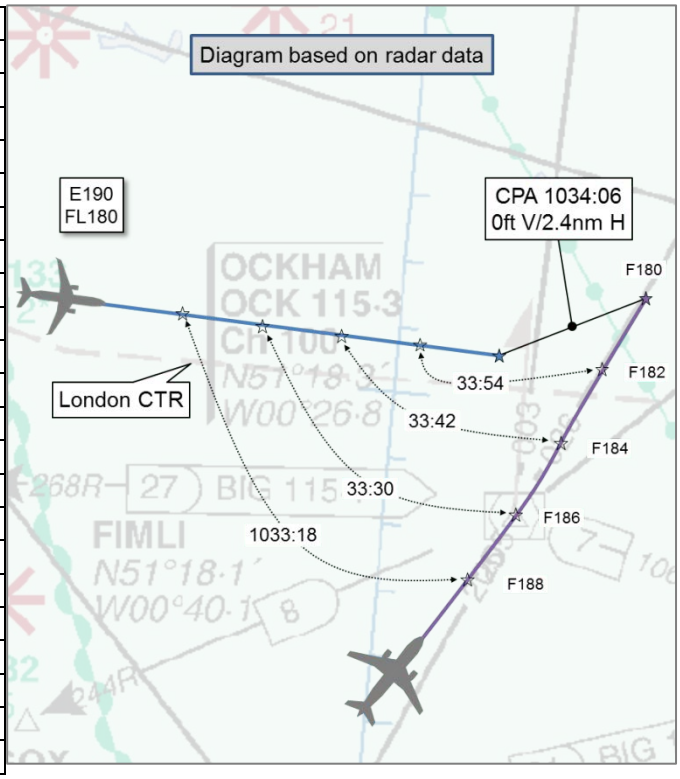
AIRPROX REPORT No 2017048

Date: 28 Mar 2017 Time: 1034Z Position: 5121N 00026W Location: 2nm N Ockham VOR

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	E190	A319
Operator	CAT	CAT
Airspace	London TMA	London TMA
Class	A	A
Rules	IFR	IFR
Service	Radar Control	Radar Control
Provider	Swanwick TC	Swanwick TC
Altitude/FL	FL180	FL180
Transponder	A,C,S	A,C,S
Reported		
Colours	Company	Company
Lighting	Strobe, anti-coll	NK
Conditions	VMC	NK
Visibility	40km	NK
Altitude/FL	FL180	FL160
Heading	090°	NK
Speed	290kt	270kt
ACAS/TAS	TCAS II	TCAS II
Alert	TA	TA
Separation		
Reported	0ft V/3nm H	NK
Recorded	0ft V/2.4nm H	



THE EMBRAER E190 PILOT reports that while level at FL180 heading 090° traffic was observed at the 1 o'clock position, 1000ft above, descending towards their level, and travelling right to left (south to north). The traffic became a TCAS TA at approximately 400ft above their level at a range of 4nm. ATC were informed of potential conflict. Avoiding action was given to the conflicting traffic, then avoiding action given to them. The traffic passed through their level at approximately 3nm, in their 12 o'clock as the avoiding turn was being initiated.

He assessed the risk of collision as 'Medium'.

THE AIRBUS A319 PILOT reports that he was flying into London near BPK. ATC gave them avoiding action and a heading. Because this happened a couple of months ago he could not remember all the details but he did remember there was definitely no RA. They believed as a crew that they followed all ATC instructions correctly. At no point did ATC indicate that they had bust a level, mis-read or selected a wrong level and they did not indicate that an Airprox occurred. They heard a change over in controller; nothing else was spoken about it apart from standard instructions given. The flight continued normally. Because of ATC not telling them of an Airprox, no indication from or belief they had made an error, and definitely no RA, he decided not to file an ASR at the time.

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

THE TC CAPITAL SECTOR CONTROLLER reports that he descended the A319 from FL190 to FL160 just before OCK. There was an E190 routeing towards BIG from the west cruising at FL180. He did not spot the conflicting traffic before the pilot of the E190 reported traffic in his 12 o'clock. He immediately gave avoiding action to both pilots in the horizontal plane because the descending A319 was already at FL183 and thus would not have been able to stop descent. STCA activated during the avoiding action. As separation was becoming restored, he returned both pilots back to their correct directions and they both advised that they had received TAs from TCAS.

Factual Background

The weather at Heathrow was recorded as follows:

```
EGLL 281020Z AUTO 24009KT 210V270 7000 NCD 14/09 Q1020
```

Analysis and Investigation

CAA ATSI

ATSI had access to reports from the pilot of the E190 and the air traffic controller involved. The local unit initial investigation was obtained and the local area radar and radio recordings were also reviewed. Screenshots produced in this report are provided using recordings of the Swanwick MRT Radar. Levels indicated are in Flight Levels (FL). All times UTC.

The E190 (SSR code 4221) was an IFR flight routeing to London City airport. The E190 pilot was in receipt of a Radar Control Service from London Terminal Control Centre (LTC). The A319 (SSR code 5345) was an IFR flight inbound to Luton. The A319 pilot was also in receipt of a Radar Control Service from LTC on the same frequency.

At 1032:39 the A319 pilot was instructed to descend to FL160 from FL190 by the LTC controller.

At 1032:59 (Figure 1), the radar indicated that the two aircraft were 7.8nm apart and that the A319 pilot had selected FL160 for the descent.

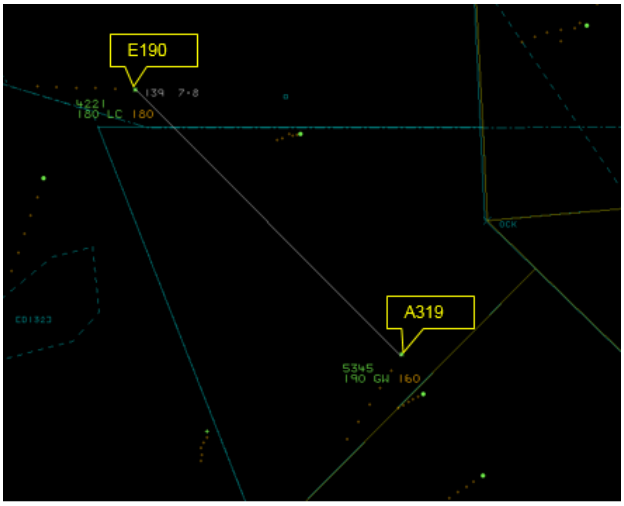


Figure 1 Swanwick Radar 1032:59.

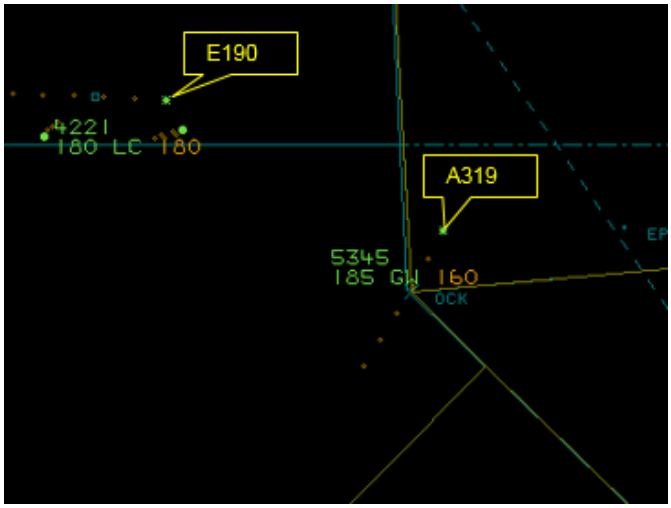


Figure 2 – Swanwick Radar 1033:39.

At 1033:39 (Figure 2) the pilot of the E190 reported traffic in his 12 o'clock.

At 1033:45, following a repeated message by the E190 pilot (the controller having missed who the transmission was from requested a repeat), the controller instructed the A319 pilot to turn right heading 090°, using the correct avoiding action phraseology. Once the read-back was obtained the controller issued an avoiding action turn to the E190 onto a heading of 180°.

During the above transmissions, at 1033:51 (Figure 3), the Short Term Conflict Alert (STCA) activated on the controller's radar screen.

At 1034:07 (Figure 4) CPA occurred with a lateral distance of 2.4nm measured when the aircraft were at the same level. STCA had stopped alerting 3 seconds earlier.

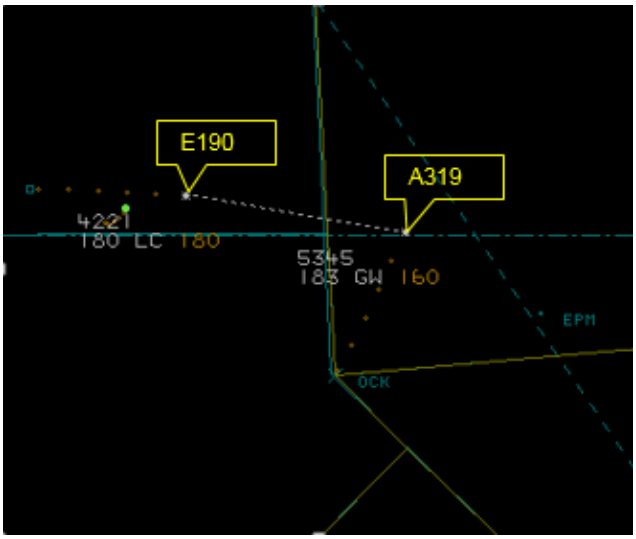


Figure 3 – 1033:51.

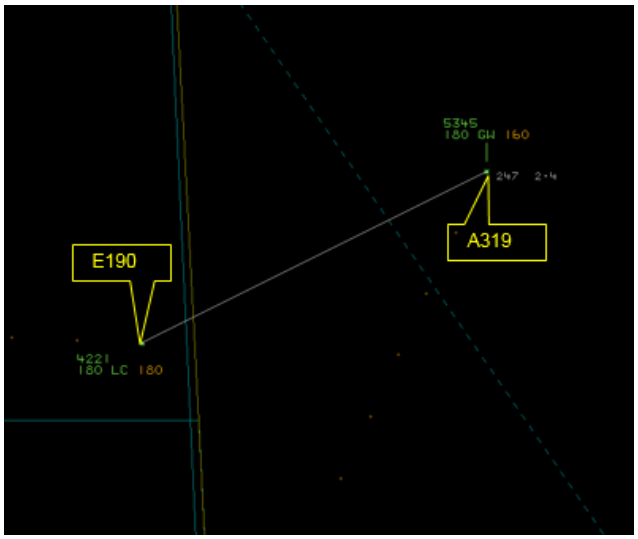


Figure 4 - CPA 1034:07 (2.4nm and 0ft).

At 1034:16 the controller advised the E190 pilot that they were clear of traffic and to turn left again onto a heading of 090°. The controller then instructed the A319 pilot to route to their next en-route fix. Both pilots reported having received Traffic Advice only on TCAS.

Standard separation was restored at approximately 1034:20 when more than 3nm existed between the aircraft.

The LTC controller was providing a Radar Control Service in Class A airspace which has a separation requirement of 1000ft vertically or 3nm horizontally. In order to facilitate more efficient controlling, a standing agreement with the next sector to the north requires that traffic inbound to Luton be descended to FL140 prior to a transfer of control to that next sector.

The A319 pilot had been on frequency for approximately 7 minutes prior to the controller issuing the descent to FL160. The initial unit investigation established that the controller had been cognisant of the potential confliction and had planned to leave the A319 above the E190 until they had passed each other. During the intervening time period, the controller's attention had been drawn to the western side of the sector and the controller had engaged another sector in some lengthy coordination. Following the co-ordination, the controller issued the descent to the A319 pilot. He appeared to have forgotten about the E190 and did not check the flight progress strip display that would have reminded him about the confliction.

As soon as the pilot of the E190 reported the traffic to the controller, the controller issued avoiding action instructions to both pilots. The controller delivered these instructions in an appropriate manner, using correct and clear phraseology. The actual effectiveness of the avoiding action was, however, limited. The dynamic positions of the aircraft were such that the aircraft were almost already diverging. The STCA only activated for a period of approximately 12 seconds.

UKAB Secretariat

The E190 and A319 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[1]; notwithstanding, in Class A airspace, ATC were required to separate the aircraft.

[1] SERA.3205 Proximity.

Comments

THE A319 COMPANY'S INVESTIGATION reported:

The A319 was level at FL190.
10:32:56, after ATC transmission, aircraft descends target Flight Level 160.
10:33:32 passing 18460ft pressure altitude at -1000 fpm TCAS TA.
10:33:53 passing 18120ft pressure altitude at -1000 fpm after VHF1 transmission lateral mode changes from NAV track 028 degrees to right HDG 090 degrees.
10:34:03 hrs passing 17940ft pressure altitude at -1100 fpm TCAS TA ceases.

Summary

An Airprox was reported when an E190 and an A319 flew into proximity in the London TMA Class A airspace at 1034 on Tuesday 28th March 2017. Both pilots were operating under IFR in VMC, in receipt of Radar Control Services from Swanwick TC. The A319 pilot was instructed to descend to FL160, resulting in a potential confliction with the E190 at FL180. Avoiding action was given but standard radar separation of 3nm minimum was not achieved. The minimum separation recorded was 2.4nm horizontally, same level, but by this time the two aircraft were on de-conflicting tracks.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, the controller concerned, area radar and RTF recordings and reports from the appropriate ATC and operating authorities.

The Board first discussed the actions of the TC Capital controller. Members noted that both aircraft were under his control: the E190 was heading east at FL180 and the A319 was tracking north initially at FL190; the projected tracks of the two aircraft would cross near Ockham. The controller was aware that he would need to descend the A319 pilot through the level of the E190 before transferring him to the next sector and his plan was to issue the A319 pilot with descent after the two aircraft had passed each other. A Civil ATC member, with experience of TC operations, commented that descending aircraft against eastbound traffic in the Ockham vicinity was not an unusual situation. However, the controller, who reported that he had been distracted by required prolonged coordination concerning an aircraft in another section of the sector, should not have instructed the A319 pilot to descend to FL160 before the two aircraft had crossed. The ATC member confirmed that, prior to issuing this clearance, the controller should have checked his flight progress display, which would have shown the potential confliction. Some Board members wondered whether TC controllers are given an electronic warning that the paths of the two aircraft would cross. The ATC member confirmed that although there was no such device in TC itself, Swanwick AC has equipment that tracks aircraft that are in contact with AC Sectors, and this allows the detection of potential interactions and conflicts between flights, warning the Swanwick controller accordingly. Another Civil ATC member, with experience of the Scottish ATC Centre reported that similar equipment is also provided at that unit.

The Board noted that the E190 pilot had observed the A319 descending towards their level on a conflicting track and had received a TCAS TA at a range of 4nm, when the A319 was approximately 400ft above their level. Members noted that it was he who had alerted the controller to the potential conflict, after which the controller, after confirming which pilot had called, issued avoiding action turns to both aircraft. During this process the STCA activated. The Board commended the actions of the E190 pilot for informing ATC of the developing situation. That being said, it was thought that this had only resulted in a marginal difference to minimum separation because the controller would have been alerted of the need to take action anyway after STCA had activated shortly afterwards.

In the event, the A319 passed about 2.8nm ahead of the E190 before the avoiding action had taken effect. Members noted that this was only marginally less than the required 3nm radar separation. Bearing this in mind, some Board members wondered why avoiding action had been issued if it could be seen that by the time it was enacted the aircraft would be diverging. A Civil ATC member

explained that the issuing of avoiding action was still encouraged in such situations in order to avoid controllers becoming desensitised to conflicts which were on the boundaries of standard separation.

The Board then turned its attention to the cause and risk of the Airprox. The Board quickly and unanimously agreed that the TC Capital controller had made an unfortunate lapse in overlooking the presence of the E190 when issuing descent to the A319 pilot; this had been compounded by his not checking the flight progress display prior to issuing the descent instruction. Consequently, the cause of the Airprox was determined to be that the TC Capital controller had cleared the A319 pilot to descend into conflict with the E190. However, in mitigation, it was apparent to the Board that the controller had been distracted at the time by coordination activities, and this was considered to be a contributory factor. As for the risk, the Board opined that, although safety had been degraded, there had been no risk of a collision because the aircraft had passed each other at a distance of 2.8nm even before any avoiding action had taken effect. Accordingly, the Airprox was assessed as risk Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The TC Capital controller cleared the A319 pilot to descend into conflict with the E190.

Contributory Factor: The TC Capital controller was distracted by coordination activities.

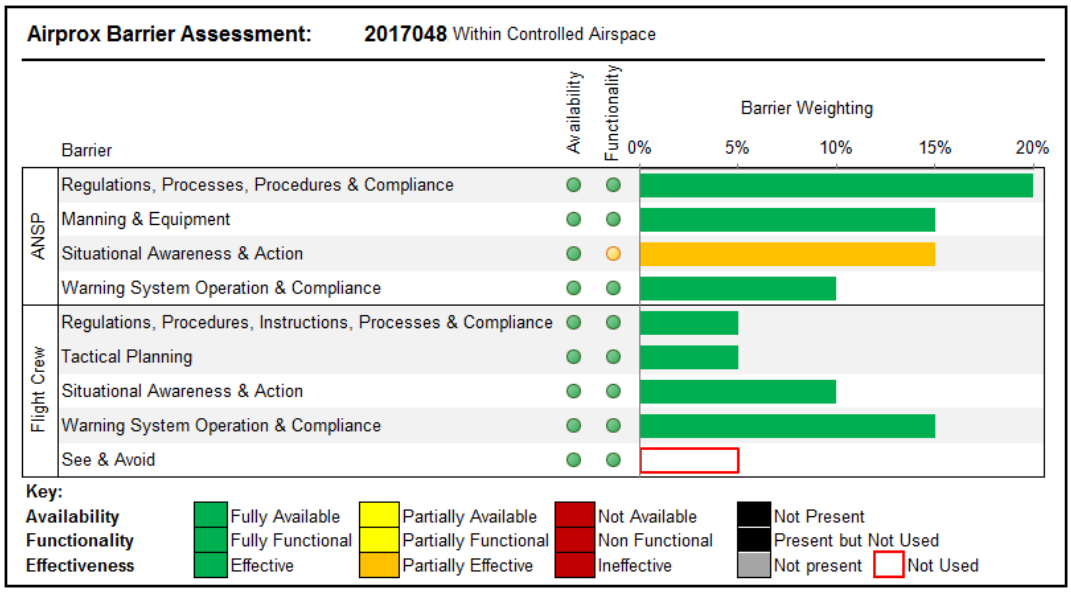
Degree of Risk: C.

Safety Barrier Assessment[2]

The Board decided that the following key safety barriers were contributory in this Airprox:

ANSP Situational Awareness and Action was considered as only **partially effective** because the controller had not checked his flight progress display, had overlooked the presence of the E190 when descending the A319, and had been distracted by prolonged coordination about another flight elsewhere in the sector. However, in mitigation, as soon as he was aware of the confliction he took appropriate action to control the situation to prevent any risk of a collision.

See and Avoid was **not used** because both pilots were aware of the position of the other aircraft from TCAS and did not need to employ this barrier due to their separation.



[2] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.