

## AIRPROX REPORT No 2022254

Date: 18 Oct 2022 Time: 0930Z Position: 5336N 00032W Location: 7NM WNW Humberside

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	P68	SR20
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Traffic
Provider	Humberside	Humberside
Altitude/FL	3100ft	3000ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	White, Blue	White
Lighting	Nav, Beacon, Strobe	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3140ft	3000ft
Altimeter	QNH	QNH
Heading	055°	300°
Speed	125kt	135kt
ACAS/TAS	TAS	TAS
Alert	None	TA
<b>Separation at CPA</b>		
Reported	140ft V/0m H	500ft V/0m H
Recorded	100ft V/<0.1NM H	



**THE P68 PILOT** reports that they were northeast bound and had just joined Humberside Radar with a handover from Doncaster. The controller issued a Traffic Service straight away and told them there was traffic coming from right-to-left at the same altitude. The pilot responded with 'Copied, climbing to 3500ft'. The controller then told the Cirrus pilot that, at 12 o'clock, there was traffic at same altitude but climbing to 500ft above. The other pilot then responded with 'Roger, traffic in sight'. Approximately 5sec afterwards, the P68 had only climbed 130-140ft, when the Cirrus passed straight under them. The pilot opined that although they acknowledged that the other pilot had the right of way, they did not understand why they [the Cirrus pilot] did not change course if they had the P68 in sight. Furthermore, as the P68 was on a heading of 055° if they looked to their right, they would have had the sun in their eyes, making it difficult to see the Cirrus. They believed that, had they not initiated a climb, they would have collided.

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

**THE SR20 PILOT** reports that the PF was an IR(R) student who had just completed 3 practice ILS approaches at Humberside and was returning to the departure airfield. They were under the hood, but the instructor had a clear and unobstructed view out of the aircraft. They had just levelled at 3000ft altitude and, whilst receiving a Traffic Service from Humberside Radar, ATC advised of crossing traffic from left-to-right at a similar altitude. The instructor had already observed the traffic on the traffic display and was attempting to gain visual contact. ATC advised again of the traffic and the P68 transmitted that they were initiating a climb. The traffic passed overhead approximately 500ft vertically. They noted that the P68 had already initiated a climb to deconflict, and they [the SR20] had right of way. Had the other pilot not initiated a climb, the instructor would have resumed control from the trainee and taken avoiding action. They were satisfied that once they had vertically separated, there was minimal risk and they did not consider the event to be an Airprox.

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

**THE HUMBERSIDE CONTROLLER** reports that the P68 called Humberside at 0930 some 8NM northwest of Humberside. When the pilot had passed their details, they had a conflicting aircraft to the southeast of them at the same level. They called this traffic to the P68 pilot and then proceeded to positively identify the aircraft using SSR. By the time they had done this the confliction had passed. At no time while the aircraft was on frequency did the pilot say anything about an Airprox.

## Factual Background

The weather at Humberside was recorded as follows:

METAR EGNJ 180920Z 31006KT 250V340 CAVOK 13/10 Q1029=

## Analysis and Investigation

### Humberside Occurrence Investigation

Excerpts from the Humberside Investigation are included below:

The traffic level and workload of the controller was assessed as high. A dedicated Radar 2 controller was not available, however Radar 2 support was available within rostered staffing. The controller had multiple LARS tracks and 2 aircraft in the instrument pattern with VFR traffic operating above and below the Final Approach Track.

Timeline:

0924 [P68 C/S] left Doncaster controlled airspace at 3000ft tracking 075° squawking 6166 Mode A with Mode C alt indicating A030.

0924 [SR20 C/S] after completing a training instrument approach departed Humberside tracking north-west.

0928:30 [P68 C/S] was 10NM west and [SR20 C/S] was 5NM west of Humberside. [P68 C/S] squawk changed from 6166 to 7000.

[SR20 C/S] was given Traffic Information on an aircraft ([P68 C/S] which had not been identified nor was on frequency) "[SR20 C/S] *traffic 11 o'clock range 5 miles, north-easterly track, similar level*"

[SR20 C/S] acknowledged the Traffic Information. Traffic Information was passed in accordance with CAP 774 chapter 3 (3.5).

After the Traffic Information was passed [P68 C/S] reported on frequency, passing their position and altitude. [P68 C/S] was then given Traffic Information on [SR20 C/S]. "[P68 C/S], *traffic 2 o'clock 3 miles crossing right left similar level*". The P68 pilot acknowledged the information and reported climbing to 3500ft.

At 0929:45 [SR20 C/S] was given further Traffic Information "[SR20 C/S] *traffic 11 o'clock 1 mile climbing through your level to 500 feet above.*" [SR20 C/S] reported visual with the P68.

[P68 C/S] was asked their intentions, there was no mention of an Airprox in the response.

0938 [P68 C/S] was transferred to Anglia Radar, again there was no mention of any Airprox in the pilot's response.

The Humberside Assessor reviewed the RT and radar recordings using the Veristore. A review of the flight strips was also conducted regarding 2 aircraft in the instrument approach pattern. [SR20 C/S] was just leaving the pattern as a [P68] was beginning their procedures. [SR20 C/S] was late

and [P68 C/S] was on time, so the bookings were carried out in accordance with local booking procedures. All Traffic Information was passed in accordance with CAP774. The ATCO maintained a duty of care in passing traffic to [P68 C/S] on the SR20, before it was positively identified. [SR20 C/S] was visual with the P68.

It was not known whether prior to [P68 C/S] being free-called to Humberside Radar, the radar controller at Doncaster passed any Traffic Information.

### UKAB Secretariat

An analysis of the NATS radar replay was undertaken. Both aircraft could be identified using Mode S information. At 0929:11 the P68 had changed from a Doncaster squawk to a VFR squawk (7000), the aircraft were 4.5NM apart, the P68 indicating FL025 and the SR20 indicating FL026, see Figure 1.

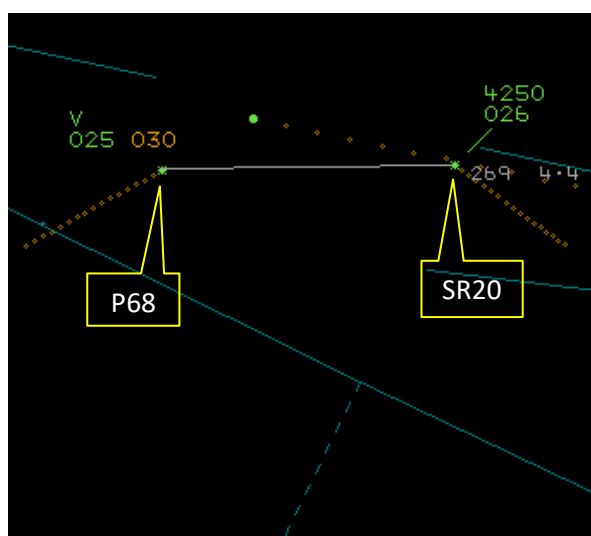


Figure 1 – 0929:21

At 0930:03, with the two aircraft 1.3NM apart, the P68 began to climb (see Figure 2). The P68 climbed to FL027 until, at 0930:27, the two aircraft crossed between radar sweeps (Figure 3).

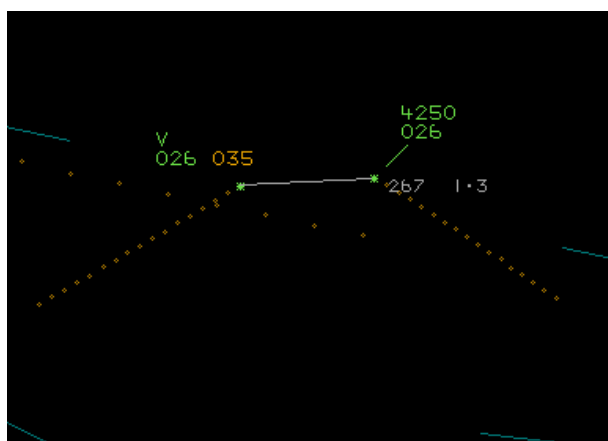


Figure 2 – 0930:03

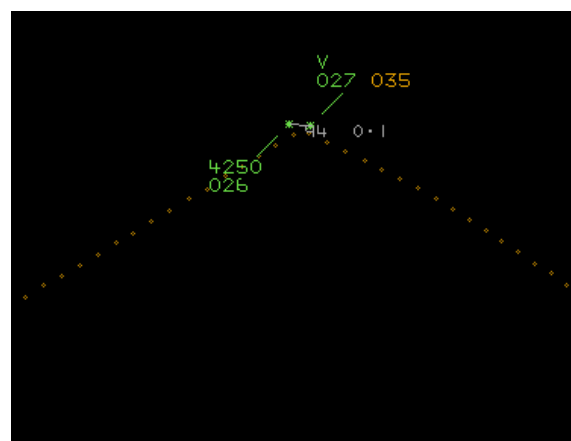


Figure 3 – CPA 0930:27

The P68 and SR20 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>1</sup> If the incident geometry is

<sup>1</sup> (UK) SERA.3205 Proximity.

considered as head-on or nearly so then both pilots were required to turn to the right.<sup>2</sup> If the incident geometry is considered as converging then the P68 pilot was required to give way to the SR20.<sup>3</sup>

## Summary

An Airprox was reported when a P68 and an SR20 flew into proximity 7NM northwest of Humberside at 0930Z on Tuesday 18<sup>th</sup> October 2022. Both pilots were operating under VFR in VMC, the P68 pilot in receipt of a Basic Service from Humberside and the SR20 pilot in receipt of a Traffic 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 P68 pilot. The pilot had reported receiving a Traffic Service, but the Humberside investigation indicated that a Basic Service had been provided, under which pilots would not normally receive any Traffic Information on other aircraft. Although it was not clear whether this had been because of controller workload or not, still members urged pilots to request a Traffic Service when first calling for a service to avoid any ambiguity and ensure the provision of Traffic Information. That being said, the controller had passed Traffic Information on first contact with the P68 pilot, so it would have made no difference on this occasion. Although given at the first opportunity possible for the controller, this had been the first indication to the pilot that there had been conflicting traffic in the vicinity (**CF2**). Armed with the knowledge that the conflicting traffic had been at the same level as their aircraft, the P68 pilot had elected to climb. Members praised the pilot's prompt action which ultimately increased the vertical separation; the pilot had not seen the SR20 until it had passed beneath them (**CF5**). Members noted that the P68 had been fitted with a TAS but that the pilot had not reported receiving any information from it, although it would have been expected that the SR20 would have been detected by a TAS (the SR20 had displayed Mode C and S on the NATS radars) members could not be sure whether this had been a failure, or whether the pilot had simply not remembered an alert (**CF4**).

Turning to the SR20 crew, there had been a student 'under the hood' with an instructor looking out. The SR20 pilot had received Traffic Information from ATC at 5NM and the controller had told them that the conflicting traffic was at a similar level. The instructor also reported that they had seen the traffic on their TAS (**CF3**), but had been trying to visually acquire it before taking any action. Traffic Information from the controller had been updated at 1NM, and with additional information that the other aircraft had been in the climb. Whilst acknowledging that it had been for the P68 pilot to give way to the SR20 on their right, still members thought that without knowing whether the P68 pilot had been visual or not, the SR20 pilot would have been better served taking early action to break the conflict rather than continuing on a collision course with something at the same level as their own aircraft (**CF1**) and they assessed that it had been a late sighting when the SR20 pilot had eventually become visual with the P68 crossing above (**CF5**).

The Board then discussed the actions of the Humberside controller, it had been clear that the controller had been busy with other, higher priority aircraft and had been operating without a second radar controller. Members commended the controller for passing Traffic Information to the P68 pilot the moment the pilot called on frequency, because it had been this information that had prompted the P68 pilot to climb and thus increase the separation. Some flying members opined that the controller could have used the term 'converging' with the Traffic Information to the SR20 pilot to emphasise that the two aircraft were indeed on a converging, and therefore collision, course. A CAA advisor noted that CAP413, Radiotelephony Manual, had been revised to include such phraseology because it had been found that pilots were more likely to recognise the danger when the term was used. However, controlling members

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

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

thought that, given that the controller had been busy, had provided Traffic Information to the P68 even prior to providing a service, and that the SR20 pilot should have known that the aircraft had been on a constant bearing because both sets of the Traffic Information had told them that the conflicting traffic had been in their 11 o' clock, they therefore did not assess the omission to have been a contributing factor.

When assessing the risk of the Airprox, the Board considered the reports from both pilots and the controller, together with the radar screenshots. Some members thought that the action taken by the P68 pilot had been enough to eliminate the risk of collision (Risk Category C). However, others countered that the P68 pilot had not received the information until relatively late, neither pilot had seen the other in good time and that when the two aircraft crossed, according to the radar replay, there had only been in the region of 100ft of vertical separation; they therefore thought that the incident had carried an element of risk. In the end the latter view prevailed, the Board agreed that safety had been much reduced (**CF6**) and accordingly assigned Risk Category B.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2022254				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Flight Elements</b>				
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
1	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
2	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
<b>• Electronic Warning System Operation and Compliance</b>				
3	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
4	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
<b>• See and Avoid</b>				
5	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
<b>• Outcome Events</b>				
6	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

### 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:**

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because, having received Traffic information and with correlating information on their EC equipment, the SR20 pilot could have taken earlier action.

<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](#).

**See and Avoid** were assessed as **partially effective** because it had been a late sighting by both pilots.

<b>Airprox Barrier Assessment: 2022254</b>		Outside Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>				
				<b>Barrier Weighting</b>				
				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	⚠	✓					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	○				
Application	✓	⚠	✗	○				
Effectiveness								