

RESTRICTED – SERVICE INQUIRY

PART 1.3 – NARRATIVE OF EVENTS

(All times LOCAL unless otherwise stated)

Introduction

1. On Monday 26 Sep 11, at approximately 1400 hours (hrs), a phone call was made to RAF Leuchars by the owner of Kailzie Equestrian Centre, southeast of Peebles, to report an injury sustained to a client. It was reported that at 1135 hrs a rider had fallen from a horse after it was startled by a low flying 'jet'. The incident occurred inside the confines of the riding school at location 5538.017N W00308.886, within UK Low Flying Area (LFA) 16. The rider (Injured Party) suffered injuries as a result of the fall and was admitted to Borders General Hospital, where the injuries were subsequently classified as serious.

Exhibit 14
Fourth Witness
Exhibit 21

2. Investigations with the Low Flying Booking Cell (LFBC) at RAF Wittering indicated that the only military aircraft in the vicinity of Kailzie Equestrian Centre at the time of the incident was Tornado GR4 ZA557 (callsign MRH 45) of II (AC) Sqn at RAF Marham. ZA557 took off from RAF Marham at 1035 hrs and completed a medium to low level training sortie which took it through the Lake District, Scottish Borders region and Northeast England at low level before landing at RAF Waddington at 1219 hrs. The crew were unaware that anything untoward had happened on the ground during the sortie.

Exhibit 13
Exhibit 23
Exhibit 24
Second Witness
Third Witness

Personnel background

3. **Pilot.** The pilot finished flying training before completing the Tornado Operational Conversion Unit (OCU). He has been on II (AC) Sqn since Jul 09, completing operational tours in support of both Operation (Op) HERRICK and Op ELLAMY. He had returned from Op ELLAMY in Aug 11 and took leave, returning to work two weeks before the incident (12 Sep 11), but was again on leave the week before the incident (week 19-23 Sep 11). Since returning from Op ELLAMY the pilot had flown one sortie before 26 Sep 11. That sortie was flown on 15 Sep 11 with the same navigator/Weapon Systems Officer (WSO) as on 26 Sep and also included some low-level training. At the time of the incident he had 666 flying hours on Tornado.

Second Witness
Exhibit 1
Exhibit 12(1)
Exhibit 22

4. **WSO and sortie authoriser.** The WSO finished flying training before completing the Tornado OCU. His first tour was on 13 Sqn at RAF Marham from 2001-04. He completed the Tornado GR4 Qualified Weapons Instructors (QWI) course in Jul 05 before a tour on 14 Sqn at RAF Lossiemouth. He then completed a staff tour with Defence Equipment and Support as a Requirements Manager for air to ground weapons from Sep 07 to Feb 11. After a refresher course on XV(R) Sqn at RAF Lossiemouth he joined II (AC) Sqn at RAF Marham in Mar 11 and completed an abridged work-up syllabus before deploying on Op ELLAMY. He is a Fours lead, QWI, Aircrew Checking Officer (ACO) and Air Combat Leader. In addition he holds the executive positions of Officer Commanding (OC) Weapons and Flight Commander on the Sqn. He is also a Tornado Force Authoriser for all routine flying; including BEV/UBEV iaw ATIs¹. At the time of the incident he had 1587 flying hours on Tornado. After returning from Op ELLAMY in Jul

Third Witness
Exhibit 2
Exhibit 6(3)
Exhibit 12(2)
Exhibit 22

¹ Briefed Evasion/Unbriefed Evasion in accordance with Air Training Instructions.

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11 he took some leave but was back at work two weeks before the incident (12 Sep 11). Since returning from Op ELLAMY the WSO had flown one sortie before 26 Sep 11. That sortie was on 15 Sep 11 with the same pilot as on 26 Sep.

5. **Northeast HAS² Site Duty Supervisor of Flying.** The Northeast HAS Site Duty Supervisor of Flying (DSoF) is also a Tornado Force Authoriser for all routine flying including BEV/UBEV iaw ATIs but he did not authorise MRH 45 for this sortie. He has been a qualified DSoF since Nov 10. After returning from Op ELLAMY he had taken five weeks leave and 26 Sep 11 was his first day back at work.

First Witness
Exhibit 6(3)
Exhibit 11

6. **Complainant.** The owner of Kailzie Equestrian Centre who made the low flying report has lived and worked at Kailzie Home Farm, Peebles, (location of the Equestrian Centre) for nine years (**S40**)

During this time she has experienced low flying aircraft in the surrounding area but until this incident has never had cause for complaint nor experienced an aircraft flying overhead the Centre.

Fourth Witness

7. **Injured Party.** The Injured Party has been riding at Kailzie Equestrian Centre for a few years and has not experienced any low flying aircraft there until this incident. She is described by the owner as a competent rider.

Fourth Witness
Eighth Witness

Aircraft background

8. Tornado GR4 ZA557 was flown in the following equipment fit; (**S26**)

Witness 2
Exhibit 17

II (AC) Sqn return from Op ELLAMY background

9. II (AC) Sqn had returned from Op ELLAMY by the end of Aug 11 and were granted Post Operational Deployment Leave until 11 Sep 11. Half of the Sqn was granted further leave for the week 12-16 Sep 11 and the other half the week 26-30 Sep 11. The week 19-23 Sep 11 was a period of block leave for the whole Sqn. Mon 12 and Tue 13 Sep 11 were Sqn No Fly Days, leaving 8 remaining days in the month available for flying. Tornado GR4 Force (TGRF) orders stipulate numerous annual standards and pilot handling checks and also a list of annual handling requirements and basic training requirements that should be completed on a quarterly and annual basis. Due to their recent operational deployment, the Sqn took the opportunity to programme sorties for these purposes. The pilot handling sorties were flown as singletons and the rest were flown initially as singletons and then as pairs of aircraft. This allowed crews a graduated exposure back into skill sets they were not current in due to the Op ELLAMY deployment. This included low flying. At the same time the Sqn was still on standby to conduct Op ELLAMY offensive sorties. As the other squadrons at Marham were deployed on operations, II (AC) Sqn had full use of the TGRF

Exhibit 22
Exhibit 29
Exhibit 30

² Hardened Aircraft Shelter.

³ Infra-red and Radio Frequency (RF) counter measures pod.

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Full Mission Simulator (FMS) which they used for crew weapons delivery qualifications, currency and emergency handling drill sorties to ensure retention of knowledge on aircraft basic operating systems. The sortie in question, flown in ZA557, was conducted as a singleton due to the fact that it was only the crew's second sortie back in the UK and that the aircraft was to be delivered to RAF Waddington at the end of the sortie. It differed from other training sorties in that the aircraft would be fitted with more external stores.

Chief of the Air Staff's Air Combat Power Visit background

10. The Chief of the Air Staff's Air Combat Power Visit (CAS ACPV) 2011 was an RAF demonstration of its expeditionary roles and capabilities which took place at RAF Waddington from 27-29 Sep 11. The aim of the annual ACPV is to broaden the understanding of RAF Air Power, and approximately 180 visitors were invited by CAS Air Staff along with numerous military personnel. AOC 1 Gp was tasked with providing a single Tornado GR4 with a presentation team and support personnel. The aircraft was to be in either Op HERRICK or ELLAMY equipment fit. It is understood that HQ 1 Gp tasked RAF Marham and the tasking was allocated to II (AC) Sqn. It was planned to be flown from RAF Marham to land during a dedicated recovery slot time at RAF Waddington on 26 Sep 11. II (AC) Sqn allocated ZA557 for the role with a planned takeoff at 1030 hrs for a full training sortie before delivery to Waddington.

Exhibit 20
Exhibit 22

Previous 24 hours

11. **Pilot.** The day before the incident the pilot was off duty, on his last day of one weeks UK based leave before returning to work. He spent the day at home. He arrived for duty for Meteorological (Met) Brief at 0730 hrs on 26 Sep and then with the WSO planned the sortie with a takeoff time of 1030 hrs.

Second Witness
Exhibit 22

12. **WSO.** The day before the incident the WSO was off duty and spent the day at his home (S40), travelling back to RAF Marham that evening and was in his room at 2130 hrs. He arrived for duty for Met Brief at 0730 hrs on 26 Sep and then with the pilot planned the sortie with a takeoff time of 1030 hrs.

Third Witness
Exhibit 22

13. **Northeast HAS Site DSoF.** The day before the incident the DSoF was off duty, on the last day of five weeks leave after returning from Op ELLAMY. He was not due to be DSoF on 26 Sep 11 but was informed of the change between 2100-2200 hrs the night before via text message. He arrived for duty at 0700 hrs on 26 Sep in preparation to give the Met Brief and later conducted the out-brief for the crew of ZA557. He handed over the DSoF role at 1100 hrs, (while ZA557 was airborne).

First Witness
Exhibit 22

Planning

14. The crew planned to fly a training sortie which included a simulated single engine heavyweight instrument approach and overshoot at RAF Marham before conducting a medium level transit to the Linton-on-Ouse area. They then planned to let down to low level just west of Linton and fly a route which took them through LFAs 11, 12, 16 and 17 before climbing in the Humber area to conduct an Instrument Landing System (ILS) approach into

Second Witness
Third Witness
Exhibit 7
Exhibit 13(1)
Exhibit 20

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Waddington. The sortie was intended as an opportunity to concentrate mainly on low flying and was planned not to be particularly complex.

Pre-flight briefing

15. At 0730 hrs the crew attended the Met brief which included the weather, airfield operations and emergency of the day and was given by the DSoF. The weather was considered suitable for the sortie. The crew used the Tornado Advanced Mission Planning Aid (TAMPA) to plan their route and in doing so briefed themselves on the Notices to Airmen (NOTAMs) on the route. They also carried out a secondary check of NOTAMs on the map board prepared by the Flight Operations Assistants. The out-brief was carried out by the Northeast HAS Site DSoF following the Tornado GR4 Force Aircrew Guide. During the out-brief the crew checked for late warnings and completed the authorisation sheets. MRH 45 was authorised by the rear-seat WSO as the senior officer/supervisor in accordance with Tornado Force practice. After walking to the aircraft, and before they taxied for take-off, they contacted the DSoF (callsign Norvic) on the operations desk frequency for any new late warnings. They were given Late Warning A which was not relevant to their route.

First Witness
Second Witness
Third Witness
Exhibit 6
Exhibit 7
Exhibit 9
Exhibit 15

Pre-incident events

16. **Aircraft.** ZA557 took off at 1035 hrs, five minutes later than planned. At 1105 hrs ZA557 descended to low level just west of RAF Linton-on-Ouse before flying through LFAs 11 and 17 which includes the Lake District. At 1119.55 hrs ZA557 entered LFA 16 south of Dumfries. Shortly after entering LFA 16, the crew elected to increase the MSD from 250 feet (ft) to 500 ft in order to deconflict with lower level traffic in the underlying LFA 20(T) which the crew believed to be active. The Radar Altimeter (RADALT) warning bug was altered from 225 ft (250 ft Minimum Separation Distance (MSD) less 10%⁴) to 450 ft (500 ft MSD less 10%). ZA557 flew in a clockwise direction through LFA 16 towards Peebles. Due to the **(S40)** during the low level phase, the pilot attempted to keep altitude and attitude changes to a minimum.

Second Witness
Third Witness
Exhibit 16(2)
Exhibit 23
Exhibit 24

17. **Injured Party.** At 1100 hrs the Injured Party commenced her riding lesson. The lesson was conducted in an area known as the 'school', a fenced, sand covered area (otherwise known as a 'menage' or 'manege') at the southern end of the Centre complex and surrounded by high trees. The Injured Party was the only one on horseback in the 'school' for this lesson.

Fifth Witness
Eighth Witness
Annex A-C

Incident

18. **Aircraft.** The pilot of ZA557 elected to turn slightly south of the planned track to stay clear of Peebles and go over the high ground to the south of the town. South abeam Peebles ZA557 left the northern boundary of LFA 20(T) but the crew elected to maintain 500 ft MSD. This decision was made between pilot and WSO as the planned route would take them back over LFA 20(T) about one minute later. ZA557 passed due south of Kailzie Equestrian Centre on an easterly heading and then continued to turn further to the south in order to follow the next valley feature.

Second Witness
Third Witness
Exhibit 18(3)
Exhibit 23
Exhibit 24

⁴ In accordance with 1 Group Air Staff Orders (GASOs) 1G330.300.7.
1.3 - 4

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19. **Injured Party.** The Injured Party was mounted and at the walk when the horse 'sensed (or heard) the aircraft approaching' and cantered forward unexpectedly. The Injured Party believed the horse was going to attempt to jump the fence at the edge of the 'school' but instead the horse veered sharply to the right on reaching the fence. The Injured Party became unseated, fell to the left and struck her back on a fence post before falling to the ground inside the school.

Fifth Witness
Eighth Witness

Post incident events

20. **Aircraft.** The crew of ZA557 continued their sortie through the Scottish Borders and Northeast England before climbing in the Humber area for an ILS approach to land at RAF Waddington at 1219 hrs. The crew were unaware that anything untoward had happened on the ground during the sortie.

Second Witness
Third Witness
Exhibit 23
Exhibit 24

21. **Injured Party.** The Injured Party was taken to Borders General Hospital by ambulance where she was admitted. Her injuries were subsequently classified as serious.

Fourth, Fifth,
Eighth and Ninth
Witnesses
Exhibit 21

22. **Complaint handling chain.** At 1400 hrs RAF Leuchars received a low flying report from the owner of Kailzie Equestrian Centre. The owner reported that a rider undergoing tuition had fallen when her horse was startled by a low flying 'jet'. The report was dealt with as a complaint and was passed from RAF Leuchars to the Regional Community Relations Officer (South Scotland) who completed a MOD Form 953. During completion of this form the owner of the Equestrian Centre was re-contacted and gave the time of the incident as approximately 1135 hrs. MOD Form 953 was sent to the Directorate of Air Staff (Lower Airspace) Complaints and Enquiries and this in turn was forwarded to the Defence Flying Complaints Investigation Team (DFCIT) and the Military Aviation Authority (MAA).

Fourth Witness
Exhibit 14
Exhibit 19

23. **Aircraft data impounding.** Once DFCIT were aware of the complaint on 26 Sep they commenced an investigation, identified MRH 45 as the aircraft most likely to have been involved and contacted RAF Marham. Personnel at Marham did not conduct formal Post Crash (or Incident) Management but ensured that a Replacement-Accident Data Recorder (R-ADR) download was initiated and that all mission materials were impounded. DFCIT also contacted the Radar Analysis Cell at Swanwick and requested a radar replay of the area and time of the incident. Once the SI was convened on 29 Sep, and MRH 45 was separately identified as the aircraft in question, the Panel immediately sought confirmation that these actions had been completed. The Panel requested that the aircraft was not to be flown again until confirmation had been gained that the R-ADR download had been completed on 30 Sep. It was also discovered that the aircraft Video Recording System (VRS) had failed to operate during the sortie but had not been reported as unserviceable beforehand. The aircraft had remained on the ground at RAF Waddington until its return to RAF Marham with a II(AC) Sqn crew on 30 Sep.

Exhibit 3
Exhibit 4
Exhibit 5