

ACCIDENT

Aircraft Type and Registration:	DJI Matrice 210 (UAS, registration n/a)	
No & Type of Engines:	4 electronic motors	
Year of Manufacture:	Unknown (Serial no: 0G0DF5Q0230132)	
Date & Time (UTC):	20 April 2019 at 1436 hrs	
Location:	Dearne Old Moor, South Yorkshire	
Type of Flight:	Emergency services operations	
Persons on Board:	Crew - N/A	Passengers - N/A
Injuries:	Crew - N/A	Passengers - N/A
Nature of Damage:	Rotor arms and rotor blades damaged	
Commander's Licence:	Not applicable	
Commander's Age:	46 years	
Commander's Flying Experience:	7 hours (of which 7 were on type) Last 90 days - 7 hours Last 28 days - 0 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The DJI Matrice 210 small unmanned aircraft (SUA)¹ was performing a daylight survey exercise in light winds. After the pre-flight checks were completed, the aircraft was ascended to a height of around 5 m (~15 ft) to perform further checks. The pilot commanded small control inputs after which the aircraft became unstable and one of the motor arms broke where it attached to the aircraft. The pilot lost control and the aircraft crashed into the ground. No person was injured.

Subsequent analysis of recorded data from the aircraft identified that the No 2 (front left) and No 3 (rear left) motors had stalled, leading to a loss of lift on the left side of the aircraft. It could not be established whether the motors stalled prior to or after the failure of the motor arm.

Refer to report on DJI Matrice 210 - EW/C2019/03/02 in this AAIB Bulletin 1/2020 for information on other accidents involving the DJI Matrice 210 and Safety Recommendations concerning the safe operation of a UAS near to people and congested areas.

Footnote

¹ A SUA is defined by the Air Navigation Order (ANO) 2016 (Amendment 13 March 2019) as '*any unmanned aircraft, other than a balloon or a kite, having a mass of not more than 20 kg without its fuel, but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight.*' This meaning includes traditional remotely controlled model aeroplanes, helicopters or gliders, as well as multirotor 'drones' and remotely controlled 'toy' aircraft.