

AIRPROX REPORT No 2011071

Date/Time: 3 Jul 2011 1803Z (Sunday)

Position: 5335N 00131W (8nm W of Upton)

Airspace: Awy L975 (Class: A)

Reporter: Leeds RADAR

1st Ac PA42 IIIA 2nd Ac Cirrus SR22

Operator: Civ Comm Civ Pte

Alt/FL: ↓FL60 ↓7000ft
SAS QNH

Weather: VMC VMC

Visibility: >10km NR

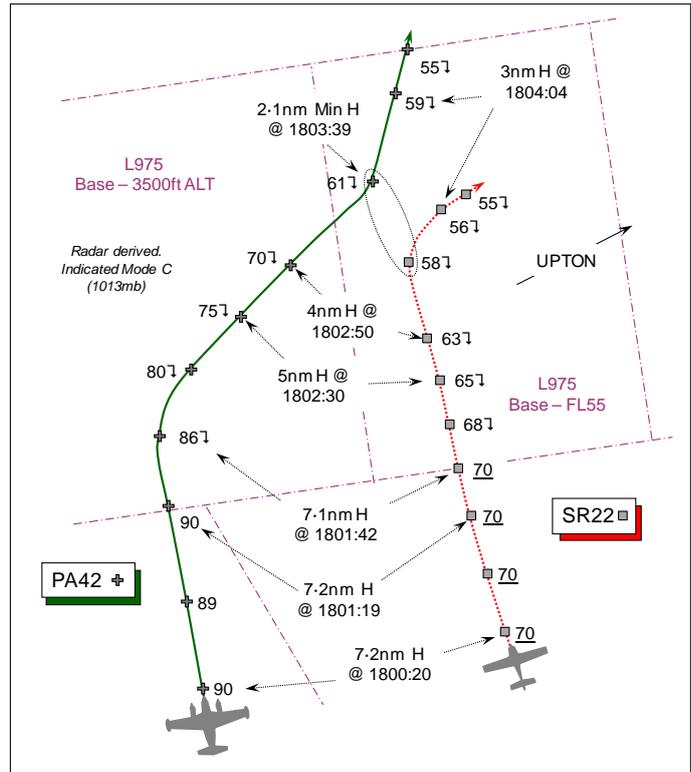
Reported Separation:

Leeds RAD: 300ft V/2.1nm H

NK NK

Recorded Separation:

300ft V @ 2.1nm H



CONTROLLER REPORTED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE LEEDS-BRADFORD AIRPORT RADAR CONTROLLER (LEEDS RAD) reports that she had just taken over control of the position when she gave SAC (Prestwick) FL60 as the initial level for an inbound PA42, released out of FL90, but not on the frequency. Doncaster ATC then rang and spoke to the ATIS Assistant (ATSA) to pre-note an inbound SR22; however, the ATSA was unsure if the pilot wanted an IFR or VFR joining clearance.

At approximately 1801, she noticed an A6162 squawk – the SR22 - about 1nm S of L975 at FL70 heading N towards the airway. She called Doncaster APP and asked the controller to confirm they had coordinated the SR22 squawking A6162 through L975 at FL70, but the controller replied he was just going to call SAC. The Doncaster controller said that he would descend the ac to FL55 to pass clear beneath the airway. Leeds RAD then told Doncaster APP about the PA42 descending to FL60 to the W of the SR22.

Doncaster APP rang back about 1min later at 1802; the A6162 squawk had entered Class A CAS at FL66 and thanked them for their 'heads up'. At this point the PA42 was still not on her frequency and had turned onto a base-leg. She told the Doncaster controller that the PA42 was not on her frequency and suggested he turn his traffic R. She then rang SAC (Prestwick) and asked them to stop-off the PA42 at FL70 because of the SR22, but they were unable to do so as they had already transferred the PA42 to her frequency. Immediately she tried to contact the PA42 on the RT, but without any reply. SAC then told her they had no knowledge of the SR22 working Doncaster inside Class A CAS. The PA42 pilot called on the frequency and so she issued avoiding action to turn the PA42 away from Doncaster's SR22, stopping the PA42's descent at FL60.

Doncaster then called and told her the SR22, under their control, was being turned away from the PA42 and asked whether she was happy to take control of the SR22. Prescribed separation was eroded to a minimum of 2.1nm and 300ft.

THE PIPER PA42 CHEYENNE IIIA PILOT (PA42) reports he was inbound to Leeds-Bradford at 190kt from Oxford. The assigned SSR code was selected with Modes C and S on; TCAS is not fitted. From memory it was a good VMC day and he had been receiving radar vectors under IFR with either a RCS from Scottish CONTROL or a Radar Approach Control Service from Leeds APP towards their ILS. Also he considers he would have been inside CAS from the description given to him as to where the incident occurred. However, nothing was heard from any other ac or either of the radar controllers on the RT indicating that an Airprox had occurred. He was unaware of this Airprox until contact was established by the UKAB through the ac operator. His ac is coloured white with red and blue stripes; the wing strobes and wingtip recognition lights were on.

THE CIRRUS SR22 PILOT reports he was inbound to Leeds-Bradford from Goodwood at 160kt. As the Airprox was not reported on the RT at the time, he regrets he has very little information. As far as he could remember he was flying either IFR, or VFR with a TS from Doncaster APP. As he approached Leeds, the Doncaster APP controller vectored him onto an easterly heading and then requested he 'contact' Leeds RADAR, which he did. He was under the impression he had been 'handed-over' to Leeds RADAR, however, on speaking to Leeds RADAR it seemed this had not happened. He did not see the other ac nor did he pick it up on TCAS, he thought. He is sorry for the lack of detail and he apologised for any inconvenience caused.

The ac has a white/grey colour-scheme and the landing light and 'strobes' were on. TCAS I is fitted; SSR Mode S was on.

THE SAC (PRESTWICK) MACC TACTICAL TRAFFIC MANAGER reports the PA42 was inbound to Leeds-Bradford and control and communication of the ac had been transferred to Leeds ATC when the Sector team became aware of the CAS Infringement Tool (CAIT) activating on a target squawking 6162, he thought, just entering CAS to the SE of the PA42 at FL70.

Subsequent phone calls between the Sector PLANNER, Doncaster and Leeds APPROACH established that the infringement was caused because of a late call and subsequent late identification of the SR22 by Doncaster ATC, although actually inbound to Leeds. The Doncaster and Leeds controllers resolved the confliction between the two ac.

THE DONCASTER APPROACH RADAR CONTROLLER (APP) reports that at 1800 UTC, he thought [actually at 1756:10], the SR22 pilot called Doncaster APP requesting a TS at 7000ft QNH (1017hPa). The flight was allocated a squawk of A6162 and the ac's position was 7nm S of Sheffield disused airfield. He advised the SR22 pilot he would pass on his details to Leeds ATC, although the pilot was unsure whether it would be an IFR or VFR join. As he was about to transfer the SR22 to Leeds he noticed traffic 5nm W at FL90, which he believed may have been traffic inbound to Leeds and passed TI. At this point Leeds called and asked if he had coordinated entry into L975 with SAC (Prestwick), which at this point he had not; he advised Leeds RAD that he would turn his SR22 E, descend it to FL55 and advise his intentions to SAC. The SR22 pilot was updated on the traffic and a turn onto 070° was given, which was acknowledged, but in his opinion the SR22 pilot was slow to take the turn. Shortly afterwards the TI was updated (now 3nm NW at a similar altitude); a further R turn onto 090° was given and the ac was observed turning R. He called Leeds RAD and advised that the traffic was now clear of confliction and being transferred to their frequency.

ATSI reports that the SR22 was on a flight from Goodwood to Leeds-Bradford Airport and was in receipt of a TS from Doncaster APP on 126-225MHz. The PA42 was on a flight from Oxford to Leeds-Bradford Airport and had been in receipt of a RCS from the SAC (Prestwick) NORTH Sector (SCOTTISH) on 136-575MHz before being transferred to Leeds RAD on 133-125MHz.

The Doncaster/Sheffield METAR for 1750UTC: 25008KT CAVOK 24/09 Q1017=
The Leeds-Bradford METAR for 1750UTC: 28012KT CAVOK 20/04 Q1017=

At 1755 the PA42 pilot called SCOTTISH in the descent to FL120 on a heading of 345°. The flight was given further descent to FL90. [The PA42 remained inside CAS throughout this incident]. The SCOTTISH North Sector was being operated by a PLANNING controller and a trainee TACTICAL controller with mentor. The Sector was described as 'not particularly busy' and workload 'average'. The TACTICAL OJTI recalled sitting between the trainee and the PLANNER with a good view of the situation display and flight progress strips. The OJTI and trainee were paying particular attention to Manchester departures – an area where the trainee needed greater scrutiny.

At 1755:20 the SCOTTISH PLANNING controller telephoned Leeds RAD to co-ordinate the inbound PA42. It was agreed that the flight would be transferred descending to FL60, routing direct to the 'centre fix' (RW32) and released out of FL90. Both controllers during this conversation were male.

The SR22 pilot called Doncaster APP at 1756:10, requesting a TS. The ac was outside CAS and the pilot reported flying a heading of 350° and maintaining 7000ft QNH (1017hPa). (The UK AIP at ENR 1-7-1 stipulates that that Transition Altitude in that portion of uncontrolled airspace within which the SR22 was flying is 3000ft.) The Doncaster APP controller agreed to provide a TS and a squawk of A6162 was assigned. The SR22 pilot was asked if the ac was, "*inbound VFR*"; he replied, "*affirm*", but reported uncertainty over whether or not a VFR or IFR approach at Leeds-Bradford was required. Both pilots' written reports indicated that their flights were IFR in VMC.

Doncaster APP called Leeds RAD at 1758:30, asking if the unit had details on the inbound SR22. Leeds RAD had no details but noted that the ac was 'one of theirs'. Details and the position of the SR22 were passed and it was agreed that Doncaster APP would inform Leeds RAD of the type of approach required once it had been decided by the pilot.

At 1759:20 the Doncaster APP controller informed the SR22 pilot that the flight's details had been passed to Leeds RAD and the unit advised that the type of approach required was still to be determined. Traffic Information was also passed to the SR22, "*...on your left hand side...5 miles similar track descending through flight level 9-3 possibly a Leeds inbound.*" The pilot reported having the traffic, "*on TCAS.*" The controller also stated that, once clear of the traffic, the SR22 would be transferred to Leeds RADAR.

The Doncaster APP controller updated the TI to the SR22 pilot at 1800:50, "*that traffic maintaining 9 west abea- in fact just descending out of 9 now you can squawk 7000 and continue with er Lee- in fact just standby got a feeling Leeds are on the phone.*"

At 1801:00 Leeds RAD called Doncaster APP. The Leeds RAD controller enquired about 'the 6162 squawk' [the SR22] and asked if the ac had been given clearance through L975. Doncaster APP stated, "*I was just about to make that call or offer him descent.*" Leeds RADAR then pointed out the PA42. Doncaster APP stated that traffic had been called [to the SR22 pilot] adding, "*I'll just drop him now below 55 I'll speak to Scottish.*"

At 1801:20, Doncaster APP instructed the SR22 pilot to descend to FL55 adding, "*gonna keep you clear of the airspace there.*" Also at 1801:20, SCOTTISH TACTICAL instructed the PA42 to descend FL60 and turn R heading 040°.

At 1801:46, Doncaster APP telephoned SCOTTISH, pointed out the SR22 and apologised for not calling earlier. The SCOTTISH controller acknowledged this information and stated, "*yer we've got that ... no worries.*" At the same time the SR22 entered airway L975, Class A CAS, at FL70, 10nm SW of UPTON where the base of CAS is notified at FL55 – the UK AIP ENR 3-1-1-30 (02 Jun 11) refers.

(ATSI Note: This call appears on the Doncaster Deskside recording. The conversation opens with "Hello Doncaster" (male Prestwick controller), "Hello Scottish" (Doncaster APPROACH controller). It was not possible to verify the identity of the Scottish Sector involved in this call. ATSI believe, by comparison to the North Sector frequency that the Scottish controller answering this call was *likely* to be the North TACTICAL controller. ATSI noted that the SAC (Prestwick) Unit report refers to *no* call

being received on the North Sector. ATSI observed that the North Sector PLANNER's voice during this incident was female.)

[UKAB Note (1): See Part B. It was subsequently ascertained that Doncaster telephoned EAST Sector, instead of NORTH Sector.]

The SAC CAIT activated on the North Sector controller's situation display at 1801:53. The OJTI reported that neither he nor the trainee recalled observing the CAIT alert, albeit that in his opinion he believed 'CAIT was normally sufficiently obvious on the radar that attention is drawn to it'.

The North Sector PLANNER did not recall observing the CAIT alert. Take-over of the Sector had just been completed; however, a faulty headset and co-ordination on other, higher level traffic was cited as possible distractions. The PLANNER re-affirmed that CAIT was normally sufficiently obvious.

At 1802:10, Doncaster APP telephoned Leeds RAD to co-ordinate presentation of the SR22. Leeds RAD stated that the PA42 was not yet in contact with the unit, although it was observed that the PA42 had now turned onto the assigned heading of 040°. It was agreed that Doncaster APP would turn the SR22 R before transferring the flight to Leeds RADAR.

At 1802:30, Doncaster APP informed the SR22 pilot, "*just co-ordinating with Leeds not working that traffic yet which is now descending northwest of you if you can take up a easterly heading initially I'll keep you clear of the traffic and then further with Leeds very shortly just turn right onto heading of 0-7-0.*" At this time there was 5nm between the two ac as the PA42 descended through FL75 and the SR22 descended through FL65.

At 1802:32, SCOTTISH instructed the PA42 pilot to report his heading to Leeds RAD. At 1802:40 Leeds RAD telephoned SCOTTISH requesting that the PA42 be stopped-off at FL70, "*because of that Doncaster traffic there.*" SCOTTISH North Sector PLANNER stated that the PA42 had already been transferred. Both controllers for this conversation were female. Whilst the telephone line remained open Leeds RAD called the PA42 and was heard to establish contact with the PA42 pilot. Leeds RAD instructed the PA42 to fly heading 010°, after which the North controller was heard to say, "*I didn't know about the 6162 there*" - the SR22.

At 1802:50, Doncaster APP asked the SR22 pilot if he was visual with 'the traffic' [the PA42]. The SR22 pilot replied, "*looking.*" The PA42 was in the SR22's 10 o'clock, range 4nm, 700 feet above. The PA42 was still tracking 040° and the SR22 was continuing on its heading of 345°. STCA activated on the Prestwick radar recording at 1802:51, with 3.9nm/700ft between the aircraft.

Doncaster APP passed further traffic at 1803:10, "*traffic now's..in your left 11 o'clock range 3 miles at flight level 6-7.*" The SR22 pilot replied, "*have traffic on TCAS, still looking.*" This was followed by Doncaster APP asking the SR22 pilot if he had taken up the R turn.

The minimum distance between the two ac was 2.1nm and 300ft and occurred at 1803:39, as the PA42 was descending through FL61 and the SR22 was descending through FL58. The PA42 was directly in the SR22's 12 o'clock. The PA42 was commencing a L turn (under the control of Leeds RAD) and the R turn issued by Doncaster APP to the SR22 pilot was beginning to take effect. Neither pilot reported seeing the other ac. At 1804 Doncaster APP called Leeds RAD and co-ordination was agreed whereby the SR22 would be transferred to Leeds RAD on its heading. The SR22 levelled at FL55 at 1804:30 and was then transferred to Leeds RADAR. The SR22 still displayed the previously assigned code A6162.

The SR22 pilot called Doncaster APP whilst flying outside CAS and 5min 36sec from the boundary of CAS. The SR22 pilot reported that his flight was VFR. Leeds RAD had no details on the flight. There was no evidence available that the SR22 pilot solicited any form of clearance before entering CAS whilst inbound Leeds-Bradford.

Doncaster APP was in receipt of information that indicated that the SR22 would require either descent to avoid airway L975 or a clearance to enter the Class A CAS. Doncaster APP passed the SR22 pilot two sets of TI on the PA42, neither of which prompted the controller to take any action in respect of the SR22's flight profile. Some 46sec before the SR22 entered CAS the Leeds RAD controller prompted the Doncaster APP controller to take action in respect of the SR22. A descent was then given 26sec before CAS entry followed by a call to SCOTTISH. The SR22 pilot entered CAS whilst still in receipt of a TS from Doncaster APP.

Co-ordination had been agreed between Leeds RAD and SCOTTISH North Sector whereby the PA42 would be positioned towards the 'centre fix'. This co-ordination resulted in the PA42 being given a R turn which converged with the SR22. CAIT was active for 39sec before North Sector TACTICAL transferred the PA42 to Leeds RAD. The North TACTICAL trainee and mentor did not recall observing CAIT, most likely as their focus of attention was elsewhere on the Sector. However, it could not be determined if the PA42's position was assimilated on the situation display in relation to the active CAIT warning before the PA42 was transferred.

Leeds RAD was presented with a situation whereby two ac not under her control were converging in both azimuth and level. Both ac were 'known' to the Leeds RAD controller, however, 5nm or 1000ft separation was still required - the traffic was received by Leeds RAD with neither. It was also this Leeds controller who had warned Doncaster APP that the SR22 was about to enter CAS. Once Leeds RAD had established contact with the PA42, the ac was turned away from the SR22.

In summary, the SR22 pilot had allowed his ac to enter CAS without the appropriate ATC clearance. Doncaster APP allowed the SR22 to enter CAS without obtaining the appropriate clearance from the SCOTTISH North Sector or instructing the SR22 pilot to remain clear. The PA42 was transferred to Leeds RAD in accordance with the agreed release but in conflict with the SR22. The SCOTTISH North Sector controllers had not assimilated the unauthorised presence of the SR22 before transferring the PA42. There were various distracting factors on the SCOTTISH North Sector that may have led to the SR22's entry into CAS not being assimilated by the controllers, but the exact reason for this could not be determined. Once communication had been established with the PA42 pilot, Leeds RAD turned the PA42 away from the SR22 and co-ordinated a hand-over of the SR22 from Doncaster APP.

Following the investigation of this Airprox: Leeds controllers have been instructed to no longer accept inbound aircraft routing to the 'centre fix'. Formalisation of Leeds-Bradford/Doncaster co-ordination procedures has been proposed. Aircraft conflicts are to be incorporated into TRUCE training to improve controller use of avoiding action. For Doncaster controllers a Standards Bulletin has been produced reminding all controllers to instruct ac to remain outside CAS where appropriate.

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.

The Board was briefed on an additional piece of information from the NATS Ltd Advisor: it was explained that the telephone call from Doncaster to SAC (Prestwick) pointing out the SR22 at 1801:46, was actually to EAST Sector, whereas the PA42 was under the control of NORTH Sector. The eastern portion of the airway theoretically lay within EAST Sector's responsibility, however, operationally this airspace is delegated to NORTH Sector so EAST Sector would not hold a fps on the PA42. It seemed that Doncaster APP were not aware of this local delegation when they phoned EAST Sector, who should then have drawn the attention of NORTH Sector to the SR22 infringing Class A airspace. An Area Controller Member believed that EAST should have advised Doncaster that it was not their airspace and redirected the call. The NORTH Sector controller descended the PA42 to the level specified by Leeds RAD, and turned it onto a heading for the 'centre fix' into conflict with the SR22. A Member pointed out that 3nm radar separation minima was stipulated for use here

by SAC controllers but they still had a responsibility to act if ac entered their airspace without clearance. Whilst focussing elsewhere in their Sector, the PA42 was thus transferred to Leeds RAD in accordance with the agreed release but it was clear the SCOTTISH NORTH Sector controllers had not assimilated the unauthorised presence of the SR22 beforehand. A military controller Member was concerned that CAIT had not been more effective and the topic of the conspicuity of the CAIT alert was discussed as some thought there might be a 'human factors' issue here. Nevertheless, the Board noted that the Sector controllers involved perceived the warning was normally sufficiently obvious; it seemed likely that on this occasion they were concentrating on another issue at the time.

Whereas the delegation of that piece of airspace may have caused some confusion with Doncaster APP phoning the wrong SAC Sector, Controller Members recognised that the call occurred over 5½min after the SR22 pilot's initial call requesting a TS. Therefore Doncaster APP had ample time to recognise that either a descent below the airway was necessary or to facilitate an appropriate clearance for the SR22 to penetrate Class A CAS. It seemed from the interrupted transmission to the SR22 at 1800:50, which included TI on the PA42, that it was not until Leeds RAD called asking about the Doncaster controller's intentions that any positive action was taken. When Doncaster APP instructed the SR22 pilot at 1801:20, to descend to FL55 the ac was indicating FL70 with just over 1nm to run to the southern boundary of L975. As it was the SR22 was allowed to enter L975, still under a TS, where Doncaster APP had no authority to provide an ATS within Class A CAS. Members pointed out that the SR22 could have been descended a lot earlier to remain clear and this lack of positive action was a significant factor which had led to the SR22's entry into CAS without a clearance. Moreover, the controller did not advise the SR22 pilot of the situation. The Board agreed that as Doncaster APP had allowed the SR22 to enter controlled airspace without clearance, this was a contributory factor to the Airprox with the PA42.

It was also evident that the SR22 pilot had neither requested that Doncaster APP obtain a clearance through L975 for him, or descended of his own volition to remain clear of the Class A airway. Pilot Members pointed out that his ac has a sophisticated navigational fit and it should have been abundantly obvious to the SR22 pilot that he was approaching the Southern boundary of L975. A controller Member pointed out that Doncaster APP had not instructed the SR22 to 'remain clear of CAS' and there was some sympathy with the SR22 pilot who might have incorrectly perceived that, as he was receiving a TS from Doncaster APP, who had finally issued a descent instruction to FL55 and also stated "*gonna keep you clear of the airspace...*", that all was in order. Ultimately, however, it was the SR22 pilot's responsibility to obtain any necessary CAS clearance along his route. Whilst he might reasonably expect Doncaster APP to assist him with that task, he had neither asked for a CAS entry clearance nor queried whether such a clearance was being obtained for him. Pilot Members were keen to stress that it was the pilot's responsibility to instigate such action and to remain outside of CAS if no clearance has been obtained. The Board agreed unanimously, therefore, that the Cause of this Airprox was that the SR22 pilot entered controlled airspace without clearance.

The Board commended the Leeds RAD controller for her foresight and awareness; it was plain that she had identified the potential for a conflict at an early stage and had done everything possible to forestall a close quarters situation, including the early prompt to Doncaster. However, she was thwarted because both ac remained under the control of other ATSUs until the latter stages of the encounter. Despite 4 transmissions of TI from Doncaster APP, the SR22 pilot did not see the PA42 visually although it was displayed on his TCAS I. The passing of TI by the controller without earlier positive action to turn the SR22 away from the PA42 caused controller Members some concern; it was not until 1802:30, when both ac were well inside L975 and the PA42 was a mere 5nm away and 1000ft above the SR22 that Doncaster APP issued the instruction to the SR22 pilot "*..if you can take up a easterly heading initially I'll keep you clear of the traffic...just turn right onto heading of 0-7-0.*" However it was evident from the radar recording that this instruction did not have any effect until 1min and 9sec later when the SR22 is shown in the R turn. This was at the same time as the PA42 pilot called Leeds RAD, who promptly applied a L turn to the PA42 just as the two ac closed to the minimum range of 2.1nm. It was the combined effect of these complementary avoiding action turns that finally resolved the conflict and started to increase the horizontal separation between these two ac that were only 300ft apart in the vertical plane. For his part the PA42 pilot had little impact on the

outcome apart from complying with the vectoring instructions issued by Leeds RAD when the flight called on the frequency. Without the benefit of TCAS but despite the prevailing good weather the PA42 pilot did not see the SR22 either, although it was evidently there to be seen. However, given the eventual separation the Board concluded that the avoiding action instructions issued eventually ensured that there was no Risk of a collision.

PART C: ASSESSMENT OF CAUSE AND RISK

- Cause: The SR22 pilot entered controlled airspace without clearance.
- Degree of Risk: C.
- Contributory Factor: Doncaster APP allowed the SR22 to enter controlled airspace without clearance.