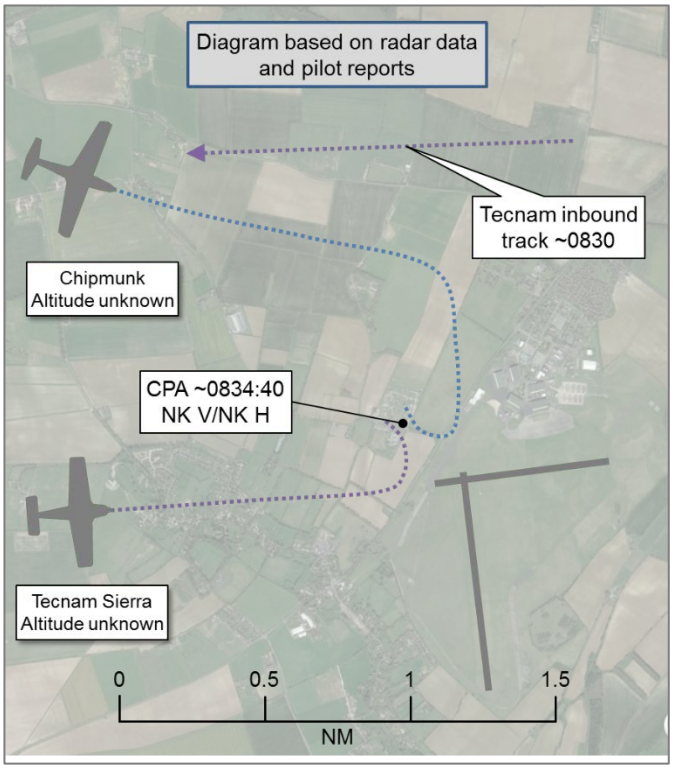
## AIRPROX REPORT No 2019284

Date: 21 Sep 2019 Time: 0835Z Position: 5109N 00135W Location: Middle Wallop

## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|---|---|---|
| Aircraft | Chipmunk | Tecnam Sierra |
| Operator | Civ FW | Civ FW |
| Airspace | Middle Wallop ATZ | Middle Wallop ATZ |
| Class | G | G |
| Rules | VFR | VFR |
| Service | ACS | ACS |
| Provider | Middle Wallop | Middle Wallop |
| Altitude/FL | | |
| Transponder | A, C, S | A, S |
| **Reported** | | |
| Colours | | White |
| Lighting | | Nav, Strobes |
| Conditions | VMC | VMC |
| Visibility | | 10km |
| Altitude/FL | | 2000ft |
| Altimeter | NK | 1014hPa |
| Heading | | 260° |
| Speed | | 85kt |
| ACAS/TAS | Unknown | Not fitted |
| Alert | Unknown | N/A |
| **Separation** | | |
| Reported | 2-300ft V/500m H | NK |
| Recorded | NK | |




**THE MIDDLE WALLOP TOWER CONTROLLER** reports that, at the time of the incident, the primary radar was unserviceable, and very limited SSR information was available on the ATM. The external phone lines were not working and an engineer was in the tower trying to establish the nature of the problem. No meteorology service was available and they had been trying to contact Boscombe Down for the Portland QNH but to no avail. The pilot of a PA28 called east of Wallop requesting join and was instructed to join left-base for RW17. The pilot of the Tecnam Sierra then called 10nm east of Wallop requesting join. The controller advised the pilot of one joining from a similar position, to position No2 behind, and asked him to report visual. Neither pilot was able to report visual with each other and the pilot of the Tecnam suggested that the PA28 was behind him when they left, so he was probably No2. The controller therefore changed the order, and informed the Tecnam pilot that he was now No1. The pilot of the Chipmunk called, requesting a join from the north-west requesting right-base join RW17 and was advised that he was No3, with 2 aircraft joining left-base, and was asked if he could accept an overhead join instead. Again he requested right-base, so the controller told him to position as No3. The PA28 pilot reported left-base, was advised he was No2 and was instructed to report final. The Tecnam pilot then reported downwind the airfield, which was unexpected, and no-one in the tower could visually acquire the aircraft. The controller looked at the ATM and saw a 7000 squawk with no mode C due-north of the tower. He then asked the Tecnam pilot if he was due-north of the tower but cannot remember his response. The Chipmunk pilot reported holding at Grateley until he could see the inbounds on left-base. The PA28 pilot reported final so the controller changed the order again, because the Tecnam pilot had not reported final. He advised the PA28 pilot of the new order and instructed him to land at his discretion RW17 (no QFE available). Once the PA28 had vacated the runway, the Tecnam pilot reported final. Still difficult to see, the controller instructed him to land at his discretion RW17. He then told the Chipmunk pilot to position No2 to the aircraft on final RW17. He asked the Tecnam pilot to confirm that he was on final for RW17 because no-one could see him, and he stated that he was. The Chipmunk pilot then reported final as the controller was looking at the ATM; the 7000 squawk with

no mode C had turned and looked as if it was on final for RW08. He instructed the pilot of the Chipmunk to go-around because he believed there was an aircraft on final RW08 and to report visual. The Tecnam pilot then reported going-around and was advised of the traffic going-around RW17. The Chipmunk pilot reported visual with the one going-around RW08 and turned right on RW17 while the Tecnam pilot turned left on RW08 – the aircraft turning into each other. Because the Chipmunk pilot turned first, he was slightly above, and the controller estimates a vertical separation of approximately 70ft but could not estimate a lateral separation because it was difficult to distinguish their relative distances from him, but it looked close. Subsequently, the Chipmunk pilot reported downwind RW17, the Tecnam pilot reported visual behind and was informed that he was No2. Both landed without further incident.

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

**THE MIDDLE WALLOP SUPERVISOR** reports that throughout this incident the AD controller and three other ATC staff in the VCR were unable to see the Tecnam aircraft. The AD controller repeatedly requested position reports from the pilot who responded with calls that he was positioning for RW17. When the AD controller became aware of an aircraft on final for RW08, he issued go-around instructions to the Chipmunk on final to RW17 and passed Traffic Information regarding the Tecnam believed to be on final RW08. At this point, the pilot of the Tecnam initiated a go-around from RW08, which led to the Airprox.

**THE CHIPMUNK PILOT** chose not to submit his own report to the UKAB secretariat, but provided information to the NATS Unit investigation. The pilot stated that, from the outset, he had never considered this incident to merit a formal Airprox investigation. When he was instructed to go-around on RW17, he acquired visual contact with the Tecnam immediately, approximately 2-3000m away in his 2-3 o'clock position and some 500ft above his aircraft. He confirmed to ATC that he was visual with the Tecnam and that it was (mistakenly) on long-final for RW08. He manoeuvred his aircraft to join downwind for RW17 and the Tecnam pilot was instructed by ATC to follow the Chipmunk downwind. The Chipmunk pilot estimates that the two aircraft were separated by 2-300ft and 500m by then, but he had the Tecnam in sight throughout the downwind turn. At no point was he required to take avoiding action and an Airprox declaration, in his view, was not required as there was never any risk of collision. The pilot opines that it was clear that a genuine error was made by a pilot unfamiliar with Middle Wallop airfield who mistakenly positioned his aircraft on final for the wrong runway. Whilst this was unfortunate, and perhaps embarrassing, it was not a serious breach of flight safety. Furthermore, the Chipmunk pilot believes that most pilots have experienced similar situations over the course of a flying career.

**THE TECNAM SIERRA PILOT** reports that he was given a PowerPoint briefing from Middle Wallop Airfield (Army) with regards to the circuit pattern and avoidance areas prior to the event. He was given a slot at 09.30 and left his departure airfield at 09.05 local time on Farnborough QNH of 1014hPa. The briefing was to report to Middle Wallop when at Boscombe Down and fly a right-hand circuit for RW17, heading for Grateley and turning before Grateley for RW17. On initial contact, the Tecnam pilot was informed that he was to fly left-hand for a left-hand base for RW17, not a right-hand as per his flight briefing, and given no QNH, QFE or surface-wind. As a newly qualified pilot, this request confused him because he had planned to fly a right-hand circuit. He overshot RW17 and lined-up for what he thought was RW17 and was then asked by the tower if he was final for RW17. He replied "negative, 08, going-around" and the tower confirmed "going-around 08". He climbed to 1500ft and did not have sight of the Chipmunk downwind for RW17, so he climbed to 2000ft west of the airfield and orbited at 2000ft while regaining his orientation for RW17. He then noticed the Chipmunk fly below him and to the right at roughly 600ft agl, about to turn onto base, and, at this point, the tower asked if he had visual. He replied "roger" and the controller asked him to descend and follow the Chipmunk in as No2. While on final, and calling final, he noticed the Chipmunk landing and vacating the RW as the tower returned his call stating that he was on a short-final for RW17, and he replied 'short-final for 17' with his callsign. On landing, he was directed to the venue's parking and, 1hr after landing, was taken out of a briefing and informed by the tower officer that he was reporting an Airprox. The pilot considered that the Tower was overloaded and, having changed from the pre-flight briefing that he was given, provided him with no support in the circuit.

The pilot assessed the risk of collision as 'None'.

## Factual Background

The weather at Middle Wallop was recorded as follows:

```
METAR EGVP 210850Z AUTO 11011KT 9999 // NCD 17/09 Q1012=
```

## Analysis and Investigation

### CAA ATSI

An Airprox was reported by the Middle Wallop Tower Controller between a Tecnam Sierra and a Chipmunk while both were joining the circuit to land at Middle Wallop. Area radar coverage in this area is poor, and does not show CPA; however, it was able to illustrate the initial positioning of the aircraft which led to their coming into proximity. Although the Airprox was filed between the Tecnam and the Chipmunk, a third aircraft, a PA28, was joining to land at the same time and its inclusion is pertinent to the initial stages of this event, though not part of the Airprox itself. Figure 1, taken from Google Earth, shows the airfield layout at Middle Wallop.

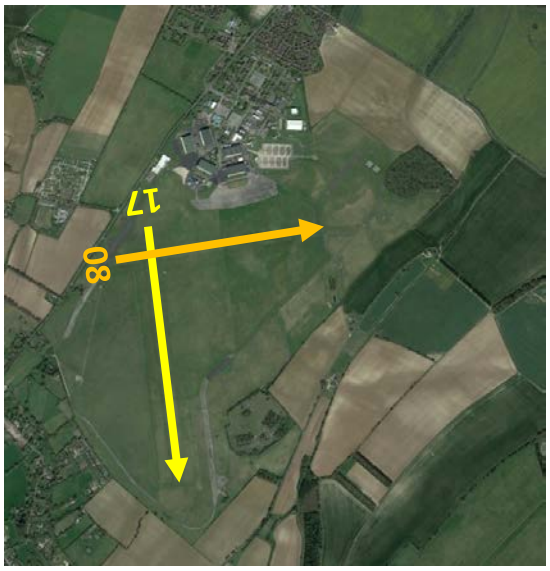



Figure 1

Figure 2 shows the relative positions of the Tecnam and the PA28 at **0824:20**. The PA28 had already called for joining instructions and was routing towards a left-base join for RW17. At this time, the Tecnam pilot called for join and the tower controller instructed them to "*join left-base RW17. Believe a PA28 is joining left-base also about similar position*", all of which was correctly read back by the pilot of the Tecnam.

The Tecnam pilot had made their initial call to Middle Wallop Tower using their company callsign. The controller asked them to use their registration instead, and the pilot complied with this until reverting back to that callsign at **0834:05**, when they reported going-around just prior to the Airprox.

At **0825:14**, with another aircraft already in the circuit to land ahead of both the PA28 and the Tecnam, the controller corrected themselves and advised the Tecnam pilot to "*position number 3 to the PA28*". The pilot of the Tecnam did not acknowledge this instruction.

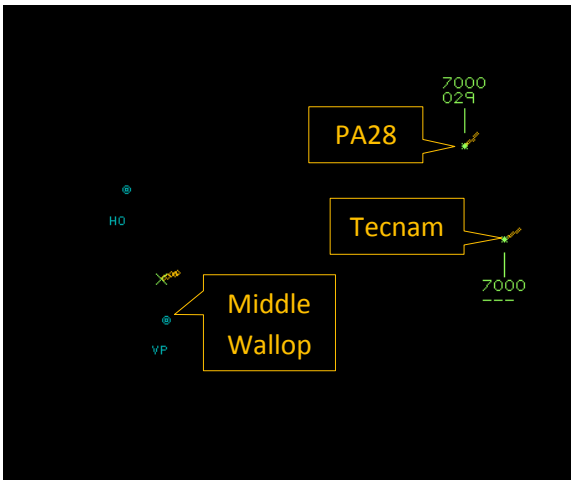



Figure 2 - 0824:20

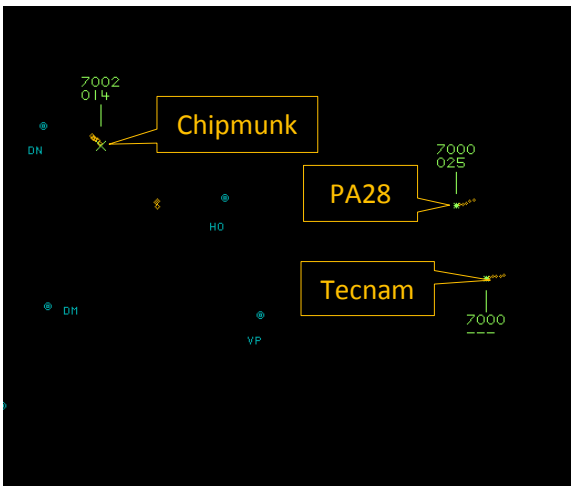



Figure 3 - 0826:00

At **0825:30**, the Chipmunk pilot made their initial call inbound from the NW, advising that they were intending to route via Grateley, (a small village/railway station 2.3nm NW of the airfield). The tower controller asked the pilot if they could accept an overhead join due to the two aircraft joining left-base, which they declined, at **0826:00** (Figure 3), requesting a right-base join for RW17. The controller acknowledged this, advising them that they would be number 3 to the two on left-base, which the pilot acknowledged. The controller then became involved with the first landing aircraft and then with a call from another joining aircraft with a very poor radio. At **0827:18**, the PA28, (now 5nm NE), reported on a wide left-base and was instructed by the controller to report final (Figure 5).

At **0827:48**, the controller asked the Tecnam pilot if they were visual with the PA28, to which the pilot replied that they were not. The controller then asked the Tecnam pilot for their position which the pilot reported, at **0828:00**, as "*just approaching your airfield, er virtually behind the water tower*" (located 0.7nm N of the airfield) (Figure 4).

At **0828:10**, the controller requested the PA28 pilot to report their position. The pilot advised that they were "*left-base, no contact with the other aircraft*". The PA28 pilot then added, at **0828:23**, "*if that's (Tecnam callsign), he took-off after us. I would imagine he's behind*". The controller acknowledged this, but clearly thought that it was the Tecnam pilot making this call as they used the Tecnam pilot's callsign when they acknowledged the call.

At **0829:09**, the pilot of the Tecnam reported "*now downwind of your airfield*".

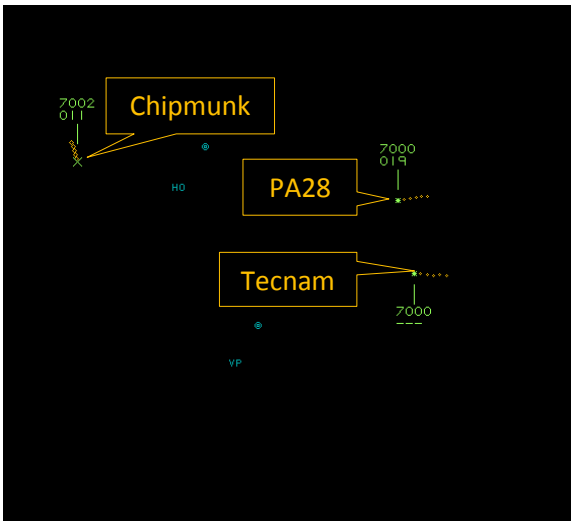



Figure 4 - 0828:00

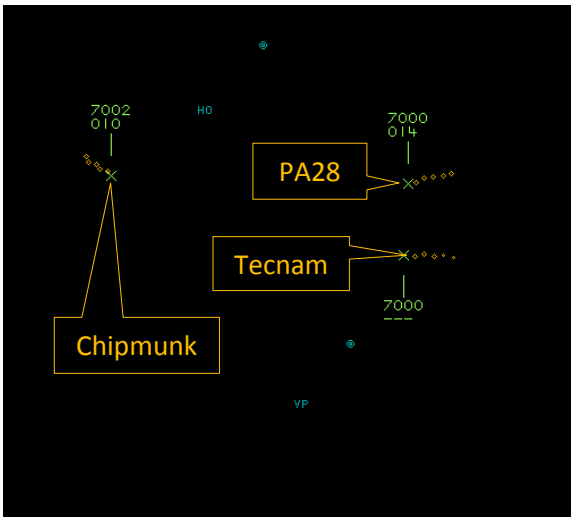



Figure 5 - 0829:22 (Tecnam 1.3nm NNE)

At **0829:22**, the controller asked the Tecnam pilot "*confirm are you almost due north of the tower*", to which the pilot replied "*affirmative*", in response to which the controller instructed them to report final, adding that they were "*Number 1*" which was acknowledged by the pilot (Figure 5).

The controller then, at **0829:35**, asked the pilot of the PA28 if they were "*visual with the Tecnam ahead*", which they advised they were not. The controller went on to ask the PA28 pilot their position, which was reported as "*just about to turn final*".

At **0829:57**, the PA28 pilot reported turning final, to which the controller responded, *"roger, OK, (PA28 callsign), you are Number 1 RW17, land at your discretion"* which was acknowledged by the pilot of the PA28 (Figure 6).

At **0830:08**, the controller advised the pilot of the Tecnam that the PA28 was on final, and requested the pilot of the Tecnam to report visual (with it). The Tecnam pilot advised that they were not visual with the PA28.

The controller acknowledged this, and advised the Tecnam pilot that they had another aircraft joining right-base via Grateley, overhead Grateley at that time, which was not acknowledged by the pilot of the Tecnam. The Chipmunk pilot, at **0830:18**, advised *"I'm orbiting at Grateley until the others are on final, just to avoid any confusion"* (Figure 7).

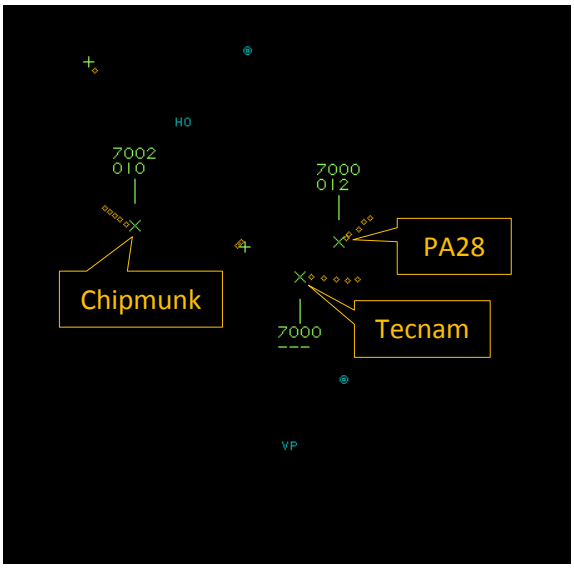



Figure 6 - 0829:57

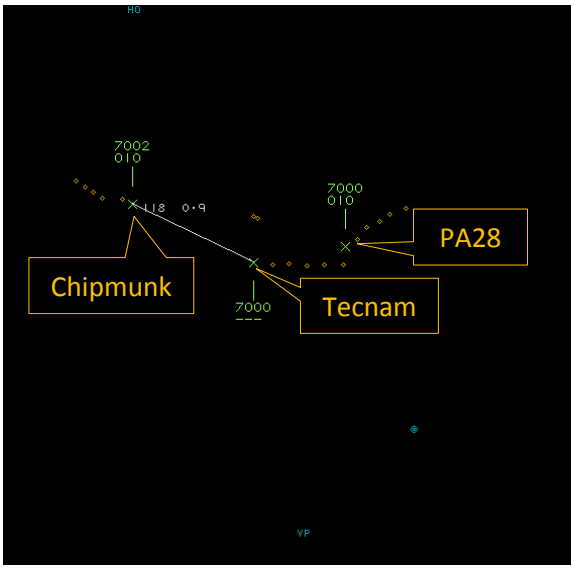



Figure 7 - 0830:18

The Tecnam can be seen on the radar recording to pass ahead and within 0.2nm of the Chipmunk at **0830:35**, but it's altitude could not be determined and neither pilot mentioned seeing the other (Figure 8).

At **0830:45**, the Tecnam pilot reported turning onto a base-leg. The controller responded *"(Tecnam c/s confirm is that left-base or right-base?".* The Tecnam pilot replied *"that's left-base"*.

By **0831:43**, the PA28 pilot had landed and was being given taxi instructions by the tower controller.

At **0831:58**, the controller again requested the position of the Tecnam, whose pilot replied *"is turning onto finals".* The controller instructed the pilot to continue their approach. On the radar replay, the Tecnam appears to be on left-base for RW08 (Figure 9).

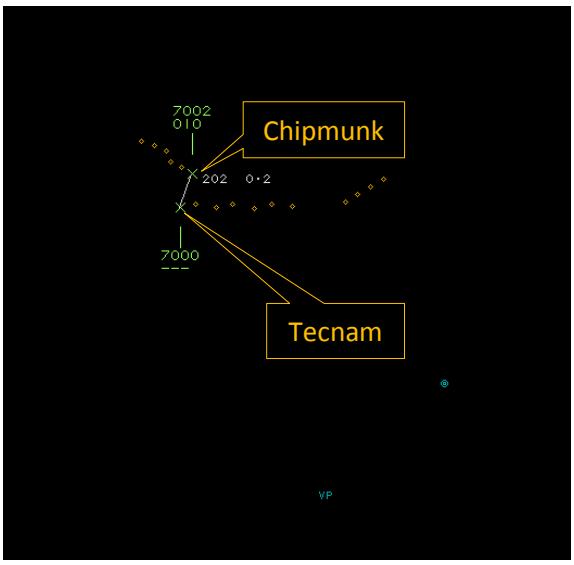



Figure 8 - 0830:35 (landing PA28 disappeared from radar replay)

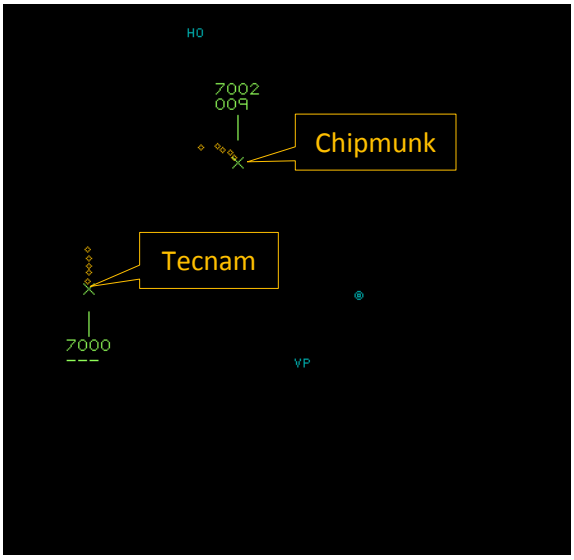



Figure 9 - 0831:58

At **0832:08** (Figure 10), the controller asked the pilot of the previously landed PA28 to confirm that they had vacated the runway, which the pilot confirmed. The controller then advised the Tecnam pilot to *"(c/s) RW17 land at your discretion*", which was read-back by the pilot but omitting the RW designator.

At **0832:36**, the controller asked the pilot of the Chipmunk to report visual with the Tecnam *"on final RW17".* The Chipmunk pilot did not reply.

At **0832:57**, the Chipmunk pilot reported *"positioning right-base RW17*".

At **0833:17**, the controller requested the Tecnam pilot to report their position. The pilot replied *"final for landing"*. The controller asked *"confirm you're on final for RW17?"* the pilot replied "*er final for 17*" (Figure 11).

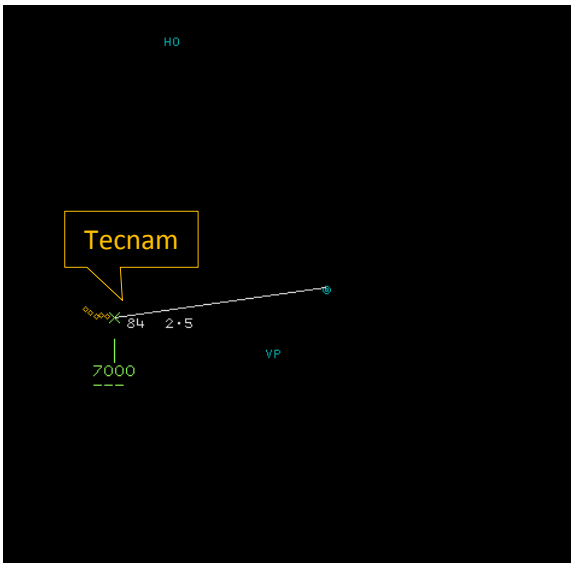



Figure 10 - 0832:36 (Chipmunk disappeared from radar replay)

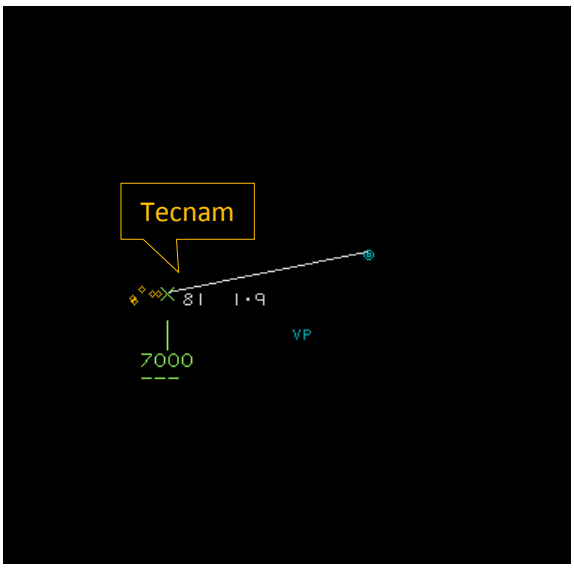



Figure 11 - 0833:17

At **0833:41** the Tecnam disappeared from the radar replay, and no further contacts in this area were observed.

The Middle Wallop controller reported that, on that day, the unit had a number of unserviceabilities, including no outside telephone line, no primary radar and "*very limited SSR information*" available on their ATM. Their meteorological office was also unmanned and so they were unable to provide a QFE to aircraft. The controller elected to reduce the Aerodrome Control Service by not issuing a landing clearance to aircraft, rather, they were using "*land at your discretion*".

When both the Tecnam and PA28 were on left-base, a transmission from the PA28 pilot, which the controller thought came from the Tecnam pilot, had a negative impact on the controller's situational awareness, possibly leading them to believe that the aircraft were in trail. In fact, both aircraft were on a wide left-base, on parallel tracks, with the Tecnam slightly closer/tighter left-base to the airfield. Had the Tecnam turned final for RW17 instead of ultimately continuing westbound through the final approach, then it is likely that the sequence would have worked, even if neither pilot had visual contact with the other. The controller had passed Traffic Information on the PA28 to the Tecnam pilot, but not vice versa, when they were both on base leg.

Once the Tecnam pilot flew through the RW17 final approach, effectively into the downwind position for RW08, further attempts by the controller to acquire accurate situational awareness failed, with the Tecnam pilot continuing to insist that they were positioning for RW17. A brief sighting of a 7000 squawk to the north of the airfield on the ATM by the controller was correctly deemed to be the Tecnam although, according to the unit report, neither the controller nor anyone else in the tower managed to visually acquire the aircraft. The controller did then correctly pass Traffic Information to the Tecnam pilot on the Chipmunk but, again, no reciprocal Traffic Information was passed.

With the PA28 pilot turning and reporting final first, it became number one in the sequence in the mind of the controller and so was given the runway. With the Tecnam already clear to the west, and the Chipmunk keeping itself clear to the north-west, this potential confliction resolved itself with the PA28 landing and vacating shortly afterwards.

When the Tecnam pilot then reported final, the controller was still assuming that the Tecnam was positioning for RW17 and so was given "*land at your discretion*". The controller then requested that the Chipmunk pilot report visual with the Tecnam, clearly with the intention of making it number 2 in the sequence. However, the Chipmunk pilot came out of their orbits on wide right-base and joined the circuit without having visually acquired the Tecnam or reporting visual with it to the controller, as requested. Again, despite repeated requests for position reports, the Tecnam pilot continued to insist that they were in the RW17 circuit. However, once the controller spotted the 7000 squawk to the west on the ATM, it apparently became clear where the Tecnam really was, and that a confliction existed with the Chipmunk. The controller instructed the Chipmunk pilot to go-around, passing Traffic Information on the Tecnam. However, this was coincidental with the Tecnam pilot finally apparently realising they were wrongly positioned, and so electing to go-around also.

Whether from the controller's Traffic Information, or their own situational awareness from the controller's calls to the Tecnam pilot, the Chipmunk pilot managed to visually acquire the Tecnam, and apparently made an early turn to the right, to the north-west, to deconflict with the Tecnam. The Tecnam pilot then became visual with the Chipmunk.

The report from the Tecnam pilot indicated that they had been briefed before departure to expect a right-hand circuit to RW17 at Middle Wallop, effectively a right-base joining from Grateley. The pilot reported being confused by having then arrived at Middle Wallop and being given a left-base join. The direct track from their departure airfield would have taken them towards Grateley and right-base; however, unlike the PA28 which had departed ahead of them, they had drifted to the south before tracking west, thereby taking them more naturally towards left-base.

An investigation report was completed by Middle Wallop. It reported that an organised fly-in had been arranged with [another local airfield]. It confirmed that a briefing pack had been made available to the pilots. It included the graphic below, (Figure 12), which is wrongly orientated [south-up], with no compass rose or directional indicator, and may have added to the Tecnam pilot's confusion and hence explain why they flew through the RW17 final approach and on into the circuit for RW08.


Figure 12

The unit report also highlighted that RW08 was not available for use due to work in progress, but it is not clear if that had been NOTAM'd or physically marked on the ground.

The controller's situational awareness was based on the position reports received from the PA28 and Tecnam pilots. They did not appear to make a visual acquisition of the aircraft involved, certainly of the Tecnam, until the Tecnam pilot turned finals on RW08, which the controller had cross-referenced with a 7000 squawk which had appeared on the ATM in that position. The position reports made by the Tecnam pilot were ultimately erroneous and impacted on both the controller's and the other pilots' ability to establish good situational awareness and/or acquire visual contact with the Tecnam.

Apparently, neither the PA28, the Tecnam nor the Chipmunk pilots ever became visual with each other in the circuit until both the Tecnam and the Chipmunk were going-around on the crossing runways.

It was noted by ATSI that, during the whole of this period of RTF, 50% of the transmissions included neither a callsign nor an abbreviated callsign and, occasionally at other times, clipped callsigns only.

CAP493 Section 2: Chapter 1: Aerodrome Control states:

### *2. Responsibilities*

*2.1 Aerodrome Control shall issue information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic with the objective of:*

*(1) Preventing collisions between:*

*(a) aircraft flying in, and in the vicinity of, the ATZ;*

*(b) aircraft taking-off and landing;*

*(c) aircraft and vehicles, obstructions and other aircraft on the manoeuvring area.*

***Note**: Aerodrome Control is not solely responsible for the prevention of collisions. Pilots and vehicle drivers must also fulfil their own responsibilities in accordance with Rules of the Air.*

**NATS Unit Investigation**

A charity fly-in event was taking place at Middle Wallop on Saturday 21st September 2019. There were a number of aircraft booked in from [the Tecnam Sierra's operating company] and had been allocated arrival periods. A briefing pack had been provided for those aircraft inbound to the event with a further briefing to take place after they had arrived on the departure and arrival routes for a planned afternoon flight. RW17 was in use and three aircraft were joining the circuit to position for RW17. One of the three aircraft made an approach to RW08 instead and made a missed approach at the same time as one on RW17, leading to a reported Airprox by the tower ATCO.

The ATCO was operating as the Tower Controller at the time of the incident. A number of unserviceabilities had been reported in the tower and an engineer had been called into the tower to assist with this issue. They were reported as:

- Primary radar unserviceable with only limited SSR information on the ATM display.
- External telephone line failure.
- Meteorology system unserviceable - no QNH/QFE data was displayed and aircraft were being instructed to 'land at their discretion'.

Of note, RW08 was not available as described in the NOTAM below:

U3546/19

Q) EGTT/QMRLC/IV/NBO/A/000/999/5109N00134W005
B) FROM: 19/08/19 07:00C) TO: 19/10/31 23:59
E) RWY 08/26 CLOSED DUE TO WORK IN PROGRESS

Workload was high in the tower, with a glider also in communication positioning for the glider operating area to the eastern side of the operating area.

At 0824:15Z, the Tecnam pilot called the Tower. Initially the callsign being used was [a company callsign]; however, the controller instructed the use of the full callsign. The pilot of the PA28 was already on frequency, was believed to be following the Tecnam and was initially instructed to position onto final RW17 as No2. There was some confusion between the aircraft as to who was first or second and they were not visual with each other. The Tecnam pilot was instructed to position for RW17 No1.

A further aircraft, the Chipmunk, was inbound from the north and was told to position No3 to the two aircraft on left-base for RW17. Sensibly, on hearing the confusion, the pilot of the Chipmunk built-in some space and advised he would hold at Grateley to the NW of the Middle Wallop ATZ.

The pilot of the PA28 reported final RW17 at 0829:47 with no visual on the Tecnam. The order was now switched to the PA28 as No1 and the Tecnam as No2. The PA28 landed safely and the pilot was asked to report vacated, after which the Tecnam pilot was asked to report his position, to which he responded with 'turning final'.

On hearing this call, the pilot of the Chipmunk left the hold at Grateley to position, now No2, on final for RW17. The controller, as well as all staff in the tower, were searching for the Tecnam and called the pilot to confirm that he was on final for RW17. A reply was received, indicating that the Tecnam was on final for RW17, although the transcript does not show RW17 in the readback at time 0832:29Z. After this call, the Chipmunk pilot reported final for RW17 but not visual with the Tecnam that was No1. At 0833:56, the controller instructed the Chipmunk pilot to execute a missed approach because there was possibly an aircraft on final to RW08. The controller now sought clarification from the pilot of the Tecnam as to whether he was, in fact, on final to RW08 and then the next call came from the pilot of the Tecnam at 0834:11, using [the company callsign], that he too was executing a missed approach. The controller attempted to pass Traffic Information to the Tecnam pilot on the aircraft already conducting a missed approach on RW17. The pilot of the Tecnam did not indicate that he was visual with the Chipmunk, but the Chipmunk pilot did report visual.

The Chipmunk and the Tecnam, now both conducting go-arounds, passed close to each other with the controller reporting an Airprox with a miss distance of approximately 70ft vertically and an unknown lateral displacement. There was no radar data available which could accurately confirm the actual distance between the Tecnam and the Chipmunk. Both aircraft then repositioned right-hand downwind for RW17 and landed without further incident.

The following areas were provided and reviewed as part of this investigation:

- RTF reviewed and RTF transcript obtained.
- Area radar feed obtained from Swanwick.
- Meteorological data provided from the Met Office.
- Visit to Middle Wallop and open discussion with the controller involved.
- Assessment of proximity by the pilot of the Chipmunk.
- Copy of the briefing pack sent to the [Tecnam's operating authority] before the event.
- A copy of the risk assessment by the event organiser.

A discussion was held with the controller, who was operating as the Tower Controller at the time of the incident. The unserviceabilities were being managed, with an engineer called to assist with correcting the faults and, given that no meteorological data was feeding into the tower, 'land at your discretion' was used as there was no QFE reading.

The aircraft had been booked-in to the event using aircraft callsigns yet, when they called on frequency, they were using [the company callsigns]. This was causing additional workload for the controller in avoiding callsign confusion. This was confirmed by listening to the RTF during the times before and after the time of the incident.

The controller confirmed there were other team members in the tower, none of which could gain a visual sighting of the Tecnam. Only limited ATM data was available and, as reported within the controller's written report, it perhaps indicated that what was believed to be the Tecnam was established on RW17. There is possibly a point here when the controller could have challenged the pilot of the Tecnam because he had not been observed on final for RW17, despite reporting as such. However, the ATM may have actually shown the position of the Chipmunk which was now positioning to RW17. No recordings are available for this.

After arrival, the controller spoke to the pilot of the Tecnam, who indicated that the briefing pack showed the airfield in the reverse sense, indicating that he had been using this to navigate his arrival. The Tecnam pilot was relatively inexperienced and had only gained his pilot's licence a few months earlier. If the diagram had been used, it might have been expected that the pilot would have positioned for the opposite direction RW35, rather than RW08; however, it has not been possible to discuss the routing with the pilot of the Tecnam.

A review of the radar recordings obtained from Swanwick indicates the Tecnam routing from the east and always just to the south of the PA28 that was tracking along a line equivalent to tight-downwind for RW08. The two aircraft crossed on final, which indicates that the PA28 was below and looking for the Tecnam on the approach rather than the Tecnam crossing above. The positioning was such, tight-downwind for RW08, that it would not likely be in the view of the tower looking north.

A representative diagram of the relevant arrival routes is as below in Figure 13, although the actual final approach positions were outside of radar coverage and are placed based on the incident reports:

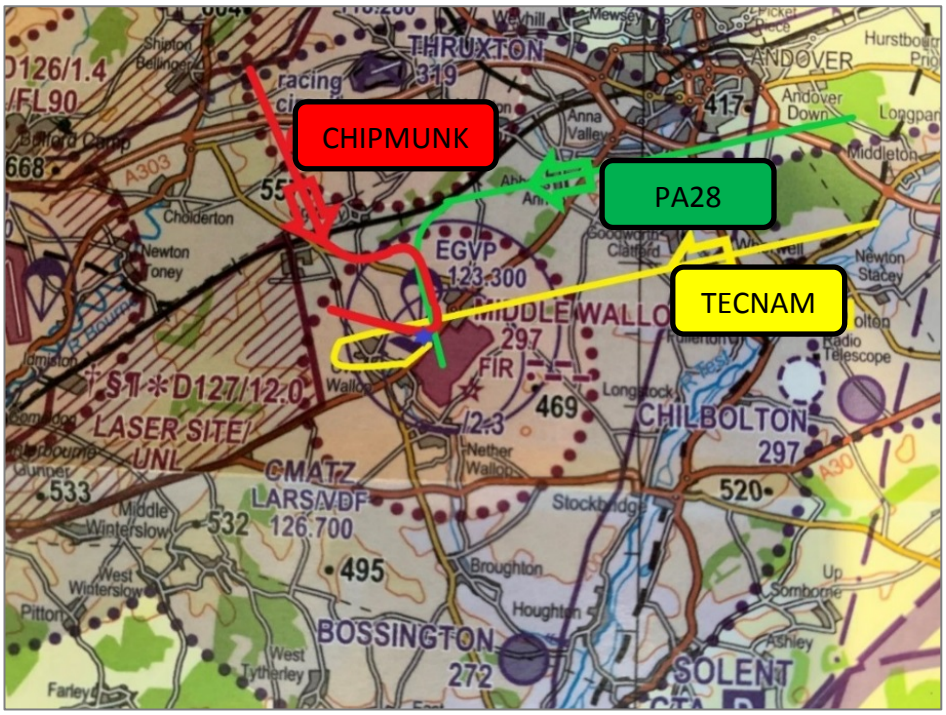



Figure 13

The pilot of the Tecnam positioned his aircraft on final for the closed RW08 instead of RW17; it is possible that he was using a briefing pack not designed for navigational purposes to help with his positioning. The charts should have been marked accordingly with 'Not to be used for Navigational Purposes'.

Some of the aids provided to the Tower controller might have given the impression that the Tecnam was on final for RW17, especially given the fact that the Tecnam pilot was reporting as such. A more robust challenge to the Tecnam pilot, perhaps with a direct question at the time when a visual was not obtained on the approach, might have allowed an earlier resolution, but whether this would have been successful is doubtful because the Tecnam pilot was reporting for RW17 and not giving any indications otherwise. However, recovery actions were sound when the problem was eventually identified because the controller passed Traffic Information to the pilot of the Chipmunk in order that he could gain visual acquisition on the Tecnam.

Workload for the controller and the other Tower staff was high, with company callsigns being used instead of the pre-briefed aircraft registrations. The Tecnam pilot used the incorrect callsign on several occasions, as others had previously, which did not assist ATC with their workload.

It is recommended that, if airfield layout maps are placed within a briefing pack, they should contain a clear statement of 'Do not use for navigational purposes' unless they are specifically sourced and approved charts. It is also recommended that, for a fly-in event such as this, company callsigns should not be used. All arrivals had been booked-in with aircraft registrations and this caused a significant increase in workload for the ATCO and, possibly, the pilot might not have been focussing on the callsign if they were expecting the company callsign to be used. It is recommended that [the operating authority] be debriefed on this and consider this for future events.

**UKAB Secretariat**

The Chipmunk and Tecnam Sierra pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] An aircraft operated

[1] SERA.3205 Proximity.

on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.[2]

## Summary

An Airprox was reported when a Chipmunk and a Tecnam Sierra flew into proximity in the Middle Wallop overhead at around 0835hrs on Saturday 21st September 2019. Both pilots were operating under VFR in VMC and both were in receipt of an Aerodrome Control Service from Middle Wallop.

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

Information available consisted of reports from the pilot of the Tecnam Sierra, transcripts of the relevant RT frequencies, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate ATC and operating authorities. 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board first discussed the actions of the Tecnam pilot and considered that, although the pilot had planned for and expected a right-base join through the agreed arrival route, as a qualified private pilot he should have been able to adapt his plan to effect the left-base join offered to him by the controller (**CF9, CF10**). Notwithstanding, he could have declined the left-base join if he was unsure and continued with his briefed join procedure, and this was a timely lesson to all newly qualified pilots about deviating from their plan despite the good intentions of the controller. Members agreed that the planning material supplied by the aerodrome had been lacking in some respects, particularly the 'south up' airfield layout diagram, and that this could have been misleading to the inexperienced Tecnam pilot (**CF1**). The Board judged that, although mitigated to a certain extent by the sub-optimal pre-flight materials supplied to him, and by his confusion around the change of plan, the Tecnam pilot had ultimately not conformed with the traffic pattern in use at Middle Wallop at the time (**CF8, CF11**). Furthermore, members agreed that his responses to the controller with respect to his positioning had demonstrated that he had had little or no situational awareness regarding his own position or that of the Chipmunk (**CF12, CF13**).

Turning to the actions of the Chipmunk pilot, the Board was disheartened to learn that he did not wish to submit a report to the UKAB – the Board's focus is purely on enhancing the safety of flight for all involved in aviation and their assessment of the event is hampered if those involved are reluctant to participate in the process. In this respect, the Board wished to stress that it is not their role to assign blame or apportion liability, and pilots can be secure in the knowledge that Airprox reporting is not viewed in terms of 'a serious breach of flight safety' but rather as a process to pursue lessons to be learnt by all. That said, the Chipmunk pilot did provide input to the NATS investigation and this assisted members in understanding the event from his perspective. The Board commended the Chipmunk pilot's initial actions of remaining out to the NW of the airfield when he heard the confusion unfolding on the radio. Members agreed that there was little more he could have done to avoid the Airprox given that he was working with a flawed mental model (due to the erroneous position reporting from the Tecnam pilot), as to his understanding of the relative positions of the other aircraft. Members agreed that he had followed the instructions given to him by the controller, had gone-around when instructed and, when passed Traffic Information on the Tecnam on final for RW08 while he was on short final for RW17, had visually acquired and avoided it, thus resolving the developing conflict (**CF14**).

The Board then discussed the actions of the controller. Controller members felt that, with the degree of unserviceable equipment (**CF2**) and paucity of meteorological information in the tower at the time, it

[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

may have been more prudent to postpone the fly-in until such time as the equipment issues had been resolved. As it was, the controller had been trying his best with the limited information available and had been relying on accurate pilot position reports to enable the orderly flow of traffic; members noted that this is common at many other airfields. The Board agreed that the controller had also developed a flawed mental model based on the erroneous position reports of the Tecnam pilot (**CF3**) and that this, in turn, had led to the controller having been unable to detect the conflict until the latter stages of the 2 opposing approaches (**CF4**). However, when the Chipmunk pilot had reported on final for RW17, the controller had been prompted to re-check the ATM and that had led them to believe that the PA28 was now on approach to RW08 (**CF7**). This had led to the controller issuing a go-around instruction and Traffic Information to the Chipmunk pilot, albeit this was a late resolution due to the late detection of the conflict (**CF5**). Members noted the use of the company callsign by the Tecnam pilot rather than aircraft registration and were aware that there were logical reasons for its use. It was, however, clear that this had placed demands on the controller's attention and subsequent degradation in his SA (**CF6**) because he was expecting aircraft registrations to be used; members agreed that greater coordination could have been achieved before the event to understand the rationale for, and the use of, the company callsign if considered appropriate.

In considering the risk, members noted that the Chipmunk pilot had considered there to be no risk of collision by virtue of his being instructed to go-around and becoming visual with the Tecnam thereafter. Although the Tecnam pilot had not been visual with the Chipmunk during their respective go-arounds, members felt that the Chipmunk pilot had been in control of the situation once he had become visual and, although safety had been degraded, any risk of collision had been removed; Risk Category C.

## PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

| | **2019284** | | |
|---|---|---|---|
| CF | **Factor** | **Description** | **Amplification** |
| | **Ground Elements** | | |
| | **• Regulations, Processes, Procedures and Compliance** | | |
| 1 | Organisational | • Organisational Documentation and Publications | Inadequate regulations or procedures |
| | **• Manning and Equipment** | | |
| 2 | Technical | • Aerodrome and ATM Equipment | Non-Functional equipment |
| | **• Situational Awareness and Action** | | |
| 3 | Contextual | • Situational Awareness and Sensory Events | Generic, late, no or incorrect Situational Awareness |
| 4 | Human Factors | • Conflict Detection - Detected Late | |
| 5 | Human Factors | • Conflict Resolution - Provided Late | |
| 6 | Human Factors | • Callsign Confusion | |
| 7 | Human Factors | • Personnel Perception Events | Concerned by the proximity of the aircraft |
| | **Flight Elements** | | |
| | **• Regulations, Processes, Procedures and Compliance** | | |
| 8 | Human Factors | • Flight Crew ATM Procedure Deviation | Regulations/procedures not complied with |
| | **• Tactical Planning and Execution** | | |
| 9 | Human Factors | • Insufficient Decision/Plan | Inadequate plan adaption |
| 10 | Human Factors | • Action Performed Incorrectly | Incorrect or ineffective execution |
| 11 | Human Factors | • Aircraft Navigation | Did not avoid/conform with the pattern of traffic already formed |
| 12 | Human Factors | • Accuracy of Communication | Ineffective communication of intentions |

| | | | |
|---|---|---|---|
| | **• Situational Awareness of the Conflicting Aircraft and Action** | | |
| 13 | Contextual | • Situational Awareness and Sensory Events | Generic, late, no or incorrect Situational Awareness |
| | **• See and Avoid** | | |
| 14 | Contextual | • Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle | A conflict in the FIR |

Degree of Risk: C

Safety Barrier Assessment[3]

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

**Ground Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **partially effective** because the briefing pack provided to the participating pilots was not wholly adequate for its intended purpose. Additionally, after passing Traffic Information to one pilot, the controller did not pass reciprocal Traffic Information to the pilot of the other aircraft; also, because the Tecnam pilot was passing erroneous position reports, the Traffic Information was, in itself, inaccurate.

**Situational Awareness of the Confliction and Action** were assessed as **partially effective** because the controller was relying on the erroneous position reports of the Tecnam pilot and thus developed an inaccurate mental model of the unfolding situation. This then led to the late recognition of the conflict and therefore a late resolution.

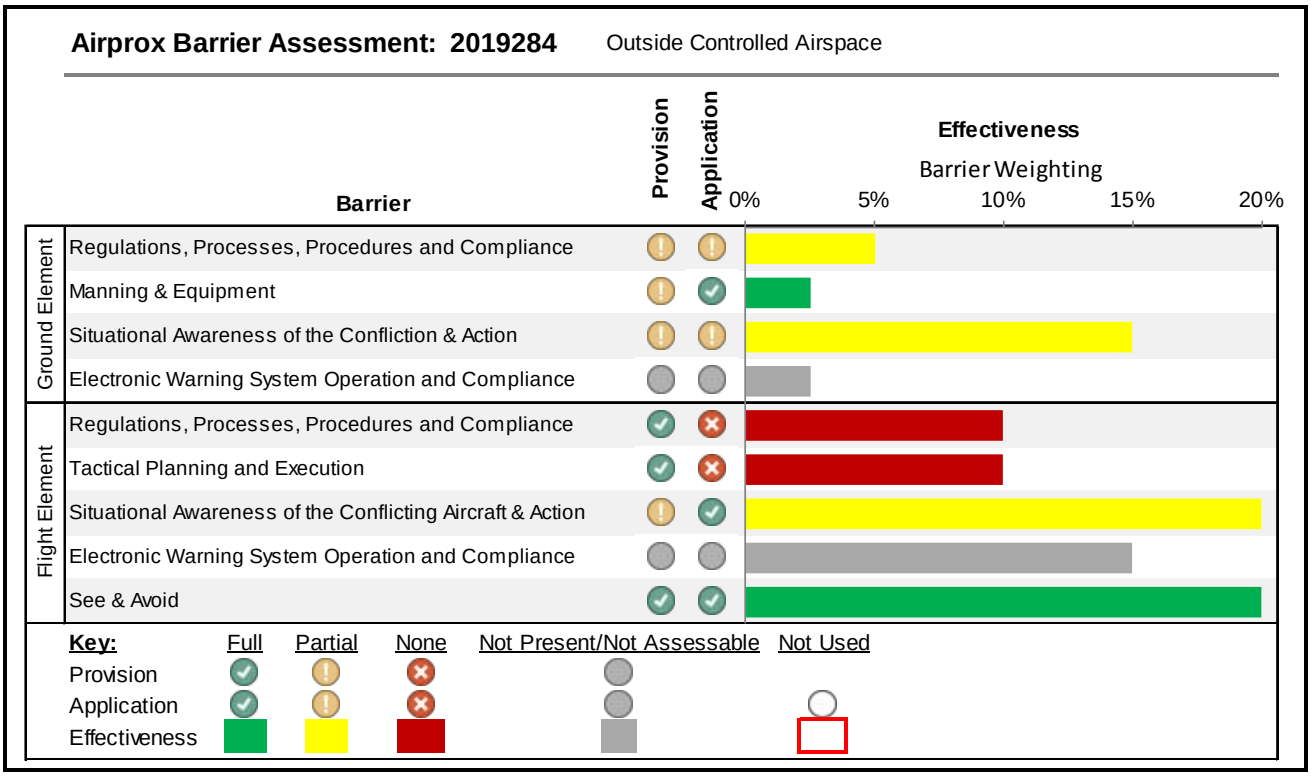
**Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because, although some elements of the briefing pack were sub-optimal, the information was contained therein to enable the pilots to conduct a controlled arrival to the airfield. Ultimately, the Tecnam pilot made an approach to the wrong runway than that instructed.

**Tactical Planning and Execution** was assessed as **ineffective** because the Tecnam pilot did not adapt his arrival plan sufficiently to join for the correct runway.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because each of the pilots involved had a different mental model as to the positioning of the aircraft relative to the airfield, and none of those mental models matched.

[3] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.


Airprox Barrier Assessment: 2019284
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness