

## **AIRPROX REPORT No 2014229**

**Date/Time:** 8 Dec 2014 1526Z

**Position:** 5053N 00225W  
(12nm SE Yeovilton)

**Airspace:** Yeovilton AIAA (**Class:** G)

**Aircraft 1**                      **Aircraft 2**

**Type:** Hawk T1 (A)              Hawk T1 (B)

**Operator:** RN                      MoD ATEC

**Alt/FL:** 4000ft                      4000ft  
QFE (1019hPa)              NK

**Conditions:** VMC                      VMC

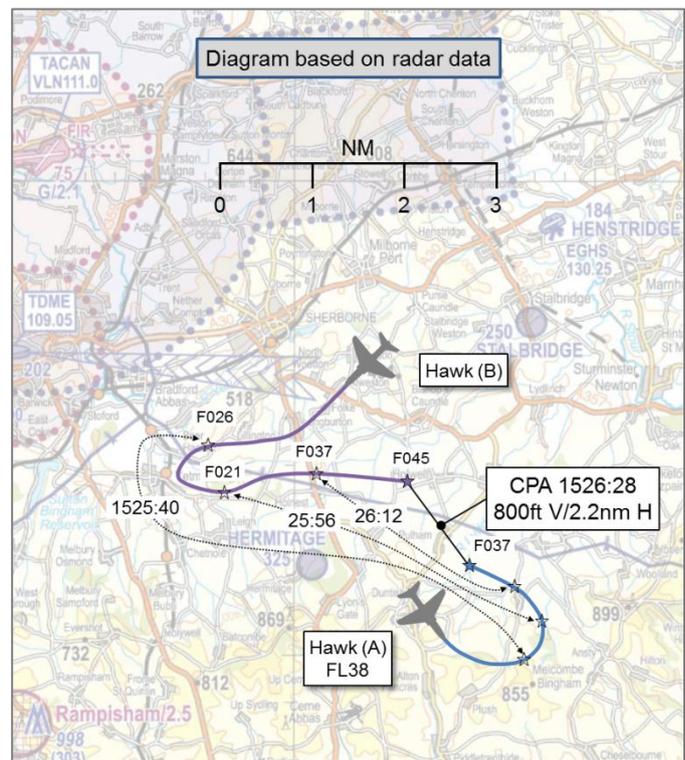
**Visibility:** 10km                      35km

**Reported Separation:**

0ft V/2nm H<sup>1</sup>                      0ft V/2nm H

**Recorded Separation:**

800ft V/2.2nm H



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

**THE HAWK (A) PILOT** reports being in the Yeovilton RW27 TACAN hold at FL40. The black aircraft had navigation lights and HISLs selected on, as was the SSR transponder with Modes A and C. The aircraft was not fitted with an ACAS or TAS. The pilot was operating under IFR, in VMC, in receipt of a Traffic Service from Yeovilton Approach. During the first turn outbound from the IAF, Yeovilton Approach called fast-air traffic south of him at a range of 3.5nm, 500ft below. He acknowledged the call but was unsighted on the traffic. Shortly afterwards, the Approach controller transmitted a further 5 to 8 calls of the same conflicting traffic, ranging between 2 to 5nm and within 700ft of his height; each call with bearing changes of 90° to 180°. Yeovilton Approach advised that the traffic was from Boscombe Down and not under Yeovilton control. Due to the unpredictable, large rates of change of bearing and close proximity of the conflicting traffic, the Hawk (A) pilot was unable to take avoiding action based on them. He transmitted a call on Guard UHF advising the traffic that he was manoeuvring in the Yeovilton 27 TACAN hold and to clear the area. No response was received on Guard, but the traffic rapidly climbed through 7500ft thereafter. He terminated the TACAN procedure and continued the remainder of the sortie as briefed.

He assessed the risk of collision as 'High'.

**THE HAWK (B) PILOT** reports he was the captain of the aircraft which was being handled by the rear-seat Hawk-qualified pilot. The black aircraft had nose-light and HISLs selected on, as was the SSR transponder with Modes A, C and S. The aircraft was not fitted with an ACAS or TAS. The pilot was operating under VFR, in VMC, in receipt of a Traffic Service from Boscombe Approach. The crew were undertaking a dynamic manoeuvring trial which required a series of turns down to, but not below, 2000ft agl in 'good VMC conditions' in Class G airspace. In order to undertake the high G turns in VMC in the required altitude block of 2000ft to 4000ft agl, they had to operate to the southeast of Yeovilton due to cloud layers to the north and southwest of the airfield. Ideally they would have operated more than 10nm away from Yeovilton. As they descended, they were called traffic to their south which they visually identified at a range of 2nm and 2000ft below as a Hawk. The position of the other aircraft had the effect of squeezing them towards the Yeovilton MATZ, which meant that their turns were to the south to stay clear of the MATZ and also towards the other aircraft, which they did not know was in the TACAN hold at Yeovilton. As they undertook the first 180° turn,

<sup>1</sup> Based on the Yeovilton Approach controller's Traffic Information calls.

they saw that the other aircraft had turned away from them. They then flew a second 180° turn and saw that the other aircraft had now turned back towards them. At the same time, Boscombe Approach informed them that the other aircraft was in the Yeovilton TACAN hold and asked them to operate no further west of their present position, which they started to comply with. As they then climbed, Boscombe Approach asked them to remain above FL50, which they also complied with. They received a call on Guard from Hawk (A) pilot but did not respond because Boscombe Approach stated that they would inform Yeovilton Approach that Hawk (B) pilot would comply with their request. The elapsed time from descending through 4000ft, undertaking the turns, and then climbing out above FL50, was 3min 30sec. Both Hawk (B) pilots felt that they had good situational awareness and were visual with the other Hawk. They did not feel that there was any risk of collision. The Hawk (B) pilot stated that, in summary, they manoeuvred to the southeast of Yeovilton, closer to the MATZ than they would have wished due to weather constraints and the presence of Hawk (A), which they were visual with and had to turn towards due to the proximity of the MATZ. They were initially unaware that Hawk (A) was in the TACAN hold, and had completed their turns and were starting to climb out when Boscombe Approach informed them that the other Hawk was in the hold, requesting coordination.

He assessed the risk of collision as 'None'.

**THE YEOVILTON APPROACH CONTROLLER** reports he received a handover from 'London Mil' of a Hawk T1, east of N864 airway, which had been pre-noted as inbound for a TACAN approach. On initial contact, the aircraft was formally identified, the pilot placed under a Traffic Service, and given own navigation for the TACAN hold for RW27. The pilot requested to conduct the procedure at 4000ft QFE and was given a descent instruction as well as the Yeovilton QFE pressure. With the Hawk pilot transiting to the southeast towards the TACAN hold, the controller observed a fast-moving track displaying a Boscombe Down Mode A code whose Mode C indicated levels passing through that of the Hawk under his control. The lateral separation at the time was perceived to be 9nm, and Traffic Information was passed to the Hawk pilot. Once the Hawk pilot had become established in the TACAN hold at 4000ft QFE, the other aircraft was observed performing high-energy manoeuvres, changing heading and levels in an erratic way. On multiple occasions, the other aircraft re-introduced points of confliction to which the Hawk pilot was updated with several Traffic Information calls. Concurrently, the Yeovilton Radar Supervisor contacted the Boscombe Down ATCO via landline, requesting vertical co-ordination. This was denied by the pilot of the conflicting aircraft. Lateral coordination was requested, and the Yeovilton controller was informed that the 'Boscombe track' would remain clear to the west to allow the Hawk to conduct the TACAN procedure. Immediately afterwards, the controller observed the Boscombe aircraft turn east. At this point the Hawk pilot decided to cancel the TACAN procedure and, instead, use the Yeovilton overhead as a navigation point before taking up a northwesterly track to descend to low-level. The controller stated that the closest point of confliction he observed was when both aircrafts' verified Mode C indicated FL37, head-on, moving in the opposite direction to each other, with 2nm lateral separation.

**THE YEOVILTON SUPERVISOR** reports he was observing the Radar Controller who was working a Hawk in the TACAN hold for RW27 at 4000ft on the Portland RPS. He called a fast-moving contact that appeared to be an aircraft engaged in General Handling in the vicinity and 'wearing a Boscombe Down squawk'. When the Hawk pilot requested more information, the Supervisor contacted Boscombe to arrange coordination. After an unsuccessful attempt to arrange vertical coordination, he requested the aircraft move from the area. An agreement was reached, but the aircraft then turned back towards the Hawk and the Supervisor again contacted Boscombe. During this conversation the Hawk pilot made a broadcast on the UHF Guard frequency and aborted his TACAN procedure. The Supervisor then spoke to the Boscombe Supervisor to inform him of the outcome.

**THE BOSCOMBE APPROACH CONTROLLER** reports Hawk (B) was conducting a trial between 2000ft (Portland RPS 1017hPa) and FL240. He called the Hawk (A) traffic to Hawk (B) and the pilot called visual with it, reporting it as another Hawk. The conflicting traffic turned away and then turned back towards Hawk (B). The controller called the traffic again, and Hawk (B) pilot reported visual with it. The Yeovilton Supervisor called and spoke to the Boscombe Supervisor; the Approach controller was then asked by his Supervisor to request that Hawk (B) manoeuvre no further west of their current location to allow more freedom for the Hawk (A). The Hawk (B) pilot complied with this request. The

controller was then asked for Hawk(B) to be not below FL50; the Hawk(B) pilot, who was below that level, agreed to the request and started to climb. The controller noted that the Hawk (B) pilot stated he was visual with the other aircraft at all times.

**THE BOSCOMBE SUPERVISOR** reports a Hawk pilot was working under a Traffic Service with Boscombe Radar. Yeovilton called requesting Traffic Information on this traffic as they had traffic in the TACAN hold. Due to the late timing of the call from Yeovilton, no effective co-ordination could be agreed. A call was later received from the Yeovilton Supervisor to inform them that the aircraft under their control had transmitted on UHF Guard to ask the aircraft in the vicinity of the Yeovilton TACAN hold to vacate the area.

### Factual Background

The weather at Yeovilton was recorded as follows:

METAR EGDY 081450Z 30014KT 9999 FEW025 07/01 Q1022 BLU TEMPO -SHRA SCT022 WHT  
METAR EGDY 081550Z 30011KT 9999 FEW025 06/00 Q1023 BLU NOSIG

A portion of the tape transcript for Yeovilton Approach (VL App) is reproduced below:

From	To	Speech Transcription	Time
VL App	Hawk (A)	[Hawk (A) C/S] traffic North East 3 miles tracking South (break in transmission) North West 3 miles tracking South East 2000ft above fast moving	15:23:17
VL App	Hawk (A)	[Hawk (A) C/S] previously reported traffic now East 3 miles tracking South East 700ft below descending fast moving	15:24:01
VL App	Hawk (A)	[Hawk (A) C/S] previously reported traffic now ne 5 miles tracking North, fast moving, 300ft above climbing now	15:24:37
Hawk (A)	VL App	All copied err not really happy with this traffic at the moment err you got no contact with them at all?	15:24:47
VL App	Hawk (A)	[Hawk (A) C/S] err just trying to contact Boscombe now to err arrange some coordination	15:24:57
Hawk (A)	VL App	Yeah erm in terms of the procedure, it'll probably better to maintain the hold for the time being, it sounds like he's manoeuvring around the TACAN arc	15:25:03
VL App	Hawk (A)	[Hawk (A) C/S] roger that's copied maintain the hold and further traffic southeast 3 miles opposite direction slow moving height unknown	15:25:14
Hawk (A)	VL App	All copied... I'm good victor mike but not sighted on that previously called fast mover	15:25:22
VL App	Hawk (A)	Roger	15:25:28
Hawk (A)	VL App	Yeah if you can get him to clear away from the TACAN hold that would be great	15:25:29
VL App	Hawk (A)	[Hawk (A) C/S] roger we're trying to build in some lateral separation for you now	15:25:33
VL App	Hawk (A)	[Hawk (A) C/S] previously reported fast mover now West North West 5 miles tracking East height now unknown no squawk observed	15:25:57
Hawk (A)	VL App	All copied terminate terminate this approach. Intentions are to route towards your overhead on my current heading of 300 I'm gonna clear off err we need to speak to Boscombe after about this	15:26:07
VL App	Hawk (A)	[Hawk (A) C/S] previously rep traffic in your 12 o'clock same level	15:26:18
Hawk (A)	VL App	I certainly can't fly the approach with him doing aero's in the TACAN hold	15:26:22
VL App	Hawk (A)	[Hawk (A) C/S] previously reported traffic in your 12 o'clock opposite direction 300ft above climbing now	15:26:25
Hawk (A)	VL App	Roger I'm descending now 3000	15:26:32

From	To	Speech Transcription	Time
Hawk (A)	VL App	Are you sure he's Boscombe traffic?	15:26:41
Hawk (A)	VL App	Roger I'm switching to guard now	15:26:46
Hawk (A)	VL App	??? Back with you on 13 approach	15:27:04
VL App	Hawk (A)	[Hawk (A) C/S] roger that traffic is now in your left 11 o'clock 2 miles crossing right to left ahead 4800ft above climbing now well clear	15:27:08
VL App	Hawk (A)	[Hawk (A) C/S] roger climb to height 3500ft err the Boscombe traffic is now at Flight Level 85 climbing	15:27:36
Hawk (A)	VL App	Roger many thanks . . . . . Yeah I'll contact Boscombe on the ground and possibly DASOR that one	15:27:44
Hawk (A)	VL App	Yeah In your opinion what was the closest point of approach that he got to me in the hold?	15:28:00
VL App	Hawk (A)	[Hawk (A) C/S] err about 5 mikes ago you were opposite direction same level err with about 2 miles separation	15:28:04

A portion of the tape transcript for Yeovilton Supervisor (VL Sup), Boscombe Down Supervisor (BDN Sup) and Boscombe Down Approach (BDN App) and landline conversation is reproduced below:

From	To	Speech Transcription	Time
VL Sup	BDN Sup	It's err Yeovilton radar supervisor request traffic information	15:24:50
BDN Sup	VL Sup	Go ahead	15:24:23
VL Sup	BDN Sup	Henstridge South West 3 miles manoeuvring sorry squawks just up squawking 2620	15:24:54
BDN Sup	VL Sup	Standby	15:25:00
BDN Sup	VL Sup	Yeah Yeovilton (Speaking with another controller) . . . What's he in the block 4. . err it's in the block 2000ft to Flight level 240	15:25:06
VL Sup	BDN Sup	Err we've got 1 in the TACAN hold at the moment for runway 27 is he able to operate not below 5 flight level 50 for coordination?	15:25:13
BDN Sup	BDN App	Can you ask him to be not below Flight Level 50 for coordination? Is he?	15:25:18
BDN App	BDN Sup	Low level . . . . . Errmm	15:25:23
VL Sup	BDN App	Is he gonna maintain that South Westerly course now? Is he manoeuvring in that area?	15:25:25
BDN App	VL Sup	No he's gonna be manoeuvring all over that area I tried to get him to go up the North East but there's no. . . hasn't got the weather for it. Which guy is it, the 7402?	15:25:29
VL Sup	BDN App	Affirm yeah he's at 4000ft at the moment just in 1 hold for a TACAN approach runway 27	15:25:36
BDN App	VL Sup	May . . . If I get my err my guy to maintain a Westerly heading	15:25:41
VL Sup	BDN App	Yeah if he can maintain a westerly heading at the moment he's just main. . . ours is just maintaining the hold at the moment errmm	15:25:46
BDN App	VL Sup	And he's gonna descend inbound	15:25:52
VL Sup	BDN App	I can see he's turning now back towards isn't he is there anyways for a couple of minutes he could operate not below flight level 50 and we'll be not above 4000ft Yeovilton QFE 1020	15:25:53
BDN App	Hawk (B) VL Sup Hawk (B) VL Sup	Standby. . . . [Hawk (B) C/S] message, he's low level, I'm wondering if err err [Hawk (B) C/S] previously called traffic South East 2. . . 3 miles tracking North West indicating similar level Err [Hawk (B) C/S] that err aircraft's err due inbound for a TACAN approach any err request err you manoeuvre to no further West than your current location??? inbound . . . . Right he's gonna go to the East now	15:26:01
VL Sup	BDN App	He's going completely to the East is he?	15:26:31
BDN App	VL Sup	Yeah	15:26:32
VL Sup	BDN App	Ok thank you	15:26:33

From	To	Speech Transcription	Time
Hawk (A)	Hawk (B)	[Hawk A C/S] manoeuvring in the Yeovilton TACAN hold there's a fast mover from Boscombe currently moving in the TACAN hold my height is 3000ft request you err clear the area err so I can err fly the hold thank you	15:26:47
VL Sup	BDN App	Hi it's Yeovilton Radar Supervisor is the supervisor available for a couple of minutes? Yep supervisor's on, Oh right its Yeovilton radar supervisor hi obviously we're just trying to negotiate some kinda co-ordination with the Hawk	15:27:44
BDN App	VL Sup	Yeah I just he's not below flight level 50, 2620 south west of you by 10 miles	15:27:53
VL Sup	BDN App	Right he's now terminated his TACAN approach with us he's going through our overhead and he's going off low level he wasn't happy to continue errmmm he's just come up on guard obviously trying to talk to your traffic he's obviously got. . . he wasn't particularly happy just to let you know that's what the transmission was for I don't know if you were monitoring at all	15:27:59
BDN Sup	VL Sup	Yea, no I was, I heard that yeah	15:28:13
VL Sup	BDN Sup	I totally understand obviously we've just tried to formulate some kind of negotiation ,,,, but at the time he wasn't happy with the guy working there I just wanted to give you a quick heads up but he's	15:28:14
VL Sup	BDN Sup	He's aborting his approach now and is going out low level	15:28:23

A portion of the tape transcript for Boscombe Approach (BDN App) and landline conversation is reproduced below:

From	To	Speech Transcription	Time
BDN App	Hawk (B)	[Hawk (B) C/S] traffic south three miles tracking north indicating four thousand feet	15:23:07
Hawk (B)	BDN App	[Hawk (B) C/S] looking	15:23:13
BDN App	Hawk (B)	[Hawk (B) C/S] previously called traffic south two miles tracking west indicating two thousand feet below	15:23:26
Hawk (B)	BDN App	Visual with Hawk	15:23:33
BDN App	Hawk (B)	[Hawk (B) C/S] further traffic west three miles tracking south indicating three thousand eight hundred	15:24:20
Hawk (B)	BDN App	Say again for [Hawk (B) C/S]	15:24:23
BDN App	Hawk (B)	Disregard it's in your six o'clock now	15:24:25
Hawk (B)	BDN App	[Hawk (B) C/S] request an update on the traffic	15:24:45
BDN App	Hawk (B)	South of you by four miles tracking east indicating flight level four zero	15:24:50
BDN App	Hawk (B)	Lots of clear airspace to the north east of Yeovilton if you wish	15:24:56
Hawk (B)	BDN App	We don't really have the weather there unfortunately we'll erm we'll stay in this sort of area	15:25:04
BDN App	Hawk (B)	[Hawk (B) C/S] previously called traffic south east three miles tracking north west indicating similar level	15:26:08
BDN App	Hawk (B)	[Hawk (B) C/S] there's a aircraft err due inbound for a TACAN approach, reea...request a manoeuvre to no further west in current location so he can get inbound	15:26:16
Hawk (B)	BDN App	That's copied no further west	15:26:27
VLN Sup	BDN App	He's going to keep to the east is he?	15:26:29
BDN App	VLN Sup	Yeah	15:26:30
BDN App	VLN Sup	Right you are Boscombe	15:26:31
BDN App	Hawk (B)	[Hawk (B) C/S] to your south one mile tracking west at three thousand feet	15:26:40
Hawk (B)	BDN App	[Hawk (B) C/S] looking	15:26:45

From	To	Speech Transcription	Time
BDN App	Hawk (B)	[Hawk (B) C/S] if possible not below flight level five zero while he does the one TACAN hold then he's inbound	15:26:50
BDN App	Hawk (B)	[Hawk (B) C/S] you able to manoeuvre not below flight level five zero while he gets his hold in	15:27:24
Hawk (B)	BDN App	Affirm apologies he's in the hold at Yeovilton	15:27:28
BDN App	Hawk (B)	Affirm apologies yeah	15:27:32
Hawk (B)	BDN App	Roger that will not below five zero and (keep clear the west) <i>unclear</i>	15:27:34
BDN App	Hawk (B)	[Hawk (B) C/S] many thanks I'll let him know and let you know when he's clear	15:27:38
Hawk (B)	BDN App	Apologies	15:27:40

## Analysis and Investigation

### Military ATM

The incident occurred on 8 Dec 14 between Hawk(A) under a Traffic Service with Yeovilton Approach and Hawk(B) under a Traffic Service with Boscombe Approach. Radar replay imagery is based on the Burrington Radar with a London QNH of 1020hPa.

At 1523:26, Boscombe Approach had called traffic to Hawk (B) as, “*previously called traffic south two miles, tracking west, indicating two thousand feet below.*” At 1523:31 (Figure 1), the Hawks had 2.6nm horizontal separation and 1900ft vertical separation.

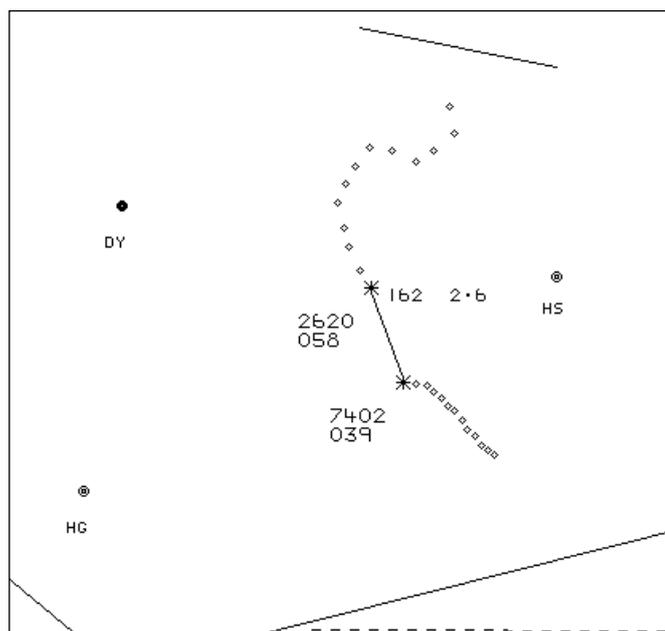


Figure 1: Geometry at 1523:31 (Hawk (A) squawk 7402; Hawk (B) squawk 2620)

Yeovilton Supervisor and Boscombe Approach discussed maintaining Hawk (B) on a westerly heading at 1525:41 (Figure 2).

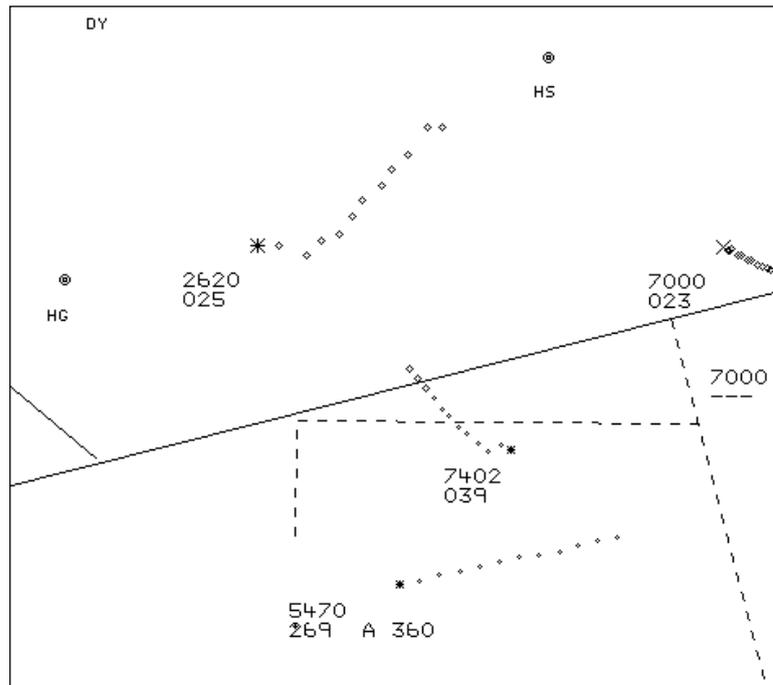


Figure 2: Aircraft geometry at 1525:41

At 1526:16 (Figure 3), Yeovilton Approach updated traffic to Hawk (A) with Hawk (B) on a reciprocal heading.

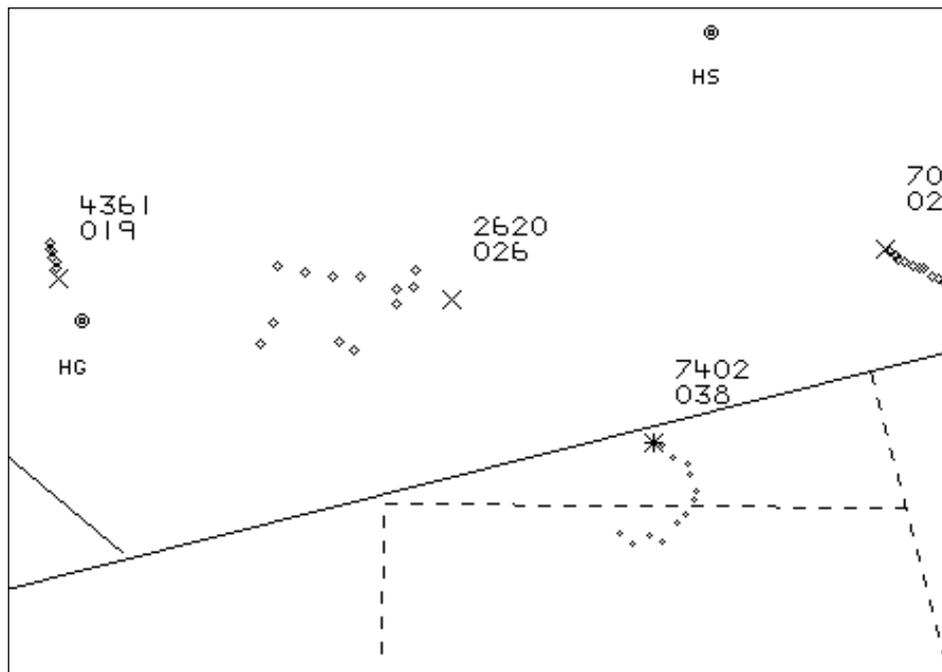


Figure 3: Yeovilton Traffic Information at 1526:16

The CPA indicated at 1526:29 (Figure 4) was 2.2nm horizontal and 1100ft vertical separation.

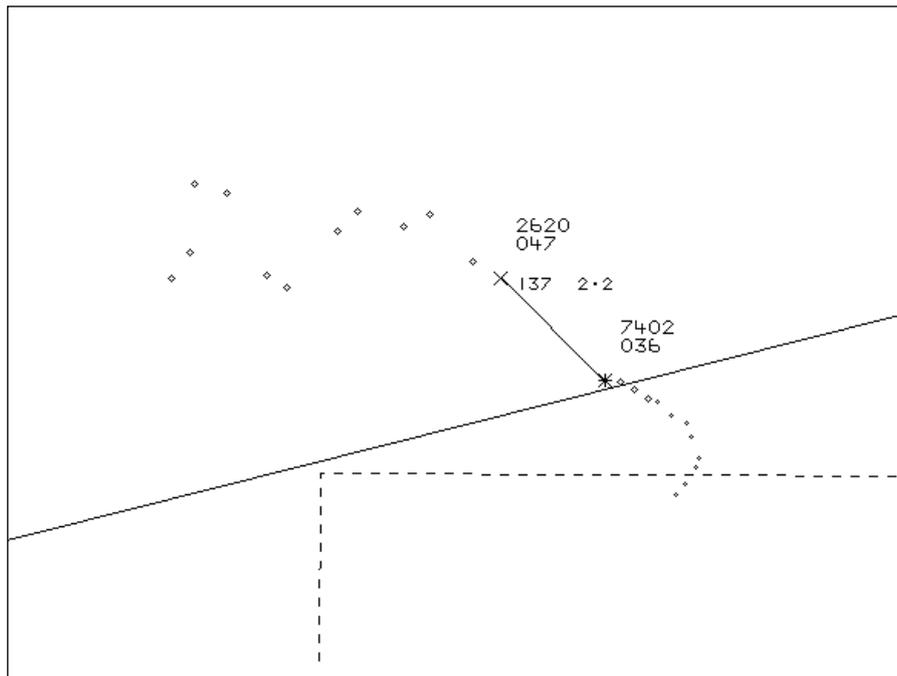


Figure 4: CPA at 1526:29

At 1526:47, Hawk(A) transmitted on UHF Guard, “manoeuvring in the Yeovilton TACAN hold there’s a fast mover from Boscombe currently moving in the TACAN hold, my height is 3000 feet, request you err clear the area err so I can err fly the hold thank you.”

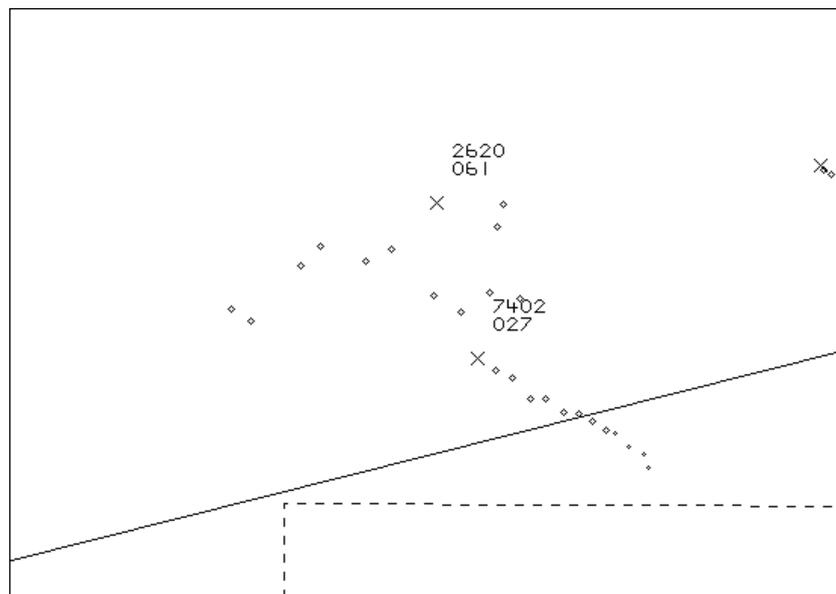


Figure 4: Aircraft geometry at 1526:47

Both pilots were manoeuvring in Class G airspace under a Traffic Service; the controllers provided numerous sets of Traffic Information and updates, as per the provision of a Traffic Service. Hawk (A) pilot had stated at 1524:47 that he was not happy with the situation because he had no visual contact on Hawk (B). Yeovilton had attempted to coordinate the tracks but there was a delay because the Hawk (B) pilot could not initially achieve height deconfliction. Additionally, the high-energy manoeuvres altered the initial horizontal separation plan from Hawk (B) maintaining a ‘westerly heading’, to Hawk (B) routing ‘no further to the west’. At 1526:27, Hawk (B) pilot agreed that he would manoeuvre no further west and the CPA was 2sec later. At 1527:24, Hawk (B) pilot agreed to fly not below FL50; when Boscombe attempted to coordinate height separation with Yeovilton, Hawk (A) had terminated the TACAN approach and coordination was no longer required.

The normal barriers to an Airprox of this nature would be an ACAS/TAS, Traffic Information and the 'see-and-avoid' principle. Hawk (A) did not have ACAS fitted and could not maintain visual contact with Hawk (B). Hawk (B) did not have ACAS fitted but was able to maintain visual contact with Hawk (A) and was content with his situational awareness. Both pilots were in VMC and had chosen a suitable ATS for the conditions; multiple sets of Traffic Information were also provided to both pilots. The high-energy manoeuvres and profiles involved meant that coordination plans had altered with the dynamic traffic situation. Whilst the CPA was 2.2nm, Hawk (B) pilot had manoeuvred such that it had caused concern for Hawk (A) pilot, who terminated his TACAN approach to Yeovilton.

### **UKAB Secretariat**

Both 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>. Neither pilot had priority over use of Class G airspace in the Yeovilton AIAA.

## **Comments**

### **HQ Air Command**

This report highlights the requirement for choosing an appropriate operating area and selecting an ATS from an agency that can provide the greatest situational awareness for the airspace in which you are manoeuvring. Due to weather constrictions, the pilot of Hawk (B) was forced to use an operating area that was significantly closer to Yeovilton than expected when conducting his trial profile. This resulted in his manoeuvres impinging upon the operations of Hawk (A) in the Yeovilton TACAN hold, of which he was initially unaware. More detailed flight planning from the pilot of Hawk (B) may have highlighted the potential for conflicts in this region and allowed for selection of an alternative operating area. Although there was no requirement for Hawk (B) to contact Yeovilton in Class G airspace, due to his proximity, it may have been more appropriate for him to receive an ATS from this unit rather than continuing with a service from Boscombe Down.

Due to the dynamic manoeuvring of Hawk (B), it was very difficult for Hawk (A) to predict the projected flight path of the conflicting traffic and plan deconfliction; unfortunately the barrier of ACAS was not available as it was not fitted to either aircraft. In this instance, it may have been prudent for the pilot of Hawk (A) to upgrade his service to DS or deviate from his planned TACAN hold and select an alternative area to continue his sortie, especially if he felt that safety had been compromised. Indeed, the Hawk (A) pilot selected the later course of action but only after he had requested liaison through ATC and made transmissions on Guard.

As a result of this incident, the ATC units from both locations have formed stronger relationships and will conduct mutual familiarisation activities to maximise understanding of operating areas and restrictions. A unit Occurrence Safety Investigation has been carried out with a number of recommendations.

### **Navy HQ**

This particular piece of airspace can get very congested and the recovery profile being flown by Hawk (A) was not wholly contained within 'protected' airspace. Both Hawks had selected the appropriate ATS for their flight conditions, traffic information was passed, but the nature of the profiles being flown did not allow Hawk(A) to become visual with Hawk(B). The Air Traffic Units were fighting hard to resolve the conflict while minimising the impact to both aircraft; however, Hawk (A) made the decision to cancel the approach prior to an agreement being reached.

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

## Summary

An Airprox was reported when two Hawk aircraft flew into proximity at 1526 on Monday 8<sup>th</sup> December 2014. Both pilots were operating in VMC in receipt of a Traffic Service, the Hawk (A) pilot from Yeovilton Approach under IFR and the Hawk (B) pilot from Boscombe Approach under VFR.

### **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 considered the actions of Air Traffic Control. Hawk (A) pilot had been passed multiple Traffic Information calls on Hawk (B), and had requested that Yeovilton coordinate with Boscombe. Yeovilton contacted Boscombe to request coordination shortly after 1525, which was agreed by 1527:34. In what the Board considered to be an unfortunate coincidence of position and timing, the Hawk (A) pilot had already terminated his approach by this time, no doubt unaware that the Hawk (B) pilot was in the process of agreeing coordination. ATC members felt that with a pre-noted arrival for the TACAN procedure, it may have been possible for Yeovilton to contact Boscombe earlier to arrange deconfliction with any of their traffic in the area. Similarly, they felt that it should have been possible for Boscombe to contact Yeovilton earlier when it became clear that their traffic would be operating in the vicinity of an aircraft wearing a Yeovilton instrument recovery squawk.

Turning to the pilots' actions, Hawk (B) crew had moved their planned area of operation to the southeast of Yeovilton due to weather and the nature of their test profile. They were visual with Hawk (A), and were in the process of agreeing coordination through Boscombe when the Hawk (A) pilot terminated his instrument approach. The Board commented that, given his re-positioning, the pilot of Hawk (B) would have been better served by choosing to conduct his task with Yeovilton rather than Boscombe so that direct coordination could have been achieved; they wondered whether there was some reluctance to operate on other than Boscombe's radio frequencies. Whilst the Hawk (A) pilot was understandably concerned by the proximity and manoeuvring of Hawk (B), members felt that he had a number of options open to him. Asking for a Deconfliction Service would have afforded him vectors to keep clear of the other traffic (although the Board acknowledged that part of the reason for conducting the practice approach was to rehearse self-positioning and maintenance of holding geometry, which would not be facilitated by responding to vectors under a Deconfliction Service). Alternatively, he could have waited for Yeovilton to establish that the Hawk (B) pilot was visual with him before continuing with his TACAN, or simply move away from the hold until Hawk (B) was clear. In any event, neither Hawk pilot had priority over the other to operate in or near the TACAN hold, although they recognised that the Hawk (A) pilot had the least geographic flexibility of the two aircraft with respect to completing their tasks.

The Board agreed that although the Hawk (A) pilot was concerned by the proximity of the Hawk (B), the aircraft had not manoeuvred into such proximity as to create a risk of collision and that normal procedures, safety standards and parameters pertained. Notwithstanding, members also agreed that the use of the emergency Guard frequency to address Hawk(B) pilot and request that he 'clear the area' so that the Hawk(A) pilot could 'fly the hold' was not appropriate.

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

Cause: The Hawk (A) pilot was concerned by the proximity of Hawk (B).

Degree of Risk: E.