



**Civil Aviation Authority**  
**SAFETY NOTICE**  
**Number: SN-2018/011**



**Issued: 21 November 2018**

**Small Unmanned Aircraft**  
**DJI Battery TB50 and TB55 In-Flight Power Failures**

**This Safety Notice contains instructions and recommendations regarding operational safety.**

Recipients must ensure that this Notice is copied to all members of their staff who need to take appropriate action or who may have an interest in the information (including any 'in-house' or contracted maintenance organisations and relevant outside contractors).

<b>Applicability:</b>	
<b>Aerodromes:</b>	Not primarily affected
<b>Air Traffic:</b>	Not primarily affected
<b>Airspace:</b>	Not primarily affected
<b>Airworthiness:</b>	Not primarily affected
<b>Flight Operations:</b>	All Small Unmanned Aircraft Operators
<b>Licensed/Unlicensed Personnel:</b>	Not primarily affected

**1 Introduction**

- 1.1 This Safety Notice provides updated information regarding the points detailed in Safety Notice SN-2018/010, which is now cancelled.
- 1.2 This Safety Notice applies to operators of multi-rotor small unmanned aircraft utilising DJI battery model TB50 or TB55, including all DJI Matrice 200 series (which includes the 200, 210 and 210 RTK platforms) and the DJI Inspire 2 (the Affected SUA).
- 1.3 Following a small number of reported incidents where the TB50/55 series of batteries has resulted in the complete loss of power of an Affected SUA whilst airborne, the manufacturer released a firmware update to the battery management system on 16 November 2018 and is working on a permanent fix to the issue.
- 1.4 The purpose of the Safety Notice is to draw the attention of SUA operators to:
  - a) the firmware update that has been released by the manufacturer in order to address the power failure issues relating to the TB50/55 series of batteries.
  - b) the operating limitations associated with the firmware update.

- 1.5 SUA operators and remote pilots are reminded of their responsibility to be reasonably satisfied that the flight can be safely made (Air Navigation Order 2016 (ANO) article 94(2)) and of the requirements of ANO article 241 that a person must not recklessly or negligently cause or permit an aircraft (ie. the Affected SUA) to endanger any person or property.

## 2 Compliance/Action to be Taken

- 2.1 SUA operators and remote pilots should follow the advice and guidance provided by the manufacturer to install the full suite of firmware updates provided for users of the TB50 and TB55 batteries. Guidance can be found at: <https://www.dji.com/newsroom/news/DJI-Issues-Firmware-Updates-For-TB50-And-TB55-Batteries>

- 2.2 Depending on the status of the firmware update that has been installed, the following operating limits apply:

- a) If SUA operators and remote pilots of the Affected SUA are able to confirm that the full suite of firmware updates that were released on or after 16 November 2018 have been successfully installed, the Affected SUA may be operated in accordance with the requirements of the ANO 2016 and any permission or exemption that has been issued by the CAA.
- b) If SUA operators and remote pilots of the Affected SUA cannot complete the firmware updates or cannot confirm that the battery firmware has been updated:
- i) In accordance with Air Navigation Order article 257 operators of Affected SUA are hereby directed not to permit any flight that involves overflight of any persons, whether or not they are under the control of the operator or remote-pilot, at any height.
- ii) In accordance with Air Navigation Order article 253, any element of any permission or exemption based on an Operating Safety Case, issued by the CAA to an SUA operator which permits the operation of an Affected SUA to be operated:
- within 50 metres of any person;
  - within 50 metres of any, vessel, vehicle or structure which is not under the control of the SUA Operator or remote pilot of the SUA; or
  - over or within 150 metres of an open - air assembly of more than 1,000 persons;

is suspended. This does not affect the ordinary operation of Article 95 of the Air Navigation Order.

- iii) If, at any time while the aircraft is in flight, the indicated voltage is displayed as 3.7V or lower, the aircraft must be landed immediately, as recommended by the manufacturer. Remote pilots should therefore plan their flights so that they can land with a minimum of 3.7V indicated (approximately 30% of full charge).

- iv) Remote pilots must not rely on the state of charge only.

c) Emergency Services Operations

Due to the unique nature of emergency services operations, the privileges contained within General Exemption E 4506 (ORS4 No. 1233) may continue to be exercised whilst using the Affected SUA, provided that the potential risks highlighted in this Safety Notice have been considered within the decision to proceed and the overflight of uninvolved persons is minimised.

d) Occurrence Reporting

Operators or remote pilots experiencing further occurrences, or related issues, should report these directly to both the manufacturer and the CAA. Guidance on how to provide reports to the CAA can be found at: <https://www.caa.co.uk/Blog-Posts/Mandatory-occurrence-reporting/>

### **3 Queries**

- 3.1 Any queries as a result of this communication should be addressed to the following e-mail address: [UAVEnquiries@caa.co.uk](mailto:UAVEnquiries@caa.co.uk), with the subject line 'Safety Notice - DJI Battery TB50 and TB55 In-Flight Power Failures'.
- 3.2 Technical advice should be sought directly from the manufacturer.

### **4 Cancellation**

- 4.1 This Safety Notice will remain in force until further notice.