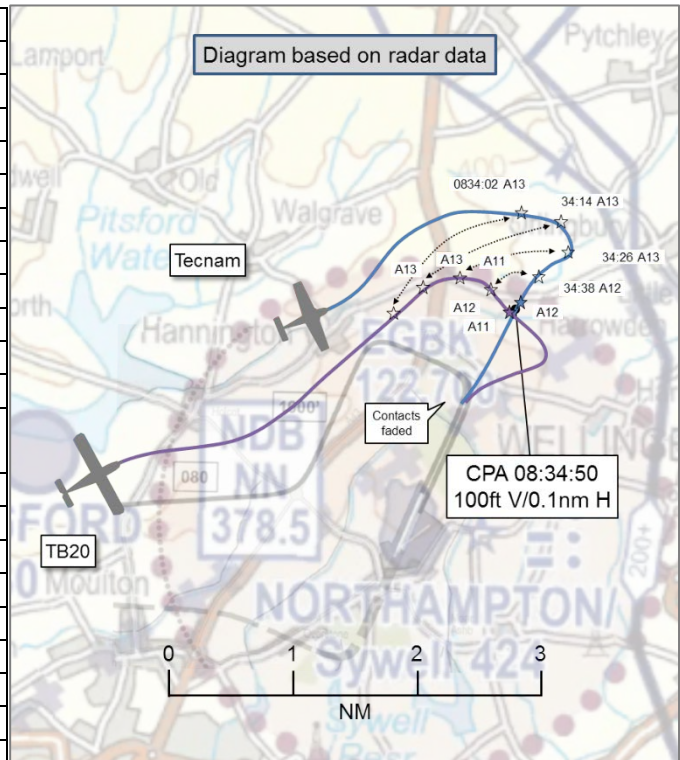


AIRPROX REPORT No 2018240

Date: 01 Sep 2018 Time: 0836Z Position: 5217N 00047W Location: Sywell

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tecnam Sierra	SOCATA TB20
Operator	Civ FW	Civ FW
Airspace	Sywell ATZ	Sywell ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Sywell	Sywell
Altitude/FL	1200ft	1100ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue, white	Blue, white
Lighting	Wingtip strobes, landing	4 x HISL
Conditions	VMC	VMC
Visibility	10nm	>10km
Altitude/FL	300ft	800ft
Altimeter	agl	QFE (NK hPa)
Heading	210°	115°
Speed	60kt	90kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
Separation		
Reported	30ft V/50-100m H	100ft V/500m H
Recorded	100ft V/0.1nm H	



THE TECNAM PILOT reports being on the approach for RW21L at Sywell following the instructions on AIC Y074/2018. He opined that his circuit was of normal proportions and, once stabilised on final approach, he made the only required R/T call "call-sign, final". No other aircraft were in sight. When he was about 'half way' into his approach, an aircraft appeared on the right. It proceeded to pass close in front of him, from right to left, then turned and passed again close in front, from left to right before then aligning with RW21R. During this puzzling period, he repeated his call-sign to Tower and stressed that he was 'Number 1, 21 left' for the benefit of the other pilot. However, his call was ignored and the aircraft landed ahead of him. The Tecnam pilot recollect a muffled radio call announcing the other aircraft's presence, and the controller saying he already had an aircraft 'Number 1' but this made no difference. The Tecnam pilot noted that throughout the period of crossing his flightpath, the other aircraft was between 50 to 100 yards horizontally away and 30 to 40 feet above, and the pilot showed no sign of having seen him. The TB20's wake turbulence was a serious concern and the Tecnam pilot adjusted his height on 2 occasions in order to avoid it.

He assessed the risk of collision as 'Medium'.

THE TB20 PILOT reports that, whilst on base leg to land on RW21R at Sywell, one of the passengers saw a Tecnam on what appeared to be long final. Because of the proximity of the other aircraft, the TB20 pilot flew to its left side and had him in view from the moment that the passenger alerted him. Although that was the wrong side to land on his preferred choice of the hard runway, RW21R, he was also able to land on the grass runway if necessary. Unfortunately, the Tecnam pilot didn't report which runway he was landing on when he called final. The Tecnam pilot landed on the grass runway [RW21L] and so the TB20 pilot was then able to land on the hard runway [RW21R]. The pilot noted that his first approach had resulted in a go-around and that on this approach the runway centre line had been

passed through because of the avoiding action. He stated that he still had over 5 hours endurance and there had been no pressing need to land.

He assessed the risk of collision as 'Medium'.

THE SYWELL AFISO reports that this was the second day of the three-day LAA Rally held at Sywell. AIC Y074/2018 detailed the joining instructions for some 450+ aircraft that had pre-booked arrival slots of one per minute for most of the morning and early afternoon up until 15:00 local. The runway in use for the day was RW21 which involved the Duty FISO making regular R/T broadcasts stating this fact along with the current QNH and QFE values. Inbound pilots were to monitor the Sywell frequency and proceed to an assembly point/hold at Pitsford reservoir about 4nm west of the aerodrome. Pilots were then required to leave the southern leg of the hold on a heading of 080° to position downwind right-hand for RW21 in a single stream with no overtaking. If spacing was wrong then a return to the hold was required. Once on final, the single stream could split to land either RW21R (concrete) or RW21L (grass). The only pilot call required was when Number 1 on final, stating aircraft type, registration and use of either RW21L or RW21R. The TB20 and Tecnam involved had pre-booked arrival slots of 09:02 and 09:29 respectively. These slots were landing slots in local time. The first planned arrivals started at 08:00 local and in the first hour there were 22 arrivals and 3 departures. The second hour, 0900-1000 local, saw 38 arrivals and 8 departures. The TB20 pilot performed an overshoot of RW21R at 09:21 local with two arrivals on that runway at 09:19 and 09:20 local which would indicate the runway was occupied. The TB20 pilot returned and landed on RW21R at 09:35 local. The time difference between overshoot and arrival suggests that a full return to Pitsford was completed. The Tecnam Sierra landed on RW21L at 09:36. There was no mention of an Airprox on the radio. Later that day, the Tecnam pilot came up the Tower to ask what the aircraft was that landed at the same time as him stating he had been talking to GASCo and they suggested he file an Airprox. During the conversation it was still not clear if it was his intention to file and, because they heard nothing else from the pilot, assumed he had decided against it. It was only on receipt of an e-mail dated 10th Sep at 13:50 asking for the controller input that it was realised he had filed an Airprox.

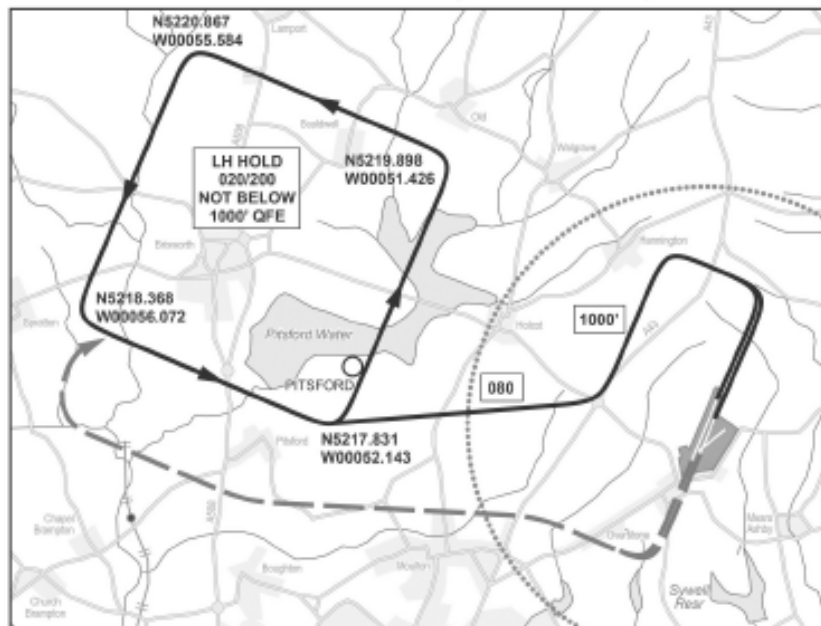
Factual Background

The weather at Cranfield was recorded as follows:

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METAR EGTC 010850Z 18008KT 150V220 CAVOK 19/13 Q1025=  
METAR EGTC 010820Z 15006KT 110V180 CAVOK 17/13 Q1025=
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AIC Y 074/2018 provided details for the RW21 arrival procedure at Sywell for fixed wing, microlights and autogyros, the relevant part of which is shown below:

RUNWAY 21 ARRIVALS FIXED WING, MICROLIGHTS, AUTOGYROS



- **MONITOR 122.705 MHz for AD information. There is no need to make any radio calls inbound.**
- Avoid built up areas.
- Route to PITSFORD and if necessary join the LH holding pattern not below 1000 FT QFE.
- DO NOT DESCEND THROUGH CLOUD INTO THE HOLD. Maintain VFR at all times. Keep a good lookout, with one arrival per minute expect intense aerial activity.
- Stream off the southern leg of the hold, approx. heading 080, to intercept the A43, then turn left onto a right-hand downwind.
- NO orbits, NO overtaking, NO cutting others up.
- Turn onto a right base avoiding Hannington and then onto final for either Runway 21R (Hard) or Runway 21L (Grass).
- NO Swapping Runways once established on Final.
- When **NUMBER ONE** on Final, **ie. no-one else between you and the Runway**, make the one and only radio call; 'Aircraft Type, Registration, Final Runway 21L or 21R'.
- Land either when the Runway is clear or you receive a 'Discretionary' landing clearance from AFIS.
- Traffic on Runway 21R when speed controlled continue expeditiously ahead and vacate left at Taxiway Alpha and follow the Marshalls instructions to park.
- Traffic on Runway 21L vacate left as soon as possible. For expedition, angle the exit off the runway to keep rolling rather

Analysis and Investigation

UKAB Secretariat

The Tecnam and TB20 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. 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 operation².

Summary

An Airprox was reported when a Tecnam Sierra and a TB20 flew into proximity at Sywell at 0836hrs on Saturday 1st September 2018. Both pilots were operating under VFR in VMC, both in receipt of an Airfield Flight Information Service from Sywell.

¹ SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

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

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the AFISO involved.

Members first discussed the Sywell RW21 arrival procedure for the LAA Rally and noted that, although the AIC showed a notional ground track, normal airmanship also applied, including appropriate deviation from the track if required and the creation of sufficient spacing from the aircraft ahead to allow room for a successful approach. That being said, members also opined that there was a limit to the extent to which pilots could reasonably extend 'downwind' and could still be considered to be following the procedure. The Board felt that this was key to this Airprox.

Comparing his radar track to that of the procedure (see diagram on Page 1), the Board noted that the Tecnam pilot had extended downwind to the extent that he was now outside the ATZ and well beyond the normal turn-point before turning onto long-final. Members questioned why the Tecnam pilot had flown so far downwind when he had reported that there were no aircraft ahead. Members then noted that the TB20 pilot had also not flown the procedure's track, had also extended towards the ATZ boundary, and that the TB20 had either not been aware of or had not kept the Tecnam in sight as it departed ahead from the hold. The Board noted that the TB20 pilot had gone around from his previous approach, and some members wondered whether the slot system sufficiently allowed for a potential build-up of aircraft conducting further approaches along with those arriving for their allocated slot time; GA members assured the Board that the slot system contained in-built 'flex' to allow for just such a situation. Some members wondered whether self-induced pressure on having conducted a previous go-around and rejoin of the hold had heightened the TB20 pilot's navigation task-focus to the detriment of his situational awareness of other aircraft leaving the hold, and his subsequent visual acquisition of the Tecnam before turning base-leg. Ultimately, although reiterating that strict adherence to a marked track was not always practical or safe, members agreed that both pilots had flown so far off track that their failure to follow the joining procedure accurately was contributory to the Airprox.

Turning to the final approach, it was clear that both pilots were aware of the proximity of the other aircraft yet members were at a loss to explain why both persisted with an unsafe approach that presumably neither would have tolerated at their home base. Although perhaps somewhat inferred within the AIC procedures, it was also noted that a declaration of 'Number one' did not necessarily entitle a pilot to consider that he had priority on final to a runway. Similarly, the presence of an aircraft also on final approach '... between 50 to 100 yards horizontally away and 30 to 40 feet above, and the pilot showed no sign of having seen him.' was considered adequate grounds to go-around even if a pilot had called 'Number 1' himself. The fact that neither pilot chose to go around in these circumstances was also considered contributory to the Airprox.

Considering the cause, the Board felt that although both pilots had contributed to some degree, it was ultimately for the TB20 pilot to integrate with the pattern of traffic intending to land (i.e. the Tecnam ahead which the TB20 pilot had been aware of whilst he was on base leg) or return to the hold for another join attempt. By not integrating behind or going around, the Board therefore agreed that the TB20 pilot had flown into conflict with the Tecnam. With regard to the risk, although separation had been considerably less than that which should normally be expected (other than when formation flying), members felt that both pilots had been sufficiently aware of the other aircraft that, despite their questionable decision making, there had been no risk of collision.

Finally, members reiterated that procedures rarely catered for every eventuality, and that it was the 3 Cs of caution, courtesy and consideration that facilitated safe flying, more so than slavish adherence or reliance on 'rights' conferred by 'rules'. It was implicit on those taking part in the LAA Rally that they were aware of the arrival procedure, in detail, and that they had the fuel, patience and defensive-flying mindset to go-around if necessary rather than commit to an approach that was plainly not safe.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The TB20 pilot flew into conflict with the Tecnam on long final.

Contributory Factors:

1. Neither pilot followed the joining procedure accurately.
2. Neither pilot chose to go around despite being aware of the proximity of the other aircraft.

Degree of Risk: C.

Safety Barrier Assessment³

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

Flight Crew:

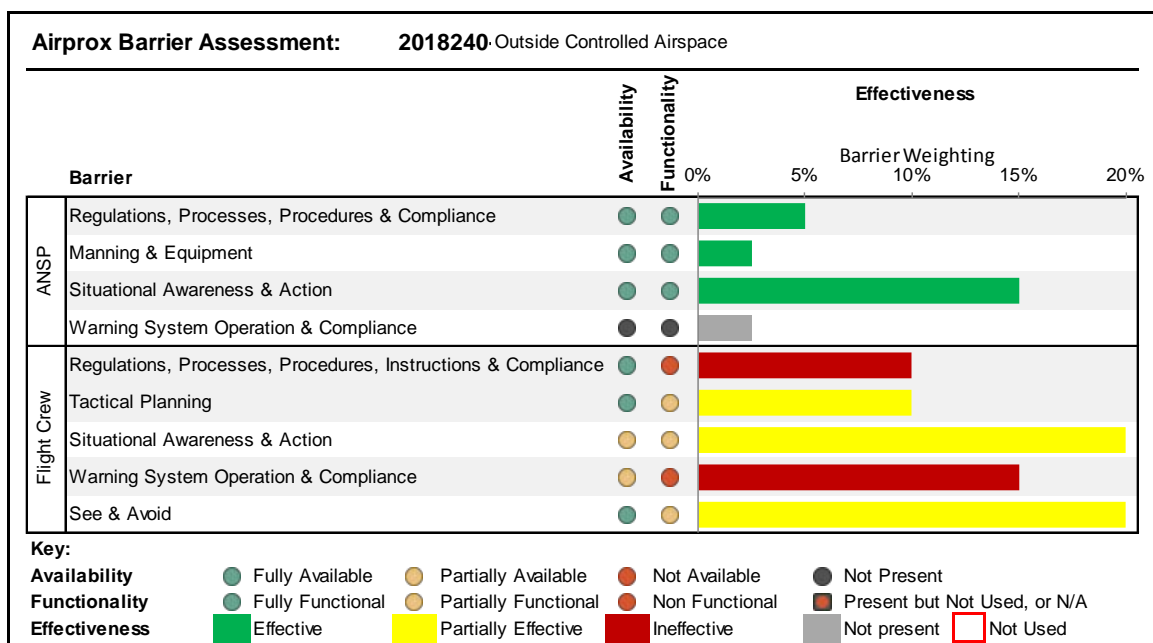
Regulations, Processes, Procedures, Instructions and Compliance were assessed as **ineffective** because neither pilot followed the AIC procedure sufficiently, and the TB20 pilot did not integrate with the Tecnam on long final.

Tactical Planning was assessed as **partially effective** because the Tecnam pilot flew downwind beyond the normal turn point (to the extent that he left the ATZ) as did the TB20 pilot to a lesser extent.

Situational Awareness and Action were assessed as **partially effective** because the TB20 pilot was told the Tecnam was 'Number one' but did not act on that information.

Warning System Operation and Compliance were assessed as **ineffective** because the TB20 TAS either did not alert, or the TB20 pilot did not assimilate the TAS alert.

See and Avoid were assessed as **partially effective** because neither pilot acted sufficiently when visual with an aircraft in close proximity.



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