

AIRPROX REPORT No 2022224

Date: 15 Sep 2022 Time: 1132Z Position: 5058N 00213W Location: 2.5NM W Compton Abbas

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	DR400
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Compton Radio	Compton Radio
Altitude/FL	2700ft	2700ft
Transponder	A, C	A, C, S
Reported		
Colours	White, orange, yellow	White, grey, yellow
Lighting	Nav, beacon, strobe	Anti-col
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	3000ft
Altimeter	QFE (984hPa)	RPS (NK hPa)
Heading	045°	180°
Speed	97kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	0ft V/30m H	50ft V/80m H
Recorded	0ft V/0.1NM H	



THE PA28 PILOT reports that they had been approaching from the SW at 2000ft QFE, with the intention of joining overhead in a clockwise pattern. The active circuit was RW26, right-hand. [They were aware that] the DR400 had been approaching from the NW near Gillingham. [They heard] the DR400 pilot call Compton Radio to enquire as to whether they could join downwind. [They heard the Compton Radio operator] recommend to join overhead, but stressed that it was ultimately at the pilot's discretion. Hearing that traffic was approaching the field, [the PA28 pilot] immediately reported their position on frequency as "1 mile SW of Shaftesbury, 2000ft QFE, intending to join overhead". Around 20-30sec after making that call they saw the DR400 suddenly approaching perpendicular off their left wing and at the same level. They maintained heading and speed whilst the DR400 manoeuvred to pass behind. They continued to join overhead keeping the DR400 in sight. [The DR400 pilot] descended to join deadside immediately afterwards. [The PA28 pilot] slotted-in after the DR400 as no.2, and both made safe landings.

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

THE DR400 PILOT reports that they had taken off from [departure airfield] and had navigated to a point about 2NM northwest of Shaftesbury at 3000ft on the Portland QNH. As they were planning to land at Compton Abbas, they turned onto a southerly heading and called them. They were informed that the runway in use was 26. Their heading took them to the west of Melbury Abbas hill, then west abeam the airfield to remain outside the ATZ, slowly descending from 3000ft. They heard [the pilot of the PA28] call when [the DR400 pilot] had been abeam Melbury Abbas hill. The information that [the pilot of the PA28] gave ("1 mile south of Shaftesbury") would have put them behind [the DR400]. Their first sighting of the PA28 (also sighted by their passenger, who holds a PPL) was in their 11 o'clock [they recall], range about 80-100m, a little below and heading east. This put [the PA28] below their nose and right wing. [The DR400 pilot was] mainly looking left, ready to turn towards the deadside of the circuit. The DR400 pilot reports that no avoiding action was taken as the PA28 had passed before sighting.

They let down on the deadside to position back over the 08 numbers onto the right-hand crosswind leg. They did not sight [the PA28] again in the circuit. On reaching the office, they met the pilot of [the PA28] and had a brief discussion about the incident. A few minutes later, [the DR400 pilot] and their passenger were asked to accompany the [PA28 pilot] and their instructor into a briefing room. They all had a very amiable discussion about what had happened. [The DR400 pilot] said that they thought [the PA28 pilot] had perhaps made an inaccurate position report on first contact and that was the reason they weren't alerted to a possible conflict. They believe [the PA28 pilot] had heard their position reports and was aware of their track and joining profile. Also, [the PA28] did not show up on the ADS-B display that their passenger had been using. As far as [the DR400 pilot] had been concerned, that was the end of the matter and they stated that they were not going to take reporting action. No indication was given to them that the [PA28 pilot] was going to report.

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

THE COMPTON ABBAS A/G OPERATOR reports that the airfield was on RW26 with a right-hand circuit, and a preference for arriving aircraft to join overhead, especially during busier periods. The arriving [PA28 pilot] called for joining information and gave their position as "1NM SW of Shaftesbury". They were provided with the active runway and circuit direction, as well as the current QFE. Another joining pilot (in the DR400) also called for joining information. Again, they were provided the same information as above, but with the added 'overhead joins are preferred' information. The [DR400 pilot] replied with a request for a downwind join, to which the A/G operator reiterated that overhead joins are preferred. They were not made aware of the close proximity of the two aircraft until after both had landed and the crew of the DR400 arrived at the operations desk. They greeted the crew and began the process of sorting the landing fee and signing-in. They were asked who had been flying [the PA28] as it had been so close they could see 'the colour of the pilot's hair'. [The A/G operator] asked for further information, such as when had this happened? Then, the [pilot of the PA28] arrived. Listening as the parties discussed the incident, the DR400 pilot suggested that the [PA28] pilot had given an incorrect position report and that had led them to be looking for them in the wrong area. The [PA28] pilot offered to show them their track log and that they had correctly said their position. The [PA28 pilot's] instructor promptly arrived and asked what had happened and gave their own thoughts.

Factual Background

The weather at Boscombe Down was recorded as follows:

METAR EGDM 151120Z 33012KT 9999 BKN040 16/07 Q1014 NOSIG RMK BLU BLU

The entry for Compton Abbas in the AIP provides the following flight procedures:

EGHA AD 2.22 FLIGHT PROCEDURES

- a. Circuit directions: Runway 26 - RH; Runway 08 - LH.
- b. All traffic to join overhead or dead-side descending to 800 FT QFE to cross the upwind runway numbers.

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the DR400 could be positively identified from Mode S data. The PA28 was also observed on radar but there had been no Mode S data available. The aircraft was identified with reference to the pilot's reported position (see Figure 1).

The diagram was constructed and the CPA determined from the radar data. Both aircraft were observed on radar to have been at FL027 at CPA. The Boscombe Down QNH had been recorded as 1014hPa, therefore the altitude of both aircraft has been assessed to have been approximately

2700ft QNH at CPA. The elevation of Compton Abbas is 811ft and therefore both aircraft had been at approximately 1900ft Compton Abbas QFE.

After CPA, and after entering the ATZ just south of the RW26 extended centreline, the pilot of the DR400 made a left turn on the dead-side of the circuit, and crossed the upwind end of RW26 to join the circuit on a RH crosswind-leg for RW26.

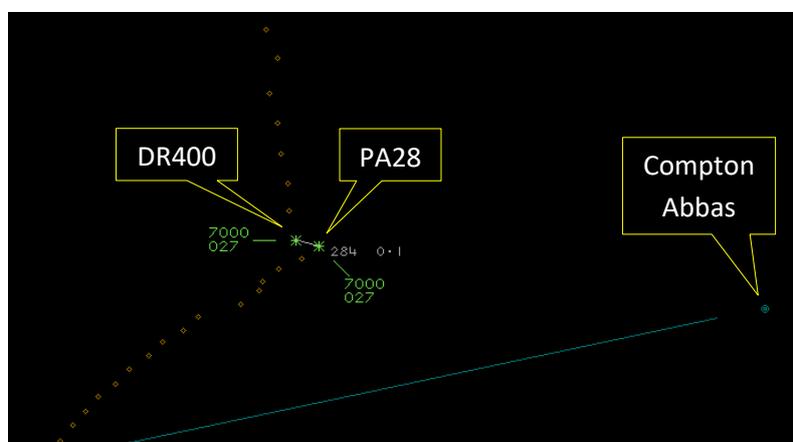


Figure 1 – CPA at 1132:15

The PA28 and DR400 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 converging then the DR400 pilot was required to give way to the PA28.² 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.³

Summary

An Airprox was reported when a PA28 and a DR400 flew into proximity 2.5NM west of Compton Abbas at 1132Z on Thursday 15th September 2022. Both pilots were operating under VFR in VMC, and in receipt of an Air/Ground Communication Service from Compton Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, 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 pilot of the DR400. It was noted that they had requested a downwind join to the visual circuit and that they had been informed twice by the air/ground operator that an overhead join was preferred. Members noted the entry in the AIP for Compton Abbas, which states that all traffic should join overhead or on the dead-side. Members wondered whether that had been appreciated during pre-flight planning and thought that it could have been anticipated that the request to join on the live-side, downwind leg, would have been discouraged by the AGO. It was acknowledged that the pilot of the DR400 had remained outside the ATZ, and members considered that the positioning of the DR400, within the climb-out area for aircraft taking off from RW26, appeared to suggest that an alternative plan for joining the circuit had not yet been formulated. In consideration of the situational awareness available to the pilot of the DR400, members appreciated that the position call made by the pilot of the PA28, inaccurate as it had been, had not highlighted to them that they had been on a converging course with the PA28 (**CF2**).

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(2) Converging.

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

Nevertheless, members wished to emphasise that all GA airfields, particularly those as busy as Compton Abbas, may have many aircraft nearby, possibly without radios. Whilst situational awareness is reliant upon accurate position reporting, a thorough and effective lookout remains imperative. It was agreed by members that the pilot of the DR400 had not sighted the PA28 until after it had passed by them, too late to have taken any avoiding action, and that that effectively meant a non-sighting of the conflicting aircraft (**CF4**).

Members also wished to highlight that the fitment and use of additional EC equipment may have assisted with situational awareness of aircraft in the vicinity and may have meant that action could have been taken in plenty of time to have avoided a conflict.

The Board next turned their attention to the actions of the pilot of the PA28. It was acknowledged by members that a timely position call had been made upon hearing that the DR400 pilot had intended to join the circuit at Compton Abbas. However, it was noted that the inaccurate location given had inadvertently misguided the DR400 pilot (**CF1**).

Members noted that, having sighted the DR400 perpendicular to their left wing and at the same level, the pilot of the PA28 had maintained heading and speed, anticipating that the pilot of the DR400 would have manoeuvred to pass behind. Whilst fully acknowledging the SERA rules concerned with converging traffic, members were in agreement that the pilot of the PA28 had incorrectly assumed that their aircraft had been sighted by the pilot of the DR400 and that avoiding action had already been taken.

It was agreed that the pilot of the PA28 had sighted the DR400 late (**CF3**), but had had time to consider that there had been no need to have taken emergency avoiding action, and had subsequently assessed the risk of collision as 'medium'. Notwithstanding, and in conclusion of their deliberations, members were in agreement that safety margins had been much reduced below the norm, that there had been a risk of collision and that it had been largely by providence that the separation at CPA had not been closer (**CF5**). As such, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022224			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	
• Situational Awareness of the Conflicting Aircraft and Action				
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
• See and Avoid				
3	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
4	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
• Outcome Events				
5	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 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:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Compton Radio A/G operator had not been required to monitor the flights.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the PA28 had made an inaccurate position call.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the pilot of the DR400 had inaccurate Situational Awareness of the PA28 in that it had been based upon the position call made by the pilot of the PA28.

See and Avoid were assessed as **partially effective** because the pilot of the DR400 had not seen the PA28 until it had already passed, effectively making it a non-sighting.

Airprox Barrier Assessment: 2022224		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✔	✔	[Green bar to 5%]				
	Manning & Equipment	✔	✔	[Green bar to 2.5%]				
	Situational Awareness of the Confliction & Action	⚠	○	[Red bar to 15%]				
	Electronic Warning System Operation and Compliance	⊘	⊘	[Grey bar to 2.5%]				
Flight Element	Regulations, Processes, Procedures and Compliance	✔	✔	[Green bar to 10%]				
	Tactical Planning and Execution	✔	⚠	[Yellow bar to 10%]				
	Situational Awareness of the Conflicting Aircraft & Action	⚠	✔	[Yellow bar to 18%]				
	Electronic Warning System Operation and Compliance	⊘	⊘	[Grey bar to 15%]				
	See & Avoid	⚠	⚠	[Yellow bar to 18%]				
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✔	⚠	✘	⊘				
Application	✔	⚠	✘	⊘	○			
Effectiveness	Green	Yellow	Red	Grey	[Red box]			

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