L159 pilot's level but by then unsighted again. The L159 pilot had been concerned by the proximity of the Typhoon and, the Board noted, would have been significantly closer at CPA had it not been for their pre-emptive turn on to an easterly heading.

In concluding the discussion, the Board discussed the risk, with members almost equally disposed towards a Risk E, normal parameters had pertained, and a Risk C, risk of collision averted. A vote was held and the Board decided by a majority of one that the Airprox risk was best described as Risk E. Members agreed on the following contributory factors:

CF1: Updated Traffic information had not been passed to the Typhoon pilot.

CF2: The Typhoon pilot had not requested additional Traffic Information.

CF3: The Typhoon pilot's situational awareness had become stale since the initial Traffic Information had been passed.

CF4: The L159 'ADS-B In' TAS could not detect the Typhoon.

CF5: The Typhoon pilot had not seen the L159.

CF6: The L159 pilot had been concerned by the proximity of the Typhoon.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025090			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
2	Human Factors	• Lack of Communication	Events involving flight crew that did not communicate enough - not enough communication	Pilot did not request additional information
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
	• Electronic Warning System Operation and Compliance			
4	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
	• See and Avoid			
5	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
6	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[3]

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 **partially effective** because Traffic Information to the Typhoon pilot on the L159 had not been updated.

Flight Elements:

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

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the Typhoon pilot's situational awareness of the L159 had not been updated and they had not requested an update.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the L159 TAS could not detect the Typhoon.