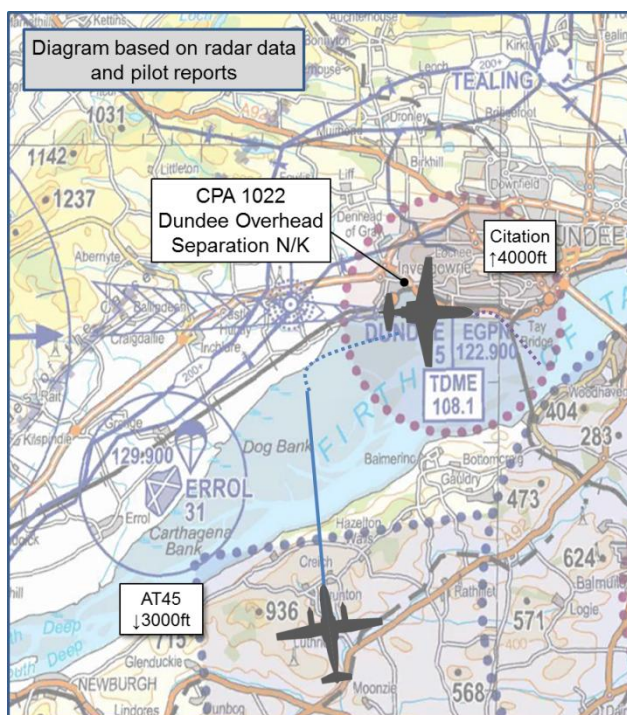


AIRPROX REPORT No 2014086Date/Time: 7 Jun 2014 1022Z (Saturday)Position: 5627N 00301W
(Dundee Airport)Airspace: Scottish FIR (Class: G)Aircraft 1 Aircraft 2Type: C560XLS ATR42Operator: CAT CATAlt/FL: 2000ft 3000ftConditions: VMC VMCVisibility: 20K NRReported Separation:

1000ft V 2000ft V

Recorded Separation:

N/K

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

THE DUNDEE CONTROLLER reports that a Citation was due to depart RW09 to join controlled airspace at GRICE as an AT45 was inbound. The controller reported that he co-ordinated with Leuchars that the AT45 would be at 5000ft positioning for the DND beacon, whilst the departing Citation would stop climb at 4000ft on the QNH. Just before the Citation was ready for departure the Leuchars controller rang and asked for a visual approach for the AT45 and, because it was estimated still to be 5 minutes away, he agreed 'your separation' for its visual approach, and that he would maintain runway track with the Citation. As soon as the Citation was airborne, the AT45 called in the overhead at 3000ft. A colleague in the visual control room could see the AT45 crossing behind and above the Citation so he gave both aircraft 'essential traffic information' and continued the AT45 north of the centreline for a left-base approach onto RW09. He reported that the AT45 was 4 minutes early on the vague ETA that he had been given, and did not join right base as had been instructed; furthermore, had he been informed by Leuchars how close the AT45 was, he would have held the Citation on the ground.

THE CITATION PILOT reports flying a white aircraft with all lights illuminated and SSR Modes 3A, C and S selected. The aircraft was fitted with TCAS. He reports that he was not aware of the Airprox until contacted by the UKAB. On the climb-out he was told "vital Traffic Information" about traffic descending to 3000ft over the airfield and, because he was also cleared to at least that level, on approaching 2000ft he reduced the climb rate to almost zero until he had a clear picture of where the other traffic was. He received a TCAS TA, but not an RA. He didn't see the other aircraft, and continued the climb when told by ATC that the traffic was no longer a factor.

THE ATR42 (AT45) PILOT reports flying a white and blue aircraft with all lights illuminated and SSR transponder mode 3A, C and S selected. The aircraft was fitted with TCAS. He reports joining the Dundee circuit at 3000ft and seeing traffic on TCAS departing from Dundee, approximately 2000ft below. He reported that no avoiding action was required, but noted that Leuchars and Dundee ATC did not communicate effectively, because he was descended to 3000ft and the Citation was cleared to FL 40 in the same airspace.

He assessed the risk of collision as 'Low'.

THE LEUCHARS CONTROLLER reports providing a LARS service to the AT45 inbound to Dundee airport under a Traffic Service. The aircraft was approximately 5 minutes ahead of its estimated inbound time. He liaised with the Dundee controller who advised there was departing traffic; they agreed that the AT45 would stop at 5000ft for the DND beacon, and the outbound traffic would be released not above 4000ft. However, when 15nm south, the AT45 requested a visual join. He at first refused the request due to the outbound traffic, but then rang to Dundee controller to agree a course of action. The Dundee controller confirmed the outbound traffic had lined up on the runway, but agreed to get it to maintain runway heading; a right-base visual join for the AT45 was approved. The Leuchars controller believed the Dundee controller was separating his own visual circuit traffic, he informed the AT45 pilot to make a right-base join, and the pilot asked for descent over the river. Because the outbound traffic was maintaining runway heading, this didn't seem to be a factor and was approved; a squawk and frequency change to Dundee was given. He maintained track ident on the inbound traffic and saw it unexpectedly take up a northerly heading. Shortly afterwards the departing Citation called for a service to join airways: it was in a right turn, which the controller wasn't expecting; however, there was no other traffic to affect so he handed it over to Tay Sector and then called the Dundee controller to find out what had happened. The Leuchars controller reported that the Dundee controller then became aggressive on the landline and blamed the Leuchars controller for the incident, who at the time was so shocked that he felt he must have been to blame; however on reflection he does not believe this to be the case.

He perceived the severity of the incident as 'Low'.

Factual Background

The weather at Dundee was recorded as:

METAR EGNP 071020Z 08013KT 9999 FEW015 15/12 Q1013=

Analysis and Investigation

CAA ATSI

The AT45, operating an IFR flight to Dundee, was inbound for the instrument approach for RW09 and was in receipt of a Procedural Service from Dundee Approach on frequency 126.5MHz. An extract from the UK AIP, page AD 2-EGPN-8-1 (26 Jul 2012) Runway 09 instrument approach chart is shown at Figure 1 below.

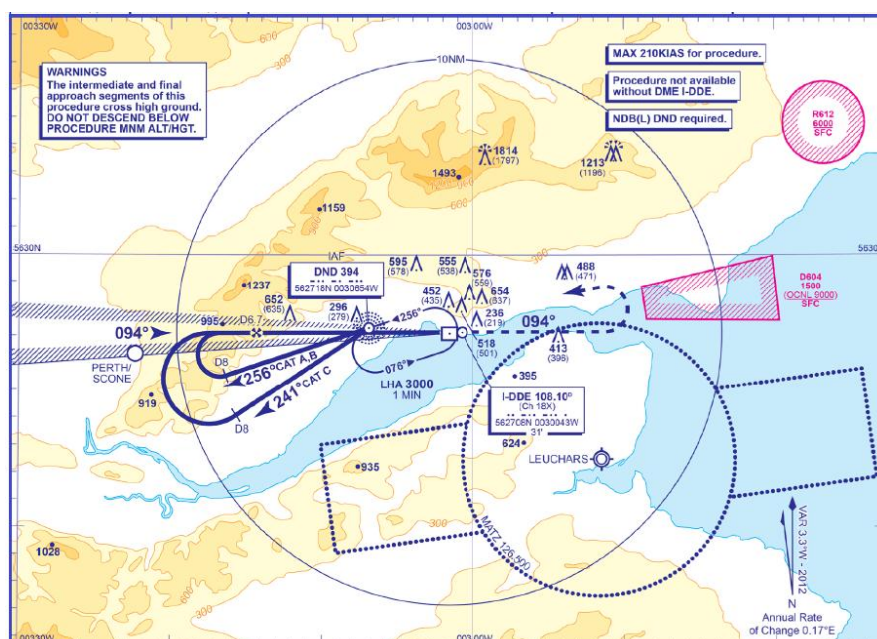


Figure 1 – Extract from Dundee Instrument Approach Chart RW09.

The Citation was operating an IFR flight departing from Dundee and was in receipt of a Procedural Service from Dundee Approach on frequency 126.5MHz. The UK AIP promulgates the visual circuit direction for RW09 as right-hand. The Dundee controller was operating a combined Aerodrome and Approach position without the aid of surveillance equipment. The controller had been in position for 1 hour and 20 minutes prior to the incident and was about to hand over the position.

ATSI had access to Dundee RTF and area radar recording, together with the written report from the controller and both pilots. Lowther Hill radar head was not available and the base of radar coverage (FL37) was such that the occurrence was not shown on the radar recording.

At 1013:42 the Citation was given taxi clearance for a departure from RW09. [Radar recording showed the AT45 was 34.5nm south of Dundee]. At 1016:08 Dundee contacted Leuchars Radar with a pre-note on the departing Citation routing via GRICE. Dundee advised Leuchars that, subject to the inbound AT45, Scottish Control had cleared the Citation to join controlled airspace on track GRICE climbing to maintain FL100 with a squawk of 7313 and frequency for Scottish Control of 124.5MHz. Leuchars Radar then gave Dundee a pre-note on the inbound AT45, due in 10 minutes, IFR, but advised that the AT45 was in fact 20 miles south and probably due in 5 minutes. The Dundee controller cleared the AT45 to the DND(NDB) at 5000ft QNH 1013 and agreed to release the Citation to Leuchars at not above 4000ft QNH 1013. Leuchars asked for confirmation that there was no para-dropping before ending the call at 1017:28.

At 1017:31 the Citation was passed an airways joining clearance received from Scottish Control and the Citation was cleared to backtrack and line-up on RW09. [The AT45 was 16nm south of Dundee at FL80 and under the control of Leuchars Radar squawking 7603].

At 1019:08 the AT45 was 8.7nm south-southwest of Dundee passing FL68 in the descent. Leuchars contacted Dundee and the following telephone exchange occurred:

Dundee *"Dundee"*
 Leuchars *"reference the Citation is he ready for departure"*
 Dundee *"Yes he's lining up now"*
 Leuchars *"Is he coming off?"*
 Dundee *"zero nine"*
 Leuchars *"Off zero nine right turn is he"*
 Dundee *"Yes I can go runway track if that helps you"*
 Leuchars *"Yes that'd be great the one inbound to you wants a visual approach I'm happy for him to make a visual approach if he's coming off zero niner – if you are"*
 Dundee *"Subject your separation affirm"*
 Leuchars *"Roger"*
 Dundee *"Cheers bye"*

At 1019:40 the Dundee controller passed local departure instructions to the Citation :

ATC *"(C56X)c/s local er departure instructions"*
 C56X *"(C56X)c/s go ahead"*
 ATC *"after departure maintain runway track til advised by Leuchars Radar and er climb to altitude four thousand feet on one zero one three"*
 C56X *"after departure maintain runway track to altitude four thousand feet on one zero one three (C56X)c/s"*
 ATC *"Thanks then maintain runway track til advised by Leuchars and stop your climb altitude four thousand feet"*
 C56X *"Okay that's all understood erm maintain runway track til advised by Leuchars and stop climb altitude four thousand feet (C56X)c/s"*
 ATC *"(C56X)c/s readback correct it's runway er zero nine [1020:20]clear for take-off surface wind zero eight zero one four knots"*
 C56X *"Clear take off zero nine (C56X)c/s".*

[Note: Radar recording at 1020:30 showed the AT45 3.3nm southwest of Dundee turning right towards the DND and passing FL043 – Figure 2].

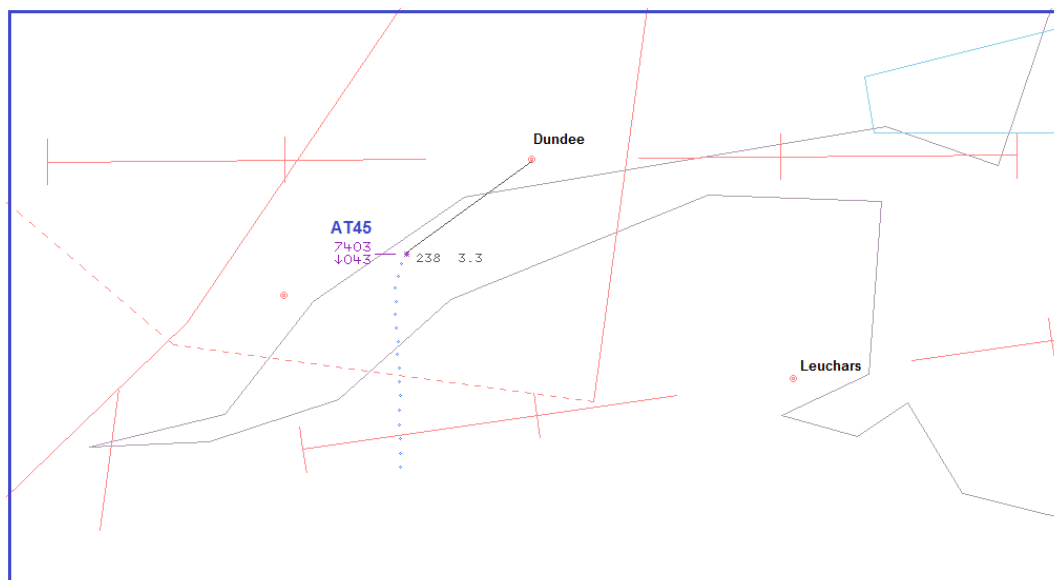


Figure 2 – Prestwick MRT at 1020:30

At 1020:50 the AT45 contacted Dundee and the following RTF exchange occurred:

[Note: The AT45 faded from radar at 1020:56, 2nm southwest of Dundee, passing FL037]

AT45	<i>"Dundee Tower good morning (AT45)c/s we're pretty much above you at just descending to three thousand feet visual with the field like to do er right-hand circuit back to land on zero nine if possible"</i>
ATC	<i>"Er sorry you we're blocked by a landline is that (AT45)c/s calling Dundee"</i>
AT45	<i>"Yeah we're overhead at the moment at three thousand feet we are visual with the field we'd like to do a right-hand circuit over the river to position for zero nine"</i>
ATC	<i>"(AT45)c/s roger essential traffic information Citation departing runway zero nine maintaining runway track climbing four thousand feet are you visual with the traffic"</i>
AT45	<i>"Er negative he's underneath us er shall we er turn to the south now"</i>
ATC	<i>"(AT45)c/s position to the north and I will turn the citation southbound"</i>
AT45	<i>"Understood routeing north (AT45)c/s"</i>
ATC	<i>"(C56X)c/s essential traffic information AT45 forty two overhead reporting at three thousand feet routeing to the north"</i>
C56X	<i>"Traffic copied not visual (C56X)c/s"</i>
C56X	<i>"Er we're just passing two thousand feet climbing to altitude four thousand feet straight ahead"</i>

[Note – the ATSU reported that an oncoming controller who was about to take over the position acquired the two aircraft visually and confirmed there was no further conflict with the AT45 passing behind the Citation]

ATC	<i>"(C56X)c/s roger you can turn right now on track GRICE traffic is passing behind you"</i>
C56X	<i>"Roger turn right now direct GRICE (C56X)c/s"</i>

At 1022:25, the Citation was transferred to Leuchars radar and the AT45 positioned north of the airfield into a left-hand circuit for RW09 without further incident. The Airprox occurred below the area radar coverage and it was not possible to show the geometry of the situation.

Both aircraft were operating IFR and in receipt of a Procedural Service from the Dundee Approach controller. CAP774 Chapter 5, paragraph 5.6 and 5.7 state:

'A controller shall provide deconfliction instructions by allocating levels, radials, tracks, and time restrictions, or use pilot position reports, aimed at achieving a planned deconfliction minima from other aircraft to which the controller is providing a Procedural Service in Class F/G airspace.

The deconfliction minima are: 1,000 ft vertically; or...

...those lateral and longitudinal criteria listed in CAP 493 as lateral and longitudinal separation standards.'

The initial coordination between Leuchars had been agreed and the Dundee controller planned to achieve the deconfliction minima by clearing the AT45 to the DND(NDB) at 5000ft with the outbound Citation climbing not above 4000ft until identified by Leuchars Radar. Further coordination with Leuchars would likely be required before the AT45 was cleared for the instrument procedure or a visual approach. However, the AT45 subsequently requested a visual approach which was the subject of a second conversation and coordination between the two controllers. The Dundee controller likely felt assured when the Leuchars controller, with the benefit of the radar equipment, confirmed he was happy for the AT45 to make a visual approach provided the Citation was departing on RW09 (runway track). The Dundee controller, agreed the visual approach subject to Leuchars providing the separation.

The coordination agreed between the controllers was not specific and not sufficient to ensure that separation was assured. The letter of agreement between the two units states that:

'if Dundee ATC have cleared an aircraft for a visual approach, Leuchars will advise the pilot *"If visual Dundee clear you for a visual approach to RW09"*.

CAA ATSI did not have access to the Leuchars military controller reports regarding the instructions given to the AT45 by Leuchars. Leuchars agreed to provide the separation but there was no clear instruction or agreement between the controllers about how the AT45 should join final approach, either from right base or through the overhead for a left or right hand traffic pattern. Unknown to the Dundee controller, the AT45 was high and the AT45 pilot, in the absence of specific joining instructions may have decided to position towards the overhead, resulting in his request to position for a right-hand circuit. When the AT45 contacted Dundee in the overhead at 3000ft, the Citation was already airborne approaching 2000ft in the climb to 4000ft. CAP774, Section 5, paragraph 5.9, states,

'In the event that an aircraft that requires a Procedural Service makes contact with the controller whilst already within the deconfliction minima, controllers shall pass traffic information to all affected aircraft. In such circumstances, it is recognised that controllers cannot guarantee to achieve deconfliction minima; however, they shall apply all reasonable endeavours to do so as soon as practical.'

The Dundee controller passed essential traffic information to both aircraft and instructed the AT45 to make a turn to the north whilst the Citation was instructed to turn south. At the same time the oncoming controller observed the AT45 passing behind the Citation and confirmed that there was no further confliction.

Military ATM

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

At 1016:45 Leuchars provided the prenote to Dundee with a 10 minute ETA for the IFR inbound. This was questioned by Dundee and Leuchars replied, at 1016:52 (Figure 1), *"Well actually he's only about 20 miles south at the moment so will probably be with you in the next 5 minutes, I reckon."*

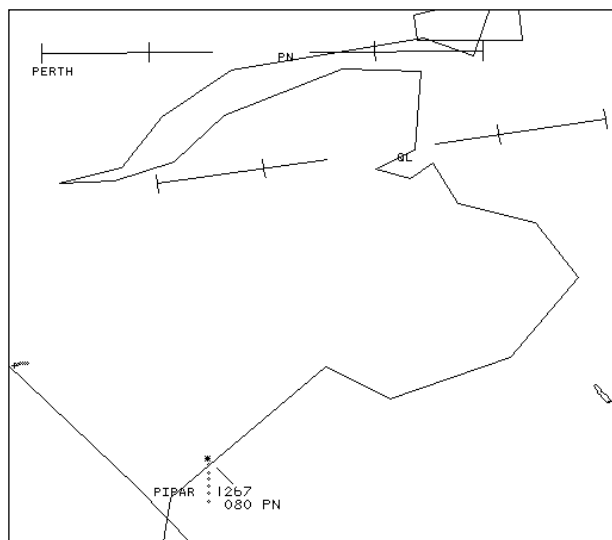


Figure 1: At 1016:52 (ATR squawking 1267).

Dundee stipulated the 5000ft arrival against the 4000ft of the departing Citation. The AT45 called Leuchars at FL80 for a Traffic Service and requested, “Got us for a Traffic Service...are we able to make a visual approach from here?” Leuchars explained, “for coordination I need you on the DND to accommodate an outbound from Dundee.” The AT45 replied with “Understood”, and Leuchars gave the instruction to descend to 5000ft on the QNH 1013 hPa.

At 1018:50 (Figure 2) Leuchars initiated a call to Dundee:

To	From	Dialogue
Dundee	Leuchars	Hi, reference the Citation, is he ready for departure?
Leuchars	Dundee	Yes, he's lining up now.
Dundee	Leuchars	Ok is he coming off...
Leuchars	Dundee	09.
Dundee	Leuchars	Off 09 right turn? Is he?
Leuchars	Dundee	Yes. I can go runway track if that helps?
Dundee	Leuchars	Yeah, that would be great cos the one inbound to you wants a visual approach (garbled) if you're off 09'er, if you are?
Leuchars	Dundee	Subject to your separation, affirm.
Dundee	Leuchars	Roger, thank you.

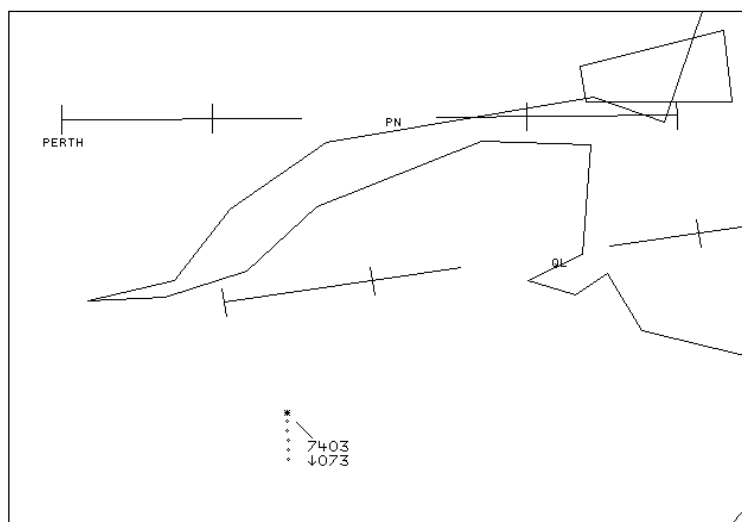


Figure 2: At 1018:50 AT45 now squawking 7403, approx 10nm south of Dundee.

At 1019:32 (Figure 3), Leuchars transmitted “[ATR callsign] *Dundee are happy with a visual approach from you current position right base join.*” The AT45 replied with, “*Ok we’re too high to get in visually from here, where would you like us to descend? Over the river?*” Leuchars replied with, “*Affirm, you can descend to altitude 3000 feet.*”

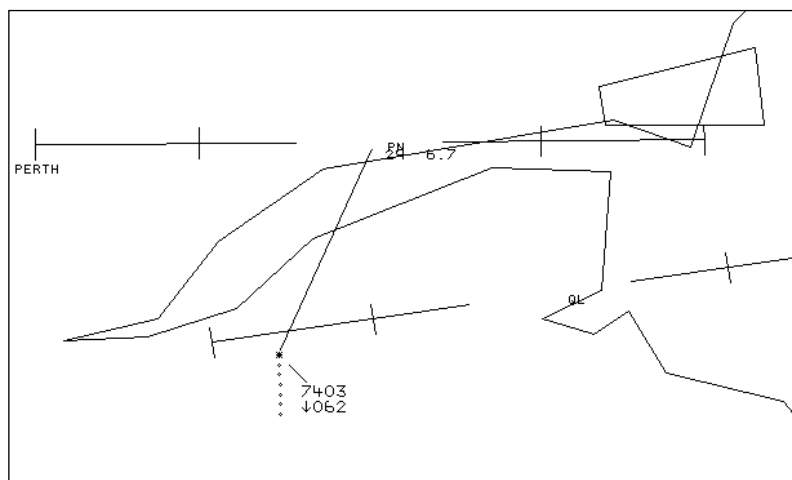


Figure 3: At 1019:32, the AT45 6.7 nms south of Dundee.

At 1019:51 (Figure 4), a Helimed called Leuchars for a MATZ penetration and the AT45 was 5.8nms to the south/southwest of Dundee.

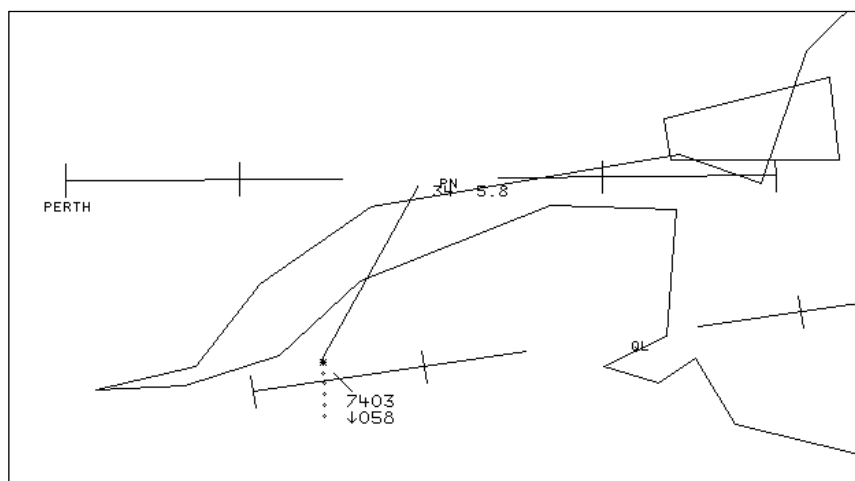


Figure 4: Geometry at 1019:51.

At 1020:30 (Figure 5), Leuchars asked if the AT45 was visual with Dundee and following positive confirmation, the AT45 was instructed to squawk 7000 and continue with Dundee.

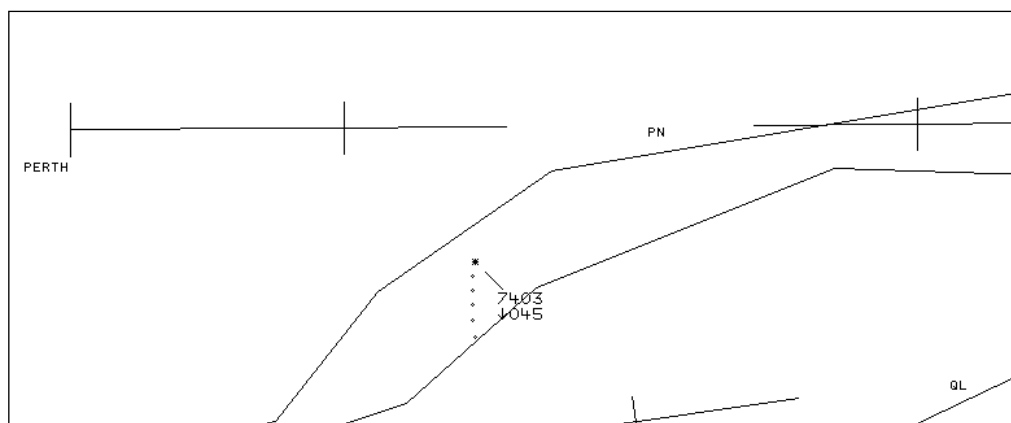


Figure 5: Geometry at 1020:30 instruction to change to Dundee.

The AT45 continued inbound as per Figure 6, at 1020:53.

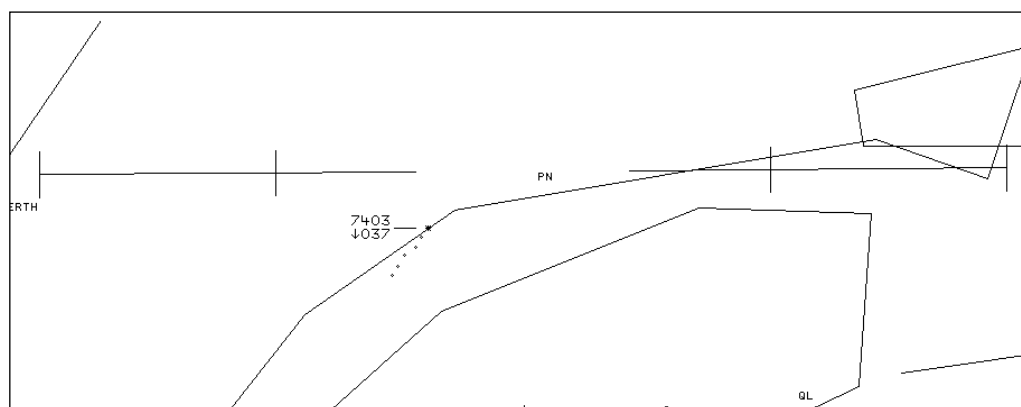


Figure 6: Geometry at 1020:53.

At 1021:00 (Figure 7), the AT45 appears to initiate a right hand turn but disappeared from radar 1 second later. At 1025:03, Leuchars called Dundee to ask, “*what is the [ATR callsign] doing?*” Dundee returned the call at 1026:47 to explain that the AT45 had taken avoiding action (the AT45 pilot report mentioned that no avoiding action was required); the Dundee controller commented aggressively that the visual approach was subject to Leuchars providing separation. Furthermore, Dundee had commented that the AT45 had come across 4 minutes prior to the estimate (estimate given as 5 minutes at 1016:52 and instructed to frequency change at 1020:30) and had routed in front of the departing Citation.

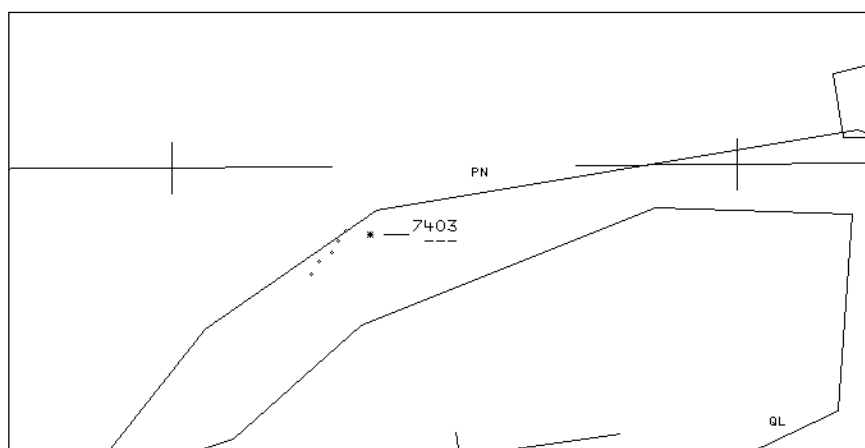


Figure 7: Geometry at 1021:00.

The Leuchars controller had responded to the AT45’s request for a visual recovery and had re-negotiated join details. Initially, the controller instructed the AT45 that coordination was required against a Dundee outbound and this was updated to a right base join at approximately 7nms south of the airfield, with Mode C indicating 062 (London QNH 1011 hPa) in the descent. The controller transferred the aircraft (Figure 5) at approximately 3.7nms south/southwest of Dundee with Mode C reading 045 descending. The descent to 3000ft is standard for the unit as it is clear of the Dundee ATZ, whilst helping the aircraft descend to a safe altitude.

The LOA between Leuchars, Dundee and Logan Air, dated 17 Sep 12, is used locally to outline procedures for all IFR flights inbound to Dundee. Para 8 of the LOA states:

“IFR Flights Inbound to Dundee Airport for Visual Approach. If Dundee ATC have cleared an ac for a visual approach, Leuchars ATC will pass the pilot the clearance for visual approach and when Leuchars has no traffic to affect, the pilot will be instructed to squawk 7000 and transferred to Dundee ATC as soon as the pilot reports visual with Dundee. If Leuchars ATC is controlling conflicting traffic that prevents an early release, Dundee ac may be subject to some control restrictions. Ordinarily, ac will not

be descended below 3000 ft until 2.5nm North of Leuchars. However, to aid the ac in its descent, Leuchars ATC may, when practicable, offer ac captains a clearance to enter the MATZ subject to local SOPs.”

Note that the LOA does not cover the AT45’s airline operations but had become the de facto LOA between Dundee and Leuchars for all aircraft inbound to Dundee. The LOA is being re-written in Sept 14 to reflect an agreement between Leuchars, Dundee and all operators.

The ETA was briefed as 5 minutes at 1016:45 and the aircraft was instructed to transfer to Dundee approximately 4 minutes after the revised estimate. The controller had briefed on Dundee outbound traffic, descended the AT45 to 3000ft, instructed the right-base join and transferred the aircraft across to Dundee positioning for right base. Leuchars do not provide an Approach service for Dundee, they were effectively providing a Traffic Service to a Class G LARS transit. The agreed course of action for a visual recovery was for the AT45 right-base join (which the AT45 appeared to be positioning for) and for the Citation to maintain runway track. Dundee informed Leuchars that the Citation was ready for departure and lining-up at 1018:50 and, with the AT45 being sent across at 1020:30 from the south west, Leuchars were operating in accordance with the verbal agreement and LOA. The Dundee controller had agreed ‘subject to your separation’ but once the aircraft had been released to the visual circuit, separation did not rest with the Leuchars Radar controller. There was an issue with the AT45 reducing height in time for right-base but the radar replay does not give detail of the exact flight profile and the confirmation to descend over the river was a potentially vague instruction that would have benefitted from amplification of the traffic outbound and agreed join procedure.

The Dundee controller had initially provided procedural separation of 1000ft between aircraft but then agreed to the visual recovery; the Citation had been instructed to maintain runway track after departure. The Dundee controller had commented that the AT45 was 4 minutes early of a vague ETA and, had he known how close the AT45 was, he would have held the Citation on the ground. The ETA was updated at 1016:45 as ‘5 minutes’ and the AT45 called Dundee at 1021:00; Traffic Information was passed to the AT45 at 1021:30 following a repeated transmission. The agreement had been amended to a right-base join against an IFR aircraft departing on runway heading. Use of the phrase ‘subject to your separation’ may have been vague and non-standard given that the LOA stated that Leuchars were not responsible for positioning or sequencing of IFR aircraft inbound to Dundee and that the responsibility for visual approaches was to pass a clearance and ensure that there were no conflicts at Leuchars. Once the AT45 joined the Dundee visual circuit, ‘essential traffic information’ was passed on the Citation and the AT45 was ‘not visual’, commenting that the Citation was underneath. The AT45 was instructed to continue north and the Citation was routed southbound. Information was passed to the Citation pilot, who was also ‘not visual’. Once the AT45 had passed behind the Cessna, it was cleared for a left-base for RW 09; the Citation was then given a right turn southbound.

The AT45 pilot had switched to a visual recovery after being passed the joining instruction of 5000ft at the DND. The visual join was for right base for RW09 and a further descent to 3000ft was instructed before being instructed to continue inbound visually. The pilot report described the aircraft heading 090 at 3000ft, with the Citation climbing out from RW09 to 4000ft. The AT45 report commented upon the respective aircraft being in the same piece of airspace. Visual circuit procedures would require the joining aircraft to position in a way to not conflict with departures, especially following information to join right-base. There was a lack of specific routing information on the outbound and the first sighting of the Citation was on TCAS. The AT45 reported in the overhead at 3000ft requesting a right-hand circuit over the river to position for RW09. The Dundee Tower controller reported that the AT45 was in the overhead at 3000ft, crossing above and behind the Cessna, and that continuing the AT45 onto north increased separation. It is not known what the exact profile was of the AT45 after it disappeared from radar or where the CPA was; the AT45 reported routing overhead Dundee and then briefly heading east for a few miles, with the initial AT45 call to Dundee was for a right hand circuit. It appears that an overhead join conflicted with an aircraft getting airborne and, in an attempt to reduce height, the AT45 pilot flew an unknown profile that conflicted with the Cessna.

UKAB Secretariat

The LOA between Leuchars and Dundee did not specifically apply to the AT45's airline and regardless of whether it had become the "de facto" approach procedures it is possible the AT45 pilot was not aware of its content. Notwithstanding, both pilots had a responsibility to avoid a collision and to not fly in such proximity to other aircraft as to cause a danger of collision.¹

Summary

An Airprox was reported on 7th June 2014 at 1022 between an AT45 joining the visual circuit at Dundee and a Citation departing Dundee. Both aircraft were receiving a procedural service from Dundee ATC, and both aircraft received traffic information from the controller and from TCAS. Additionally, the Citation received a TCAS TA, but not an RA. The incident did not show on radar so the exact separation is not known.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board first looked at the actions of the controllers involved. The military members of the Board stressed that Leuchars ATC essentially provides a LARS to aircraft inbound to Dundee, not an approach service; Leuchars ATC had no remit to control the aircraft on behalf of Dundee per se, nor to provide separation from visual traffic joining or departing Dundee. During the course of the Board's discussion it also became apparent that the Leuchars and Dundee interpretation of visual approaches, and who provided separation, were different. Furthermore, the LOA which covered the procedure for some operators was outdated, did not apply to all operations at Dundee, and led both controllers to make assumptions on behalf of the other. The Board noted that the LOA has now been rewritten as a result of this incident.

The Board considered that there had been a lack of coordination between the two controllers, and that the abbreviated landline conversations had left both controllers with a different mental model of what was expected of the AT45. The Dundee controller did not give specific instructions to the Leuchars controller about how he wanted the AT45 to join, and the Leuchars controller assumed the Dundee controller would separate the AT45 as it joined the visual circuit. The Board noted that the inbound estimate time from Leuchars was fairly close to the actual time of arrival, and opined that the Dundee controller should have held the Citation on the ground or given a positive stop-off height for the joining traffic if he had any doubt as to the exact positioning of the inbound aircraft.

In considering the actions of the AT45, the Board thought that the pilot could have made it clearer to Leuchars ATC that because he was too high for a right base join he would be descending from a join through the overhead. The subsequent call was too vague and left his choice of final track open to interpretation. In essence, he was instructed by the controller to join right base, but the subsequent RT exchange, with the discussion about descent over the river, didn't make it clear to the controller that he intended to join in the overhead instead.

The Board agreed that the Citation pilot could not have done anything differently in this situation; in fact, slowing his climb at 2000ft probably increased the separation and prevented a TCAS RA.

Turning to the cause, after much debate over responsibilities and information flow, the Board agreed that it was for the Dundee controller to sequence the AT45's visual join in relation to the Citation's departure. They therefore concluded that the cause had been that the Dundee controller had allowed the Citation to depart into proximity with the AT45. Notwithstanding, the Board considered that there were two contributory factors: firstly, that the AT45 pilot did not explicitly state his joining intentions

¹ Rules of the Air 2007, Rule 8 (Avoiding Aerial Collisions)

when deviating from his clearance to join right base; and secondly that Leuchars and Dundee ATC did not coordinate effectively. The Board then discussed the risk at length. The height separation had been sufficient that there was no risk of actual collision, but this had been a significant incident overall in which there had been a definite system failure that had allowed the situation to develop beyond that which was considered normal safety standards; therefore the Board decided upon a Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Dundee controller allowed the Citation to depart into proximity with the AT45.

Contributory Factor(s):

1. The AT45 pilot did not explicitly state his joining intentions when deviating from his clearance to join right base.
2. Leuchars and Dundee ATC did not coordinate effectively.

Degree of Risk: C.

ERC Score²: 50.

² Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.