

AIRPROX REPORT No 2013027

Date/Time: 30 Apr 2013 1413Z

Position: 5710N 00357W
(Aviemore)

Airspace: Scot FIR (Class: G)

Reporting Ac Reported Ac

Type: Tornado GR4 DG-808C

Operator: HQ Air (Ops) Civ Pte

Alt/FL: 250ft agl 3100ft
RPS (1016hPa) QNH NR

Weather: VMC CLBC VMC CLBC

Visibility: 10km 50km

Reported Separation:

100ft V/0nm H 300ft V/0nm H

Recorded Separation:

NK



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TORNADO GR4 PILOT reports transiting at low-level as number 2 of a pair. The formation was operating autonomously under VFR in VMC, communicating on an inter-formation frequency and listening out on the low level common frequency [278.000MHz]. The grey camouflaged ac had the SSR transponder selected on with Modes A, C and S. The ac was not fitted with an ACAS. Whilst transiting along the W side of the River Spey valley, heading 045° at 420kt and 250ft AGL and keeping clear of the Highland Wildlife Park to the W, he saw a glider at an estimated range of 500m, slightly above and to the L, which had been hidden behind the canopy arch. He bunted and passed 100ft below it. The pilot noted that he had seen the glider at 'the very last moment'.

He assessed the risk of collision as 'Very High'.

THE DG-808C PILOT reports conducting a long flight with a reasonably high workload due to deteriorating soaring conditions. He was operating autonomously under VFR in VMC, listening out on the glider common frequency [129.975MHz]. The white self-launch glider was not fitted with lighting or an ACAS. The SSR transponder was selected off due to the high power drain over the extended flight and his location 'in class G airspace'. Whilst in level flight, heading 065° at 70kt, he saw a Tornado 'very late' in his R 3 o'clock at a range of 800m, passing R to L. He achieved a 'limited pull up' due to his low energy and passed an estimated 300ft directly over the top of the Tornado.

He assessed the risk of collision as 'High'.

[UKAB Note(1): The DG-808C is a single seat, high performance, 'self-launch' motor glider with a choice of wing-spans and a MAUW of 600kg on the 18m wing-span version. The ac has a V_{NE} of 146kt, a 'typical' V_S of 37kt and a glide ratio of 1:50.



LOSSIEMOUTH OCCURRENCE SAFETY INVESTIGATION reports that a pair of Tornado ac was flying a routine formation training mission, conducting a low level route in LFA 14 on Tuesday 30th April 2013.

Summary

On the day in question, a formation of 2 x GR4 Tornado ac took off from RAF Lossiemouth at 1055 to conduct low level, air-to-air refuelling and air-to-ground weaponry exercises. During the planning phase the crews briefed a warning NOTAM in the Feshiebridge area, which their track was planned to cross; however, as this was a warning and not an 'avoid', the crews elected not to change the plan but to maintain a good look-out.

The glider pilot planned a navigation exercise from Portmoak A/D in Kinross, returning to Portmoak via Dufftown, Maylodge, Loch Laggan and Rhyne. He took off just before 1000 on a flight that was to last 6hr 42min. The ac was a self-launch glider equipped with a stowable engine but following initial launch, the engine remained retracted for the entirety of the flight. The glider pilot's altitude was dictated by the prevailing soaring conditions which, at the time of the incident, had deteriorated.

The Tornado sortie proceeded as planned with the formation remaining on the planned route. As the formation returned to base they were flying NE bound, in LFA 14 at 250ft agl, generally following the course of the River Spey. At approximately 1413 the pilot of the number 2 ac saw a glider at an estimated range of 500m, slightly above and slightly to the L, tracking E. The pilot bunted to avoid a mid-air collision. The glider pilot pulled up, gaining about 50ft in altitude as the Tornado passed under and adjacent to him coming within an estimated 100ft vertically. No other crew member in the formation saw the glider.

Observations

The incident occurred in Class G airspace in a notified LFA with consistently high levels of fast-jet operations.

The crews were well briefed before the sortie, including the warning NOTAM at Feshiebridge, which was cancelled during the sortie, 45min before the incident.

It is possible the Tornado's canopy arch obscured the glider until the last moment; however, it also presented as a small white ac on a white background.

No specific flight safety recommendations can be made; both pilots were entitled airspace users in class G airspace where the principle of 'see and avoid' is used to prevent collision. However, military crews must remain aware that light aircraft, including gliders, can and will operate in class G, from low level below radar coverage, to higher altitudes.

Recommendation

The Tornado flight recording capability runs out after 3hr and the incident occurred 3hr 20min into the sortie, so no visual record of the event exists. It is recommended that the Tornado fleet software is upgraded such that sorties are visually recorded in their entirety, regardless of sortie length.

HQ AIR (OPS) comments that given the relative speeds in this instance it is unlikely that the glider was hidden by the canopy arch but it may well have been obscured by other elements of the Head-Up Display. Given that the geometry appears to have been very close to a collision course, the glider would have presented an almost stationary visual contact.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and a report from the appropriate operating authority.

Board Members questioned whether this incident was unusual in that the glider was encountered at relatively low level, in a position and at a time that may not normally be anticipated, the majority of glider flying occurring at the weekend. However, Glider pilot Members pointed out that glider flying can take place throughout the year on every day of the week when there are suitable conditions and that it was entirely feasible to encounter a glider on a ridge line, relatively close to the ground, as pilots take advantage of orographic lift. In this case the glider pilot was 4hr 16min in to a 6hr 42min sortie, returning to Portmoak and covering some 360km in total. The Military pilot Member opined that the Tornado crews were probably concentrating their lookout towards the promulgated glider site at Feshiebridge and it was fortunate that the number 2 pilot saw the glider, albeit at 'the very last moment'. The glider also represented a small target with low contrast against the sky. Members opined that the glider pilot saw the Tornado at about the same time and that both pilots took effective avoiding action.

Both pilots were operating in class G airspace and had equal responsibility to 'see and avoid'; the glider pilot had right of way. In this scenario, Members opined that the only relevant safety barriers were visual lookout and pilot action; although both pilots eventually saw the other ac, the geometry of the encounter and the close miss distance persuaded Members that the barriers had been only minimally effective resulting in safety margins much reduced below normal and an ERC score of 20.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G airspace.

Degree of Risk: B.

ERC Score: 20.