

AIRPROX REPORT No 2012045

Date/Time: 28 Mar 2012 0930Z

Position: 5045N 00108W (O/H
Ryde IOW)

Airspace: LFIR (Class: G)

Reporter: LAC S19/20/21/22T

1st Ac 2nd Ac

Type: ATR72 F406

Operator: CAT Civ Pte

Alt/FL: FL100↑ FL100

Weather: VMC CLNC VMC CLNC

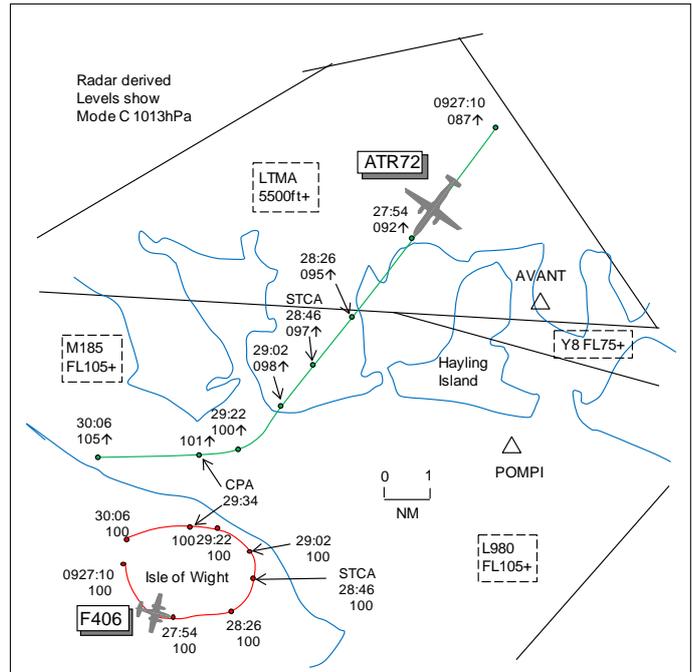
Visibility: 20km 30km

Reported Separation:

200ft V/1nm H Not seen

Recorded Separation:

100ft V/1.6nm H



CONTROLLER REPORTED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE LAC S19/20/21/22 (HURN) TACTICAL CONTROLLER reports the ATR72 was coordinated at FL120 direct ORTAC and the flight called passing FL82 near to GWC. At FL96 the ac label started flashing against a background squawk that was showing FL100. He turned the ATR72 R onto heading 270° and the background squawk turned L. TI was passed to the ATR72 crew who reported they had the traffic on TCAS. The crew then reported “visual” with the traffic, which appeared to be turning away.

THE LAC S19/20/21/22 (HURN) PLANNER CONTROLLER reports accepting coordination from LTC on the ATR72 at FL120 direct to ORTAC. He was discussing the re-route of another ac at FL70 at ORTAC with the ATSA when he saw STCA activate red [high severity] on the radar. At the same time S18T pointed it out to Hurn (T) which is when an avoiding action R turn onto heading 270° was issued to the ATR72 against the 0427 squawk level at FL100. Shortly after this the 0427 squawk began to turn L (in the same direction). Hurn (T) passed TI and the ATR72 crew reported that they had the ac on TCAS.

THE LTC SW DEPS TRAINEE CONTROLLER reports asking the Coordinator to request a shortcut route for the ATR72 at FL120 via ORTAC. This was duly done and noted on the fps with no conditions attached. She climbed the ATR72 to FL120 and transferred the flight to LAC S20 around HAZEL approaching FL80. She considered the climb profile sufficient enough to ensure the ac would remain inside CAS. Sometime later she observed the ATR72 turning away from unknown traffic squawking 0427 outside CAS.

THE LTC SW DEPS RADAR CONTROLLER (EXAMINER) reports the candidate asked for the short-cut route of FL120 to ORTAC for the ATR72, which the Coordinator obtained. He was watching a confliction between the ATR72 and another ac departing Southampton and once this was resolved the candidate transferred the ATR72 to LAC S20. He was happy to let the ATR go as it was clear of all conflictions within his sector and climbing to an agreed level. Their attention was then

taken elsewhere with other traffic. The ATR was transferred to S20 in plenty of time within CAS and with CAS ahead for S20 to control the ac and continue radar monitoring. He accepted that they must present traffic inside CAS and at the point of transfer this wasn't considered well enough. The large change in the base of CAS to FL105 is known to S20 as it is their airspace and, as the ac was transferred inside CAS, then LAC S20 should have continued to monitor the flight and reacted to prevent it going outside CAS.

THE LTC S COORDINATOR reports the SW Deps controller asked him to coordinate the ATR72 on the short-cut route to Jersey at FL120 via ORTAC. He coordinated with S20 Planner (S20P) and neither of them stipulated that the ac should be in level flight or in the climb. SW Deps transferred the flight to S20 still in the climb to FL120 with approximately 8nm to run before the base of CAS changed to FL105 but he was unsure what level the ATR72 was passing when it left the frequency. About 5min later the ATR72 was observed to be turning away from an unknown ac squawking 0427 outside CAS.

THE ATR72 PILOT reports en-route to the Channel Islands, IFR and in communication with London on 129.425MHz, squawking 0554 with Modes S and C. The visibility was 20km in VMC and the ac was coloured yellow/white; no lighting was mentioned. Near the Isle of Wight (IOW) during the climb at 190kt approaching FL100 for FL120 they noticed an ac on TCAS straight ahead range 7nm at a similar level. A TCAS TA followed and they became visual immediately with the traffic as London issued a turn about 60° to the R; no RA was generated. The other ac, a low-wing twin turboprop type, turned away, he thought, to their L and started a descent, passing 200ft below and 1nm clear on their L. The other flight was not talking to London and he assessed the risk as none.

THE F406 PILOT reports flying a local sortie from Farnborough, VFR and in receipt of a BS from Farnborough (downgraded from a TS) on 134.35MHz [actually 125.25MHz] squawking 0427 with Modes S and C. The visibility was >30km in VMC and the ac was coloured white/burgundy with nav, anti-collision and strobe lights all switched on. They were not aware of being involved in an Airprox until being told later by Farnborough. At the time they were in the vicinity of Ryde IOW at FL100 but did not see the reporting ac.

ATSI reports that the Airprox was reported in the vicinity of the Isle of Wight at FL100, in Class G airspace, when an ATR72 and a Cessna F406 came into conflict.

The ATR72 was operating IFR on a flight from London Gatwick to Guernsey and in receipt of a RCS from London Control (Hurn sector) on 129.425MHz.

The F406 was operating VFR on a local flight from Farnborough and was in receipt of a BS from Farnborough LARS W on 125.250MHz.

CAA ATSI had access to recordings of RT from Farnborough and Swanwick and area radar recordings together with written reports from both pilots and the Swanwick controllers.

The UK Met Office advised that the estimated 10,000ft wind in the vicinity of Southampton was N'ly at 5-10kt.

At 0838:00 UTC the Farnborough LARS W controller downgraded the service to the F406 flight from a TS to a BS due to it leaving solid radar cover to the S. At 0840:10 the F406 flight reported climbing to FL100.

At 0915:40 the ATR72 flight contacted London TC (SW Deps) on frequency 129.075MHz.

At 0919:50 the pilot of the ATR72 informed the controller that, "...we can take, er, one two zero if we can get the shortcut to ORTAC". The pilot of the ATR72 was instructed to standby and the SW Deps controller requested the S Coordinator to coordinate a direct routing to ORTAC. The S Coordinator

contacted the Hurn Planner and informed them that the ATR72 wished to go FL120 ORTAC. The Hurn Planner replied, *"Twelve ORTAC is approved."*

At 0921:40 the pilot of the ATR72 was instructed to route direct to ORTAC and climb to FL120. The written report from the SW Deps controller states that they judged that the climb profile was sufficient to ensure that the ATR72 remained inside CAS.

At 0926:00 the pilot of the ATR72 was instructed to contact London Control on 129.425MHz. At 0926:04 the ATR72 was climbing through FL079 with approximately 9.5nm to run to the point at which the base of CAS changed to FL105, with a GS of 252kt and a climb rate of approximately 650fpm.

At 0926:20 the pilot of the ATR72 contacted the Hurn Sector controller on frequency 129.425MHz and reported, *"...we're climbing flight level one two zero routeing direct to ORTAC"*. The controller replied, *"...thank you maintain."* At 0927:10 the ATR72 had 5nm to run to the edge of CAS and was climbing through FL087. The F406 was operating outside CAS at FL100 in the vicinity of the Isle of Wight in a L turn through S. The SSR label and Mode C information from the F406 were displayed on the Hurn sector controller's situation display but were displayed as a grey, less distinct, label due to the ac being outside CAS and not under the direct control of the Hurn sector.

At 0928:26 the ATR72 left the London TMA and entered Class G airspace at FL95, underneath airway L980 (base FL105). The Hurn controller was unaware that the ATR72 had left CAS. The F406 was turning L from an E'ly heading 7.3nm SSW of the ATR72.

At 0929:00, after STCA activated between the ATR72 and the F406 (0928:46), the controller instructed the ATR72 flight to, *"...turn right heading two seven zero degrees there is traffic on the radar indicating flight level one hundred not verified."* The pilot of the ATR72 read back the instruction and advised the controller that they had the traffic on TCAS. At 0929:22 the ATR72 was in the R turn climbing through FL100 with the F406, also at FL100, 1.9nm to the SSW of the ATR72.

At 0929:30 the controller passed TI to the ATR72 flight stating that the F406 was, *"...in your twelve o'clock range one and a half miles"*, which was quickly updated to, *"...twelve o'clock one mile"*. By 0929:30 the F406 had turned W'bound and was tracking parallel to the track of the ATR72 whose crew reported that they had the F406 in sight at, *"...nine o'clock at about er one mile."*

At 0929:34, the CPA, the ATR72 and F406 were on parallel tracks with the ATR72 passing FL101, 1.6nm to the N of the F406. There was a subsequent conversation between the pilot of the ATR72 and the controller during which the ATR72 gave details on the track and type of the ac they had seen. At 0930:06 the ATR72 re-entered CAS at FL105 and at 0930:40 the flight was instructed to resume own navigation to ORTAC. Shortly afterwards the ATR72 was transferred to Jersey Zone on frequency 125.2MHz.

Between 0915:00 and 0941:10 there were no transmissions between the F406 flight and Farnborough LARS W. At 0941:10 Farnborough requested a radio check from the F406 flight, which the pilot replied to. According to the written report the F406 crew did not see the ATR72.

The F406 flight had been downgraded to a BS by the Farnborough LARS W controller before the confliction with the ATR72. Under the terms of a BS the responsibility for traffic avoidance rests with the pilot and there is no requirement for the controller to monitor the flight.

When the S Coordinator and the Hurn Planner coordinated the ATR72 routeing direct to ORTAC at FL120 there was no discussion to establish whether or not the ATR72 would be level at FL120 or would be still in the climb on transfer.

CAP493, the Manual of Air Traffic Services, Section 1, Chapter 4, Paragraph 5.1 states that:

'Every endeavour shall be made to clear aircraft according to the route requested. If this is not possible the controller shall explain the reason when issuing the clearance. The expression "cleared flight plan route" is not to be used. If a pilot requests, or a controller offers, a direct route then the controller must inform the pilot if this direct route will take the aircraft outside the lateral or vertical boundaries of controlled or advisory airspace. The pilot will then decide whether to accept or decline the new route.'

Neither the SW Deps controller nor the Hurn controller issued instructions that would have kept the ATR72 within the confines of CAS, nor did they give advice to the pilot of the ATR72 that would have alerted him to the need to arrange his flight profile such that the ATR72 remained inside CAS. The written report of the SW Deps controller stated that they considered the climb profile sufficient to ensure the ac would remain inside CAS. ATSI calculated that, given the distance to run, GS and the climb rate of the ATR72 at the point of transfer of control it was extremely unlikely that the ATR72 would remain inside CAS.

The ATR72 was being provided with a RCS inside Class A CAS by the Hurn sector controller for just over 2min before it left CAS at 0928:24. CAP493, the Manual of Air Traffic Services, Section 1, Chapter 5, Paragraph 1.2.2 states that:

'Pilots must be advised if a service commences, terminates or changes when:

- a) outside controlled airspace;
- b) entering controlled airspace;
- c) leaving controlled airspace, unless pilots are provided with advance notice in accordance with paragraph 1.2.3 below.

1.2.3 For flights leaving controlled airspace controllers should provide pilots with advance notice of:

- a) the lateral or vertical point at which the aircraft will leave controlled airspace. Such notice should be provided between 5-10nm or 3000-6000ft prior to the boundary of controlled airspace;
- b) the type of ATS that will subsequently be provided, unless the aircraft is coordinated and transferred to another ATS unit before crossing the boundary of controlled airspace.'

The pilot of the ATR72 was not advised that the ac would leave CAS, nor was the pilot advised when the ac left CAS. The service was not changed to reflect the fact that the ATR72 was outside CAS. It is likely that the pilot of the ATR72 was unaware that the ac was no longer inside CAS at the time of the Airprox. Although in Class G airspace pilots are ultimately responsible for collision avoidance, as the pilot of the ATR72 had not been informed that the ac had left CAS, he would have been unaware of the need to apply "see and avoid" and had not agreed to an ATSOCAS instead of a RCS.

When the Hurn controller recognised the conflict between the ATR72 and the F406 the ATR72 flight was instructed to turn R and TI was passed but the term "*avoiding action*" was not used.

The Airprox occurred in the vicinity of the Isle of Wight at FL100, in Class G airspace, when the ATR72 left CAS, unnoticed by the Hurn controller, and came into conflict with the F406.

Contributory factors are considered to be:

The coordination between the LAC Hurn Planner and the LTC S Coordinator did not clearly establish whether the ATR72 was going to be in the climb to FL120 or level at FL120 before transfer of control or establish a restriction that would ensure the ATR72 remained inside CAS.

The ATR72 was presented to the Hurn controller in such a position that its climb rate was unlikely to ensure that the ATR72 remained inside CAS.

The pilot of the ATR72 was not informed that the ac had left CAS and the service was not changed accordingly.

When the Hurn sector controller took action to resolve the conflict between the ATR72 and the F406 the term 'avoiding action' was not used.

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.

A controller Member, familiar with Swanwick operations, informed Members that the ATR72 crew's request to route direct to ORTAC was quite normal. 'Cutting the corner' reduced the ac's track miles by removing the requirement to route via SAM before turning S'bound. It was clear the coordination effected between LTC S Coordinator and LAC Hurn P was imprecise; Hurn P accepted FL120 offered by S Coordinator (which became the new exit level for the ATR from the Hurn Sector onto the Channel Islands and would be apparent to the Hurn T on his data display after input by Hurn P) but neither controller specified whether the ac was to be subject to a coordinated climb or be transferred in level flight. LTC SW Deps cleared the ATR72 flight as requested and then just over 4min later transferred the flight to LAC Hurn. This was earlier than normal, with SW Deps making an early judgement that its climb profile was enough to keep the ac within CAS but placing no restrictions on the flight (eg cross AVANT or abeam FL110 or above), which would have ensured it remained within CAS. When the ATR72 flight called on the Hurn T frequency, the controller merely acknowledged the call with, "...thank you maintain". The ATR72's slow ROC was not assimilated by the Hurn T and again no restriction was placed on the crew to ensure their climb profile was sufficient to remain in CAS. The ATR72 crew would have been unaware that their flight profile would take their ac outside of CAS and they would expect to be told this by ATC. When the ac did leave CAS, it also went unnoticed by the Hurn controller and therefore an appropriate ATS (ATSOCAS) was not offered. Members agreed that the Swanwick ATC teams had not fulfilled their responsibilities to ensure the ATR72 remained in CAS, or advise the crew that they were leaving CAS, which resulted in a conflict with the F406.

The excursion outside CAS only became apparent to Hurn T when STCA activated between the ATR72 and the F406, and it was also pointed out to him by an adjacent controller. Until then the F406 was displayed as a background track as the ac was outside CAS and not working the Hurn T. Hurn T reacted immediately by turning the ATR72 R and issuing TI; however the phrase 'avoiding action' was not used. Members agreed 'avoiding action' should have been used owing to the controller's late assimilation of the confliction and the controller being unaware of the F406's intentions. The ATR72 crew had reported seeing the F406 on TCAS before a TA was received and they had complied with the ATC turn instruction; an RA was not generated. Further TI on the F406 was given with the crew reporting visual as it passed 1nm clear on their LHS, 200ft below. Members noted that the ATR72 passed unsighted to the F406 crew although they had a responsibility to see and avoid within the Class G. The ATR72 had approached from the N whilst the F406 was carrying out a slow LH orbit; the ATR72 would have been more difficult to acquire as the F406 was belly-up to the ATR72 as it approached from below. This is a salutary lesson to all pilots whilst operating VFR in Class G to maintain a good lookout scan for other traffic at all times even if the likelihood of sharing the airspace with other traffic is low - expect the unexpected! Taking all of these elements into account, although the incident was not observed by the F406 crew, the actions taken by Hurn T when combined with the visual sighting and actions taken ATR72 crew were enough to allow the Board to conclude that any risk of collision had been effectively removed.

The NATS Advisor informed Members that following this incident a study was undertaken to analyse flight profiles from MID to ORTAC during March 2012. This found 4 flights out of 159 had left CAS where the base of CAS changes from 5500ft to FL105. Consideration was given to the feasibility and benefit of introducing a standing agreement for these flights to ensure that they remain inside CAS. It was decided instead to address the issue through other means and carry out a further analysis of September traffic to test the benefits of the actions taken. Safety Notice SIN027.12 was issued on 24th May highlighting the issue of flights leaving CAS. ATSOCAS CBT will be completed by all LAC ATCOs by 31st August. This incident is being used for lesson learning during safety briefings to be given to all LAC controllers by 30th September. Operational Analysis Dept has been tasked to do an analysis of any other areas where ac may be outside CAS during climb if their climb rate is slow. A

campaign has started including posters by Competency and Proficiency Coordinators (CAPCs) and Watch Safety Managers (WSMs) to highlight the importance of telephone phraseology and unambiguous coordination.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Swanwick Sector teams did not ensure the ATR72 remained in CAS or advise the crew that they were leaving CAS, resulting in a conflict with the F406.

Degree of Risk: C.