

AIRPROX REPORT No 2012140

Date/Time: 31 Aug 2012 1508Z

Position: 5154N 002 07W (1.7nm final
RW27 Gloucestershire A/D -
elev 101ft)

Airspace: Gloucestershire ATZ (*Class: G*)

Reporting Ac Reported Ac

Type: EuroFox ML PA28

Operator: Civ Club Civ Pte

Alt/FL: 600ft↓ 600ft
QFE (1026hPa) not specified

Weather: VMC CAVOK VMC NR

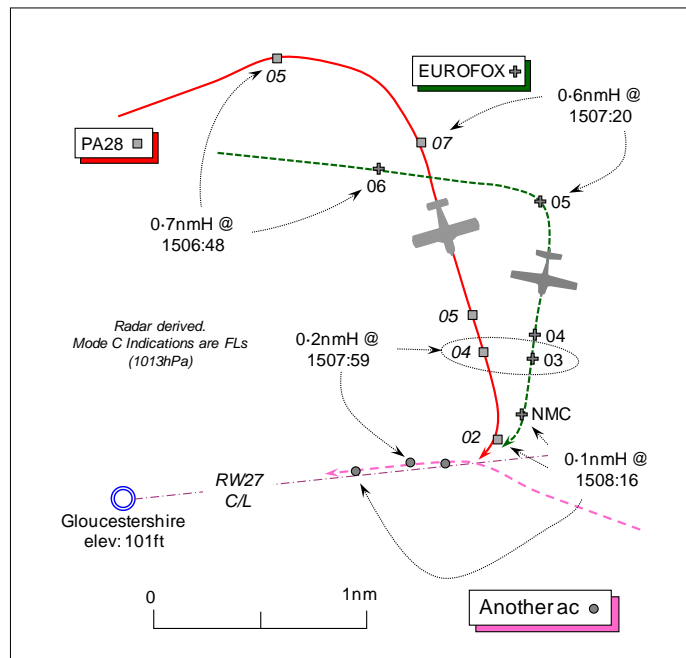
Visibility: >10km >10km

Reported Separation:

Nil V/50m H NK

Recorded Separation:

100ft V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE EUROFOX 912 MICROLIGHT (EUROFOX ML) PILOT reports he was instructing a student who was a National PPL holder but had just purchased a share in the ML and was unfamiliar with the type. They were carrying out ccts to RW27 at Gloucestershire as the student needed familiarisation with tail-wheel landings and a high-wing configuration ML (he had gained his NPPL on Eurostar low-wing ac). Although the student was handling the ac, he as the instructor was seated in the LH seat, as the ac has brakes only on the L side of the cockpit and the student was not yet totally familiar with brake operation on tail-wheel types. The objective of this flight was to familiarise the student with tail-wheel take-offs/landings, after which he would be allowed to occupy the LH seat. A squawk of A7000 was selected with Mode C on; elementary surveillance Mode S is fitted.

Downwind on their 4th cct, under an Aerodrome Control Service, they heard GLOSTER TOWER ask the pilot of the other ac – the PA28 - if he had ‘the ultralight’ in sight, to which the PA28 pilot replied in the affirmative. The instructor assumed, therefore, that the PA28 pilot was visual with his ML as they were the only ML in the cct. They reported ‘[EuroFox C/S] downwind’, whereupon TOWER advised they were No3 and to report final for RW27. Whilst carrying out the turn onto base leg onto a heading of 180°, he thought about 1nm out from RW27 threshold, visual with the ac No2 ahead of them and a landing ac on late final, they slowed their ML and dropped the flap so they were now flying at about 55kt. As the student PF started to turn R onto final descending through 600ft QFE (1026hPa), he – the instructor - realised that the student PF had not raised the R wingtip to look out before turning, but through the transparent roof of their ML the instructor spotted the PA28 flying alongside them about 50m away (possibly even less) and turning final. The instructor stopped the turn by taking control and rolled to the L. They could clearly read the PA28’s registration and the instructor considers that had they turned without looking a collision would have been highly likely.

Their ML was now diverging from the PA28 who continued to turn R onto final ahead of them. He immediately reported to GLOSTER TOWER that ‘we’ve been cut up on final turn by a PA28’ and that ‘I’ll be reporting this’. TOWER replied ‘roger’ and then cleared the PA28 pilot to continue his approach as No2 - becoming No1. They then widened their final turn, slowed to 50kt and continued their approach as No3 - becoming No2. The PA28 pilot carried out a touch and go, after which they also carried out a touch and go.

He added that after the Airprox with the PA28 had occurred, the pilot of another ac following in the cct was told to go-around and that after their touch and go, the instructor noticed through the roof of their ML that the other ac went around directly down the RW27 centre-line about 300ft above them. Therefore, he told his student PF to reduce the ROC and informed GLOSTER TOWER that they were visual with the traffic going around directly above them.

Having experienced two close encounters in the space of a minute or so, he was feeling quite shaken, so he cut the sortie short and they landed after the next cct. He reported by landline to the Control Tower that he would be filing an Airprox. The ML is coloured white/red; no lights/HISLs are fitted.

THE PIPER PA28-180 PILOT reports that after returning to Gloucestershire A/D from a short local flight he requested a few ccts. The cct to RW27 was very busy and on his first cct GLOSTER TOWER instructed him to 'follow the microlight', which he did. On the second cct, on base leg at 80kt, he did not see any conflicting traffic and saw what he believed to be the ac he was required to follow well ahead of him on final, so he duly turned final himself. A short time later - perhaps 30sec - he heard an RT call from a pilot reporting being 'cut up by a PA-28'. He did not know at the time whether this referred to his PA28 or to another ac. As he was close to landing, with the cct and TOWER frequency busy, he did not pursue the matter there and then but concentrated on executing a safe touch & go. After landing and parking the ac he phoned ATC but was told that the ADC had gone off-watch; the controller on-watch did not know whether it was his PA28 that was the reported ac, so he left his name in case ATC needed to contact him.

With hindsight it seems likely that the ac that he saw well ahead of him before he turned final on this cct was not the EuroFox ML that he was supposed to be following, but rather the ac ahead of it in the pattern. He did not see the EuroFox so did not quote a minimum separation or assess the Risk.

The PA28 is coloured blue/white with red markings. The red anti-collision beacon was on.

THE GLOUCESTERSHIRE AERODROME CONTROLLER (ADC) reports the PA28 downwind was instructed to follow the EuroFox ML, which was acknowledged. The PA28 pilot was asked again on base-leg to confirm that he was following the EuroFox. However, the PA28 pilot turned in ahead of the EuroFox ML onto final. The EuroFox pilot reported that the PA28 was very close and subsequently telephoned to advise that he would be filing an Airprox.

ATSI reports that the Airprox occurred at 1508:12, 1.6nm East of Gloucestershire Airport, on the final approach for RW27, within the Class G Gloucestershire ATZ.

The ATZ comprises a circle radius 2nm, centred on the midpoint of RW09/27 and extending to a height of 2000ft above aerodrome level (elevation 161ft).

The EuroFox crew was operating VFR in the RH visual circuit for RW27 and had previously completed 3 training ccts prior to the Airprox. The PA28 was operating VFR and had joined the RH visual circuit for RW27. The PA28 pilot had completed one visual cct following the EuroFox and was commencing the second cct.

The ATSU was providing a split Aerodrome and Approach Control Service. The Aerodrome controller's workload was assessed as medium to heavy.

ATSI had access to RT recordings for GLOSTER TOWER and area radar recordings, together with the written reports from the two pilots concerned and the ADC. A problem when accessing the RTF recording equipment resulted in the recording only commencing at 1506UTC, as the two ac commenced their respective downwind legs prior to the AIRPROX. The area radar recording showed intermittent coverage of ac operating in the cct.

The Gloucestershire METAR: 1450Z 29007KT 9999 FEW040 18/07 Q1029=

The EuroFox was established as No 4 in the visual RH circuit for RW27 with the PA28 as No 5 in the pattern following the EuroFox. The cct was busy with a number of ac in the circuit and also on the ground.

At 1505:36, the EuroFox crew reported downwind and TOWER instructed them to report ready for base-leg and then asked the PA28 pilot, "...are you still following an ultralite". The PA28 pilot replied, "..affirm [PA28 C/S]."

(ATSI Note: At this point one ac had just landed and there were 3 ac ahead of the EuroFox, 2 on final and 1 on base-leg. No traffic information was given to the PA28 or EuroFox pilots regarding their position in the sequence or the number of ac ahead of them.)

At 1506:04, the pilot of one aircraft reported final and at 1506:13, the aircraft on base leg was advised No 3 following a Tecnam ac.

At 1506:48, radar recordings show the EuroFox tracking 097 degrees downwind at 500ft Mode C (1013hPa). The PA28 was shown tracking slightly wider on 072 degrees at 600ft Mode C (1013hPa).

At 1506:56, the PA28 commences a R turn towards base leg. The EuroFox is shown to be continuing downwind tracking 097 degrees.

At 1507:03, TOWER asks if the EuroFox is turning base leg whose crew responds, "*Affirm just turning base-leg...*". TOWER instructed the EuroFox crew to continue on base. The PA28 pilot then transmitted, "*and [PA28 C/S] also just turned base.*" The controller acknowledged, "*Roger just..continue with the Ultralite.*"

At 1507:20, the radar recording shows the EuroFox [at 82kt GS] commencing a R turn towards base leg at 500ft Mode C. The PA28 is 0.6nm NW of the EuroFox on a tighter base leg [at 88kt GS] indicating 700ft Mode C.

At 1507:59, the two ac are 0.2nm apart converging with a vertical separation of 100ft; the PA28 is indicating 400ft Mode C [at 87kt GS] and the EuroFox 300ft Mode C [at 61kt GS].

At 1508:16, the EuroFox at 1.7nm from touchdown, starts the turn onto final approach, with the PA28 0.1nm ahead at 200ft Mode C; the Mode C of the EuroFox is then lost. The PA28 pilot's written report quoted a height of 600ft QFE, and the EuroFox pilot as 600ft (pressure setting not specified).

At 1508:19, the EuroFox pilot reported, "...[EuroFox C/S]..*I've been cut up by a P A 28 on the right hand side of turning final.*" TOWER replied, "*Roger see you there.*" The EuroFox pilot responded, "*I think I ought to report that one..we'll talk about it when I get down.*"

At 1508:32, the PA28 pilot reported on final and TOWER advised, "*Roger continue..probably for a go around there is a Tecnam to land the wind 2-9-0 degrees 8 knots.*"

(ATSI Note: the aircraft following the Tecnam had reported going around.)

At 1509:19, the PA28 pilot was cleared to land and the EuroFox crew instructed to continue.

At 1510:18, the EuroFox crew was cleared for a touch and go. The following ac on final elected to go around.

At 1510:54, the EuroFox crew reported visual with a hightail ac directly above (this was the following aircraft going around.)

In a busy cct the EuroFox crew was instructed to report when ready for base turn and the PA28 pilot was asked to confirm that he was following the EuroFox. It is likely that the TOWER controller was

assessing the order and position of the traffic ahead on final and base-leg. Radar recordings show that the cct pattern followed by the PA28 is wider than the EuroFox and the downwind leg diverged (073 degrees) from the normal downwind leg (090 degrees).

The PA28 pilot commenced the base turn just before the controller asked if the EuroFox had turned base-leg. The EuroFox crew replied, *"Affirm just turning base leg"* and the PA28 pilot responded *"and [PA28 C/S] also just turned base."* The PA28 pilot was advised, *"Roger just..continue with the Ultralite."*

Radar recordings show that the PA28 pilot had commenced the base turn 24 seconds before the EuroFox and this resulted in the PA28 routeing inside the EuroFox on a tighter base-leg. When established on base-leg, the PA28 pilot was probably looking out ahead and right, towards the A/D, very likely mistaking an ac on final approach as the EuroFox, when in fact the EuroFox was to the PA28 pilot's L on a wider base-leg. The PA28 turned onto final approach slightly ahead of and in conflict with the EuroFox. The PA28 pilot had confirmed that he was following a microlight and the controller had an expectation that the PA28 pilot would continue to follow the EuroFox in the cct. Additional TI regarding the number of ac ahead and position in the landing sequence may have aided the situational awareness of the two pilots.

The Manual of Air Traffic Services MATS Part 1, Section 2, Chapter 1, Page 1, Paragraph, 2, states:

'Aerodrome Control is responsible for issuing information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions between:

- a) aircraft flying in, and in the vicinity of, the ATZ;
- b) aircraft taking-off and landing...'

The Airprox occurred when the PA28 pilot following the EuroFox, turned into a shorter cct pattern that brought the PA28 into conflict with the EuroFox as the two ac turned onto final approach. The absence of TI regarding the position and number of ac ahead in the traffic sequence is considered to have been a contributory factor and may have caused the PA28 pilot to mistakenly believe that another ac on final approach was the EuroFox.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, a transcript of the relevant RT frequency, radar video recordings and a reports from the air traffic controller involved.

Noting that both ac had flown at least one cct before the Airprox occurred, the Board first considered the instructions and information passed by the ADC as the ac flew downwind prior to the Airprox. A civilian controller Member advised that it was common practice at civilian airfields to instruct pilots to follow the ac ahead. It is also non-standard but common practice to instruct pilots to call before turning on to base leg. Military controllers opined that when the pilots called 'downwind', the ADC should have advised them how many ac were ahead of them in the pattern; the absence of this information constituted incomplete TI.

Although some Members considered that this was a busy cct, a GA pilot Member reminded the Board that it was not unusual to have 5 or more ac in a visual cct and when this occurred at aerodromes without ATC, pilots were required to maintain separation entirely by their lookout. A controller Member agreed, emphasising that this was a visual cct and that pilots were required to look out and position themselves sensibly. That said, the maintenance of separation and sequence order was made more difficult by the differences in ac speed and performance. In this regard the ADC's reference to the ultralight ahead could have been useful in alerting or reminding the PA28 pilot about its lower speed. That said, the specific reference later to a Tecnam, rather than a generic description, would only have been useful if the PA28 pilot was familiar with a Tecnam.

Members considered that the ADC had a reasonable expectation that the PA28 pilot would follow the EuroFox downwind after confirming that he was 'still following an ultralight'. It was not clear to the Board whether the PA28 pilot was visual with the EuroFox downwind before losing sight of it, or whether he did not see the EuroFox at any stage downwind. Certainly the small size and tail-on aspect of the EuroFox would have made it difficult to see and the difference in ground tracks would have exacerbated the problem. As it was the PA28 pilot was clearly unsighted on EuroFox when he turned base earlier than the EuroFox. Moreover he did not appear to appreciate the significance of his turning base before the EuroFox pilot confirmed on the RT that he was also turning base. Rather he assumed that the ac he should be following was the one he could see on final. The Board concluded therefore that the Airprox was caused by the PA28 pilot misidentifying preceding traffic and flying into conflict with the EuroFox, which he had not seen.

In assessing the Risk, the Board noted that from the point at which the PA28 pilot turned base, the geometry and physical configuration of the ac made it difficult for the pilots involved to see the other ac. There was an element of good fortune that the PA28 had not descended directly on top of the EuroFox, but in the circumstances the Board considered that the sighting of the PA28 by the EuroFox instructor was the result of good airmanship and his avoidance manoeuvre was both timely and effective. Nevertheless, safety margins were considerably reduced and therefore safety was not assured.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot misidentified the preceding traffic and flew into conflict with the EuroFox, which he did not see.

Degree of Risk: B.