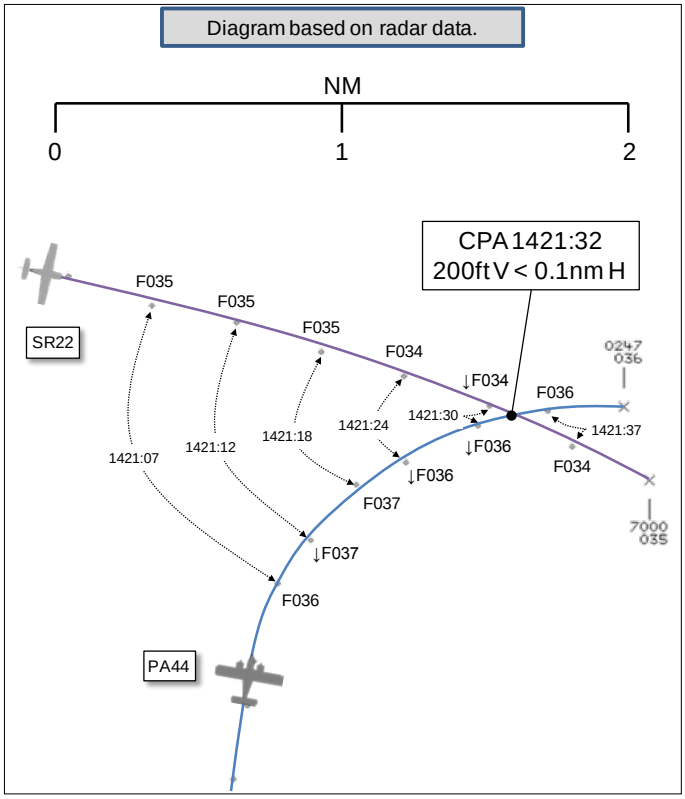
AIRPROX REPORT No 2012076

Date/Time: 9 Jun 2012 1422Z (Saturday)

Position: 5211N 00033W (CIT NDB(L) Hold)

Airspace: London FIR (*Class: G*)

	Reporting Ac	*Reported Ac*
Type:	PA44	SR22
Operator:	Civ Trg	Civ Pte
Alt/FL:	3500ft QNH (1009hPa)	3300ft (NR)
Weather:	VMC CAVOK	VMC CLBC
Visibility:	>10km	>10km
Reported Separation:	100ft V/0nm H	200ft V/0.5nm H
Recorded Separation:	200ft V/< 0.1nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PA44 PILOT reports instructing on an IF training sortie with the 'IFR screens' fitted. He was sitting in the RH seat, with the student in the LH seat, operating under IFR with a PS from Cranfield APP [122.850MHz]. The ac was white in colour with a prominent blue fuselage stripe and with strobes and landing light selected on. The SSR transponder was selected on with a local conspicuity squawk and Modes 3/A, C and S. TCAS was not fitted. When entering the RH base turn for the Cranfield CIT NDB(L) hold, heading 060° at 120kts and level at altitude 3500ft [QNH 1009hPa], he saw a low-wing single engine piston ac appear from below his R engine, which he identified as a Cirrus [the subject SR22]. He did not see the conflicting ac in time to take avoiding action and noted that the other ac did not appear to take avoiding action either. He observed that he could not imagine how the other ac did not see him.

He also expressed the view that far too many ac fly through the Cranfield IAP/holding area without talking to Cranfield. He felt that it was only a matter of time until there was a serious accident.

He assessed the risk of collision as 'High'.

THE SR22 PILOT reports transiting from Coventry Airport to Stapleford Airport, heading 120° at 155kts and altitude 3300ft [altimeter setting reported as London QNH (1011hPa) at 1423], in a white ac with yellow, grey and silver stripes. The wing tip strobes were selected on, as was the SSR transponder with Modes 3/A, C and S. The ac was fitted with TCAS. He was the PIC in the LHS and his 'co-owner and pilot' was in the RHS. In the rear seat was an RAF WW2 aircrew veteran. He was listening out on Sywell Information [122.700MHz] having passed to the S of Sywell. He was about to change to Farnborough Radar [132.800MHz] to obtain a BS for the transit to Stapleford when he noticed a TCAS indication of an ac in their 2 o'clock at about 5nm and at a similar altitude. Shortly thereafter, both he and the co-pilot became visual with a low wing twin-engine ac, wings level on a converging track and in what appeared to be a shallow climb. Although he did not consider the other ac to be on a conflicting course, he descended about 100ft to increase separation in case it changed altitude and/or course. As the twin approached his O/H it commenced a R turn passing above and behind him, levelling out 200-300ft above and in his 7o'clock on a parallel ESE course at a range of between 0.5nm and 1nm. He rocked the ac's wings to indicate he was visual with the twin but saw no reciprocal action. He thought that, given the other ac type and location, it may have been

conducting IF training 'out of Cranfield'. He therefore assumed that the pilot might have been operating with IFR screens fitted, leaving only the instructor/examiner to conduct visual lookout.

He assessed that there was no risk of collision as he was in visual contact with horizontal and vertical separation.

THE CRANFIELD CONTROLLER reports that the subject PA44 was in the base turn of the CIT hold when the pilot reported an Airprox with a Cirrus. He had no Cirrus traffic on frequency and asked the PA44 pilot if the traffic was routing E or W. The pilot responded E. He called the Luton Radar Controller and asked if he had any Cirrus traffic 'that may have just flown through [the CIT] hold'. The Controller passed details of the subject SR22, at that time approximately 5nm E of the CIT beacon and on frequency with Farnborough LARS(N).

ATSI reports that the AIRPROX occurred at 1421:32 UTC, 7.6nm NNE of Cranfield Airport, within Class G airspace, between a Piper PA-44-180 (PA44) and a Cirrus SR-22 (SR22). The PA44 was operating on a local IFR training flight and was returning to Cranfield Airport on transfer from East Midlands, in receipt of a PS from Cranfield APP [122.850MHz]. The SR22 was operating VFR on a flight from Coventry Airport to Stapleford Airport and was not in receipt of an ATS. The SR22 pilot's written statement indicated that he had been listening out on Sywell Information (AFIS) and was changing to Farnborough LARS(N) [132.800MHz]. This frequency change occurred after the AIRPROX.

The Cranfield controller was providing a combined Aerodrome and Approach Control Service without the aid of surveillance equipment. Radar is not available at Cranfield.

CAA ATSI had access to RTF recordings of Cranfield APP and Farnborough LARS(N), area radar recordings, written reports from both pilots and a written report from the Cranfield APP controller.

The weather for Cranfield was reported as follows:
METAR EGTC 091350Z 27016KT 9999 SCT040 16/09 Q1009=
METAR EGTC 091450Z 27010KT 9999 SCT040 16/09 Q1009=

At 1400:51 the PA44 pilot was 14.7nm NE of the CIT and contacted Cranfield APP, reporting inbound to the CIT (NDB) at altitude 5000ft, with an estimated arrival time of 1408. The controller instructed him to descend to altitude 4500ft, and to squawk the Cranfield IFR conspicuity squawk of 0247. This was correctly acknowledged by the PA44 pilot. The PA44 pilot confirmed a training requirement for one hold and an ILS to circling approach to land. The controller reported RW21 in use and passed the 1350 Cranfield weather. The PA44 was to be number two in the traffic sequence following a PA28 already established in the hold at altitude 3500ft.

At 1419:18, the PA44 pilot reported beacon outbound and the controller responded, "[PA44 C/S] *once more round the hold report next time beacon outbound*." Radar recording showed the SR22, 8.1NM NW of the CIT, at an indicated altitude of 3400ft. The PA44 pilot was then instructed to descend to altitude 3500ft.

At 1420:18, the PA44 was shown outbound abeam the CIT(NDB), tracking NE and passing altitude 4000ft in the descent, with the SR22 in the PA44 pilot's 10 o'clock at a range of 3.9nm and tracking ESE.

At 1420:46, radar recording shows the PA44 at altitude 3500ft, approaching the end of the outbound leg in the holding pattern on a NE track. The SR22 was indicating altitude 3400ft, in the PA44 pilot's 10 o'clock position, at a range of 2.4nm and converging.

At 1421:01, the distance between the two ac was 1.4nm and at 1421:13 was 0.8nm with the PA44 at 3500ft and the SR22 at 3400ft. The PA44 pilot then commenced a right turn.

At 1421:24, the distance between the two ac was 0.3nm, with the SR22 indicating 3300ft and the PA44 3500ft. The two ac are shown to maintain their respective levels as they continue to converge, crossing tracks at 1421:32 (CPA). The SR22 pilot continued on a SE track and the PA44 pilot continued in the R turn, passing 0.5nm behind the SR22 as he completed the base turn of the procedure.

At 1422:24, the PA44 pilot reported, "*er* [PA44 C/S] *we're in the base turn to the hold er had a AIRPROX with a Cirrus ????? ?????*." The controller replied, "[PA44 C/S] r*oger I'm not talking to any Cirrus at the moment*." The PA44 pilot responded, "*Roger thanks I hope he's maintaining a listening watch at least*." At 1422:47, the controller made a blind transmission to any Cirrus aircraft on the frequency. The PA44 pilot reported that the Cirrus was eastbound at 3500ft.

At 1423:01, the SR22 contacted Farnborough LARS(N) reporting en-route from Coventry to Stapleford, overhead Sandy at altitude 3500ft on the London QNH 1011.

The PA44 was operating under IFR and in receipt of a PS. The SR22 was unknown traffic, which was not in receipt of an ATS. CAP774 UK Flight Information Services, Chapter 4, Page 5, states:

> A Procedural Service is an ATS where, in addition to the provisions of a Basic Service, the controller provides restrictions, instructions, and approach clearances, which if complied with, shall achieve deconfliction minima against other aircraft participating in the Procedural Service. Neither traffic information nor deconfliction advice can be passed with respect to unknown traffic.

Both aircraft were operating within Class G airspace. CAP774, Chapter 1, Page 1, Paragraph 2, states:

> Within Class F and G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance and terrain clearance, and they should consider service provision to be constrained by the unpredictable nature of this environment…

The AIRPROX occurred when the PA44 pilot became concerned about the close proximity and relative position of the SR22. The Cranfield controller was not aware of the SR22 and was therefore unable to provide traffic information or any deconfliction advice to the PA44 pilot.

In Class G airspace, the pilots are ultimately responsible for collision avoidance and should consider service provision to be constrained by the unpredictable nature of this environment.

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, a report from the air traffic controller involved and reports from the appropriate regulatory and operating authorities.

The Board established that both pilots had an equal and shared responsibility to see and avoid and that the SR22 pilot was required to give way to the PA44 pilot under Rule 9 of the RoA [... the aircraft which has the other on its right shall give way]. Moreover, he was required to avoid passing under or ahead of the PA44 as required by Rule 8 of the RoA [...shall avoid passing over or under the other aircraft, or crossing ahead of it, unless passing well clear of it]. The Board opined that the SR22 pilot did give way, but would have been better advised to give greater vertical and more lateral separation in doing so.

The Board also questioned whether the fitment of IFR screens had impeded the PA44 Instructor's lookout. It was noted that the fitment of IFR screens was mandated by the CAA but not by other EASA member states. The CAA SRG Advisor highlighted the requirements of the RoA, specifically Rule 23 'Simulated Instrument Flight'.

> ‘An aircraft shall not be flown in simulated instrument flight conditions unless ... if the safety pilot’s field of vision is not adequate, both forwards and to each side of the aircraft, a third person, who is a competent observer, occupies a position in the aircraft from which his field of vision makes good the deficiencies in that of the safety pilot, and from which he can readily communicate with the safety pilot.’

He also stated that work was ongoing to investigate alternative means of safely achieving simulated instrument flight.

Finally, The Board noted that the fitment of TCAS in the SR22 and the use of an SSR transponder by the PA44 pilot enabled the SR22 crew to obtain a visual sighting in sufficient time to enable the SR22 pilot to take avoiding action. The SR22 pilot’s early sighting of the PA44 ensured there was no risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict resolved by the SR22 pilot.

Degree of Risk: C.