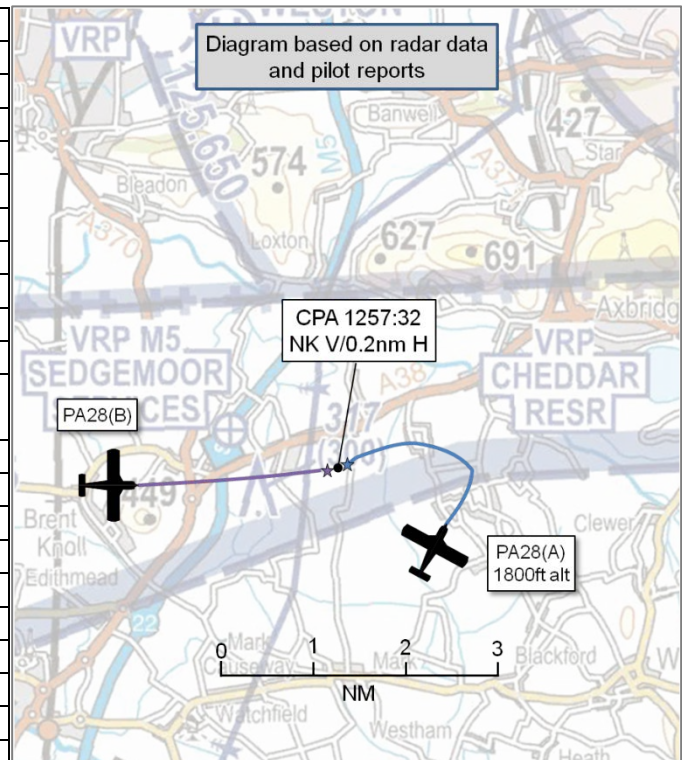


AIRPROX REPORT No 2016241

Date: 13 Nov 2016 Time: 1258Z Position: 5116N 00253W Location: ivo Cheddar Reservoir VRP

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28(A)	PA28(B)
Operator	Civ Pte	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Aerodrome	Basic
Provider	Bristol Tower	Bristol Radar
Altitude/FL	1800ft	NK
Transponder	On/C, S	A, no Mode C
Reported		
Colours	White, Red, Orange, Brown	White, Red
Lighting	Strobe	Beacon, Nav
Conditions	NK	VMC
Visibility	Not reported	>10km
Altitude/FL	1900ft	1500ft
Altimeter	QNH (1029hPa)	QNH (1029hPa)
Heading	250°	NK
Speed	120kt	95kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	NK V/70m H	Not seen
Recorded	NK V/0.2nm H	



THE PA28(A) PILOT reports that she was returning to Bristol and was told by Bristol Radar to report 3nm to the [Cheddar Reservoir] VRP. Upon reporting she was transferred to Bristol Tower who instructed her to hold outside the zone; she was approximately half a mile from the VRP by this time. She commenced a left-hand orbit and after turning through 120°, saw very close opposite direction traffic. She took immediate avoiding action, a steep turn to the right. As she passed within around 70m of the opposing aircraft it also turned right. She then informed ATC of the occurrence and her position, and then received joining instructions. She considers one contributory factor may be holding outside controlled airspace having already been transferred to the tower frequency; assuming that the other aircraft was on radar/LARS, when holding outside controlled airspace but talking to the tower you do not have the situational awareness provided by listening to other aircraft. She has often thought that it would be much safer to be held just inside the zone, providing separation etc. permits.

She assessed the risk of collision as 'High'.

THE PA28(B) PILOT reports that he did not see the other aircraft.

BRISTOL ATC did not submit controller reports to the UKAB.

Factual Background

The weather at Bristol was recorded as follows:

METAR EGGD 131250Z AUTO 32009KT 9999 NCD 11/05 Q1029

Analysis and Investigation

CAA ATSI

ATSI had access to reports from the pilots of both PA28s, the area radar recordings and R/T from both Bristol Tower and Bristol Radar. At the time this report was prepared, no report had been received from Bristol ATC. Screenshots in the report are taken from the area radar recording. All times UTC.

An Airprox was reported in Class G airspace, between two PA28s. The PA28(A) had been on a local VFR flight and was returning to Bristol. At the time of the Airprox the pilot was receiving an Aerodrome Control Service from Bristol Tower. The PA28(B) was also on a local VFR flight, and at the time of the Airprox was in receipt of a Basic Service from Bristol Radar.

The PA28(A) had been on a VFR flight to the south-west of Bristol and, at 1249:55, reported to Bristol Radar that they were approaching Bridgwater, routing to the Cheddar VRP for rejoin. The Bristol radar controller instructed the pilot to remain outside controlled airspace and to report with 3nm to run to the VRP, which was acknowledged by the pilot. At 1256:00, the PA28(A) pilot reported 3nm to run to Cheddar, was passed Traffic Information on gliding activity, and instructed to contact Bristol Tower (Figure 1).

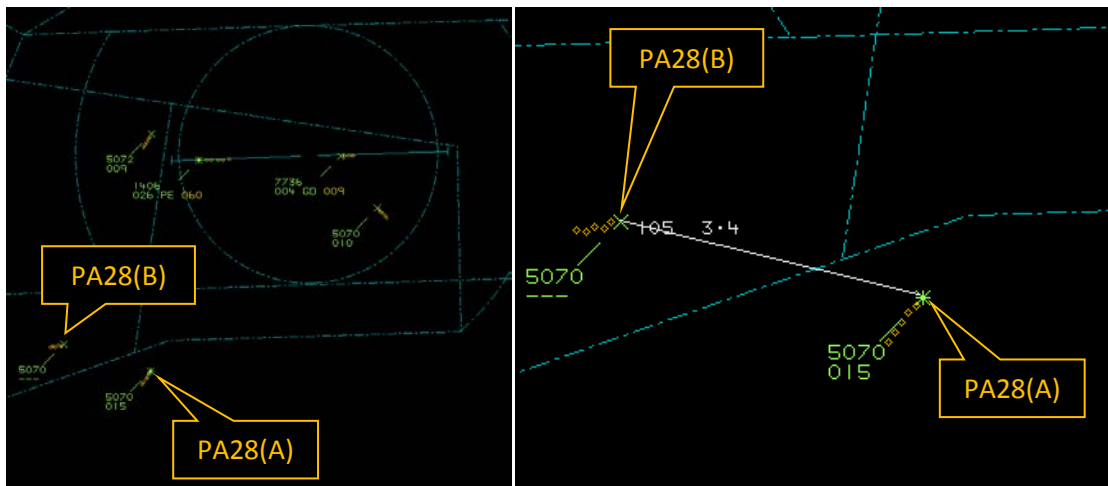


Figure 1 – 1256:00

Figure 2 – 1256:14

The PA28(A) pilot reported on the Bristol Tower frequency at 1256:14 with 2 miles to run to the VRP and was instructed to hold at the Cheddar VRP (Figure 2). The PA28(B), which had, up until this point, been manoeuvring on the coastline over 5nm to the west of the PA28(A), was observed to be maintaining an easterly track towards the area of the Cheddar VRP. At 1257:17 the PA28(A) was observed to be established in a left-hand orbit in the vicinity of the VRP, with PA28(B) still maintaining an easterly track (Figure 3). CPA took place at 1257:32 with the aircraft separated by 0.2nm laterally (Figure 4). It was not possible to determine vertical separation from the radar replay, and it was not reported by the pilot of the PA28(A)

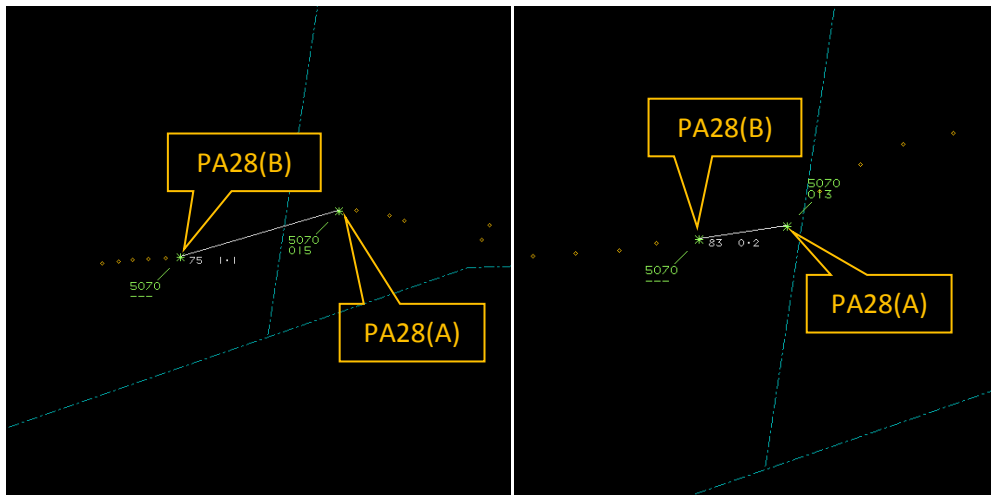


Figure 3 – 1257:17

Figure 4 – 1257:32

At 1257:58 the PA28(A) pilot reported to the tower controller that they were now routing to Burnham and that they had just had an Airprox with the PA28(B) (identified by the PA28(A) pilot by the callsign of the PA28(B)). The PA28(B) pilot made no calls to, and was not called by, Bristol Radar during this whole period. The aircraft overflew the Cheddar VRP, and continued eastbound.

The Airprox took place in Class G airspace with the aircraft involved on separate frequencies with the same Air Traffic Control Unit. At the time that both aircraft were in close proximity, the Tower and Radar controllers were engaged in a telephone conversation about a departure. When the PA28(A) pilot reported the Airprox, and identified the PA28(B), the controller mentioned that they hadn't known where the PA28(B) was. The PA28(B) had not been identified by the controller and was not issued with a unique transponder code. Under a Basic Service there is no requirement to continuously monitor either the PA28(A) or PA28(B). The PA28(B) pilot reported that they did not see the PA28(A).

CAP774 UK Flight Information Services states:

Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.

UKAB Secretariat

The PA28(A) and PA28(B) pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right².

Summary

An Airprox was reported when two PA28s flew into proximity at 1258 on Sunday 13th November 2016. Both pilots were operating under VFR in VMC, the PA28(A) pilot in receipt of an Aerodrome Control Service from Bristol Tower and the PA28(B) pilot in receipt of a Basic Service from Bristol Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings and a report from the appropriate ATC authority.

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

The Board began their discussions by looking at the information provided to the PA28s by Bristol ATC. Controller members commented that although the aircraft were under Basic and Aerodrome Services, the radar controller knew about both and should have been generically aware that the aircraft were at a similar level and location. Notwithstanding the fact that the controller was not required to do so under the terms of a Basic Service, the fact that both aircraft were routing towards the same VRP meant that they felt that it would have been prudent to pass at least generic Traffic Information to each pilot. Some pilot members opined that, given the proximity of Bristol airport and the VRPs, a Traffic Service may have been a more prudent service for both PA28 pilots to have requested. Picking up on the point about provision of information under a Basic Service, some members commented on the potential misunderstanding as to the level of service that is afforded by ATC. They acknowledged that an ATCO has a duty of care when providing any service, indeed they welcomed the additional information when the circumstances require it, but they opined that sometimes too much information results in some pilots believing they are receiving a higher level of service than a Basic Service actually gives. The Board discussed this at some length, and debated the pros and cons of providing information to pilots on a Basic Service under a duty of care. ATC members pointed out that it was not clear cut, and that different controllers provide different criteria to fulfil their duty of care, which CAP774 Section 1.3 states as:

Nothing in this CAP prevents controllers from using their own discretion, initiative and professional judgement in response to unusual circumstances, which may not be covered by the procedures herein. In dealing with any such situations, controllers/FISO shall take account of the duty of care requirements at Appendix A. The nature of the ATS task in providing the UK FIS means that it is not possible to be totally prescriptive about all actions to be taken, particularly with regard to unknown traffic and the passing of advice and warnings on high risk conflicts to pilots who have requested Basic Service and Traffic Service. Consequently, there is a need for controllers/ FISOs to remain free to use their professional judgement to determine the best course of action for them to take for any specific situation.

The Board then questioned the Bristol procedure for transferring control of aircraft from Radar to Tower whilst the aircraft was outside the CTR; controller members wondered whether this may be a legacy procedure prior to the increase in traffic at Bristol. Furthermore, turning to the actions of the Tower controller, the Board agreed that instructing an aircraft to hold at a VRP was not a wise choice due to the likelihood of other aircraft being in the vicinity, and especially since this does not comply with current guidelines that are available in AIC Y 006/2013³, which state that:

Controllers should avoid directing VFR traffic to route overhead a VRP or VRPs unless the position of traffic making an instrument approach or departure specifically demands it.

The Board then considered the cause and risk of the Airprox. Members quickly agreed that the PA28(A) pilot had seen the PA28(B) late, and that the PA28(B) pilot had not seen the PA28(A) at all. The Board felt that two factors had contributed to the incident; the Bristol Tower controller instructed the PA28(A) pilot to hold at the VRP, and a lack of coordination between the Radar and Tower controllers wherein the Tower controller could have alerted the Radar controller to the presence of the orbiting PA28(A). Turning to the risk, members agreed that the PA28(A) pilot's manoeuvre was an emergency avoiding action where safety had been much reduced below the norm; accordingly, the Board assessed the risk as Category B.

Finally, the Board were disappointed that although the PA28(A) pilot reported an Airprox on frequency, Bristol ATC did not themselves initially compile a report on the incident. The NATS advisor informed the Board that this had been because Bristol had incorrectly assumed that because the event occurred outside their controlled airspace they were not required to submit a report. After prompting, they did compile a report, but there had been an inconsistency within the factual information generated by Bristol ATC who had incorrectly interpreted the radar replay information. Notwithstanding, the Board were heartened to hear that Bristol were reviewing their relevant local reporting procedures and had also been re-briefed on the correct interpretation of radar replay data.

³ [AIC Yellow – Operational Matters](#)

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the PA28(A) pilot and a non-sighting by the PA28(B) pilot.

Contributory Factor(s): 1. ATC instructed the PA28(A) pilot to hold at a VRP.
2. A lack of coordination between Radar and Tower regarding the holding PA28(A).

Degree of Risk: B.

Safety Barrier Assessment⁴:

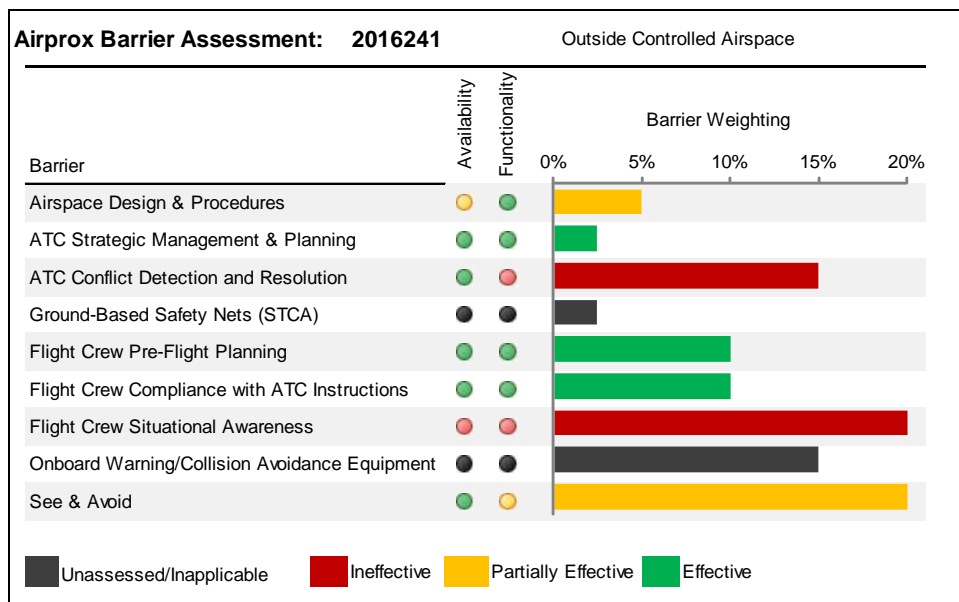
The Board decided that the following key safety barriers were contributory in this Airprox:

Airspace Design and Procedures was considered to be only **partially effective** because aircraft joining the visual circuit at Bristol do not remain with Radar until they have entered controlled airspace, and there is no requirement for Tower to inform Radar when aircraft are held outside controlled airspace.

ATC Conflict Detection and Resolution was considered to be **ineffective** because although the Radar ATCO was generically aware of both PA28s he did not utilise that information sufficiently to pass generic Traffic Information to either PA28 pilot.

Flight Crew Situational Awareness was also considered to be **ineffective** because although both the PA28s were probably generically aware of traffic in the area, they had not had specific Traffic Information on each other, and were on different frequencies which removed both pilots' ability to assimilate the other aircraft's position reports.

See and Avoid was considered to be only **partially effective** because the PA28(A) pilot saw the PA28(B) late and the PA28(B) pilot did not see the PA28(A).



⁴ 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 Unassessed/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](#).