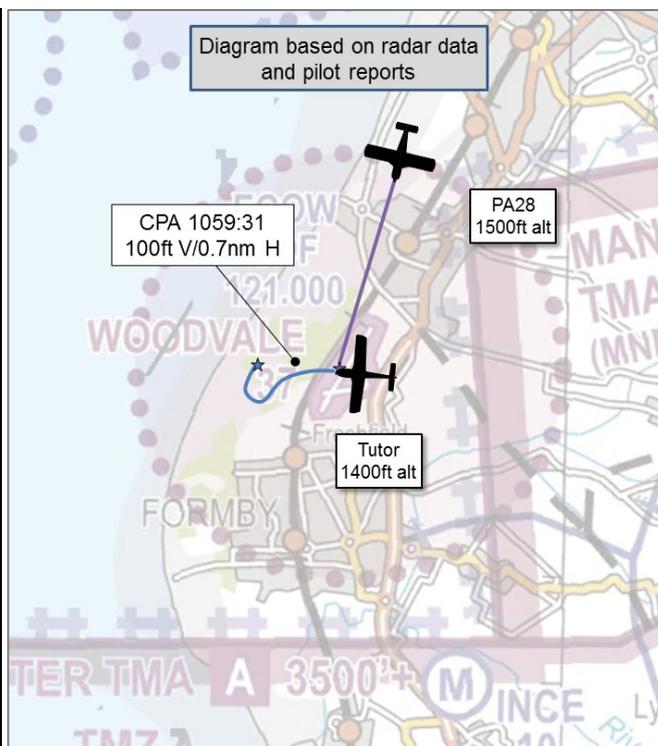


**AIRPROX REPORT No 2019233**

Date: 12 Aug 2019 Time: 1059Z Position: 5334N 00333W Location: RAF Woodvale ATZ

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tutor	PA28
Operator	HQ Air (Trg)	Civ FW
Airspace	Woodvale ATZ	Woodvale ATZ
Class	G	G
Rules	VFR	VFR
Service	ACS	Basic
Provider	Woodvale	Warton
Altitude/FL	1400ft alt	1500ft alt
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	White, Blue	White
Lighting	Nav, Landing, Strobe	Nav, Strobe
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	1500ft	1500ft
Altimeter	QFE (1013hPa)	NK
Heading	030°	200°
Speed	80kt	100kt
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
<b>Separation</b>		
Reported	0ft V/200yds H	Not seen
Recorded	100ft V/0.7nm H	



**THE TUTOR PILOT** reports that he was about 20mins into a solo GH sortie, returning to base for circuits on RW21RH. At the time of joining there was another Tutor active in the circuit to land. After 2 circuits he elected to climb for a glide circuit at 1500ft. Whilst climbing in the upwind turn, passing about 1400ft, he noticed a TAS contact that was showing at his altitude. He rolled out of his turn downwind at 1500ft QFE to search for the contact and immediately acquired the other aircraft visually at about 200-300yds. The contact was a civilian light-aircraft travelling in the opposite direction (north-south) at 1500ft, on a track somewhere between the normal circuit deadside and the runway. The spacing between his aircraft and the other aircraft was less than is usual for two aircraft in the visual circuit. He contacted the controller, reporting the aircraft's height and position; the aircraft was not under their control. As the third-party aircraft had now left the circuit and progressed south, he elected to continue and repositioned for a further two circuits before landing.

The pilot assessed the risk of collision as 'Medium'.

**THE PA28 PILOT** reports that he was directed to stay below 1500ft [by Blackpool] and transferred to Warton for a Basic Service. He should have realised that he needed to avoid Woodvale ATZ or call Woodvale. He was also looking ahead and conscious of staying below 2000ft to avoid Liverpool airspace. He normally flies this route at a weekend when Woodvale is closed, he realises, in hindsight, that this was a Monday and Woodvale was active and he should have avoided the circuit.

**THE WARTON CONTROLLER** reports that he was undertaking the Warton Radar Approach and LARS task. The session on console immediately prior to the event had been a relatively busy one with LARS being provided for up to 5 aircraft receiving a Traffic Service (TS) and up to 4 aircraft receiving a Basic Service (BS). However, at the time of the infringement that led to the Airprox and for several minutes beforehand, traffic levels were light with only two or three other aircraft on frequency, all in receipt of a

BS. The Airprox PA28 had been prenoted as a VFR southbound transit in accordance with the LOA procedures between Warton and Blackpool ATC. The aircraft was observed, although not formally identified on radar, leaving the Blackpool ATZ on a south-easterly track when the pilot reported on frequency. He was placed under a BS, passed the Warton QNH and given permission to transit the Warton MATZ. The aircraft was squawking 3650, Warton Conspicuity, in accordance with local procedures. The south-easterly track was unusual in so much as the agreed profile for VFR aircraft departing Blackpool to the south is to route from St Anne's Pier VRP towards Southport Pier VRP not above 1500ft. He asked the pilot to confirm his destination and next turning point in order to ascertain his routing. He replied that he was routing via Wallasey, which the controller believed was the WAL VOR, as he completed his transmission he could see the aircraft was in a right turn towards the anticipated south-westerly direction and therefore away from the Warton ATZ. He had not anticipated that the pilot's intention would route him through the Woodvale ATZ at 1500ft; if he had realised that the route would take the PA28 through the Woodvale ATZ he would have advised the pilot to call Woodvale ATC. In hindsight the track towards the WAL VOR from that position, 2.5nm southeast of St Anne's Pier VRP, did take the PA28 directly overhead Woodvale, he realised that unfortunately this was an oversight on his part. Subsequently, he became somewhat distracted by another aircraft who was painting as a primary only track on his display. He was attempting to ascertain whether this was an issue with the aircraft's transponder or the Warton SSR and, as he had no other aircraft on frequency under a radar service, he was paying less attention to his scan. When he eventually realised the PA28 had entered the Woodvale ATZ, the PA28 was directly in their overhead at 1500ft. He asked the pilot if he was speaking to Woodvale ATC, which he was not, and attempted to call Woodvale ATC on the landline but the call was unable to connect. By this time the PA28 was clearing the ATZ to the south and was clear of traffic. He advised the pilot that he had entered the Woodvale ATZ and at that point advised him to squawk 7000 and freecall Liverpool Radar which the pilot acknowledged. Only as an afterthought some seconds later, did he add that the PA28 pilot might want to give Woodvale ATC a call after landing, this was not acknowledged.

The controller perceived the severity of the incident as 'Medium'.

**THE WOODVALE CONTROLLER** reports that the Tutor was the only aircraft in the RW21RH circuit. At 1055Z the pilot called 'climb to glide' and commenced the right hand 'jink' upwind and climbed to 1500ft. At 1156Z the Tutor turned right to position early downwind at 1500ft and called asking if Tower was speaking to a civilian aircraft in the ATZ at 1500ft. At that point the infringing aircraft was not visible to ATC, being directly overhead the tower. The Tutor pilot said that had he been deadside he would be close. The controller then saw the unknown aircraft heading SW at a height of about 1500ft on the deadside, past the Tutor. The unknown aircraft departed the ATZ to the SW. Warton Radar were telephoned and they had the aircraft, a PA28, on frequency. They apologised for the incident, said the pilot had not realised where he was, and that the pilot also apologised and was departing the ATZ by the quickest route. Once the Tutor pilot had landed, she spoke to him by telephone and he said that he felt there was no real danger, but the infringer would have been close had the Tutor been deadside, or if an inexperienced student pilot were flying crosswind in the Woodvale circuit.

The controller perceived the severity of the incident as 'Low'.

## **Factual Background**

The weather at Woodvale was recorded as follows:

METAR EGOW 121050Z 29012KT 9999 SCT028 16/09 Q1014 RMK BLU

## **Analysis and Investigation**

### **Woodvale Investigation Report**

A Grob Tutor climbing to 1500ft into the glide circuit for RW21, reported to ATC they had observed another aircraft opposite direction inside the ATZ at 1500ft. The infringing aircraft, a PA28, was under a Basic Service with Warton radar and the Woodvale controller could not establish visual

contact until it had flown overhead the ATC tower building. The pilot of the Tutor subsequently filed a DASOR report.

RAF Woodvale ATC provide an Aerodrome Control, Basic and Alerting Service only. No surveillance services are provided. Both the aerodrome and the ATZ are contained wholly in Class G airspace.

BAE Warton is located 10.5nm Northeast of Woodvale and is a radar unit that also provides a LARS service during notified hours. RAF Woodvale MATS Part 2 contains no standing coordination procedures or letter of agreement with respect to flights under a service by Warton Radar. Therefore, any flight receiving a service from Warton radar wishing to enter the Woodvale ATZ should seek individual coordination from Woodvale ATC, so that Woodvale ATCOs can maintain an appropriate situational awareness and pass timely traffic information to aircraft under their control.

In addition to that, the Woodvale Tower ATCO could have reasonably expected to receive traffic information from the controller providing a service to an aircraft known to be operating in close proximity to their ATZ. On this occasion, the Warton radar controller did not pass any traffic information or make any attempt to coordinate the aircraft with the Woodvale controller.

Following the present investigation, the following causal chain has been identified:

- At around 1055z on 13<sup>th</sup> August 2019, the PA28 under a Basic Service with Warton Radar, entered the Woodvale ATZ at circuit height, 1500ft, with no prior authorisation by the Woodvale Tower ATCO, coming into conflict with the Tutor operating in the visual circuit.
- No Traffic Information was passed by the Warton Radar Controller and no coordination was attempted either. This made it more difficult for the Woodvale controller to spot the infringing traffic.
- Currently, there is no agreement between the two units that compels Warton ATC to advise Woodvale ATC of traffic under their control operating near the Woodvale visual circuit area or in their area of operation.
- The Woodvale TWR controller did not have access to any surveillance equipment that could have aided in the early detection of the infringing traffic.
- Fortunately, the pilot of the Tutor spotted the infringing traffic during his routine visual scan and was able to maintain his own separation.

It is recommended that the GM establishes a working group in liaison with BAE Warton to study possible ways to improve coordination procedures between the two units. Discussion topics should include (but not be limited to):

- The provision of information by Warton Radar to pilots under their control flying or intending to fly in the vicinity of Woodvale ATZ on the activity and height of the visual circuit.
- A comprehensive agreement between both units to identify the situations in which traffic information needs to be passed between ATCOs and coordination achieved in respect of transiting traffic within RAF Woodvale area of operations.

### **Warton Investigation Report**

During the review of the radar recordings it was noted that despite medium-intensity traffic levels in the time preceding the incident, at the time of the incident traffic levels were light. The PA28 was a pre-noted southbound departure in accordance with the Warton-Blackpool LOA. The PA28 was not identified by the Warton Radar ATCO and was at no time on a service other than a Basic Service. The PA28 pilot had selected the Warton conspicuity squawk, 3650. The PA28 pilot did not follow the agreed south-bound routing for VFR traffic. The recordings support the ATCO's account that he queried the destination and routing of the PA28 pilot after observing the track of the aircraft. The PA28 pilot confirmed a routing "via Wallasey". At the time of the incident the ATCO was involved with a discussion with another aircraft as there was no SSR return from the aircraft. The ATCO reports that this was an attempt to ascertain whether the issue was with the aircraft or the radar.

The ATCO did not appear to observe the aircraft approaching the Woodvale ATZ but did observe the aircraft in the ATZ and at that point queried whether the pilot had made radio contact with Woodvale ATC. The pilot reported he had not contacted Woodvale at which point the ATCO reports there was an attempt to contact Woodvale ATC by telephone. The ATCO appeared to observe the aircraft track leaving the Woodvale ATZ and advised the pilot that he had infringed the Woodvale ATZ. The pilot did not make any mention of proximity to other traffic or having sighted traffic in the circuit at Woodvale. The ATCO did not instruct the pilot to contact Woodvale ATC but instead advised to squawk 7000 and free-call Liverpool Radar for continuation of flight. A transmission was broadcast to the aircraft where the ATCO states "it might be a good idea if you call Woodvale ATC when you have landed". This transmission was not acknowledged by the pilot and it is believed he had already left the frequency at this point.

The review of the radar recordings largely supports the ATCO's account of events. Whilst it remains the responsibility of the pilot to ensure that he is aware of the airspace restrictions around which he is operating, there were at least two opportunities for more positive action by the ATCO that could have prevented the incident from occurring. The first is when the ATCO questioned the track of the aircraft. As suggested by the ATCO in the report, proper consideration of the aircraft track from that point should have suggested a routing close to Woodvale, if indeed the pilot meant WAL as the routing point. The ATCO has suggested in the report that this was taken to be the case so the opportunity to assess the track of the aircraft was available. It is important to reiterate that the aircraft was in receipt of a Basic Service and the ATCO had no positive control over the routing or level of the aircraft and that the aircraft could have changed level or track at any point without request. There was an incidence of distraction due to the failure of another aircraft to present an SSR return. This was not at a level that should have prevented the ATCO from continuing an active scan of the picture and therefore, the situation could once again have been prevented by the ATCO. A review of other instances of southbound VFR traffic with the same ATCO supports the ATCO's assertion that the normal 'habit' was to remind pilots to call Woodvale ATC when southbound however this was not done in this case. Again, this may have prevented the situation from occurring.

The aircraft did not follow the agreed routing for southbound VFR traffic departing Blackpool. The Warton-Blackpool LOA states that this routing should be St Annes Pier to Southport Pier or a line west thereof. The PA28 pilot routed to the east of St Annes Pier and for a short time continued on an ESE track. Traffic which does not, or is unlikely to, conform to the standard southbound routing should be individually coordinated by the Blackpool ATCO prior to departure. This did not take place in this case. No information has been presented by Blackpool to determine why this was not the case. It is, however, extremely unlikely that the Blackpool ATCO would have been aware that the aircraft was not following a standard routing and therefore would not have been able to advise the Warton ATCO of this prior to departure. One concern discovered during a review of several radar sessions with southbound VFR traffic, multiple ATCO's considered, is that even when it was suggested to VFR southbound traffic to call Woodvale ATC, they elect not to do so and often transfer straight to Liverpool whilst still routing within a few miles of the Woodvale ATZ.

Whilst it remains the responsibility of the pilot to ensure that he did not enter the Woodvale ATZ without the appropriate clearance, there were several actions that the ATCO could have taken that may have helped prevent the occurrence. The pilot was not instructed to contact Woodvale ATC nor was he reminded about activity at Woodvale, or to remain clear. The fact that the session had previously been busy with services being provided to Tutors out of Woodvale likely meant that there was a high possibility of traffic still being active in the Woodvale circuit, as is often the case when they return for completion of the sortie. The PA28 pilot did not follow the agreed southbound routing and this meant his final track took him through the Woodvale ATZ. This was not a major factor in the final routing of the aircraft, which it is believed would likely have taken a similar track past Woodvale. It would likely have positioned the aircraft further to the West which may or may not have helped prevent the occurrence. The ATCO in question frequently demonstrates the desirable level of proactivity in the discharging of their responsibilities. However, on this occasion they did not. Whilst there is no obligation placed on the ATCO to do this, it would have helped prevent this occurrence. The ATCO's reminder to the pilot, had it been issued, would have been the last barrier to preventing the ATZ infringement and therefore the Airprox incident from occurring.

## UKAB Secretariat

The Tutor 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<sup>1</sup>. 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<sup>2</sup>.

## Comments

### HQ Air Command

It is dissatisfying that the PA28 pilot infringed the Woodvale ATZ and passed through the glide circuit without talking to Woodvale ATC. However, his subsequent frank and honest report is praiseworthy. As has been noted by the authoriser of the Tutor sortie, it is fortuitous that the Tutor pilot's right hand turn onto the downwind leg served to increase separation between the two aircraft and allowed visual acquisition.

Of note, TAS proved instrumental in alerting the Tutor pilot to the proximity of the PA28 in this Airprox. Moreover, without the alert, this Airprox may well have gone unnoticed. The Tutor pilot is commended for his frequent scanning of TAS in the VFR circuit environment. It serves as a reminder that non-cooperating and conflicting traffic can still be encountered where they are least expected. A good lookout is always essential.

It is disappointing to note that many VFR southbound aircraft routing close to Woodvale ATZ do not call Woodvale ATC, especially when it is suggested that they do so by Warton ATC. Communication between Warton and Woodvale ATC was suboptimal in this specific instance. However, it is heartening to see that full, honest reports were submitted by the controllers and that thorough investigations were conducted at each unit. Measures are underway to improve coordination between the two units to decrease the likelihood of a similar occurrence in the future.

## Summary

An Airprox was reported when a Tutor and a PA28 flew into proximity in the Woodvale ATZ at 1059hrs on Monday 12<sup>th</sup> August 2019. Both pilots were operating under VFR in VMC, the Tutor pilot in receipt of an Aerodrome Control Service from Woodvale and the PA28 pilot in receipt of a Basic Service from Warton.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the air traffic controller involved. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board began by congratulating both the PA28 pilot and the Warton controller for their frank and honest Airprox reports. These had provided valuable insight into the circumstances and actions of both parties involved in the PA28 flying through the Woodvale ATZ, therefore contributing valuable lessons for other airspace users.

The Board then turned to the actions of the Tutor pilot. The Tutor pilot was first alerted to the presence of the PA28 flying through the ATZ by his TAS indications (**CF9 & 10**), the military Board member opined that this was an excellent example of the use of TAS as an alerting system whilst operating in a visual circuit. The Tutor pilot had used the TAS indication to visually acquire the PA28 and adjust his flight to avoid it; if it had not been for the TAS indications alerting the Tutor pilot to the presence of

<sup>1</sup> SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome. MAA RA 2307 paragraph 15.

another aircraft it was highly likely that neither the Tutor pilot or Woodvale controller would have been aware of the PA28 flying through the ATZ (**CF8**).

The Board then looked at the actions of the PA28 pilot. He said that he normally flew this route at weekends and that, as a result, although the Airprox occurred on a Monday he had forgotten about Woodvale. It appeared to the Board that he had likely become normalised to not contacting Woodvale prior to entering their ATZ (**CF4, 5, 6 & 7**). In this respect, members noted that the UK MIL AIP<sup>3</sup> entry for Woodvale (effective 31 Jan 19) stated that the Woodvale AD operational hours were Mon-Fri, but that the remarks section was also clear that flying was likely over the weekend in the summer.

EGOW AD 2.3 - OPERATIONAL HOURS		
1	AD:	*HO PPR 0900-1745 Mon - Fri, or SS +30 mins, whichever is earlier.
12	Remarks:	H24 PNR for military aircraft. H24 PPR for civil aircraft. *HJ light aircraft activity outside A/D op hours. *OOH if ATC not available announce intentions and make standard R/T calls on 121-000 MHz. *A/D status available from Warton App on 129-530 MHz, Blackpool App on 119-950 MHz and Liverpool App on 119-850 MHz. No 10 AEF cadet flying usually from <b>Sat to Wed</b> . Times may vary during Summer. Contact: OC 7256 or Ops 7550.

Ultimately, members agreed that the PA28 pilot would have been better avoiding an ATZ that he was not in contact with regardless of the perceived activity level (**CF5**), and that it would be better to assume an ATZ is active regardless of the published operating hours unless you have called on the frequency and received no reply.

Looking at the actions of the Warton controller, members noted that the PA28 was in receipt of a Basic Service and that the controller was therefore not required to monitor the flight (**CF1**). Notwithstanding, both the Warton controller and the Warton investigation report commented that it was normal practice for Warton controllers to advise aircraft of the presence of Woodvale if they were routing nearby. Unfortunately, in this instance the controller did not assimilate that the PA28 pilot's track would take him through the Woodvale ATZ (**CF2**) because he had become distracted by attempting to ascertain the serviceability of another aircraft's transponder (**CF3**). Noting that in such circumstances it was ultimately the pilots' responsibility to avoid ATZs rather than rely on controllers providing warning information about their proximity, the Board were nevertheless heartened that Warton and Woodvale are in the process of developing procedures to improve communication between the units to help prevent a recurrence of this incident.

Turning to the risk, members quickly agreed that, pre-warned by his TAS, the Tutor pilot had seen the PA28 early enough to turn behind the aircraft and, although the PA28 pilot flying through an active ATZ without communicating with the unit meant that normal parameters were not adhered to, there had been no risk of collision; accordingly, they assessed the risk as Category C.

<sup>3</sup> Available for all airspace users at <https://www.aidu.mod.uk/Milflip/index.php>

**PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK**Contributory Factor(s):

	2019233		
CF	Factor	Description	Amplification
	<b>Ground Elements</b>		
	<b>• Situational Awareness and Action</b>		
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
2	Human Factors	• Conflict Detection - Not Detected	
3	Human Factors	• Distraction - Job Related	
	<b>Flight Elements</b>		
	<b>• Regulations, Processes, Procedures and Compliance</b>		
4	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
	<b>• Tactical Planning and Execution</b>		
5	Human Factors	• No Decision/Plan	Inadequate planning
6	Human Factors	• Airspace Infringement	
7	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate service provider
	<b>• Situational Awareness of the Conflicting Aircraft and Action</b>		
8	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	<b>• Electronic Warning System Operation and Compliance</b>		
9	Contextual	• ACAS/TCAS TA	TCAS TA / CWS indication
	<b>• See and Avoid</b>		
10	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Safety Barrier Assessment<sup>4</sup>

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

**Ground Elements:**

**Situational Awareness of the Confliction and Action** were assessed as **not used** because the Warton controller was not required to monitor the PA28 under a Basic Service.

**Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the PA28 pilot flew through an active ATZ.

<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

**Tactical Planning and Execution** was assessed as **ineffective** because the PA28 pilot did not check the operating hours of Woodvale prior to his flight and, because of this, he did not communicate with Woodvale ATC prior to entering the ATZ.

