

AIRPROX REPORT No 2012153

Date/Time: 26 Sep 2012 1907Z (Night)

Position: 5101N 00238W (O/H RW09
Yeovilton - elev 75ft)

Airspace: Yeovilton ATZ (Class: G)

Reporting Ac Reported Ac

Type: Sea King Mk4 PA28

Operator: HQ JHC Civ Club

Alt/FL: 1000ft↑ 1500ft
QFE (994hPa) (QNH)

Weather: VMC CLBC VMC CLOC

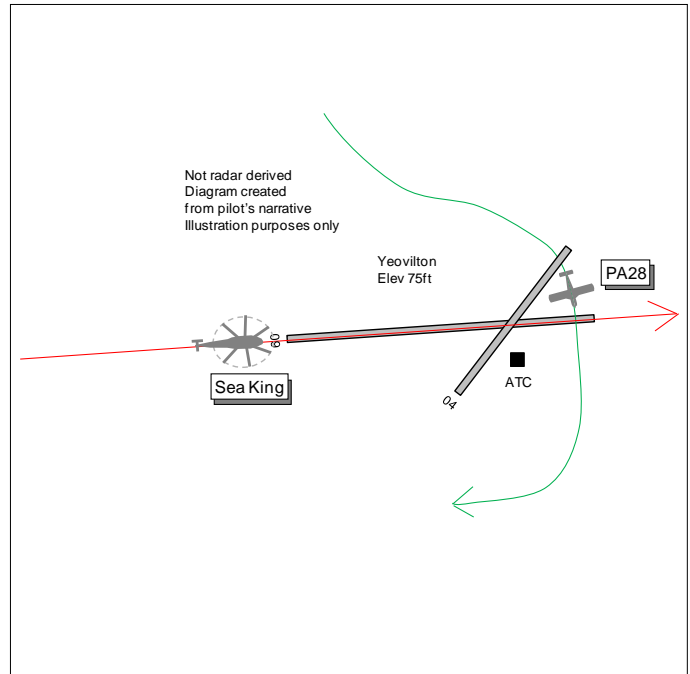
Visibility: 10km 20km

Reported Separation:

100ft V/400m H 1200ft V/1350m H

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE SEA KING PILOT reports flying a training flight using NVDs inbound from Poole HLS and in communication with Yeovilton Approach on UHF Channel 3, squawking 0222 with Modes S and C; TCAS was not fitted. The visibility was 10km flying 1000ft below cloud in VMC and the helicopter's red HISLs and flashing dim nav lights were switched on. Approaching decision height on a PAR approach and during the overshoot they saw traffic [the PA28] in their 9 o'clock to the N of their position. They initially thought the other ac may pass down their LHS and continue on its track. However, passing the RW09 midpoint approaching 1000ft QFE 994hPa heading 090° at 90kt they saw the other ac approach in a banking R turn from the N and cross the duty RW across their flightpath <500m ahead; they estimated the separation as 400m horizontally and 100ft vertically at the CPA. The ac continued its banked turn as it passed down their RHS. No avoiding action was taken as they were visual with the ac throughout. They had not heard the traffic on the Tower frequency or permission for the traffic to cross the duty RW. He assessed the risk as medium. Clearly the time for the ac to pass from L to R was a matter of seconds and had their helicopter been slightly higher or R of track and not visual with it then there would have been a high risk of collision.

THE PIPER PA28 PILOT reports flying a local night training sortie from Yeovilton, VFR and in receipt of a BS from Yeovilton Approach on 123.3MHz, squawking an assigned code with Modes S and C. The visibility was 20km in VMC and the ac's nav and red anti-collision beacon were switched on. The sortie was to complete the student's Night Rating Training, having completed cct training and solo ccts the previous evening. The flight was flown as a consolidation night NAVEX with initial tracking of the BRI NDB to the NW then tracking the EX NDB to the SW, followed by a reversal of the route with transfers to the appropriate ATSU's en-route. On return to Yeovilton, APP was contacted to the S of Merryfield; a BS and squawk were obtained and their intentions were passed to return to the A/D to land. An E'ly track was established towards Street [8nm NW of Yeovilton] at altitude 3000ft, with a lowering cloud base to the S in the vicinity of the A/D. The cloud base was scattered at around 4000ft with limited cloud at their altitude. Passing S abeam Street, he told his student to request an overhead rejoin at 1500ft at about 7.6 DME and he was aware of the appearance of a lower cloud-base to the S. The controller's response was, "RW09 Right Hand", therefore a track was established to route direct to the aerodrome O/H in a cruise decent aiming to join O/H at 1500ft QFE. Passing 2800ft in descent at 95kt, traffic was noted in their 2 o'clock at a similar level to the S of the AD tracking L to R, which he pointed out to his student. He also noted the cloud layer as being further S and above their level from the reflection of urban lighting. APP

then passed TI, "PAR traffic Sea King in your 2 o'clock RW09", which the instructor initially connected with the traffic he had just spotted below them. APP then directed them to, "make yourself No2". After a period long enough for him to discuss the traffic situation with his student, suggesting that the contact at about 2000ft was possibly been vectored onto a RH base-leg for RW09, he was content with this situation to join O/H into a RH downwind leg. However, APP then advised, "Sea King 1200ft on PAR"; this traffic was then identified by his student in their 2-3 o'clock at about 2.5nm. The instructor judged this would put them onto a reciprocal heading and possibly O/H the PAR traffic if he turned to starboard to join downwind LH for RW09 at this late stage. Therefore, he elected to continue O/H at 1500ft as he judged this would keep them clear of the traffic while maintaining good visual contact. At this point, as they were approaching the O/H at 1500ft just to the W of the intersection of RW04/09, they started to turn to the L to cross over the upwind end of RW09, whilst he remained visual with the traffic as it approached the threshold of RW09, whereupon APP advised, "Sea King conducting missed approach". Consequently, he instructed his student to take up a S'ly track to clear the overshoot; during this period he - the instructor - had continuous visual contact with the Sea King round to his starboard aft quarter just off the tailplane at the point the Sea King crew executed their overshoot at about 50ft. He estimated separation as 1200ft vertically and 1350m horizontally at the CPA. The helicopter passed behind, tracking at R angles to their track, assessing the risk as none. Once S of the C/L he directed his student to descend onto the downwind leg and when they were established mid-downwind at 800-1000ft QFE they heard the Sea King crew report an Airprox as he passed through their 3 o'clock. APP then switched them over to TOWER on 120.8MHz and a normal landing was completed. Taxying back to S dispersal he was requested to contact the DATCO on the landline.

UKAB Note (1): The Yeovilton METAR was: - EGDY 261850Z 36007KT 9999 FEW012 SCT020TCU BKN045 12/10 Q0995 WHT TEMPO 4000 SHRA FEW012 BKN018CB GRN=

UKAB Note (2): Sunset was 1801Z.

THE YEOVILTON APPROACH RADAR CONTROLLER (APP) reports whilst the Sea King was conducting a PAR to RW09 at range 5nm the PA28 flight under a BS requested an O/H join from 6nm NW of the aerodrome. After informing the ADC of the intentions he told the PA28 pilot about the radar traffic and instructed him to report when visual. The pilot reported visual when the Sea King was at 4nm at which point he told the PA28 pilot to make himself No2 to the radar traffic. He received confirmation from the pilot that he would make himself No2. On low approach the Sea King pilot called and APP instructed the pilot to climb to 2000ft. At this point he was unaware that the PA28 was crossing O/H at 1500ft QFE directly in front of the Sea King and still on the Approach frequency thus without permission to cross the Duty RW. Having thought the PA28 flight was already with Tower, owing to the ac being in the cct, he immediately instructed the flight to contact Tower for further instructions.

THE YEOVILTON DUTY AIR TRAFFIC CONTROL OFFICER (DATCO) reports that he was in the Visual Control Position (VCP) when the ADC was informed by APP that the PA28 pilot was conducting an O/H join for visual ccts to the duty RW09. The ADC stated that APP had advised him that the PA28 flight was told to make themselves No2 to the Sea King PAR traffic. As both ac were under the control of APP, he was confident that all deconfliction measures had been considered. The Sea King flight, through Talkdown, was given clearance by ADC to conduct a low-approach. Although he and the ADC observed both ac visually and on the Hi-Brite ATM, it was hard to ascertain the height of the PA28. The PA28 continued to close to the O/H from the NW and cross O/H the RW ahead of the Sea King, which was executing its low-approach and was climbing straight ahead on RW track. The PA28 pilot only free-called the ADC on VHF when the ac turned downwind and was then given instructions to join by the ADC. He made an 'open comment' to the ADC that it did not look right, explaining that if the Sea King crew had executed a Missed Approach because they were in IMC, then the ac would have been potentially climbing up through the joining ac's level. He was then informed by APP that the Sea King crew had queried if an ac had flown through the O/H about 0.25nm in front of their helicopter at a similar height. The PA28 pilot was asked to contact the DATCO on landing. He then informed the Duty Flying Supervisor (DFS) of the occurrence who made note to handover to Lt Cdr Flying and the oncoming DFS the next morning. The PA28 pilot

telephoned; he informed the pilot of the occurrence and asked why he did not join No2 to the PAR traffic. The PA28 pilot informed him that it is a Station Flying Club procedure to conduct O/H joins; however, he did inform the PA28 pilot that as a military A/D ATC do not conduct this procedure because of ac conducting IFR climbouts or missed approaches. He asked the pilot what height he was when he turned downwind, to which he replied, "1500ft QFE". The PA28 pilot had attended the night flying brief held in ATC prior to this sortie. Later, the DATCO was contacted by one of the Sea King pilots, who wanted to know what had happened; he explained what he thought had occurred from a VCP perspective, but also explained that APP was already in the process of raising the DASOR for the incident. He informed me that he would talk to the Sea King Capt and they would consider their options regarding submitting an Airprox or not. The PA28 pilot was informed that a DASOR would be raised.

UKAB Note (3): The radar recording does not capture the Airprox. The Sea King fades from radar at 1905:17 approximately 4nm from touchdown RW09 with the PA28 4nm NW of Yeovilton tracking SE'ly in the Sea King's 10 o'clock range 4nm. The PA28 continues towards the O/H fading at 1907:00 with 1.5nm to run.

THE YEOVILTON FLIGHT SAFETY INVESTIGATION reports the incident occurred in the Yeovilton visual cct during a period of Station night flying. At no stage during the instrument approach had the Sea King crew been given TI or advised that the PA28 was joining the visual cct via the O/H. APP had informed the ADC of the PA28's O/H join [1903:45] and that the pilot was visual with the Sea King making a GCA [1905:13]. The PA28 pilot was instructed to make himself No2 to the GCA traffic and acknowledged the instruction [1904:58]. The PA28 pilot reported conducting a visual O/H join and descending to 1500ft QFE and was visual with the Sea King during the approach. The PA28 had descended on the deadside before turning crosswind, crossing the Duty RW and turning to position late downwind RW09 RH. Transfer of control between APP and ADC was late (once the PA28 was established downwind) therefore ADC had not passed cct information to the GCA controller as part of the standard clearance issued at 3nm for the Sea King to low approach. Consequently the Sea King crew had no knowledge of the ac in the visual cct. APP had stopped monitoring the PA28 on radar as he believed the ac was under ADC's control and at no stage during the recovery of the 2 ac did the APP consider that a conflict to their flight profiles might occur. Thus the APP did not impose a climb-out restriction in the event of a missed approach procedure being initiated or attempt to de-conflict the ac. The ADC observed the PA28 approaching the aerodrome and contacted the APP to question whether the PA28 pilot was visual with the Sea King but the ADC did not request that the PA28 flight be transferred to the Tower frequency. When recovering visually, the O/H join method is not a recognised procedure at Yeovilton and the Yeovilton Aviation Orders (YAvOs) clearly state that O/H joins are not permitted due to there being a limited deadside. However, further investigation revealed that the Yeovilton Flying Club (YFC) Order Book 2010, which supplements YAvOs, contravenes this rule as the recommended join in VFR conditions when the aerodrome is open is to be an O/H join at 2500ft. Several factors led to this incident occurring. VFR night flying in the UK is a relatively new procedure (8Jun2012) and ATC is unfamiliar with the integration of Flying Club ac and Station based ac at night. The PA28 pilot requested a VFR join via the O/H as per YFC Order Book; this procedure is not authorised at Yeovilton as stipulated in YAvOs. APP approved this procedure and attempted to sequence the ac by asking the PA28 pilot to report visual and make themselves No2. The PA28 pilot reported initiating a descent to height 1500ft, which is 1000ft below that recommended in the YFC Order Book, and reported visual with the Sea King. APP's attention was then diverted to other ac on frequency and he lost SA, stopped monitoring the PA28's flightpath and subsequently believed the flight to be under the control of the ADC. The PA28 flight continued inbound and remained on the Approach frequency; the pilot reported late downwind to land, which was when the APP realised the frequency error and told the pilot to continue with Tower. The ADC and DATCO, having been passed TI from APP believed that the PA28 would sequence behind the Sea King by converting to a straight-in approach/L base flight profile in the No2 position. Whilst they could see the PA28 approaching the cct it was difficult for them to assess accurately the ac's position and intentions. At no stage were the Sea King crew passed TI or warned of the PA28's proximity.

Five recommendations were made: -

1) Alignment of YAvOs and YFC FOB. The PA28 pilot requested a procedure not authorised by YAvOs while the aerodrome was open for normal operational flying, during a period of night flying. This alignment is to ensure that procedures in YAvOs are not overruled by the lower level orders on the YFC FOB. Although this relates specifically to methods of rejoining the aerodrome whilst open for normal operations and ATC is manned, in order to ensure thoroughness all orders should be reviewed with YAvOs being the primary document. – Action completed 3/12/2012. The YAvOs and YFC have been aligned.

2) Recognition of unusual situation during low arousal. The progression of events from the approval of the PA28 pilot's request for an O/H join, to the point where the PA28 crossed the path of the overshooting helicopter, resulted from lack of SA by the ADC. Although visual with the PA28, clearly no contact had been established and this should have been questioned in a more robust manner as the situation developed. All controllers should be rebriefed on taking appropriate actions in the event of recognising an unusual circumstance that could lead to an unsafe situation developing, particularly during periods of low arousal such as during night flying. Action completed 10/12/2012. The results of the originating report have been highlighted to all ATC staff through formal training briefs (conducted 3 x weekly) and informally through Watch Leaders. Other ATC Incident reports have been promulgated for wider awareness and this has included populating the ATC crewroom with Accident/UKAB reports.

3). Competency of controller requires to be assured. APP did not impose a robust method of recovery for the PA28 in order to ensure separation from the Sea King conducting an IFR approach. The APP requires a period of retraining before acting in a solo capacity as APP/Director.

4). Review mixed operations of YFC and Station based ac during night flying. The PA28 pilot requested a procedure not authorised by YAvOs while the aerodrome was open for normal operational flying, during a period of night flying. Action completed 3/12/2012. Occurrence Review Group accepted that continued mixed operation could continue.

5). Review YAvOs 0211 – Fixed-wing recoveries. The progression of events from the approval of the PA28 pilot's initial request for an O/H join, to the point where the PA28 crossed the path of the overshooting helicopter, resulted in lack of SA by the ADC. Although visual with the PA28, clearly no contact had been established and this should have been questioned in a more robust manner as the situation developed. Fixed-wing recoveries are to be reviewed and re-written clearly defining that O/H joins are not permitted when Yeovilton is open or at night. The fixed-wing community operating at Yeovilton are to be involved in the review. Action part completed 30/01/2013. Amendment written, awaiting incorporation into YAvOs.

HQ JHC comments that whilst the closest reported proximity was 100ft V/400m H this could have been an incident with a far worse outcome. JHC welcomes the recommendations made by the investigation, which when enacted should greatly reduce the likelihood of another occurrence of this type. This incident highlights this challenges of integrating GA VFR traffic at night at a military aerodrome (albeit by a military civilian flying club ac) with military traffic undergoing IFR operations at night and should be highlighted across the MOD/GA aviation community to further educate those involved with flying at night of the potential issues of night VFR traffic with IFR/military night flying. Particularly with regards to ensuring that MOU's and local flying club FOB are updated to ensure compliance with the local military flying orders.

NAVY COMMAND comments that the Sea King was conducting a PAR recovery to Yeovilton in contact with the Approach controller and the PA28 from the Yeovilton Flying Club conducted a joining procedure that was not iaw YAvOs, of which they are required to be familiar, which resulted in it crossing the path of a the Sea King conducting a PAR approach. Although the PA28 pilot maintained VFR separation with the overshooting Sea King, a sequence of events in the build up to the incident contributed to the Sea King crew perception that the PA28 was too close. These included the PA28 pilot requesting a procedure that should not have been approved by the APP, who furthermore did

not take positive control of the joining PA28 or sequence it against his own IFR traffic. A subsequent delay in transferring the PA28 flight to Tower frequency further exacerbated the issue resulting in reduced SA for the ADC who therefore did not pass the required TI to the Sea King crew who were operating on the GCA frequency. This Airprox would most likely to have been averted if SOPs had been followed by both the PA28 pilot and the APP.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The initial factor which started the evolution to the Airprox was the disconnect between the YAvOs and the YFC FOB. The PA28 pilot was expecting to carry out an O/H join iaw YFC FOB; however, this procedure was not permitted in the YAvOs. Nevertheless, this request by the PA28 pilot, instead of being refused by the APP, was approved. The APP then did not apply positive control to the PA28 flight by issuing instructions to ensure both ac were deconflicted. This resulted in the PA28 flying into conflict with the Sea King on a go-around, which was the cause of the Airprox.

The Sea King crew was undoubtedly concerned when, without any TI, they saw the PA28 approaching from their L and then manoeuvre to pass over the upwind end of the RW ahead of their projected flightpath from L to R. APP had not transferred the PA28 flight to the Tower frequency which would normally occur with about 5nm to run and would lead to the ADC passing TI on cct traffic to the PAR approach traffic with its clearance when this requested by the PAR controller at 3nm. The ADC was initially concerned when he saw the PA28 approaching but his fears were allayed when he was told by APP that the PA28 pilot was visual with the Sea King and would position No2. The PA28 pilot, having been given TI on the Sea King and seen it, was told to "make yourself No2"; he judged that, at that late stage, a R turn to position downwind LH would have placed his ac closer to the helicopter. He elected to continue towards the crosswind position and then realised that the Sea King was commencing an overshoot so he told his student to track to the S to clear the C/L of the RW. Although this incident had had the potential for a more serious outcome, Members agreed that because the PA28 pilot had maintained visual contact with, and separation from, the Sea King throughout and because the Sea King crew also observed the PA28 crossing ahead, any risk of collision had been effectively removed.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Yeovilton APP allowed the PA28 flight to carry out an O/H join, contrary to YAvOs, and fly into conflict with the Sea King on a go-around from PAR.

Degree of Risk: C.