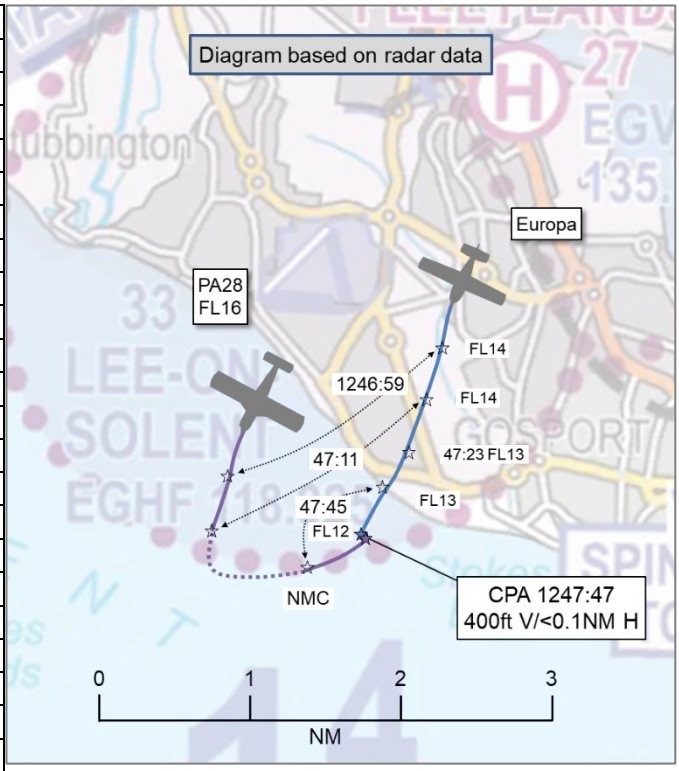
AIRPROX REPORT No 2022266

Date: 18 Nov 2022 Time: 1248Z Position: 5047N 00112W Location: Lee-on-Solent ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Europa
Operator	Civ FW	Civ FW
Airspace	Lee on Solent ATZ	Lee on Solent ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Lee Information	Lee Information
Altitude/FL	FL016	FL012
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White
Lighting	Beacon, landing	Strobes, nose
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1000ft	1000ft
Altimeter	QFE (NK hPa)	QFE (1002hPa)
Heading	180°	190°
Speed	100kt	100kt
ACAS/TAS	Not fitted	PowerFLARM
Alert	N/A	None
Separation at CPA		
Reported	200ft V/0m H	~250ft V/~0.1NM H
Recorded	400ft V/<0.1NM H	



THE PA28 PILOT reports that on arrival at Lee-on-Solent the circuit was very busy and they went around from their first 2 approaches. On the third approach there were 2 aircraft ahead, one on the runway and one on final, about to land. The pilot on final was told they couldn't land because the runway was occupied, so the PA28 pilot slowed down as much as possible to allow for separation. The pilot on the runway made a touch-and-go and climbed back into the circuit, and the pilot on final then had to go-around. The PA28 pilot believed there was an aircraft behind on downwind so they made it clear on the radio that they were going around on the deadside, to orbit over the sea and allow time for the circuit traffic to achieve appropriate spacing. Their intention was to vacate the circuit to allow time to make a decision on where and when would be best to re-join. They started an orbit when they saw the other aircraft as they came out of their first orbit. The other aircraft was below and passed very quickly. They did not hear the other pilot state their intentions, which is why it came as a surprise, but the controller [actually an AFISO] was overworked and was getting confused with aircraft locations. There was no need to take avoiding action because the other aircraft was already clear. The other pilot stated they were flying deadside to rejoin from the Isle of Wight.

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

THE EUROPA PILOT reports conducting a VFR flight from [departure airfield] to Lee-on-Solent to join right base for RW23 or right-hand downwind for RW05, as required, iaw the available airfield information. As they approached the airfield they changed to Lee-on-Solent frequency, reported West Meon VRP inbound and received the airfield information, including QFE and RW23 right-hand circuit. They selected the nose-light on as part of the pre-landing checks and also to provide additional visual conspicuity. Lee-on-Solent frequency was very busy with multiple pilots making standard radio calls but also multiple radio calls and chatter between pilots giving positional information and relative speeds. None of the aircraft appeared on the TAS but they had an occasional non-directional alert, indicating transponder equipped traffic. The TAS displays were located in line-of-sight, were not a distraction

inside the cockpit and had displayed other traffic during the flight toward Lee-on-Solent, so were functional. The Europa pilot slowed to give time for downwind traffic to clear and to slow the aircraft to flap limiting speed. They gave a position report when at the Wickham VRP and received information on 3 aircraft in the circuit. They reported they were joining base for RW23, behind the downwind traffic that had just turned base in front of them. They slowed the aircraft further to give more room from traffic ahead. They heard one pilot call 'final' and another 'going-around' but were unable to acquire these aircraft, either visually or on the TAS displays, but at this stage they were prioritising lookout. There were no alerts from the traffic displays. They elected to go around, because they could not see the other traffic ahead, made a radio call and proceeded to extend the base leg to the dead side of RW23. They elected to go wide because they were aware that 'warbirds' sometimes used that side of the circuit (the 'plates' indicated a tight circuit at 1200ft) and were also aware that the RAT at Portsmouth was active as well as a frequency jamming NOTAM. They were aware they could not make visual contact with any of the other aircraft and of one aircraft going-around and also the possibility of other pilots doing a touch-and-go or go-around so wanted to be clear of the runway and have it in sight on the right. They reported their position as left-hand on RW23. They received no information that there was traffic to conflict and continued on their track, with the intention of departing the ATZ [to the south] to rejoin. They expected the 'go-around traffic', which they assumed was ahead, to make a right turn to rejoin the circuit crosswind but heard no radio calls. They received no reports that any warbird or other traffic was in the circuit to conflict and so assumed they were not in conflict with any other traffic. Crossing the coast, and still in the ATZ at circuit height, they became aware of an aircraft ahead turning toward them and about 200-300ft above. They started a descent but at the [high] closing speed this was not very effective at increasing vertical separation; horizontal separation was a few hundred yards. They continued on their track towards the Isle of Wight and heard the other pilot report a Europa in the ATZ but didn't note the exact words. They were later informed by the AFISO that the other pilot was filing an Airprox.

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

THE LEE-ON-SOLENT AFISO reports that the PA28 pilot reported being in close proximity to an aircraft south of the ATZ which they believed to be [Europa C/S]. The volume of traffic increased from about 1230, with one aircraft remaining in the circuit and multiple aircraft to join from different directions. [Europa C/S] was inbound from the north. As they got closer they were updated that three aircraft were in the circuit. After a few other calls, the AFISO updated the Europa pilot regarding the position of circuit traffic, one final, one base and one late downwind, and suggested to join behind the last one in the circuit that was late downwind. The Europa pilot replied that they believed they had the traffic in sight and was about to join on an extended right base. The sequence of aircraft in the circuit was as follows: one on final, one on base, the PA28 late downwind and the Europa on an extended right base. At 1244 the pilot on final landed and the runway was occupied by them, to vacate next right. At 1245 the pilot now on short final, with intention to touch-and-go, was advised that the runway was occupied. The Europa pilot, behind the PA28, reported going to the east of the zone. The PA28 pilot reported going around. At 1246 the AFISO was focused on the availability of the runway, to make sure that the pilot had vacated for the runway to become available to the following pilot, who made a touch-and-go just as the first pilot was vacating. The AFISO warned the PA28 pilot of 'the yellow aircraft on the runway' which would be climbing out to remain in the circuit. The Europa pilot reported 'downwind left-hand to position to join downwind right-hand' and was advised that there should be 2 aircraft ahead, the aircraft completing the touch-and-go and the PA28. Soon after, the PA28 pilot reported air proximity to an aircraft south of the circuit, just outside the ATZ. The AFISO informed the PA28 pilot that a Europa was going around deadside to rejoin. The PA28 pilot advised they were orbiting deadside before they reported crosswind next.

Factual Background

The weather at Southampton was recorded as follows:

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METAR EGHI 181250Z 30007KT 260V350 9999 SCT023 11/06 Q1003=
TAF EGHI 181102Z 1812/1821 27008KT 9999 FEW025=
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Analysis and Investigation

CAA ATSI

At 1234:00 the PA28 pilot made initial contact with the FISO and advised that they were inbound from the northwest, 5 miles to run and requested joining information. The FISO responded with RW23 right-hand circuit, QFE 1002, squawk 4306. The pilot provided a full and accurate readback and advised, *"will join base runway 23."* The pilot was asked to, *"report passing the motorway"* and Traffic Information was passed, *"Cessna remaining in the circuit currently in the climb-out, one inbound from the south and one inbound from the east."* The pilot responded, *"wilco."*

At 1235:10 the pilot of an unrelated Aero Subaru reported joining from the direction of the Spinnaker Tower. Joining information was passed along with Traffic Information on traffic joining from the north, the south and the east.

At 1235:40 The Europa pilot made initial contact with the FISO, advised that they were at West Meon VRP inbound and requested airfield details. The FISO responded, RW23 right-hand circuit, QFE 1002, squawk 4306. The pilot provided a full and accurate readback.

The FISO's attention was then diverted to respond to a pilot who stepped on the end the Europa pilots readback. The FISO transmitted *"two at once there"* and addressed the Europa pilot and asked them to *"report passing Wickham please."*. There was no response from the Europa pilot.

Between 1236:00 and 1239:00 RTF exchanges took place with little or no gaps between each transmission: traffic at the hold ready for departure; RV8 traffic reporting three miles south of the airfield to join downwind; a lengthy exchange of Traffic Information to several pilots; the PA28 pilot reported that they would be joining from Cowes to remain outside the circuit; a C172 pilot already established in the circuit reported right base behind an aircraft conducting a touch-and-go and was requested to report final; the RV8 pilot reported crosswind entering the circuit and was requested to report downwind; Traffic Information was passed to a C150 pilot on the RV8; the pilot responded that they were quite slow and that the RV8 would probably be in front of them; the C150 pilot requested a position report from the PA28 pilot, and they agreed between them that the PA28 would go ahead of the C150; the C172 pilot reported final and was given touch-and-go at their discretion; the C150 pilot reported visual with the PA28 which was positioning in front of it; the RV8 pilot reported late downwind and was requested to report final.

At 1239:30 the C150 pilot reported, *"downwind, visual with the PA28 ahead."* The FISO responded, *"roger RV8 ahead report final RW23."* The pilot responded, *"wilco."*. The FISO appeared to be unaware of the position of the PA28. The PA28 pilot had advised that they would be joining via Cowes but had not yet reported downwind.

At 1239:50 the PA28 pilot reported downwind RW23 and advised that they were in between the C150 and the RV8. The FISO responded, *"roger **two** ahead report final."* The pilot responded, *"roger **one** ahead."*. The radar and RTF confirmed that there was one ahead (the RV8).

At 1239:55 the RV8 pilot reported turning final and was given land at their discretion.

At 1240:00 the FISO asked the PA28 pilot to confirm that they were behind the C150. The pilot responded, *"negative we're ahead. "*

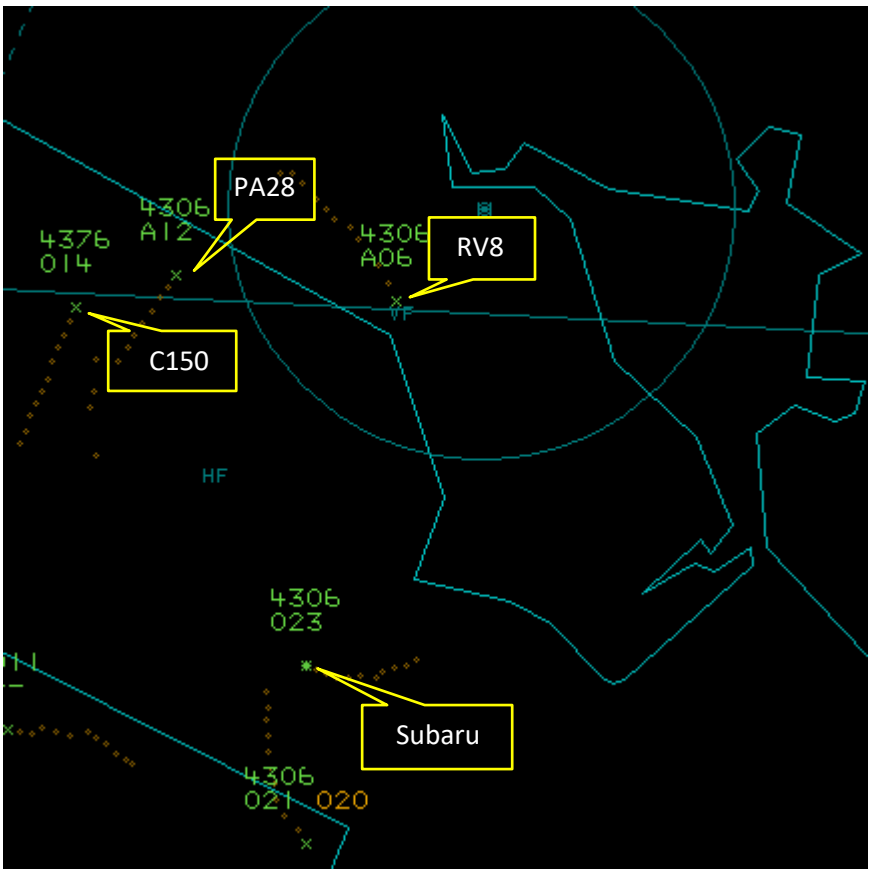


Figure 1 - 1240:00

At 1240:30 the FISO asked the Aero Subaru pilot for a position report and the pilot advised that they were just crossing the RW23 numbers. The FISO asked if they were visual with the Cessna in the climb-out to remain in the circuit, and the pilot responded, *"affirm."*

At 1241:00 the RV8 had landed and the FISO told them to turn left at the end and taxy for parking.

At 1241:30 the PA28 pilot reported final and the FISO responded, *"roger, (unintelligible words) with one to vacate at the far end."* The pilot responded, *"roger."*

At 1241:40 the C150 pilot reported, *"right base, visual with one on."* The FISO responded, *"roger one ahead."* There was no response from the pilot.

At 1241:50 the PA28 pilot reported going around and the FISO asked them to report downwind.

Between 1242:00 and 1243:30 RTF exchanges took place with little or no gaps between transmissions: the C172 pilot reported downwind for a full stop and was asked to report final; the C150 pilot reported final RW23 and was given land at their discretion; the RV8 pilot asked for further taxy instructions and instructions were provided; the Aero Subaru pilot reported downwind for a touch-and-go, was advised of one ahead to remain in the circuit and asked to report final; the C150 pilot advised that they would be landing short and back-tracking for [parking] and this was acknowledged by the FISO.

At 1243:30 the FISO requested a position report from the Europa pilot and advised them that there were 3 aircraft in the circuit. The pilot responded, *"just outside the ATZ to the north, about 3 miles, copied the traffic."* The FISO advised, *"three in the circuit, with the last one downwind er crosswind, to remain."* The Europa pilot responded, *"not far from joining base if I may?"* There was no response from the FISO. The Europa had passed Wickham VRP with no position report received.

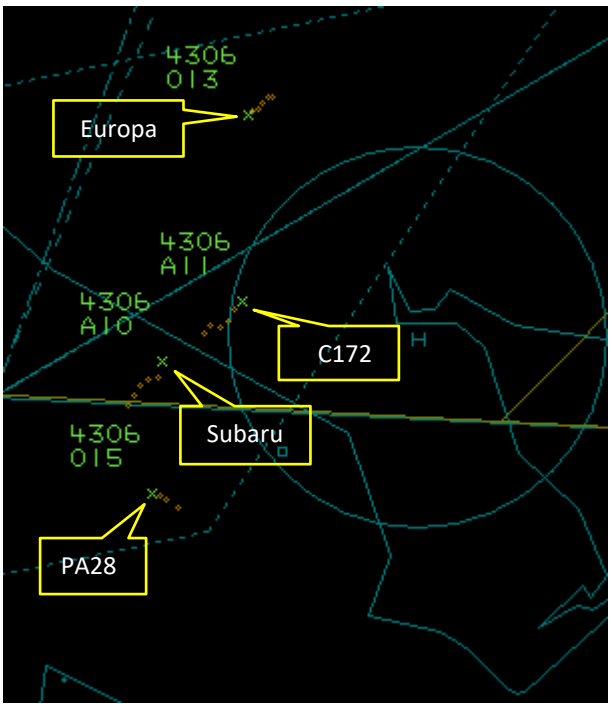


Figure 2 - 1243:30

At 1243:35 the PA28 pilot reported downwind, and the FISO responded, *"report final, 2 ahead."* The PA28 pilot responded with '*wilco'*.

At 1243:50 the C150 pilot reported clear of the RW and requested fuel.

At 1244:00 the Europa pilot reported, *"downwind, traffic in sight and just about to join an extended base leg."* The FISO responded, *"roger one turning final, one turning base, and one late downwind, suggest you join behind the one late downwind."* The pilot responded, *"I believe I've got him, will do."*. The Europa pilot subsequently positioned themselves behind the PA28 which was the last of the 3 aircraft downwind and then crossed through the final approach track from west to east, continued onto the deadside of the circuit and tracked north to south on the deadside (east side).

At 1244:20 the C172 pilot reported final and was given land at their discretion. At 1245:00 the C172 pilot reported full stop and taxying [to park].

At 1245:30 the Aero Subaru pilot reported final. The response from the FISO was unintelligible.

At 1245:50 the Europa pilot reported, *"coming down the east side of the zone."* The FISO replied, *"roger 2 ahead (unintelligible words)."*. The Aero Subaru was number one, with the PA28 close behind.

At 1246:00 the PA28 pilot reported, *"going around."* The FISO replied*, "roger."*

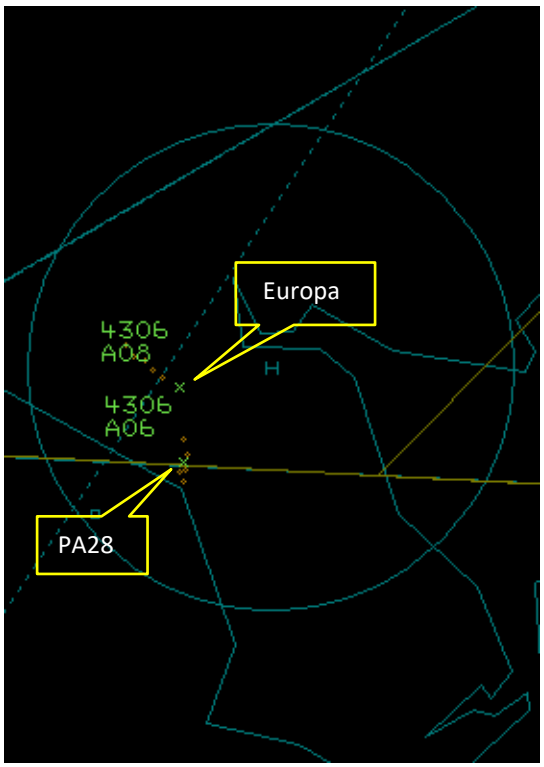


Figure 3 - 1246:00

At 1246:10 the pilot of an inbound aircraft called for joining information and was told to standby.

At 1246:30 the FISO warned the PA28 pilot, *"caution the aircraft in the climb-out is to remain in the circuit."* Two pilots responded at once, the PA28 pilot response was*, "we're just going to orbit over* (the pilot's transmission was stepped on and the location for the orbit was unintelligible*) and then join downwind."* The FISO responded, *"roger."*

At 1246:50 the Europa pilot reported, *"right-hand downwind and I'll join downwind, er left-hand downwind for 23, I'll join right-hand downwind 23."* The FISO responded, *"roger there should be 2 ahead."* The pilot replied*, "I'll keep my eyes open."*

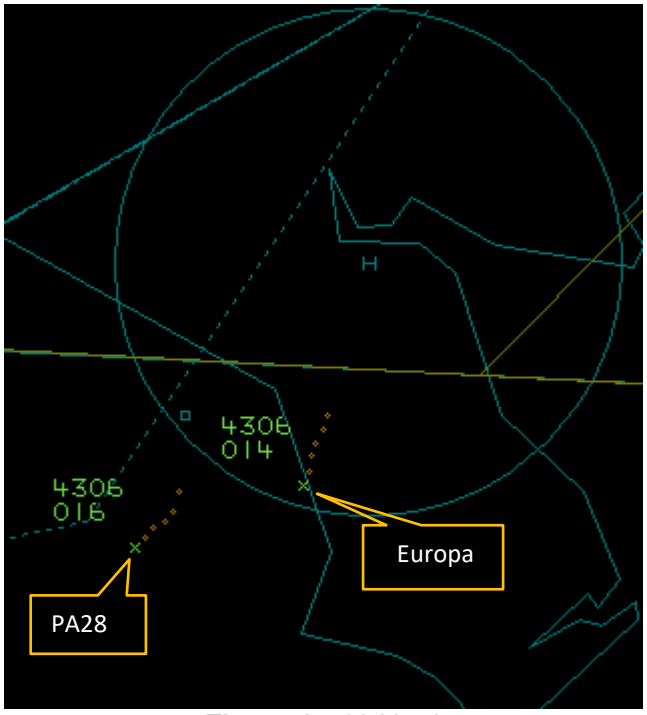


Figure 4 - 1246:50

At 1247:45 the FISO turned their attention to an aircraft on the ground, this was followed by a lengthy RTF exchange with the pilot of the inbound aircraft who had previously been asked to standby.

At 1247:47 CPA occurred with the two aircraft separated by less than 0.1NM laterally and 400ft vertically.

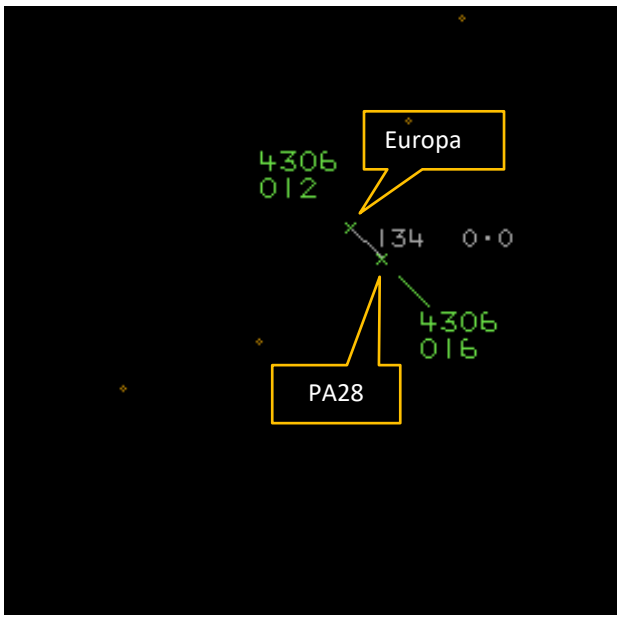


Figure 5 - 1247:47 CPA

At 1248:00 the PA28 pilot reported, *"there's a Europa plane, he's just south of the field, the circuit, almost airprox."* The FISO responded, *"say again please."* The pilot replied, *"there's a very close aircraft who's very close to your ATZ."* The FISO responded, *"It's a Europa, the Europa was going around deadside to re-join the circuit."* The PA28 pilot replied, *"roger, we were orbiting deadside."* The Europa pilot advised, *"we're just south of the…er just outside the ATZ and spotted the passing traffic."* The FISO asked if the Europa pilot was visual with the PA28 deadside to re-join the circuit and the pilot responded, *"I'm not far off re-joining the downwind circuit, I will shortly be calling."* The PA28 pilot reported crosswind and the FISO responded, *"roger report final, one is downwind now."* The PA28 pilot replied, *"we'll be joining downwind, wilco."*

In the lead-up to the event there were two aircraft in the circuit and the PA28 and Europa were two of four joining aircraft. The RTF was almost constant and the rate of RTF delivery by the FISO was fast. Pilots were stepping on each other's transmissions and stepping in on the frequency before replies from previous RTF exchanges had been fully completed. There were also occasions where pilots did not respond to the FISO's transmissions. During the inbound call from the Europa pilot, the FISO requested the pilot report at Wickham, the pilot did not acknowledge the request. This report was not received, and it is not known whether the request was not heard or the congestion on the frequency resulted in the call not being made.

At 1239:30 the C150 pilot reported downwind with the PA28 ahead. The downwind call from the PA28 pilot came after this call and the downwind call may have been late due to congestion on the frequency. At 1240:00 the FISO asked the PA28 pilot to confirm that they were behind the C150. The pilot responded, *"negative we're ahead ",* this would indicate that the FISO had lost situational awareness of the position of the PA28 in the circuit at this point, potentially because of the late downwind call. (Note that the PA28 pilot was on their first approach at this time and the Airprox occurred on the go-around from their second approach).

At 1243:30 the FISO asked for a position report from the Europa pilot and advised them that there were 3 aircraft in the circuit. The pilot responded, *"just outside the ATZ to the north, about 3 miles, copied the traffic."* The FISO advised, *"three in the circuit, with the last one downwind er crosswind,*

to remain." The Europa pilot responded, *"not far from joining base if I may?"* There was insufficient time for the FISO to respond before the PA28 pilot stepped in with a downwind call followed by calls from other pilots. Note: the FISO had heard nothing from the Europa pilot since their initial call at 1235:40 requesting joining information, again this may have been due to frequency congestion.

At 1246:00 when the Europa pilot requested to join on an extended right base there was insufficient space for them to do so, due to there being 3 aircraft ahead of them. The pilot subsequently positioned themselves behind the PA28 (the last of the 3 aircraft downwind), then crossed through the final approach track from west to east, continued onto the deadside of the circuit and tracked north to south on the deadside. At the same time (1246:00) the PA28 pilot went around due to the C172 having just landed and the Aero Subaru being ahead of them for a touch-and-go.

Thirty seconds later (1246:30) the FISO warned the PA28 pilot, *"caution the aircraft in the climb-out is to remain in the circuit."* The PA28 pilot responded with*, "we're just going to orbit over* (unintelligible due to their transmission being stepped on by another pilot) *and then join downwind."* The FISO responded, *"roger."*

It became evident during the RTF exchange between the PA28 pilot and the FISO immediately after the event that, despite the somewhat confusing position report by the Europa pilot, the FISO had assimilated that the Europa was on the deadside, however they had not assimilated that the PA28 was orbiting on the deadside, and as such no Traffic Information was passed to either pilot. The location of the intended orbit provided by the PA28 pilot was unintelligible and may have contributed to the FISO's lack of situational awareness.

Immediately prior to the event, the FISO was engaged in a very lengthy RTF exchange, issuing joining information to a pilot who had previously been told to standby.

EGHF AD 2.20 LOCAL AERODROME REGULATIONS

1 AIRPORT REGULATIONS

a. Refer to the Aerodrome website for pilot briefing and PPR.
b. Pilots approaching Lee-on-Solent and intending to remain outside of Southampton CTR/Solent CTA are advised to maintain a listening watch only on Solent Radar 120.230 MHz and select SSR code 7011 to reduce the risk of infringing adjacent controlled airspace.
c. Fleetlands ATZ is to be avoided unless two-way contact is made on 135.700 MHz.
d. Visiting traffic to Lee-on-Solent should be familiar with the layout and topography of the aerodrome (see aerodrome website).

6 USE OF RUNWAYS

a. More than one runway may be in use at any one time.
b. Grass strip is inspected but not licensed and should only be used at pilot's discretion.
c. Circuit heights are 1000 FT AAL for all runways.
d. All fixed wing aircraft should be aware of rotary traffic operating to the south of the main runway.
e. The Runways 05/23 and grass strip are operated as a single runway strip. No simultaneous parallel approaches or departures are permitted.

7 TRAINING

Not applicable

EGHF AD 2.21 NOISE ABATEMENT PROCEDURES

a. The circuit patterns are drawn to avoid noise sensitive areas (avoid overflying Stubbington and Hill Head (which are inside the circuit) and Fareham South-West (on the NW corner outside the circuit)).
b. When departing Runway 23, track the extended centre-line to avoid overflying housing near the threshold of Runway 05.
c. Arrivals from the north are to route through the Titchfield Gyratory and on to base leg avoiding all housing for Runway 23 or downwind for Runway 05.

EGHF AD 2.22 FLIGHT PROCEDURES

1 CIRCUITS

a. Circuits – Main Runways 05/23
   i. Aircraft arriving from the north are suggested to join via Wickham VRP, for a downwind or via the Titchfield Gyratory for right base Runway 23 remaining west and outside Fleetlands ATZ and avoiding built up areas. Straight-in-Approach Runway 23 - call Fleetlands Information 135.700 MHz for ATZ transit prior to Wickham VRP. Standard overhead joins are available on request with Lee Information and are dependent on the activity of the Warbird circuit. Please see the pilots brief at www.solentairport.co.uk/solent_airport/pilotbriefing.aspx.
   ii. Circuits at 1000 FT AAL - LH on Runway 05 and RH on Runway 23. Warbird circuit at 1200 FT AAL - RH on Runway 05 and LH on Runway 23.

FISO's rely heavily on accurate and timely position reports from pilots to allow them to pass this information onto other pilots and enable them to integrate themselves safely into the visual circuit. On this occasion the frequency was congested, with pilots stepping on each other's transmissions

and some requests remained unanswered. It is possible that pilots were unable to make timely position reports because of this congestion.

Despite a lack of position reports and one very confusing position report from the Europa pilot, the FISO had assimilated that the Europa was on the deadside. However, the report from the PA28 pilot, advising the FISO that they would be orbiting on the deadside, was stepped on by another pilot and despite the FISO having acknowledged this call, it became apparent that they had not understood that the orbit would be taking place on the deadside. As such no Traffic Information was passed to either pilot on the position of the other.

The unit report states that visibility from the VCR is limited to the southeast of the ATZ. This was the location where the orbit was conducted by the PA28 pilot. The lack of visibility has been risk assessed and one of the mitigations for the reduced visibility in this area is that the FISO will pass Traffic Information based on position reports from pilots as well as what they can acquire visually; these mitigations were not effective on this occasion. The assistant also moves around the VCR and helps to spot traffic; it is not known whether the assistant was undertaking this task at the time of the Airprox, however, this mitigation was also ineffective on this occasion. As a result of this Airprox ATSI would recommend that this risk assessment be reviewed, with a view to identifying any further mitigation measures that might assist in reducing the risk of a similar occurrence in the future.

UKAB Secretariat

The Europa 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.[1] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[2] 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.[3]

Lee-on-Solent Local Occurrence Investigation

The Lee-on-Solent Local Unit Investigation is summarised as follows:

Activities: Busy circuit with aircraft staying in the circuit for training and aircraft inbound joining from different directions.

Circumstances: High traffic level within the circuit. Runway was later occupied by an aircraft to vacate. Two other aircraft were on final and one other on base. The [pilot of the] aircraft on base decided to position deadside early. [The pilot of the] 2nd aircraft in the sequence on final decided to go around before the 1st aircraft on final was ‘given’ the runway. Radio was busy and there were duplicated transmissions at times.

Known risks: Visibility from the control tower to the SE corner of the ATZ is limited. Continuous risk assessment has been performed and reviewed. FISOs pass Traffic Information based on reports from pilots in addition to visually acquiring circuit traffic's position. Therefore, limited visibility to the deadside to the main circuit has been reviewed as an acceptable risk level. During day-to-day operations, duty assistant also helps in spotting traffic by moving around the pillars/wall in the control tower. In this incident, the report of [PA28 C/S] orbiting in an unexpected position was missed due to an overlapped transmission.

Organisational issues: When the [PA28] pilot reported ‘almost Airprox’, FISOs could have clarified with pilot after landing in regard to whether they wished to file an Airprox report and take all the relevant details. In this incident, even though it was not made clear if an Airprox report would be filed, duty FISO tried to understand from pilot of [Europa C/S] the proximity of Airprox on the day

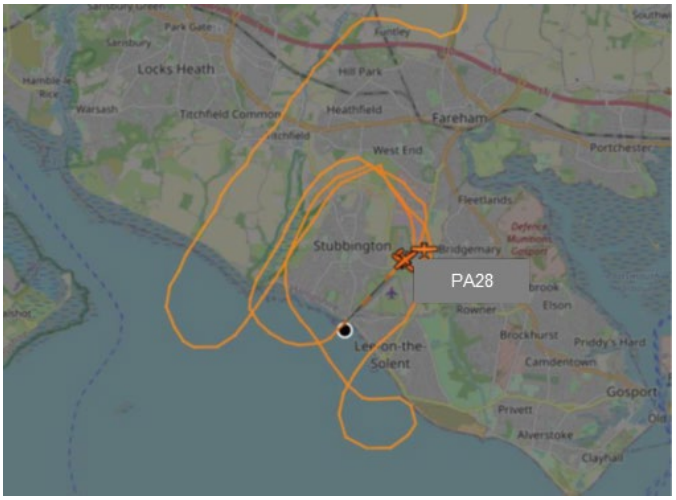
[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[3] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

and also saved the recording as well as the aircraft's respective ADSB trackers from online. The team has now been reminded that, according to CAP797, if the pilot omits the prefix “Airprox Report”, the FISO shall ask them and clarify with them if it is their intention to file an Airprox report and following a pilot’s declaration that they will file an Airprox, FISOs shall complete and submit their own MOR.

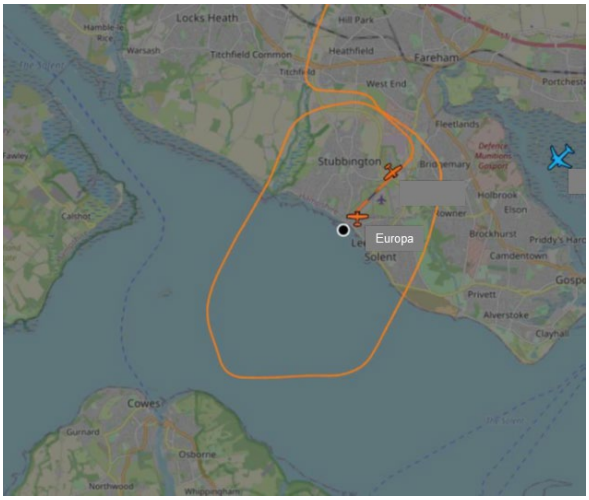
Workplace issues: The limited visibility of the VCR to the SE has contributed to the fact that duty FISO was not able to spot the conflict earlier. However, orbiting within the circuit in non-ATC airfields has been warned against by the authority and the other aircraft [that] had reported going down east side of the ATZ appeared to be wider and would conform with the pattern of traffic formed ahead in the circuit pattern based on the voice reports.

Actions taken: All FISOs have been reminded that according to CAP797 Chapter 22, the pilot’s report by RTF should commence with the term “Airprox Report”. If the pilot omits the prefix, the FISO shall ask them if it is their intention to file an Airprox report.

FISOs are to be cautious with aircraft orbiting within the circuit. When there are two at once in the radio transmission, FISOs are to make sure and clarify each transmission if unsure. However, it is noted that when radio transmission is busy, it could be a difficult task to manage.



PA28 track



Europa track

Summary

An Airprox was reported when a PA28 and a Europa flew into proximity 2NM south of Lee-on-Solent at 1248Z on Friday 18th November 2022. Both pilots were operating under VFR in VMC in receipt of an AFIS from the Lee-on-Solent AFISO.

PART B: SUMMARY OF THE BOARD’S DISCUSSIONS

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

The Board first discussed the traffic situation within the visual circuit and noted that, although the circuit was not over-crowded, with 4 aircraft, the pilots had become bunched together, resulting in go-arounds. The PA28 pilot had had to go-around for traffic ahead, identified that appropriate spacing needed to be achieved and elected to re-position to the south of the airfield to achieve this. Unfortunately, their R/T call had been stepped on by another pilot (**CF4**), which had denied the AFISO the requisite situational awareness (**CF5**) with which to understand that a conflict may occur (**CF3**) and pass the necessary Traffic Information (**CF2**) to the Europa and PA28 pilots. The lack of situational awareness, caused by R/T congestion, meant that the AFSIO had not been able to fully comply with their duty to provide Traffic

Information (**CF1**). Members commented on the importance of R/T discipline, especially within the visual circuit, including listening before transmitting and listening for the content of an R/T message so that the frequency can be left clear for an anticipated reply, which in this incident had frequently not been done (**CF6**, **CF10**). In this regard, the Board noted that a number of Safety Sense Leaflets had recently been 'refreshed'[4] and that, in particular, Leaflet 22 (Radiotelephony For General Aviation Pilots) fully explained the considerations and correct phraseology when using a radio, which the Board commended to all FRTOL holders. Members discussed the PA28 pilot's actions and acknowledged that they had been carried out with the best of intentions. However, of key importance, it was felt that the PA28 pilot had commenced their orbit at a position that had created the opportunity for confliction by being at the 'end of deadside' and that an orbit outside the circuit pattern was more advisable (**CF8**, **CF9**). Also, the Europa pilot's transmission when on the deadside was felt to have introduced a degree of confusion (**CF7**). Members felt that although there were 2 circuits promulgated, if only one of the circuits was occupied R/T calls should be 'standard' and reference that circuit only. In this case a call of 'RW23 deadside' may have been appropriate and have potentially alerted the PA28 pilot to conflicting traffic. Members discussed whether an orbit within the circuit pattern at an airfield without ATC, i.e. with AFISO ('Information'), AGCS ('Radio') or 'Traffic', was advisable and agreed that in general it wasn't. In the event, the Europa TAS had not alerted (**CF12**) and neither pilot had been aware of the other aircraft until sighted (**CF11**), leaving see-and-avoid as the last remaining barrier to collision. Each pilot had seen the other aircraft at a late stage (**CF13**) and the Europa pilot had been able to take action to create more vertical separation at CPA, although the PA28 pilot had understandably been concerned by the proximity of the Europa (**CF14**). One member felt that safety had still been much reduced but the majority agreed that in this case the Airprox was best characterised as risk of collision having been averted.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022266			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Human Factors	• ATM Regulatory Deviation	An event involving a deviation from an Air Traffic Management Regulation.	Regulations and/or procedures not fully complied with
	• Situational Awareness and Action			
2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
4	Contextual	• Frequency Congestion	An event involving frequency congestion that reduces the effectiveness of communications	
5	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
6	Human Factors	• Flight Crew ATM Procedure Deviation	An event involving flight crew deviation from applicable Air Traffic Management procedures.	
	• Tactical Planning and Execution			
7	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
8	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution

[4] https://www.caa.co.uk/general-aviation/safety-topics/safety-sense-leaflets/

9	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
	• Situational Awareness of the Conflicting Aircraft and Action			
10	Human Factors	• Monitoring of Communications	Events involving flight crew that did not appropriately monitor communications	
11	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
12	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
13	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
14	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Safety Barrier Assessment[5]

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 AFISO did not pass Traffic Information (having insufficient situational awareness with which to do so).

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the AFISO did not have sufficient situational awareness of the proximity of the PA28 and Europa.

Flight Elements:

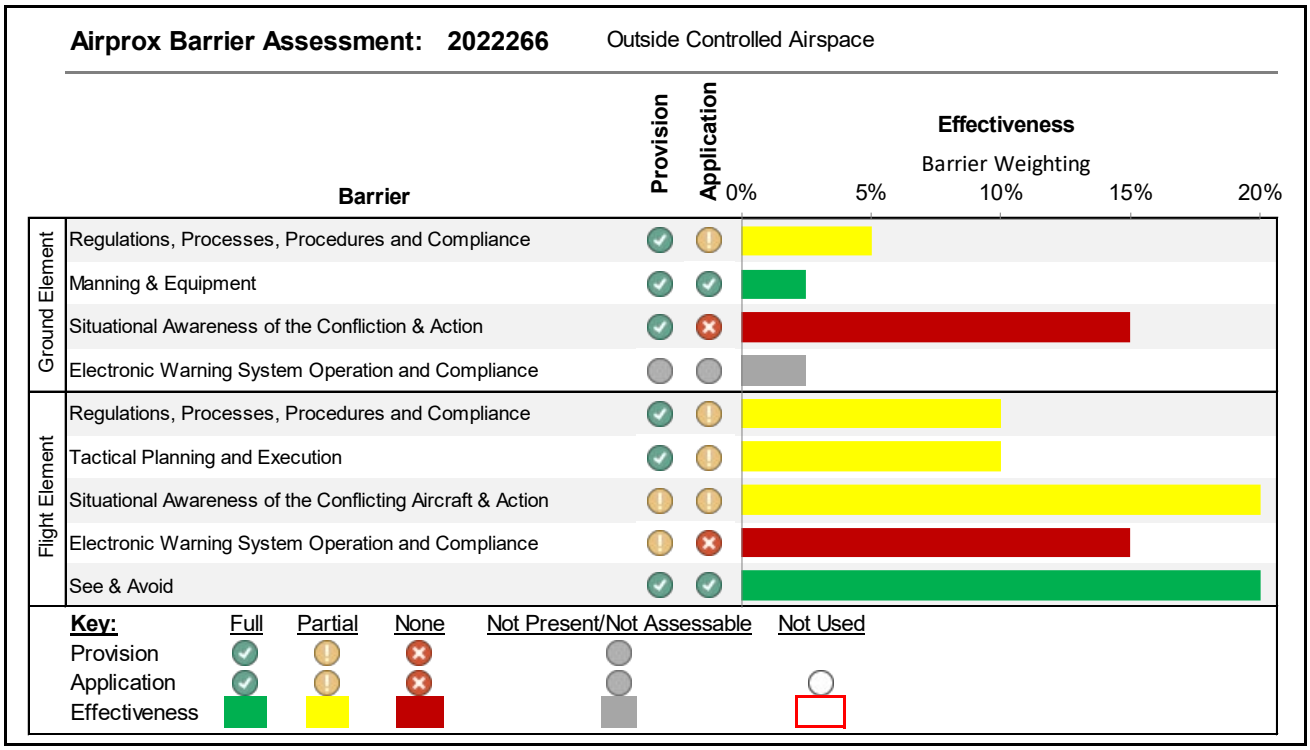
Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because some of the pilots in the visual circuit and joining did not observe R/T discipline, transmitting over the top of other transmissions.

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot did not orbit clear of the visual circuit pattern and the Europa pilot did not communicate their intentions effectively.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because although the PA28 and Europa pilots were aware of other aircraft in the visual circuit, they were not aware of each other's location.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the Europa TAS did not alert when it would be expected to have done so.

[5] 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: 2022266
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