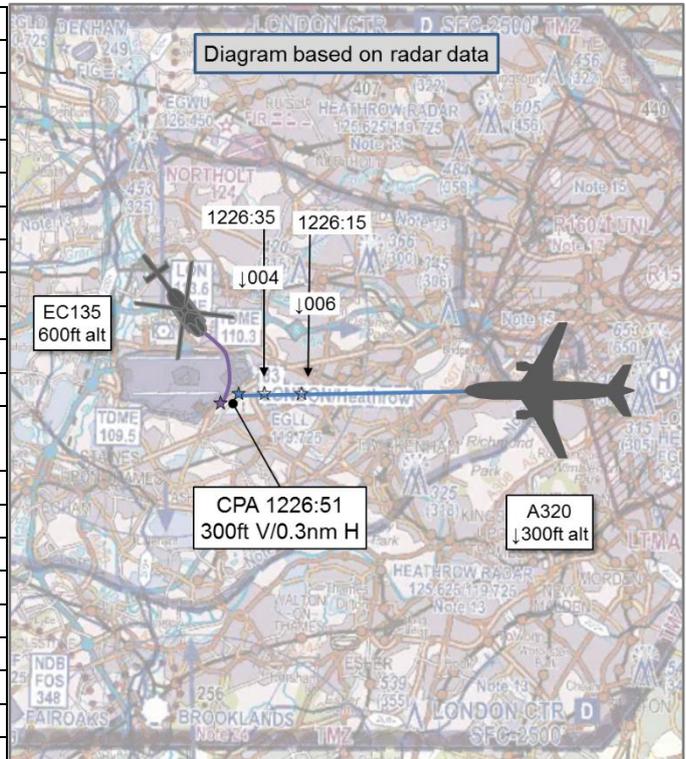


AIRPROX REPORT No 2018008

Date: 16 Jan 2018 Time: 1227Z Position: 5128N 00025W Location: Heathrow airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	A320	EC135
Operator	CAT	NPAS
Airspace	London CTR	London CTR
Class	D	D
Rules	IFR	VFR
Service	Aerodrome	Aerodrome
Provider	Heathrow	Heathrow
Altitude/FL	300ft	600ft
Transponder	A,C,S	A,C,S
Reported		
Colours	Company	Blue/yellow
Lighting	Strobes, landing, nav	Strobes, HISSL, nav, 2xlanding
Conditions	VMC	VMC
Visibility	10km	10km
Altitude/FL	300ft	700ft
Altimeter	QNH (997hPa)	Rad Alt
Heading	270°	180°
Speed	130kt	120kt
ACAS/TAS	TCAS II	TCAS I
Alert	TA	TA
Separation		
Reported	200ft V/1200m H	500ft V/1.5nm H
Recorded	300ft V/0.3nm H	



THE AIRBUS A320 PILOT reports being fully configured on final approach to RW27L. The aircraft ahead had landed and rolled long. He had seen a TCAS contact at approximately 500ft agl to the north of RW27R but was unable to get visual contact. When they were at approximately 700ft QNH, a helicopter pilot checked in on their frequency for crossing north to south. The helicopter pilot was given immediate clearance to cross RW27L north to south which got their attention as they were only just 100ft above the TCAS contact and rapidly approaching. At this stage they were within 2nm of RW27L. He initially struggled to get visual contact with the helicopter due to the backdrop of hangars and buildings at the eastern end of Heathrow, but quickly visually acquired the helicopter moving south. By this time they were at the same level (both 500ft agl). He considered that a go-around would place his aircraft in a dangerous position as they passed through 500ft agl because the conflict could have been greater. They briefed not to go around initially and to keep on the ILS. TCAS showed a TA at 200ft separation and it was very hard to discern any horizontal clearance from their Nav Display showing TCAS contacts. They did not receive an RA because they were fully configured below 1000ft. The helicopter was visually sighted slightly ahead and above them as it crossed to the south side, directly in their missed approach path. The helicopter continued moving south and cleared their path. Landing clearance was given to them just above 100ft agl. He commented that they experienced turbulence on the last mile of final approach as stated on the ATIS.

He assessed the risk of collision as 'Medium'.

THE EUROCOPTER EC135 PILOT reports that he was on a routine flight into the London Control Zone (CTR) which incorporated a crossing of Heathrow airport. They entered the CTR at Cookham and were routed towards Heathrow via the standard Heli routes H10-H2-H9 to Sipson, to hold north of the RW27R. The Air North Departures controller cleared them to cross RW27R to the Virgin Hangar and then handed them over to the Air South Arrivals controller. On contact with Air South Tower they

were cleared to cross RW27L (the landing runway) remaining east of the threshold in front of the landing traffic. He considered that there was adequate separation and time for them to cross the runway and vacate prior to the landing traffic and therefore they carried out the cross and proceeded along the planned routing. Should there have been any doubt as to the separation or clearance they would have continued to hold at the Virgin hangar and requested to cross at the next available opportunity.

He assessed the risk of collision as 'None'.

THE AIR SOUTH ARRIVALS CONTROLLER reports that he received the EC135 from the Air North Departures controller following its crossing of RW27R behind a landing aircraft which was operating under the Tactically Enhanced Arrivals Mode (TEAM). There was a 15-20kt headwind (stronger further up the approach) affecting landing traffic and thus arriving aircraft were much slower than usual over the ground. The EC135, being a north to south crosser, was deemed not to be affected by the headwind and was observed to be moving south quickly. Capitalising on the advantage given by the forward momentum and speed of the EC135 he instructed the pilot to cross RW27L and to remain south after crossing. Traffic Information was passed to the A320 pilot, who was number one to land and approximately 2nm from touchdown, when the EC135 pilot was given his crossing instruction. The EC135 crossed expeditiously and without delay. As it cleared south of RW27L and the pilot turned towards Bedfont, he issued landing clearance to the A320 pilot, who was approximately half a mile from touchdown. He was in clear and continuous visual contact with both aircraft at all times.

Factual Background

The weather at Heathrow was recorded as follows:

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EGLL 161220Z AUTO 27017KT 9999 FEW042 08/00 Q0997 NOSIG=
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Analysis and Investigation

CAA ATSI

ATSI had access to reports from the pilot of the A320, the Heathrow controller and the Heathrow Watch Manager. A short statement was also received from the EC135 pilot. The local area radar replay data and the unit radio recordings were reviewed for the period of the incident. A field investigation was conducted, discussions took place with Heathrow ATC Management and the Air South Arrivals controller was interviewed. Screenshots produced in this report are provided using recordings of the area radar. Levels indicated are in altitude. All times UTC.

The Airprox was reported by the pilot of an A320 when it came into proximity with an EC135 helicopter, on final approach to Heathrow Airport. After landing the pilot of the A320 telephoned the Heathrow Visual Control Room Supervisor and said that he considered that the EC135 was too close to his aircraft as he was landing on RW27L. The pilot initially filed an Air Safety Report and this was subsequently followed by an Airprox Report. The A320 was an IFR flight routing to Heathrow Airport. The EC135 was a VFR flight and was crossing the CTR at the time of the Airprox. Both pilots were in receipt of an Aerodrome Control Service from Heathrow Air South Arrivals. At the time of the Airprox, Heathrow were dealing with a high number of aircraft arrivals and were conducting 'TEAM' Operations (where the departure runway is also used for arriving aircraft, together with the normal arrival runway). RW27R was the departure runway and RW27L was the arrival runway. The Air North controller was controlling RW27R and the Air South controller was controlling RW27L. The EC135 CTR transit required crossings of both runways from north to south.

At 1223:40 the EC135 pilot called the Air North controller and was instructed to hold at Sipson. This was to facilitate the landing of an arriving aircraft.

At 1224:05 the A320 pilot checked in with the Air South controller, advising that they were on a 6nm final for RW27L. The controller advised the pilot that they were number one, instructed them to continue approach, and provided the surface wind.

At 1225:30 the Air North controller instructed the EC135 pilot to route to the east of the RW27R threshold and hold over the Virgin hangar. The pilot readback the instruction and proceeded to cross.

At 1225:40 the EC135 had not yet crossed the threshold of RW27R, however, the Air North controller had no other traffic to affect and instructed the EC135 pilot to contact the Air South Tower frequency.

At 1225:50 the EC135 pilot made contact with the Air South controller, who responded with:

“Hello (EC135 C/S) you can cross runway two seven left now and er s- remain south of two seven left after crossing”.

The pilot readback the instruction and the controller then turned his attention to a previous landing aircraft and issued taxi instructions (Figure 1).

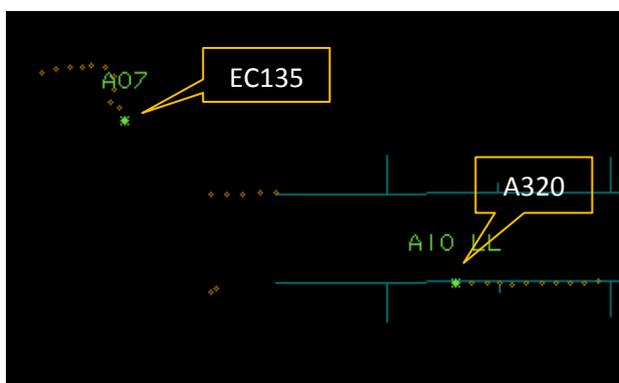


Figure 1 – 1225:50.

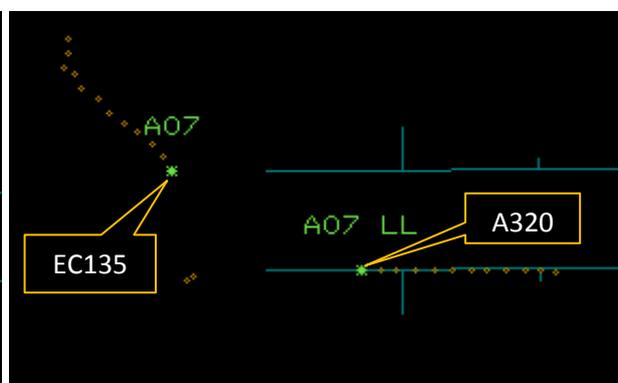


Figure 2 – 1226:15.

At 1226:15 (Figure 2) the controller passed Traffic Information to the A320 pilot on the EC135:

“And (A320 C/S) with the (identity) helicopter just crossing the threshold now just on the er threshold of the other runway”.

The pilot acknowledged this information with their callsign.

At 1226:40 (Figure 3) the controller called the EC135 pilot using the wrong callsign and said:

“And (wrong C/S) I see you’ve cleared the runway, the surface wind is two six zero degrees one six knots”.

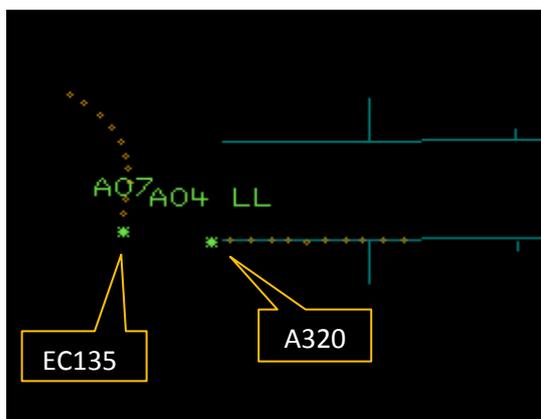


Figure 3 – 1226:40.

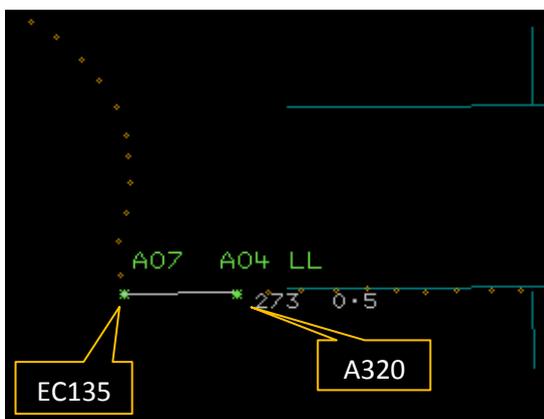


Figure 4 – 1226:43.

CPA occurred at 1226:43 (Figure 4), where there was 0.5nm horizontally and 300ft vertically between the two aircraft.

At 1226:50 the controller issued landing clearance to the A320 pilot:

“And (A320 C/S) on runway 27 left cleared to land”.

At 1227:00 the controller called the EC135 pilot and said:

“And (EC135 C/S) is it for the south side checks now”.

The pilot responded:

“Er it’s for H Nine Sir”.

The controller acknowledged this and transferred the EC135 pilot to the Radar controller.

In his report, the A320 pilot said that they became aware of the crossing EC135 when they heard the crossing clearance being issued, and that they struggled to gain visual contact with it initially but had it showing on TCAS as proximate traffic which quickly changed to a TA, with no RA, due to RA’s being inhibited below 900ft. They said that they were surprised by the crossing clearance, as historically and in similar circumstances their experience at Heathrow was that helicopters were held between the runways and issued with a conditional clearance to pass behind the landing traffic. After receiving Traffic Information on the EC135, they then became visual with it. The main concern of the crew was that they would be unable to go around should that be necessary and the runway was still occupied by the previous landing aircraft. As such they briefed to delay any necessary go-around action until clear of the helicopter traffic.

The statement received from the EC135 pilot stated that on being given the clearance to cross RW27L they were aware of the A320 coming into land and had no concerns as to its proximity.

The relevant helicopter crossing procedures contained in the Heathrow MATS Part 2, Chapter 7 for crossing of the westerly runway state:

“When a suitable gap in the landing stream exists, ATC will pass traffic information on a fixed wing landing aircraft and issue a crossing clearance behind.”

and

“If the traffic conditions permit, the helicopter may be routed more expeditiously within the traffic circuit, including a direct crossing of the airport”.

The Heathrow Air South controller was providing an Aerodrome Control Service in Class D airspace. Separation standards are not prescribed for application by ATC between VFR flights or between VFR and IFR flights in Class D airspace. However, ATC has a responsibility to prevent collisions between known flights and to maintain a safe, orderly and expeditious flow of traffic. This objective is met by passing sufficient Traffic Information and instructions to assist pilots to ‘see and avoid’ each other. Within Class D Airspace controllers are required to pass Traffic Information to aircraft operating IFR on VFR traffic and to pass Traffic Information to aircraft operating VFR on IFR traffic, and in both circumstances, provide avoidance advice if requested.

The controller stated in his report and at interview that he was in clear and continuous visual contact with both aircraft throughout.

At interview, the Heathrow Air South Arrivals controller stated that the incident occurred during the final operational session of their morning shift and that the strong westerly wind experienced throughout the morning had resulted in the arriving aircraft being very slow on the approach. The controller said that the EC135 was from a very professional organisation with highly skilled crews who were very frequent daily visitors to Heathrow. The controller stated that when issuing the crossing clearance to the EC135 pilot he wished to capitalise on the forward speed of the EC135, which was not being hampered by the strong westerly wind in the way that the traffic on the approach was. The controller stated that they were aware that the number 2 aircraft on the approach had declared a medical emergency and that they wanted to get the helicopter quickly across and out of the way. He stated that he had maintained visual contact with both aircraft throughout the period of the crossing and had passed Traffic Information to the A320 pilot on the EC135. At the time of the event the controller was not aware of this Traffic Information being incomplete and that no Traffic Information had been passed to the EC135 pilot.

The controller fully appreciated the A320 pilot's concerns about the potential conflict should a go-around have been necessary and said that whilst the A320 pilot had only ever experienced a helicopter crossing behind their arriving aircraft, crossing ahead of an arriving aircraft is also common practice, should the traffic situation permit. The controller's plan in the event that a go-around of the A320 became necessary, was to break off the EC135 immediately. The controller said that the EC135 crews were very familiar and well-practiced at breaking off during a CTR crossing at Heathrow and that they did so very quickly and effectively when the situation warranted it.

Whilst the controller did not fully and effectively discharge his responsibility to pass Traffic Information to the A320 and the EC135 pilots on this particular occasion, he acknowledged and fully understood that had comprehensive and timely Traffic Information been passed to the pilots of both aircraft, that this would have increased their situational awareness, alleviated the concerns of the A320 pilot and enabled both pilots to take timely and effective avoiding action should this have become necessary.

UKAB Secretariat

Notwithstanding that they were operating in Class D airspace in receipt of instructions issued by the controller under an Aerodrome Control Service, the A320 and EC135 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. An aircraft in flight, or operating on the ground or water, shall give way to aircraft landing or in the final stages of an approach to land².

The Manual of Air Traffic Services (MATS) Part 1³ lists flight priority categories: '*Controllers shall give priority to aircraft according to a flight priority category as listed [in MATS Part 1], where category A is the highest priority and Z is the lowest priority*'. Police flights under normal operational priority are categorised as 'B'.

Comments

NPAS

This was a routine crossing of Heathrow in day under VMC by a Police helicopter operating with callsign suffix 'B' priority in accordance with an extant Special Flight Notification. In accordance with the Special Flight Notification instructions which are held by the ATSU, the core callsign is used for all flights other than 'A' so 'B' is the default priority. Unless otherwise notified the callsign POLICE xxx will be used for all operational flights other than for Category A flights when POLICE xxxA will be used.

¹ SERA.3205 Proximity.

² SERA3210 Right-of-way Landing.

³ CAP 493 Section 1, Chapter 4, Pages 7/8.

Summary

An Airprox was reported when an A320 and an EC135 flew into proximity at 1227hrs on Tuesday 16th January 2018 as the EC135 crossed in front of the A320 on approach as directed by the Heathrow controller. The A320 pilot was operating under IFR in VMC and the EC135 pilot was operating under VFR in VMC. Both pilots were in receipt of an Aerodrome Control Service from the Heathrow Air Arrivals South controller, within Class D airspace of the Heathrow CTR.

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 noted that the EC135 pilot was operating under VFR on a routing that would take him south across the airport crossing RW27R and RW27L and then to continue on Heli route H9. At the time, RW27R was the departure runway, controlled by the Air North Departures controller, and RW27L was the arrival runway, controlled by the Air South Arrivals controller. However, because of a high number of arriving aircraft, Tactically Enhanced Arrivals Mode (TEAM) procedures were occasionally being invoked for landing aircraft to use RWY27R as well, to reduce any inbound delays. At the time, there was a steady stream of traffic on approach to RW27L and the NATS advisor explained that in such situations procedures require the Air South controller to use their training and experience to judge when they should clear the EC135 pilot to cross the runway relative to the arriving aircraft (which are normally spaced 2.5nm apart). The Heathrow procedures allow crossings ahead of arriving aircraft as well as behind.

The first aircraft on approach was the A320, followed by an aircraft with a medical emergency. The Board noted that the controller had stated that he did not wish to jeopardise this second aircraft's approach, and so, taking into account the headwind slowing arriving aircraft down, he decided to cross the EC135 ahead of the A320. By clearing him to cross straight away, the controller's rationale was that the pilot, knowing he was not having to hold north of the runway, could keep forward speed which would allow him, he judged, to cross expeditiously well ahead of the A320. When questioned, the NATS advisor agreed that this had been a finely judged decision but, in hindsight, it would have been a better option to have held the EC135 to go behind the A320.

Meanwhile the A320 had contacted the Air South controller and was fully configured on final approach to RW27L. He reported that when passing 700ft, he heard the EC135 pilot being cleared to cross RW27L ahead of him and was concerned that the EC135 had been cleared to cross ahead, instead of behind, his aircraft. The Board wondered whether the A320 pilot had not experienced helicopter traffic crossing closely ahead of him before whilst operating into Heathrow. The A320 pilot was able to confirm, subsequently, that he was very experienced at Heathrow and had seen helicopters go in front many times before but thought that this one was too close, especially if he had had to go around because they were physically below the helicopter as it crossed, directly in their go-around path. He added that usually, even though crossing traffic would be in front of them, they would be much further out and at all times higher than the crossing traffic, ensuring a safe and available go-around path. Members noted that he tried to visually acquire the EC135 but it was proving difficult because of the backdrop of buildings to the north of the runway. He then saw the helicopter slightly ahead and above him as it crossed the runway. Having only been issued with Traffic Information about the EC135 as it was crossing RW27R but with no indication of its routing or altitude, the A320 pilot's main concern, as stated above, was that, if it had been necessary to carry out a missed approach, the EC135 would have been in his flight-path. A civil-airline pilot member commented that this was a valid concern, and added that the A320 pilot should have been advised about the crossing helicopter earlier, at least 3-4nm out on the approach. This would have helped to reduce the distraction when looking for it on short final and when deciding what action to carry out on a go-around. The Board agreed, and considered that the late and incomplete Traffic Information to the A320 pilot was a contributory factor to the Airprox.

The Board noted that in the Class D airspace of the London CTR, a controller is not required to separate IFR and VFR flights but is required to pass appropriate Traffic Information to both pilots. Additionally, although a controller providing an Aerodrome Control Service is responsible for the expeditious flow of traffic, it must also be safe and orderly. On this occasion the controller did not inform the EC135 pilot of the position of the A320 (although he was aware of it anyway) and civil-helicopter members with experience of operating in the vicinity of Heathrow, commented that if a controller cleared their helicopter to cross, they would comply immediately with the instruction unless it was obvious that it was unsafe. They could therefore understand why the EC135 pilot had continued to cross ahead of the A320. Additionally, they opined that NPAS helicopters routinely cross Heathrow, and their pilots would be well aware of the procedures.

Turning to the priority of the 2 aircraft, and noting that SERA3210 'Right-of-way Landing' normally requires that '*an aircraft in flight, or operating on the ground or water, shall give way to aircraft landing or in the final stages of an approach to land*', the Board noted that the EC135 was operating as a Category B flight, which, in accordance with the Manual of Air Traffic Services Part 1, gave it priority over 'normal flights' (i.e. '*flights which have filed a flight plan in the normal way and conforming with normal routing procedures*'). This would include traffic on final approach which had not declared an emergency. As such, had the controller identified a conflict between the 2 aircraft then, in order to conform to his priority requirements, he would have had to tell the A320 to go-around for the EC135. This appeared to be counter-intuitive in such circumstances whereby, clearing the EC135 pilot to cross behind the A320 would only have caused a marginal delay to the EC135 pilot, who would also have crossed well ahead of the medical-emergency traffic.

In considering the cause and risk of the Airprox, the Board agreed that although the A320 pilot had probably filed the Airprox because he was apprehensive about any potential go-around, he was obviously concerned by the proximity of the EC135 having not been able to acquire it visually until it was crossing ahead. Accordingly, the Board decided that the cause of the Airprox was that the A320 pilot was concerned by the proximity of the EC135 which the Heathrow controller had cleared to cross in front of him. As for the risk, the Board noted that the EC135 had crossed 0.5nm ahead of the A320, although this had reduced to 0.3nm after it had passed. The vertical separation between the 2 aircraft as the EC135 crossed ahead was 300ft. Both pilots were in visual contact before CPA (albeit late for the A320 pilot), and so, after considerable debate, the Board agreed that the EC135 pilot would have been able to effect collision avoidance manoeuvres had they been required. Noting again that controllers are not required to provide separation between VFR and IFR flights in such circumstances (but are required to ensure safe and orderly flow of traffic), the Board agreed that, although the two aircraft had passed closer to each other than ideal, and notwithstanding the potential risk if a go-around had been enacted by the A320 pilot, there had been no risk of a collision in the circumstances that pertained and the incident was therefore assessed as risk Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The A320 pilot was concerned by the proximity of the EC135 which the Heathrow controller had cleared to cross in front of him.

Contributory Factor: Late and incomplete Traffic Information to the A320 pilot.

Degree of Risk: C.

Safety Barrier Assessment⁴

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

ANSP:

Regulations, Processes, Procedures and Compliance were assessed as ineffective because the Air South Arrivals controller’s clearance for the EC135 to cross ahead of the A320 had resulted in less than ideal separation between the 2 aircraft.

Situational Awareness and Action were assessed as ineffective because the Air South Arrivals controller misjudged the distance between the two aircraft when clearing the EC135 pilot to cross the approach path ahead of the A320.

Flight Crew:

Situational Awareness and Action were assessed as partially effective because, although being cleared to cross, with hindsight it would have been preferable for the EC135 pilot to have held and crossed behind the A320 in order to remove any concern about the situation from the A320 pilot.

