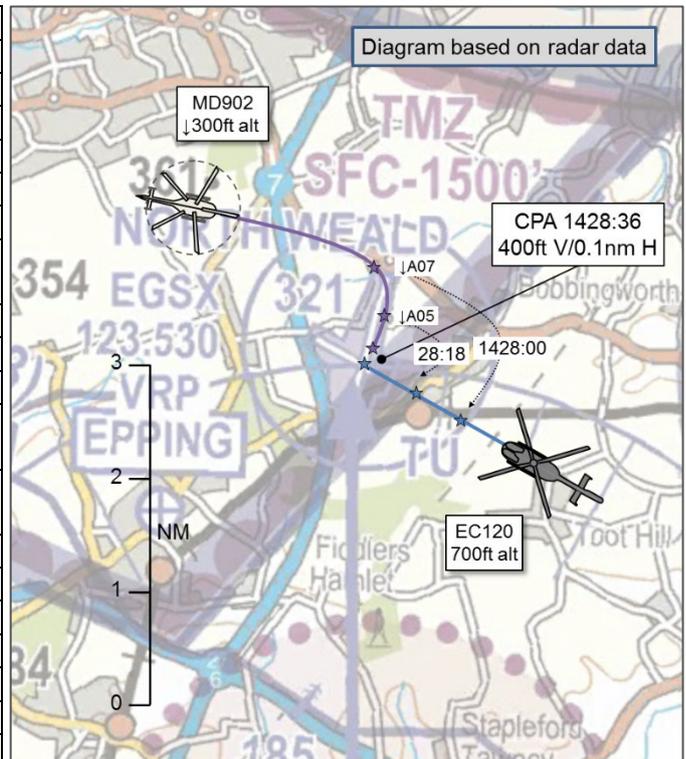


**AIRPROX REPORT No 2019180**

Date: 07 Jul 2019 Time: 1428Z Position: 5143N 00009E Location: North Weald

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

| Recorded          | Aircraft 1                  | Aircraft 2                  |
|-------------------|-----------------------------|-----------------------------|
| Aircraft          | MD902                       | EC120                       |
| Operator          | HEMS                        | Civ FW                      |
| Airspace          | London FIR                  | London FIR                  |
| Class             | G                           | G                           |
| Rules             | VFR                         | VFR                         |
| Service           | AGCS                        | Listening Out               |
| Provider          | North Weald                 | North Weald/Essex Radar     |
| Altitude/FL       | 300ft                       | 700ft                       |
| Transponder       | A, C, S                     | A, C, S                     |
| <b>Reported</b>   |                             |                             |
| Colours           | Air Ambulance colours       | Grey, Orange                |
| Lighting          | Strobes, HISL, NAV, Landing | Anti-Cols, strobes, landing |
| Conditions        | VMC                         | VMC                         |
| Visibility        | >10km                       | 'Very good'                 |
| Altitude/FL       | 150ft agl                   | ~700ft                      |
| Altimeter         | Rad Alt                     | QNH                         |
| Heading           | 200°                        | 315°                        |
| Speed             | 50kt                        | 115kt                       |
| ACAS/TAS          | TAS                         | Not fitted                  |
| Alert             | TA                          | N/A                         |
| <b>Separation</b> |                             |                             |
| Reported          | 100ft V/200m H              | 700ft V                     |
| Recorded          | 400ft V/0.1nm H             |                             |



**THE MD902 PILOT** reports that he was on short final to land at North Weald. He was in RT contact with North Weald Radio and other aircraft in the circuit when an EC120 was seen in the 10 o'clock position moving from left to right. It was slightly above his level, but sufficiently low (estimated 200ft agl) that he assumed it had just lifted from adjacent to the control tower. Upon initial sighting it appeared as though the aircraft would pass ahead and above them. They were nearing their landing decision point and continuing the approach created the largest possible separation both laterally and vertically. Had they attempted a go-around there would have been a high risk of collision. At first sighting they reported 'visual with the crossing helicopter' (post-flight, the A/G operator said that their RT transmission was the first they knew of the other helicopter). Whilst on short final he had heard several TAS warnings and multiple contacts were shown on the TAS screen. There were 3 other aircraft in the circuit and two were holding on the ground at the time of the incident. He believed one of the TAS TA warnings was generated by the Airprox helicopter but he could not be certain it was not from another of the aircraft holding on the ground.

The pilot assessed the risk of collision as 'Medium'.

**THE EC120 PILOT** reports that he was baffled as to why the incident was reported as an Airprox because the only helicopter that he saw in the immediate vicinity of North Weald was close to the ground. He approached North Weald from the south-east, tracking north-west. He had been listening out on Stansted on box 1 since lifting off from a private site close to Stapleford, and, as he normally did before entering the TMZ, he called North Weald on box 2 [he thought] because he intended to route through their overhead. He was made aware of circuit traffic and later heard a helicopter on the radio that he believed to be the Air Ambulance. He looked down to see a helicopter in a low-hover to the east

of RW02/20 and well below. When overhead the airfield he noticed the helicopter had transitioned in a low-hover to forward flight and had begun to climb to the south behind him, still way below him. He was visual with the helicopter throughout and did not consider it to be an Airprox; even if the other helicopter had climbed, he opined that he would have been well to the north-west by the time it had reached his height.

The pilot assessed the risk of collision as 'None'.

**THE NORTH WEALD AIR GROUND OPERATOR** reports that he did not recall the EC120 making any radio calls.

## **Factual Background**

The weather at Stansted was recorded as follows:

METAR EGSS 071420Z AUTO VRB03KT 9999 SCT042 19/09 Q1018=

## **Analysis and Investigation**

### **North Weald Investigation**

There was no record of the EC120 pilot calling North Weald on the RT recording, although he could have been listening out without calling and thus received the pressure setting and circuit state. The circuit was active at the time, including a fast-jet on a run and break. The MD902 pilot was given the airfield information and said that he may join low-level direct for the helipad, but subsequently joined on right-base, called final, and was given the surface-wind. He later made a call that there was 'a helicopter overflying, in the centre low-level'. The radio operator confirmed that the helicopter was not speaking to him.

### **UKAB Secretariat**

The MD902 and EC120 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation<sup>2</sup>.

## **Summary**

An Airprox was reported when an MD902 and an EC120 flew into proximity overhead North Weald at 1428hrs on Sunday 7<sup>th</sup> July 2019. Both pilots were operating under VFR in VMC, the MD902 pilot in receipt of a AGCS from North Weald and the EC120 pilot was probably listening out on the North Weald frequency.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings and a report from the Air/Ground Operator. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first considered the actions of the MD902 pilot and agreed that, given the proximity of the EC120 on first sighting when on the latter stages of his approach to land, he had little option other than to continue his approach because a go around would have likely resulted in an increased risk of collision with the EC120. Members noted that he had received a TAS warning about the presence of the EC120

<sup>1</sup> SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome. MAA RA 2307 paragraph 15.

(**CF10**) but had been unable to distinguish this contact from other contacts generated by aircraft on the airfield and so was not able to use this warning to gain specific situational awareness about the EC120.

For his part, the Board noted that the A/G Operator was not required to integrate the circuit traffic (**CF1**) and, given that he had no knowledge of the EC120's presence, there was little that he could have done to avert the Airprox. The Board noted that there was no record of any calls on the R/T from the EC120 pilot, despite his being certain that he had done so (**CF2**).

Turning to the actions of the EC120 pilot, the Board noted that the radar recordings showed the altitude of the EC120 as 700ft and that the North Weald airfield elevation is 321ft.<sup>3</sup> GA members wondered why he would have planned to transit through the overhead of a frequently busy airfield at a height of approximately 400ft whether or not he was in 2-way contact with the A/G Operator. In any case, by operating in the vicinity of the aerodrome, the EC120 pilot was required to either conform with the pattern of traffic at that aerodrome or remain clear of the pattern formed – neither of which had been achieved (**CF3, CF5, CF9**). Members noted that the EC120 pilot was convinced that he had called the airfield with his intentions and had reported receiving details of circuit traffic. In contrast, the R/T recordings and A/G Operator's report indicated that this was not the case and that no call had been made (**CF4**). The Board wondered whether the EC120 pilot may have selected the frequency, become distracted, and then forgotten to make his call when he thought he had; it was likely that the information he had gleaned about circuit traffic was therefore assimilated due to his listening out on the frequency and not necessarily any indication that he was in 2-way communications with the airfield.

The absence of any radio calls from the EC120 pilot (**CF6, CF7**) thus denied both the North Weald A/G Operator and the MD902 pilot any situational awareness on the position of the EC120. Irrespective, the EC120 pilot had reported that he was visual with the MD902 throughout the encounter and so the Board then discussed both his threat & error management and risk perception, and whether or not he had taken sufficient separation from the MD902. In that respect, it was noted that, in the approach phase of flight, many outcomes other than a landing are possible, which other pilots should consider when judging the distance by which to avoid the aircraft making an approach. Some members wondered whether he had seen a different aircraft to the MD902 and had reported that aircraft instead. However, the radar recordings did not show any other helicopter present at that location and so it was concluded that it was the MD902 that he had seen. As a result, it was felt by the Board that, ultimately, although he was visual with it, the EC120 pilot had continued into a position that was too close to, and had conflicted with, the MD902 (**CF8, CF11, CF12, CF13**).

In considering the risk, the Board was of the view that, although the separation between the aircraft had been far less than ideal and could have resulted in a much more serious outcome had the MD902 pilot unwittingly gone around, the fact that the MD902 pilot had sighted the EC120 and had been able to make a decision to continue with his approach indicated that the MD902 pilot had been able to act in a timely and effective manner to remove the risk of collision. Accordingly, although they agreed that safety had been reduced, the Board agreed that there had been no risk of collision, risk Category C.

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<sup>3</sup> Source: Pooley's Flight Guide, United Kingdom, 2019, 57<sup>th</sup> Ed.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK****Contributory Factors:**

|    | 2019180   |  |  |
|----|---|--|--|
| CF | Factor  | Description                                | Amplification  |
|    | <b>Ground Elements</b>  |  |  |
|    | <b>• Situational Awareness and Action</b>                             |  |  |
| 1  | Contextual  | • Situational Awareness and Sensory Events | Not required to monitor the aircraft under the agreed service    |
| 2  | Contextual  | • Situational Awareness and Sensory Events | Generic, late, no or incorrect Situational Awareness             |
|    | <b>Flight Elements</b>  |  |  |
|    | <b>• Regulations, Processes, Procedures and Compliance</b>            |  |  |
| 3  | Human Factors   | • Flight Crew ATM Procedure Deviation      | Regulations/procedures not complied with                         |
|    | <b>• Tactical Planning and Execution</b>                              |  |  |
| 4  | Human Factors   | • Action Performed Incorrectly             | Incorrect or ineffective execution                               |
| 5  | Human Factors   | • Aircraft Navigation                      | Did not avoid/conform with the pattern of traffic already formed |
| 6  | Human Factors   | • Accuracy of Communication                | Ineffective communication of intentions                          |
| 7  | Human Factors   | • Communications by Flight Crew with ANS   | Pilot did not communicate with appropriate service provider      |
|    | <b>• Situational Awareness of the Conflicting Aircraft and Action</b> |  |  |
| 8  | Human Factors   | • Lack of Action                           | Pilot flew into conflict despite Situational Awareness           |
| 9  | Human Factors   | • Monitoring of Other Aircraft             | Pilot did not sufficiently integrate with the other aircraft     |
|    | <b>• Electronic Warning System Operation and Compliance</b>           |  |  |
| 10 | Contextual  | • ACAS/TCAS TA                             | TCAS TA / CWS indication   |
|    | <b>• See and Avoid</b>  |  |  |
| 11 | Human Factors   | • Perception of Visual Information         | Pilot perceived there was no conflict                            |
| 12 | Human Factors   | • Lack of Action                           | Pilot flew close enough to cause the other pilot concern         |
| 13 | Human Factors   | • Lack of Action                           | Pilot flew into conflict   |

**Degree of Risk:** C

**Safety Barrier Assessment<sup>4</sup>**

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

**Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the EC120 pilot did not avoid the pattern of traffic formed by the North Weald circuit.

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

**Tactical Planning and Execution** was assessed as **ineffective** because although the EC120 pilot intended to call North Weald, he didn't.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because the EC120 pilot heard the MD902 on the North Weald frequency and so had some awareness of its presence.

**Electronic Warning System Operation and Compliance** were assessed as **partially effective** because although he received TAS alerts, the MD902 pilot was not able to distinguish the EC120 from other aircraft that were present at the airfield.

