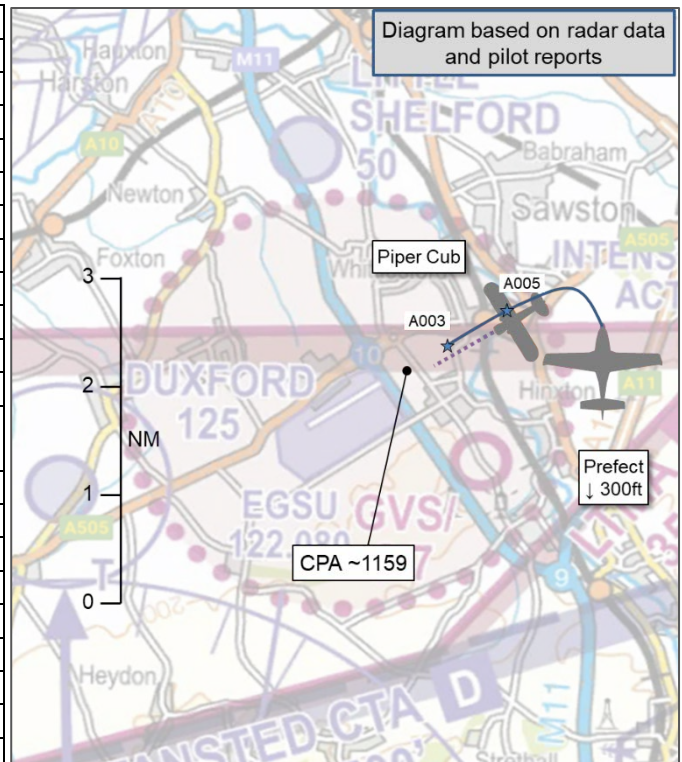


**AIRPROX REPORT No 2021148**

Date: 13 Aug 2021 Time: 1159Z Position: 5206N 00009E Location: Duxford

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Piper Cub	Prefect
Operator	Civ FW	HQ Air (Trg)
Airspace	Duxford ATZ	Duxford ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Duxford	Duxford
Altitude/FL	NK	300ft
Transponder	Off	A, C, S
Reported		
Colours	Green	White
Lighting	None	Strobe, Nav, Landing
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	NR	NR
Altimeter	QFE (1016hPa)	QNH (1020hPa)
Heading	260°	240°
Speed	65kt	90kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
Separation at CPA		
Reported	0ft V/ 15m H	100ft V/200ft H
Recorded	NK	



**THE PIPER CUB PILOT** reports that they were flying an L4 Cub on a circuit detail with a student. They had called downwind and were told that they were No2 to a PA28 downwind, with this traffic in sight they extended the downwind leg slightly for positioning. Knowing that the PA28 was landing on the hard (RW24L) and they were intending to use the grass (24R) and because they were a slower aircraft, they turned fairly close behind the preceding PA28. Due to local noise abatement procedures they planned their final north of Duxford village. As they were lining up with the runway the Instructor noticed the Prefect behind them at 4 o'clock slightly above, the Prefect was gaining on them and getting very close, so they asked if the other pilot had the Cub visual, they responded "yes" however continued to fly at them. They still needed to turn right to line up with the grass runway, however they felt unable to due to the Prefect now immediately on their right wing-tip, at the same level and turning towards them. Concerned that they might collide as the Prefect needed to come further left to line up with the hard and concerned about wake turbulence the instructor took control and dived left and down, (there is not much climb performance in a Cub) by this point the Prefect had overtaken them, so they realigned with RW24R Grass. The hard runway however was still occupied by the PA28 so the Prefect had to go around. Once the PA28 had landed and vacated they landed RW24 grass with nothing further to report. They noted that the pilot of the Prefect at no point made their intentions clear and the student was quite shaken by the event.

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

**THE PREFECT PILOT** reports that at the end of a composite (formation, low-level navigation and GH) land-away, the student pilot recovered the aircraft to Duxford by means of a modified normal join (no dead-side) at the QFI's suggestion, having originally briefed a visual run-in and break. The circuit was busy with a mix of historic and light general aviation traffic (3-4 in and others joining straight-in). Having stayed clear of a Hurricane joining for a break into the 'Warbird' right-hand circuit, the aircraft was

positioned downwind left-hand behind two other aircraft (GA followed by Piper Cub). Subsequently two further GA pilots called 2-3 mile final on initial contact with Duxford. Due to the low speed of the Cub, the Prefect closed throughout the downwind and final turn. The Piper Cub was asked to land on the grass RW24R, with the Prefect only able to land on RW24L. The crew had the Piper Cub in sight throughout in front, low and to their left. A go-around decision was made on short final by the QFI due to the GA ahead still occupying the tarmac runway. In hindsight, the geometry did not make sense with the Piper being left of them and the grass landing strip to the right of the tarmac. An earlier go-around decision by them could have reduced the Piper pilot's perceived threat. However, they had the aircraft in sight throughout and therefore perceived the risk to be low. They were informed, on return from leave, the Piper Cub pilot had filed an Airprox.

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

**THE DUXFORD AFISO** reports that the Prefect pilot reported downwind left-hand and was advised two ahead, one of which was the Cub. The Prefect pilot acknowledged stating "that makes us number three". The AFISO advised that was correct. As the Cub turned final they observed the Prefect also on final but could not judge from the tower how close they were. Almost immediately the Cub pilot reported that they were "not happy with that". The Prefect then reported the Cub in sight. Both aircraft landed safely and the Cub pilot reported that they were considering reporting an Airprox. The Cub pilot phoned the tower later to advise that they would report an Airprox. The AFISO noted that the circuit speed differential between the Cub and the Prefect was considerable.

## Factual Background

The weather at Stansted was recorded as follows:

EGSS 131150Z AUTO 22014KT 9999 BKN022 BKN028 19/14 1021=

## Analysis and Investigation

### CAA ATSI

The Cub pilot (instructor) reported that they had been conducting a left-hand circuit detail, with a student, to RW24R (grass). On the downwind leg of the circuit, they were advised that they were No2 to a PA28, and they chose to extend downwind slightly for positioning. The PA28 pilot was making an approach to RW24L (hard).

The Prefect pilot (instructor) reported that they had been conducting a land-away detail, with a student, and that they had joined the normal left-hand circuit (not via the deadside) for RW24L (hard). The pilot requested a Basic Service, however the service provided within the visual circuit at Duxford is an Aerodrome Flight Information Service. Prior to the Prefect pilot joining the circuit they had been one of a formation of two. Their playmate had joined the circuit a few minutes previously. In the interest of providing clarity to the reader, the playmate is referred to in this report as the unrelated Prefect (UR Prefect).

ATSI had access to reports from the pilots of both aircraft and an initial occurrence report from the Duxford FISO. The Area radar and Duxford RTF recordings were reviewed for the relevant period. The Duxford RTF was constant throughout the period reviewed, with several pilots stepping on each others' transmissions. The Cub aircraft could not be formally identified on the radar recording. However, a Primary Radar contact was displayed intermittently in the positions reported by the pilot, and all other aircraft within the circuit could be accounted for. It has therefore been assumed for the purposes of this report that this Primary Radar contact was the Cub aircraft. In the interest of brevity, only the RTF pertinent to the aircraft involved has been included in this report, together with any RTF that might assist readers in determining the position of the Cub aircraft when it was not being displayed on the radar.

At 1130:12 the Cub pilot made initial contact with Duxford Information, requested the airfield information, and advised that they were looking for 30min of circuits. The FISO responded, "taxi to

holding point Bravo for 24 grass, the QFE is 1016.” The pilot read back, “taxi to holding point Bravo for 24 grass.”

At 1132:53 the Cub pilot said, “positioned behind the Catalina, ready for departure.”. The FISO responded, “roger, take-off your discretion 24 grass, the instant wind is 230° 12kt, it has been recently up to 21kt from 360.” The pilot responded, “roger that’s copied, take-off our discretion.”

At 1135:23 the FISO advised the Cub pilot that there had been a few complaints from Duxford village and that they had been directed to instruct all circuit traffic to give the village a wide berth. The pilot acknowledged.

The circuit detail of the Cub pilot continued, and the circuit became busy with a C150, an unrelated Prefect, a departing PA28 getting airborne from RW24L (hard) and the Cub climbing away from RW24R (grass), except for the departure, all were for the left-hand circuit. There was also a Spitfire on short final and a Hurricane on long final, both for a run-and-break into the right-hand circuit.

At 1147:27 the FISO passed Traffic Information to the C150 pilot, “look out for a PA28 just airborne departing to the west or southwest and a Cub just getting airborne off the grass and also a Prefect on the go around into the left-hand circuit.” The Prefect referred to was not the Prefect involved in the Airprox. The C150 pilot reported visual with all 3 aircraft and was told to report final. The pilot confirmed it was for a touch-and-go and the FISO acknowledged and passed Traffic Information on the Spitfire running in. Note: The Cub was climbing away from RW24R at this point, and the unrelated Prefect (UR Prefect) was on the go around RW24L, neither aircraft are displayed in Figure 1 below.

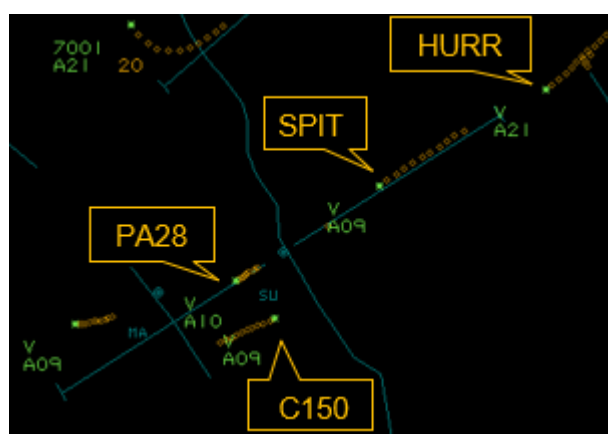


Figure 1 – 1147:27

At 1147:45 the Spitfire pilot reported at 2NM for the run-and-break and the FISO acknowledged. The FISO then turned their attention to aircraft on the ground and at 1148:13 the Spitfire pilot reported, “going up and above the Cub on the climb out.” The FISO acknowledged. (Figure 2)

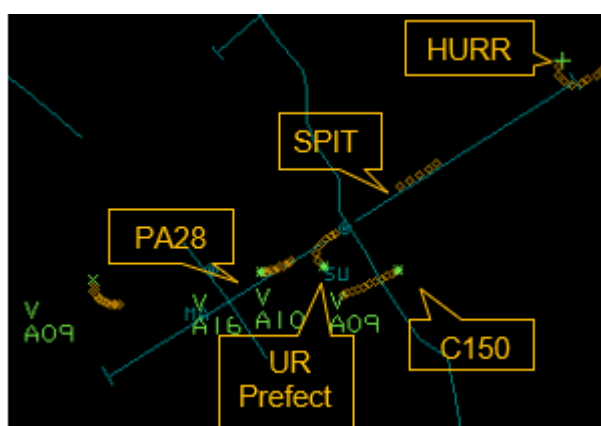


Figure 2 – 1148:13

The FISO turned their attention to aircraft downwind, aircraft on the ground and aircraft leaving the frequency. At 1148:31 the unrelated Prefect pilot reported downwind to land. The FISO acknowledged and passed Traffic Information on the C150 ahead and the pilot was asked to report final.

The FISO turned their attention to aircraft on the ground and to the departing PA28 leaving the frequency. The Spitfire pilot then reported downwind and was asked to report final. The FISO passed Traffic Information to the C150 pilot on the Spitfire.

At 1150:06 the Cub pilot reported, "*downwind for the option, 24 grass.*" The FISO responded, "*roger the Spitfire is just halfway around the right base.*" (Figure 3)

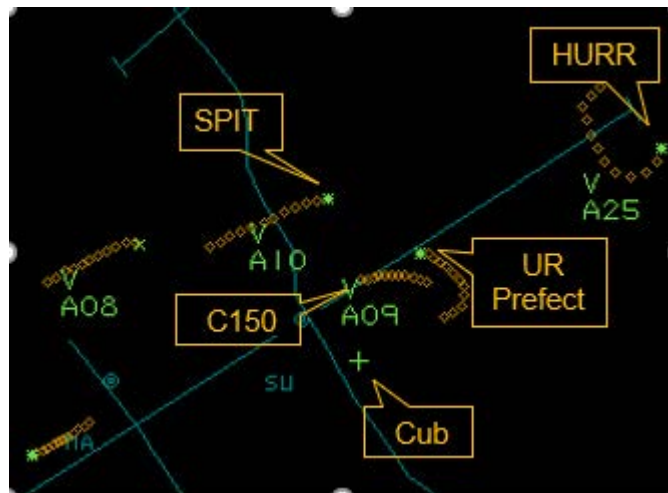


Figure 3 - 11:50:06 (Cub downwind)

At 1150:25 the Hurricane pilot reported, "*5 miles out.*" The FISO advised that there were 3 or 4 in the circuit and asked the pilot for a two-minute warning. The pilot responded that they would wait to be called in to the circuit when the FISO was ready.

At 1150:51 the FISO turned their attention to an aircraft on the ground and issued the pilot with a line up clearance for RW24R (grass) (Figure 4).



Figure 4 - 11:50:51

At 1151:15 the Spitfire Pilot was given a land at their discretion on RW24L (hard). At 1151:25 the Airprox Prefect pilot made initial contact with the FISO, using just their callsign and requested a Basic Service. The FISO queried the callsign and the pilot confirmed their callsign and requested to join. The FISO responded, "*join for 24 left-hand the QFE 1016, the circuit is active now with three in.*" The pilot read back, "*1016, three in.*" (Figure 5)

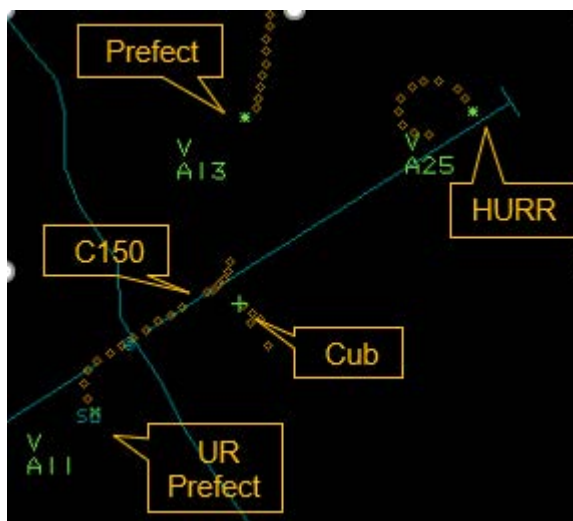


Figure 5 - 11:51.25

The pilot of an unrelated aircraft was then given take-off immediate at their discretion from RW24R (grass). This was followed by an initial call from an inbound aircraft and an instruction issued to an aircraft on the ground.

At 1152:02 the PA28 pilot called for re-join from the southwest and was told to standby. The FISO turned their attention to the landed Spitfire.

At 1152:18 Traffic Information was passed to the joining Airprox Prefect pilot, on the Hurricane about to run-in from the northeast. The pilot reported visual.

At 1152:30 the Cub pilot called "*final for the option.*" The FISO responded, "*option at your discretion, grass runway, surface wind 260° 15 up to 20 kts.*" The pilot read back, "*option at our discretion.*" (Figure 6)

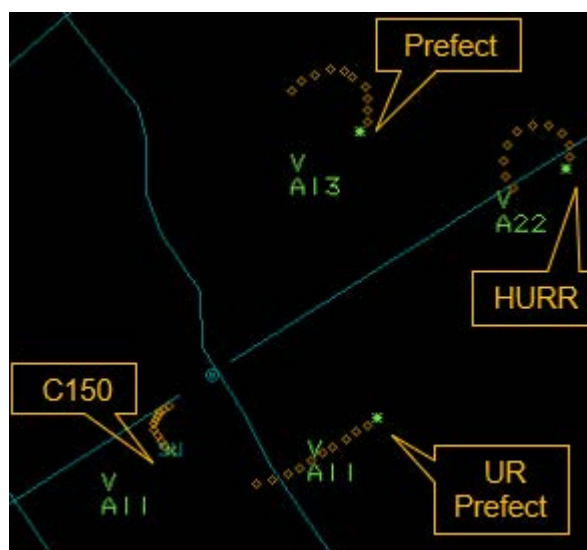


Figure 6 - 11:52.30 (Cub has faded from radar)

At 1152:50 there were two transmissions at once. The unrelated Prefect pilot calling left-base and another transmission from the pilot of an aircraft whose callsign could not be established, however the pilot could be heard saying that they would position to the north behind the Hurricane, and therefore it's likely that this call was from the Airprox Prefect pilot. The FISO responded only to the pilot of the unrelated Prefect, confirming that they couldn't see the Hurricane. The FISO then asked the Hurricane pilot to report running in and the pilot advised that they were running in now and were at 2NM. Traffic Information was then passed to the

Hurricane pilot on the unrelated Prefect on left-base to land, followed by reciprocal Traffic Information to the unrelated Prefect pilot on the Hurricane for a run-and-break. The unrelated Prefect pilot reported visual with the Hurricane.

The FISO turned their attention to aircraft on the ground and there were another two transmissions at once, neither of which were discernible nor was there time for the FISO to query.

At 1153:26 the C150 pilot reported downwind and was told to report final. The pilot acknowledged (Figure 7).

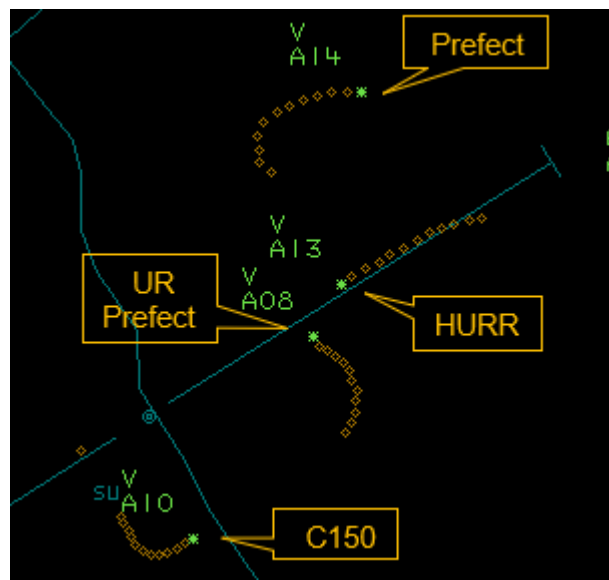


Figure 7 - 11:53.26

The FISO turned their attention to aircraft on the ground. At 1153:50 the unrelated Prefect pilot reported final and was given land at their discretion RW24 left. The pilot acknowledged. At 1154:33 a pilot on the ground called for a radio check and taxi and was told to standby.

At 1154:36 the PA28 pilot called again requesting joining instructions and was given joining instruction for RW24L (hard) and advised that there were 3 or 4 in the circuit. The Hurricane pilot then reported breaking into the right-hand circuit and was told to report downwind. (Figure 8)

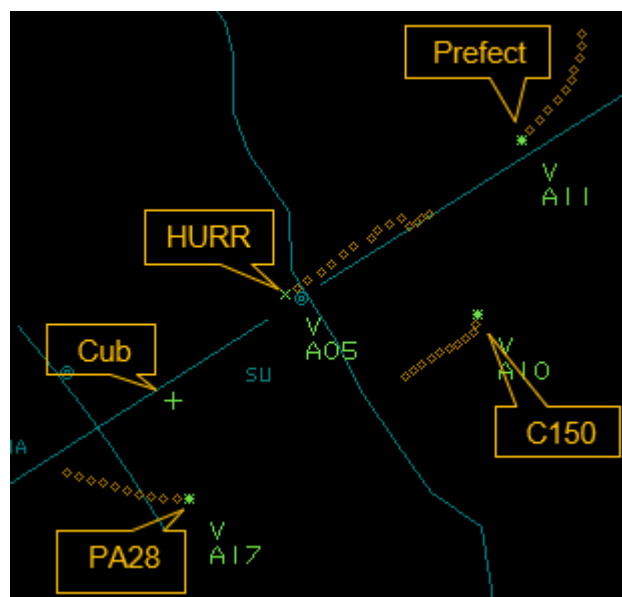


Figure 8 - 11:54.36



At 1154:55 the Airprox Prefect pilot reported running in for the break. The pilot used the callsign of the unrelated Prefect when they made this report. The FISO acknowledged this call, using the callsign of the unrelated Prefect. The Airprox Prefect pilot then corrected their callsign and the FISO acknowledged and said, *“oh I beg your pardon, at your discretion then, report downwind, there is a Hurricane in the right-hand downwind position now.”*

At 1155:17 there was a garbled transmission, with three pilots stepping on each other. One was from an aircraft 7NM to the east of the airfield requesting joining instructions. The pilot was instructed to standby and the FISO turned their attention to an aircraft on the ground.

At 1155:28 the Hurricane pilot reported downwind right-hand, and the pilot was given Traffic Information on a C150 at half a mile final. This was acknowledged.

The FISO then turned their attention to the landed unrelated Prefect. They then asked the Hurricane pilot if they were for the grass and the pilot confirmed that they would take RW24 grass. The Hurricane pilot was again passed Traffic Information on the C150 at half a mile final and advised that the C150 would be for a touch-and-go on the main runway. The pilot acknowledged.

At 1156:10 the C150 pilot said they would go around to give way to the Hurricane. The FISO acknowledged.

At 1156:15 the Hurricane pilot was advised that the C150 was going around. The pilot acknowledged.

At 1156:22 there was an unreadable transmission, followed by two at once and then the Prefect pilot reported, *“downwind (unintelligible word) land.”* The FISO responded, *“there is a Cub ahead of you in the late downwind left-hand position and another one ahead of him.”* The pilot responded, *“visual.”* (Figure 9)

The FISO then queried which aircraft was late downwind and about to turn base and the pilot of the PA28 confirmed that it was them.

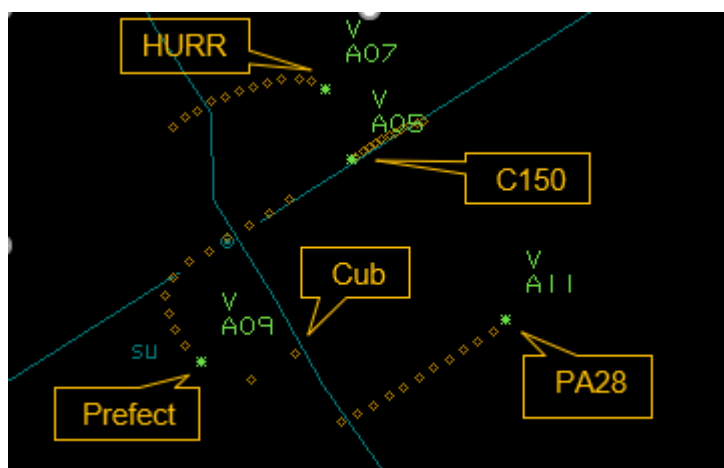


Figure 9 - 1156:22

At 1156:51 the Cub pilot reported, *“we’ll position behind the PA28.”* The FISO responded, *“thanks, that makes you number three, there’s two ahead of you.”* There was no response from the pilot.

At 1156:58 the FISO gave a land at your discretion on the grass to the Hurricane pilot and passed the instant wind of 260° 18kt. The Hurricane pilot acknowledged. (Figure 10)

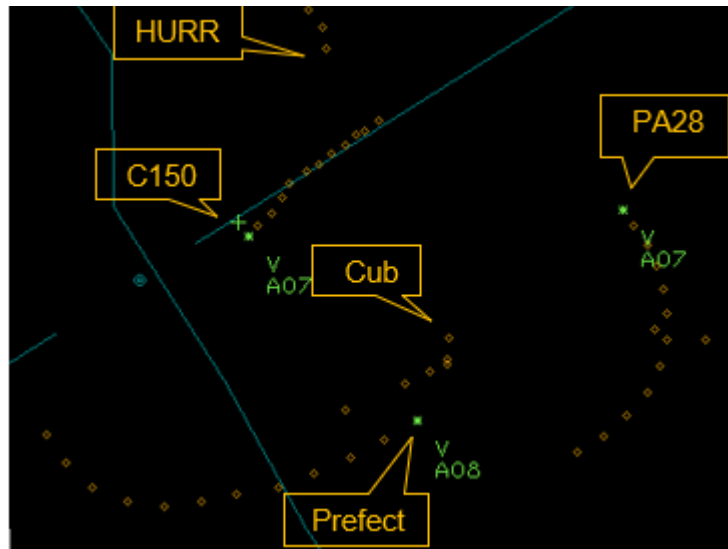


Figure 10 - 1156:58

Between 1157:05 and 1157:45 a pilot called east of the airfield, requesting airfield information, and joining instructions, and was given instructions to join for RW24 left-hand and advised that the circuit was active with 3 or 4 in. The pilot asked if a straight-in approach was possible and the FISO said that they didn't know exactly where the pilot was, and that a straight-in approach would be at the pilot's discretion, to report at 4NM and then reconfirmed that the circuit was active. The pilot responded that they were at 4NM and the FISO responded, "roger then, look out for traffic, I think there are three of them ahead of you, and report 2NM". The pilot read back, "report two miles." (Figure 11)

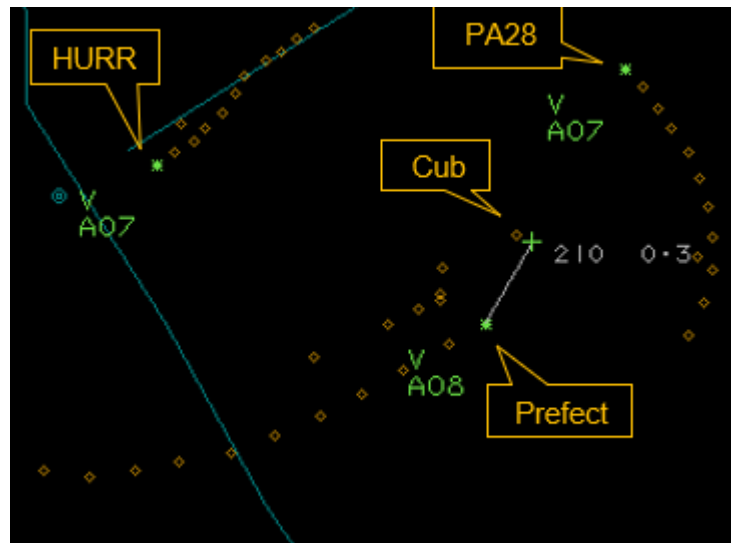


Figure 11 - 11:57.05



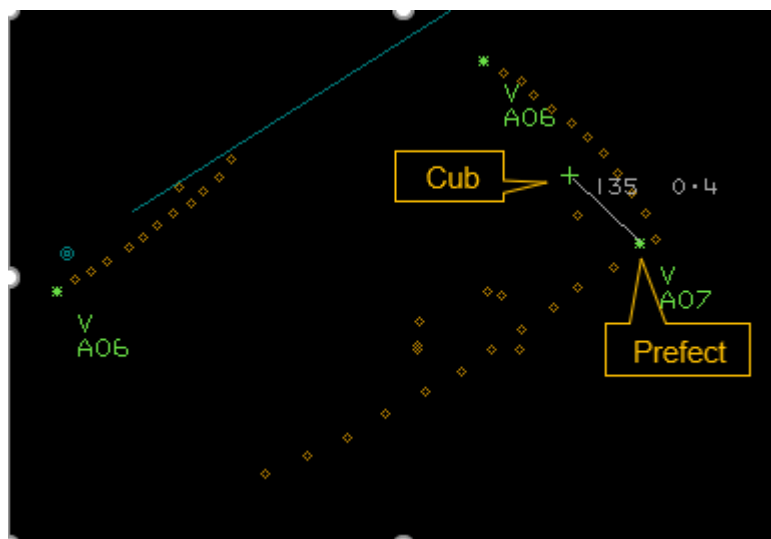


Figure 12 - 1157:31

At 1157:55 the PA28 pilot reported final and the FISO responded, "I'll call you." The FISO then instructed the pilot of the unrelated Prefect to continue taxiing toward the tower and the pilot acknowledged.

At 1158:10 the FISO issued a land at your discretion RW24L to the Prefect pilot and passed the instant wind of 240° 12kt. There was no response from the pilot. (Figure 13)

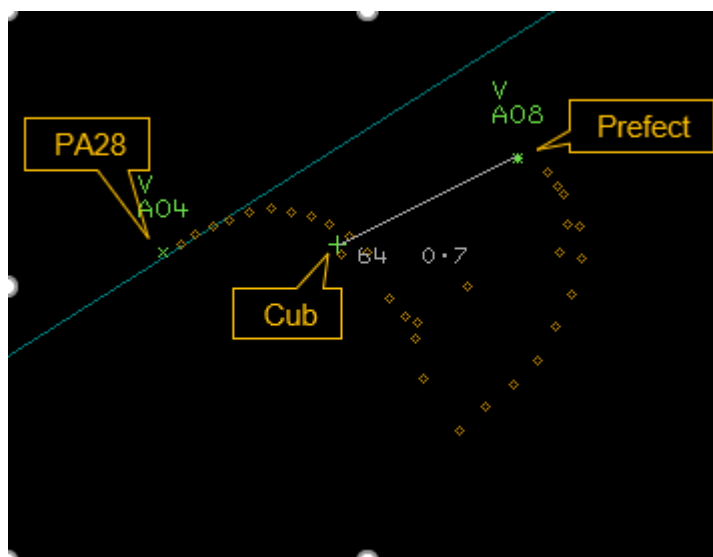


Figure 13 – 1158:08 (the Cub subsequently faded from radar &amp; did not reappear)

The FISO turned their attention to the aircraft joining straight in from the east, the pilot advised that they would conduct an orbit to let the traffic past and then carry on to final. The FISO acknowledged.

The FISO then entered into an exchange with the PA28 pilot, asking if it was them just coming up the motorway. The pilot confirmed that it was them and that they were just to the east of the motorway. The FISO issued a land at your discretion on RW24L and passed the instant wind. The pilot acknowledged.

At 1158:57 the Cub pilot reported, "final behind the other Prefect on my right-hand side." The FISO responded, "roger, understood, he's for the main runway." There was a very short unintelligible transmission and then the FISO asked the Prefect pilot, "do you see the Cub to your left?" The Prefect pilot responded, "affirm, final gear down." The FISO responded, "roger,

*there's one just touching down on the main and the Cub to land on the grass.*" The Prefect pilot acknowledged the traffic and the Cub pilot responded, *"I'm not entirely happy with that."*

At 1159:10 the C150 pilot reported downwind and was asked to report final. The FISO then issued taxi instructions to the pilot of the landed PA28.

At 1159:37 the Cub pilot reported final for the grass and was given land at their discretion RW24 grass. The pilot advised this would be for a full stop landing.

The FISO turned their attention to an aircraft on the ground.

At 1159:53 there was a garbled transmission and the words *"going around"* could be determined. The FISO queried who had reported going around and the Prefect pilot reported that it was them and that they had gone around because they didn't have enough space on the aircraft ahead. The FISO responded with, *"understood."*

### Analysis

The right and left-hand circuit patterns were extremely busy with traffic operating at a variety of different speeds and approaching both the grass and hard runways, with some pilots conducting high speed run-and-breaks into both the right and left-hand circuits.

The volume of traffic in the circuit and the resultant congestion and dual/triple transmissions on the RTF, were such that the FISO was extremely challenged when attempting to pass Traffic Information to pilots, however, they appeared to be doing their best with the airtime available to them.

The grass runway (24R) is situated to the north of the hard runway (24L). The Cub pilot was operating to RW24R and the Prefect pilot was operating to RW24L. Both pilots were flying left-hand circuits.

When the Prefect pilot was issued with their circuit joining instructions, they were passed generic Traffic Information that the circuit was active with three in. The pilot is unlikely to have known how many of the three aircraft would be operating in the left-hand circuit or which runway each aircraft would be approaching.

At 1154:55 when the Prefect pilot subsequently reported running in for the break, they used the callsign of their playmate, who had been given their landing clearance 65sec earlier and were likely to have been short final at the time. The FISO responded to this call also using the incorrect callsign. The FISO's attention may potentially have been taken away from the relative positions of the Prefect and the Cub aircraft at this point and no Traffic Information was passed to the Prefect pilot on the Cub as the Cub was turning off the climb out lane and onto the crosswind leg and the Cub pilot was not warned about the faster moving Prefect joining the left-hand circuit.

At 1156:22 when the Prefect pilot reported, *"downwind (unintelligible word) land."* The FISO responded, *"there is a Cub ahead of you in the late downwind left-hand position and another one ahead of him."* The pilot reported, *"visual."* The Prefect pilot is unlikely to have known which runway the Cub pilot would be approaching.

At 1156:51 when the Cub pilot reported, *"we'll position behind the PA28"* and the FISO responded, *"thanks, that makes you number three, there's two ahead of you"*, there were a total of 3 aircraft ahead of the Cub and the Prefect was catching them up from behind.

Immediately prior to the Airprox occurring the FISO was engaged in a very lengthy RTF exchange that took place between 1157:05 and 1157:45, with the pilot of the aircraft inbound from the east, followed immediately by an aircraft reporting final and the pilot being told to

standby, the Prefect pilot being issued with a land at your discretion, and the FISO returning their attention to the pilot of the aircraft joining straight in from the east.

It was not possible to determine the lateral or vertical distance between the two aircraft at the closest point of approach, this was due to the Cub aircraft being displayed as a Primary Radar only contact and the contact displaying intermittently on the radar replay. The Cub pilot did not receive any Traffic Information on the Prefect. The Prefect pilot was provided with specific Traffic Information on the Cub when the Cub was ahead of them downwind, and the Prefect pilot reported having the Cub aircraft in sight. The FISO could reasonably have expected that no further Traffic Information was required.

Unit management at Duxford are reminded of their obligations under Regulation (EU) 376/2014 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018, Article 4, paragraphs 6(d) and 7, to submit a mandatory occurrence report, within 72 hours of when they are first made aware of an occurrence, and to conduct an analysis of the occurrence, in order to identify any safety hazards, followed by submission of follow up reports, in accordance with the 30 day and 3 month timescales contained in Article 11 of the regulation.

## UKAB Secretariat

The Duxford entry in the UK AIP states:

### EGSU AD 2.20 LOCAL AERODROME REGULATIONS

#### 1 AIRPORT REGULATIONS

- a. First 50 M of paved Runway 24 is sterile and is marked with yellow chevrons.
- b. Visiting aircraft must be insured in accordance with EU Regulation (EC) 785/2004. Art 7. Policies must include (where applicable) passenger legal liability insurance. Policies must also include the AV52E endorsement, proof of which may be requested on landing.
- c. Although Duxford has parallel runways they are not available for simultaneous use and are to be treated as one runway.
- d. Special rules are in force for special events. Relevant AICs give details.
- e. The aerodrome is only open to visitors during specified hours. Traffic operating outside the published opening times is private and Duxford based.
- f. Available for aircraft requiring to use a licensed aerodrome.

The Piper Cub and Prefect pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>1</sup> 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.<sup>2</sup>

## Occurrence Investigation

### 3FTS Investigation

A Piper Cub pilot perceived an Airprox event when on finals to land on dual runways at Duxford. The Piper Cub was landing on the grass strip (to the right hand side of main runway), whilst the Prefect conducted a late go-around to the main runway.

The Prefect crew, aware of the overtake speed on the slower and lower Piper Cub, elected to extend wide on the finals before ultimately conducting a go-around due to a second aircraft still occupying the runway. The Piper Cub was instructed to land on the grass strip, which required them to cross in front of the Prefect, left to right.

The Piper Cub pilot potentially lost visual situational awareness on the Prefect due to its position. However the Prefect crew, being behind and above, maintained visual contact at all times.

<sup>1</sup> (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome. MAA RA 2307 paragraph 17.

The circuit speed of both aircraft was markedly different, causing the spacing to close. Traffic levels were high on the day, and the crew were aware that further aircraft were joining the circuit, therefore decided that trying to maintain spacing on the aircraft ahead was preferable to re-joining the circuit and potentially flying into conflict with the joining aircraft. Duxford has no formal ATC service provision nor does it have a caravan.

Informal information received from the operator of Duxford was that they were considering inviting Prefects to make use of the Warbird circuit.

The investigation recommended:

That commonly used land-away airfields are reviewed for their suitability, and furthermore full briefing material is collated and made mandatory reading prior to making use of such sites.

## Comments

### HQ Air Command

This Airprox was subject Local Investigation and made one recommendation: commonly used land-away airfields are reviewed for their suitability, and furthermore full briefing material is collated and made mandatory reading prior to making such use of sites. The event occurred during an extremely intense period with dual runway operations, multiple circuit directions and aircraft with quite differing airspeeds. Coupled with no formal ATC, although credit to the FISO who was doing their best to maintain SA, the risk of a pilot losing SA airborne markedly increases. RAF Cranwell and Barkston Heath Flying order book has a limit of 4 aircraft in the circuit with up to 2 joining. At the time of the Airprox, the circuit was at this upper limit and it was heartening to read from the investigation that 'crews have been reminded, that where they assess the environment to be too busy or complex, the option to depart the circuit can be a good one'.

Crews planning to use Duxford should be aware of the AIP guidance and what that means in practice. The AIP states: "Although Duxford has parallel runways they are not available for simultaneous use and are to be treated as one runway." The key phrase is 'one runway' and therefore can't be used simultaneously but either can be used for take-off and landing in isolation. Crews should also be alert to the provision of a FISO. As the DDH states: "pilots remain wholly responsible for collision avoidance and compliance with local safe operating environment direction is a key mitigation in this respect." Notwithstanding the guidance, crews should be cautious of how close they get to a less manoeuvrable slower aircraft, accounting for startle factor and wake turbulence considerations. In this instance, the Cub pilot had to manoeuvre down and left to maintain a comfortable spacing, not a good place to be in the circuit. Since the Prefect crew were visual coupled with the Cub's avoiding action there was no risk of collision, but the situation was uncomfortable, nonetheless.

## Summary

An Airprox was reported when a Piper Cub and a Prefect flew into proximity in the Duxford circuit at 1159Z on Friday 13<sup>th</sup> August 2021. Both pilots were operating under VFR in VMC, both were in receipt of an AFIS from Duxford.

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

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first looked at the actions of the Piper Cub pilot. They were in the visual circuit and had made all the appropriate circuit calls, including the downwind call, so they could rightly expect that the Prefect would fit in behind them. The Cub was considerably slower than the Prefect and once the pilot had turned on to final, they could do nothing to prevent the Prefect catching up from behind (**CF10**). Once visual, members thought that it must have been very disconcerting for the Cub pilot to see the Prefect so close and the pilot was concerned enough by its proximity to take avoiding action (**CF8**).

Turning to the Prefect pilot, they were unfamiliar with Duxford operations and members opined that in such a busy circuit, with some unusual activities including two circuits and two landing areas, there would have been a lot for the student to assimilate. Furthermore, the differing speed of the aircraft in the circuit would have meant extra attention was needed for sequencing. Nevertheless, members noted that it was for the visiting pilot to ensure they were aware of all of the nuances of the airfield they were visiting, some members opined that in GA, students are made to telephone the airfield to book the land-away and consequently, receive the airfield brief in person over the telephone. In the event, the Prefect pilot was under the misapprehension that the grass and the hard runway were being used simultaneously, when in fact aircraft needed to reduce to taxiing speed before the parallel runway could be used. Members thought that although the Duxford entry in the AIP had sufficient information stating that the runways were not to be used simultaneously, there was also a full and comprehensive brief available on the Duxford website which they should have referred to when pre-flight planning (**CF5**). On turning final behind the Cub, believing they were able to land simultaneously, the Prefect pilot continued the approach (**CF1, CF2**). Some members opined that even if the pilot believed they could continue, they should not have continued to a point so close behind the Cub anyway and should have made an earlier decision to go around (**CF3, CF4**). In continuing the approach, the Prefect pilot flew close enough to cause the Cub pilot enough concern that they felt the need to take avoiding action (**CF7, CF9**). It was noted that the TAS in the Prefect could not detect the non-squawking Cub, and although the Airprox occurred in the visual circuit and the Prefect pilot was visual with the Cub at all times, members thought that a TAS alert might have warned the Prefect pilot to the proximity (**CF6**). Members wondered whether the Prefect pilot was unused to operations on an airfield with a FISO given that most military airfields have full ATC and were heartened to hear that the RAF Safety Cell intended to write a magazine article for Air Clues, highlighting the differences between military and civilian airfields and explaining the responsibilities of a FISO.

The Board briefly looked at the actions of the AFISO, they were operating under difficult circumstances in extremely busy traffic conditions and members thought that they were doing their best to provide pilots with Traffic Information. Ultimately, the AFISO was not providing clearances for the pilots to use the runway and the AFISO could not instruct the Prefect pilot to go around. Some members wondered whether, with the Prefect being so much quicker than the other GA aircraft, they should be allowed to use the right-hand 'Warbird' circuit in future.

When determining the risk members did not have a radar separation to aid their assessment, but instead needed to rely on the reports from the pilots. The Prefect pilot assessed the risk of collision as low, whereas the Cub pilot assessed it as medium. A long discussion ensued about whether, because the Prefect pilot had been visual throughout the event there had been no risk of collision or whether the incident contained some element of risk. Some members thought that although the Prefect pilot was visual, they had not considered the possibility that, had the Cub pilot unexpectedly manoeuvred, there was the potential for them to have inadvertently turned, or pulled up, into closer proximity. Others countered that as a slower, less manoeuvrable aircraft, the Cub was unlikely to have manoeuvred so quickly that the Prefect pilot could not have taken action. After some discussion, the Chair asked the Board to vote, and, by a small majority, the Board voted for Risk Category C, safety degraded but no risk of collision.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK****Contributory Factors:**

2021148				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Flight Elements</b>				
<b>• Regulations, Processes, Procedures and Compliance</b>				
1	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
<b>• Tactical Planning and Execution</b>				
2	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
3	Human Factors	• Late Decision/Plan	Events involving flight crew making a decision too late to meet the needs of the situation	
4	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
5	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
<b>• Electronic Warning System Operation and Compliance</b>				
6	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
<b>• See and Avoid</b>				
7	Human Factors	• Incorrect Action Selection	Events involving flight crew performing or choosing the wrong course of action	Pilot flew close enough to cause concern
8	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
9	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	
10	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

**Degree of Risk:** C.

**Safety Barrier Assessment<sup>3</sup>**

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

**Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the Prefect pilot continued on the approach, expecting to use the hard runway simultaneously with the Cub approaching the grass.

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



**Tactical Planning and Execution** was assessed as **ineffective** because the Prefect pilot should have integrated behind the Cub pilot using the runway ahead of them, but instead continued with the approach.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the TAS on the Prefect could not detect the non-squawking Cub.

**See and Avoid** were assessed as **partially effective** because the Prefect pilot continued with the approach, forcing the Cub pilot to take the avoiding action.

Airprox Barrier Assessment: 2021148		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	✓	⚠					
<b>Key:</b>								
	Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	⚠	✗	○				
Application	✓	⚠	✗	○	○			
Effectiveness	■	■	■	■	□			