

AIRPROX REPORT No 2020057

Date: 01 Jul 2020 Time: 1337Z Position: 5106N 00213W Location: 2NM SE Warminster

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	FR20	Hunter
Operator	Civ Comm	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic	Traffic
Provider	Swanwick(Mil)	Boscombe Down
Altitude/FL	FL132	FL152
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue, White	White, Blue, Gold
Lighting	HISLs, Nav	NK
Conditions	VMC	VMC
Visibility	50km	10km
Altitude/FL	FL140	FL100
Altimeter	1013hPa	1013hPa
Heading	240°	270°
Speed	220kt	NK
ACAS/TAS	TCAS II	TAS
Alert	RA	Unknown
Separation		
Reported	1000ft V/0m H	1000ft V/0m H
Recorded	2000ft V/<0.1NM H	



THE FR20 PILOT reports that they were recovering to Bournemouth following a tasking in the D323 complex. Swanwick(Mil) cleared the aircraft to descend to FL130, routing from the Swindon corridor to Bournemouth. Traffic was called at FL120 in the 12 o'clock at 10NM. That traffic then turned towards the Falcon and initiated a climb, to which Swanwick responded by telling them to level at FL140 and commence a turn to heading 240° to avoid. At this point they visually acquired the traffic (a silver Hunter) which continued to manoeuvre towards and climb. A TCAS RA 'CLIMB' occurred, which was adhered to, and relayed to Swanwick(Mil). A level off was initiated at FL150 heading west, and the Hunter was seen to fly below the Falcon by approximately 1000ft and route away to the north. The aircraft was recovered to Bournemouth without further incident.

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

THE HUNTER PILOT reports that this report was written based solely from memory. At the time of the Airprox, they were general handling in Class G airspace with excellent visibility, no medium level cloud above and in receipt of a Traffic Service from Boscombe Down Radar on a UHF frequency. Heading somewhere between west and north and in the region of FL100. ATC passed a traffic call for traffic above, to the north and possibly on a south westerly heading. This was acknowledged and they looked for the traffic which was also displayed on the TAS display. They turned onto a westerly heading and visually acquired the traffic, right 4 o'clock high on a converging heading and well clear vertically and horizontally. It appeared to be descending and they turned slightly right in an attempt to avoid flying directly underneath to try to prevent a RA being triggered in the Falcon. However, they may well have tracked directly underneath it. They could not recall whether or not a TA was received from the TAS. The Falcon crossed over their nose from right to left with an estimated vertical separation in excess of 1000ft. They then turned left for positioning in the area and the Falcon (which may have turned right) was then on the same heading as them, high in their 12 o'clock with what they considered to be adequate horizontal and vertical separation. They then turned slightly right to put the aircraft on

diverging tracks believing that it was inbound to Bournemouth. At the time, and even in hindsight, they did not consider that there was any mid-air collision risk during this situation. They noted that due to the passage of time since the event there may be some discrepancies between the reported altitudes and headings in this report and the radar traces and report by the Falcon.

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

THE SWANWICK(MIL) CONTROLLER reports that they were the OJTI¹ on Tac West/Cen/SW the FR20 vacated the Swindon RC descending to FL150. On vacating the confines of the Swindon RC the UT noticed traffic working in the vicinity of Yeovilton squawking 2627. They called Boscombe Down for TI, which was passed that the aircraft was working in a block FL50-FL190 and was a Hunter. The Boscombe controller stated the aircraft was receiving a Traffic Service so it wasn't an issue. The UT called the traffic to the FR20 and stopped descent above until visual. The pilot reported they had the aircraft on TCAS. The UT called the traffic again and offered a heading of 240° to turn behind to enable further descent inbound to Bournemouth. The pilot took the turn and reported visual with the aircraft. The UT then instructed that with the aircraft in sight, descend FL100. After this the pilot reported they were taking a TCAS RA against the Hunter. Once clear of the traffic, further descent was issued and the pilot instructed to continue with Bournemouth.

The controller perceived the severity of the incident as 'Low'.

THE BOSCOMBE DOWN CONTROLLER reports they were the OJTI on radar, providing a service to 2 aircraft to the west of Boscombe. The Hunter was operating 12NM to the east of Yeovilton between FL50 and FL190. Swanwick phoned, requested Traffic Information and were informed by the trainee that the Hunter was not above FL190 and not below FL50, they then pointed out their traffic, an FR20, 18NM NW Boscombe tracking south at FL150 inbound to Bournemouth. The traffic was called to the Hunter pilot at a range of around 10NM indicating slightly above. The Hunter then tracked east to within 6NM of the track and it was called again, the pilot replied as being visual. The trainee then continued to work the other aircraft on frequency.

Factual Background

The weather at Boscombe Down was recorded as follows:

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METAR EGDM 011320Z 25011KT 9999 FEW020 BKN030 18/13 Q1006 TEMPO 7000 -SHRA SCT020
RMK BLU TEMPO WHT=
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Analysis and Investigation

Military ATM

The Hunter pilot reported conducting general handling in the block FL50-FL190 in excellent weather conditions. Following Traffic Information from Boscombe Approach, which coincided with a TAS return, the Hunter crew reported visual with the FR20 with a reported separation of 1000ft. The Hunter crew were not concerned by the proximity of the FR20.

The FR20 was returning to Bournemouth and was in receipt of a Traffic Service from Swanwick(Mil). Having been passed Traffic Information, the FR20 crew reported becoming visual with the Hunter and levelled off at FL140 on instruction from Swanwick. Shortly afterward they reported the Hunter initiating a climb toward them resulting in a TCAS RA climb instruction which they followed.

Figures 1-6 show the positions of the Hunter and the FR20 at relevant times in the lead up to and during the Airprox. The screen shots are taken from a replay using the NATS radars, which are utilised by Swanwick (Mil) but not by Boscombe, therefore are representative of the picture available to the Swanwick controller only.

¹ On the job training instructor

Having identified the potential conflict, the Swanwick (Mil) controller contacted Boscombe to ascertain the intentions of the Hunter pilot. Having passed Traffic Information and established that both parties were under a Traffic Service no further action was taken by either controller. Separation at this point was 13.5NM.

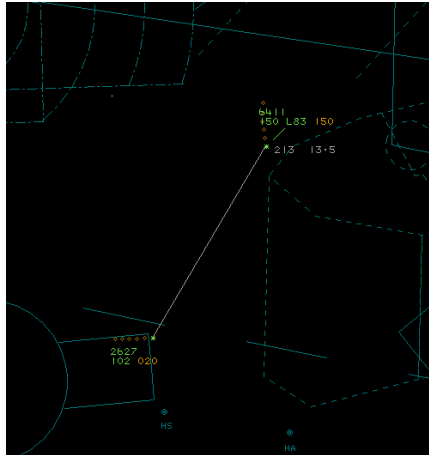


Figure 1:
Traffic Information between the controllers

Shortly after this exchange, both controllers passed Traffic Information to their respective pilots on each other. The Swanwick (Mil) controller also issued a descent instruction to FL130 which built in 1000ft of separation from the indicated altitude of the Hunter. Separation at this point had decreased to 8NM.

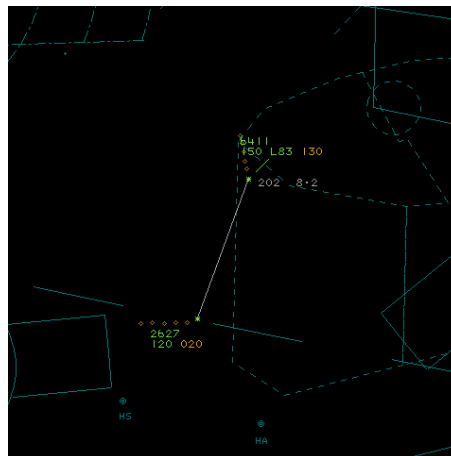


Figure 2:
Traffic Information to both aircraft

The FR20 pilot reported as only having TCAS contact on the Hunter which prompted the Swanwick (Mil) controller to offer a turn to the west to route behind the Hunter. For their part, the Hunter pilot reported not being visual with the FR20 and informed the Boscombe controller that they intended to turn west via a right hand turn. Separation at this point had decreased to 6.6NM.

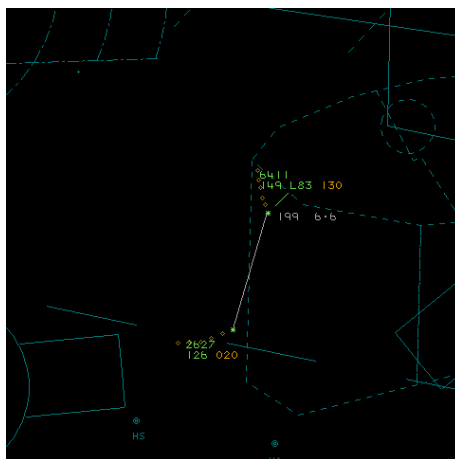


Figure 3:
Swanwick vector the FR20 away

Having seen the Hunter continue its climb, the Swanwick (Mil) controller amended the descent instruction to the FR20 pilot to stop at FL140 and again passed Traffic Information. At this point, the pilot reported being visual with the Hunter. Having informed Boscombe of their intention to turn west via a right hand turn, the Hunter pilot actually initiated a left hand turn prompting the Boscombe controller to pass Traffic Information for a second time to which the Hunter pilot reported having a TCAS contact and then 4sec later being visual. Separation at this point was 3.9NM and 1700ft.

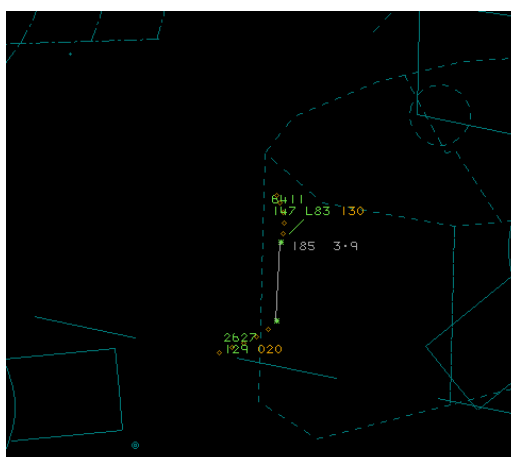


Figure 4:
Traffic Information passed to both aircraft

Having reported visual with the Hunter, the FR20 pilot was instructed by the Swanwick(Mil) controller to descend to FL100 and 17sec later the pilot reported a TCAS RA. Separation at this point was 2.3NM and 1400ft. The radar contacts merged 26sec after the TCAS RA report resulting in a vertical separation of 2000ft.

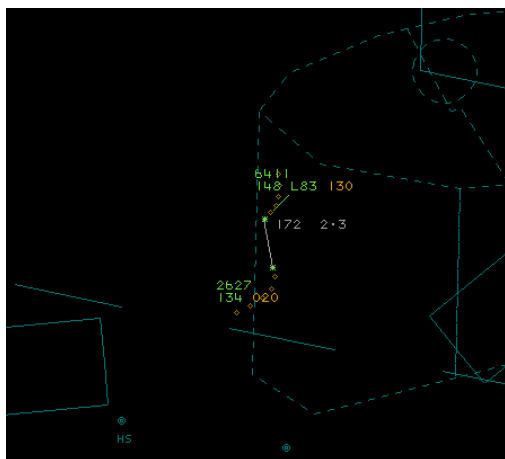


Figure 5: FR20 TCAS RA

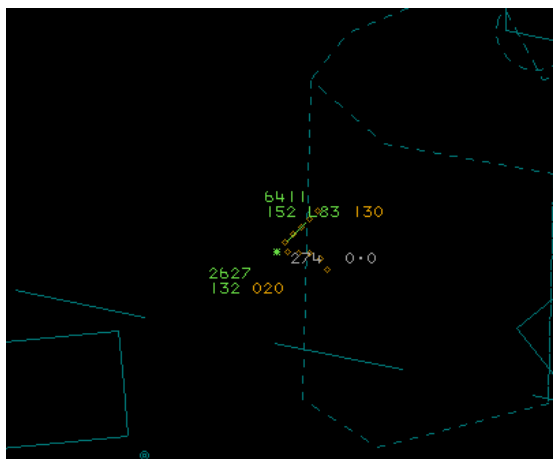


Figure 6: CPA

There was appropriate liaison between the controllers involved in this incident which allowed them to pass timely and accurate Traffic Information to the aircraft under their control. The Swanwick (Mil) controller should be commended for initiating a stepped descent to maintain separation as well as initiating a turn to alleviate the conflict. It is unfortunate that despite both aircraft being visual with each other they still flew close enough to trigger a TCAS RA in the FR20.

UKAB Secretariat

The FR20 and Hunter pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.²

Summary

An Airprox was reported when an FR20 and a Hunter flew into proximity overhead Warminster at 1337Z on Wednesday 1st July 2020. Both pilots were operating under VFR in VMC, the FR20 pilot in receipt of a Traffic Service from Swanwick(Mil) and the Hunter pilot in receipt of a Traffic Service from Boscombe Down.

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. 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board first looked at the actions of the FR20 crew, they were recovering to Bournemouth and receiving a Traffic Service from Swanwick (Mil) as they descended. Some members briefly opined that, being IFR, they should have requested a Deconfliction Service, but others reasoned that the busy airspace in the Boscombe Down area would probably preclude them getting a straight forward descent to their destination if they did so and that anyway the controller offered deconfliction advice. The crew were given Traffic Information by the controller and also received information from their TCAS, and so had full situational awareness on the Hunter. The controller continued to provide Traffic Information,

² SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

and to stop their descent above the indicated height of the Hunter as the two aircraft closed. The Board thought that once the crew received a TCAS RA (**CF1**), even though they were visual by then, the uncertain nature of the Hunter's manoeuvring was enough to cause them concern about its proximity and its intentions (**CF2**).

For their part, the Hunter pilot was not concerned by the event. They also had Traffic Information from the Boscombe controller and reported on the RT that they had the FR20 on their TAS. The Board thought that it was unfortunate that the change in course probably triggered the TCAS RA in the FR20, because in fact there was ample separation as he passed beneath it.

Turning to the actions of the controllers, the Board briefly discussed whether it would have been advantageous for Swanwick (Mil) to have handed the FR20 to Boscombe, given that it would be transiting the area where the Hunter was manoeuvring, but acknowledged that the controller was probably trying to help by saving the FR20 crew a frequency change. As it was, the two controllers liaised and, in addition to Traffic Information, the Swanwick (Mil) controller gave the FR20 crew both a stepped descent and a heading change to keep clear of the Hunter. For his part, the Boscombe controller also gave the Hunter pilot Traffic Information and then updated that information when it was clear the Hunter was turning back towards the FR20.

Finally, when determining the risk, the Board agreed that although the incident met all the criteria for reporting an Airprox, and the FR20 pilot was correct to do so, on this occasion, with 2000ft separation in Class G airspace, normal safety standards had pertained; Risk Category E.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2020057			
CF	Factor	Description	Amplification
	Flight Elements		
	• Electronic Warning System Operation and Compliance		
1	Contextual	• ACAS/TCAS RA	
	• See and Avoid		
2	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment³

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the barriers had all been effective.

³ 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: 2020057		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 Confliction & 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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision								
Application								
Effectiveness								