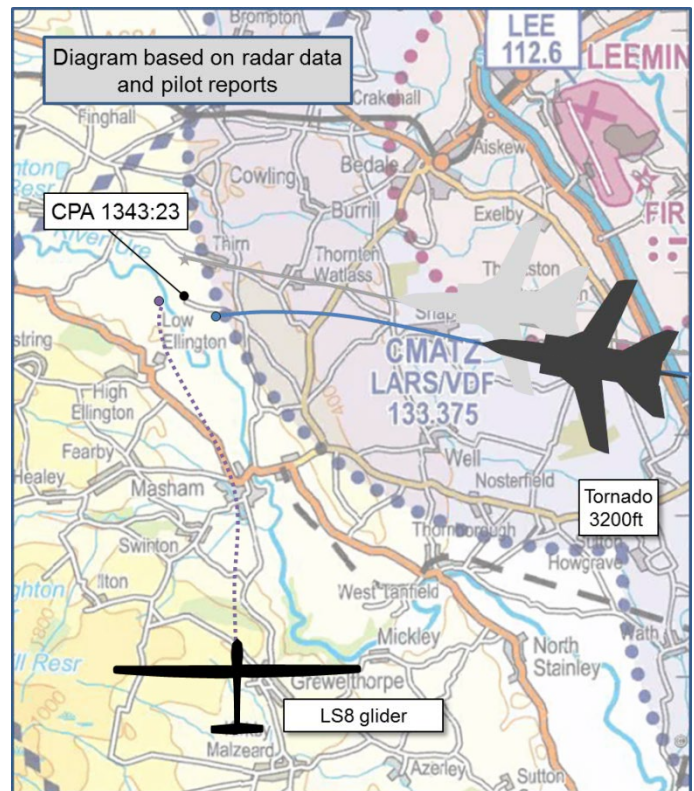


## AIRPROX REPORT No 2015135

Date: 12 Aug 2015 Time: 1343Z Position: 5415N 00138W Location: Leeming MATZ

### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tornado	LS8 Glider
Operator	HQ Air (Ops)	Civ Pte
Airspace	Vale of York AIAA	Vale of York AIAA
Class	G	G
Rules	VFR	VFR
Service	Traffic	None
Provider	Leeming	N/A
Altitude/FL	NK	NK
Transponder	Standby (in information)	Not fitted
<b>Reported</b>		
Colours	White (40 <sup>th</sup> Anniversary paint scheme)	White
Lighting	Strobes	Nil
Conditions	VMC	VMC
Visibility	20km	50km
Altitude/FL	3360ft	2400ft
Altimeter	RPS (1019hPa)	QNH (1018hPa)
Heading	280°	090°
Speed	390kt	50kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation</b>		
Reported	300ft V/300m H	100ftV 0.25nm H
Recorded	NK	



**THE TORNADO PILOT** reports that he was the No.2 in a formation of two Tornados, in the descent from medium altitude to low-level, entering at a point west of Leeming. The formation was receiving a Traffic Service from Leeming in the descent. Initial descent was given to 2700ft to keep clear of traffic in the Leeming MATZ. Whilst in the descent, the lead pilot called for the No.2 to 'bunt' because of an unobserved glider on the nose, 150ft above. The pilot did so and his aircraft passed about 300ft below the glider, which was operating at the base of the clouds. The pilot reported that the glider had been obscured by the canopy bow, and was unknown to Leeming ATC.

He assessed the risk of collision as 'Medium'.

**THE LS8 GLIDER PILOT** reports that he was on a cross-country flight; thermal conditions had deteriorated but visibility was excellent. As he approached his turning point at Masham at 2500ft, he decided to continue to fly north to connect with some good looking clouds to the nnw. He approached the cloud at 2200ft and saw a Buzzard circling to his right, so he turned towards it and entered the thermal, circling right to stay in the lift. He completed his first 360° turn when he saw something that at first he thought was the Buzzard but quickly realised was an aircraft approaching from the east. He then recognised it as one of a pair of Tornados, by which time they were abeam and to the north and slightly below him. He was climbing at around 3-400ft per minute at the time; although the time between sighting and closest point of approach was only 1 or 2 seconds, he did not feel that there was a threat of collision, and did not take any avoiding action - he believed that the Tornados didn't either. He continued thermalling, and saw the Tornados disappear up the valley. He did not call RAF

Leeming ATC at the time because he was outside their MATZ but, in retrospect, thought that a call to inform them of his position may have allowed the Tornados to be forewarned of his presence.

He assessed the risk of collision as 'None'.

**THE LEEMING CONTROLLER** reports that he was the OJTI<sup>1</sup> at the time of the Airprox, but was not notified of the Airprox until sometime after the event and therefore cannot remember any details. Having listened to the RT recording he recollected providing a service to the Tornados, but they went en route without reporting the Airprox and therefore no subsequent action was taken at the time.

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

## Factual Background

The weather at Leeming was recorded as follows:

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METAR EGXE 121250Z 30003KT 9999 SCT042 20/11 Q1025 BLU NOSIG
METAR EGXE 121350Z 23005KT 9999 FEW044 22/10 Q1024 BLU NOSIG
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## Analysis and Investigation

### Military ATM

At 1337:22, Leeming Zone placed the Tornados, callsign Primus, under a Traffic Service, *"reduced all round due to radar clutter."* Primus were descended by Zone to FL60 at 1337:41.

Traffic Information was passed at 1338:01 and at 1338:22 as, *"traffic northwest, 15 miles, multiple contacts manoeuvring no height information, believed to be gliders inside Sutton Bank."* Zone requested the heading that Primus were on, and it was confirmed as 300°.

At 1340:30, Zone called, *"multiple contacts, 12 o'clock, 5 miles, manoeuvring, no height information, possible gliders inside Sutton Bank."* At 1340:57, Primus declared VMC looking for further descent, and ATC responded at 1341:11 with, *"expect further descent in 5 miles once clear of multiple primary contacts."* At 1342:10, Primus was descended to 3000ft Leeming QFE 1019 hPa with one Tutor in the Leeming visual circuit.

Further updates were passed at 1342:53, *"Primus, traffic north west, 3 miles, further contact north west 5 miles, both manoeuvring, no height information."* At 1343:21, Zone transmitted, *"Primus previously called traffic 12 o'clock, 1 mile, manoeuvring, no height information; further traffic 12 o'clock 3 miles, manoeuvring er correction, tracking north, no height information."* Primus requested the controller to 'say again' and at 1343:50, Zone replied with, *"Primus previously called traffic left 11 o'clock, 1 mile manoeuvring, no height information."*

Primus copied the information and requested further descent to go en-route at 1344. There was no mention of the Airprox on frequency at any time up to their changing frequency at 1344:19.

The unit looked at the contributory factors to the incident and found that, for the 28 seconds prior to the incident; the crew lookout had been biased towards the northwest due to previous Traffic Information by ATC. The glider was not transponding, and the pilot had not informed Leeming of his height and position. The incident would be raised at the next Airspace Users Working Group to encourage the glider community to engage with Leeming Zone when flying close to the airfield.

The RAC radar replays could not detect the glider, and it is not possible to verify the accuracy and timeliness of the Traffic Information. However, the controller had reduced the service, stopped descent against circuit traffic, suggested a stop descent against multiple contacts, called Traffic

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<sup>1</sup> On the job training instructor.

Information and had updated it. It would appear that the requirements of a Traffic Service (as per UK FIS) and appropriate duty of care were shown by the Leeming Zone controller.

The normal barriers to an Airprox of this nature would be ACAS, lookout and Traffic Information. The Tornados were not fitted with TCAS and the glider was not transponding. Many of the gliders appear to have been detected by Primary Surveillance Radar allowing some information. The unit investigation found that the crew were concentrating their lookout to the right of track following information, expecting traffic to pass 3 miles north of their position. Traffic Information was passed as: northwest at 15nm, 12 o'clock at 5nm, and northwest by 3-5nm, 12 o'clock 1-3nm and then 11 o'clock at 1nm. The updates were constant and it is not known if the Airprox glider was the one called or even appeared on the controller's radar screen. Lookout was crucial to avoid an Airprox, and the limitations of visually acquiring gliders in fast jets are well known. Primus 1 did become visual and quickly advised Primus 2 to bunt to increase separation. See-and-avoid eventually helped separate tracks, albeit with only around 300ft separation.

### **UKAB Secretariat**

The Tornado and glider pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>2</sup>. If the incident geometry is considered as converging then the Tornado pilot was required to give way to the LS8<sup>3</sup>. If the incident geometry is considered as overtaking then the LS8 pilot had right of way and the Tornado pilot was required to keep out of the way of the other aircraft by altering course to the right<sup>4</sup>. The incident did not show on the NATS radars and so the exact separation is not known.

## **Comments**

### **HQ Air Command**

A comprehensive investigation was carried out at the Tornado's parent station and found that, ultimately, separation was eroded as the Tornado crew sighted the glider late leaving little time to make a more effective separation manoeuvre than that conducted. The Tornado formation planned the mission in accordance with current regulations and took sensible decisions regarding the descent to low level. However, the plan to descend over the airfield was denied by ATC due to circuit traffic which kept the Tornado formation higher and near to the base of the cloud where the glider was also operating. A number of traffic calls were made to the Tornado formation but it has been impossible to ascertain if any of the primary contacts was the Airprox glider. However, it is clear that formation lookout would have been biased towards the North West (in response to the TI) and that the number 2 pilot would also have been concentrating on formation position. Operating close to cloudbase is likely to reduce the time available to see and react to any traffic descending out of the cloud, particularly if the aircraft in question is not radar significant, and it is disappointing that the glider pilot did not consider calling Leeming to inform them of his position as this may have allowed ATC to correlate the primary radar contact with his call and manoeuvre the Tornado formation around him; we have seen similar occurrences within recent months. The importance of a structured lookout scan cannot be overemphasised and, when gliders are known to be operating in the area, it is important not to focus the attention in one particular quadrant for too long.

## **Summary**

An Airprox was reported when a formation of Tornados and an LS8 glider flew into proximity at 1343 on Tuesday 12<sup>th</sup> August 2015. Both pilots were operating under VFR, in VMC; the Tornado pilot was in receipt of a Traffic Service from Leeming Zone, and the glider pilot was not in receipt of an ATC Service.

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<sup>2</sup> SERA.3205 Proximity.

<sup>3</sup> SERA.3210 Right-of-way (c) (2) Converging.

<sup>4</sup> SERA.3210 Right-of-way (c) (3) Overtaking.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first looked at the actions of the glider pilot. This was Class G airspace, where he was perfectly entitled to operate, but the Board agreed with his own assessment that he may have been better served in calling Leeming on the RT to inform them of his position. By not calling ATC, some members commented that he had removed a potential source of situational awareness for both ATC and the Tornados. There then followed some discussion amongst the Board about the merits of glider pilots calling military ATC units. Anecdotal evidence suggested that sometimes controllers tried to impose a service onto gliders pilots, which then put them off calling. There was also some discussion about how far away pilots should call. Military ATC members stated that, in response to some of the concerns raised previously, guidance had been issued to military ATC units about controlling gliders, and specifically about not issuing instructions when glider pilots call. They also stressed that, in the main, the Vale of York operators had an excellent relationship with ATC; glider pilots from local sites regularly calling both Leeming and Linton, and this unfortunate incident went against the norm. In response to the question of when to call, members agreed that local knowledge was vital for identifying the busy areas and choke points where best practise would be to call ATC. In this respect, they commented that the local Regional Airspace User Working Groups, organised by the military, were extremely good forums to discuss this sort of matter because a 'one size fits all' approach would not work.

Turning to the Tornado crew, the Board felt that they were unfortunate in that their plan to let down to low-level within the relatively safe confines of the Leeming MATZ had not come to fruition. Also, circumstances had conspired against them to leave them just below the cloud base in an area where they were likely to encounter gliders. The Board noted that they had received multiple Traffic Information calls about gliders from ATC, and the Board agreed with the HQ Air Command comment that this may have focused the crew's attention to the north-west. Notwithstanding, in the end, see-and-avoid had been effective in that the lead Tornado pilot had been able to warn the No.2, who in turn was able to increase his separation.

The Board briefly looked at the role of Leeming ATC and noted that, although the controller had given Traffic Information on numerous contacts, it was not known whether the glider was visible on the Leeming radar, or indeed whether it was one of the contacts called. Without firm knowledge of the glider's position, the Board agreed that there was little more the controller could have done.

The Board then looked at the cause of the Airprox and quickly agreed that it was a late sighting by both pilots. Turning to the assessment of risk, Board members agreed that the Tornado pilot's bunt had increased the separation, but they also noted that both pilots had assessed that the two aircraft would not have collided even if the Tornado pilot had not taken any action. Furthermore, they noted that the glider pilot had not felt the need to take avoiding action himself. Therefore, the Board assessed the risk as Category C; effective avoiding action had been taken.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: A late sighting by both pilots.

Degree of Risk: C.