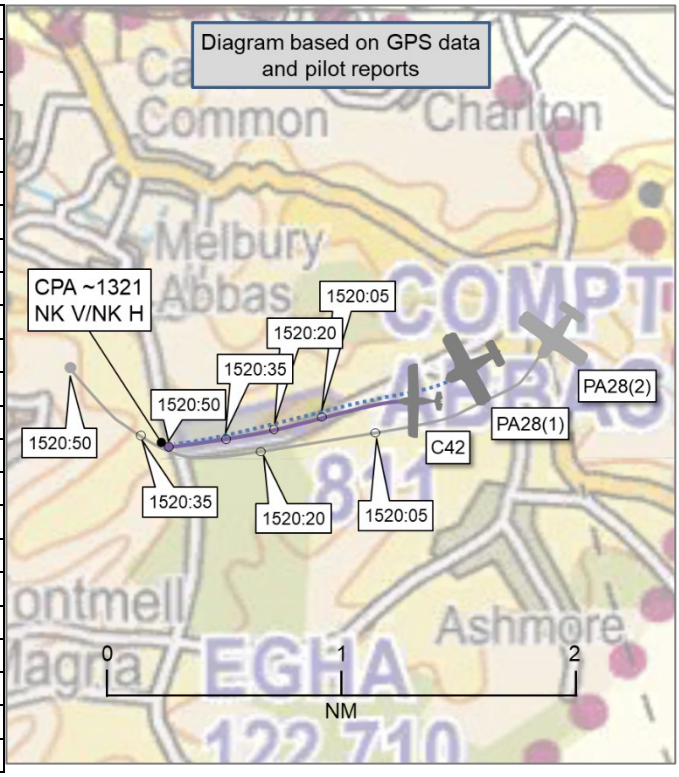
AIRPROX REPORT No 2022020

Date: 11 Feb 2022 Time: ~1521Z Position: 5058N 00210W Location: Compton Abbas circuit

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28(1)	Ikarus C42
Operator	Civ FW	Civ FW
Airspace	C'pton Abbas ATZ	C'pton Abbas ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Compton Radio	Compton Radio
Altitude/FL	NR	~1300ft
Transponder	None[1]	None[2]
Reported		
Colours	White, red, yellow	White
Lighting	Nav, strobes	Strobe
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	600ft	NR
Altimeter	QFE (NK hPa)	QFE (NK hPa)
Heading	260°	290°
Speed	80kt	70kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	100ft V/0m H[3]	50ft V/0m H
Recorded	NK V/NK H	



THE PA28(1) PILOT reports that it was a busy day in good weather after a prolonged period of bad weather. The airfield was busy with visiting pilots who were departing after lunch. They were instructing a student in the circuit which was busy and a C42 was also carrying out touch-and-goes. Due to the speed differential, they had carried out a go-around previously to increase separation. On the circuit where the incident occurred, an Arrow was also present in the circuit [PA28(2)] which had already carried out one go-around. On final approach, they were following [the C42], with [PA28(2)] following them. They had been visual with [PA28(2)] on downwind and they appeared to be on final behind them fairly quickly. The instructor made it clear to their student that they were most likely to go-around but would continue to practise speed control until approximately 300ft where, if the runway was not clear, they would go around. Shortly before that point, [the pilot of PA28(2)] called going around. They then went around due to [the C42] being on the RW. The instructor took the radios from the student and said "[PA28(1) c/s] going around, not visual with the other aircraft going around" to which there was no response. As they were climbing out, they were both looking for that traffic which the student initially spotted at 11 o'clock high. The Arrow had its gear and flap up and appeared to be going fast. They monitored [PA28(2)] which appeared low in the circuit and presumed they were in a hurry to get on the ground. They continued a normal circuit session thereafter.

Upon landing, the instructor sent the student solo and walked into the clubhouse where they were greeted by the PIC of [the C42] (and their student) and the airfield licensee. They had seen them carrying out a go-around and stated that [the C42] altered their climb-out to avoid [PA28(1)] flying over the top. They all discussed the situation where the PIC of [the C42] had stated that they remained below 400ft at the end of the runway as per local procedures and then, as they were climbing, became visual with [PA28(1)] passing above. The [C42's] PIC stated that they had expected [PA28(1)] to turn

[1] The PA28(1) pilot reported transponding Modes A and C but these were not detected by the NATS area radars.
[2] The C42 pilot reported transponding Modes A, C and S; these were not detected by the NATS area radars at the time of the Airprox, but were visible some 45min after the Airprox was reported.
[3] The PA28(1) pilot reports not seeing the C42 at CPA, but provided an estimate of vertical separation.

crosswind on going around, however, due to the altitude etc. the pilot of [PA28(1)] carried out a normal circuit procedure as per the standard go-around. They are unaware how close the C42 came to them in [PA28(1)]. They believed that they would have passed them by the time they reached circuit altitude and that both their and the student's attention was drawn to [PA28(2)] which was carrying out a high speed go-around in close proximity. With hindsight, they could have turned onto the dead side in this instance as there was no other joining traffic, however, had there been joining traffic that would have created other issues.

THE C42 PILOT reports that they were conducting circuit training with a qualified pilot but student for differences training from flex-wing to 3 axis. Having already carried out a few touch-and-goes in an active circuit, on the penultimate approach (3 aircraft in the circuit, they were number one) they were aware of an aircraft behind them in the circuit announcing a go-around shortly followed by a further aircraft announcing a go-around "again", clearly indicating the pilot of the 3rd aircraft was frustrated with their position and a second go-around.

They continued their approach to a touch-and-go then, following the procedure, climbed past the end of the RW to alter heading to more north of west for noise abatement. They established a straight climb on the circuit climb-out dogleg and at some 500-600ft agl (QFE) their student exclaimed as a PA28 passed directly over their C42 at some 50ft. The instructor simultaneously took control to enter a descent (to their credit their student had already started the procedure, however, they felt a more positive response was necessary under the circumstances). Rather than make an announcement over the radio (and unsure if it may be a student flying the PA28) and risk unsettling the pilot, it seemed more appropriate to land and raise the issue with the airfield owners, operators and pilot to clarify events and procedures.

Once on the ground the issue was raised with the airfield owner who had witnessed the event from the ground. Fortunately, the PA28 also landed and they were able to review the event. It transpired that the instructor in the PA28 had elected for a go-around for spacing with their C42, however, the pilot of the 3rd aircraft also elected to go-around but overtook the PA28 in doing so and in a closer proximity that they would have wished. The C42 instructor understands this was a distraction and that, during the time situational awareness of their C42 was lost, they carried on into the circuit from the dead-side and were unaware they passed directly over the top of the C42 (it's worthy of note this is a 100HP variant C42 with a climb rate of approximately 1000fpm at 70kt and Compton Abbas' circuit height of 800ft is achieved rapidly). The congenial discussion that followed covered how events unfolded and the situation arose.

The head of training later contacted them advising they were carrying out an internal review of the event and, during their discussion, it became apparent that a standard go-around would result in an aircraft on an early crosswind leg by the end of the RW. For noise abatement purposes, Compton Abbas has a local procedure where, if an aircraft is at low altitude, they will carry on into the circuit pattern and this is the normal procedure they adopt. The C42 pilot has yet to identify this on any of their published procedures.

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

THE PA28(2) PILOT reports that, having conducted a go-around from their previous approach (RW not clear), they climbed into the circuit pattern. On one of the two go-arounds (they don't recall which) they became aware of traffic joining downwind. They do not recall if that was from their visual scan or from a radio call from that traffic. They were well into crosswind, preparing for the downwind turn. Having seen the traffic at what they believed to be a safe distance, they initiated their downwind turn, made their downwind call and began their checks.

THE COMPTON ABBAS AIR GROUND OPERATOR reports that, before the incident arose, [PA28(2)] joined overhead the aerodrome from the north. [The PA28(2) pilot] executed a go-around on their first approach as there was a small separation between themselves and the other aircraft on short final (they cannot recall whether this was [the C42] but they remember it being a microlight aircraft). On [PA28(2)]'s second circuit, at go-around, is when they believe the situation with [PA28(1)] and [the C42] happened.

Another thing they noticed was that the undercarriage of [PA28(2)] was not extended as the aircraft was late downwind/starting its turn to base-leg.

[The C42 pilot] called final, to which the AGO gave them the surface wind. A few moments later, [the PA28(1) pilot] called final and also noted that they were visual with the traffic ahead, to which the AGO gave them the surface wind. They could visually see these two aircraft. In between these two radio calls were other radio calls from traffic in the circuit. [The PA28(2) pilot] then called final and the AGO passed the surface wind. Due to the distance, and the contributing factor of the sun, the AGO was not visual with [PA28(2)]. As this was [PA28(2)'s] second approach, and due to the speeds they were travelling in the circuit, the AGO could sense that they wanted to land promptly.

As [the C42] was performing a touch-and-go, [the pilot of PA28(1)] announced that they were going around. [The C42] climbed-out over the RW08 threshold as [the PA28(1) pilot] was performing their go-around. The AGO had responded to the pilot of an aircraft who had reported lining-up for a departure on RW26, giving them the surface wind speed and, momentarily, their attention was fixed on the RW26 threshold, checking for any traffic on final. Their attention was divided with this movement and the close proximity situation of [the C42 and PA28(1)]. From the A/G station, they could not estimate the separation between the two aircraft. They were visual with [the C42] when its nose lowered, this indicated to them that the pilot was visual with the go-around traffic ([PA28(1)]) which continued to climb above the C42. The AGO was unaware that [the PA28(1) pilot] was not visual with [the C42]. The next time they saw [PA28(2)] was when it joined crosswind from the dead-side at speed, in their 10 o'clock high. [PA28(1)] proceeded to follow [PA28(2)] in the circuit.

Factual Background

The weather at Bournemouth was recorded as follows:

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METAR EGHH 111520Z 20007KT 9999 FEW032 07/02 Q1033=
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Analysis and Investigation

Compton Abbas Airfield

It is clear, from the statements of all parties, that a loss of separation (during the missed approach phase) did occur and that, further proximity between [PA28(1)] and [the C42] was primarily mitigated by the pilot of [the C42] taking avoiding action. This avoiding action was carried out by [the pilot of the C42] after seeing [PA28(1)] appear in the overhead window (of [the C42]). According to the pilot, the avoiding action taken was to stop the climb of [the C42]. The pilot stated that they were also aware of the need not to be at a height greater than 400ft aal before the end of the RW.

Information was also provided by [an observer], who was in a position on the ground, to confirm that a significant loss of separation did exist and that the pilot of [the C42] did appear to level-off their climb to instigate the stated avoiding action.

The pilot of [PA28(1)] has stated that they (and their student's) attention, during the critical missed approach phase, was significantly distracted by the actions of [PA28(2)] (a visiting aircraft), conducting a simultaneous missed approach in close proximity at high speed, and that this distraction resulted in a momentary loss of situational awareness. The pilot of [PA28(2)] also allegedly made a non-standard RT transmission, which further provided an unnecessary focus of attention to all parties.

The loss of separation may have also been further complicated by [the C42]'s pilot being under a different perception of how [the pilot of PA28(1)] would conduct the actual missed approach. As Compton Abbas has a noise abatement procedure (NAP), any aircraft conducting a missed approach from the final approach segment will fly that profile (which [the PA28(1) pilot] correctly did). However, the pilot of [the C42] believed that [PA28(1)] would immediately turn, at the RW end point, and climb onto the crosswind leg. This would be a correct assumption for a high level missed

approach but not for the position from which [the PA28(1) pilot] initiated their missed approach, bearing in mind the NAP.

The circuit flight profile of [PA28(2)] should also be included in the circumstances surrounding this loss of separation event. Data collected from FlightRadar24.com showed [PA28(2)] operating at speeds well above that expected for a PA28R-200, whilst manoeuvring in the circuit, as well as inconsistent circuit profiles.

Notwithstanding all the above, there was a 'departure bubble', as multiple visiting aircraft were leaving Compton Abbas simultaneously. This had a significant effect on circuit and approach planning of all the airborne aircraft at that time.

The high traffic load and busy RT transmission environment would have made the A/G Operator's task very difficult (also complicated by front desk activity) and likely reduce their ability to monitor approach traffic.

Findings;

A loss of separation event occurred between [PA28(1)] and [the C42].

The primary cause was temporary loss of situational awareness due to a 3rd party distraction ([the presence of PA28(2)]).

It was made more complex by both conflict pilots having a different understanding of the missed approach profile and therefore the pilot of [the C42] having a mental model that placed [PA28(1)] in a different position to where it actually was.

[The PA28(1) pilot] also needed to modify the missed approach to avoid conflict with [PA28(2)].

Though the pilot of [the C42] believed themselves to be no higher than 400ft aal at the end of the RW, there is (non-verified) data, from FlightRadar24, that may indicate a higher altitude.

All parties (both pilots and ground operators) found themselves in a high workload environment, further complicated by the large number of other active aircraft (with some visiting pilots operating in a non-standard fashion).

Recommendations:

An MOR is filed immediately.

All Compton-based pilots remind themselves of the threat that distraction can bring (especially in critical flight phases).

The pilot of [the C42] (a FI) has indicated that, going forward, they will be briefing all their students to expect Compton aircraft to fly the NAP, in the event of an approach phase missed approach.

SOPs are put in place to create a sterile environment, between the Operations and Restaurant sides of the ground facilities, at times of high operational staff workload.

UKAB Secretariat

An analysis of the NATS area radar replay was undertaken. Unfortunately, the event was not captured as it occurred below the coverage of the NATS area radars. However, the C42 and PA28(2) pilots were able to provide the UKAB with GPS log files from their respective flights but no such data was available for PA28(1).

The PA28(1) and C42 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[4] 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.[5]

Comments

Compton Abbas Head of Training (& Safety)

The pilots were operating in a very busy uncontrolled ATZ environment and the conflict arose as a consequence of the pilot of [PA28(1)] flying a correctly executed (and timely) missed approach that needed to be modified due to the proximity of [PA28(2)] flying a simultaneous missed approach. Though there was some confusion with respect to the missed approach profile (on the part of [the C42 pilot]), both aircraft were operating in a procedurally correct manner.

Distraction is a very subjective event and only the recipient can really know what result it had on aircraft operation at the time. It's very difficult to second guess any individual's response to this type of experience.

ADS-B data (and witness evidence) is clear that [PA28(2)] provided elements of distraction (and consternation) to a number of pilots in the circuit at the time (based on its observed speeds and visual aircraft configuration state).

It would be difficult to clarify whether any assistance could have been provided by the Compton A/G station [within the privileges of their Radio Operator's Certificate of Competence].

Summary

An Airprox was reported when a PA28 and an Ikarus C42 flew into proximity in the Compton Abbas visual circuit at approximately 1521Z on Friday 11th February 2022. Both pilots were operating under VFR in VMC and both pilots were in receipt of an Air Ground Communications Service from Compton Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air ground operator involved and a report from the appropriate operating authority. 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(1) pilot and heard from a GA pilot member that it is important to maintain visual contact with the aircraft directly in front when in the visual circuit, because this could be considered to be the highest priority. That said, the Board was sympathetic to the PA28(1) pilot's concern regarding the proximity of PA28(2) behind them. The Board noted that the PA28(1) pilot had formulated a plan to increase their separation from the C42, and GA pilot members with instructor experience understood why the instructor may have wished to exploit the training opportunity by continuing to around 300ft agl but, given the evolving circuit situation, the Board felt that the PA28(1) pilot may have been better served by electing to go around early (**CF1**). In the Board's view, this may have enabled the PA28(2) pilot to land behind the C42 and thus their aircraft would no longer have been a factor in the circuit. Members agreed that, in the event, the PA28(1) pilot had become distracted by the presence of PA28(2) (**CF3**) and had then lost sight of the C42. This had meant that the PA28(1) pilot had been relying on their previous situational awareness regarding the relative position of the C42 but they did not have an accurate idea of where the other aircraft had been (**CF2**). The Board agreed

[4] (UK) SERA.3205 Proximity.
[5] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

that the PA28(1) pilot had not seen the C42 in the seconds leading up to CPA (**CF4**), most likely because it had been obscured by the nose of their aircraft (**CF5**).

The Board then considered the actions of the Ikarus C42 pilot and agreed that there was little that they could have done to prevent the Airprox. The Board agreed that they had had only generic situational awareness that PA28(1) had been behind them (**CF2**) but could not have known the distance between the 2 aircraft. The Board agreed that the C42 pilot had acted predictably in executing their touch-and-go but, on their climb-out, had been unsighted on the PA28(1) because it had initially been above and behind their aircraft (**CF4**, **CF5**).

The Board noted that neither aircraft had been fitted with any additional electronic conspicuity equipment, which on this occasion may have provided some additional information to aid visual acquisition. It was for pilots to decide on their own requirements for additional equipment according to their needs and the Board wished to highlight to pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2023.[6] Additionally, the Board wished to thank the Compton Abbas management for conducting a review into the events surrounding this Airprox, and the participation of the PA28(2) pilot in providing a report, as these greatly enhanced the Board's understanding of the event.

Finally, the Board considered the risk involved in this event. The event took place below the coverage of the NATS area radars and so the Board was grateful to the pilots of the C42 and PA28(2) for providing their GPS log files (there was no GPS log file available for PA28(1)). Noting that there was insufficient data available to measure a recorded CPA, members considered the pilots' estimates of separation and agreed that this had been a close encounter where safety had been much reduced and a risk of collision had existed (**CF6**). Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022020			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
	• 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	• Distraction - Job Related	Events where flight crew are distracted for job related reasons	
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
5	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
	• Outcome Events			
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

[6] https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/

Safety Barrier Assessment[7]

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

Ground Elements:

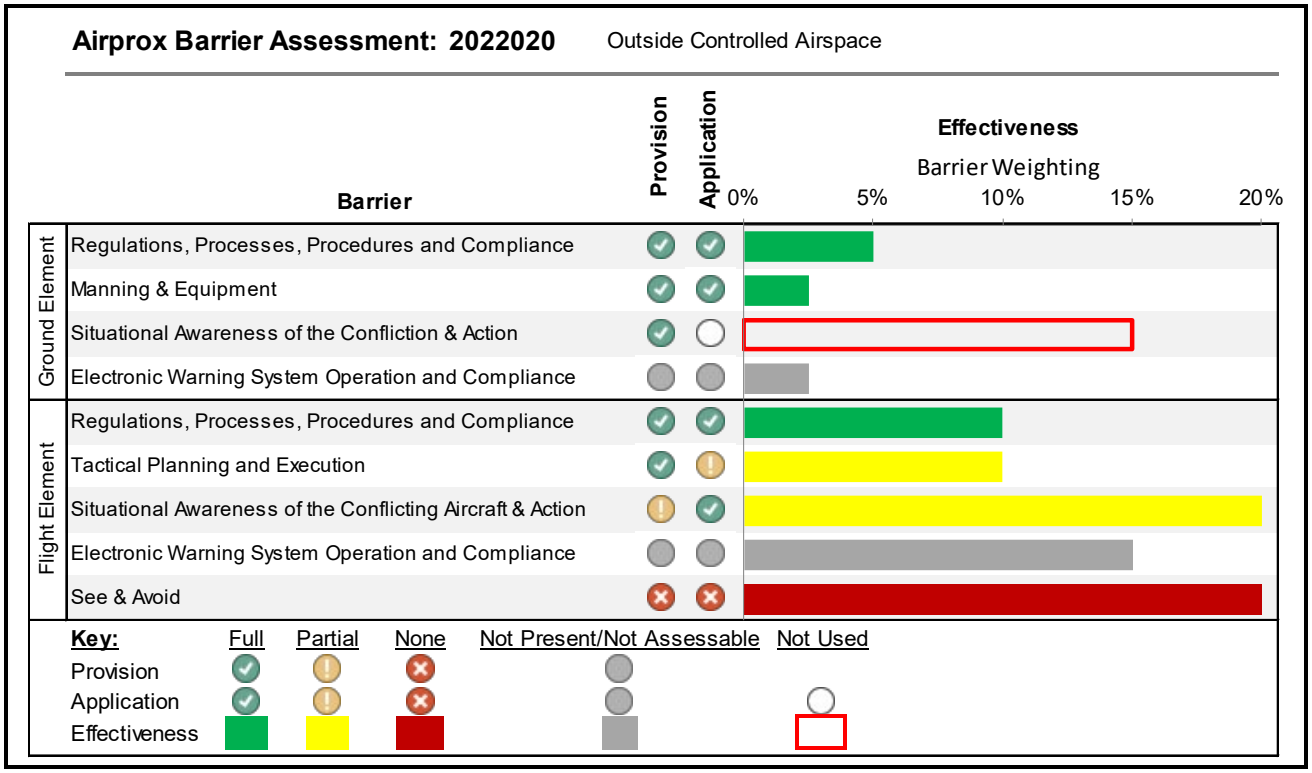
Situational Awareness of the Confliction and Action were assessed as **not used** because the pilots were operating with an Air Ground Communications Service and, as such, the Air Ground Operator can only pass information to pilots.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28(1) pilot continued their approach in the knowledge that it was probably too close to the C42 to be completed.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the PA28(1) pilot had only generic situational awareness that the C42 was somewhere below their nose (when they lost sight of it during their go-around), and the C42 pilot only had generic situational awareness that the PA28(1) was somewhere behind their aircraft, conducting a go-around.

See and Avoid were assessed as **ineffective** because the PA28(1) pilot did not see the C42 as they passed above it, and the C42 pilot did not see the PA28(1) in sufficient time to materially increase the separation.



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