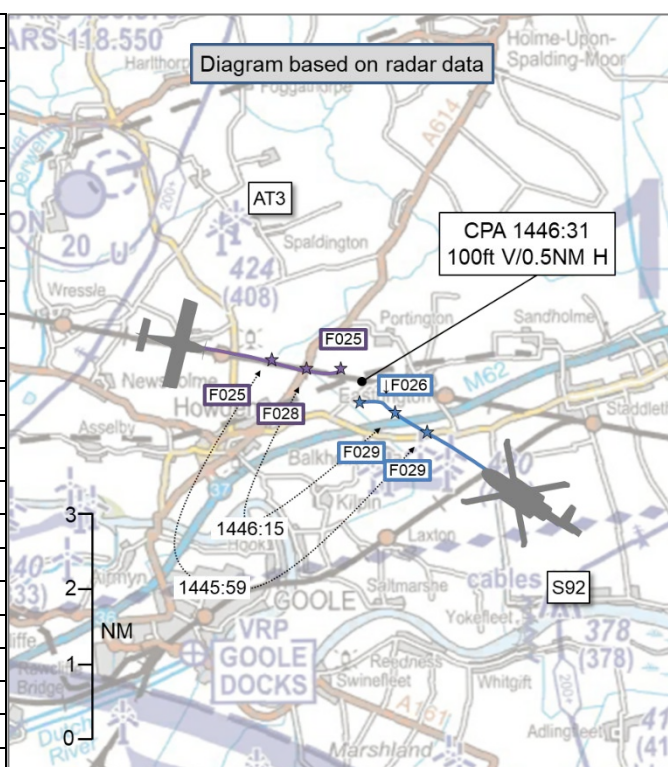


AIRPROX REPORT No 2022124

Date: 05 Jul 2022 Time: 1446Z Position: 5345N 00049W Location: 3NM SE Brighton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	S92	AT3
Operator	Coast Guard	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Basic
Provider	Humberside	Humberside
Altitude/FL	FL025	FL026
Transponder	A, C, S+	A, C, S
Reported		
Colours	Red, White	White
Lighting	HISL	'Standard'
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3200ft	2500ft
Altimeter	QNH (1024hPa)	QNH
Heading	300°	100°
Speed	120kt	85kt
ACAS/TAS	TCAS II	Not fitted
Alert	RA	N/A
Separation at CPA		
Reported	100ft V/NK H	500ft V/1NM H
Recorded	100ft V/0.5NM H	



THE S92 PILOT reports that they were in the cruise at 2900ft, with excellent visibility and on a training flight. Crew workload was low, but awareness was high due to expected high volumes of traffic. All 4 crew were looking out and they had a Traffic Service from Humberside Radar. Traffic was reported by ATC to be a few miles ahead at 2500ft. Shortly after, they saw an aircraft on TCAS 300ft below. Whilst looking for the traffic, they elected to climb to increase separation and they informed ATC that they were climbing to 3200ft. The TCAS traffic continued to close and they were not sighted. It then started to climb quite quickly (on TCAS). They banked left to try and see if the aircraft was climbing under their nose, but it was still not sighted. They decoupled the autopilot to prepare for a TCAS RA. Shortly after they got a 'Traffic, Traffic' alert. This was very quickly followed by 'Descend, crossing, descend' and 2000fpm descent was indicated. The aircraft was descended, then a couple of seconds later, they got a reversal and the TCAS RA was 'Climb, Climb now' with 2000fpm rate of climb indicated. This was done and shortly afterwards they received a 'clear of conflict'. They did not see the other aircraft at any point. Humberside ATC were advised of the RA, 'clear of conflict', and their intention to file a report.

The pilot assessed the risk of collision as 'Not Seen'.

THE AT3 PILOT reports that the flight was a dual training flight, in Class G airspace and VFR. The weather was VMC and 10km or more visibility. They were talking to Humberside Radar (and squawking) and actively listening out. They heard a call to the [S92 pilot] of possible AT3 traffic. This made it easy for them to see the helicopter, in their 2 o'clock and above their altitude. They descended and turned gently to the left, purely to increase separation. They believe there was no risk of collision.

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

THE HUMBERSIDE CONTROLLER reports that they were providing a LARS within 40NM of Humberside. The S92 departed Humberside, heading northwest, climbing to 3000ft, requesting a Traffic Service. The AT3 was eastbound on a Basic Service. As the 2 aircraft approached each other, Traffic

Information was given to the S92 [pilot] 'Traffic 12 o'clock, 8 miles, 500ft below' and the reciprocating Traffic Information to the AT3 pilot [they recalled]. The S92 pilot chose to climb to 3200ft.

Factual Background

The weather at Humberside was recorded as follows:

METAR EGNJ 051420Z 30010KT 250V330 9999 FEW034 SCT045 20/08 Q1024

Analysis and Investigation

Humberside ATC Investigation

The S92 departed at 1435 en-route to the northwest. The aircraft was provided with a Traffic Service. The pilot reported that they were climbing to 2800ft, but the Mode C was not validated at the time as no level was given by the pilot. At 1442 [AT3 C/S called], en-route to the Humber Bridge at 2500ft on the QNH 1024hPa, which was the current QNH at Humberside. The aircraft was allocated the squawk of 4270 and provided with a Basic Service.

At 1444:20 the [S92 C/S] was informed of traffic [the AT3], "*Traffic 12 o'clock, 8 miles opposite direction 300 feet below*". The [S92 pilot] then reported climbing to 3200ft. At 1445:30 [S92 C/S] was advised of traffic again "*12 o'clock, 3 miles, 500ft below*". After the Traffic Information was passed the attention of the controller was diverted to aircraft being sequenced in the approach pattern. Whilst the other aircraft were being sequenced, the Mode C of [AT3 C/S] could be seen to be climbing, 2800ft, 2900ft then 3000ft as the [S92 C/S] indicated FL029. Due to the pressure difference this would give the vertical separation of 200-300ft. At 1446:30 [S92 C/S] reported a TCAS RA. The [AT3 C/S] pilot reported visual with the [S92]. At 1447:15 [S92 C/S] advised clear of conflict. The ATCO enquired as to whether the pilot would be filing a report, to which the answer was in the affirmative.

Analysis

Traffic Information was passed in accordance with Flight Information Service; Traffic Information on the light aircraft was passed twice, again in accordance with further advice if the controller believed it to be necessary.

The alteration in the Mode C indications of [the AT3] may have been noticed if the traffic loading had been lighter, but the priority at the time was the approach sequence, as pertinent Traffic Information had been passed accurately, so the controller's attention was diverted from the aircraft in question.

CAA ATSI

ATSI had access to the radar replay, RTF and pilot and ATC reports. Both the AT3 and the S92 could be seen on the NATS radar replay. Additionally, a DA42 could be seen in the climb-out having apparently completed an approach, followed by a PA28 re-joining in the visual circuit.

At 1444:20 the controller gave Traffic Information to the S92 [pilot]: "*AT3 light aircraft 12 o'clock eastbound indicating 500ft below*". To which the S92 pilot replied "*Looking*". See Figure 1.

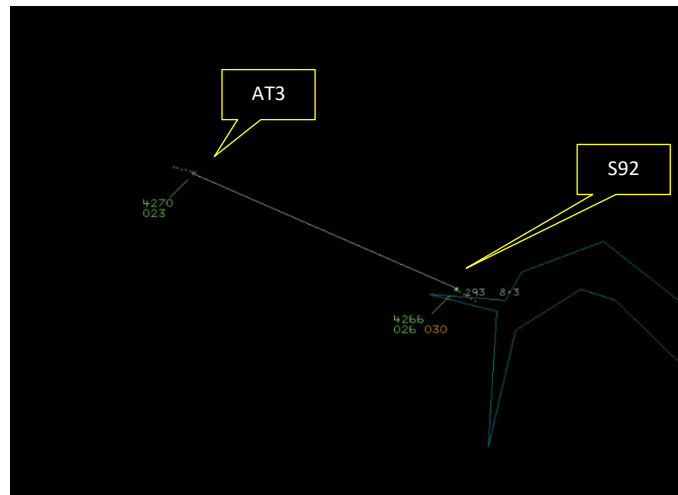


Figure 1: 1444:20

At 1444:50 (Figure 2), the S92 pilot called climbing to 3200ft. At 1445:00 the controller made two attempts to call a glider without success.

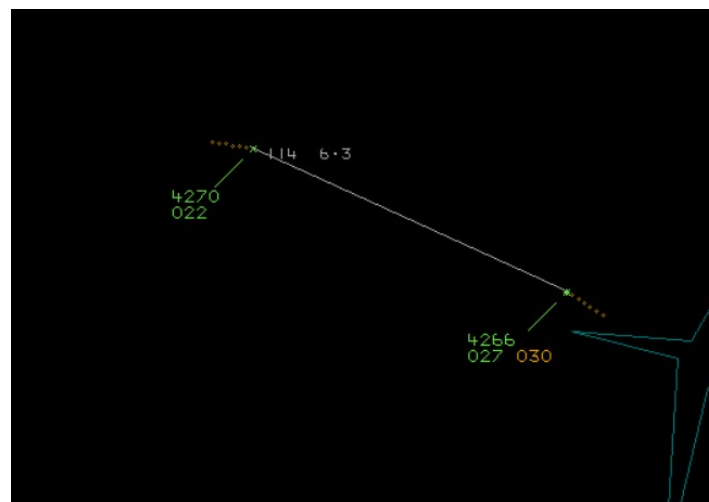


Figure 2: 1444:50

At 1445:30 (Figure 3) the controller provided further Traffic Information to the S92 pilot "*previously mentioned traffic now 12 o'clock 3 miles eastbound indicating 500ft below*". This was acknowledged by the S92 pilot.

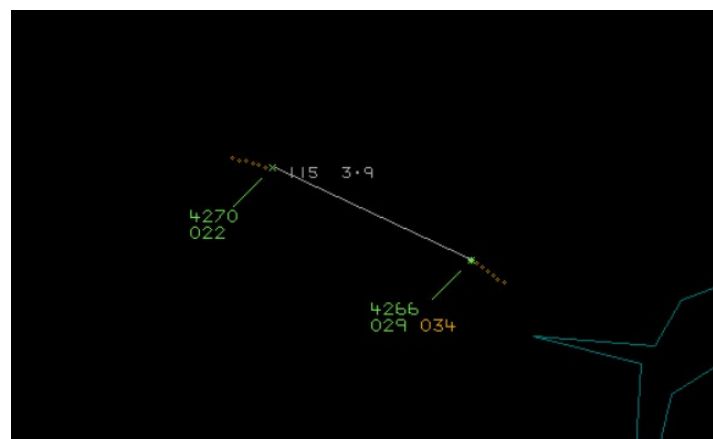


Figure 3:1445:30

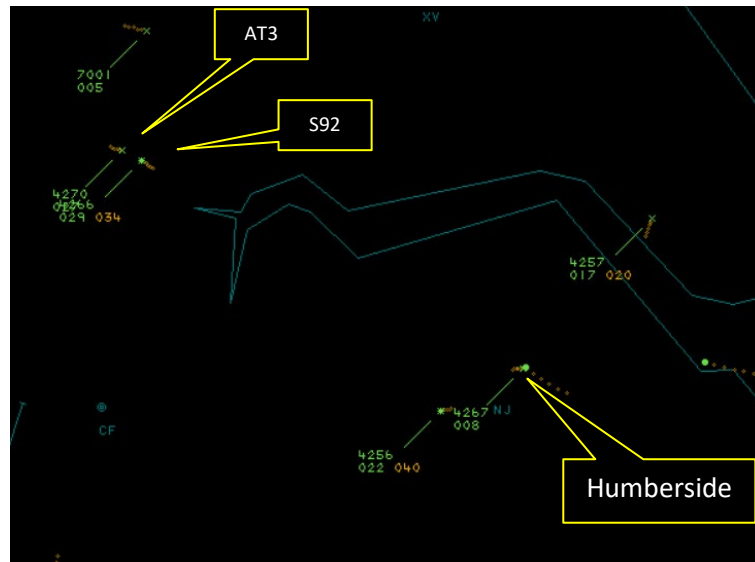


Figure 4: 1446:00

At 1446:10 – controller issued a heading to aircraft on approach.

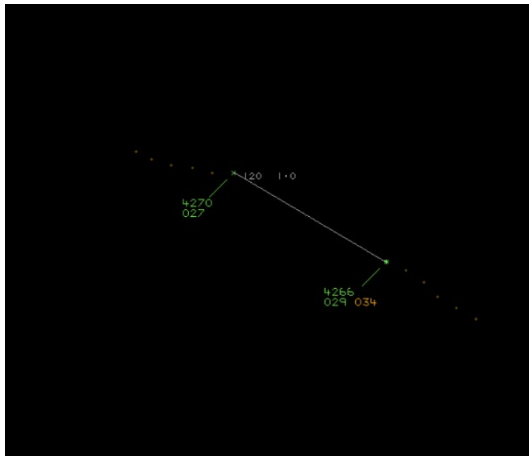


Figure 5: 1446:20

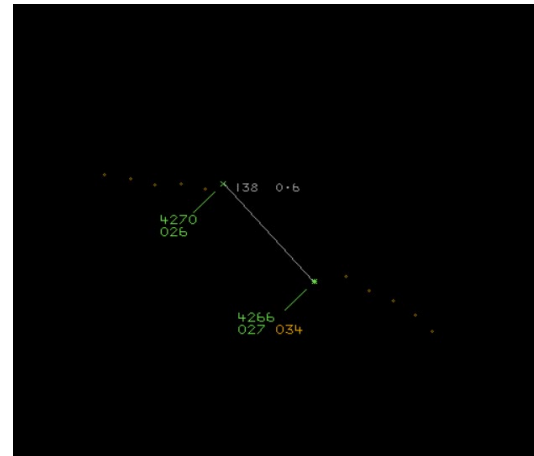


Figure 6: 1446:28
S92 pilot reports TCAS RA

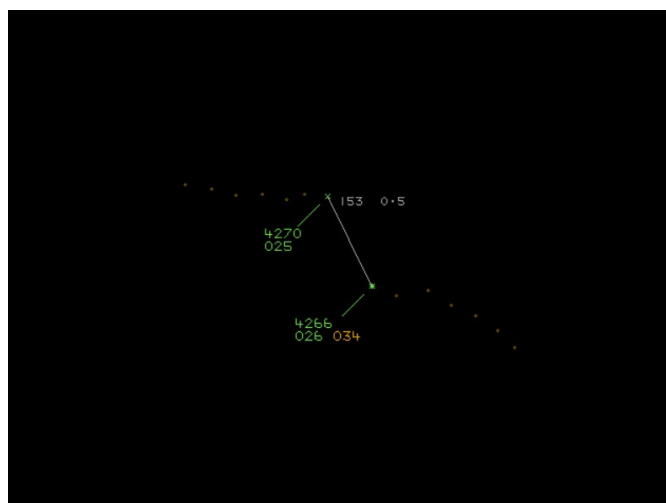


Figure 7: 1446:30 - CPA

The Humberside controller had been vectoring 2 other aircraft for approach as well as providing a Traffic Service to the S92 pilot. Traffic Information on the AT3 was passed to the pilot of the S92, however no reciprocal Traffic Information was passed to the pilot of the AT3 who was already on

the Humberside frequency and receiving a Basic Service. Had Traffic Information been passed, the pilot of the AT3 might not have climbed. The lack of reciprocal Traffic Information was not mentioned in the Humberside investigation report.

UKAB Secretariat

The S92 and AT3 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.¹ If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.²

Summary

An Airprox was reported when an S92 and an AT3 flew into proximity 3NM southeast Brighton at 1446Z on Tuesday 5th July 2022. Both pilots were operating under VFR in VMC, the S92 pilot in receipt of a Traffic Service from Humberside and the AT3 pilot in receipt of a Basic Service also from Humberside.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board first looked at the actions of the S92 pilot. They had been receiving a Traffic Service from Humberside, and had received Traffic Information on the AT3 but had not been visual with it. Although they had seen the conflicting traffic on their TCAS, it began to climb and they were still not visual with it, so when the TCAS gave an RA to descend, and then a reversal to climb (**CF4**), they became concerned about its proximity to their aircraft. Members discussed the role of TCAS on this occasion, and how the reversal had understandably caused the pilot concern, given that they had not been visual with the other aircraft. However, they noted that TCAS was not designed for uncontrolled Class G airspace where conflicting aircraft may well be manoeuvring unexpectedly, which made it difficult for the TCAS to deconflict. In the end, neither the S92 pilot, nor the crew, became visual with the AT3, although with 0.5NM separation, members wondered whether the crew had been expecting it to be closer and had therefore been looking in the wrong area (**CF5**).

Turning to the AT3 pilot, members noted that they had been on a training flight and recognised that cockpit workload and discussion between instructor and student were often high on such flights, so they thought the pilot had shown good awareness to hear the Traffic Information that had been passed to the S92 pilot and to have realised it was about their aircraft. Having heard the Traffic Information, some members wondered why the pilot had then climbed, but thought that this could also have been a symptom of a training flight, in that students can find it difficult to maintain straight and level flight. Nevertheless, the AT3 pilot had been visual with the S92, turned away to ensure separation, and had not been concerned by the incident.

The AT3 pilot had reported their lighting setting as 'standard' and members did not know whether this included the landing light or not, but wished to highlight to all pilots that flying with the landing light illuminated all the time greatly enhanced visual conspicuity, and flying with it illuminated whilst in areas of high traffic density was recommended in the CAA's Skyway Code.³

Looking at the role that ATC had to play, members noted that the controller had been providing a service to inbound traffic that had also required their attention. The S92 pilot had been receiving a Traffic Service and they had correctly given Traffic information on the conflicting AT3, and had then updated it. However, members wondered why, given that the AT3 had also been on their frequency, they had

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

³ Skyway code available [here](#) see Visual Conspicuity on page 132.

not passed reciprocal Traffic Information to the AT3 pilot. The AT3 pilot had been receiving a Basic Service and the controller had therefore not been required to monitor the aircraft (CF1) and controlling members pointed out that the controller may not have positively identified the AT3. That being said, the AT3 had been displaying a Humberside squawk and so the controller had probably known its approximate position. It was also noted that the controller had been busy with other traffic which would have taken their attention away from the S92, which, at the point of the Airprox, had been some way away from the airfield (CF3). Nevertheless, members thought that not passing the Traffic Information to the AT3 had been a missed opportunity, because the AT3 pilot may have reported visual and had the S92 pilot realised that the AT3 pilot had been visual with them, they may have been less concerned (CF2).

When assessing the risk, members considered the reports of both pilots and the Humberside ATC report, together with the radar screenshots. They noted that the action taken by the AT3 pilot, who had been visual with the S92 and turned away, had ensured there had been no risk of collision. Some members opined that the separation at CPA of 0.5NM could be considered normal operations in Class G airspace (Risk Category E), but others countered that the TCAS RA reversal introduced an element of uncertainty for the S92 pilot and that therefore there had been a degradation of safety. After a short discussion, the Board agreed on the latter view; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2022124				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Human Factors	• Task Monitoring	Events involving an individual or a crew/team not appropriately monitoring their performance of a task	Controller engaged in other tasks
Flight Elements				
• Electronic Warning System Operation and Compliance				
4	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	
• See and Avoid				
5	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment⁴

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

Ground Elements:

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

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the controller had passed Traffic Information to the S92 pilot but they had not provided reciprocal Traffic Information to the AT3 pilot.

