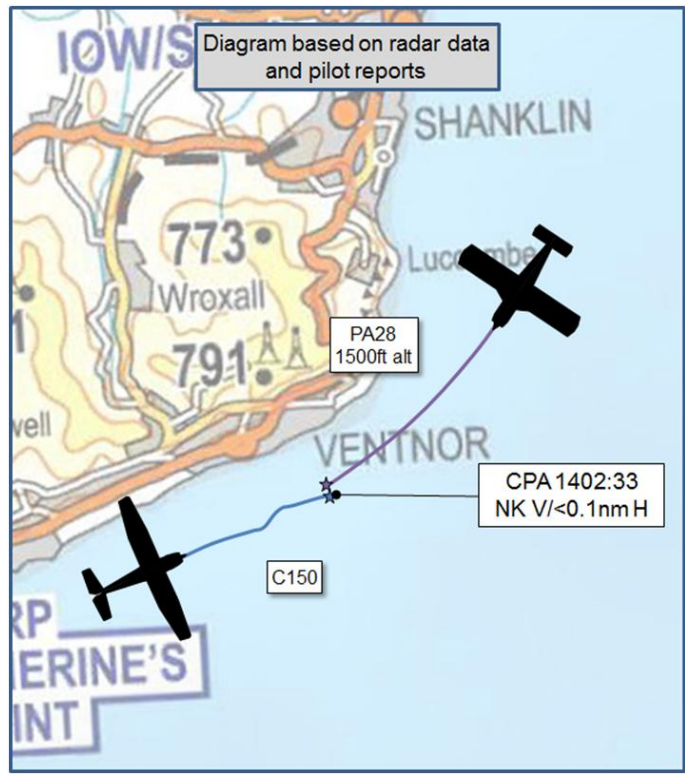


AIRPROX REPORT No 2016118

Date: 27 Jun 2016 Time: 1400Z Position: 5035N 00110W Location: 2nm E of Shanklin

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C150	PA28
Operator	Civ Pte	Civ Club
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Basic
Provider	Sandown Radio	Solent Radar
Altitude/FL	NK	1500ft
Transponder	A	A
Reported		
Colours	White, Blue	White, Blue
Lighting	None	Strobe, Nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1500ft	1500ft
Altimeter	QNH (1017hPa)	QNH
Heading	020°	190°
Speed	85kt	90kt
ACAS/TAS	Not fitted	Not fitted
Alert	N/A	N/A
Separation		
Reported	0ft V/~300m H	20ft V/100m H
Recorded	NK V/<0.1nm H	



THE C150 PILOT reports that he had been flying an anticlockwise circuit around the Isle of Wight at approximately 1800ft altitude. He was over the sea and tracking the coast which was on his left. He was using the listening squawk for Solent Radar. As he approached Ventnor, he re-tuned his radio to Sandown Radio and reset his squawk to 7000. Having received the airport details from Sandown (Runway 23 in use with right-hand circuit) he commenced a gentle let down over the sea with a view to crossing the coast at Sandown at approximately 1200ft and then descending to circuit height of 1000ft as he passed over the upwind end of runway 23. He was still tracking the coast line, about 2 miles off shore, probably heading 020 degrees when the incident occurred. He had been looking to the left to identify Sandown airport in anticipation of turning onto a heading of 320 degrees to join the circuit on the cross-wind leg. When he turned to look ahead he was suddenly aware of another aircraft heading in his general direction but turning to the right so that it would pass him on his port side. The aircraft passed each other at very similar altitudes with only a few hundred metres lateral separation.

He assessed the risk of collision as 'High'.

THE PA28 PILOT reports that he had planned a clockwise circuit of the Isle of Wight. Whilst routing across Sandown Bay he descended to approximately 1500ft QNH. Approximately 2nm East of Shanklin he saw a C150 travelling in the reciprocal direction at a very similar height and just to the left of the nose of his aircraft. He instinctively manoeuvred slightly to the right of his track whilst the C150 appeared to continue straight and level. The C150 passed down the left side of his aircraft. Whilst aware of the close proximity of the C150, he was not unduly alarmed by the event and did not report an Airprox or hear any other aircraft report an Airprox.

He assessed the risk of collision as 'Medium'.

Factual Background

The weather at Southampton was recorded as follows:

METAR EGGH 271250Z 28010KT 230V320 9999 SCT038 19/11 Q1018

Analysis and Investigation

UKAB Secretariat

The C150 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 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 a C150 and a PA28 flew into proximity at 1400 on Monday 27th June 2016. Both pilots were operating under VFR in VMC, the C150 pilot in receipt of an Air/Ground Service from Sandown and the PA28 pilot in receipt of a Basic Service from Solent.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft and, radar photographs/video recordings.

The Board members began their discussion by debating whether or not there was a case for a flow system around the Isle of Wight given the likely traffic levels of 'sightseeing' aircraft. Generally acknowledged as unworkable, the discussion then turned to the 'Right Hand Traffic Rule' which had previously required pilots to fly to the right of line features, and which was pertinent in this case as both pilots flew along the coastline. Acknowledging that this rule had since been removed by the changes brought about by SERA standardisation, GA members highlighted that it was still seen as good practice, and was still included in the CAA 'Safety Sense Leaflet 01 – Good Airmanship' literature at page 10, paragraph 21(c).³ Some members felt that the right-hand rule should still be normal practice in order to provide an enhanced level of protection, others pointed out that whilst this is a good method over land, it can be difficult to implement whilst operating off the coast, when distance to the coastline was also a factor in determining when one was 'flying along the line feature'.

Turning to the actions of the pilots, the Board were aware of the Isle of Wight GA traffic levels during the summer months and wondered how mindful the PA28 pilot had been of the location of Sandown as a likely conflict area for aircraft making approaches to the airfield. In descending as he had to 1500ft as he crossed Sandown Bay, some GA members thought that he had unnecessarily exposed himself to the risk of encountering other aircraft operating too or from the airfield when he could simply have maintained a higher altitude. For his part, the C150 pilot was probably focused on positioning and acquiring the airfield for his join, and members recognised that this would have likely diverted his attention from lookout. As a result, and due to the head on profile of the PA28, this had resulted in his late sighting of the PA28 and the subsequent lack of avoidance turn on his part. The outcome was a timely reminder of the need to maintain a robust lookout during all phases of flight.

The Board acknowledged that both aircraft had probably been receiving Basic Services at the same time with Solent prior to the incident, and although it was agreed that ATC had no requirement to pass traffic information to either aircraft on the other, some members wondered whether the two pilots might have been able to gain situational awareness from each other's radio calls regarding position and route reports. Unfortunately, without access to the associated tape transcripts, the

¹ SERA.3205 Proximity.

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

³ Available at <http://publicapps.caa.co.uk/docs/33/20130121SSL01.pdf>.

Board could not come to a conclusion as to the feasibility of this. Some members wondered whether the PA28 pilot might have been better served by calling Sandown as he passed by in order to find out whether any traffic was in their circuit; however, other members commented that the associated time 'head-in-cockpit' selecting frequencies might have been counterproductive to both lookout and pilot capacity.

The Board noted that neither aircraft had any form of electronic warning system that could have alerted the pilots of the proximity of the other aircraft, and one member highlighted that standalone electronic warning systems such as PilotAware⁴ were very capable and affordable, with that particular unit being compatible with ADS-B, SSR Mode C/S and FLARM equipment. The Board opined that electronic conspicuity equipment was an extremely valuable tool for aircraft flying in Class G airspace, and that GA pilots should seriously consider fitment of such equipment as an aid to cued lookout.

In looking at the barriers that were relevant to this incident, the Board agreed that the following were contributory factors:

- **Flight Crew Pre-Flight Management and Planning** was considered to have been only **partially effective** because members felt that the PA28 pilot could have planned his flight better by taking into account Sandown Airfield and the height that other aircraft would join the visual circuit.
- **Flight Crew Operational Threat Awareness and Management** was also considered to have been only **partially effective** because both pilots could have gained greater Situational Awareness through better use of the Solent Air traffic Service by the C150 pilot, e.g. a Basic Service rather than a listening watch where the information flow is only one way.
- **Flight Crew Electronic Warning System and Resolution Action** was **not available** because neither aircraft had a suitable system fitted.

This led the Board on to determining the cause of the Airprox, which was quickly agreed to have been a conflict in Class G resolved by the PA28 pilot. The Board then considered the risk, for which they were able to view a video taken from the C150 cockpit and submitted by its pilot. Observing from this that the PA28 pilot had clearly manoeuvred in a timely and effective fashion (see video still image taken at CPA), the Board assessed that although safety had been degraded there had been no risk of collision, and so the incident was assessed as Category C.



PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G resolved by the PA28 pilot.

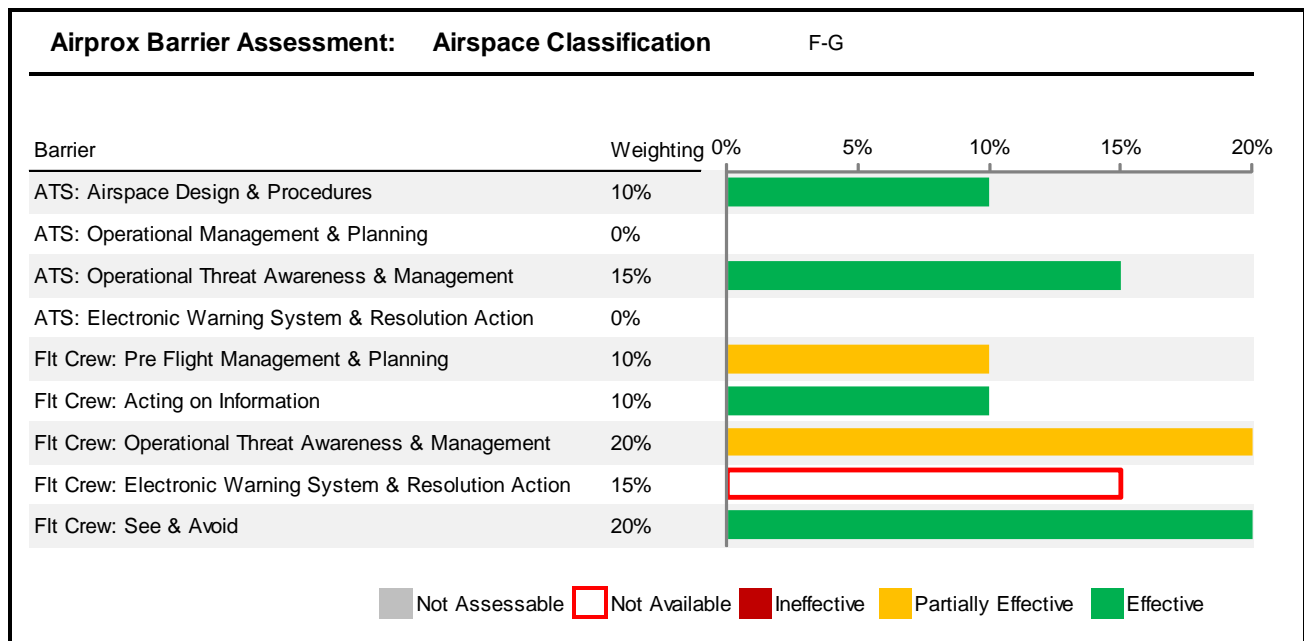
Degree of Risk: C.

Barrier Assessment:

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 following 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

⁴ See www.pilotaware.com and www.pilotaware.com/pilotawareintroduction/ - other systems are available.

type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace).^{5*} 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, Not Available, or Not Assessable). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident.



⁵ Barrier weighting is subjective and is based on the judgement of a subject matter expert panel of aviators and air traffic controllers who conducted a workshop for the UKAB and CAA on barrier weighting in each designation of airspace.