

AIRPROX REPORT No 2012148

Date/Time: 31 Aug 2012 1015Z

Position: 5218N 00047W
(RW21L Sywell A/D
- elev 400ft)

Airspace: Lon FIR (Class: G)

Reporting Ac Reported Ac

Type: Corby Starlet A109E

Operator: Civ Pte Civ Com

Alt/FL: 0ft 5-7ft
(QFE NR) (Rad Alt)

Weather: VMC CLBC VMC CAVOK

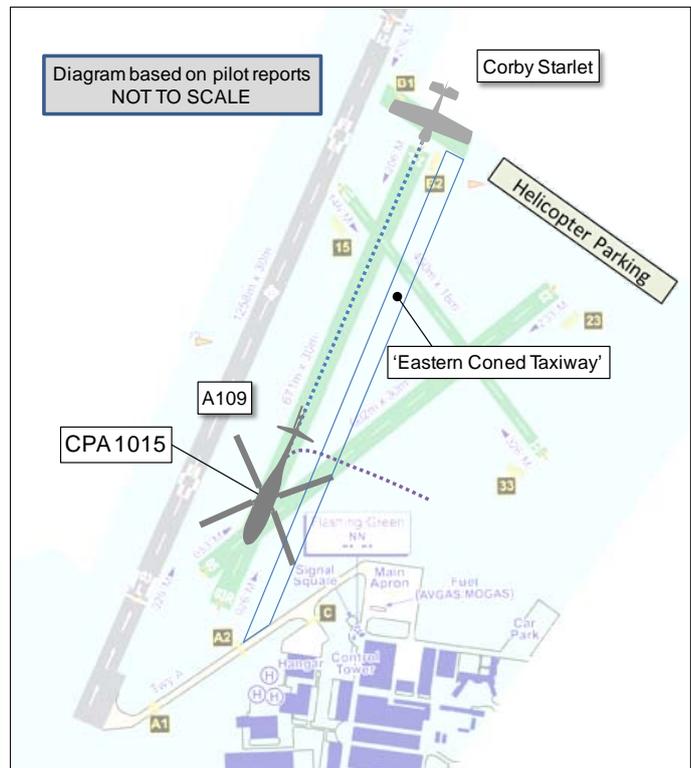
Visibility: 10km >10km

Reported Separation:

50ft V/0m H 2-3ft V/0m H

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE CORBY CJ-1 STARLET PILOT reports flying into the LAA Rally at Sywell A/D. The white ac is not fitted with lights, an SSR transponder or an ACAS. He was following the AIC arrival procedure, operating under VFR in VMC with 'a FIS' from Sywell [a BS from the Sywell FISO]. On final approach he transmitted, 'Corby Starlet, 21 Grass' and received the warning, 'Beware turbulence from helicopter crossing runway'. He identified the helicopter in his L 110'clock position at a range of 550m, hover taxiing from L to R. He also noted that it didn't 'stand out that clearly' and appeared grey under the 2000ft cloud base. As he crossed RW21L threshold he 'noted a higher groundspeed indicating a tailwind component' and assessed that the ground run would be longer than normal. He noticed that the helicopter did not cross RW21L and that it had turned directly over the RW, hovering and facing away from him in the RW direction. He was unsure of the helicopter pilot's intentions and ruled out a go-around over the helicopter. There were landing aircraft to [his] right on 21 Hard and the Sywell tower and hangars etc to [his] left'. He felt he had no choice but to continue with the landing, hoping the helicopter would 'move away'. He didn't recall seeing the helicopter during the ground run as he was concentrating on looking ahead and keeping the ac straight on the 'quite bumpy' grass RW. Eventually, when his speed had reduced such that he could begin to exit L, he applied L rudder but his ac swung suddenly through 90° to the R. He thought his tailwheel steering had failed, so he applied power to increase rudder effectiveness but to no avail. At this point he looked up, straight above, into the cockpit of the helicopter. The ac eventually responded to the L rudder input and he was able to exit the RW and join the taxiway.

THE A109E PILOT reports being tasked to attend Sywell so he could assist engineering staff with ground runs on a helicopter which had an electrical problem. The yellow ac had red beacons selected on, as was the SSR transponder with Modes A, C and S. The ac was fitted with TCAS. The pilot noted that the LAA rally was in progress and that an RA(T) was in force in support of this, along with published entry and egress procedures. These procedures did not cover transit from the helicopter landing point to the engineering base so he telephoned Sywell tower to discuss how this would be achieved. It was agreed that the situation would be looked at on his arrival and that 'the safest and most expeditious routeing would be decided upon' at the helicopter aiming point (a prominent windsock away from both active RWs).

[UKAB Note(1): The LAA Rally Helicopter Arrival Procedures were promulgated in AIC Y 107/2012 as follows:

5.1.1 Helicopters inbound should monitor 122.700 MHz and route in to position at the north eastern aerodrome boundary low level, not above 700ft QFE inside the ATZ, avoiding overflight of Mears Ashby and Hardwick whilst keeping a lookout for possible departing rotary traffic. A call should be made to 'Sywell Information' on 122.700 MHz, 'Helicopter type, full registration finals Northern Windsock'. AFIS will provide a windcheck to this call. Land south of the Northern Windsock to avoid the approach to and the grass runway 03L/21R. Helicopters will be parked in rows south of the windsock and landings can be made directly into parking position. Pilots must ensure their own adequate rotor clearance. Caution: there is a mound in this area used as sloping ground for helicopter training.]

He had read through the LAA rally AIC the previous day and it was discussed at the morning briefing, which occurred prior to being tasked to attend Sywell. The flight to Sywell was uneventful and he flew the published arrival procedure, arriving at approximately 1014. After communicating with ATC, it was agreed he would proceed along RW21L (the grass RW) after 'the yellow piper cub on short finals' and direct to the engineering base. Both paramedic crew members called out ac as they were spotted, using the 'clock system', throughout the flight and whilst in the hover at Sywell. As he was about to enter the RW, the rear seat crewmember asked if he was visual with one ac on final. He responded 'Yes he is going to the hard runway'; at this point he could only see ac on final, and recalls only one ac having called final.

He entered RW21L and [air-taxied at] about 10-15kts along the RW. At this point he recalled hearing an ac calling 'finals for 21 grass' and a response from the tower warning of the A109's wake turbulence. As the wind was by now a rear quartering crosswind from the R at approx 10-15kts, he became concerned about the downwash affecting ac which had already landed and which were now taxiing back up the grass adjacent to the edge of the RW about 50m away. He slowed the A109 and, after the ac landing on RW21R had passed down his RH side, the helicopter was 'drifted to the RH side of RW21L' whilst still remaining above the RW.

A few seconds later the front seat crewmember called 'Up Up!'. The A109 pilot saw an ac on the ground through the lower L 'chin' window, almost directly beneath him about 2-3ft below, which appeared to be taxiing in front of the helicopter. He applied maximum torque and moved the A109 backwards in a manoeuvre similar to that used during helipad Class 1 procedures in this model of helicopter. The light ac was seen to ground loop and then taxi off into the parking area.

He brought the A109 back to the hover at 7-10ft over the RW, while the crew confirmed the light ac had taxied clear of the RW. He made no radio transmission (which in his opinion would only have added to the workload of everyone in the area) and proceeded to taxi as per previous instructions to the engineering base, where an uneventful landing was carried out.

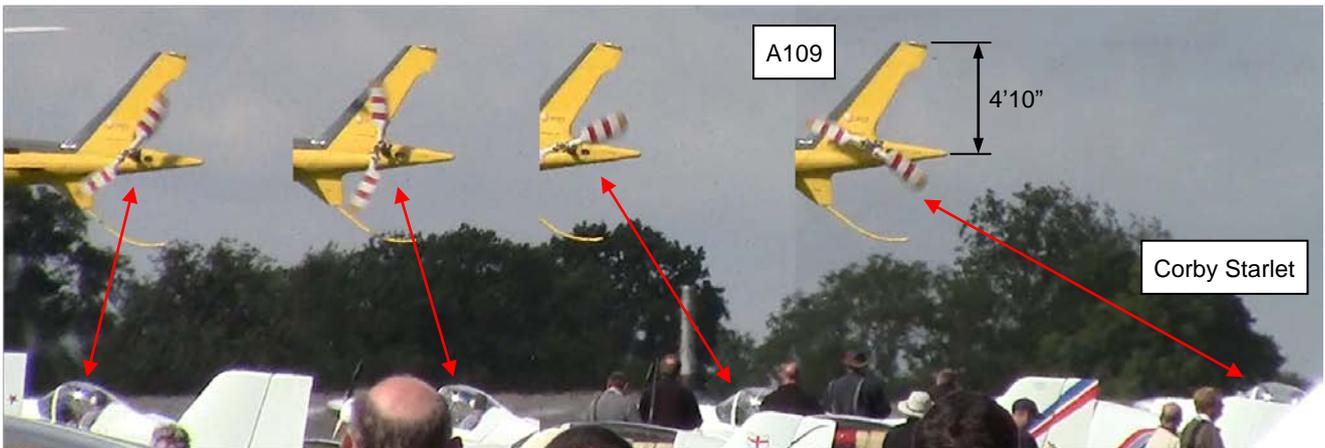
THE SYWELL FISO reports that he was on duty providing a BS to ac taking part in the LAA Rally, for which special procedures were in force [AIC Y 107/2012]. Arriving pilots made their only radio call when 'number one' on final approach, to which the response was to give a surface wind check. The A109 pilot reported inbound to the E boundary, wishing thereafter to cross the A/D to the SW boundary. He approved the helicopter pilot to enter RW21L after confirming he was visual with a Piper Cub on final for RW21L, which he did. No other traffic had reported final and he saw no traffic on final approach. The helicopter pilot taxied very slowly along RW21L, probably due to the proximity of parked ac on his LH side, he thought.

When a FW ac [the subject Corby Starlet] reported final for RW21L he told him there was a helicopter on the RW and issued a warning, 'caution turbulent wake'. Further FW traffic reported final but he disregarded them as his attention was fully devoted to the A109, which was moving very slowly near the stop-end of RW21L. The Corby Starlet pilot landed and appeared to be to the L of the A109. He gave a warning to the A109 pilot, 'caution fixed-wing traffic on your left hand side'. He was unable to judge whether the Corby Starlet pilot had steered L to avoid the helicopter or whether

the helicopter was to the R of RW21L. As the Corby Starlet pilot came alongside the A109 his ac commenced a sweeping R turn in front of it, which the FISO considered to be a ground-loop induced by rotor-wash from the now stationary, hovering helicopter. He invited the A109 pilot to turn R and enter RW21R, in order to vacate the area. He recalled an acknowledgement but the helicopter did not immediately move.

The A109 pilot had correctly followed the special procedures but had moved very slowly, probably due to the proximity of other ac, he thought. The time available between arriving FW ac would normally have been adequate for a helicopter to taxi and vacate the area, but on this occasion the A109 pilot took far longer than expected.

[UKAB Note(3): The UKAB has obtained video footage of the seconds prior to the Starlet ground-loop. The composite image below illustrates the proximity of the A109 and the Starlet, travelling R to L across the frame:



ATSI reports that an Airprox was reported at Sywell Aerodrome between a Corby CJ-1 Starlet (Starlet) and an Augusta 109E (A109) when the ac came into close proximity during the landing roll of the Starlet. The Airprox took place during a rally when special procedures were in place, as notified by UK AIC Y 107/2012. During the notified times of the rally Sywell Aerodrome was unlicensed.

The Starlet was operating under VFR inbound to Sywell and was in contact with the Sywell FISO [122.700MHz].

The A109 had landed from a VFR flight to Sywell and was manoeuvring on the airfield from the helicopter landing point to the engineering base. The pilot was also in contact with the Sywell FISO. The Sywell FISO RTF transmissions are not recorded.

CAA ATSI had access to written reports from the pilots of the Starlet and the A109 and also from the Sywell FISO.

The Coventry METARs are provided for 1020 and 1050 UTC:

METAR EGBE 311020Z 31008KT 280V350 9999 FEW029 SCT038 15/08 Q1030=
METAR EGBE 311050Z 31006KT 9999 FEW028 SCT038 15/08 Q1030=

Factual History

At the time of the reported Airprox a rally was in progress at Sywell A/D. According to AIC Y 107/2012, ac were to hold at Pitsford Reservoir before positioning to Sywell when it was safe to do so. Pilots were instructed to give no radio reports to the FISO until they were on final approach and number one to land, when they were required to pass their ac type, registration and which RW they

were intending to land on (03/21 Hard/Grass). In response to this call the FISO was to give a wind check. The AIC stated, 'If the Duty FISO deems a situation unsafe, he may suggest a go-around although ultimately it is the pilot's responsibility under the terms of an Aerodrome Flight Information Service. Pilots may land when the runway is clear of traffic'. In the event of a go-around pilots were required to climb to 2000ft QFE, return to Pitsford Reservoir and repeat the inbound procedure.

The written report from the A109 pilot stated that the published procedures for the rally did not cover transit from the Sywell helicopter landing point to the engineering base. The A109 pilot telephoned Sywell before departure and it was agreed that the situation would be managed on arrival.

The reports from the Sywell FISO and the A109 pilot indicate that, after he landed, an agreement was made that he would enter RW21L/Grass after a landing Piper Cub and proceed to the engineering base. When the A109 pilot entered RW21L/Grass no other ac had called on final and no ac could be seen on final approach to that RW. The A109 pilot taxied slowly along the RW.

The written report from the Starlet pilot stated that he kept a good distance from the Piper Cub in front as, having experienced go-arounds in previous years, he wanted to ensure that the RW was clear for his arrival. The Starlet pilot called the Sywell FISO when on final as required. The report from the Starlet pilot stated that he was informed, 'beware turbulence from helicopter crossing runway'. The report from the Sywell FISO stated that the Starlet pilot was informed that a helicopter was on RW21L/Grass and a warning was issued, 'caution turbulent wake'. The Starlet pilot stated that he identified the A109 which was travelling from L to R.

The written report from the A109 pilot stated that he heard an ac calling final for RW21L/Grass together with the response from the FISO regarding helicopter wake turbulence. His report stated that he was concerned about taxiing ac adjacent to the RW so he slowed the A109 further and manoeuvred to the RHS of RW21L/Grass.

The Starlet pilot observed that the A109 did not cross the RW as expected but instead hovered over the RW. He became unsure as to the A109 pilot's intentions and, reluctant to go around over the top of the helicopter, landed on RW21L/Grass.

The front seat crewmember of the A109 called 'Up, up'; the pilot saw the Starlet on the ground in the lower left window of the helicopter and reported that it appeared to be taxiing in front of the A109. The pilot applied maximum Torque and moved backwards.

The Starlet pilot slowed to exit L and applied L rudder. The ac then swung through approximately 90° to the R. The pilot initially believed that the tailwheel steering had failed and looked up, into the cockpit of the A109 directly O/H. The Starlet pilot continued to apply L rudder and eventually the ac responded. He moved to the L and vacated the RW.

Analysis

The notified procedures for the rally at Sywell required that ac only called on final when number one to land and the only response to be given was a wind check. When the Starlet pilot called on final the FISO informed him of the presence of the helicopter and gave a wind check. Although the FISO could have suggested that the Starlet pilot conduct a go-around, as he had been informed of the presence of the helicopter, it was ultimately the pilot's responsibility to discharge his collision avoidance responsibility appropriately.

The Starlet pilot had experienced go-arounds on previous occasions at the Sywell rally which may have made him reluctant to initiate a go-around, when first informed of the presence of the helicopter, due to the potentially lengthy rejoining procedure.

Although it was not possible to determine the exact phraseology that was used, the report from the Starlet pilot indicates that he believed the A109 pilot was crossing RW21L/Grass and therefore expected that the RW would be vacated in time for him to land safely.

Conclusion

The Airprox occurred at Sywell A/D when the Starlet pilot landed on RW21L/Grass when the RW was occupied by an A109. The Starlet pilot may have been hindered in his decision making, either by a misunderstanding of the A109 pilot's intentions or imprecise passing of information by the FISO as to the A109 pilot's intentions.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, a report from the FISO involved, a video recording and a report from the appropriate ATC authority.

Members first considered the actions of the A109 pilot upon arrival at Sywell. The plan agreed during his telephone call with Sywell Tower, presumably with a FISO, was in effect to make a plan when he arrived at the A/D. Whilst this course of action was considered normal, Members also opined that it would have been prudent, given the level of A/D activity expected, for the A109 pilot and the Sywell FISO to have given more consideration to the non-standard nature of the helicopter pilot's requirements. Agreeing that 'the safest and most expeditious routeing would be decided upon' did not address any specific issues and allowed the sortie to continue to a point where the Sywell FISO had to be reactive, rather than proactive.

Turning to the FISO's actions, the Board agreed that his plan to allow the A109 to air-taxi down RW21L/Grass was reasonable but that there appeared to be some discrepancy between the reported RT transmissions, both in timing and content. The FISO and A109 pilot both reported that the helicopter was cleared to enter RW21L/Grass; however, the Starlet pilot reports being given a wake turbulence warning of a 'helicopter crossing [the] runway' after his finals call. In the absence of an RTF transcript the Board acknowledged that the precise content of the transmissions could not be established but opined that the Starlet pilot had the mindset that the helicopter had been cleared to cross RW21L/Grass and that he would be able to land once the helicopter was clear. The Board also discussed the degree of control that the FISO could have exercised. The regulations extant at the time of the Airprox, CAP410, para 1.2, state that:

'The Flight Information Service Officer (FISO) provides an information service to aircraft that are flying or about to fly within the aerodrome traffic zone. Under Rule 35 of the Rules of the Air, FISOs at aerodromes are permitted to issue instructions to: ... ; b) arriving aircraft moving on the manoeuvring area and apron, following the completion of the landing roll; and c) all other taxiing aircraft intending to move or moving on the apron and manoeuvring area, including the crossing of runways. ... FISOs are permitted to pass instructions to helicopters engaged in air taxiing. ...'

There was some discussion as to the precise status of the A/D on the day of the Airprox and whether the fact that it was notified as unlicensed affected the status of the FISO service provision. It was confirmed by CAA Aerodrome and Air Traffic Standards Division that the provision of an AFISU meant that the regulations of CAP410 applied. Therefore, Members opined that the FISO could reasonably have applied a greater degree of control over the A109 pilot, either by instructing him to expedite his apparently 'very slow' transit down RW21L/Grass or, traffic permitting, by instructing him to move across to RW21R/Hard when the conflict with the Starlet became apparent.

Turning to the actions of the Starlet pilot, Members agreed that he believed he was clear to land and that when the FISO issued the helicopter wake turbulence warning, in response to the Starlet pilot's finals call, the helicopter was clear of RW21L/Grass to the E, tracking towards the RW. The Starlet pilot did not hear a clearance for the A109 to enter RW21L/Grass and was therefore unaware of any potential conflict until he crossed the threshold and saw the helicopter occupying the RW. It could

reasonably be assumed that the Starlet pilot was therefore operating under the assumption that Rule 13 applied (An aircraft landing or on its final approach to land shall have the right-of-way over other aircraft in flight or on the ground or water.).

[Post-Meeting Note: In further correspondence with the Starlet pilot, he confirmed that the A109 was not over RW21L/Grass when he made his finals call. Unfortunately, in the absence of any recorded RT data, the Board was unable to ascertain when the FISO had transmitted clearance to the A109 pilot to enter RW21L/Grass.]

At that point he considered the options available and decided that it would be safer to land than to attempt to overshoot. The landing run was extended by the reported tailwind component and, at the point where he was starting to exit the RW to the L, his ac entered the helicopter downwash and ground-looped. Pilot Members questioned whether the Starlet pilot's decision to land may have been influenced by the nature of the rejoin, should he have gone around. This entailed a return to the hold and subsequent further approach to the A/D, which was reported anecdotally as a lengthy procedure. However, the Board was informed that the Starlet pilot did not consider a repeat of the joining procedure as an issue and had done so in the past at other 'Fly-Ins'. Members were uncertain as to why the Starlet pilot did not question the helicopter pilot's intentions over the RT and opined that this may have been due to his mindset, both from his perception of the helicopter pilot's clearance to cross the RW and the AIC instructions referring to RT use. The Board opined that the AIC went to some length to stress the use of minimum RT and that this may have created an impression that RT was only to be used iaw the AIC instructions.

The Board agreed that, in the absence of recorded data, its discussions were necessarily based on reports and perceptions. On balance, it appeared that the Starlet pilot had not heard the FISO issue the clearance to the A109 pilot to enter RW21L/Grass. Had he done so, the Board opined that he would have been able to make an earlier overshoot decision, less constrained by his perception of the risk of doing so. In this case Rule 14 applied:

(2) Subject to paragraph (5) [air traffic control unit at the aerodrome otherwise authorises], a flying machine or glider shall not land on a runway at an aerodrome if there are other aircraft on the runway.

The Board agreed that the Starlet pilot made his decision to land based on a late awareness of the A109 pilot's position and intentions and his assessment of the risk of going around. It was also agreed that he had been faced with an unfortunate combination of factors and, to a degree, that events had conspired against him. However, he was ultimately responsible for ensuring that the RW was clear before landing and hence, notwithstanding his responsibility to land should that be the safer course of action, for making an overshoot decision in good time. The video footage [composite image at UKAB Note(3)] indicated a miss-distance of the order of 8ft and, given that the Starlet pilot had lost control of the ac and the unpredictable nature of a ground-loop, the Board assessed that separation was reduced to the minimum and that chance played a major part in the benign outcome of the incident.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Starlet pilot landed while the runway was occupied by the A109.

Degree of Risk: A.