

Drone Failure Exercise

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Safety alert over drones that drop out of sky after power failures

Graeme Paton Transport Correspondent

A safety warning has been issued by the aviation watchdog after drones suddenly plummeted out of the sky because of a power failure.

The Civil Aviation Authority (CAA) said that a small number of incidents had been reported involving drones suffering a “complete loss of power during flight”. The incidents — relating

to DJI Matrice 200 models — resulted in the crafts “falling directly to the ground”. According to the CAA, the loss of power was reported even though the drones had sufficient battery power to maintain flight. Some of the machines, which typically cost more than £4,200, were damaged. There were no reports of injuries or damage to people or property.

According to DJI, the manufacturer,

the Matrice 200 drone is typically used for search and rescue missions, large infrastructure projects and inspecting structures such as wind turbines and bridges. It is also used by film crews.

The CAA said that it had no record of the number of Matrice 200s in operation in Britain but that it was probably no more than a few dozen. Owners of the affected devices have been ordered to make sure that their software is up to

date. Flights using the drones within 50 metres of people, vehicles or structures had been suspended until further notice, according to the CAA, which added that these limitations would be subject to regular review.

The Matrice 200 is larger than most consumer drones flown by enthusiasts. It has an operation range of a little more than four miles and a maximum flight time of 38 minutes. It has four propel-

lers, typically weighs about 4kg and can carry an additional 2kg of equipment, such as cameras.

DJI said in a statement that there were “a small number of reports involving drones in the Matrice 200 series that have lost power mid-flight”, adding: “Safety and product reliability are top priorities. Our engineers are thoroughly reviewing each customer case and working to address this matter.”

ALAMY

- read this article on drone failure from *The Times*, 31st October 2018
- consider the different Survival Models we have covered and how we might model:
 - a) drone power failure
 - b) injuries caused by drones falling out of the sky

Kaplan Meier
Estimate

Cox's PH
Model

Markov Multi
State Model

Poisson
Model

Binomial
type Models

Actuarial
Estimate

When considering a particular model think about:

- the key assumptions made
- the data needed
- what the model does and does not estimate
- with reference to what we know from the newspaper article
- what about using 2 models in tandem?