

AIRPROX REPORT No 2010139

Date/Time: 7 Sep 2010 1301Z

Position: 5047N 00148W (1.5nm FIN APP
RW26 Bournemouth - elev 38ft)

Airspace: ATZ (Class: D)

Reporting Ac Reported Ac

Type: BE76 Duchess DA42 Twin Star

Operator: Civ Trg Civ Trg

Alt/FL: 450ft↓ NR↓
(aal) (QNH)

Weather: VMC CLBC VMC GOOD

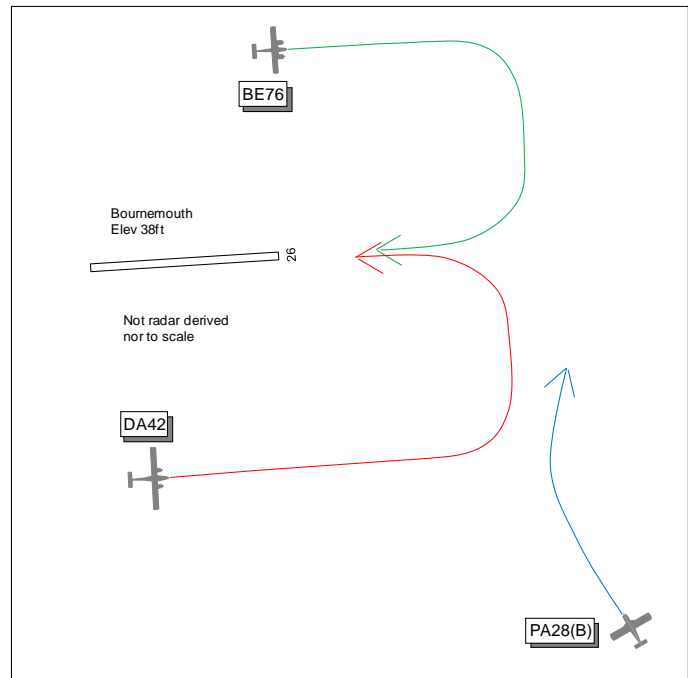
Visibility: >10km Good

Reported Separation:

20-50ft V Not seen

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BE76 PILOT reports returning from a dual training sortie to the NW of Bournemouth and positioning RH downwind for RW26 at 1200ft as requested. He reported downwind and was told he was No2 to a PA28. Towards the end of the downwind leg both he and the student saw the PA28 on final and turned onto base leg. The student called R base for RW26 and recalls being told that he was No1. Both he and the student heard a RT exchange between ATC and a DA42 flight in which its pilot was told that he was No2 to their BE76 on R base. The student called R base for RW26 and was told to continue approach. They commenced their final turn at about 600ft after the instructor had looked up the final approach path and at L base and believed them to be clear of other ac. The ac's Rate 1 turn meant that the L wing obscured the view to the S (L base) for about 30sec. They rolled wings level at about 500ft aal where the student believes he called final, although the instructor cannot recall this for sure. At about 450ft aal and 90kts in a normal descent profile both he and the student became aware of a DA42 overtaking them from below, directly below, at a very close vertical distance. The student estimated 20ft and he thought it possibly that close but certainly no more than 50ft; both of them were totally unaware of where the DA42 had come from. He initiated a 'go-around' and informed ATC and then the DA42 flight called 'final' and was subsequently cleared to land. They repositioned into the cct to land behind another ac.

THE DA42 TWIN STAR PILOT reports flying a dual training sortie from Bournemouth and in communication with Bournemouth Tower on 125.6MHz, squawking with Modes S and C. Whilst demonstrating a cct and flying downwind ATC informed him of an ac joining on L base which he looked for but could not see. ATC then told him he was No2 to another ac on final. After a few seconds he saw it [the BE76] and then looked the other way and saw the joining ac which was high and close. He took avoiding action, an immediate L descending turn which placed his ac on final heading 260° at 90kt. ATC cleared him to land and then held him on the RW to allow the ac on final [the BE76] to go-around. He did not see that ac from initial contact until it went around.

THE BOURNEMOUTH ADC reports the BE76 was inbound from the NW on a standard rejoin clearance. The flight reported downwind and was told it was No2 in traffic, No1 being a PA28 on 0.25nm final. The PA28 landed and vacated the RW making the BE76 No1 for the approach. The DA42 was downwind LH in the visual cct at 1200ft and was passed TI on the position of the BE76, which was now turning R base, and was told it was No2 to the BE76. The DA42 pilot acknowledged

the TI and reported he had the BE76 in sight. Immediately after this transmission Radar pre-noted a VFR inbound, a PA28 from the SE which had been issued a standard joining clearance to join L base. TI was passed to the DA42 pilot on the inbound PA28, informing him of its approximate position and the position this ac would be expected to join (L base). The DA42 pilot did not acknowledge his 1st transmission so he repeated the TI including a revised position of the PA28. The DA42 pilot acknowledged this call on the second attempt. Shortly afterwards the PA28 pilot called joining L base and the DA42 then appeared to make a tight L turn from L base and positioned onto 1nm final ahead and below of the BE76, which by this time had also positioned onto 1.5nm final. The BE76 pilot reported that he had contact with the DA42 ahead and below on final and that he was initiating a go-around. He told the BE76 flight to make a RH cct and instructed the DA42 to land and hold on the RW while the BE76 went around above. Once the BE76 had turned crosswind he cleared the DA42 for take-off back into the cct, the BE76 landed safely on its second approach.

ATSI reports that the Airprox occurred at 1301:20 UTC, on short final for RW26 at Bournemouth Airport between a BE76, returning to Bournemouth Airport after a local VFR flight to the NW, and a DA42 operating VFR in the LH visual circuit for RW26.

Other traffic included a Piper Cherokee PA28(A), completing a final circuit to land; a second Cherokee PA28(B), inbound from the S to join L base for RW26 and a helicopter departing VFR to the S. The Tower was operating split positions with Air and Ground Movement Control. The RW in use was notified as RW26.

METAR EGHH 071250Z 20009KT 9999 SCT023 18/13 Q1000 RERA=

CAA ATSI had access to NATS Swanwick radar recordings, RT transcription and written reports. The NATS radar recording did not show ac operating in the vicinity of Bournemouth but ATSI were able to view the ATSU radar replay on site.

At 1256:54, the BE76 flight, inbound VFR from the NW reported, "*BE76 c/s at about three miles from the airport.*" Tower responded, "*BE76 c/s Bournemouth Tower report downwind righthand Runway two six the circuit is active.*" This was acknowledged correctly by the BE76 pilot.

At 1258:03 the Tower advised the BE76 flight, "*BE76 c/s you're number two in traffic number one is a Cherokee turning left base*" (this was PA28(A)). This was acknowledged correctly by the BE76 pilot. At this point the DA42 was just airborne for a LH cct.

At 1258:11, PA28(B) flight inbound from the S with Radar, reported field in sight. The unit radar replay showed PA28(B) crossing the coast 5nm SE of the airfield. Radar instructed the PA28(B) pilot to join L base for RW26 and advised that the cct was active.

Radar notified the Tower about the inbound PA28(B) and the Tower controller acknowledged, advising Radar about the helicopter departing SE.

At 1258:50 Radar advised the PA28(B) flight about the opposite direction helicopter and then transferred PA28(B) to the Tower on frequency 125.6MHz. PA28(B) pilot did not immediately respond and Radar called PA28(B) a second time to repeat the message, which was correctly acknowledged at 1259:00. The unit radar replay showed PA28(B) positioned 4nm SE of the airfield, with the DA42 turning downwind.

At 1259:03 Tower advised the outbound helicopter about PA28(B), "*...opposite direction Cherokee just coasting in over Hengistbury Head and further traffic's a Diamond Twin downwind lefthand in the circuit.*" This was acknowledged correctly by the helicopter pilot.

At 1259:12, the Tower controller passed the DA42 TI regarding PA28(B), "*DA42 c/s traffic is a Cherokee inbound from Hengistbury Head about a mile north of Hengistbury Head this time joining left base.*" The unit radar replay showed the distance between the 2 ac as 3nm with the DA42 indicating an altitude of 1000ft and PA28(B) indicating an altitude of 900ft. There was no response

from the pilot of the DA42 and the Tower called again to establish communication with the DA42. At 1259:30 the Tower repeated the message, *“Traffic is a Cherokee about a mile and a half north of Hengistbury Head joining left base shortly on your right hand side keep a good lookout.”* The DA42 pilot replied, *“er looking and er left downwind Touch and Go.”* The Tower advised the DA42 *“Roger – DA42 c/s you’re number two number one is a Beech Duchess on a one mile right base.”* The DA42 pilot acknowledged, *“Number one A B-er number two and visual with number one DA42 c/s.”*

At 1259:46, the Tower controller called the PA28(B), *“... c/s Bournemouth Tower on frequency.”* The PA28(B) pilot replied, *“...go ahead.”* The Tower controller responded, *“PA28(B) c/s Bournemouth Tower you’re number three in traffic number two is a Diamond Twin in your looks to be about ten o’clock.”* The unit radar replay showed the 2 ac converging at a range of 1.5nm and both indicating altitude 1100ft.

At 1259:58 the PA28(B) pilot replied, *“er number three in traffic ????looking for the Diamond er PA28(B) c/s.”* The Tower added, *“Roger that traffic’s er in the circuit at circuit height one thousand two hundred feet shortly in your twelve o’clock.”* The PA28(B) pilot reported, *“er contact PA28(B)c/s we ????around.”* The Tower controller responded, *“Roger PA28(B) c/s follow that traffic.”*

At 1300:27, the BE76 pilot reported R base and Tower instructed the flight to continue approach. At this point the unit radar recording showed the DA42 late downwind, with PA28(B) approaching L base 0.3nm SE of the DA42. The PA28(B) is observed commencing a R turn and the DA42 commencing a L turn, with both ac indicating an altitude of 1100ft.

The unit radar replay showed that as the DA42 turned onto L base the ac SSR label fades, leaving only an intermittent primary return. PA28(B) continues towards L base 1nm E of the DA42. The track of the DA42 on base leg, brings the DA42 into close proximity with the BE76 as both ac turn onto final approach.

At 1301:08 the DA42 pilot called, *“...final two six touch and go.”* Tower responded *“continue approach”* and the shortly afterwards at 1301:20 the BE76 advised, *“er BE76 c/s we’re going around because er the Twinstar’s gone under us.”* The Tower controller acknowledged *“DA42 c/s roger see that thanks.”* The DA42 flight was cleared to land and the BE76 flight was cleared to make an early R turn to reposition onto final approach behind PA28(B).

The Manual of Air Traffic Services (MATS) Part1, Section 2, Chapter 1, Page 1, Paragraph 2.1, states:

‘Aerodrome Control is responsible for issuing information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions between:

- a) aircraft flying in, and in the vicinity of, the ATZ;
- b) aircraft taking-off and landing.’

Page 12, Paragraph 15, states:

‘Clearance to enter a traffic circuit is issued when an aircraft is still some distance from the aerodrome to enable the pilot to conform with the traffic circuit, pending clearance to land. Information concerning landing direction or runway in use and any other necessary instructions are given at the same time so that the pilot may intelligently position himself in the traffic pattern.’

The DA42 pilot had previously reported visual with the BE76 and was instructed to report final number 2. The DA42 pilot turned onto final approach bringing his ac into close proximity with the BE76.

TI on the DA42 was passed to PA28(B) when the ac were 1.5nm apart (10 o’clock) and then updated by the Tower controller when the distance became 1nm (shortly 12 o’clock). At this point the PA28(B) pilot reported the DA42 in sight. The unit radar replay showed both ac indicating an altitude of 1100ft.

ATSI considers that the delayed passing of TI to PA28(B) was a contributory factor. This delay resulted because the Radar controller needed to call the PA28(B) pilot twice before transfer to the Tower frequency. At the same time Tower needed to call the DA42 pilot twice in order to pass TI concerning PA28(B). At this point, when PA28(B) was changing to the Tower frequency, the resulting RT loading made it probable that PA28(B) was unable to transmit immediately.

ATSI consider it probable that the DA42 and PA28(B) pilots sighted each other late. This may have prompted the DA42 pilot to commence an early L turn onto base leg. It was not clear why the DA42 flight did not adjust the heading to position onto final behind the BE76 or, having made an early L turn, did not make any further report to ATC until turning onto final approximately 45sec later.

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 authorities.

With the BE76 and DA42 already established in the cct, Members agreed that PA28(B), as joining traffic, was required to integrate into the pattern already formed by the other ac. It was clear that PA28(B) was instructed by Radar to join on L base and, after coordination with ADC, the flight was transferred to Tower. ADC passed the DA42 pilot TI on PA28(B) and also told him to position No2 to the BE76 on R base, with which he reported being visual. However, when PA28(B) flight called on the Tower frequency, it appeared that its pilot was surprised to be told he was No3 to the DA42 which he had not sighted. Members believed that with both ac approaching each other towards the L base position at similar levels, ATC should have exercised more positive control to ensure adequate separation in the event that the pilots did not see each other as intended. The ADC could have asked the PA28(B) pilot on first contact if he had the DA42 in sight and/or issued the flight with instructions i.e. an orbit to ensure the DA42 and PA28(B) were not in conflict in close proximity with both pilots unsighted. Because of PA28(B)'s proximity, the DA42 pilot was effectively forced to turn in towards final early to avoid it, which led Members to agree that lack of positive control by ATC had been a part cause of the Airprox. That said, after taking avoiding action on PA28(B) by turning and descending towards final approach, the Twin Star pilot did not position No2 to the BE76, as instructed by ADC, which was the other part cause. Whether the pilot was distracted by the PA28(B), had forgotten about the BE76 or believed it was well ahead on final was not clear. The BE76 pilot had not yet reported final and the Twin Star pilot did not make any report - losing sight of the BE76 or having to take avoiding action - prior to calling on final, by which time the ac were in conflict. Members believed that if the Twin Star pilot had concern about the BE76's position, he should have asked for a position update on frequency.

After the DA42 pilot reported final and was told to continue approach, the BE76 pilot reported 'going around' owing to the DA42 having passed just beneath. The ac passed each other unsighted to both crews whilst descending on final approach. That the ac missed each other was purely fortuitous and, with neither crew nor ATC having taken any action to resolve the conflict, the Board were in no doubt that a definite risk of collision existed during this encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause:

1. Lack of positive control by ATC.
2. Having taken avoiding action against joining traffic (PA28(B)), the Twin Star pilot did not position No2 on final to the BE76 as instructed by the ADC.

Degree of Risk: A.