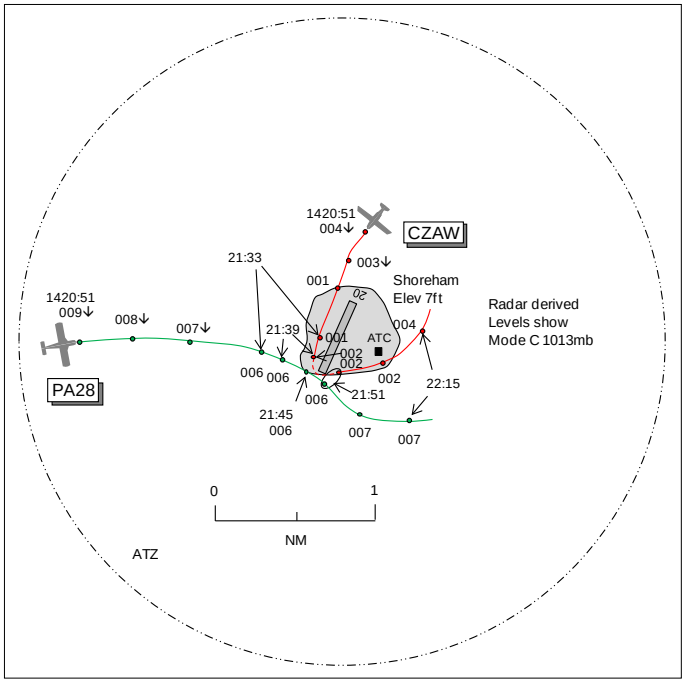
AIRPROX REPORT No 2011127

Date/Time:	27 Sep 2012 1422Z	
Position:	5050N 00018W (0·25nm SW Shoreham - elev 7ft)	
Airspace:	Shoreham ATZ	(*Class: G*)
	Reporting Ac	*Reported Ac*
Type:	PA28	CZAW SportCruiser
Operator:	Civ Club	Civ Pte
Alt/FL:	1100ft QFE	800ft↑ QFE
Weather:	VMC VCFG	VMC VCFG
Visibility:	>10km	5nm
Reported Separation:	300ft V/300m H	500ft V/0·5nm H
Recorded Separation:	400ft V/<0·1nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PA28 PILOT reports flying a dual training sortie from Shoreham VFR and in communication with Shoreham Approach on 123·15MHz, squawking 7000 with Mode C. The visibility was >10km in VMC and the ac was coloured white/burgundy; no lighting was reported. They proceeded to join crosswind for RW20 as instructed by ATC at 1100ft QFE. Once established on crosswind, heading 135° at 100kt, the student reported "crosswind" and was told to report downwind. About 5sec after passing over the upwind end of the RW he heard the pilot in another ac call 'going-around'. A few seconds later the student spotted the ac, a SportCruiser, turning towards them from the go-around approaching from their LHS from underneath. The student attempted to point the ac out to him but he was unable to see it owing to his position, seated in the RH seat. At this point he took control and made a R turn to avoid the ac, estimating it passed 300ft below and 300m clear to their L. He assessed the risk as medium. At the time there was sea fog approaching the aerodrome slowly from the SE but it was still outside the aerodrome boundary.

THE CZAW SPORTCRUISER PILOT reports inbound to Shoreham VFR and in receipt of an Information service from Shoreham on 123·15MHz, squawking with Mode C. The visibility was 5nm flying into sun but clear of cloud and about 3nm clear of fog in VMC and the ac was coloured white/silver/red; no lighting was mentioned. He was going around having overshot his approach to RW20 in calm conditions with another ac in the O/H. He climbed out heading 200° at 80kt and turned L to commence a new circuit whilst visual with the other ac, estimating it passed 500ft above and 0·5nm clear on his R. No avoiding action was needed. He heard ATC asking the other pilot if he wished to file an Airprox but the pilot said that he would chat with ATC when on the ground. ATC did not ask whether he (the CZAW pilot) wished to report an Airprox, which gave him the impression that ATC considered the event to have been his fault. As far as he was concerned there was little chance of collision as he was visual with the other ac, which was several hundred feet above him. He suspected that the angle that ATC saw of the event made the ac seem closer than they were.

THE SHOREHAM ADC reports that the SportCruiser went around at approximately 300ft whilst the PA28 was on a crosswind join. The SportCruiser climbed rapidly into conflict with the PA28 whilst making an early L turn, apparently to avoid a fog bank. The PA28 turned sharply R to avoid the SportCruiser. Both ac subsequently landed safely.

Shoreham METAR EGKA 271420Z 15006KT 9999 3500SE VCFG FEW003 18/15 Q1029=

ATSI reports that the Airprox occurred at 1421:50, 0·25nm to the SSW of the Shoreham ARP, within Class G airspace and within the Shoreham ATZ, which consists of a circle, radius 2nm, centred on RW02/20 and extending to 2000ft above the aerodrome elevation (7ft).

The PA28 was operating on a local VFR flight from Shoreham and was in the process of joining the circuit in crosswind position for RW20.

The CZAW SportCruiser was VFR inbound from Baynards Park near Dunsfold and had already joined the cct with 2 other ac ahead, one of which was making an approach to land on RW13.

The Shoreham controller was operating a combined Aerodrome and Approach control position, without the aid of surveillance equipment. Workload was assessed by CAA ATSI as light - medium. RW20 was in use with a LH traffic pattern. The UK AIP page AD 2-EGKA-1-7 (29 Jul 10), para 6, states:

> 'c) Circuit heights are 1100ft aal for all runways.
> d) Variable circuits at discretion of ATC.
> e) Unless otherwise instructed aircraft joining the circuit will overfly the aerodrome maintaining 2000ft aal, until instructed to descend to circuit height on the inactive (dead) side of the runway in use and join the circuit by crossing the upwind end. Pilots should note that there would frequently be helicopters operating both 'liveside' and 'deadside' in the ATZ up to 600ft.'

CAA ATSI had access to RT and area radar recordings, together with written reports from both pilots, the controller and the ATSU investigation report.

At 1414:22 the SportCruiser pilot established contact with Shoreham, reporting 3nm N on QNH 1029, with information 'Mike'. The controller instructed the SportCruiser flight to join O/H at 2000ft, RW20 LH cct. This was acknowledged correctly by the SportCruiser pilot.

Due to sea fog offshore which was approaching the airfield from the S, the controller asked another ac's pilot to relay a message to the PA28 flight suggesting that it would be a good idea to land unless he wanted to divert to Goodwood. At 1415:45, the PA28 pilot responded, *"Thank you that's copied we are inbound we're just at Littlehampton at the moment two thousand feet*."

At 1415:51, the SportCruiser pilot reported O/H and the controller replied, *"(SportCruiser c/s) roger descend deadside report downwind Runway two zero lefthand circuit there are two aircraft ahead of you in the circuit.*" The SportCruiser pilot acknowledged with c/s and at the same time another ac's pilot reported on final.

At 1418:12 the SportCruiser pilot reported late downwind and the controller instructed the flight, *"(SportCruiser c/s) thank you take up a righthand orbit you're number two to a cub in the one three circuit."* The SportCruiser pilot acknowledged with c/s.

At 1418:54, the PA28 flight reported, *"(PA28 c/s) P A twenty eight overhead Worthing Pier at two thousand feet request joining crosswind."* The controller responded, *"(PA28 c/s) join crosswind Runway two zero report established crosswind."* The PA28 pilot acknowledged, *"Report crosswind (PA28 c/s)."*

At 1419:12, the SportCruiser pilot reported on L base and the controller replied, *"(SportCruiser c/s) thank you report final Runway two zero you're number two number one is a cub on a quarter mile final for Runway one three*."

At 1419:57, the SportCruiser pilot called final RW20 and was instructed to continue approach and shortly afterwards was cleared to land, *"(SportCruiser c/s) clear to land Runway 20 surface wind's*

one four zero six." The pilot replied, *"(SportCruiser c/s)."* The the controller repeated, *"(SportCruiser c/s) clear to land Runway 20"* and the SportCruiser pilot responded, *"Clear to land two zero*."

At 1420:51 the radar recording shows the SportCruiser on short final for RW20 and the PA28, 1·6nm W of the airfield approaching crosswind indicating FL009 (converts to an altitude of 1332ft on QNH 1029mb with 1mb equal to 27ft).

The ATSU investigation report indicated that the SportCruiser positioned poorly onto final and was too high, resulting in the go around.

At 1421:33 the radar recording shows the SportCruiser passing the mid-point of the RW. The PA28 is approaching crosswind at FL006 (converts to an altitude of 1032ft) with the SportCruiser in the PA28's 11 o'clock at a range of 0·4nm crossing L to R and indicating 500ft below.

At 1421:42, the SportCruiser pilot reported going around, *"(SportCruiser c/s) going around sorry screwed it up."* The controller acknowledged, *"(SportCruiser c/s) thank you report lefthand downwind Runway two zero there is an aircraft on a crosswind join above you."* The SportCruiser pilot replied, *"(SportCruiser c/s)*". The SportCruiser pilot's written report indicated that he was visual with the PA28 several hundred feet above.

[UKAB Note (1): The sweep at 1421:39 shows the PA28 maintaining FL006 (1032ft QNH) with the SportCruiser in its 11 o'clock range 0·2nm indicating FL002, 400ft below. The next sweep 6sec later at 1421:45 shows the PA28 crossing the upwind end RW20 at FL006 with the SportCruiser having faded from radar. Six seconds later at 1421:51 the radar shows both ac again, the SportCruiser at FL002 (632ft QNH), having made a sharp L turn, and now turning through heading 080° 0·1nm NE of the PA28 which is seen to be turning R and diverging, still maintaining FL006 (1032ft QNH). The CPA occurs between 1421:39 and 1421:51, whilst the SportCruiser has faded, and it is estimated to be <0·1nm H and 400ft or less.]

At 1421:53, the controller called the PA28 flight, *"(PA28 c/s) er Shoreham were you visual with that Sportcruiser that just cut you up.*" The PA28 pilot replied, *"er (PA28 c/s) we are visual.*" The controller responded, *"(PA28 c/s) er thanks that looked quite close erm would would you like to file an Airprox on that."* The PA28 pilot indicated that he would call ATC when on the ground.

At 1422:15 the radar recording shows the SportCruiser turning downwind for a short cct pattern indicating FL004(832ft). The PA28 continues for a normal cct pattern indicating FL007(1132ft). The 2 ac continued in the cct and landed without further incident.

The controller was aware of sea fog approaching from the SE and advised the PA28 pilot, who elected to rejoin. The 1420Z METAR was giving visibility to the SE as 3500m.

The SportCruiser pilot had already joined the cct. The ATSU and controller's written report indicated that the SportCruiser positioned poorly onto final and was too high on the approach, resulting in the go around. The controller passed TI to the SportCruiser pilot on the PA28 joining crosswind. The SportCruiser pilot's written report indicated being visual with the PA28 several hundred feet above.

It was not clear why the SportCruiser turned very quickly so soon after the go around into a very tight low-level cct. The ATSU investigation report suggested that this may have been to avoid the sea fog (base about 200ft). However radar recordings show the PA28 make a normal circuit pattern at 1132ft. The precise geometry and movement of the fog, the base and top of the layer was unknown. The SportCruiser pilot's written report does not mention turning to avoid fog.

The radar recordings show the SportCruiser was indicating 400ft below the PA28. The PA28 pilot's written report indicates 300ft and the SportCruiser pilot's report stated several hundred feet. It is likely that the controller and PA28 pilot were concerned, when the SportCruiser made a tight L turn below the PA28 into a short lower level cct. It was not clear why the SportCruiser pilot carried out this manoeuvre.

The incident is attributed to the SportCruiser going around and making a non-standard manoeuvre below the PA28, which caused the controller and PA28 pilot to be concerned about the safety and proximity of the 2 ac. The controller passed appropriate TI to the SportCruiser pilot, who in his written report indicated that he was visual with the other PA28 above, with little chance of collision.

The following were considered to be contributory factors:

The SportCruiser pilot was considered to have positioned poorly onto final resulting in the approach being too high, resulting in the go around.

The sea fog was likely to have been a factor in the SportCruiser pilot making the unusual early L turn into the cct.

The nature of the unusual turn and manoeuvre into a non-standard cct directly below the PA28 caused the controller and PA28 to be concerned.

CAA SRG FOI (GA) comments that it appears that the PA28 had priority as it was already establishing in the pattern formed by ac intending to land when it joined crosswind with the controller's permission. The SportCruiser's early turn exacerbated the situation; however, it is difficult to judge, from the information available, whether the pilot did so deliberately to position ahead of the joining PA28 in order to position in front of it in the cct or as a manoeuvre to avoid a conflict. Clearly the correct thing for the SportCruiser pilot to have done would have been to climb ahead to cct height or until he was well clear of the upwind end of the RW, altering to starboard if necessary to avoid the PA28, and then to have turned port onto the crosswind leg and fitted into the cct astern of it. We are aware that the performance characteristics of some of the latest Microlights and light sport ac mean that they can climb rapidly to cct height with a much steeper climb angle than earlier GA types and that this has the potential for conflict with ac joining the cct crosswind. We are publishing an article in the next edition of GASIL to address this. Although not entirely convinced that this incident merited an Airprox report, we wonder about the controller's relative attitude and behaviour towards the pilots of the 2 ac. Firstly the SportCruiser had been instructed to orbit late downwind because of an ac making an approach to another RW (13) from that which the SportCruiser was landing on. Whether this had an effect on the SportCruiser pilot's positioning on final approach to land on RW20 we can't judge but as the pilot, from his own admission, "screwed it up" to the extent that he needed to go-around, this cannot be ruled out. Having ac landing on 2 different RWs can make it difficult for pilots who are either inexperienced or unfamiliar with the aerodrome, to position correctly for their landing if they are keeping the other landing traffic in sight. We were also concerned about:-
1. The PA28 requesting and being allowed to join crosswind when the notified procedure in the AIP is to join O/H as the SportCruiser had done (although we acknowledge that the AIP entry does state 'Unless otherwise instructed').
2. The controller's question to the pilot of the PA28, "were you visual with that SportCruiser that just cut you up?" The use of the past tense suggests this message was not necessary and the allocation of blame by the controller to the SportCruiser pilot implicit in this transmission was both inappropriate and unprofessional.
3. A possible presumption that as the PA28 was a training ac operating from Shoreham and was thus a well known 'local' it should be afforded greater priority or consideration than the SportCruiser.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Prior to the Airprox, the controller had instructed the SportCruiser pilot to orbit R when late downwind, owing to a Cub making its approach to RW13. Board Members questioned the wisdom of an orbit on

the downwind leg and particularly a right hand orbit in a left hand circuit. As it was, the SportCruiser had then positioned onto L base and then onto final approach RW20 and was issued landing clearance in good time before the pilot executed a go-around. Members were emphatic that, notwithstanding what subsequently occurred, the SportCruiser pilot was absolutely correct and should be commended for going around from an approach that he was not happy with.

At the time of the Airprox the cct traffic and controller's workload were light and Members considered whether the crosswind join by the PA28 had contributed to the incident. The PA28 pilot had requested it and the ADC judged that it was allowable as it was more expeditious, taking the adjacent fog bank into account. The notified procedure for joining O/H is usually standard practice when the cct becomes busy but joining via base leg, downwind or crosswind does afford the controller flexibility for integrating traffic into the cct expeditiously. Moreover, given the position of the encounter O/H the upwind end of the RW, the PA28 would have been in the same position over the upwind end of the runway at cct height after carrying out an O/H join albeit at a later stage allowing for its passage to the O/H and descent via the deadside. The ATSI Advisor acknowledged that the phraseology used by ADC, when the SportCruiser turned L below the PA28, was inappropriate; however, the controller was reacting to a what he saw from the VCR which he considered were 2 ac coming into close proximity. This aspect and the implied bias towards inviting the PA28 to file an Airprox have been addressed by the ATSU. Up until the Airprox the controller had performed in an entirely professional manner.

When the SportCruiser pilot called going-around the ADC passed TI on the PA28; there was no other requirement of the ADC. It appeared that the controller had an expectation that the SportCruiser pilot would climb straight ahead and adjust his flightpath to pass below the PA28 and then turn L behind it and Members shared this view. It was agreed that the SportCruiser pilot should have integrated better but without any positive instruction by the ADC to position No2 to the PA28, the SportCruiser pilot had positioned himself as he saw fit. Notwithstanding that the PA28 had priority, its crew still had a responsibility to look for ac to their left taking off or going-around. The PA28 instructor did not see the SportCruiser initially but, on hearing its pilot call going around, he turned his ac to the R and then saw the SportCruiser as it passed 300ft below and 300m clear on their L. The SportCruiser pilot had estimated 500ft vertical separation and the radar recording shows 400ft. It was this LH climbing turn that had caused concern to the controller from his viewpoint in the VCR and subsequently to the PA28 pilot and this led to the filing of the Airprox.

Turning to risk, the SportCruiser pilot had seen the joining PA28 and chosen the separation distance whilst manoeuvring his ac, which had quickly made the incident benign. This left the board in no doubt that any risk of collision had been quickly and effectively removed.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The SportCruiser's flightpath caused the controller and PA28 pilot concern.

Degree of Risk: C.