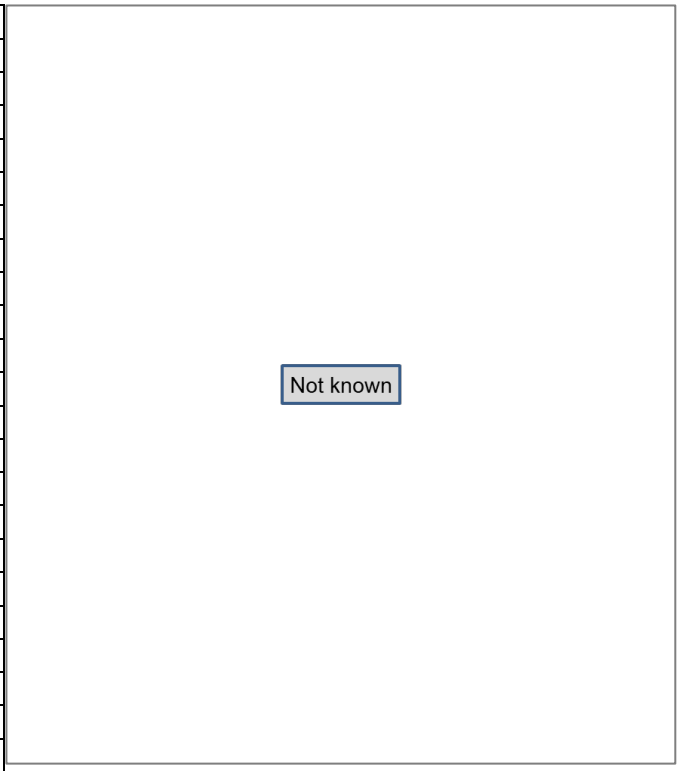
AIRPROX REPORT No 2021170

Date: 06 Sep 2021 Time: 1311-1315Z Position: Not known Location: ivo Lasham

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C130 Hercules	Light aircraft
Operator	HQ Air (Ops)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Traffic	NK
Provider	Odiham	NK
Altitude/FL	1900ft	NK
Transponder	A, C, S	NK
Reported		
Colours	Green	White
Lighting	NK	NK
Conditions	VMC	NK
Visibility	>10km	NK
Altitude/FL	1200ft	NK
Altimeter	QNH (1023hPa)	NK
Heading	340°	NK
Speed	NK	NK
ACAS/TAS	TCAS II	NK
Alert	None	NK
Separation at CPA		
Reported	'300ft'	NK
Recorded	NK	



THE C130 PILOT reports routing from Bournemouth to RAF Odiham. Clearance from London Control required a climb to FL90, routing to the west [they recalled, actually east] before descending while proceeding north to destination. The crew commenced descent with the PNF completing the Field Approach Checks for a visual approach. Departing from controlled airspace in the descent, cleared to 1200ft on 1023mb [sic], the C130 was placed under a Traffic Service and warned of gliders operating at the site in proximity to RAF Odiham. The PNF was heads in when the PF identified a white low-wing single engine light aircraft in level flight travelling in the opposite direction and not squawking. The PF took avoiding action with a right hand turn and initially levelled off until clear of the traffic before reaching 1200ft. Shortly after the action was taken, RAF Odiham Approach alerted the crew to traffic in the area, the profile description matched that of the light aircraft.

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

THE UNKNOWN LIGHT AIRCRAFT could not be identified.

THE ODIHAM U/T CONTROLLER reports in the Radar/Director position at the reported time of the Airprox. They received a call from a Farnborough (FBO) controller notifying them of the C130 inbound and its intentions on being handed to Odiham. After discussion with the Supervisor and the OJTI, the U/T controller called the FBO controller back to notify them that the [C130] would be routing inbound for RW09. At that point the FBO controller initiated a handover, giving the [C130] as squawking 3650 at altitude 2400ft on FBO QNH 1023hPa. On completion of the handover, the [C130 pilot] called and was given a Traffic Service, as requested. The [C130] was heading 340° which would have taken it into Lasham, so the U/T controller elected to turn it to 280° to maintain separation against Lasham. They passed the Odiham information code Mike and requested whether they were familiar with Odiham as published. The [C130] was given own navigation as requested for Odiham RW09. Traffic was called to the [C130] with one instance being against a squawking track, heading south, and the other instances

being against the Lasham avoid[1] or contacts within the vicinity of Lasham. The [C130 pilot] called visual with the aerodrome at the MATZ boundary and was switched to Odiham Tower frequency. At no point did the [C130 pilot] declare that an Airprox had occurred.

THE ODIHAM OJTI CONTROLLER reports they were instructing in the Radar/Director position at Odiham and were handed the [C130] from Farnborough in the descent to 2400ft QNH. The [C130] had requested a visual recovery, however, was heading straight for Lasham, a permanently active military avoid up to 3000ft, which had intense glider activity at the time. A turn to the left, heading 290° was given by the U/T controller to avoid Lasham whilst calling at least one (potentially multiple) tracks in the [C130]'s immediate vicinity. The [C130 pilot] reported visual with the aerodrome, requested own navigation and was given own navigation whilst instructed to remaining clear of Lasham. The [C130] then turned towards Odiham and the northwest corner of Lasham and the U/T controller was prompted to call further traffic and tell the [C130] their track was heading for Lasham. At this point the [C130] was seen to turn away from Lasham and switched to ADC. No Airprox was declared on frequency so it's not clear at which point the confliction arose.

THE ODIHAM SUPERVISOR reports they were only made aware of the Airprox 24hrs after the event; memories were not as clear as they could have been and this was the busiest afternoon they had had during their Odiham tour to date. So much went on during the shift that it was difficult to recall the day with clarity. The Supervisor was plugged in next to the Approach controller watching/listening. There was high traffic density in the area, particularly in the vicinity of Lasham. The Approach controller had given a vector of 290° to point the [C130] into clear air and keep away from Lasham. Conflicting traffic was heard to be called to the [C130] and the [C130 pilot] then requested own navigation. Upon being given own navigation, and reminded to stay clear of Lasham, the [C130] took a right turn, which looked like it would go into Lasham if not adjusted. There was intense gliding activity in and around Lasham which had been relayed to the pilot. There were 2 non-squawking aircraft just outside the Lasham avoid to the northwest which were called by the Approach controller. No call was made at the time to indicate an Airprox had taken place.

Factual Background

The weather at Odiham was recorded as follows:

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METAR EGVO 061350Z 14004KT 9999 FEW048 SCT250 27/15 Q1023 NOSIG RMK BLU BLU=
METAR EGVO 061250Z 08003KT 9999 FEW040 SCT250 26/16 Q1023 NOSIG RMK BLU BLU=
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Analysis and Investigation

Military ATM

An Airprox occurred on 6 Sep 21 between approximately 1311 - 1315 UTC, 8NM southwest of Odiham between a C130 and an unknown aircraft. The C130 pilot was in receipt of a Traffic Service from Odiham Approach.

The C130 was inbound to RAF Odiham from the south-southwest and was initially in receipt of a service from Farnborough before being handed over to Odiham Approach and placed under a Traffic Service. The pilot reported that they were warned of gliders operating in proximity to Odiham and that the PNF was “heads in” when the PF identified a conflicting aircraft transiting in the opposite direction and non-transponding. Avoiding action was taken by the PF. Separation was reported as 300ft. The C130 investigation detailed that it was a high workload point of the flight.

The Odiham Approach instructor reported that the C130 had been handed over from Farnborough in the descent to 2400ft QNH and had requested a visual recovery. As the C130 was routing towards Lasham Glider Site, a turn was given by the U/T controller to avoid it. Traffic Information was passed regarding contacts operating within the Lasham area and the C130 was released own navigation avoiding Lasham for their recovery.

[1] Lasham is a 3NM/3000ft avoid under military regulations.

Figures 1 – 4 show the positions of the C130 at relevant times during the Airprox. The screen shots are taken from a replay using NATS Radars, which may not be entirely representative of the picture available to the Odiham Controller, using a different radar source.

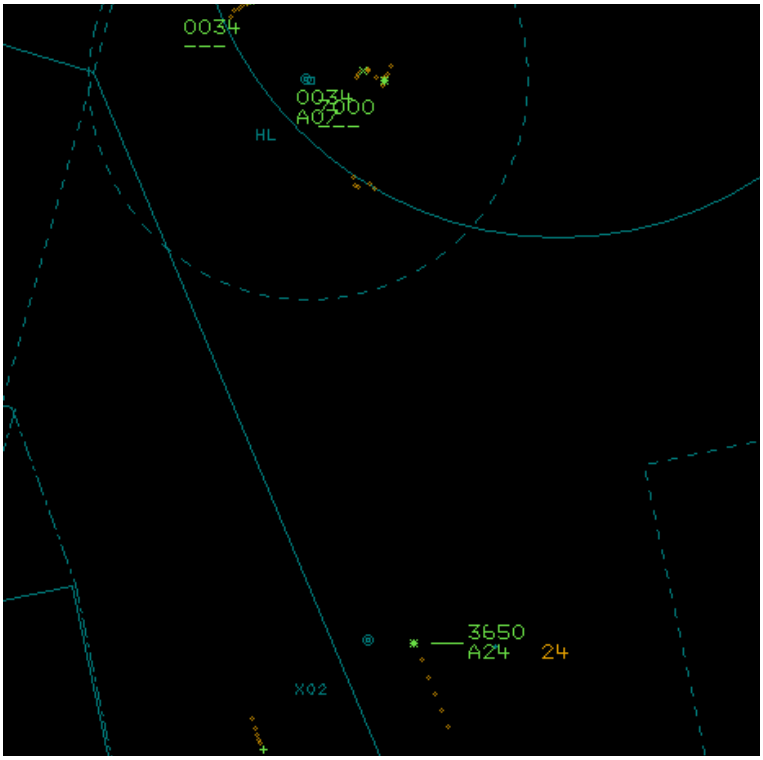

Figure 1: 1310:35 - C130 checks in with Odiham Approach.

The C130 checked in with Odiham Approach following a radar handover from Farnborough when approximately 12NM to the south-southwest of the Odiham overhead. The C130 was identified, placed under a Traffic Service and provided with the airfield short weather.

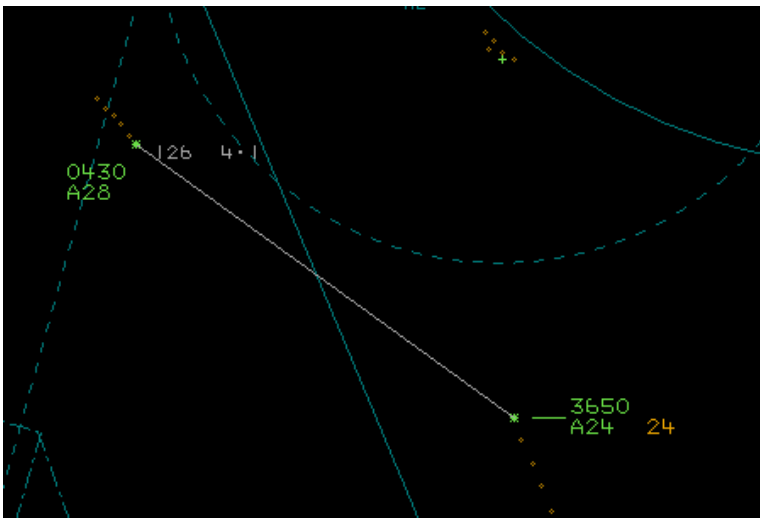

Figure 2: 1311:37 – Traffic Information is passed to C130 on a conflicting 0430 squawk.

Traffic Information was passed by Odiham Approach related to a conflicting 0430 squawk. The controller believed the C130 should have been operating on their own navigation to route to the west of Lasham, as agreed between Odiham and Farnborough controllers during the pre-handover conversation.

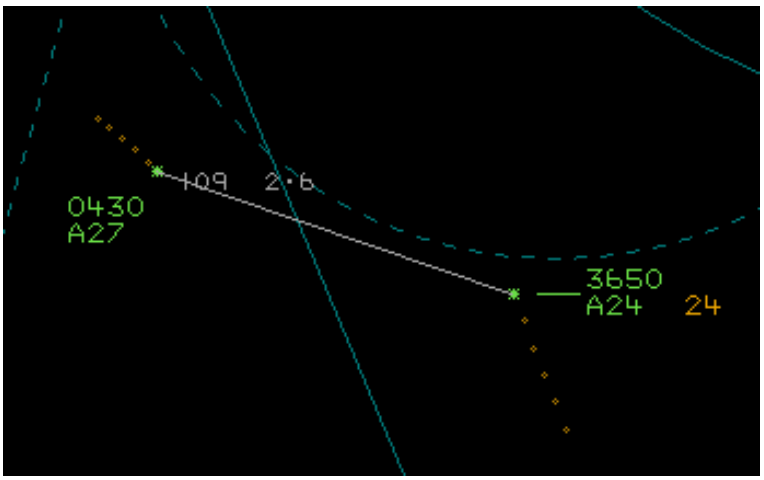

Figure 3: 1312:00 – C130 is turned left to 280 degrees.

The Odiham controller turned the C130 left onto 280° to avoid Lasham Glider Site. Following this the controller confirmed that the C130 was familiar with Odiham before allowing the C130 to resume own navigation and being instructed to remain clear of the Lasham overhead.

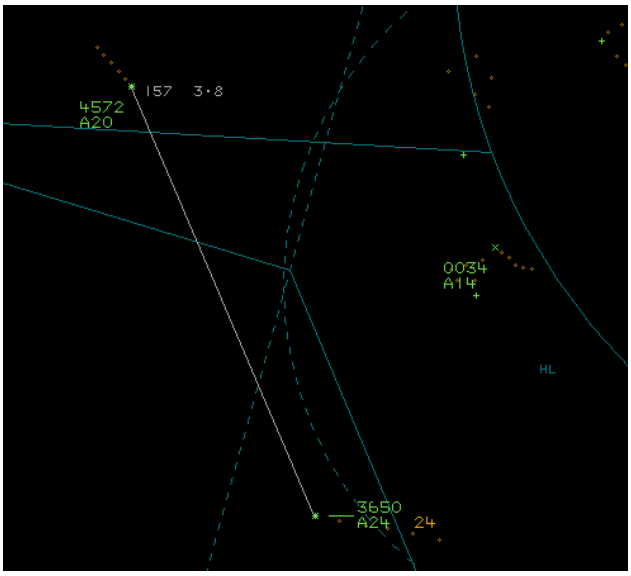

Figure 4: 1313:05 – Traffic Information passed to the C130 on 4572 squawk

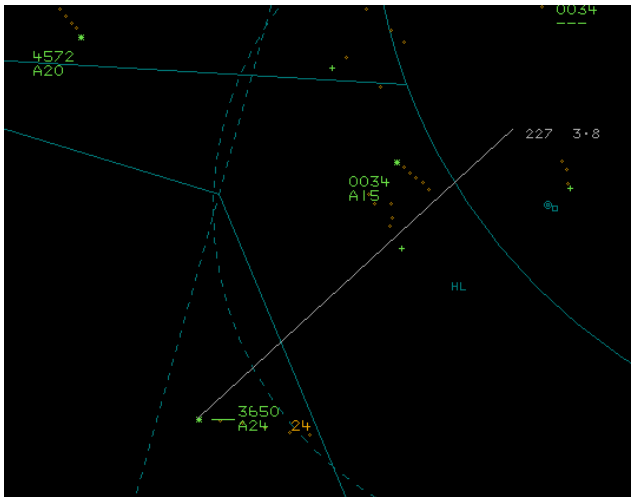

Figure 5: 1313:11 – Traffic Information passed to the C130 on Lasham primary contacts

Further Traffic Information was passed by Odiham Approach on another conflicting track squawking 4572, swiftly followed by Traffic Information relating multiple contacts operating within the vicinity of Lasham.

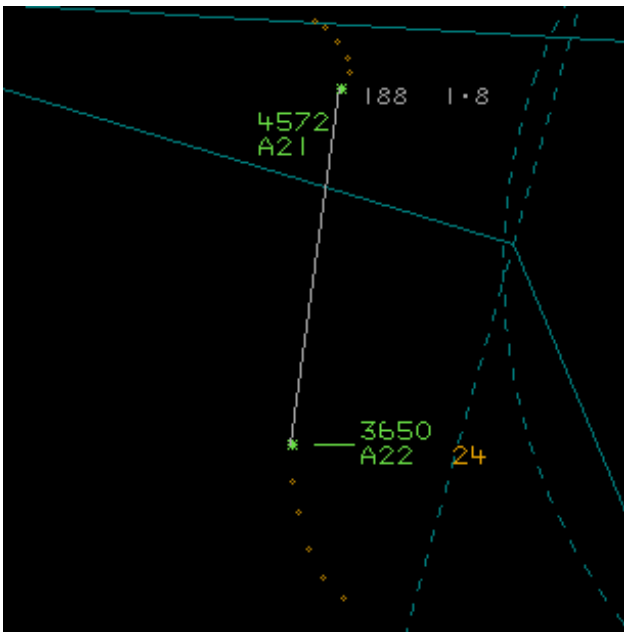

Figure 6: 1313:48 – Traffic Information on the 4572 squawk is updated.

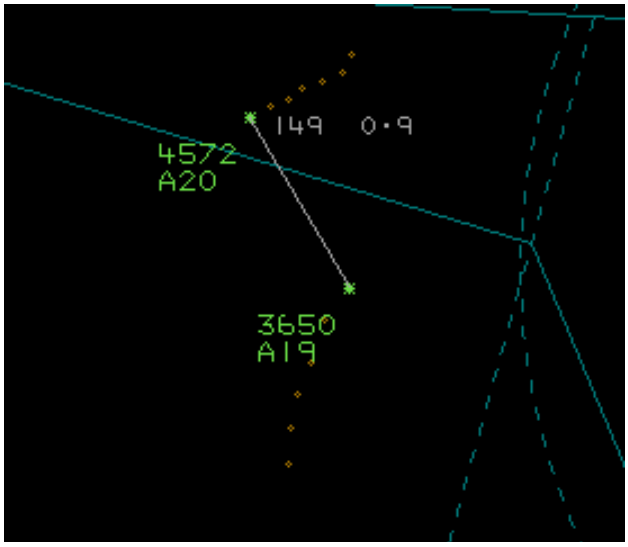

Figure 7: 1314:06 – C130 takes a right-hand turn.

Traffic Information was updated by the Approach controller with the C130 pilot reporting that they were looking. Approximately 15sec later the C130 commenced a right-hand turn.

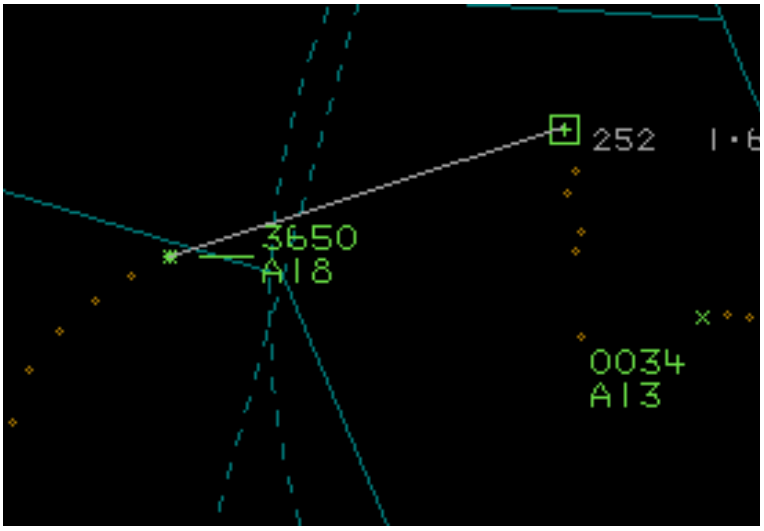

Figure 8: 1314:21 – Traffic Information passed.

The right-hand turn taken by the C130 put them into confliction with glider activity in the vicinity of Lasham. Traffic Information was updated by the Approach controller.

Due to conflicts in the information available it was difficult to ascertain exactly which aircraft the C130 had declared an Airprox against. Potentially, based on the obvious right-hand turn taken by the C130, the Airprox could have involved the 4572 squawk. However, the given timing by the C130 pilot and the reported lack of a transponder from the conflicting track does not match with this assessment. When reviewing the radar replay for the time given by the C130, there were no non-transponding tracks in their vicinity and the tape transcript provided by Odiham ATC show that no Traffic Information was passed relating to non-transponding tracks at this time.

The controller provided suitable Traffic Information regarding all conflicting tracks as expected to allow the C130 the required flexibility to conduct a visual recovery to the airfield. Warnings were provided regarding Lasham activity and a reminder to remain clear. It is unknown whether the

Farnborough controller reminded the C130 of the requirement to avoid Lasham to the west as agreed with the Odiham controller.

UKAB Secretariat

The C130 and light aircraft pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[3]

The Airprox was initially reported with an incorrect time and location. A better assessment of the time and location of the Airprox was provided by the C130 pilot but observation of the NATS Ltd radar replay showed that the C130 did not fly into proximity with any primary only contacts until in proximity to Lasham. The RAF C130 Occurrence Manager contacted Lasham and received the following statement, '*All of the gliders and light aircraft that fly from Lasham have to be fitted with a collision warning system called FLARM. We can track this on a live or recorded basis and I have checked the data and all of the glider traffic around Lasham and to the North of the airfield at the time of the Airprox was in excess of 3000ft above sea Level*'.

The C130 pilot's description of their avoiding action as '*Right turn and immediate level off before descent re-initiated once clear*' correlates with an event at 1314:07, see figure 9. However, the other aircraft was a squawking, high-wing light aircraft at a range at CPA of 0.9NM, all contrary to the C130 pilot's description of the other aircraft.

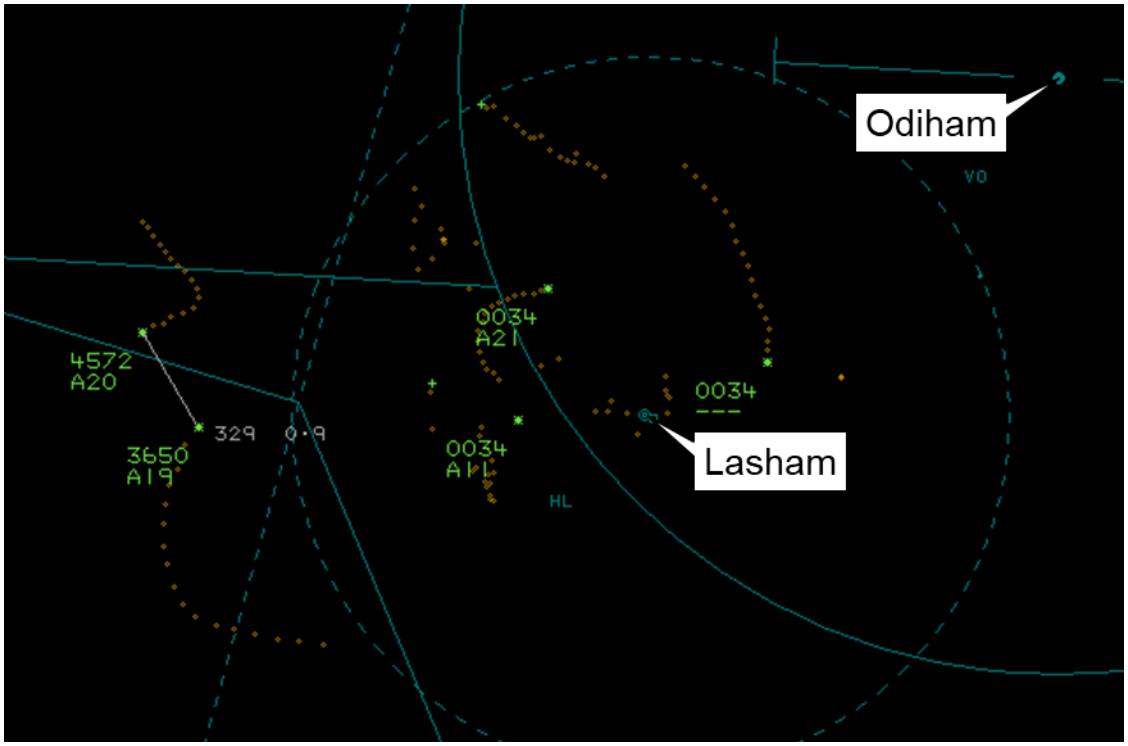

Figure 9: 1314:07 - C130 squawking 3650, light aircraft squawking 4572

RAF Local Investigation

It has not been possible to confidently identify the conflicting civilian aircraft or who was operating it and therefore the outcome of this investigation has been hampered by the inability to make contact with them and discuss the incident.

This Airprox occurred whilst the C130 was under a Traffic Service with RAF Odiham as they approached the airfield, shortly after a handover from Farnborough Radar. This was a high workload

[2] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[3] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

point of the flight and the airspace was busy with ATC calling a number of contacts throughout the occurrence. The comms were busy and the PNF was copying the weather information whilst the PF had eyes out, visually acquired the contact and took avoiding action.

It is believed that the incident occurred at 1311 with the location approximately 8nm to the SW of Odiham at approximately 1600-2000ft. The opposing aircraft was not squawking and therefore TCAS was of limited benefit to the C130 crew. Shortly after the Airprox, ODI Approach alerted the crew to traffic in the area, the profile description matching that of the aircraft.

Following the avoiding action under own navigation, the C130 subsequently routed towards the Lasham avoid. There were gliders in the 12 o'clock position and ATC reiterated that the aircraft should route clear of Lasham. The crew complied and no further incident occurred.

The crew did not report the Airprox at the time or on the ground at ODI due to the high workload.

There were a number of causal factors at play throughout this incident; civilian aircraft not fitted with transponder, busy airspace, high workload (ATC & crew) and distractions. In this case, the avoidance of MAC was solely reliant on the final barrier - lookout - which thankfully facilitated the subsequent avoiding action taken by the crew.

Ultimately, had the conflicting aircraft been fitted with a transponder and been squawking, ATC would have had a greatly enhanced capability to monitor the movement of the civilian aircraft and would have been able to provide an enhanced level of traffic information to aid avoidance. The crew would also have received TCAS information and alerts in advance of the incident occurring and would therefore have had more time to ensure safe clearance from the opposing aircraft.

This incident has been discussed extensively amongst C130 operators led by the FSO and is an example of why effective lookout, particularly in busier airspace and at high workload points of the flight, is so important.

Comments

HQ Air Command

This Airprox was subject to a Local Investigation. The route the C130 took was through extremely congested airspace, especially as they were tracking towards Lasham glider site, avoiding it once prompted by the controller. With a handover, the routing and the airspace, it is understandable how the workload was extremely high within the cockpit. Regrettably, this meant that the crew didn't report an Airprox at the time it had happened. It is always advisable to call an Airprox on the radio where possible. Be that as it may, pilots should always aviate, navigate and then communicate in that order of priority and thus the crew can't be criticised for not calling it. However, the crew should have reported it upon landing as per RA1410 and the ASIMS user manual: If it is not possible to make an initial report by RT, it must be made expeditiously to an appropriate ATSU as soon as possible after landing. It is very difficult to assess the magnitude of the risk in this occurrence, however, owing to the crew becoming visual and taking avoiding action, the risk of collision was averted.

Summary

An Airprox was reported when a C130 and an unknown light aircraft flew into proximity to the southwest of Odiham at about 1314Z on Monday 6th September 2021. Both pilots were operating in VMC, the C130 pilot under VFR and in receipt of a Traffic Service from Odiham.

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 information in the C130 pilot's Airprox report could not be definitively correlated with any other radar contact. The other contacts were either secondary when a primary only contact was reported, did not correlate with the stated right turn and level off when in proximity, occurred at a far greater separation than reported or were high wing when a low wing aircraft was seen. Due to the inability definitively to identify the other aircraft, and the possibility of the other aircraft not appearing on radar at all, the Board members reluctantly agreed that, whilst this was undoubtedly an Airprox, assessment of barrier performance, contributory factors and risk could not be made.

Members noted that this was the first time they could recall that an Airprox had been determined as unassessable in terms of barriers and contributory factors and that a simple call on the radio would have removed any doubt as to the time, date and position of the occurrence, allowing subsequent analysis and understanding, to the benefit of all involved. The Board reiterated that a radio call to an appropriate ANSP was sufficient, could simply be notification of an Airprox having occurred, did not have to involve a substantial further transmission and could be key to subsequent effective analysis of the Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

In assessing the contributory factors associated with this incident, the Board concluded that, due to the inability to correlate the C130 report with other traffic, a useful assessment could not be made.

Degree of Risk: D.

Recommendation: Nil.

Safety Barrier Assessment[4]

In assessing the contributory factors associated with this incident, the Board concluded that, due to the inability to correlate the C130 report with other traffic, a useful assessment could not be made.

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