

## AIRPROX REPORT No 2019206

Date: 24 Jul 2019 Time: 1118Z Position: 5315N 00058W Location: Retford/Gamston Aerodrome

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	PA28
Operator	Civ FW	Civ FW
Airspace	Gamston ATZ	Gamston ATZ
Class	G	G
Rules	VFR	
Service	AGCS	AGCS
Provider	Gamston Radio	Gamston Radio
Altitude/FL	900ft	900ft
Transponder	A, C	A, C, S
<b>Reported</b>		Not Reported
Colours	White/Gold/Brown	
Lighting		
Conditions	VMC	
Visibility	10km	
Altitude/FL		
Altimeter	QFE (1009hPa)	
Heading	290°	
Speed	70kt	
ACAS/TAS	Not fitted	
Alert	N/A	
<b>Separation</b>		
Reported	<50ft V/0m H	NR
Recorded	0ft V/<0.1nm H	



**THE C152 PILOT** reports that he was flying as the instructor with a student in the circuit and that the student was in control at the time. As they approached level-off height right-crosswind for RW21RH, they prepared to turn downwind. They both looked left and the student saw the other aircraft very close (the instructor could not see the other aircraft due to the student and port-side door); he immediately pitched up. The instructor only saw the other aircraft as it appeared out of the starboard window after passing below his aircraft. The instructor subsequently established contact with the pilot of the PA28 to inform him that he considered that the PA28 pilot had cut into an active circuit in close proximity to the Cessna.

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

**THE PA28 PILOT** did not respond to requests to file a report.

**THE GAMSTON AIR/GROUND OPERATOR** reports that there was only one aircraft in the circuit (the C152) until around 1114hrs when the PA28 pilot reported his position as approximately 6nm south-west of Gamston and requested landing instructions. The A/G Operator passed the runway in use and the QFE, whereupon the PA28 pilot requested to join downwind, traffic permitting. The PA28 pilot was informed that there was just one aircraft conducting circuits. Shortly afterwards, the C152 pilot called final for RW21 and was passed the surface wind. The next call was from the PA28 pilot stating that he was joining downwind for RW21RH and the A/G Operator informed him of the C152 climbing out, which was acknowledged by the PA28 pilot. The A/G Operator then became aware of the joining traffic in the vicinity of the RW03 threshold, travelling from south to north. The aircraft continued its northerly track and joined late-downwind to land. The C152 pilot requested the registration of the joining aircraft.

The A/G Operator did not make an assessment of the risk of collision because he was looking for the traffic downwind and did not witness the point at which the aircraft came into close proximity.

## Factual Background

The weather at Doncaster Sheffield was recorded as follows:

METAR EGCN 241050Z 23009KT 9999 SCT022 SCT030 25/20 Q1011

METAR EGCN 241120Z 22008KT 9999 FEW023 26/20 Q1012

## Analysis and Investigation

### UKAB Secretariat

Both aircraft were detected by the NATS radars and the following screenshots show the relative positions of the aircraft as the incident unfolded. In Figure 1 below, the PA28 (7000) is about to enter the ATZ and the C152 (7010) is climbing out from its previous approach.

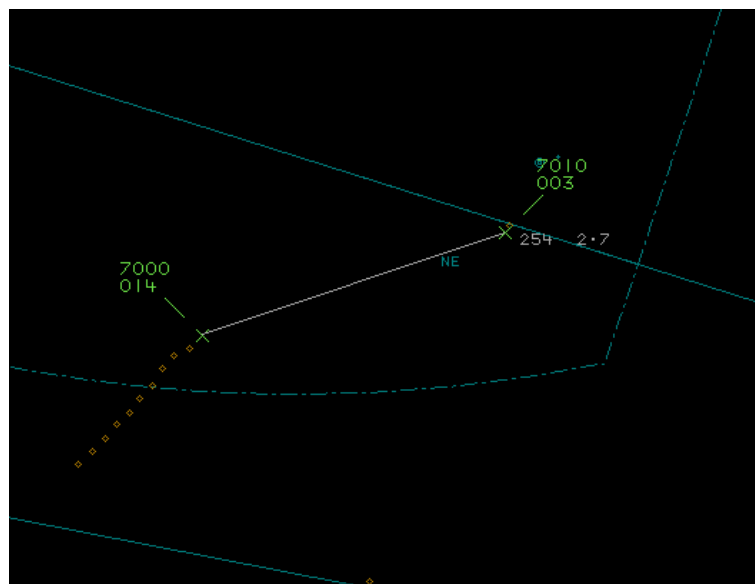


Figure 1 – 11:17:34

Figure 2 shows that the C152 has turned crosswind and is continuing to climb to circuit height while the PA28 is continuing inbound and descending to circuit height to join downwind.

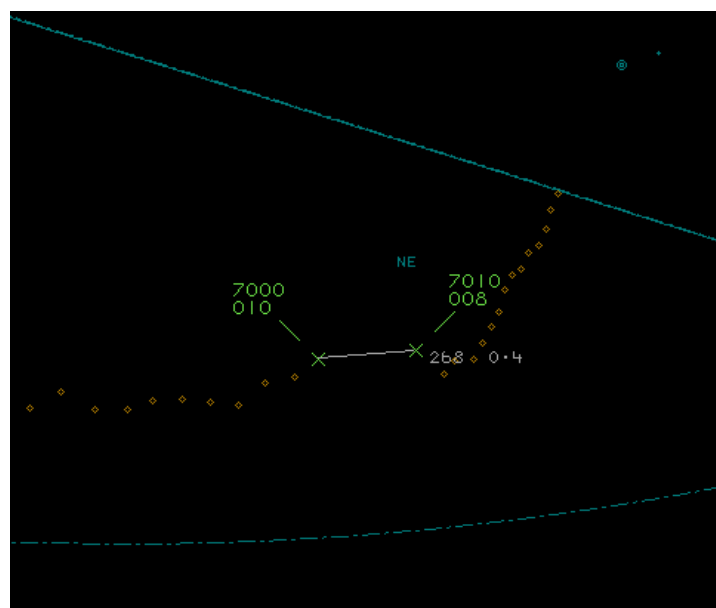


Figure 2 – 11:18:26

Figure 3 shows the final radar sweep prior to CPA. The separation between the 2 aircraft at this time is measured on the radar as 0.1nm.

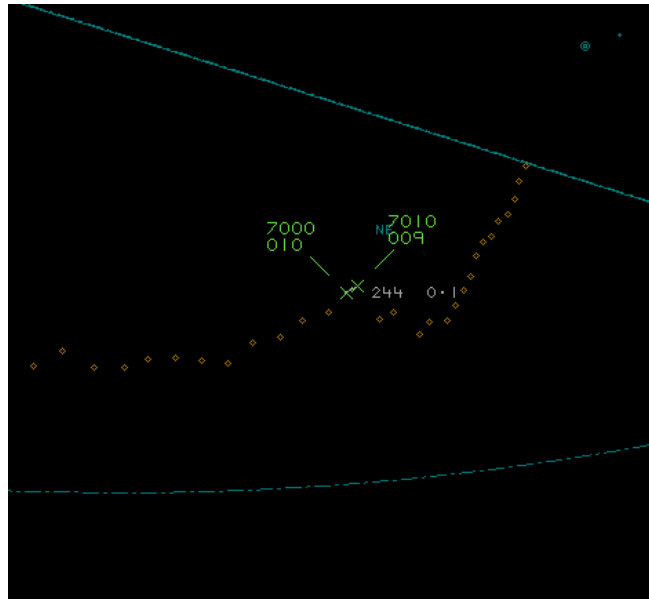


Figure 3 – 11:18:34

Figure 4 shows the first radar sweep after CPA. The separation between the 2 aircraft at this time is also measured on the radar as 0.1nm and, because the tracks have crossed between radar sweeps, the CPA is assessed as <0.1nm.

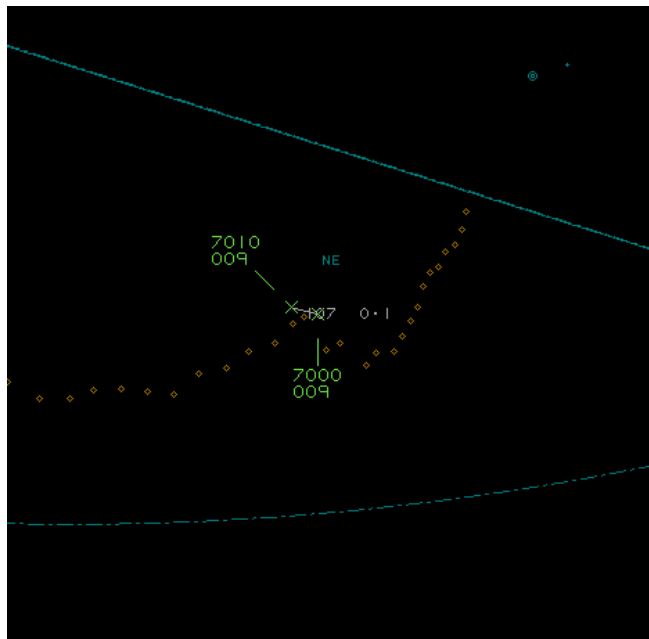


Figure 4 – 11:18:38

The C152 and PA28 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> An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.<sup>2</sup>

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

## Summary

An Airprox was reported when a C152 and a PA28 flew into proximity in the Gamston visual circuit at 1118hrs on Wednesday 24<sup>th</sup> July 2019. Both pilots were operating under VFR in VMC and in receipt of an AGCS from Gamston Radio.

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

Information available consisted of a report from the C152 pilot, radar photographs/video recordings and a report from the air/ground operator 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 first considered the actions of the PA28 pilot and, disappointed that he had not responded to requests for information about the incident, the Board determined that, nonetheless, there was sufficient material available to review the Airprox albeit somewhat hampered by a lack of understanding as to what the PA28 pilot had intended to do or understood about the situation. Members quickly agreed that, as joining traffic, it had been for the PA28 pilot to integrate with the C152 already established in the visual circuit. In this respect, and given the reported content of his radio messages (requesting permission to join downwind etc), some members wondered if the PA28 pilot had had the impression that the A/G Operator would assist in sequencing him into the circuit, and that the 'clearance' to join downwind implicitly indicated that deconfliction from other circuit traffic had been achieved. This was not the case; under an AGCS the pilot remains solely responsible for his own integration with the pre-existing circuit traffic (**CF1**). By evidently not integrating despite being given information about the circuit state, the Board therefore felt that the PA28 pilot had not complied with the requirements of SERA.3225 'Operation on and in the Vicinity of an Aerodrome' (**CF2**) in that he had not conformed with the pattern of traffic already formed (**CF4**). Furthermore, having received and acknowledged the Traffic Information (TI) on the position of the C152, the Board agreed that the PA28 pilot had likely not assimilated the potential for conflict with the C152 and therefore did not sufficiently adapt his plan for a downwind join to cater for the position of the other aircraft (**CF3, CF5, CF6, CF7**). Although it was difficult to be definitive without the PA28 pilot's perception of events, the Board suspected that he likely never saw the C152 at the end of the crosswind leg (**CF9**).

The Board noted that, for his part, the A/G Operator had passed TI on the C152 to the pilot of the PA28 but had not passed reciprocal TI to the pilot of the C152. Controller members opined that, although such TI would have been beneficial, his not doing so was understandable given the level of service being provided and the fact that this was likely a high workload phase of flight for the C152 pilot. They also commented that it would have been reasonable to expect that the C152 pilots would have heard the R/T exchanges between the A/G Operator and the PA28 pilot and that additional R/T that effectively repeated the same information to the C152 pilot had not been necessary.

Turning to the actions of the C152 pilot, the Board agreed that visual acquisition of the PA28 during the crosswind climb-out would have been extremely difficult due to the nose-high aircraft attitude and high wing configuration of the C152 (**CF8**). Additionally, the C152 pilot would have been acting in the knowledge that it was the PA28 pilot's responsibility to integrate with his aircraft already established in the circuit and so it would have been important to remain as predictable as possible to aid the PA28 pilot to achieve this. That being said, the incident highlighted the importance of conducting a positive check prior to turning downwind, especially in the knowledge of another aircraft joining the circuit at the downwind leg. Although having carried out such a check as he was preparing to turn onto the downwind leg, the Board considered that when the C152 student pilot saw the PA28 and instinctively initiated a climb, it was probably too late to have significantly affected the resultant CPA (**CF9**).

In considering the risk, the Board was of the view that this had been very close encounter where separation had been reduced to the bare minimum. The Board also felt that the control inputs of the C152 pilot had been unlikely to have materially increased the miss distance and therefore providence had played a major part in events. Accordingly, the Board agreed that there had been a serious risk of collision, risk Category A.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK****Contributory Factors:**

	2019206		
CF	Factor	Description	Amplification
<b>Ground Elements</b>			
<b>• Situational Awareness and Action</b>			
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
<b>Flight Elements</b>			
<b>• Regulations, Processes, Procedures and Compliance</b>			
2	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
<b>• Tactical Planning and Execution</b>			
3	Human Factors	• Insufficient Decision/Plan	Inadequate plan adaption
4	Human Factors	• Aircraft Navigation	Did not avoid/conform with the pattern of traffic already formed
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
5	Human Factors	• Understanding/Comprehension	Pilot did not assimilate conflict information
6	Human Factors	• Lack of Action	Pilot flew into conflict despite Situational Awareness
7	Human Factors	• Monitoring of Other Aircraft	Pilot did not sufficiently integrate with the other aircraft
<b>• See and Avoid</b>			
8	Contextual	• Poor Visibility Encounter	One or both aircraft were obscured from the other
9	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

**Degree of Risk:** A

**Safety Barrier Assessment<sup>3</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:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the PA28 pilot did not integrate with the C152 already established in the circuit.

**Tactical Planning and Execution** was assessed as **ineffective** because the PA28 pilot continued to join downwind without taking fully into account the potential position of the C152.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the PA28 pilot did not act on the information received regarding the position of the C152.

**See and Avoid** were assessed as **ineffective** because the PA28 pilot probably did not see the C152, and the C152 pilot saw the PA28 at such a late stage that he was unable to materially affect the CPA.

<sup>3</sup> 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: 2019206** 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	✗	✗						
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present</u>	<u>Not Used</u>			
Provision	✓	⚠	✗	●	○				
Application	✓	⚠	✗	●	○				
Effectiveness	■	■	■	■	■				