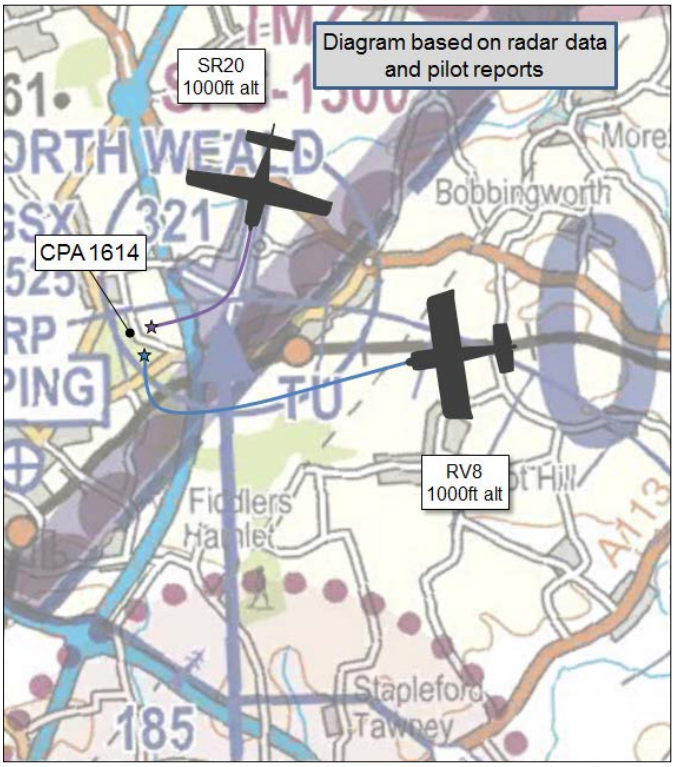
AIRPROX REPORT No 2017020

Date: 19 Feb 2017 Time: 1614Z Position: 5143N 00008E Location: North Weald

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	RV8	SR20
Operator	Civ Pte	Civ Pte
Airspace	North Weald	North Weald
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	North Weald	North Weald
Altitude/FL	1000ft	1000ft
Transponder	A, C	A, C, S
Reported		
Colours	Yellow, Blue	White, Black, Silver
Lighting	Strobes	Strobes, Landing, Nav
Conditions	VMC	VMC
Visibility	10km	>10km
Altitude/FL	800ft	1100ft
Altimeter	QFE (1009hPa)	QNH (1021hPa)
Heading	020°	020°
Speed	120kt	100kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	Information
Separation		
Reported	0ft V/10m H	0ft V/400m H
Recorded	NK V/ ~0.2nm H	



THE RV8 PILOT reports that he was returning to North Weald, he called cross-wind and was advised that there were 2 aircraft in the circuit, one climbing out and a Cirrus behind. He turned downwind at 800ft, reduced power and saw the Cirrus climbing through the downwind leg. At the same time, the AGO asked whether he was visual with the Cirrus, to which he replied he was. He rolled right as the aircraft climbed through his track. He believed that the Cirrus had cut the corner of the circuit so that he didn't catch up the one ahead and had climbed through the downwind leg. The Cirrus pilot then remained on the port side before doing an orbit for separation. The RV8 pilot remarked over the RT that he thought that was dangerous and went on to land from his circuit. After landing he spoke to the Cirrus pilot and his instructor, asked for their names (which the instructor refused to give) and they both said they had not seen him until they were on his port side.

He assessed the risk of collision as 'High'.

THE SR20 PILOT reports he had joined the circuit downwind at North Weald, and planned a normal approach to roll into another circuit for a flapless approach. As they turned finals with the runway clear, they heard an aircraft call 'joining crosswind over the numbers', a Cessna then called departing RW20, the SR20 pilot then called finals for a touch and go. He already knew he would not now get the approach in, and shortly afterwards, at about 300ft, he executed the missed approach procedure, making an RT call and following the checklist. The Cessna was climbing ahead, drifting west, but the tower informed him that the 'Cessna was departing to the east if it helps'. Concerned that they were catching up the Cessna and that he would shortly turn across their path, they had a brief discussion in the cockpit and decided to make an early right turn downwind, making a radio call to announce their intentions as he did so. There were several traffic alerts on his Skywatch system, but this is normal for North Weald, due to transmitters being left on whilst on the ground. He didn't receive a red

TA at all, only a yellow caution. On turning downwind the RV8 was now in their 2 o'clock, they were on a parallel track only 400m away and catching up, even with only 50% flap selected. They elected to carry out an orbit late downwind because they felt this was the safest course of action; extending the downwind leg was not an option due to the Stansted Airspace and the RV8 was ahead, and the Cessna behind had turned east. There was then an exchange of words by the RV8 pilot, who gave his opinion that an orbit late downwind was dangerous and expressed his displeasure at their actions, he asked for the name of the pilot, which was given, and continued to speak over the RT. Happy that they were completing the correct course of action, they maintained RT discipline, and the orbit, and the examination continued without incident. After landing, whilst conducting shut-down checks, the RV8 pilot made his presence known by parking his van off the LH wing of the aircraft and stood at the wing roots of the aircraft. He was obviously agitated and aggressive, and started swearing at them, even though they remained calm and tried to have a normal conversation with him.

He assessed the risk of collision as 'Low'.

THE INSTRUCTOR IN THE SR20 also submitted a report, he noted that an early right turn was initiated to ensure adequate separation from a Cessna that had departed ahead; the airspace was confirmed clear before the turn and the intentions transmitted to North Weald A/G. They positioned early downwind, and had a good mental model of the circuit traffic; the joining traffic had called passing the RW02 threshold about 2 minutes earlier. The crew discussed the circuit traffic and both acknowledged that there was joining circuit traffic to be aware of. During the downwind leg, he acquired the traffic visually and confirmed there was adequate spacing. The on-board TAS then issued a TA, which both pilots acknowledged because it had already been visually acquired. The handling pilot then reduced speed to give way to the RV8 on the right. Extending the downwind leg was not possible due to the Stansted CTZ and a brief discussion between the pilots confirmed an orbit as the safest course of action. In his opinion there was no risk of collision.

Factual Background

The weather at Stansted was recorded as follows:

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METAR EGSS 191550Z AUTO 27007KT 9999 SCT019 OVC030 11/07 Q1021=
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Analysis and Investigation

CAA ATSI

Note: there is currently no requirement for an air/ground unit to record R/T, but North Weald have elected to do so. However at the time of this incident the system was voice activated and the time code was unverified. ATSI have attempted to align the R/T with the area radar recording. All references to time in this report are therefore estimated.

ATSI visited the airfield and the incident was reviewed with the A/G operators on duty at the time, together with their supervisor.

The RV8 pilot was rejoining from the east of the airfield, positioning for a crosswind join for Runway 20, having been advised by the North Weald Air/Ground (A/G) operator that the circuit was right hand*. (Note: an overhead join is not available at North Weald due to the proximity of Stansted CTA above (base 1500ft)).*

The SR20 pilot had previously rejoined from the west with the intention of completing a couple of circuits, and had already completed the first circuit. Also in the circuit was a C172.

At 1613:01, the C172 pilot reported on final. The A/G operator advised the pilot that there was nothing to affect them and passed the surface wind (Figure 1).

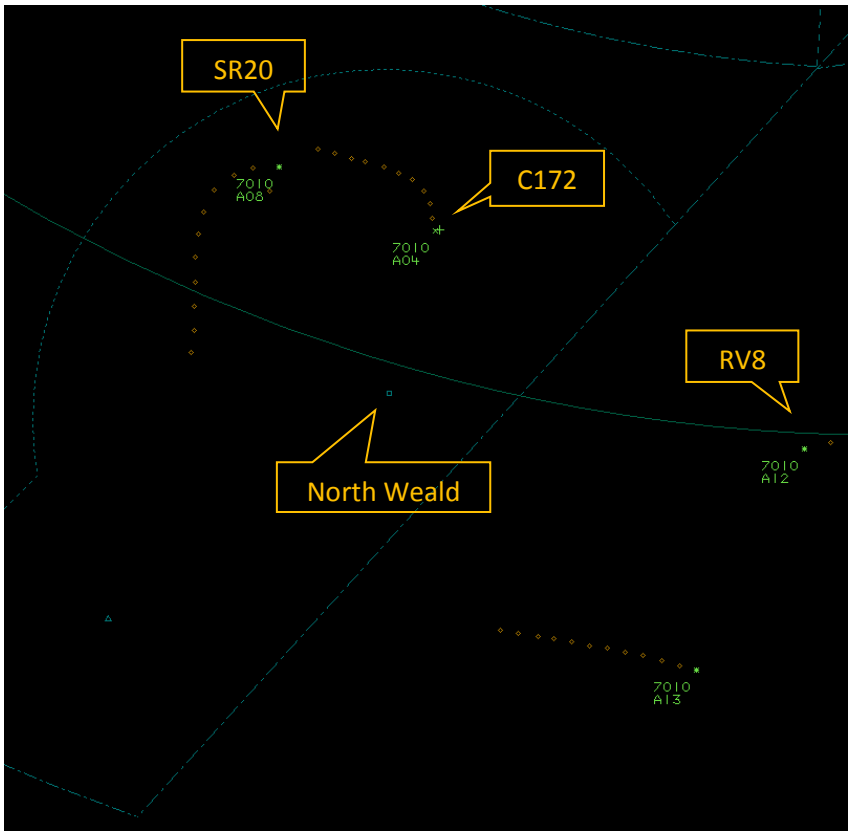


Figure 1 – 1613:01

At 1613:45 the RV8 pilot reported approaching the cross-wind position and was advised by the A/G operator that there was a Cirrus and a C172 in the circuit. (Figure 2 – *note C172 below radar cover whilst completing a touch and go*).

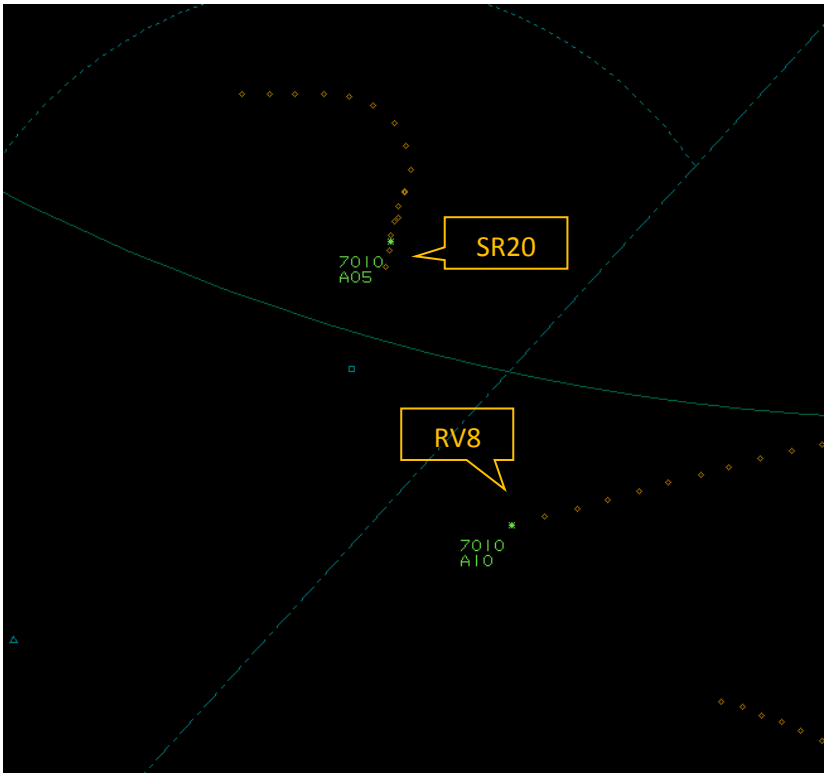


Figure 2 – 1613:45

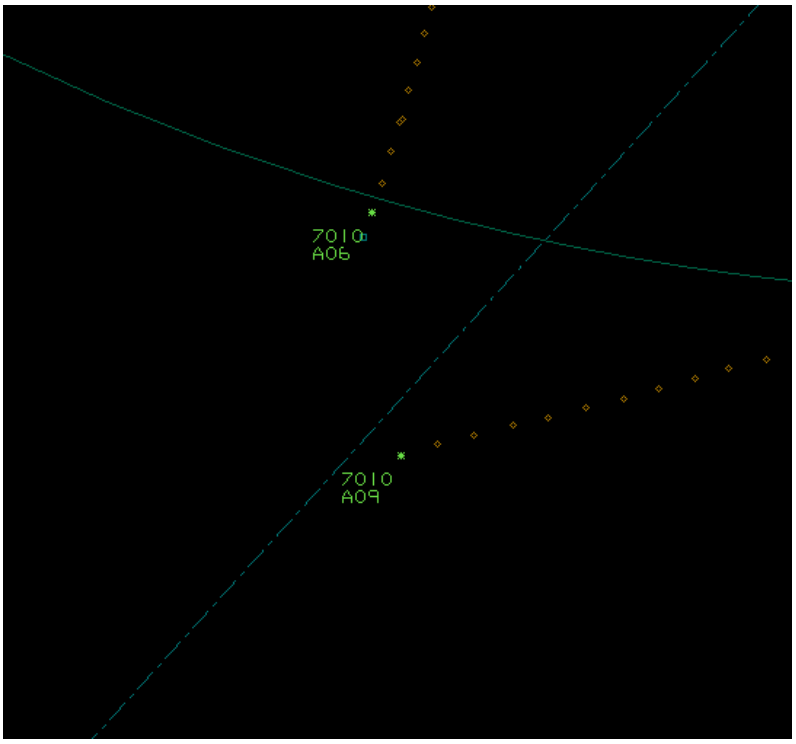


Figure 3 – 1614:02

Immediately afterwards, at 1614:10**,** the A/G operator asked the RV8 pilot for his range from the airfield. The RV8 pilot reported crossing over the RW02 threshold. (Figure 4 – *note reappearance of C172*).

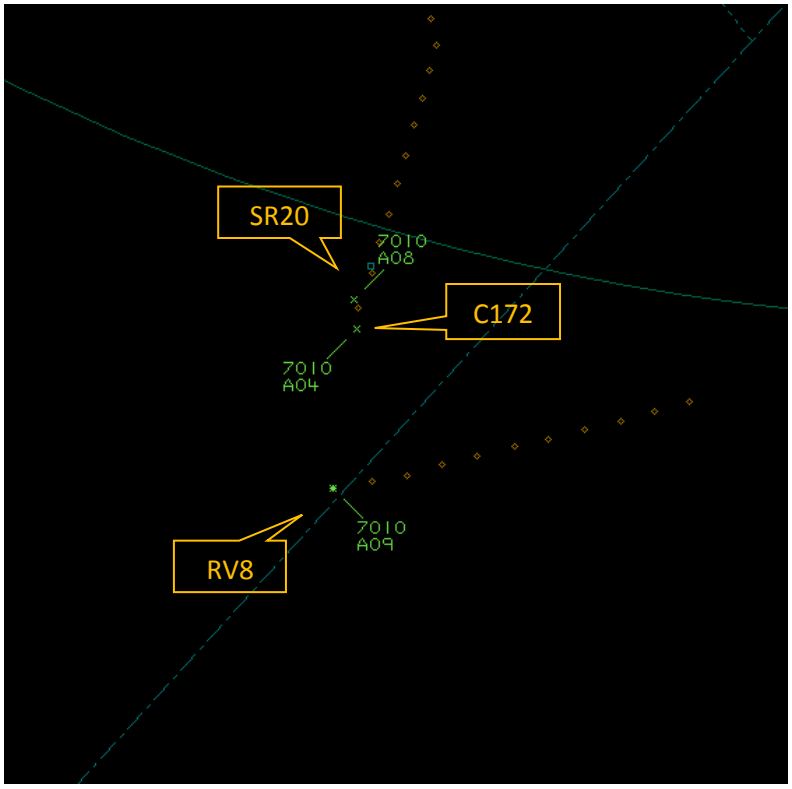


Figure 4 – 1614:10

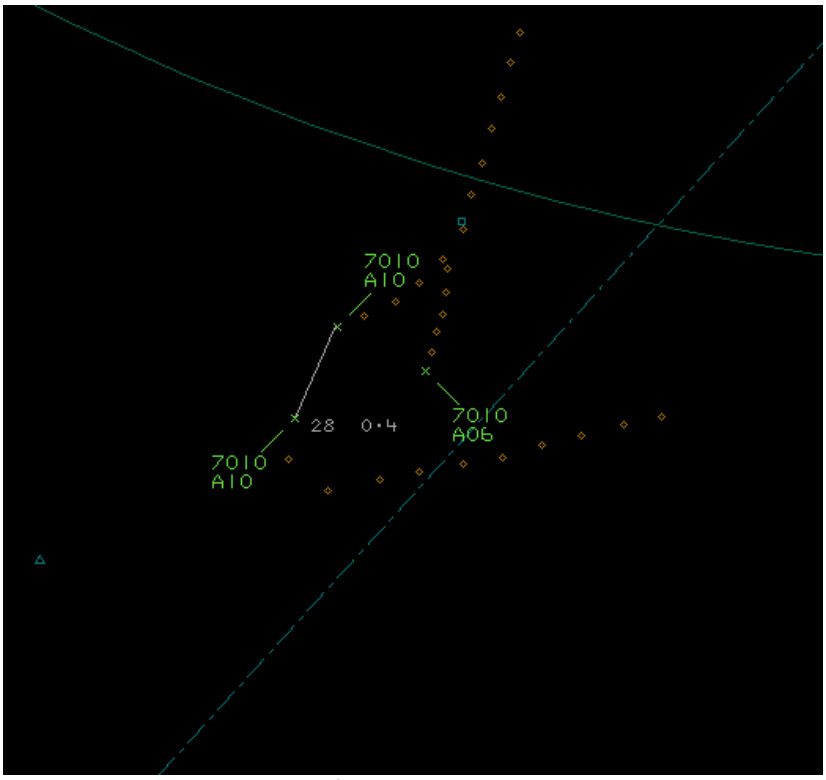


Figure 5 – 1614:26

CPA was estimated to take place shortly after 1614:26 (Figure 5), the radar contact from the RV8 having subsequently disappeared.

The A/G operator commented that on a previous circuit, with a C152 airborne ahead of, and being overhauled by the SR20, the SR20 pilot was offered the opportunity to make an early right turn which was accepted. On this subsequent circuit, with the SR20 having caught up with the C172 also in the circuit, the A/G operator thought that the SR20 pilot made the early right turn again to get ahead of the C172, having utilised the manoeuvre previously. *(Note – there is no "dead-side" for aircraft going around, aircraft may, subject to other traffic and obstacles on the ground, go around either to the left or to the right of the runway. Local airfield information prescribes the maintaining of runway heading).*

The traffic situation at 1614:10 (Figure 4) was discussed, and it was the expectation of the A/G operator that with the RV8 pilot having reported crosswind with the C172 on a touch and go, and with the SR20 going around behind the C172, that the RV8 was No 1, the C172 No 2 and the SR20 No 3 in the next circuit. On the NATS radar the RV8 subsequently reappeared inside of the SR20 at the end of the downwind leg, with the SR20 pilot commencing a left-hand orbit to position behind the RV8, and the C172 crosswind, yet to turn downwind.

CAP452 – Aeronautical Radio Station Operator's Guide states:

> *Air Ground Communications Service (AGCS) is a service provided to pilots at specific UK at aerodromes. However, it is not viewed by the UK as an Air Traffic Service because it does not include an alerting service as part of its content.*
>
> *AGCS radio station operators provide traffic and weather information to pilots operating on and in the vicinity of the aerodrome. Such traffic information is based primarily on reports made by other pilots. Information provided by an AGCS radio station operator may be used to assist a pilot in making a decision; however, the safe conduct of the flight remains the pilot's responsibility.*

UKAB Secretariat

The RV8 and SR20 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[1]. 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[2].

Summary

An Airprox was reported when an RV8 and a SR20 flew into proximity at 1614 on Sunday 19th February 2017. Both pilots were operating under VFR in VMC, both were in the North Weald visual circuit and in receipt of an AGCS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC authorities.

The Board first looked at the actions of aircraft two, the SR20 pilot. He had gone around from his approach and was therefore faster and higher than he would have been where he just getting airborne. This meant that he was catching up the C172 ahead and he could either fly past it or turn early downwind. Board members familiar with North Weald explained that it was situated in a very constrained piece of airspace, surrounded by Stansted's CTA. This meant that there was no option to climb into the overhead. The Board therefore agreed that, with so few options, it was perfectly acceptable for him to turn downwind early noting the position of the other aircraft. The pilot said that he knew the RV8 was joining because he had heard the pilot call crossing the threshold, and the Board thought he probably expected it to be ahead of him. Once he had turned downwind the RV8 was closer than he expected, but he was visual with it, and he therefore elected to conduct a downwind orbit. Again, the Board thought this was a perfectly acceptable manoeuvre.

Turning to the RV8 pilot, he had called to join the circuit, and expected to be ahead of the SR20 going around. However, he was clearly surprised when the SR20 turned downwind early just as he also was positioning downwind. Some members wondered whether he had made the call that he was over the runway threshold a bit early because his positioning didn't seem to fit with the radar picture and where the SR20 was at the time. If he had called before he was actually over the runway threshold, this would explain why the SR20 pilot thought he would be well behind it when he also turned downwind. However, noting that the North Weald RT timings were not accurate, it was impossible to know this for sure. Given that the radar recordings showed 0.2nm separation as they crossed (approximately 370m), the Board wondered whether, in his surprise at seeing the SR20 turn early, the RV8 pilot may have assessed it as being closer than it actually was.

The Board briefly discussed the actions of the Air-to-Ground operator and cautioned AGOs against operating like ATCOs by allocating sequencing within the circuit, or offering early turns; aside from licensing issues, it could cause confusion for pilots who believe they are being given ATC instructions that they must follow, rather than purely advice.

In discussing the cause and risk of the Airprox, the Board quickly agreed that the SR20 pilot had acted appropriately but that the RV8 pilot had been concerned by the proximity of the SR20 as it unexpectedly turned downwind. Noting the separation achieved and the fact that the SR20 pilot was aware of the RV8's location and then visual with it once downwind, some members thought that this incident represented normal procedures and safety parameters. Others opined that there was some element of reduced safety given that circumstances had dictated that the SR20 had had to effectively turn ahead of the RV8 and then orbit downwind. After much debate, the latter view prevailed in that

[1] SERA.3205 Proximity.
[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

this was not quite normal procedure and so the risk was assessed as Category C; safety had been degraded, but there was no risk of collision.

Finally, the Board wished to warn pilots against challenging others over the RT for a number of reasons. To do so is not only unprofessional but could easily distract or unsettle the other pilot, especially if they were a low-hours or inexperienced pilot. Furthermore, prolonged discussions or transmissions could block important transmissions from other pilots and should therefore be avoided for that reason too.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The RV8 pilot was concerned by the proximity of the SR20.

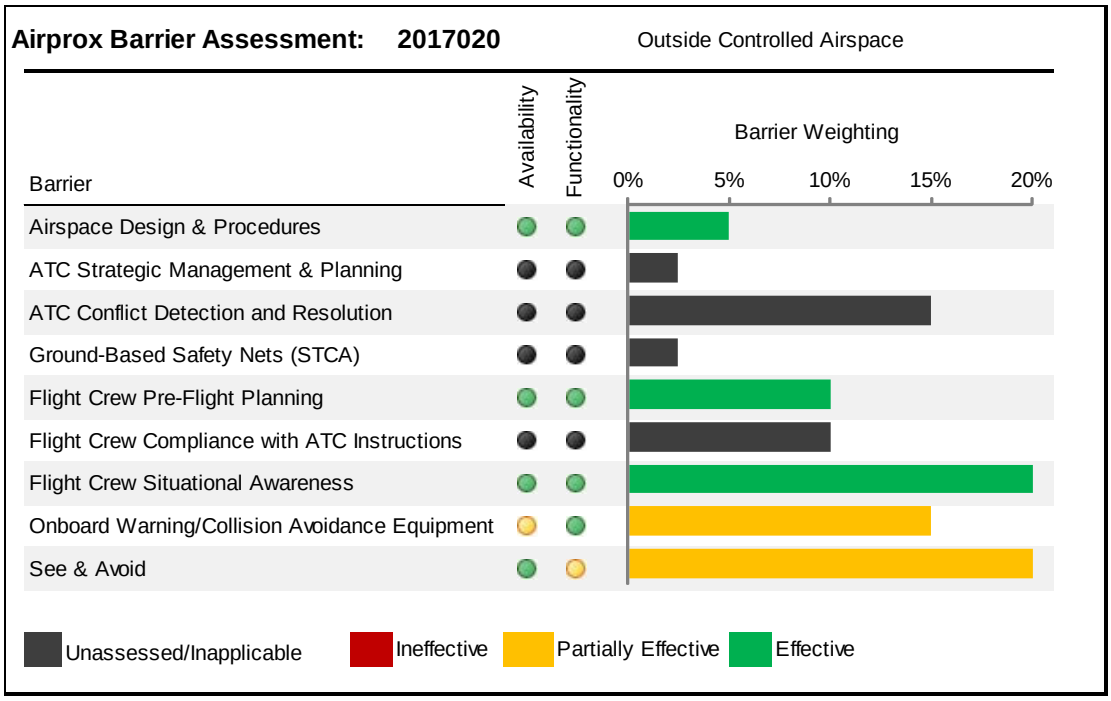
Degree of Risk: C.

Safety Barrier Assessment[3]:

The Board decided that the following key safety barriers were contributory in this Airprox:

Onboard Warning Collision Avoidance Equipment was **partially effective** because although the SR20 had TCAS and received some indications, the RV8 did not have one fitted.

See and Avoid was **partially effective** because the RV8 pilot was visual with the SR20 as it turned downwind and, although the SR20 pilot saw the RV8 pilot only once he was downwind, he made his turn with awareness of the RV8's location and was able to avoid it by making a subsequent orbit.



[3] Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace). The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessable/Inapplicable). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident. The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.