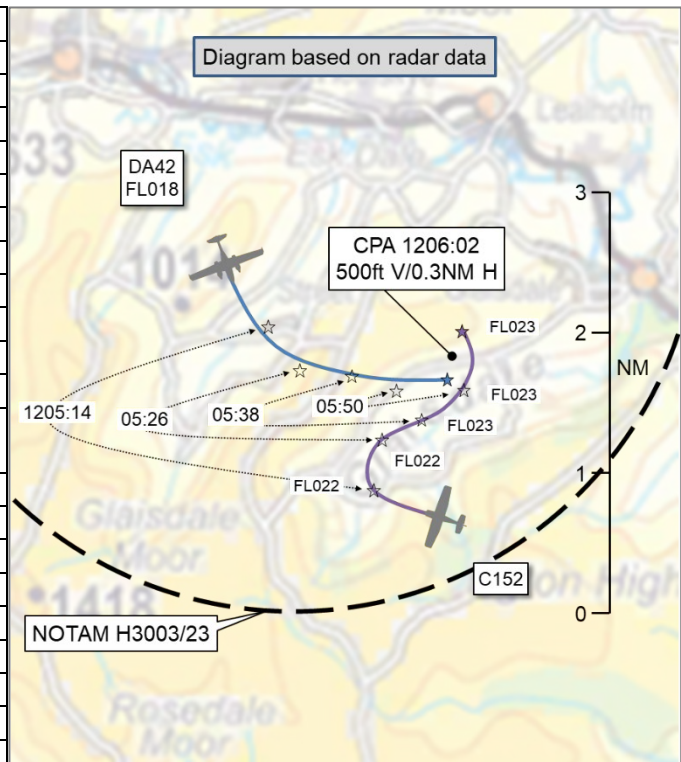


AIRPROX REPORT No 2023113

Date: 07 Jun 2023 Time: 1206Z Position: 5426N 00050W Location: Glaisdale Moor

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42	C152
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Basic
Provider	Teesside Radar	Teesside Radar
Altitude/FL	FL018	FL023
Transponder	A, C, S+	A, C
Reported		
Colours	White	White/blue
Lighting	Strobe, position, landing, taxi	Nav, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2200ft	1500ft
Altimeter	QNH (NK hPa)	QNH (NK hPa)
Heading	Left turn	030°
Speed	110kt	80kt
ACAS/TAS	TAS	Not fitted
Alert	'Traffic Alert'	N/A
Separation at CPA		
Reported	300ft V/400m H	100ft V/0.5NM H
Recorded	500ft V/0.3NM H	



THE DA42 PILOT reports conducting military training tasking above the North York Moors within the exercise NOTAM area; the fourth sortie at the location. A 1.2NM radius left-hand orbit at 2200ft QNH around the target, and central within the NOTAM area, had been established and the tasking was being executed by the Sensor Operator (SO). The altitude had been selected to optimise sensor performance during target correlation while remaining clear of cloud at 2500ft. The aircraft's Traffic Awareness System (TAS) was being monitored and indicated an aircraft in the vicinity (the 3.75 radius scale had been set, indicating the aircraft being just outside that). Teesside Radar called with an update of the aircraft that was closer than that indicated on the TAS, due to the slow TAS refresh rate, and at 2500ft. The radar update was acknowledged stating that at that altitude the other aircraft would possibly be in cloud. The pilot was looking out followed only seconds later by a TAS voice warning 'aircraft high, less than one mile'. Both crew eyes were now out, control suspended, and the other aircraft was seen simultaneously by both crew, coming out of 'scud' cloud at 300ft above (later confirmed by the TAS) and estimated 400m laterally, in a left turn. The relative flightpaths did not require avoiding action and none was seen on the other aircraft's part as it continued overhead. The TAS was monitored as the third party track departed from the exercise area. Tasking continued with no further incidents. Notwithstanding the proximity in this case, it is not unusual for aircraft to transit these exercise NOTAM areas unannounced. The morning tasking had been shortened during flight by the client to facilitate a one hour earlier afternoon start. Upon review, the NOTAM top line stated that it was active 0900-1500Z, covering the two planned daily tasks. However, in the bottom text it further stated two time periods of 0900-1100Z and 1300-1500Z, the original [operating] times.

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

THE C152 PILOT reports Teesside radar advised of one other contact in Glaisdale which was sighted in 7 to 8 o'clock, crossing behind, heading approximately 100°. The traffic turned left towards them so

they climbed approximately 100ft to maintain some vertical separation. The traffic was kept in sight and once clear they departed the area to the north.

The pilot assessed the risk of collision as 'None'.

THE TEESSIDE CONTROLLER reports that the previous controller gave Traffic Information at 1201 to [DA42 C/S] on [C152 C/S], heading opposite direction at a similar level, and Traffic information to [C152 C/S] on [DA42 C/S], stating it was carrying out an AIREX in the Glaisdale Moor area. The controllers transferred console at about 1202. At 1205 the new controller asked [DA42 C/S] if they were visual with the previously reported traffic, now indicating 300ft above and in a similar location. [DA42 C/S] replied 'negative, I would assume he would be in cloud at that height'. The controller updated [C152 C/S] with the traffic and the pilot stated that they were visual with it below in the 7 o'clock'. A response was then heard (without callsign) stating 'visual and clear' which, from the recordings, sounded like [DA42 C/S]. No mention was made of an Airprox.

Factual Background

The weather at Teesside was recorded as follows:

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METAR EGNV 071220Z 05009KT 020V080 9999 BKN027 13/07 Q1025=
METAR EGNV 071150Z 04006KT 350V070 9999 BKN025 13/07 Q1026=
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NOTAM H3003/23 was recorded as follows:

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Q) EGTG/QWELW/IV/BO /W /000/080/5427N00052W004
A) EGTG B) 2306060900 C) 2306071500
D) 0900-1100 1300-1500
E) AIR EXER. MULTIPLE ACFT WILL CONDUCT HIGH ENERGY MANOEUVRES WI
3NM RADIUS: 542701N 0005157W (GLAISDALE, NORTH YORKSHIRE). ACFT
MAY OPERATE AT SPEEDS OF UP TO 450 KNOTS IAS AND MAY BE UNABLE TO
COMPLY WITH RAC. AIC Y007/2023 REFERS. FOR INFO 07855 855151. OPS
CTC 127.185MHZ / 277.350MHZ. 2023-06-0292/AS3.
F) SFC G) 8000FT AMSL)
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AIC Y007/2023 is reproduced at Annex A.

Analysis and Investigation

UKAB Secretariat

The DA42 and C152 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 An aircraft in Class F or G airspace shall also be deemed to have complied with Table 1 [VMC Minima] if it is flown:

- a. During day only;
- b. At and below 900 M (3000 FT) AMSL, or 300 M (1000 FT) above terrain, whichever is the higher;
- c. At an indicated airspeed of 140 KT or less to give adequate opportunity to observe other traffic or any obstacles in time to avoid collision;
- d. Remaining clear of cloud and with the surface in sight; and
- e. With a flight visibility of at least 1500 M.²

It is lawful for the Rules of the Air, or for any obligation in SERA the breach of which would otherwise be an offence under this Order, to be departed from to the extent necessary -

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

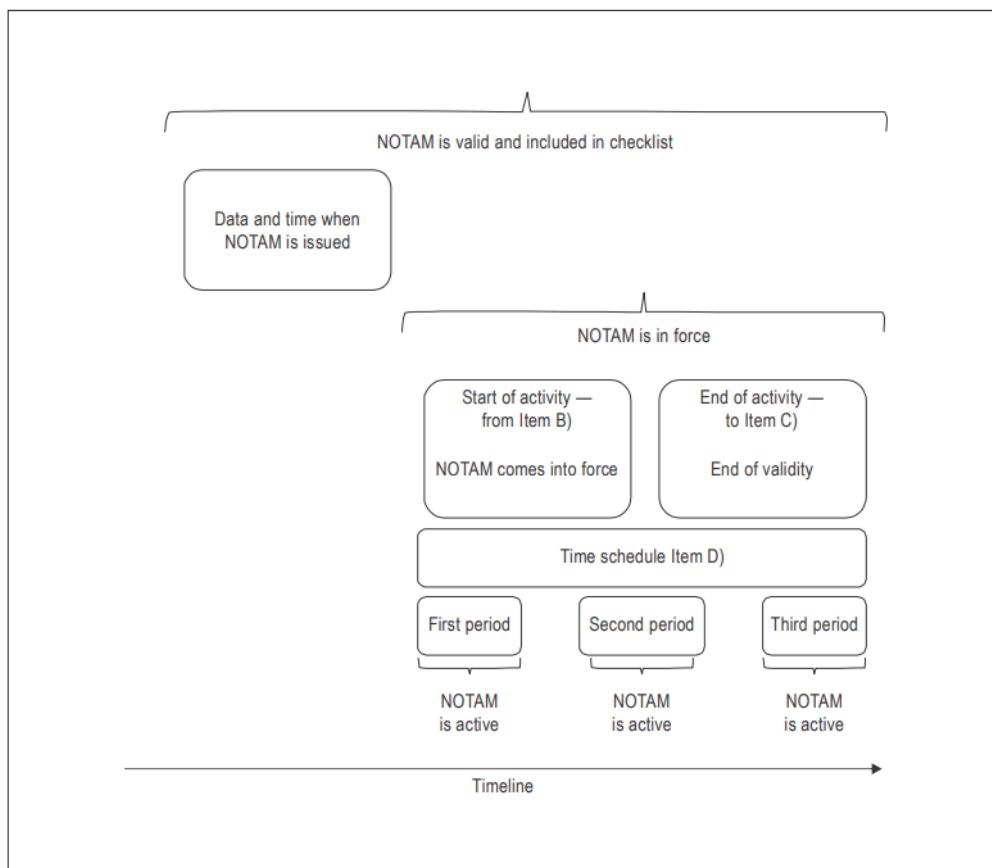
² UK AIP ENR 1.2 Visual Flight Rules, Section 1 VFR Flight, paragraph 1.1 Note 3.

...

(c) for complying with MAA01: Military Aviation Authority Regulatory Policy (Issue 4, published on 17th December 2014 and updated on 1st April 2015) and Regulatory Articles 2000 Series Flying Regulations (published on 11th November 2014 and updated on 21st April 2015) issued by the Secretary of State.³

ADH / AM(MF)⁴ should stipulate the occasions when it might be necessary to depart from the Rules of the Air for the Avoidance of Collisions for the purposes of tactical training. Alternative procedures and methods of achieving separation criteria should be promulgated, briefed and Authorized.⁵

ICAO Doc 8126 (Aeronautical Information Services Manual) includes the following diagram⁶ covering NOTAM issue/validity/being in force/activity:



And the following information concerning NOTAM field D:

6.3.8 Item D)

6.3.8.1 If applicable, Item D) specifies the time schedule or the period(s) during which an occurrence takes place between the date-time groups in Items B) and C). If Item D) exceeds 200 characters, such information should be provided in a separate, consecutive NOTAM.

Note.— When Item D) is present, the corresponding NOTAM will appear in a PIB only when the validity period of the PIB overlaps with one or more period(s) specified in Item D), or the time of retrieval falls within one of the Item D) periods.

³ ANO 2016 Article 249, paragraph 3.

⁴ Aviation Duty Holders (ADH) and Accountable Managers (Military Flying) (AM(MF)).

⁵ MAA RA 2307(1) paragraph 4, Tactical Training.

⁶ Chapter 6 Part III page III-6-13.

Teesside ATC Investigation

[DA42 C/S] was in receipt of their requested Traffic Service and reminded of their responsibility regarding terrain due to their level below sector safe altitude. [C152 C/S] was in receipt of a Basic Service already operating to the east of Teesside. [DA42 C/S] was given two calls regarding traffic in their vicinity as they left controlled airspace and further relevant Traffic Information relating to [C152 C/S] when [C152 C/S] was approximately 5NM to the east of [DA42 C/S] tracking towards them several hundred feet above their verified level on the situational display. Reciprocal Traffic Information was passed to [C152 C/S] on [DA42 C/S] when [DA42 C/S] was approximately 5NM to the west of [C152 C/S]. Both pilots acknowledged the Traffic Information passed to them. [DA42 C/S] was asked by ATC if they were visual with [C152 C/S] when [C152 C/S] had continued their track towards the area that [DA42 C/S] was operating in, where they responded that they were not. The reciprocal Traffic Information to [C152 C/S] on [DA42 C/S] was answered that they were visual with [DA42 C/S]. [DA42 C/S] then reported that [they were] visual with [C152 C/S]. Indication on the situational display was that the aircraft were separated by 400ft.

The Teesside UTCO is satisfied that all actions taken by the controller who handed over and the controller who took over were appropriate and correct. The two aircraft had been given the correct information in a timely manner. All ATC actions were correct.

Root Cause: An aircraft operating in Class G airspace on a Traffic Service coming into close proximity with another aircraft.

Recommendations: As the actions of the controller handing over and the controller taking over were correct, there are no recommendations identified.

Summary

An Airprox was reported when a DA42 and a C152 flew into proximity at Glaisdale Moor at 1206Z on Wednesday 7th June 2023. Both pilots were operating under VFR in VMC, the DA42 pilot in receipt of a Traffic Service and the C152 pilot in receipt of a Basic Service, both from Teesside Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the air traffic controller involved. 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.

Members first discussed the issue of the NOTAM and agreed that the purpose of a NOTAM was to mitigate confliction by making other airspace users aware of the planned location and times of specific activity. To that end, it was apparent that the phraseology associated with NOTAM use was ambiguous; the B and C fields denoted the 'start of activity' and 'end of activity' respectively, whereas the optional D field, if used, denoted when the NOTAM was 'active'. Members felt that the issue was resolved by the fact that a Pre-flight Information Bulletin (PIB) would only include a NOTAM if its validity period overlapped with one or more of the periods specified in the D field. Or in other words, an airspace user utilising a PIB could only be aware of a NOTAM if their PIB validity period overlapped at least one of the periods specified in the D field; the NOTAM would in effect not exist to them otherwise and therefore was only active, in the sense of the NOTAM activity occurring, during the times specified in the D field of the NOTAM. If a D field was not included in a NOTAM, the period of NOTAM activity was specified by the B and C fields. Members wondered to what degree this was appreciated by the wider aviation community and to those engaged in tasks, especially where a NOTAM covered an activity that 'may be

unable to comply with RAC⁷. Equally, members noted that tasks that ‘may be unable to comply with RAC’ required specific ‘Alternative procedures and methods of achieving separation criteria’ which ‘should be promulgated, briefed and Authorized’. Members concluded that although the DA42 crew and client had re-planned in order to optimise training, the NOTAM had not been active at the time of the Airprox. It was also noted that such a NOTAM did not provide segregated airspace and that despite the best efforts of those wishing to improve pilot TEM awareness, some pilots may, nonetheless, elect to route through it. Additionally, unless a NOTAM activity had alternative procedures and methods of achieving separation criteria which had been promulgated, briefed and authorized, the normal (UK) SERA rules applied, notably in regard to collision avoidance. Members wondered whether the C152 pilot had assimilated the NOTAM position and times and had elected to transit the area outwith the activity time specified in the D field of the NOTAM but were not able to determine this definitively. The Board agreed that the DA42 crew had inadvertently operated outside the NOTAM activity periods (CF1) and that a relatively late sighting, a TAS alert (CF2) and an aircraft they believed had been operating ‘within’ a NOTAM had resulted in them being concerned by its proximity (CF3). Members commented that the C152 pilot’s lookout may have been compromised to some degree by operating close to the cloudbase and that this had possibly also affected the DA42 crew’s ability to obtain an early sighting. The Board commended the Teesside controller for passing Traffic Information to both pilots, despite the C152 pilot only being in receipt of a Basic Service, and after further discussion agreed that separation at CPA and the earlier sighting by the C152 pilot had resulted in a situation where normal operating parameters applied, Risk E.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023113			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
• Electronic Warning System Operation and Compliance				
2	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
3	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 Assessment⁸

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the DA42 pilot was operating outside the times of activity of the NOTAM.

⁷ Rules of the Air and Air Traffic Services.

⁸ 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: 2023113		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 Conflicition & 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							

AERONAUTICAL INFORMATION CIRCULAR Y 007/2023

UNITED KINGDOM



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Date Of Publication
9 Feb 2023

Subject
Operational

Cancellation
Y042/2020



NOTIFICATION OF FORWARD AIR CONTROL EXERCISES AND CLOSE AIR SUPPORT EXERCISES

- 1 The Ministry of Defence conducts Forward Air Control Exercises and Close Air Support Exercises (known as FACEx/CASEx respectively) throughout the United Kingdom. During these exercises, a Joint Tactical Air Controller (JTAC) directs the action of fast-jet and/or rotary aircraft engaged in simulated close air support of land forces.

Note: JTACs are responsible for the tactical direction of aircraft engaged on Close Air Support (CAS) activities, however a JTAC cannot provide an Air Traffic Service (ATS) as they are not trained or authorised to do so.
- 2 Such training exercises may involve one or more of these aircraft, conducting simulated attack profiles against selected ground targets throughout the UK. Fast-jet profiles may involve dynamic lateral and vertical manoeuvring of aircraft at speeds of up to 450 knots IAS. Whilst engaged in training the aircraft may not be able to comply with Rules of the Air and Air Traffic Services (RAC) requests.
- 3 FACEx/CASEx activity will be subject to NOTAM action, to notify of the time and vertical extent of the exercise area. Each NOTAM will also contain a telephone number of the JTAC and, as a minimum, a UHF frequency on which information on the participating aircrafts' last reported positions and/or levels can be tactically obtained. When available, the UHF frequency and telephone number will be supplemented with a VHF frequency. Whilst **no UK Flight Information Services will be available from the ground operator**, pilots intending to transit the activity areas are advised to telephone the ground operator prior to flight, and if possible, establish communications on the published frequency to enhance their situational awareness.
- 4 Due to the expeditionary nature of this type of activity, it is possible for it to take place throughout both the London and Scottish FIRs, within Class G airspace. It is to be noted that the **NOTAMs pertaining to CASEx/FACEx do not segregate airspace**; therefore, extreme caution should be exercised when transiting such notified areas.
- 5 A NOTAM which notifies airspace volumes which intersect with Controlled Airspace **do not** permit participating aircraft to operate inside Controlled Airspace, without first obtaining an ATC clearance to do so.
- 6 **Example NOTAM**
 - A) EGTG
 - B) 2301010800
 - C) 2301011800
 - E) AIR EXER. MIXED FAST JET AND ROTARY ACFT WILL CONDUCT HIGH ENERGY MANOEUVRES IN SUPPORT OF GROUND OPS WI 5NM RADIUS: 525105N 0004812E (SCULTHORPE DISUSED AD). PROFILES MAY INVOLVE DYNAMIC LATERAL AND VERTICAL MANOEUVRING OF AIRCRAFT AT SPEEDS OF UP TO 450 KNOTS IAS. ACFT MAY BE UNABLE TO COMPLY WITH RAC. FOR FURTHER INFO AIC Y007/2023 REFERS. OPS CTC 225.000MHZ / 118.000MHZ / 07000 000000. 2023-01-0000/AS3.
 - F) SFC
 - G) FL195
- 7 Further information may be available from the Joint Forward Air Control Training & Standardisation Unit (JFACTSU), RAF Leeming, on Telephone: 01677-457855.
- 8 Further enquiries relating to notified activity may be made with Airspace Regulation (Utilisation) on Telephone: 01293-983880.