

ACCIDENT

Aircraft Type and Registration:	MBB-BK 117 D-2 EC145, G-RMAA	
No & Type of Engines:	2 Safran Helicopter Engines Arriel 2E turboshaft engines	
Year of Manufacture:	2017 (Serial no: 20166)	
Date & Time (UTC):	3 May 2018 at 1400 hrs	
Location:	Car park close to Molineux Stadium, Wolverhampton, West Midlands	
Type of Flight:	Commercial Air Transport (Helicopter Emergency Medical Service)	
Persons on Board:	Crew - 1	Passengers - 3
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Damaged frangible fenestron protector and distorted undercarriage cross tube	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	45 years	
Commander's Flying Experience:	2,012 hours (of which 54 were on type) Last 90 days - 48 hours Last 28 days - 20 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The pilot of the HEMS helicopter took off from a car park in variable wind conditions. Once airborne the helicopter yawed to the left and the pilot attempted to correct by applying opposite anti-torque pedal, but it continued to rotate. He lowered the collective and as the helicopter landed, its fenestron contacted a low wall on the perimeter of the car park. Most of the pilot's experience had been on another type of helicopter and he had made inputs consistent with controlling that aircraft, which were insufficient in this instance. The operator has reviewed the circumstances of the accident and has taken two safety actions as a result.

History of the flight

The pilot had landed the helicopter in a car park close to the site of a road traffic collision in preparation for transporting a patient to Queen Elizabeth Hospital in Birmingham (Figure 1).

Prior to restart, the pilot noted that the wind direction was variable in the location of the car park, so he walked closer to the road to better assess the wind. He determined it to be predominantly east to south-east in direction. As he had landed into the prevailing wind, the pilot did not plan to turn the helicopter during departure.

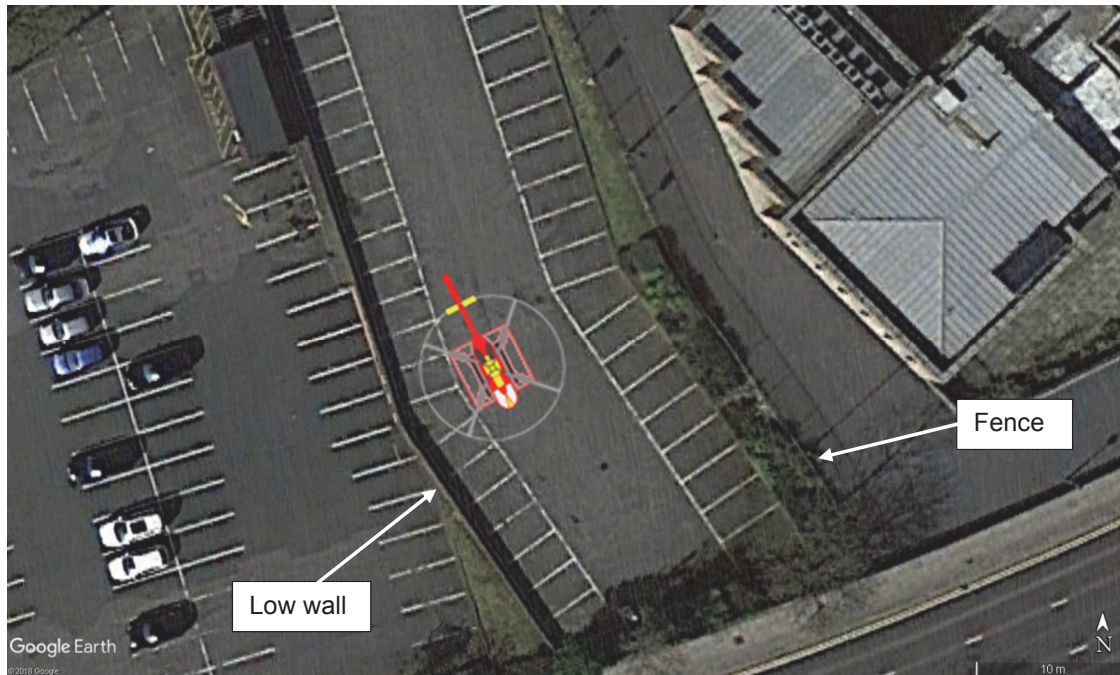


Figure 1

Approximate landing location of G-RMAA

Once the patient had been loaded and engines started, the paramedic boarded and the pilot prepared for takeoff. The engines were set to FLIGHT, the autopilot engaged and pre-takeoff checks were completed, with no abnormalities.

The pilot raised the collective slowly, with the anti-torque pedals level, and brought the helicopter into a low hover. He reported that as the helicopter became light on its skids, it began to yaw to the left. He applied opposite anti-torque pedal to counteract, but the helicopter continued to rotate left. The pilot reported that he was unhappy with the situation and made the decision to land and did so by rapidly lowering the collective.

The pilot shut down the aircraft and the occupants were vacated, with the patient being transported to hospital by road ambulance. The helicopter had turned approximately 40° to the left from its original parked position and had moved 3 to 4 ft rearwards. The frangible section of the tail boom had contacted a low wall and the landing gear cross tube had deformed as a result of the heavy landing (Figure 2). Subsequent examination of the helicopter by the operator's maintenance organisation found no technical issue that could have caused the loss of directional control.

A review of the flight data and a video taken by an onlooker showed that the left anti-torque pedal was slightly depressed prior to lift off. It remained in this position as the helicopter lifted but remained in contact with the ground. As the helicopter became airborne it started to yaw to the left. The pilot applied right anti-torque pedal, but it was insufficient to arrest the rate of yaw.



Figure 2

G-RMAA after the incident with the frangible section of the tail boom in contact with the low wall

Pilot's comments

The pilot, who had recently transferred to flying the EC145 from the EC135, considered that when confronted with the variable wind conditions he had made anti-torque pedal inputs consistent with controlling an EC135, which were insufficient for the EC145 in this instance.

Choice of landing site

The operator assessed the suitability of the landing site against EASA regulations and their operational procedures which defined the dimensional and obstruction requirements for HEMS operating sites.

The operator established that the landing site was compliant with EASA AMC1 SPA. HEMS.125(b)(4) and OM A HEMS requirements; however, it realised that an Operations Department Communication (ODC), providing more detailed guidance to pilots, had not been updated with the most recent EASA Acceptable Means of Compliance reference and did not directly state the dimensions of the EC145. Whilst this update would not have resulted in a different landing site being used, it provides clarity in future landing site selection.

Safety Actions

As a result of this event the operator has re-briefed all of its pilots on the possible consequences of remaining light on the skids when lifting into the hover.

The operator has also updated their ODC to reflect the most recent EASA Acceptable Means of Compliance and refer to dimensions of both the EC135 and the EC145.