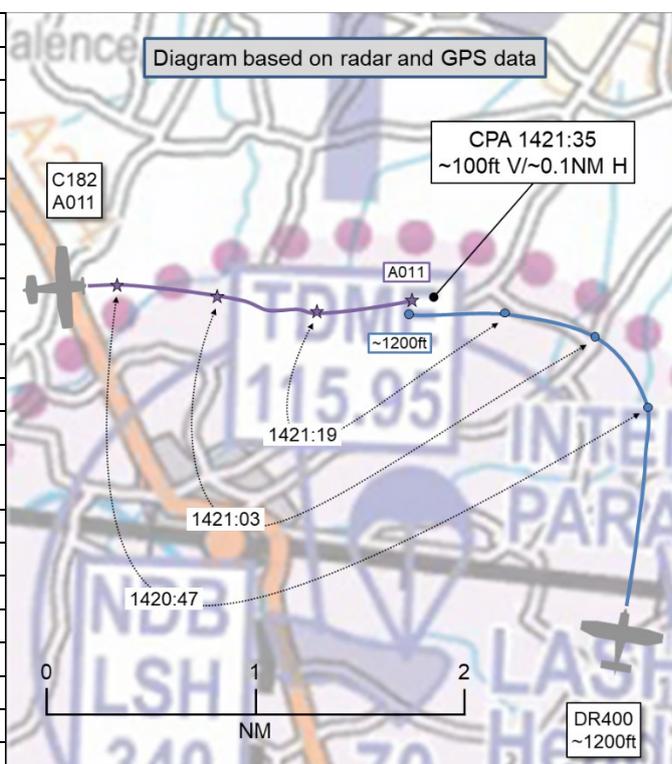


## AIRPROX REPORT No 2022251

Date: 18 Oct 2022 Time: 1422Z Position: 5111N 00039E Location: Lashenden/Headcorn ATZ

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	DR400	C182
Operator	Civ FW	Civ FW
Airspace	Lashenden/ Headcorn ATZ	Lashenden/ Headcorn ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Headcorn Radio	Headcorn Radio
Altitude/FL	~1200ft	1100ft
Transponder	A, C <sup>1</sup>	A, C, S
<b>Reported</b>		
Colours	White, blue	White, blue
Lighting	Strobe	Landing, taxi, strobes, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1000ft	1110ft
Altimeter	QFE (1025hPa)	NR
Heading	NK	93°
Speed	95kt	120kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	NR
<b>Separation at CPA</b>		
Reported	50ft V/100m H	150ft V/350m H
Recorded	~100ft V/~0.1NM H	



**THE DR400 PILOT** reports that they were conducting an instructional flight from [departure airfield] to [destination airfield]. They [had been] in the visual circuit [at Lashenden/Headcorn] and had then flown to the north for general handling exercises before returning to the circuit. The circuit was reasonably busy with two, maybe three aircraft doing circuit work. On their return to the aerodrome, they joined straight into the downwind of RW10, left-hand, at 1000ft, and proceeded to fly several practice circuits. They had previously heard the [C182 pilot] joining from the west for a straight-in approach and [that the pilot of the C182] had been told by Headcorn Radio that that the circuit was busy. The [pilot of the DR400] initially thought that the aircraft they could see in front of them was the one they were following in the visual circuit but it got bigger and they then realised that it was coming towards them, flying an incorrect right-hand circuit direction. They immediately took control from their student and ensured that the other aircraft was clear to their right, and it passed down the right-hand side about 100-200m away, at a slightly lower level, close enough that they could read the registration. [The pilot of the DR400] blind-called over the RT and informed the pilot of [the C182] that they were flying the wrong way around the circuit but did not hear or understand the reply. [The pilot of the DR400] carried on their circuit work and landed without further incident.

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

**THE C182 PILOT** reports that they had contacted Headcorn Radio and had asked for a direct-in final approach for RW10. There were two aircraft in the circuit and they saw the first aircraft turn for base. The second aircraft, [presumably the DR400], reported they were on the downwind for RW10. [The C182 pilot] saw that [the DR400] was not in the active circuit but were about a mile north of where they

<sup>1</sup> The DR400 pilot reported that the transponder fitted to the DR400 had Mode A and C active. The DR400 was not observed on radar.

should have been. This was possibly due to an aerobatic aircraft near the circuit. [The C182 pilot] altered their course northerly (from 093° to 085°) to avoid the traffic, maintaining visual contact, and reported to the radio service at Lashenden/Headcorn. They made a left-hand turn, keeping clear of circuit traffic, and joined on a base-leg for RW10, then landed at Lashenden/Headcorn. Nobody approached them at the field and the radio operator did not mention any issue. They [recall that they had] maintained separation and visual contact with the other aircraft which was not correctly positioned for the downwind leg.

They had flown the same route the previous week, had noted the possible traffic, reported their position on frequency, and avoided the downwind circuit keeping sight of aircraft at all times.

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

**THE HEADCORN RADIO OPERATOR** reports that [the pilot of the DR400] contacted Headcorn Radio for a training flight. RW10 and QNH 1027hPa was given and the pilot reported joining the circuit from the northeast for circuits. A QFE of 1025hPa was given and the [the pilot of the DR400] then proceeded to join from the northeast, downwind for the runway in use, which remained as RW10 (left-hand circuit). [The pilot of the C182] contacted Headcorn Radio, joining the aerodrome for landing from [their departure airfield]. The QFE, runway and circuit details were given on first contact and the pilot was informed that the circuit was busy. [The Headcorn Radio operator] was unaware that an Airprox had taken place until the pilot of [the DR400] announced over the RT that another aircraft was flying the wrong way around the circuit.

The AGO perceived the severity of the incident as 'Medium'.

## Factual Background

The weather at Lydd was recorded as follows:

EGMD 181420Z 07015KT 9999 FEW035 18/14 Q1027

The entry for Lashenden/Headcorn in the AIP provides the following details:

EGKH AD 2.22 FLIGHT PROCEDURES

1 Circuit height and directions

a. Aeroplanes: 1000 FT - LH; Helicopters: 700 FT, Runway 10 - LH; Runway 28 - RH.

The noise abatement diagram, as published on the Lashenden/Headcorn Aerodrome website, is reproduced in Figure 1.

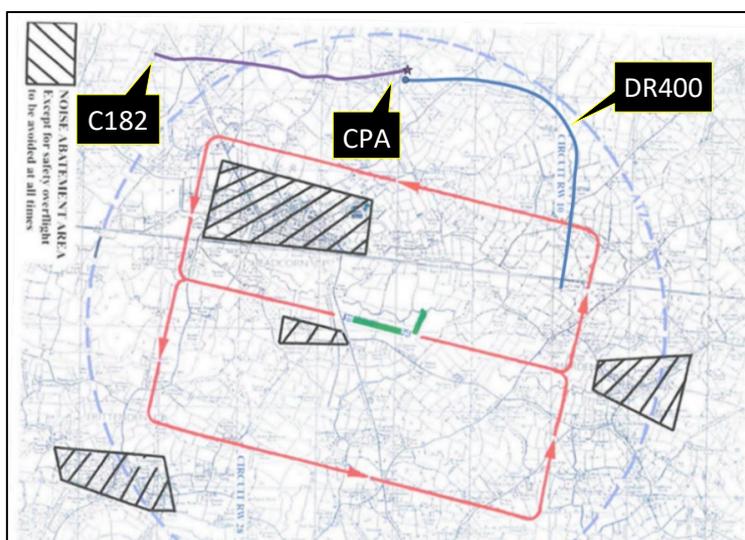


Figure 1 - The noise abatement diagram for Lashenden/Headcorn. The approximate tracks of the DR400 and C182 have been overlaid.

## Analysis and Investigation

### UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the C182 was identified from Mode S data (see Figure 2). The DR400 was not observed on radar, even as a primary return. The pilot of the DR400 kindly supplied a GPS data file of their track. It was with these separate sources that the diagram was constructed and the separation at CPA assessed.

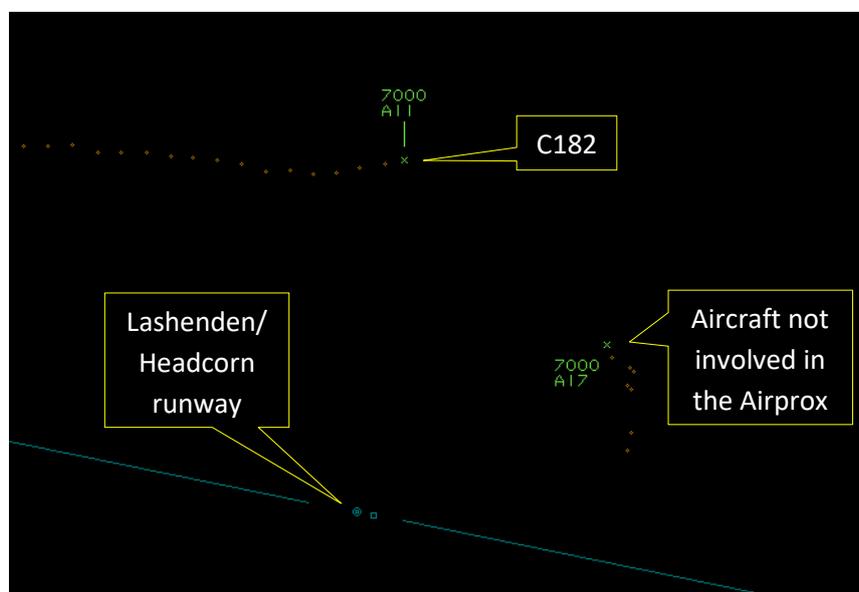


Figure 2 – CPA at 1421:35

The DR400 and C182 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> 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>3</sup>

### Summary

An Airprox was reported when a DR400 and a C182 flew into proximity in the Lashenden/Headcorn ATZ at 1422Z on Tuesday 18<sup>th</sup> October 2022. Both pilots were operating under VFR in VMC and in receipt of a AGCS from Headcorn Radio.

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

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data for the DR400 and a report from the appropriate Air/Ground radio operator. 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 pilot of the DR400 and it was noted that they had flown a wide circuit, particularly to the north, but had remained within the ATZ. Whilst curious why that had been the case, members' attention turned to the website for Lashenden/Headcorn and, in particular, the diagram provided that indicated the areas that, for noise abatement purposes, pilots should avoid overflying. Noting that the diagram included a depiction of the circuit within the ATZ, some members suggested that the drawn lines had appeared to indicate the exact track to be followed when in the circuit. Members were keen to point out that such diagrams are often constructed with a line depicting the circuit merely to convey an understanding of circuit direction and typical dimensions. Such a diagram

<sup>2</sup> (UK) SERA.3205 Proximity.

<sup>3</sup> (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

might be useful to a pilot unfamiliar with the local area and visual reference points for example, but a visiting pilot ought to be mindful that they may encounter a markedly different circuit size on occasion.

In this case, the pilot of the DR400 had heard the call from the pilot of the C182 that they had intended to join for a direct-in approach to RW10 and, therefore, had had generic awareness of the presence of the C182 (CF6). Upon visually acquiring the C182, members acknowledged that there had been considerable startle-effect to have realised that the C182 had been heading towards them. Members noted that the pilot of the DR400 had been concerned by the proximity of the C182 (CF8) but were heartened that they had reacted quickly and had taken positive action to increase the separation.

Members next turned their attention to the pilot of the C182 and were puzzled why, given that they had transmitted an intention to perform a direct-in approach to RW10, the pilot of the C182 had flown into the ATZ from the west to a position north-abeam the runway. Some members suggested that that positioning may have been the result of mis-identification of the airfield or runway. Notwithstanding, it was agreed that the pilot of the C182 had not communicated effectively (CF2) and that their direct-in approach to land had not been executed correctly (CF3). Members were keen to emphasise that the effective use of the radio is very important, particularly at, or in the vicinity of, a busy airfield. Accurate position calls are vital for other airspace users and ground elements to build their situational awareness and clarification should be sought if there is ever any uncertainty.

It was noted that, having made a call on the Headcorn Radio frequency and being told by the Air/Ground radio operator that the circuit was busy, the pilot of the C182 had had generic situational awareness of the other aircraft. The Electronic Conspicuity (EC) equipment fitted to the C182 had not alerted the pilot to the presence of the DR400 although an alert would have been expected (CF7). Nevertheless, members noted that the pilot of the C182 had visually acquired the DR400 but had considered that it had not been within the active circuit. Recalling their thoughts on the depiction of the circuit pattern from their discussion about the noise abatement diagram, members suggested that there had been an assumption on the part of the C182 pilot that the circuit would not have extended to the north of the runway to that extent. Further, given that the pilot of the C182 had been told that the circuit had been busy and, presumably, had heard the position calls of the other pilots in the circuit, had built their situational awareness, or 'mental model', upon the incorrect assumption of the circuit dimensions. Consequently, they had not appreciated that the DR400 had been in the circuit. It was therefore agreed that the pilot of the C182 had not integrated with the pattern of traffic in the circuit despite their situational awareness (CF5), and that that their situational awareness had therefore been inaccurate (CF6).

In addition to the information provided to the pilot of the C182 by the Air/Ground radio operator, the entry for Lashenden/Headcorn in the AIP states that the circuit for RW10 is left-hand. Members were in agreement that, given that their position had been effectively within the circuit but flying in a right-hand direction, the pilot of the C182 had not complied with this procedure (CF1). Additionally, they had not integrated with, nor had they avoided, the existing pattern of traffic (CF4).

Concluding their deliberations, members were in agreement that normal safety standards had been degraded. However, both pilots had visually acquired the other in time to have taken effective action to increase separation and members were satisfied that there had not been a risk of collision. As such, the Board assigned Risk Category C to this event.

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

### Contributory Factors:

	2022251			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	<b>Flight Elements</b>			
	<b>• Regulations, Processes, Procedures and Compliance</b>			
1	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	<b>• Tactical Planning and Execution</b>			

2	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
3	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
4	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
• Situational Awareness of the Conflicting Aircraft and Action				
5	Human Factors	• Incomplete Action	Events involving flight crew performing a task but then not fully completing that task or action that they were intending to carry out	Pilot did not sufficiently integrate with the other aircraft despite Situational Awareness
6	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
• Electronic Warning System Operation and Compliance				
7	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
• See and Avoid				
8	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C

#### 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:

#### **Ground Elements:**

**Situational Awareness of the Confliction and Action** were assessed as **not used** because the Air/Ground radio operator had not been required to monitor the flights.

#### **Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the pilot of the C182 had not complied with the flight procedures listed for Lashenden/Headcorn in the AIP.

**Tactical Planning and Execution** was assessed as **ineffective** because the pilot of the C182 had not conformed with, or avoided by sufficient margin, the pattern of traffic formed in the circuit.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because the pilot of the C182 had had inaccurate situational awareness of the aircraft in the circuit.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the EC equipment fitted to the C182 would have been expected to have detected the presence of the DR400 but no alert was reported.

<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](#).

**Airprox Barrier Assessment: 2022251** 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 Conflicition & 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>		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✓	!	✗	●				
Application	✓	!	✗	●	○			
Effectiveness								