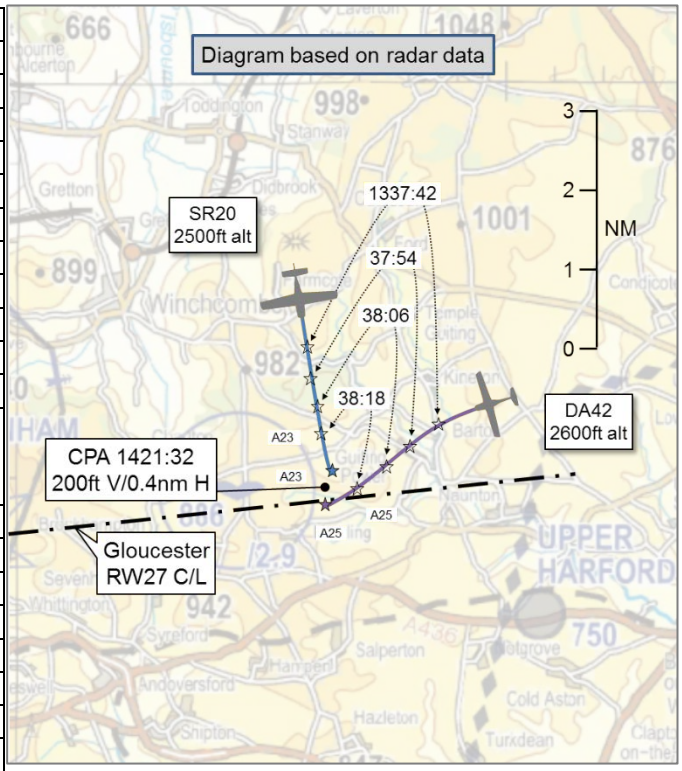
AIRPROX REPORT No 2018229

Date: 20 Aug 2018 Time: 1338Z Position: 5155N 00153W Location: 11nm E Gloucester airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	SR20	DA42
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Procedural	None[1]
Provider	Gloster	(Gloster)
Altitude/FL	FL21	FL23
Transponder	A,C,S	A,C,S
Reported		
Colours	NK	White
Lighting	NK	Strobes, nav, landing, taxi, position
Conditions	VMC	VMC
Visibility	NK	10km
Altitude/FL	2500ft	2000ft
Altimeter	QNH	QNH
Heading	NK	270°
Speed	NK	120kt
ACAS/TAS	TAS	TAS
Alert	Information	'TA'
Separation		
Reported	400ft V/200m H	NK V/1nm H
Recorded	200ft V/0.4nm H	



THE CIRRUS SR20 PILOT reports that they were conducting an instrument training flight at Gloucestershire airport. They were making a GNSS approach to RW27 and were on the inbound leg from LAPKU to NIRMO at 2500ft (Gloucester QNH). A potential confliction was noted on the Traffic Information System approaching NIRMO from the east showing 100ft above their level. They were in VMC with good ground contact. They discussed their avoidance options should the conflicting aircraft not give way. The conflicting aircraft remained on a constant bearing (their 11 o'clock). They gained visual contact with the aircraft, a DA42, approximately 100ft above and on a constant bearing still in their 11 o'clock. The pilot of the conflicting aircraft made contact with Gloster Approach 1nm east of NIRMO at 2500ft requesting joining instructions and Gloster Approach advised the DA42 pilot of the instrument training aircraft approaching NIRMO (their SR20). By now they had already begun avoiding action, a descending left-turn to pass behind and below the conflicting aircraft. Gloster Approach gave Traffic Information to them regarding the inbound DA42. They passed 400ft below and approximately 200m behind the DA42. Once clear of the DA42, they resumed their navigation to NIRMO to continue the GNSS approach. The DA42 pilot cleared the RW27 final approach track area to the northwest.

THE DIAMOND DA42 PILOT reports that because he thought the SR20 pilot stated that he would not be filing an Airprox report he did not write details of the event when it was fresh in his mind. Accordingly, he thought his report might lack some accuracy. Following a general handling exercise between Moreton-in-the-Marsh and the GST beacon (under a Traffic Service from Brize Radar), they positioned for a straight-in and requested to change to Gloster Approach's frequency. They managed to get their first call in a little later than they had wished due to the high volume of calls on a combined frequency (Tower and Approach). The TAS warned them of traffic in their 3 o'clock, which they saw clearly about

[1] The DA42 pilot was in the process of obtaining a FIS with Gloster Approach but no service had been agreed at the time of the Airprox.

1-2nm in front. They initiated a small climb and the SR20 pilot started a left turn. Since the event he has learnt that Gloster does not obtain pre-notification from Brize LARS. Consequently, he has now revised his SOPs to ensure that his first call to Gloster was carried out by 15nm.

He assessed the risk of collision as 'Low'.

THE GLOUCESTERSHIRE APPROACH CONTROLLER reports that the SR20 was carrying out an RNAV instrument approach to RW27. The pilot was operating under IFR in receipt of a Procedural Service. He had been cleared for the approach and reported at IAF LAPKU. The aircraft was at 2500ft (QNH 1019hPa), the published altitude for the approach. The next reporting point was at IAF/IF NIRMO, 10nm east of Gloucestershire airport. At 1338 the DA42 pilot, who was on a local VFR flight, reported 11nm east of the airport at 2500ft, requesting a straight-in approach to RW27. The DA42 pilot was not under a service, having left the frequency at 1257. He advised the DA42 pilot that the instrument approach for RW27 was active. He passed Traffic Information to the SR20 pilot on the DA42. The SR20's instructor acknowledged this and advised that he had just taken avoiding action and was re-establishing at NIRMO. He asked the pilot if he wished to file an Airprox and he stated that he would advise after the flight (which he did). The SR20 continued with the instrument approach and the DA42 pilot was given a straight-in approach behind the SR20

Factual Background

The weather at Gloucestershire was recorded as follows:

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1320Z 24007KT 9999 FEW014 SCT020 BKN040 23/18 Q1019=
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Analysis and Investigation

CAA ATSI

The SR20 had been conducting multiple Instrument Approaches at Gloucester and was carrying out an RNAV Approach to RW27, in receipt of a Procedural Service from Gloucester ATC at the time of the Airprox. The DA42 was on a local VFR flight from Gloucester, was returning to the airfield and had just made initial R/T contact with the controller when the Airprox occurred but had not yet been placed under a service. The Gloucester controller was providing a combined Aerodrome and Approach Procedural Service at the time of the Airprox, and the R/T was continuous throughout the period leading up to the Airprox.

At 1329:50, the SR20 had gone around from an Instrument Approach to RW27, the pilot was instructed to resume own navigation for LAPKU and a Procedural Service was agreed.

At 1334:40, the SR20 pilot was advised that there would be no delay for the RNAV Approach RW27 and was instructed to report 5nm to run to LAPKU. The pilot advised that they were currently 5.3nm from LAPKU. The pilot was then cleared for the RNAV Approach and instructed to report passing LAPKU.

At 1336:50, the SR20 pilot reported turning at LAPKU and was instructed to report at NIRMO.

At 1337:50, the DA42 pilot made initial contact with the controller and advised that they were returning to the Airfield at 2500ft on QNH1019hPa and requested a straight in approach to RW27. The controller requested a range check and the pilot responded with 11nm (Figure 1).

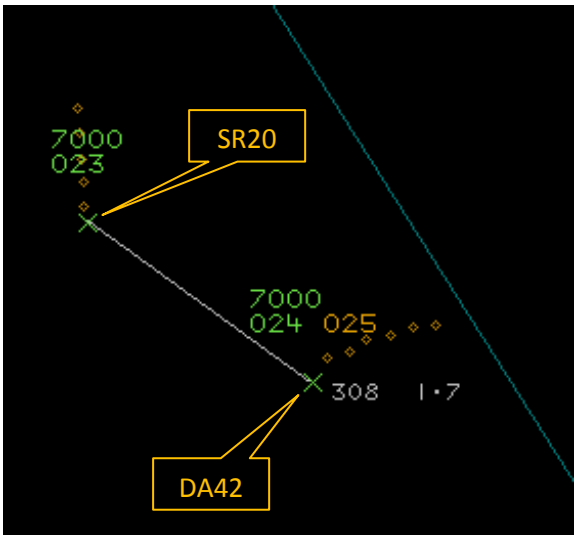

Figure 1 - 1337:50.

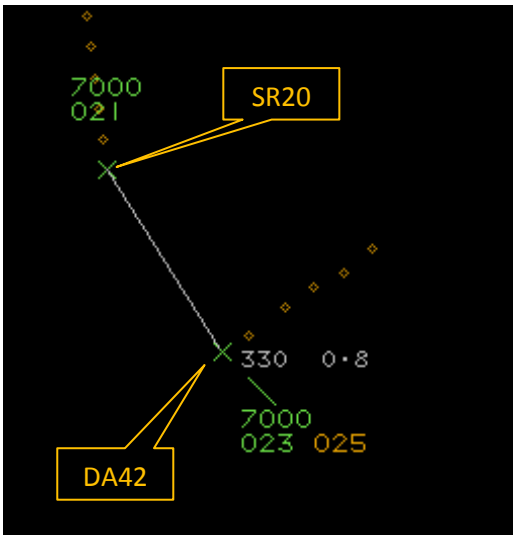

Figure 2 - 1338:20.

At 1338:20 (Figure 2), the controller instructed the DA42 pilot to take up delaying action to the east of the airfield and explained that the Instrument Approach was active with an SR20 routing from the northeast to turn at NIRMO, 10nm east of the airfield. The pilot responded, but the R/T was not clear enough to determine whether the pilot said that they had the field or the traffic in sight.

At 1338:30, CPA occurred with the aircraft separated by 0.4nm laterally and 200ft vertically (Figure 3). The controller passed Traffic Information to the SR20 pilot advising that the traffic was a DA42 aircraft, 11nm east of the airfield. The pilot did not initially respond. The controller then asked if the pilot had copied the traffic and the pilot responded that they had just taken avoiding action and were just turning back on track for NIRMO. The pilot was instructed to report at the Final Approach Fix and asked if they would like to file an Airprox. The pilot responded with probably not but that they would think about it and talk to the controller later (Figure 3).

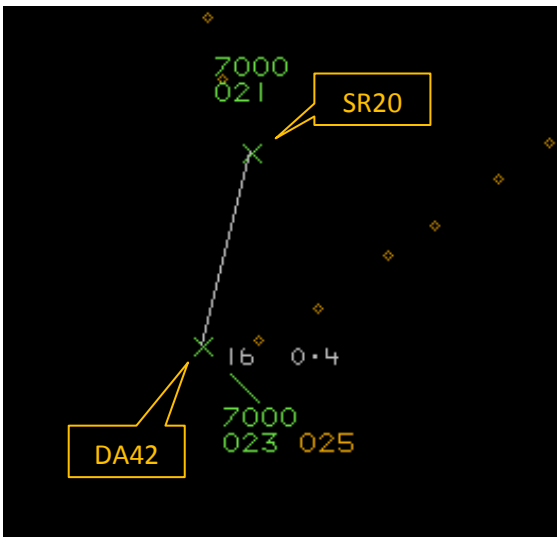

Figure 3 CPA - 1338:30.

CAP 493 Section 1 Chapter 12 Procedural Service states:

Definition

'Procedural Service is an ATS where, in addition to the provisions of Basic Service, the controller provides restrictions, instructions, and approach clearances, which if complied with, will 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.'

Traffic Information

'The controller shall provide traffic information, if it is considered that a confliction may exist, on other known traffic; however, there is no requirement for deconfliction advice to be passed, and the pilot remains responsible for collision avoidance.' Within Class G Airspace, under a Procedural Service, Pilots remain responsible for their own collision avoidance. However, controllers are responsible for assisting pilots to meet this responsibility by providing pilots with traffic information on known traffic.'

The DA42 only became known traffic to the controller when the pilot made initial R/T contact. As soon as the controller was aware of the presence of the DA42, Traffic Information was passed to the pilots of both aircraft. The Gloucester controller discharged their responsibilities in the provision of a Procedural Service to the pilot of the SR20 and issued a warning of the presence of the SR20 to the pilot of the DA42 who had not yet been placed under a service.

UKAB Secretariat

The SR20 and DA42 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard. Because the incident geometry is considered as converging then the DA42 pilot was required to give way to the SR20[2].

The Gloster ATSU Report states that the SATCO met with the DA42 pilot to discuss the Airprox. He was advised that if he was approaching from the east it was advisable to make as early a call as possible (preferably 10 mins) or if that was not possible to arrange his flight to avoid the FAT for any runway. Due to the lack of radar there was nothing the controller could do to prevent the Airprox. Traffic Information was passed to both pilots when he became aware of the confliction.

Summary

An Airprox was reported when an SR20 and a DA42 flew into proximity on the approach to Gloucester Airport at 1338hrs on Monday 20th August 2018. The SR20 pilot was operating under IFR in VMC, the DA42 pilot was operating under VFR in VMC. The SR20 pilot was in receipt of a Procedural Service from Gloster, and the DA42 pilot was in contact with but not yet under a service with Gloster.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, the controller concerned, area radar and RTF recordings and reports from the appropriate ATC and operating authorities.

The Board first considered the actions of the DA42 pilot. After departure he had left the Gloster frequency about 40mins before the Airprox occurred to operate with Brize Radar. On his return to the airport he had then positioned for a straight-in approach to RW27 and had experienced high volumes of traffic on the frequency, which he said had delayed him obtaining two-way communication with ATC. Given that he had yet to establish contact with Gloucester ATC, the Board considered that it had been unwise for the pilot to have positioned for a straight-in approach at 10nm, not only because it conflicted with the instrument approach to the runway but also because the high volume of calls on the frequency should have indicated to the pilot that the traffic situation was obviously busy. Moreover, even if he was not used to operating from Gloucestershire airport, the DA42 pilot should have realised that there was a published instrument approach to RW27, with the cone/feathers symbol on the aeronautical charts indicating its presence. The UK AIP[3] states that: *'portrayal on these charts is provided in order to assist pilots of VFR flights to avoid confliction with IFR traffic at these aerodromes. Pilots are urged to take this information into account in their pre-flight planning.'* Additionally, it states[4]: *'An aircraft approaching an aerodrome under VFR where an Approach Control Service is available should make initial RTF contact when 15nm or five minutes flying time from the Aerodrome Traffic Zone boundary, whichever is the greater.'* The fact that the DA42 pilot did not call for re-join sufficiently early was considered to be

[2] SERA.3210 Right-of-way (c)(2) Converging.
[3] ENR 1.5-4, Paragraph 6. Protection of Instrument Approach Procedures at Aerodromes outside Controlled Airspace.
[4] GEN 3.3-5 Paragraph 3.7.4. Procedures for Arriving VFR Flights.

a contributory factor to the Airprox. Notwithstanding, the Board was heartened to hear that the DA42 pilot had revised his SOPs to ensure that his first call to Gloster would be carried out by 15nm.

The Board was surprised that the DA42 pilot had believed that Brize LARS would pre-note his arrival to Gloucester ATC; although this might happen depending on controller workload, it was not a requirement when freecalling. For his part, the Gloster controller was not using any surveillance equipment and so would not have been aware of the DA42's position until the pilot contacted him for re-join. Given the circumstances with which he was presented, the Board considered that the controller had reacted commendably quickly to the information, advising both pilots of each other and ensuring that the DA42 pilot was given Traffic Information on the SR20 instrument traffic despite not yet having had time to establish a service with the DA42 pilot.

Meanwhile, before the DA42 had called Gloster, the SR20 pilot had been cleared for an instrument approach to RW27. The pilot reported that whilst approaching NIRMO, 10nm east of the airport, they had seen a potential confliction on TAS approaching from the east showing 100ft above their level and they had discussed their avoidance options should the conflicting traffic not give way as was required under the Rules of the Air. They continued to monitor the progress of the traffic (the DA42) which had remained on a constant bearing until they obtained visual contact, when they then made a descending left-turn to pass behind and below the conflicting aircraft. The Board agreed that the SR20 pilot had acted commendably in maintaining his track[5] whilst both continuing to monitor the progress of the DA42 and formulating defensive options for collision avoidance.

Turning to the cause and risk, the Board noted that the DA42 pilot reported that he had received a TA from his TAS showing traffic about 1-2nm ahead, which he had seen visually and had made a small climb whilst the SR20 was making a left turn. For his part, the SR20 pilot took timely and appropriate action to avoid the DA42, which the SR20 pilot believed had taken no action to avoid them. Ultimately, and noting that it was his responsibility to giver way, the Board considered that the DA42 pilot could have done more to widen the distance between the aircraft. Consequently, the Board agreed that the cause of the Airprox was that the DA42 pilot had flown into conflict with the SR20. As to the risk, the Board noted that both pilots had the other aircraft in sight, and had, to a greater or lesser extent, taken avoiding action that had resulted in a separation of 200ft vertically and 0.4nm horizontally. Accordingly, although it was considered that safety had been degraded, it was agreed that there had been no risk of collision; Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The DA42 pilot flew into conflict with the SR20.

Degree of Risk: C.

Contributory factor: The DA42 pilot did not call for re-join sufficiently early.

Safety Barrier Assessment[6]

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

Flight Crew:

Tactical Planning was assessed as **partially effective** because the DA42 pilot had not only been late in contacting with Gloster but had then continued towards the instrument approach path.

[5] SERA.3210 Right of Way states that: *'The aircraft that has the right-of-way shall maintain its heading and speed'.*
[6] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.

Situational Awareness and Action were assessed as **partially effective** because, although the DA42 pilot had received a warning from his TAS of the presence of the SR20 at 1-2nm ahead, he did not act sufficiently on this information to avoid the aircraft by a more suitable margin.