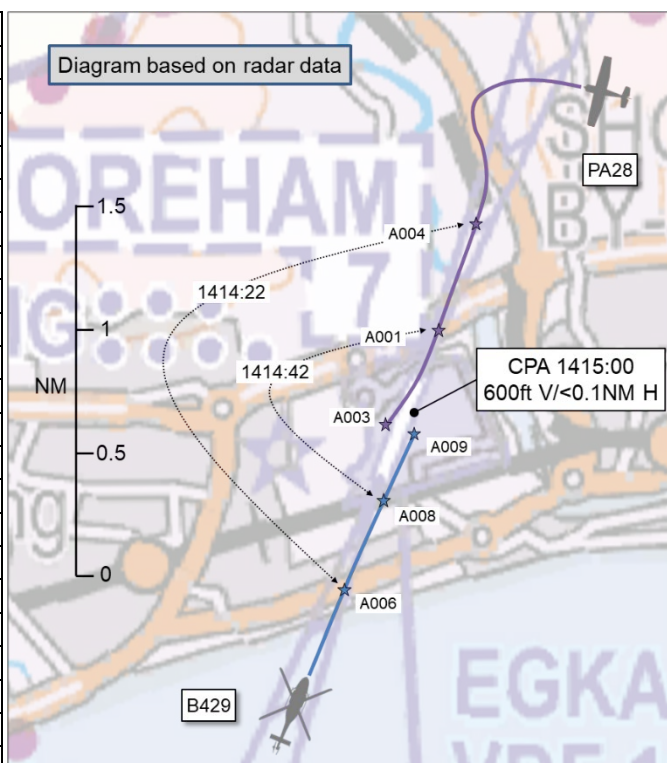


AIRPROX REPORT No 2026029

Date: 19 Mar 2026 Time: 1415Z Position: 5050N 00018W Location: Shoreham ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	B429	PA28
Operator	Civ Comm	Civ FW
Airspace	Shoreham ATZ	Shoreham ATZ
Class	G	G
Rules	IFR	VFR
Service	Procedural	ACS
Provider	Shoreham Appr.	Shoreham Tower
Altitude/FL	900ft	300ft
Transponder	A, C, S	A, C
Reported		
Colours	Blue	White
Lighting	NR	Strobe, landing
Conditions	VMC ¹	VMC
Visibility	NR	NR
Altitude/FL	NR	500ft
Altimeter	NR	QFE
Heading	NR	200°
Speed	NR	75kt
ACAS/TAS	TCAS I, SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	100ft V/NR H	"not seen"
Recorded	600ft V/<0.1NM H	



THE B429 PILOT reports that they were conducting an OPC for a candidate. The sortie was to be conducted in two parts, the first being the IFR element where the candidate would use foggles throughout for the simulation of IMC. As part of the sortie brief, they discussed TEM with the candidate and, by far, the biggest threat was deemed to be the amount of GA aircraft likely to be encountered given that the weather was CAVOK.

[The B429 is equipped with] TCAS and [the output from their EC device was] being displayed on both the candidate's iPad and their own.

The candidate had successfully completed the [first part of the sortie and] flew in accordance with air traffic instructions that set the aircraft towards the MID VOR. The candidate changed to the Shoreham combined Approach/Tower frequency and was cleared for the RNP 02 approach via the IAF of ADPOD.

Shoreham was NOTAM'd as conducting controller training during the approach timing. In their opinion, that did not play any part in the subsequent incident.

Of note, given the weather conditions, Shoreham ATC was busy with GA traffic, both in the circuit and their local area. ATC had requested their intentions after the approach and [the crew] was given go-around instructions to fly runway track to 2200ft and a left turn back toward the MID VOR. As part of the OPC, the candidate was to deal with an OEI event, likely prior to the RNP approach. This simulated emergency was given to the candidate prior to reaching ADPOD. This meant that the RNP approach and go-around would be flown OEI throughout. Again, for the completeness of the narrative, the go-around from the RNP approach had two different MDAs depending upon aircraft performance, and this was discussed at the briefing. Given the aircraft performance, even OEI, the aircraft could achieve the 5.5% climb gradient so the MDA was to be 430ft. Having passed ADPOD at 2200ft, ATC cleared the

¹ The pilot-under-training in the B429 had been flying with 'foggles' to simulate IMC.

aircraft for the RNP 02 approach and requested confirmation of being established on the FAT (020°). This RT call was made and the next request from ATC was to report passing the FAF. That call was made and the descent was commenced. The brief for the candidate was to execute an OEI go around on passing the MAPt MA02. Having commenced the descent, they were aware of traffic that ATC had instructed to position behind [the B429] as number two for their approach.

The OEI go around was duly commenced on passing MA02 and, shortly afterwards, the [pilot of the] number two traffic called going around. Their thought was that this aircraft, going around and behind them, might catch them up given that they were carrying out an OEI go around. Checking their iPad, they could not see any targets behind and, similarly, no relevant TCAS target. Looking ahead as part of their general lookout, they then saw the PA28 as opposite-direction traffic in the 1130 position, slightly lower (estimated 100-200ft below), and it looked to be climbing as it passed down their port side. There was no need for avoiding action as the PA28 was clearly opening in distance. After a momentary reflection, they then passed their confirmation to ATC that they would be filing an Airprox report as a result of the incident.

THE PA28 PILOT reports that, when [approaching] Shoreham, they made an inbound contact call at the AMEX Stadium [8NM east of Shoreham], at which point they were instructed by ATC to standby. While waiting, they could hear that the controller was being changed. After orbiting above the stadium for some time, they made another call to remind ATC of their position. They were again told to standby and, shortly afterwards, were asked to pass their message. They requested a standard overhead join, which was approved. They reported overhead at 2000ft, as instructed, and were then told to descend on the deadside and report downwind. At that stage, they believe they made an error by misreading the runway numbers, which resulted in joining the incorrect circuit pattern. They reported downwind to the Tower and were instructed to make an orbit. They complied, and reported the orbit completed on late downwind. They then continued the circuit and attempted to land, however, the approach was unstable and they initiated a go-around. During the go around, the Tower requested their position, which they reported as 500ft. They continued in the previously established circuit pattern. They were then instructed to turn 180° and to position for landing on the correct runway. At that point, they realised their mistake and carried out a 180° turn to align with the correct runway, landing as instructed.

THE SHOREHAM CONTROLLER-UNDER-TRAINING reports that [the pilot of the PA28] joined the circuit from the east for an overhead join. [The pilot of the B429] was completing an RNP approach to RW02. The RT calls they gave to [the pilot of the PA28] were correct with regards to the position that the aircraft should have been, however, the weather conditions were quite hazy and they could not physically see the PA28 until the Airprox occurred. It later transpired that the PA28 pilot was a student and, at no time, made any calls to disagree with the calls that they (the controller) had asked of them. Although [the controller had been] under training, this session was well within their capability as a previously-validated ATCO at Shoreham. The helicopter pilot made no avoidance [manoeuvres, apparently] deeming it unnecessary, and only reported the Airprox, when climbing away.

THE SHOREHAM OJTI CONTROLLER reports that they were training an experienced ATCO who had recently returned to the Unit, and had completed a good busy hour-long session with them earlier in the day. The [pilot of the B429] was IR training, intending to route back to MID VOR after completing an RNP approach to RW02. Although there had been a busy handover, approximately 15min before, by the time the [pilot of the B429] was established on the FAT, there was very little [traffic] in the ATZ. While they were making a brief note of their student's (good and timely) handling of the RNP, [the pilot of the PA28] reported downwind (having not reported overhead [they believe]) and was told to orbit right at the end of the downwind leg, to position behind [the B429] on the instrument approach. They were pleased at the instant deconfliction applied by their trainee, adding that to their notes (they were facing away from the VDF at that point, with their back to the live desk, to write on a flat surface). They then looked out of the window to visually locate the helicopter, as well as cross-referencing the FID. They could not see the fixed-wing orbiting but, as they had been directed to orbit right-hand, and it was slightly hazy into sun, that did not strike them as particularly odd. They note that aircraft with old equipment do not normally appear on the FID. The [pilot of the B429] commenced the MAP where expected ([in the] vicinity of, or at, MAPt) climbing well as they approached the airport boundary. The [pilot of the] fixed-wing was told to report final, which they did in reply (they believe). Neither of [the controllers] could see

[the PA28] so their position was immediately requested. As [the pilot of the PA28] started to reply, [the Shoreham OJTI] was closely monitoring the VDF and shouted "*He's the wrong end*", at which point [the pilot of the PA28] declared that they were going around and had the [B429] in sight. [The PA28] passed below the helicopter, opposite direction, approximately at mid-point of the runway. Two minutes later, [the pilot of the B429] advised they would file an Airprox on return to base, and would telephone [the Tower] for details. The PA28 pilot repositioned and made a normal landing on the duty RW02. [The Shoreham controllers] were unaware until later that they were a student.

Factual Background

The weather at Brighton City Airport was recorded as follows:

METAR EGKA 191420Z 08010KT 050V110 CAVOK 17/02 Q1024

Analysis and Investigation

Brighton City Airport Unit Investigation

A combined Tower and Approach service was being provided at Shoreham on frequency 123.155MHz, by an ATCO U/T and an OJTI. Both had been in position for approximately 15min, following a handover from another ATCO.

[B429]: IFR RNP 02 followed by a missed approach and departure to the northwest IFR. Two pilots, one operating under 'foggles' with the other as a lookout. The commander stated in the post-incident telephone call with the Shoreham MATS that they had briefed on operations in Class G before the flight and were using TCAS/ACAS/[EC device] as one of their mitigations.

[PA28]: Student pilot (although not known at the time). VFR flight, joining overhead from the east. Believed to be either non-transponder or Mode A/C only as nothing was seen on the FID, and the helicopter pilot reported nothing seen on any of their devices.

PAPIs for RW02 (the runway in use) were displayed correctly. The ATIS was correctly broadcasting RW02 as the runway in use. Traffic and RT loading was considered medium but manageable, representative for Shoreham on a busy day. ATCO U/T is an experienced ATCO who recently returned to the unit following a period of employment at another ANSP. The ATCO U/T reported that they were comfortable with the workload.

The Shoreham OJTI is also very experienced Shoreham ATCO of 30 years and was also comfortable with the traffic level and saw no reason to take over or intervene.

The student pilot did not report overhead and is believed to have commenced a descent to the visual circuit without clearance to do so. [UKAB Secretariat note: The recorded RT confirms that the PA28 did report in the overhead and was instructed to "*descend deadside and report downwind left-hand runway 02*". Following a downwind report by the pilot, Traffic Information was passed by the ATCO to the PA28 pilot on the inbound helicopter and instructed to "*report final number two following traffic on a 4NM final*", which was acknowledged by the PA28 pilot. Both aircraft were established on final for both RW02 and RW20 at approximately the same time, and both [pilots] went-around at around a half-mile final for their respective ends. The helicopter pilot's intention was to go around as part of the training detail, so this was expected by the ATCO U/T and OJTI. Both pilots reported visual with each other on the RT.

It was subsequently reported that a pilot who had recently departed [from Shoreham] had observed the PA28 joining the wrong way but did not mention it on the RT but, instead, chose to do so by telephone to the Tower approximately 3hr afterwards. This is unfortunate as such a report may well have prevented, or at least acted as a further barrier to, the Airprox. This individual has been reminded that anything untoward should be reported on the basis that a timely report could prevent an incident from occurring.

It is believed that 300-400ft separation vertically probably existed between both aircraft at the closest point, and 100-200m laterally as one flew under the other, slightly offset, based on CCTV evidence. The helicopter had a higher rate of climb and was already above the level of the PA28 when [its pilot] commenced the missed approach (insofar as can be established using CCTV). The student pilot reported “500ft” and appeared to maintain this until at least both aircraft had passed. It appears, based on the statements of the pilots and ATCOs, that both pilots became visual with each other at around the time the ATCOs had visually acquired the PA28.

OJTI Actions

The OJTI provided a candid report and, while they did not see the PA28 until late, they did observe the VDF trace as not corresponding to the PA28 pilot’s reported position and shouted to alert the ATCO U/T. The OJTI admits they briefly looked away from the desk and the window to make a note about the ATCO U/T’s controlling, before returning to look out of the window. Making brief notes is considered a normal part of the OJTI role.

Fatigue and Stress Management

The MATS spoke to both the ATCO U/T and OJTI following the event. The ATCO U/T had returned to the unit approximately three weeks prior, and had settled in to training and was not feeling fatigued. The OJTI had returned to the unit the day before, following a period of two weeks annual leave. Both individuals commenced their duty period at 12pm and appeared in good spirits. There is nothing to suggest fatigue or stress was a factor.

Weather

Whilst CAVOK was being reported, it was described as a ‘hazy CAVOK’ with a visibility of 10km as observed from the Tower. All reports were made by trained met observers, using a visiometer and ceilometer as tools to assist in making the observation.

Electronic Conspicuity and Flight Information Display (FID)

The [pilot of the B429] reported post-incident to the Shoreham MATS that they had briefed on operations in Class G airspace and one of their mitigations was to use TCAS/ACAS and [an EC device].

Shoreham ATC has operated with a Flight Information Display since May 2025, which displays ADS-B, [and data from two proprietary systems] on a ‘pseudo-radar style’ map in front of the ATCO. Aircraft with no EC device, or just a Mode A/C (non-Mode S) transponder are not displayed.

During the development and regulatory approval of the FID, a 2024 survey found that approximately 90% of Shoreham inbound and outbound aircraft appeared on the FID. This is likely to be in the 90-95% bracket now, as a number of aircraft with no device during the survey have now been fitted with such. The Aerodrome Authority and ANSP hold regular meetings with operators and tenants, emphasising the importance of having EC devices, especially those with ADS-B-out. It is believed that [the PA28] has a Mode A/C transponder, although it is unknown at the time of writing as to its serviceability or whether it was switched on. The [pilot of the B429] reported that nothing was displayed on their TCAS/ACAS system. The [B429] was operating with ADS-B [they believe] and appeared on the Shoreham FID.

‘Student’ Prefix

A review of the RT recordings confirms that, at no point during the flight, did the [pilot of the PA28] use the prefix ‘Student’ on the RT, and nor did the ATCO address them as such. It was only established after the event, following correspondence with the flying school, that the pilot was a student.

Conclusion and Summary

A conflict occurred between a helicopter that had recently completed an RNP approach to RW02 at Shoreham, and a PA28 flown by a student pilot that had inadvertently joined overhead VFR for RW20.

1. The student pilot did not use the correct prefix 'Student' at any point during the flight.
2. The student pilot did not report overhead, and commenced a descent into the wrong circuit without permission [UKAB Secretariat note: The recorded RT confirms that the PA28 did report in the overhead and was instructed to "*descend deadside and report downwind left-hand runway 02*".]
3. The ATCO U/T made radio transmissions on the assumption that the pilot of the PA28 had joined overhead correctly, despite not visually acquiring the PA28 first. Confirmation bias may have existed as the student pilot read back the instructions confidently, leading to an expectation that everything was in order.
4. The OJTI briefly looked away to make handwritten notes about the ATCO U/T, reducing the amount of time they had to visually acquire the PA28 and helicopter.
5. The PA28 was not equipped with an EC device that appeared on the Shoreham FID.
6. The helicopter pilots did not observe the PA28 on their TCAS/ACAS/[EC device] systems.
7. One of the helicopter pilots was apparently operating on 'foggles', leaving only one pilot to look out.
8. The conflict was not noticed until late by both the ATCO U/T and OJTI, and only initially based on the VDF bearing of the PA28.
9. The conflict was not noticed until late by both the student pilot and helicopter pilot.
10. The pilot of a recently departed aircraft allegedly observed the pilot of the PA28 joining the wrong way round the circuit, but did not report it until approximately three hours later by telephone.

CAA ATSI

Synopsis

The B429 was a training flight conducting an RNP approach to RW02 at Shoreham which was to be followed by a planned go-around to the northwest. The PA28 was returning from the east for a VFR overhead join to land. According to the Shoreham Unit investigation report, the PA28 pilot was a solo student.

The controller was a trainee, albeit with previous controlling experience at Shoreham, under the supervision of an OJTI. They were operating as both Shoreham Tower and Shoreham Approach, providing Aerodrome Control and Procedural Approach services as well as UK Flight Information Services to other aircraft in the vicinity. At least seven aircraft were airborne whose pilots were receiving a service from the controller in the initial period prior to the Airprox. Shoreham is equipped with a Flight Information Display System.

ATSI received [redacted] copies of reports from both pilots, and the trainee controller and OJTI in addition to a Unit investigation report. Area radar surveillance data was used in conjunction with a recording of the Shoreham RTF. The first call for join made by the pilot of the PA28 was not captured on the recording.

At 1405:03, the Shoreham controller contacted the pilot of the PA28 to allocate a squawk and instructed them to *“report in the Shoreham overhead for an overhead join at 2000ft on that QNH 1024”*. The pilot acknowledged with *“wilco”* but did not read back the instruction.

The controller subsequently dealt with other traffic, including an aircraft transiting the overhead, an aircraft on the ground, and another aircraft that had just become airborne.

At 1406:38, the B429 pilot reported at the Initial Approach Fix for the RNP approach to RW02 and was instructed to report established on the Final Approach Track (Figure 1).

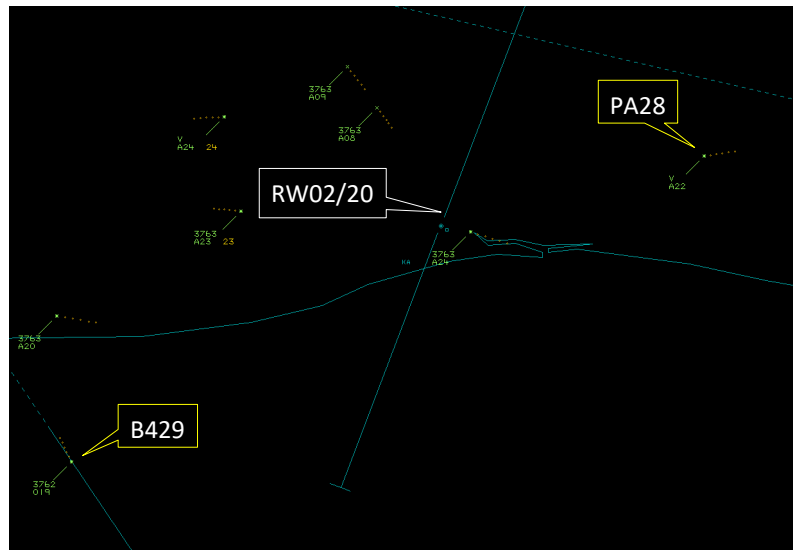


Figure 1 – 1406:38

At 1407:55, the PA28 pilot reported *“overhead at 2000ft”*. The controller instructed them to: *“descend deadside and report downwind left-hand runway 02 – circuit clear”*. The pilot replied: *“wilco – report downwind runway 02”*.

Further frequency activity followed, including traffic transiting the overhead, additional aircraft calls, and multiple pilots leaving the frequency.

At 1409:20, the radar replay showed that the PA28 had commenced a descent deadside for RW20.

At 1410:18, the B429 pilot reported established on the Final Approach Track and was instructed by the controller to report passing the Final Approach Fix. The controller then passed their missed approach instructions. The radar replay showed the PA28 passing above the RW02 final approach track (Figure 2).

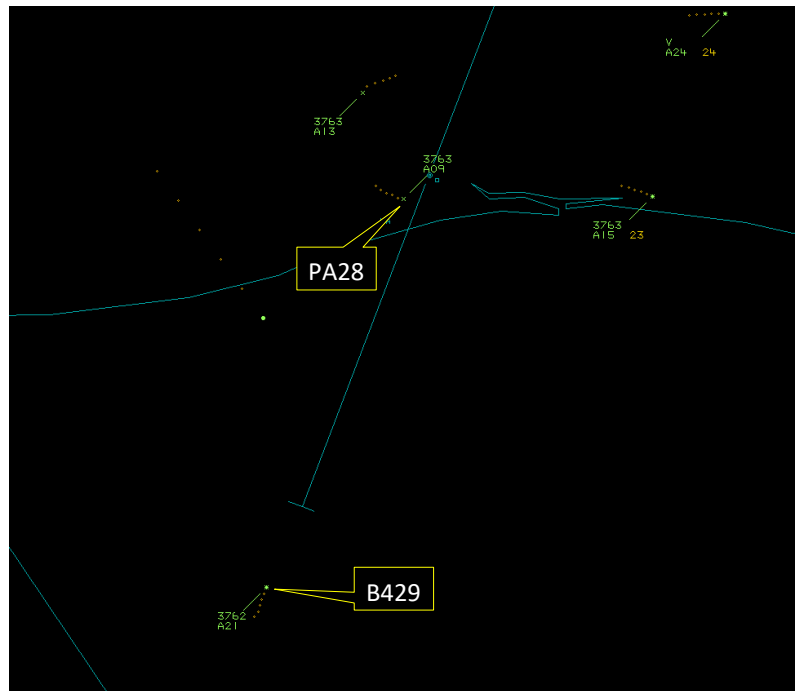


Figure 2 – 1410:18

At 1411:11, early Traffic Information was passed to the B429 pilot regarding traffic to the north of the airfield at the same level as the go-around altitude of 2200ft.

At 1411:35, the controller cleared another pilot for departure on RW02.

At 1411:55, the PA28 pilot reported: *“downwind for landing”*. The controller replied: *“Number 1 report on – correction, at the end of the downwind leg make a right-hand orbit please – report rolling out. I do have instrument traffic inbound”*. The pilot replied: *“one right-hand orbit at end of downwind”* (Figure 3).



Figure 3 – 1411:55

At 1412:05 another pilot reported ready to leave the frequency followed by the B429 pilot reporting at the Final Approach Fix.

The controller instructed the B429 pilot to continue approach as there was one departing (ahead of them).

At 1412:40, the controller cleared the B429 pilot for a low approach to RW02.

The controller then passed reciprocal Traffic [Information] on the B429 to the pilot of the aircraft passing through the climbout to the north of Shoreham.

At 1413:08, the PA28 pilot reported “orbit complete”. The controller instructed them to “report final – you’re number 2 following a Bell 429 on about a 2-mile final”. The PA28 pilot replied: “report final number 2” (Figure 4).

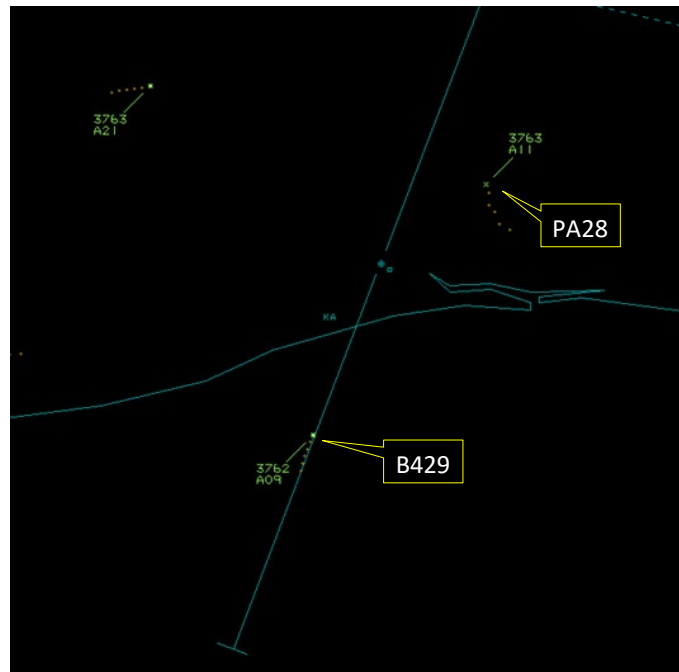


Figure 4 – 1413:08

Between 1413:25 and 1414:00, the controller was occupied with an aircraft on the ground followed by the passing of generic Traffic Information to the pilot of the recently departed aircraft on other traffic to the east of them (not the PA28) (Figure 5).

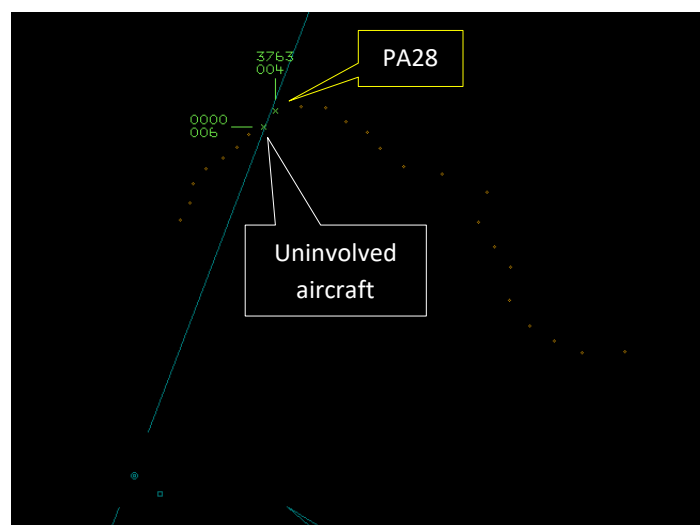


Figure 5 – 1413:50

At 1414:20, the pilot of another aircraft reported leaving the frequency.

At 1414:22, the B429 pilot reported going around which was acknowledged by the controller: *“roger”* (Figure 6).

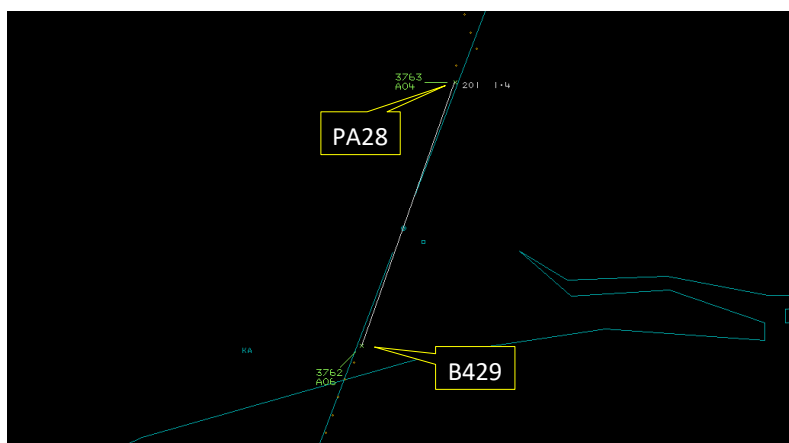


Figure 6 – 1414:22

At 1414:34, the pilot of an aircraft on the ground reported ready for departure but, before the controller could reply, the PA28 pilot reported going around. The controller replied: *“roger – caution helicopter ahead”* (Figure 7).

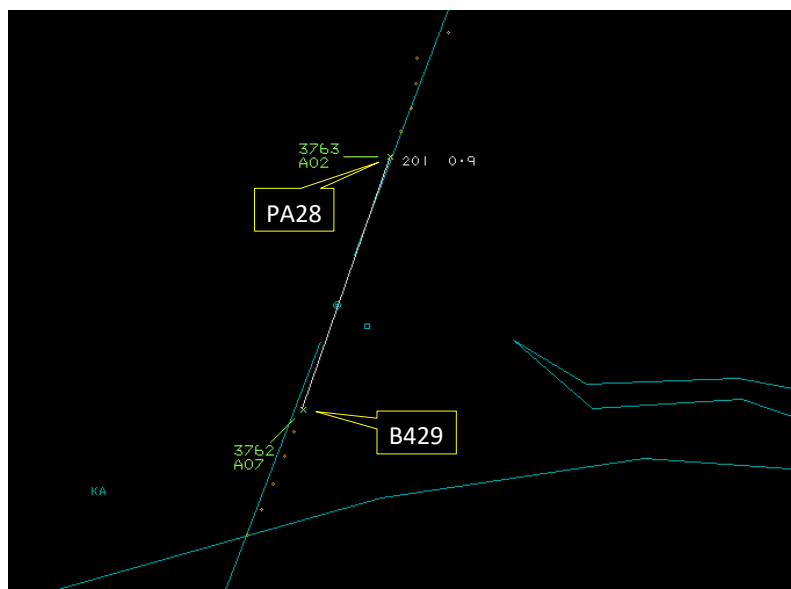


Figure 7 – 1414:34

At 1415:00 (CPA), the controller asked the PA28 pilot *“just say again your position”* to which the pilot replied: *“er, 500ft and the helicopter spotted”*.

Analysis

The recorded RT did not include the first call made by the pilot of the PA28 therefore it could not be determined whether the runway in use was passed at that time. The first confirmed transmission of the runway in use (02) occurred when the PA28 pilot reported in the overhead, and the controller instructed them to *“descend deadside and report downwind left-hand runway 02”*.

In their report, the PA28 pilot stated that they *“made an error by misreading the runway numbers, which resulted in me joining the incorrect circuit pattern”*. They further reported that they had not realised their error until the controller instructed them to complete a 180° turn to *“the correct runway”*. They reported that their go-around on RW20 was as a result of an unstable approach.

Neither the OJTI nor the trainee controller reported having any visual contact with either aircraft prior to the Airprox. The report from the OJTI and subsequent Unit investigation report stated that the PA28 did not appear on the FIDS. Although the aircraft was visible on the area radar replay, it appeared as Mode A/C only.

The OJTI reported recognising, via VDF indications, that the PA28 was making an approach to the wrong runway shortly before the PA28 pilot reported going around. The trainee controller reported only acquiring visual contact with the PA28 at the time of the Airprox noting that the visibility appeared hazy despite the reported CAVOK conditions.

From 1411:55, the PA28 pilot's positioning and RT transmissions were consistent with a left-hand circuit for RW20. However, it appears that VDF indications suggesting the aircraft was north-east and north of the airfield were not identified or acted upon by either controller.

The B429 pilot reported visual contact with the PA28 during their go-around "*estimated 100-200ft below*". They reported that "*there was no need for avoiding action on our part as the PA28 was clearly opening in distance*".

When the PA28 was observed to turn crosswind (for RW20), it came into close proximity (approximately 100ft/0.1NM) with another aircraft departing RW02. The unit later received a telephone report from a pilot stating they had observed the PA28 joining the incorrect runway, however, the reporting pilot was not identified, and no such concern was transmitted on the RT at the time.

The Unit investigation report incorrectly stated that the PA28 pilot did not report in the overhead, and that they descended without clearance (into the wrong circuit).

Conclusion

The PA28 pilot conducted a join, approach, and go-around to the wrong runway.

Neither the OJTI nor the trainee controller identified the incorrect join by the PA28 pilot by visual observation or effective use of the VDF information.

The OJTI detected indications of the incorrect approach via VDF, but only shortly before the PA28 pilot reported going around.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the B429 could be positively identified from Mode S data. An aircraft was observed on the replay with Modes A and C only, the timing and location of which correlated to that of the PA28 (as reported). Neither aircraft was observed by reference to ADS-B data sources.

The aircraft were depicted on the radar replay as having flown at Flight levels. A suitable correction was applied to determine their altitudes. The diagram was constructed and the separation at CPA determined from the radar data. The moment of CPA was assessed to have occurred between the radar sweeps at 1414:58 and 1415:02 (Figures 8 and 9).

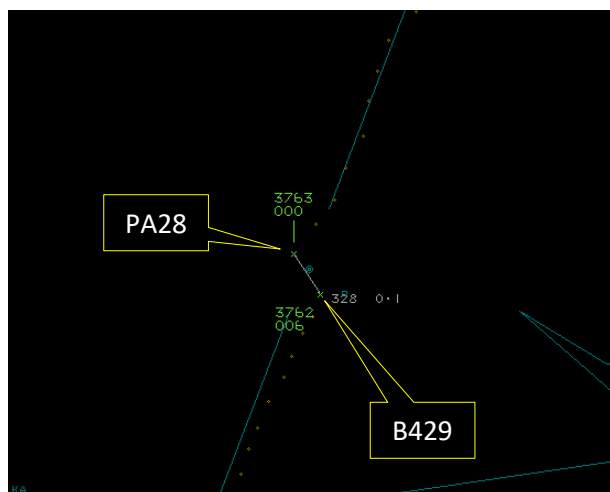


Figure 8 - 1414:58 (2sec before CPA)

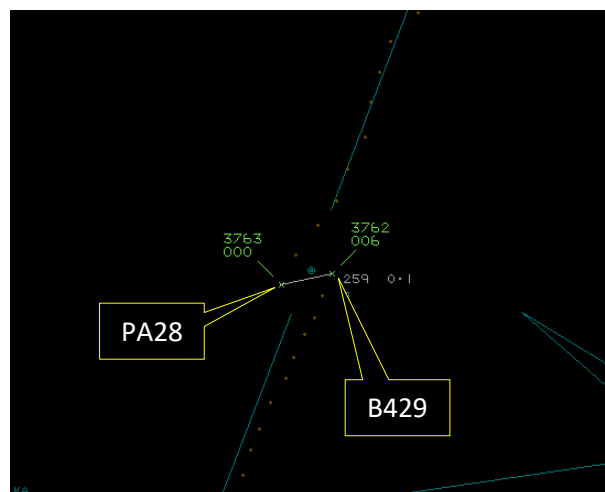


Figure 9 - 1415:02 (2sec after CPA)

The B429 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.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 B429 and a PA28 flew into proximity in the Shoreham ATZ at 1415Z on Thursday 19th March 2026. The B429 pilot was operating under IFR in VMC in receipt of a Procedural Service from Shoreham Approach. The PA28 pilot was operating under VFR in VMC in receipt of an ACS from Shoreham Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, reports from the air traffic controllers involved, radar photographs/video recordings 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 considered the actions of the pilot of the B429. Members noted that, during their descent to RW02, they had been aware that the Shoreham controller had instructed the pilot of a PA28 to position behind them. As they had commenced their go-around from RW02, they had heard a transmission from the PA28 pilot to announce that they were also going-around. Members appreciated that, with limited climb performance (on account of a planned OEI procedure), they had been concerned that the PA28 might 'catch them up'. Members agreed that the pilot of the B429 had had inaccurate situational awareness of the position of the PA28 (**CF10**) as they had believed (incorrectly) from the associated radio transmissions that the PA28 pilot had been positioned behind them. It was also agreed by members that the B429 pilot had been concerned by the proximity of the PA28 when it had been subsequently visually acquired as opposite-direction traffic (**CF14**). It was agreed that the TCAS equipment fitted to the B429 would have been expected to have detected the presence of the PA28 ahead of them, but no alert was reported (**CF12**). Members noted that the B429 pilot had considered that avoiding action had not been necessary.

Members next turned their attention to the actions of the pilot of the PA28. Although the initial interaction between the Shoreham controller and the PA28 pilot had not been captured on the RT recording, members noted that they had been instructed to "*report in the Shoreham overhead*". Members appreciated that the pilot of the PA28 had very limited flight experience and that, perhaps, a high proportion of their attention had been focussed on simply flying the aircraft and their navigation to the

² (UK) SERA.3205 Proximity.

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

Shoreham overhead at the correct altitude. Nevertheless, members pointed out that a critical skill had been to have formulated a plan for their arrival, perhaps with anticipation of what might have been required of them once they had reached the overhead but, fundamentally, to have constructed (and to have regularly updated) a mental model of the actual situation before descending into the circuit. Members noted that several 'clues' had been available to the PA28 pilot to have enabled them to have constructed an appropriate model (such as the ATIS, the inbound B429 and its pilot's position reports, the reported wind direction, orientation of the runway, their position in the landing order etc.). Members noted that, subsequent to the PA28 pilot having reported in the overhead, they had been instructed to "*descend deadside and report downwind left-hand RW02*" but they had proceeded in the wrong direction. Members noted that the orientation of the main runway at Shoreham had been 02/20 (and, incidentally, that there is also a licenced grass strip with the orientation 13/31) and appreciated that that had been potentially confusing. Nevertheless, members agreed that the PA28 pilot had not complied with the controller's instructions (**CF7**) and that their join to the circuit had not been executed correctly (**CF8**). Members wished to emphasise that the PA28 pilot could have opted to have remained in the overhead and taken a moment to have assessed the 'overall picture' before they continued.

It was noted that the PA28 had not been fitted with an additional EC device, and members suggested that, had a compatible device been fitted, it may have provided useful information on the position of nearby traffic and served as an additional visual indication to assist the PA28 pilot's orientation.

Members noted that the Shoreham controller had subsequently requested that the PA28 pilot "*make a right-hand orbit*" due to "*instrument traffic inbound*". However, members noted that the PA28 pilot had not sighted the B429 at that stage, and agreed that they had had inaccurate situational awareness of its position in the circuit (given that they acknowledged they had been 'number two' to the B429 on a two mile final) (**CF10**). It was noted that the PA28 pilot had performed a go-around and had subsequently sighted the B429 ahead of them.

Members next turned their attention to the actions of the Shoreham trainee-controller, and noted that the transmissions from the PA28 pilot had not indicated anything unusual to them about the early stages of their approach to the airfield overhead. However, the trainee controller had instructed the PA28 pilot to "*...report downwind left-hand runway 02...*" which had not been followed. Members agreed that, from that moment, the Shoreham controllers had had inaccurate situational awareness of the position of the PA28 (**CF6**) and further agreed that they had passed instructions based on the assumption that the PA28 pilot had been at the positions that they had reported without visual confirmation (**CF3**). Members pondered the visual conditions, and noted that the nearest METAR (observed at Shoreham 5min after CPA) indicated that the conditions had been 'CAVOK'. However, it was also noted that the trainee controller had reported that the conditions had been 'quite hazy'.

A member with particular experience as an Approach controller suggested that, anecdotally, the utilisation of VDF equipment by Tower controllers had declined despite being considered a very valuable tool. Given that the controllers at Shoreham still had use of VDF, it was explained that it may have formed part of the controller's regular 'scan' of their equipment. Indeed, due to the hazy conditions, members agreed that it may have been prudent to have utilised the VDF as the PA28 pilot had descended from the overhead into the circuit. Members agreed that the tool had been available but had not been utilised until the approximate moment of CPA, too late to have intervened in the unfolding encounter (**CF4**). It was also agreed by members that the conflict between the aircraft had not been detected (**CF2**).

Turning their attention to the OJTI controller, members noted that they had briefly turned away from the Tower window to make handwritten notes. Acknowledging that that had been a natural part of their role, members nevertheless agreed that it had been a case of unfortunate timing that they had been engaged in a task that had prevented them from visually acquiring the PA28 at a critical moment (**CF5**). Members noted that two experienced controllers had been in the Tower during the evolution of the Airprox, and agreed there had been an opportunity for assistance and 'independent verification' of the actions of the controller-under-training. However, neither controller had visually acquired the PA28, nor had they been aware that its pilot had approached the wrong end of the runway (**CF1**).

Concluding their discussion, members summarised their thoughts. It was agreed that the pilot of the PA28 had focussed on conducting an approach to RW20, and had not grasped the 'overall picture' at the airfield (**CF11**). Consequently, members agreed that they had not conformed with, nor avoided, the pattern of traffic formed by the B429 pilot (**CF9**) and had flown close enough to the helicopter to have caused its pilot concern (**CF13**). It was noted that, ultimately, both pilots had visually acquired the other aircraft, and they had passed each other approximately midway along the runway, slightly offset horizontally, and with a vertical separation of about 600ft. Whilst it was agreed that safety margins had been considerably reduced overall, members were satisfied that there had not been a risk of collision. The Board assigned Risk Category C to the event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2026029			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Manning and Equipment				
1	Human Factors	• Recurrent/OJT Instruction or Training	Events involving on the job training of individuals/ personnel	
• Situational Awareness and Action				
2	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
3	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
4	Human Factors	• Monitoring of Equipment/Instruments	Events involving an individual or a crew/ team not to appropriately monitoring equipment or instruments	
5	Human Factors	• Task Monitoring	Events involving an individual or a crew/ team not appropriately monitoring their performance of a task	Controller engaged in other tasks
6	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
7	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
• Tactical Planning and Execution				
8	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
9	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				
10	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
11	Human Factors	• Understanding/ Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	
• Electronic Warning System Operation and Compliance				
12	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				
13	Human Factors	• Incorrect Action Selection	Events involving flight crew performing or choosing the wrong course of action	Pilot flew close enough to cause concern

14	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
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Degree of Risk: C.

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:

Manning and Equipment were assessed as **partially effective** because neither controller had been aware that the PA28 pilot had joined the circuit incorrectly and had approached the wrong runway.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the Shoreham controllers had not had accurate situational awareness of the position of the PA28 and had not detected a conflict with the B429 until moments before CPA.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the pilot of the PA28 had not complied with the instructions issued by the Shoreham controller.

Tactical Planning and Execution was assessed as **ineffective** because the pilot of the PA28 had not executed their join to the circuit correctly.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the pilot of the B429 had inaccurate situational awareness of the position of the PA28. The pilot of the PA28 had not formed an accurate mental model of the runway in use and the position of the B429.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TCAS fitted to the B429 would have been expected to have provided an alert to the presence of the PA28 but no alert was reported.

⁴ 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: 2026029

Outside Controlled Airspace

Barrier		Provision	Application	Effectiveness	
				Barrier Weighting	
				0%	5% 10% 15% 20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓		5%
	Manning & Equipment	✓	!		2.5%
	Situational Awareness of the Confliction & Action	✓	✗		15%
	Electronic Warning System Operation and Compliance	○	○		2.5%
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✗		10%
	Tactical Planning and Execution	✓	✗		10%
	Situational Awareness of the Conflicting Aircraft & Action	!	✗		20%
	Electronic Warning System Operation and Compliance	!	✗		15%
	See & Avoid	✓	✓		20%
Key: <u>Full</u> <u>Partial</u> <u>None</u> <u>Not Present/Not Assessable</u> <u>Not Used</u> Provision ✓ ! ✗ ○ Application ✓ ! ✗ ○ Effectiveness ■ ■ ■ ■ □					