

AIRPROX REPORT No 2011092

Date/Time: 26 Jul 2011 1448Z

Position: 5133N 00106W (3nm FIN APP
RW01 Benson - elev 203ft)

Airspace: MATZ/FIR (Class: G)

Reporting Ac Reporting Ac

Type: Puma C42 Ikarus

Operator: HQ JHC Civ Club

Alt/FL: 1250ft↓ 800ft↑
QFE (1009mb) QNH (1015mb)

Weather: VMC CLBC VMC CLBC

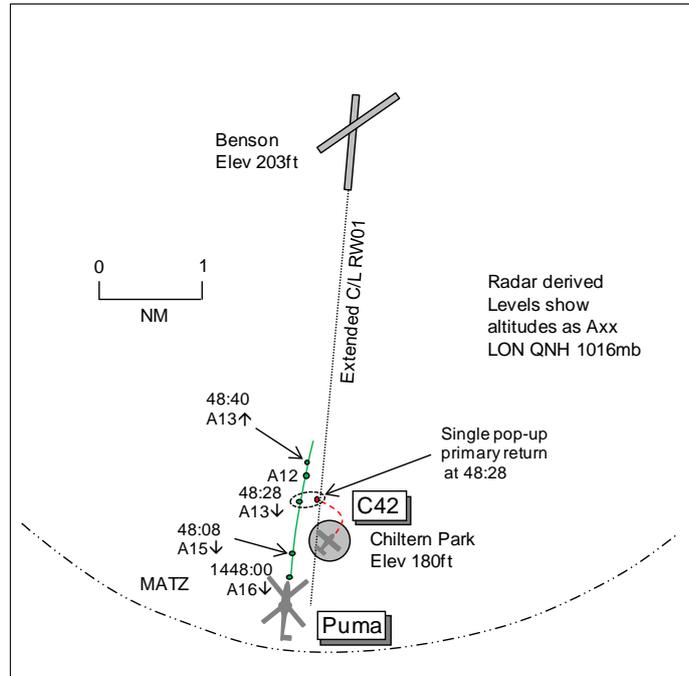
Visibility: 20km 10km

Reported Separation:

150ft V/200m H 100ft V/200m H

Recorded Separation:

0.1nm H



BOTH PILOTS FILED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PUMA PILOT reports flying an instrument approach into Benson and in receipt of a TS from Benson Talkdown, squawking 3611 with Mode C. The visibility was 20km flying 2000ft below cloud in VMC and the helicopter was coloured green with nav and strobe lights switched on. During a PAR approach heading 015° at 100kt ATC reported a light ac to be on their RHS and below and with lateral separation. They became visual with the ac shortly afterwards with 3-5nm to go on the approach when passing 1250ft QFE 1009mb. The high-wing ac, coloured white with red stripes, was seen to be on a parallel track about 300ft below and slightly behind in their 4 o'clock appearing as if it had just departed from a nearby airstrip. The crewman maintained visual contact with the ac and at range 3nm, whilst reported by Talkdown to be on track and on the GP, the crewman noted that the other ac was climbing and turning towards their helicopter. When the crewman told them of this, and as ATC gave a 'check gear' call, they again became visual with the ac, which appeared to be closing quickly. The decision was made immediately to break-off the approach and ATC were informed of the go-around; a ROC was applied at the same time. At the CPA the other ac was about 150ft below and 200m away and starting to turn away but still in their 4 o'clock position. The ac was seen to make an approach back to the nearby airstrip but not land. About 10min later they carried out another PAR and landed without further incident. He assessed the risk as medium.

THE C42 IKARUS PILOT reports flying a local dual training sortie from Chiltern Park, VFR and in receipt of an A/G service from Chiltern Radio on 134.025MHz; no transponder was fitted. The visibility was >10km clear below cloud in VMC and the ac was coloured white with red accents. They took-off from RW04 and climbed ahead at 70kt before they turned L onto crosswind heading 310° and rolled wings-level; a large military helicopter was immediately revealed. Climbing through 800ft QNH 1015mb he, the Capt, took control and instituted a steep climbing turn to the R to avoid, estimating separation as 100ft vertically and 200m horizontally. He later called Benson Zone on 120.9MHz to report an Airprox and he assessed the risk as medium.

He went on to say that Chiltern Park has had a trouble free relationship with RAF Benson for 23yr. During the 2 months preceding this incident there had been a number of instances where Benson helicopter traffic has flown close to Chiltern Park with no regard for ac joining, departing or in the cct.

The airfield manager had queried these with Benson ATC but to no avail. On at least 2 occasions Benson had responded with "we have a MATZ, you don't have an ATZ". Chiltern Park airfield owner is seeking a meeting with Benson ATC.

THE BENSON TALKDOWN CONTROLLER reports the Puma was inbound to RW01 RH cct and was correcting to the C/L from the L, already descending on the 3-5° GP. As the Puma approached 4.5nm a radar contact was seen on the PAR at about 3-5nm climbing out from LL in the vicinity of Chiltern Park. The contact moved away to the E as it climbed and he perceived there to be no risk to the Puma. However, the contact then proceeded to turn and, as it did, he told the Puma flight that Chiltern Park was active, the pilot reporting that he copied the traffic. The unknown ac's contact then turned back towards the approach lane and the Puma, whose pilot elected to break-off the approach before he could give avoiding action. He climbed the Puma flight to 1900ft and handed the flight back to Approach. The Chiltern Park ac moved away to the W, he thought, and off the PAR display.

THE BENSON SUPERVISOR reports that ATC had been informed earlier in the day that Chiltern Park would be active with 2 ac flying until sunset up to 3000ft. This information was broadcast on the ATIS and was available to ac as they checked in for departure or recovery. Whilst monitoring Zone and Talkdown frequencies with a talkdown in progress he observed, along with Zone, a primary radar return appear in the vicinity of Chiltern Park. With the Puma inbound he advised Talkdown to pass TI which he duly did in generic form as he thought it wasn't showing on PAR at the time. The Puma pilot responded in a manner that led him to believe that he was visual. As the unknown ac appeared on PAR in azimuth and elevation the Puma pilot reported he was breaking-off the approach and he was issued an immediate climb to 1900ft by Talkdown. Supervisor continued to monitor the unknown ac's track from Chiltern Park and its pilot eventually called Zone at CPT, 8-10nm SW of Chiltern Park. The ac was identified and its pilot, when asked, confirmed that he wanted to file an Airprox. Having reviewed the LoA, dated 20 Aug 2010, he believed a contributory factor was the Chiltern ac's pilot did not call Zone prior to leaving the cct and climbing above normal cct height of 700ft.

THE BENSON USMO comments that on revisiting the LoA, it states that 'RT equipped ac are advised to contact RAF Benson on frequency 120.9MHz immediately prior to, or upon getting airborne.' The LoA will now be reviewed before Aug 2012 and it has been agreed that a liaison visit to Chiltern Park will happen in the near future.

THE BENSON ZONE CONTROLLER reports he observed, during a PAR to RW01 by a Puma, a non-squawking ac departing Chiltern Park and flying through the approach lane without making contact on any Benson frequencies. The ac, a C42, later called Zone in the vicinity of CPT to file an Airprox. The pilot stated that he had departed Chiltern Park and climbed to 1000/1100ft QNH and encountered a Puma which he thought was flying through the Chiltern Park cct. The details were logged and Chiltern Park was informed.

BM SAFETY MANAGEMENT reports that this Airprox occurred between a Puma on a PAR in receipt of a TS from Benson Talkdown and a C42 Ikarus departing Chiltern Air Park VFR.

All heights stated are based upon SSR Mode C from the radar replay unless otherwise stated.

Unfortunately, the PAR data was not impounded and, given the height at which the Airprox occurred, the NATS supplied radar data has limited utility in this investigation.

The Puma pilot reported VMC with 20km visibility in nil Wx with SCT cloud at 4000ft QFE 1009mb, with the incident occurring approximately 3-25nm from touchdown.

The Talkdown controller reported that as the Puma approached 4.5nm from touchdown, a "contact was seen on the PAR at around 3-5nm, climbing out from low level in the area Chiltern Park is known to be. The track moved away to the east as it climbed and I perceived there to be no risk to my aircraft on PAR; however, the track then proceeded to turn and as it did I advised my aircraft that Chiltern Park was active." Based upon the transcript and radar replay, this warning was passed at

1448:08, with the Puma approximately 3.75nm from touchdown and was acknowledged by the Puma's crew at 1448:18.

The Supervisor's report is broadly supportive of Talkdown's statement adding that they and Zone had observed a PSR-only contact appear on SRE in the vicinity of Chiltern Park. This prompted the Supervisor to direct Talkdown to pass TI to the Puma flight which was passed generically about Chiltern Park's activation status as the ac had not yet appeared on the PAR display.

Although the Puma crew reported that they received more specific TI than was the case, they were able to use the generic TI to visually acquire the Ikarus and maintained visual contact throughout the incident sequence. They did not inform Talkdown that they were visual with the Ikarus and Talkdown did not pass any further, nor more specific, TI to the Puma flight.

At 1448:28 a primary-only contact appears on the radar replay for 1 sweep, 0.1nm E of the Puma and approximately 3.1nm from touchdown. At 1448:31 the Puma pilot reported "*breaking off the approach*" as the "*civilian ac looked to be closing quickly.*" The Puma pilot assessed minimum separation as 200m laterally and 150ft vertically.

The Ikarus pilot reported that they departed RW04 at Chiltern Park, before turning cross-wind onto a heading of 310°, maintaining a climb, and rolling wings level. It was at that point that "the helicopter was immediately revealed."

Chiltern Park is situated 3.5nm S of RAF Benson and slightly to the E of the extended C/L to RW01 RH (see Figure 1 below), with a visual cct height of 700ft QFE. Published within the AIP as a microlight site, there is no avoidance criteria associated with the site. Chiltern Park and RAF Benson are signatories to a LoA which states that ac wishing to depart above the Chiltern Park cct height of 700ft are advised to contact Benson Zone prior to leaving the cct; it is not a mandatory requirement. The Ikarus flight did not contact Zone in this instance. In the Ikarus pilot's written report, he stated that the Airprox occurred at 800ft QNH, whereas during their later report of the Airprox to Zone on frequency at 1452:23, he stated that they "*we're climbing through approximately a thousand or ish seven hundred feet QNH.*"



Figure 1: RAF Benson Local Area

Analysis of the RT transcript from Talkdown has shown that following the instruction to commence descent at 1447:00, the Puma remained on the notional 3.5° GP until breaking-off the approach at 1448:31. Furthermore, the Puma remained L, then slightly L of the C/L throughout the incident sequence.

Based upon discussions with Talkdown and the Supervisor, the Supervisor stated that prior to directing Talkdown to pass TI, they observed there to be no contact on the PAR display. When asked 10wk after the event, Talkdown was unable to recall the incident with any clarity. However, the evidence suggests that the point at which the Sup and Zone observed the Ikarus' PSR-only contact, was after it had "moved away to the east" and off the lateral dimensions of the PAR display. Therefore, the TI passed by Talkdown to the Puma flight was generically about Chiltern Park's activation status, rather than specifically about the Ikarus. Moreover, discussion with Talkdown and the Supervisor has demonstrated that at the point that they perceived the Ikarus to be turning back towards the Puma, the Puma's crew elected to break off the approach. In sum, the TI passed by Talkdown to the Puma flight, whilst generic, increased the Puma crew's alertness such that they were able to visually acquire the Ikarus.

At 3nm from touchdown, based upon a 3.5° GP, a Puma on the GP would be passing 1200ft QFE, according with the Puma pilot's report of the Airprox occurring at 1250ft QFE. The aerodrome elevation at RAF Benson is 203ft, thus the Puma's approximate altitude at the time of the Airprox was 1450ft. The aerodrome elevation of Chiltern Park is 180ft; consequently the Ikarus pilot's reported 800ft QNH accords to 620ft QFE, which is below cct height of 700ft QFE. Based upon the evidence and the subsequent outcome, it is more likely that the Ikarus was flying at approximately 1000ft QNH, which equated to 820ft QFE, which suggests that approximately 450ft vertical separation existed. However, given the separation reported by both pilots and the method of calculation, this should be considered to be the maximum separation.

Following Airprox 2011051 in similar circumstances, ATC at RAF Benson have liaised with Chiltern Park about the wording of the section of the LoA that discusses contacting Zone before leaving the visual circuit. However, the airfield operator has stated that they are unable to amend the advice to contact Benson Zone to make it a requirement. Whilst that is perhaps a reasonable standpoint, it is clear that the position of Chiltern Park in relation to RAF Benson is far from ideal with respect to the safeguarding of IFR approaches to RAF Benson. Therefore, it is incumbent upon users of Chiltern Park to demonstrate airmanship in being aware of the implications of their actions on other airspace users. In this instance, the Ikarus pilot climbed above the Chiltern Park cct height, without speaking to Benson Zone and turned towards the approach lane of RAF Benson. Moreover, the high-wing monoplane design of the Ikarus would have restricted the pilot's view during the turn, delaying the point at which they could have visually acquired the Puma.

Finally, the requirement for Chiltern Park users to operate a LH cct to RW04 could be considered to be a latent condition within the incident. Currently, the system "fails unsafe" in that crews are required to turn across the approach path to an instrument RW at RAF Benson. The safety barriers are vertical deconfliction through the height of the cct at Chiltern Park, the issuance of deconfliction advice by Talkdown to ac on a GCA PAR and "see and avoid." The latter is prejudiced by aircrews departing Chiltern Park being potentially unsighted due to cockpit/ac design and the high workload of the aircrews recovering IFR to RAF Benson with an "assumed" level of protection from being on an IFR approach. The deconfliction advice argument is undermined by the conduct of IFR approaches other than a GCA PAR, meaning that deconfliction advice may not always be available. Finally, the vertical deconfliction provided by the Chiltern Park visual cct height of 700 ft QFE is undermined both by human error, should aircrews accidentally climb above 700ft QFE, and the wording of the LoA which does not make mandatory the requirement to contact Benson Zone prior to climbing above 700ft QFE.

HQ JHC comments that the current deconfliction procedures in the LoA between RAF Benson and the Chiltern Park Aerodrome (CPA), made an Airprox more likely to happen. Therefore it is strongly recommended that it should be reviewed to seek a safer deconfliction solution that does not fail unsafe.

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 BM SM Advisor informed Members that some sort of deconfliction plan based on vertical or lateral separation was needed between Benson and Chiltern Park as the advice to call on RT was not foolproof. The Board discussed the requirement for the LoA to be more prescriptive with regard to Chiltern Park traffic calling Benson and making it compulsory for traffic to remain at 700ft QFE or below in the cct until in RT contact. Some Members considered that a RH cct onto RW04 would also alleviate the potential for conflict. However, when this incident occurred, there was no requirement for traffic flying in, or departing, the Chiltern cct to contact Benson Zone. The responsibility for collision avoidance was with both crews, this being discharged through see and avoid. The Benson ATC team had seen the C42 on radar and Talkdown passed generic TI to the Puma crew which enabled them to see the light ac on departure to their R. The C42 pilot was not aware of the Puma's presence until he turned onto the crosswind wind leg and rolled 'wings level'. Members thought that both crews had discharged their responsibilities at the earliest opportunity; however, the ac were on conflicting flightpaths which had caused the Airprox.

The Puma crew had monitored the C42's flightpath and executed a go-around as the C42 pilot had also taken avoiding action by turning away. These combined actions were enough to allow the Board to conclude that any risk of collision had been quickly and effectively removed.

Members were briefed that since this Airprox the wording had changed in the LoA such that pilots 'should' call Zone when getting airborne or before climbing above 700ft QFE. Also, the relationship between both parties had improved with the Chiltern Park operator more aware of Benson operations and when traffic is likely to affect their airfield operations. The activity status of Chiltern Park is displayed on each console at Benson and is also broadcast on the ATIS. Mindful of these facts, the Board declined to make a recommendation with respect to integration/deconfliction of Benson and Chiltern Park operations.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G airspace on the final approach to Benson RW01.

Degree of Risk: C.