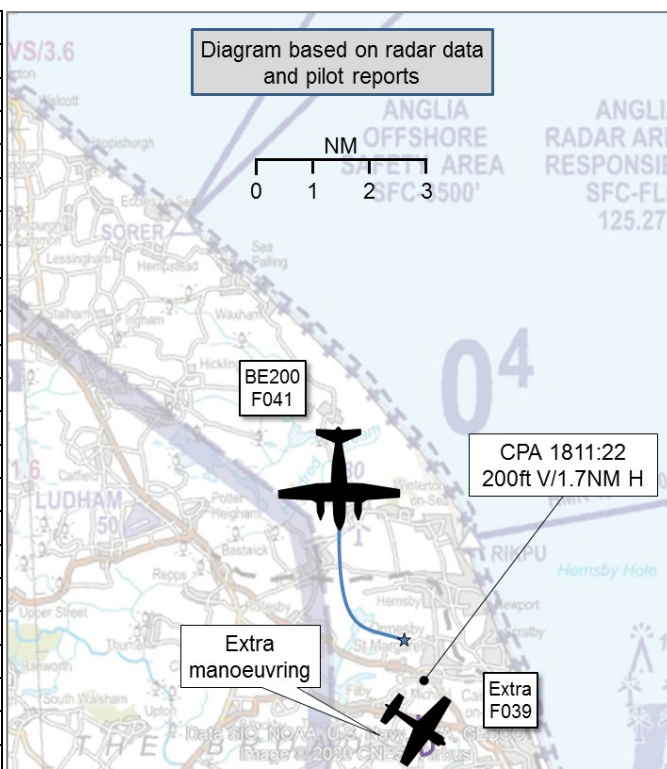


**AIRPROX REPORT No 2020053**

Date: 13 Jun 2020 Time: 1811Z Position: 5243N 00138E Location: Ormesby St Michael

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	BE200	Extra
Operator	Coast Guard	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic <sup>1</sup>	None
Provider	Swanwick (Mil)	N/A
Altitude/FL	FL041	FL034
Transponder	A, C, S	A, C, S
Reported		
Colours	Red, White	Not reported
Lighting	Not reported	Not reported
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	4000ft	1650ft
Altimeter	QNH	NK
Heading	180°	360°
Speed	130kt	135kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	<500ft V/<1NM H	Not known
Recorded	200ft V/1.7NM H	



**THE BE200 PILOT** reports that they had received a reactionary Search and Rescue Callout that a brown, chemical smelling, foam had been reported by vessels close to a beach located south of Great Yarmouth. Their Flight Ops completed the flight paperwork and they completed a Special Flight Notification Proforma (SNFP) which was faxed to London Mids ATC followed by a call to the Area Supervisor, as per SOPs. They launched as normal and were passed to Scottish control. They were receiving a Deconfliction Service and climbed to FL160 for the transit. As they approached the edge of the Scottish control area, the controller asked who they would like to work next. The BE200 pilot said they did not mind but suggested either London, Anglian or Norwich. After a couple of minutes, they were informed that Anglian and Norwich were closed, and London would not work them because they did not have any details. The BE200 pilot questioned this as a SFNP was submitted with a call to the SATCO. The Scottish controller then asked the BE200 pilot if London Information was okay, to which they replied they would rather not work them. In the BE200 pilot's opinion they offer little to no assistance. Next the Scottish controller suggested London Mil which they accepted. They were then transferred to Swanwick Mil where they received a Deconfliction Service. They began to descend onto their task and were vectored around one unknown aircraft. As they approached the task area the service was downgraded to a reduced Traffic Service due radar coverage, which they accepted. The weather was CAVOK and the sun was low, so looking west was impaired. They completed their first search leg southbound along the coast over the land looking out to sea. The northbound leg was visually hard looking west, due to the sun, but okay looking directly down on the water. The BE200 pilot discussed this with the Systems Operator (SO) and they decided to fly the leg again, over land looking east to the sea. They were on a westerly heading when the controller reported traffic to them. The traffic appeared to be heading straight towards them at a similar level but manoeuvring. When the controller reported 3 miles, the BE200 pilot decided to turn early southbound. The SO broke off the search to use the camera to look for the aircraft because at this point no visual contact had been made. The controller kept giving

<sup>1</sup> Reduced Traffic Service

traffic reports every few seconds and it was obvious by the tone of his voice and raised levels the traffic was close. The controller tried on various other frequencies to contact the other aircraft, including guard. It seemed like it was fast moving and between 2000-4500ft. As they were on a southerly heading, the BE200 pilot saw display smoke trailing from an aerobatics aircraft at about 3NM in their 12 o'clock. When the aircraft had moved to their 1 o'clock the other aircraft appeared to start a manoeuvre straight towards them. The BE200 pilot initiated go around thrust and a climbing hard 90° left turn. They continued until at about 6000ft and headed northeast. The BE200 pilot believes that the aircraft came within 500ft and well within 1NM. The BE200 pilot asked the controller how close the aircraft had been from his display and they confirmed the same. The BE200 pilot believes that the other aircraft had no idea of their presence. Once the aircraft had departed they continued their search pattern. Around 30 minutes later the aerobatics aircraft was back but their search area had moved out to the sea, so it was no factor. The rest of the mission was completed without issue. On return the BE200 pilot submitted an ASR through the company SMS.

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

**THE EXTRA PILOT** reports that they did not see the BE200 during their flight. They added that they had been flying for nearly 45 years and during that time was a competition glider pilot and to be that you need an excellent lookout, they are never buried in the cockpit and were amazed to hear about this incident.

**THE SWANWICK MIL CONTROLLER** reports that they were the TAC controller at the time, working East/NE. They controlled the BE200 to the tasking area (Great Yarmouth coast) and the BE200 pilot required to work at altitude 4000ft on the Yarmouth RPS under a Traffic Service. The BE200 pilot stated that they were on an active tasking. This was the only traffic the controller was controlling at the time and had controlled him for the duration of the sortie from 1750Z-1900Z. Once the BE200 was established the controller spotted a conflicting aircraft manoeuvring in the tasking area approximately 20NM north-east of Norwich. The controller began to call the traffic about 12NM away because the conflicting traffic was manoeuvring unpredictably. The conflicting aircraft was squawking 7000 and was not talking to Norwich because they were closed. The controller called the traffic numerous times as it was rapidly climbing and descending however the coastguard was struggling to sight the traffic. The controller called D&D to broadcast on guard to ask [Extra C/S] to vacate the area due to the priority tasking. The closest the controller saw the traffic was ½NM and 600ft below. The BE200 pilot reported visual after seeing smoke from the aerobatic aircraft and took his own avoiding action turn. The controller entered all of the details into the watch log.

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

**THE SWANWICK MIL ATCO I/C** reports that they did not witness the event due to being on a break outside of the Ops Room. On returning to the Ops Room the East TAC controller said that the [BE200 C/S] had taken an avoiding action turn against manoeuvring traffic, after a 7000 track had been called to them under a Traffic Service numerous times. The East TAC controller then updated the watch log accordingly and no further action was taken. The BE200 pilot had not declared an Airprox on frequency at the time, according to the controller, but did request details on the conflicting traffic and asked how close it was observed on radar.

## Factual Background

The weather at Norwich was recorded as follows:

METAR COR EGSB 131750Z AUTO 12008KT 080V150 9999 NCD 21/11 Q1011 NOSIG

## Analysis and Investigation

### Military ATM

The BE200 pilot was conducting a counter pollution task in two different areas near Great Yarmouth. Initially, the BE200 pilot was in receipt of a Deconfliction Service but had agreed a Traffic Service

as they descended on task. Following numerous Traffic Information calls, the BE200 crew stopped their task so that both crew members could look for the conflicting aircraft. The BE200 pilot reported that they did not get visual with the Extra until it began to emit smoke and estimated the separation as 500ft and less than a mile.

Figures 1-8 show the positions of BE200 and Extra at relevant times in the lead up to and during the Airprox. The screen shots are taken from a replay using NATS Radars, which are utilised by Swanwick (Mil), therefore are representative of the picture available to the controller.

The BE200 pilot descended to 4000ft under a Traffic Service and commenced its anti-pollution task just off the east coast. Traffic Information was passed for the first time on the Extra whilst the aircraft were 10NM apart.

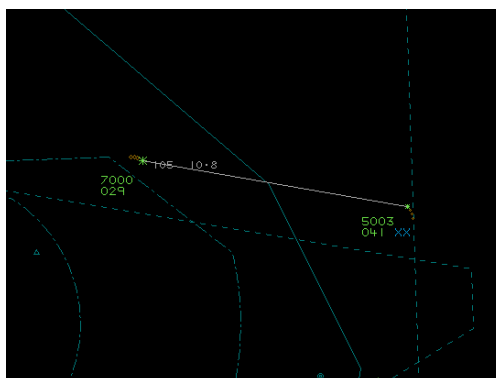


Figure 1: First Traffic Information

This Traffic Information was updated as the separation between the aircraft continued to decrease and the Extra had climbed to the same altitude as the BE200. Following this Traffic Information, the BE200 pilot reported that their task was suspended so that both crew members could look for the conflicting traffic. On board camera equipment was also used to aid them in this task.

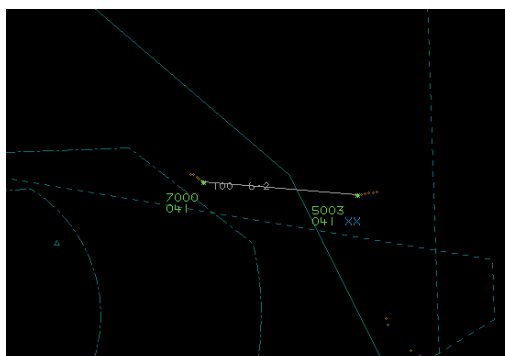


Figure 2: Second Traffic Information

As the separation continued to decrease, Traffic Information was passed for a third time by the Swanwick (Mil) Controller. During this period, the Short Term Conflict Alert (STCA) was also triggered.

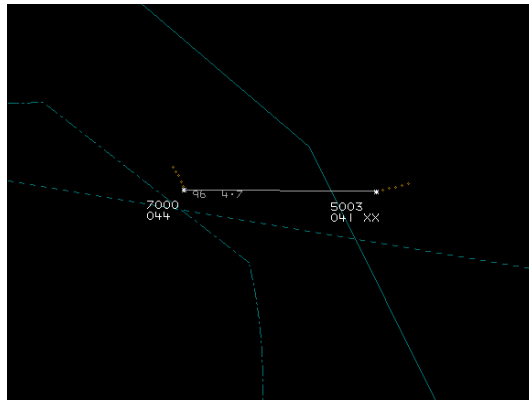


Figure 3: Third Traffic Information &amp; STCA

As the BE200 pilot was still not visual and the Extra's altitude was rapidly changing, Traffic Information was passed for a fourth time by Swanwick at a range of 4NM.

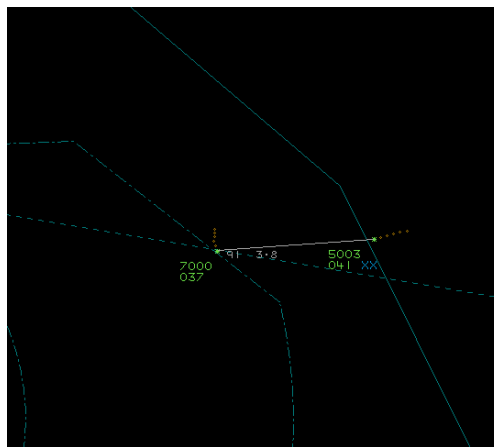


Figure 4: Fourth Traffic Information

This Traffic Information was again updated as separation between the aircraft decreased to 1NM and 600ft, STCA was again triggered.

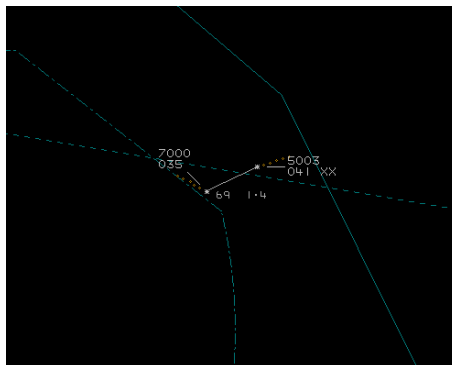


Figure 5: Fifth Traffic Information and additional STCA

CPA between the aircraft occurred at the same time as Traffic Information was passed for a sixth time. Separation at this point was 0.8NM and 800ft but the BE200 was still not visual with the Extra.

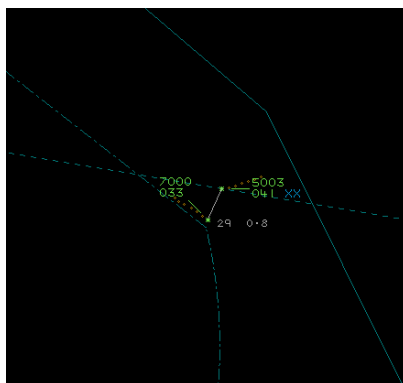


Figure 6: Sixth Traffic Information

Traffic Information was passed for a seventh time by Swanwick at a range of 3NM as the Extra began a turn back toward the BE200. Again, the BE200 pilot was not visual with the Extra.

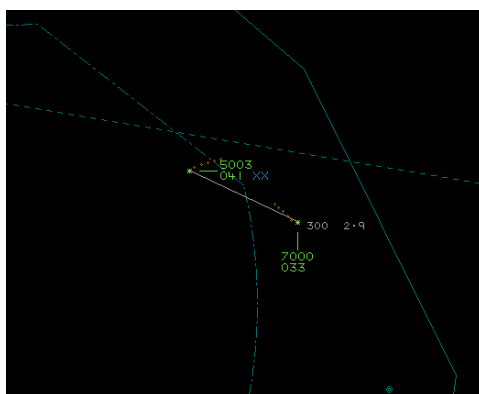


Figure 7: Seventh Traffic Information

As the separation between the aircraft began to decrease, Traffic Information was passed for an eighth time at which point the BE200 pilot reported being visual with the Extra.

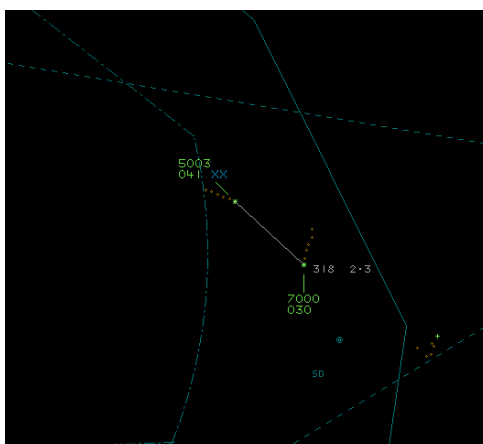


Figure 8: BE200 Visual

Despite the visual call, the Swanwick (Mil) Controller passed Traffic Information for a ninth and final time with separation of 1.7NM and 200ft after which the BE200 reported taking avoiding action. It is obvious from the radar replay that the Extra was involved in high energy manoeuvres at this point as allowing the radar to continue for one more sweep after the image in Figure 8 shows the Extra at 2800ft and then 3600ft the sweep after that.

This was a rapidly changing air picture during which the Swanwick (Mil) Controller passed Traffic Information nine times. It is heartening to note that the BE200 pilot was extremely complimentary about the service they received.

## UKAB Secretariat

The BE200 and Extra 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 BE200 pilot was required to give way to the Extra.<sup>3</sup>

CPA was recorded as 200ft vertically and 1.7NM horizontally, the aircraft were closer prior to the reported Airprox when they were separated by 700ft vertically and 0.7NM horizontally.

### Summary

An Airprox was reported when a BE200 and an Extra flew into proximity at Ormesby St Michael at 1811Z on Saturday 13<sup>th</sup> June 2020. The BE200 pilot was operating under IFR in VMC and in receipt of a reduced Traffic Service from Swanwick Mil, the Extra pilot was operating under VFR in VMC and not in receipt of a service.

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

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the air traffic controller involved. 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.

The Board began by discussing the actions of the BE200 pilot, they had been tasked to investigate a possible chemical spill off the Norfolk coast. They had submitted a flight notification and transited with Scottish Civil, they were not able to receive a service from Swanwick Civil at their operating height and therefore Swanwick Military offered to provide a reduced Traffic Service, Norwich ATC were closed. When the BE200 pilot transited from operating over the sea to over the land the Swanwick controller passed Traffic Information numerous times on an aircraft that appeared to be manoeuvring. Unfortunately, the BE200 pilot did not see the other aircraft; the Extra. It was at this point when the Swanwick controller's STCA alerted with the aircraft within 700ft vertically and 0.7NM laterally of each other. The BE200 pilot turned onto a southerly heading and was still in receipt of Traffic Information. When the aircraft were separated by about 5NM the BE200 pilot stopped their search pattern and the crew turned their attention to look solely for the Extra. Searching both visually and with the rear crew members camera equipment, they eventually acquired the Extra in their 12 o'clock at about 3NM. The BE200 pilot believed that the Extra was flying straight towards them and it was at this point that they turned away from the Extra (**CF3**). However, the Extra had also turned onto a southerly heading, and the change in heading from both pilots increased the separation that resulted in the aircraft being no closer than 200ft vertically and 1.7NM horizontally at the time of the reported CPA.

When the BE200 pilot turned onto a southerly heading (i.e. towards the Extra) to try to establish visual contact, they flew closer to it than was necessary. This was despite the Traffic Information which was consistent with an aircraft carrying out aerobatic manoeuvres in that location (**CF1**). On further consideration, and after the fact, the BE200 pilot reflected that a turn onto a northerly heading may have been more appropriate and would have avoided the situation altogether. Unfortunately the BE200 was not fitted with an Electronic Warning System (EWS), which the Board agreed would have enhanced the pilot's situational awareness and provide an additional indication of the location of the Extra. The Board were heartened to hear that the BE200's operating company are investigating fitting a suitable EWS to the aircraft

Turning to the actions of the Extra pilot, the Airprox investigation determined that the Extra pilot normally always communicated with the local ATS, unfortunately, it was closed on this occasion. Some members thought that the Extra pilot could have selected the aerobatics squawk of 7004 to alert other Air Traffic agencies that he was carrying out manoeuvres that would involve unpredictable heading and height changes, some members believed this might have been because he was normally allocated a squawk

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

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

from Norwich. The Extra pilot did not see the BE200 at any time in a position that they believed would affect the safety of their flight (CF2).

The Board then looked at the actions of the Swanwick Mil controller. They had passed Traffic Information to the BE200 pilot on numerous occasions to allow the BE200 pilot to take effective action Extra pilot, members commended the controller for their diligence whilst providing a Traffic Service at the base of their radar cover.

Turning to the risk, the Board quickly agreed that, although the BE200 pilot could have acted sooner, there was no risk of collision, a risk Category E.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK**

Contributory Factor(s):

2020053			
CF	Factor	Description	Amplification
<b>Flight Elements</b>			
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
1	Human Factors	• Lack of Action	Pilot flew close enough to cause concern despite Situational Awareness
<b>• See and Avoid</b>			
2	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
3	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

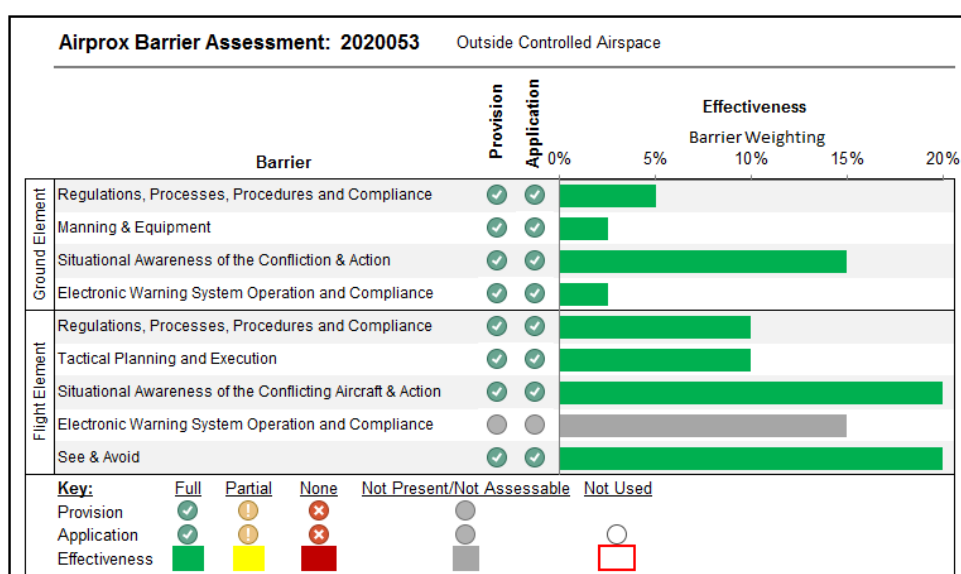
Degree of Risk: E.

Safety Barrier Assessment<sup>4</sup>

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

**Flight Elements:**

**See and Avoid** were assessed as **effective** although the Extra pilot did not see the BE200, and the BE200 pilot was concerned when they believed the Extra pilot was flying towards them.



<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).