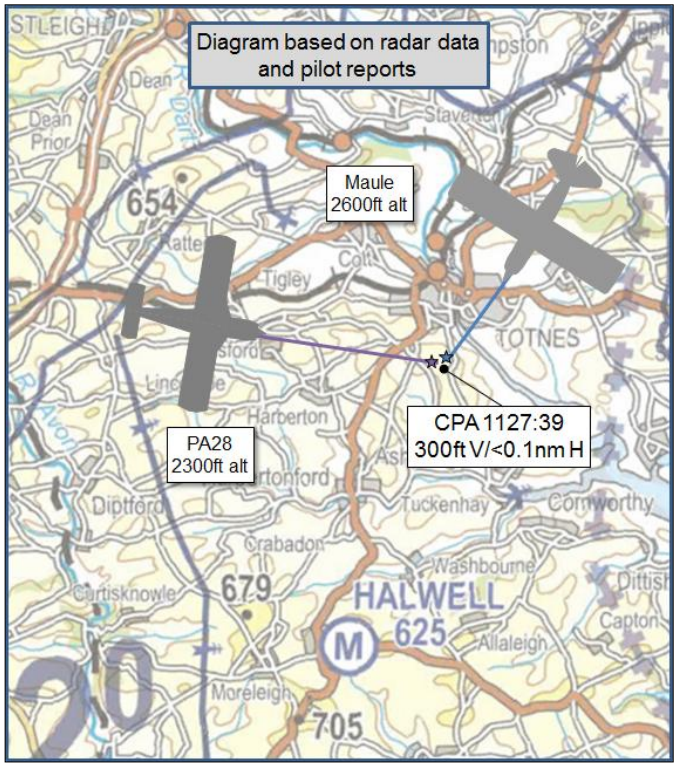
AIRPROX REPORT No 2016092

Date: 29 May 2016 Time: 1127Z Position: 5025N 00341W Location: IVO Totnes

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Maule MXT7	PA28
Operator	Civ Pte	Civ Pte
Airspace	Lon FIR	Lon FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider		Exeter
Altitude/FL	2600ft	2300ft
Transponder	A, C, S	A, C
Reported		
Colours	White, Red	Blue, White
Lighting	Strobes	Anti-cols, Landing
Conditions	VMC	VMC
Visibility	8km	>10km
Altitude/FL	2700ft	2400ft
Altimeter	QNH (1013hPa)	1013hPa
Heading	220°	090°
Speed	110kt	100kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	200ft V/0m H	300ft V/20m H
Recorded	300ft V/<0.1nm H	



THE MAULE PILOT reports that his passenger, sitting on the right-side of the aircraft, saw another aircraft at the last minute as it passed beneath them from the 2 o'clock to the 8 o'clock position. Having been alerted to it, the pilot made a 90° bank to the left and saw a PA28 tracking away at a level that he found worrying. He then switched frequency back to Exeter, who had been providing him with a Basic Service earlier, and reported the incident. As he reported it, another pilot came on frequency and said he thought that he had been the other aircraft involved, he advised that he had been visual with the Maule for about 1 minute before the incident occurred. The Maule pilot thought it would have been difficult to see the PA28 due to the hazy conditions against the backdrop of the ground, whereas his aircraft would have stood out against the clear sky, and that the other aircraft would have been in a blind spot from the pilot's position in the side-by-side cockpit. With hindsight, he thought that he could have remained with Exeter for longer, rather than switching to the safety comm frequency at his landing strip when he did; although he noted that he had only been on a Basic Service and he suspected Exeter did not get good radar coverage in that particular area.

He assessed the risk of collision as 'Medium'.

THE PA28 PILOT reports that he was tracking on a radial to the BDH VOR, he started his standard FREDA checks: switched on the fuel pump, looked out: switched tanks, looked out again and saw what he thought was a bird. He checked the fuel pressure was in the green and continued to monitor the traffic in his 10 o'clock. It was difficult because the canopy frame was in the way, nevertheless he now realised it was an aircraft and, understanding that they were converging and the other aircraft was in his 10 o'clock, he thought this duty was to maintain altitude and heading. He switched on the landing light as an extra precaution, assuming the other pilot might not have seen him. He then switched it off and on again; now fearing they might be too close, and seeing that the other pilot kept his heading, he decided to descend 100ft, from 2400ft to 2300ft. At this point the other aircraft

crossed overhead. Immediately afterwards he heard the other pilot report it to ATC, he recovered from the descent to straight-and-level and then responded on the frequency.

He assessed the risk of collision as 'High'.

THE EXETER CONTROLLER reports that the Maule had been on a Basic Service about 6 minutes before the Airprox, at the time that he left the frequency the PA28 was well to the west and not in confliction, so no Traffic Information was passed. Traffic levels were quite high and, at 1130, the Maule pilot reported back on frequency to report an Airprox with a Cherokee and estimated the miss distance to be 100-200ft. The PA28 pilot then confirmed that he had seen the Maule and had been visual for about 1 minute before the two aircraft passed each other.

Factual Background

The weather at Exeter was recorded as follows:

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METAR EGTE 291120Z 02013KT CAVOK 18/10 Q1013=
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Analysis and Investigation

CAA ATSI

At 1124:37 (Figure 1), the Maule pilot (which was still displaying the SSR code allocated by Exeter Radar) reported that he was overhead Torquay and was happy to transfer to his en-route frequency. This was acknowledged by the Exeter Radar controller who instructed him to squawk 7000. According to the recorded surveillance data, at this time the Maule was indicating FL026. The PA28 was 8.7nm west south-west of the Maule tracking east-south-east indicating FL023.

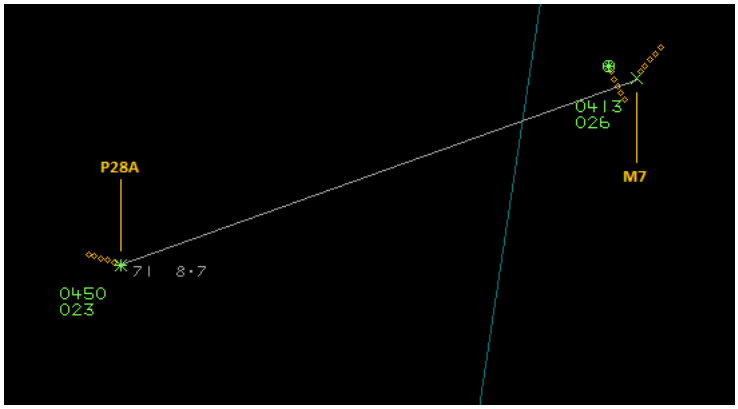

Figure 1 – Swanwick MRT at 1124:37 UTC

CPA occurred at 1127:35 (Figure 2) with a horizontal distance of less than 0.1nm and a vertical distance of 300ft.

The Exeter Radar controller had been providing a Basic Service to the Maule prior to the Airprox until the aircraft left his frequency. The Exeter Radar controller was providing a Basic Service to the PA28. A Basic Service relies on the pilot avoiding other traffic, unaided by controllers/FISOs. The provider of a Basic Service is not required to monitor the flight and pilots should not expect any form of Traffic Information from a controller/FISO[1].

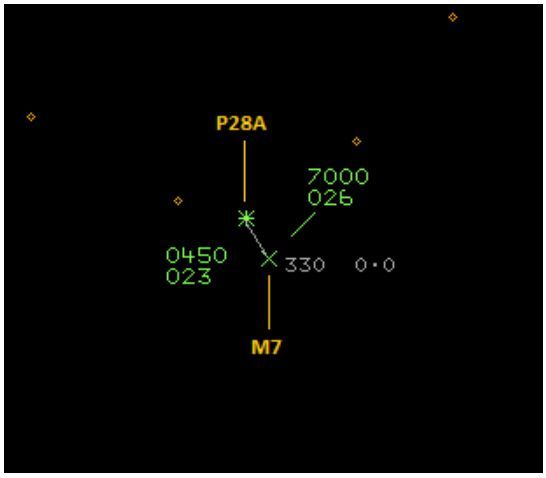

Figure 2 – Swanwick MRT at 1127:35 UTC (CPA)

[1] CAP774, Chapter 2, Para 2.1 & 2.5

UKAB Secretariat

The Maule and PA28 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[2]. If the incident geometry is considered as converging then the Maule pilot was required to give way to the PA28[3].

Summary

An Airprox was reported when a Maule and a PA28 flew into proximity at 1127 on Sunday 29th May 2016. Both pilots were operating under VFR in VMC, the Maule pilot was not in receipt of an ATS. The PA28 pilot in receipt of a Basic Service from Exeter.

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 and operating authorities.

The Board first discussed the actions of the Maule pilot. Members noted his comments about remaining with Exeter for a Basic Service for longer, but agreed that, as he pointed out, he was probably at the limits of Exeter's radar coverage anyway. Moreover, under a Basic Service, Exeter were not required to give Traffic Information; if pilots require Traffic Information, they should opt for a Traffic Service. Absent any effective ATS, and with neither aircraft equipped with any form of electronic conspicuity, in this incident see-and-avoid was the sole remaining barrier against mid-air collision and this highlighted the importance of robust look-out in such situations. The Board briefly discussed the merits of electronic conspicuity, noting that in this case, both aircraft were transponder equipped and a TAS of some description might have alerted the Maule pilot to the confliction. Noting that such equipment had significantly come down in price in recent years, some members thought that there was merit in the CAA mandating that all aircraft carried a TAS of some sort (recent CAA CAP 1391 offers advice on electronic conspicuity systems based on ADS-B), . Although, the Board stopped short of offering this as a recommendation, they did wish to commend to all GA pilots the increased viability and utility of such equipment.

Turning to the PA28 pilot, members noted that he was visual with the Maule for some time, and, because he was on the right of the Maule, it appeared that he may have believed he had 'right of way'. The Board commented that SERA 3205 states that *both* pilots had an equal responsibility to avoid a collision and that, when converging, the aircraft which has the other on the right is required to give way, which is not the same as saying that the aircraft on the right has right of way. Furthermore, it is a flawed strategy to assume that the other pilot has seen you in any conflict situation; experience shows that failure to see other aircraft is the prime cause of Airprox in Class G airspace... The Board were therefore somewhat surprised that the PA28 pilot continued on, even though it was becoming increasingly obvious that the Maule pilot was not altering his course. In this respect, members also wished to draw attention to the fact that the converging rule states that pilots are to maintain *heading* and *speed*, not *altitude* and *speed,* as in the PA28 pilot's comments. In short, the PA28 pilot could easily have changed his altitude earlier and then proceeded to flash his lights to draw attention to himself. Ultimately, the converging rules are for use in the later stages of a conflict, and nothing prevents a pilot from altering course if he sees another aircraft at long range, as was the situation here; although the PA28 pilot did eventually descend to break the collision course, the Board thought that a turn of just a few degrees much earlier would have been a safer option. The discussions then led the Board onto the use of the landing light, and, although not directly connected to this incident, GA members wanted to impress upon pilots the merits of leaving the landing light illuminated at all times. They noted that new LED lights had a much longer life than the old style bulbs, and there was plenty of evidence to suggest that keeping the landing light on not only increases conspicuity for other pilots, but also scares away birds.

[2] SERA.3205 Proximity.
[3] SERA.3210 Right-of-way (c)(2) Converging.

The Board then discussed at length the cause of this Airprox and, whilst there was no doubt that it was a non-sighting by the Maule pilot, the Board thought that because the PA28 pilot had been visual with the PA28 for some time, he had the knowledge and the time to break the confliction. The Board therefore agreed that the cause of the Airprox was that the PA28 pilot had flown close enough to the Maule to cause its pilot concern, with a contributory factor that in his delayed action, the PA28 pilot had exacerbated the conflict with the Maule. That being said, although close in geometry, when assessing the risk members quickly agreed that despite his inaction, the fact that he was visual with the Maule meant that the PA28 pilot would not have allowed a collision to take place; therefore, the risk was assessed as Category C, no risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot flew close enough to the Maule to cause its pilot concern.

Contributory Factor: Delayed actions by the PA28 pilot in avoiding a conflict with the Maule.

Degree of Risk: C.