Drone Battery Storage and Safety

Overview

As a Drone provider & Operator, proper battery storage is essential for **safe operations, reliable flight time, and compliance with manufacturer and aviation safety requirements.** Lithium batteries can fail if handled incorrectly, creating fire and injury risks.

Operator Storage Responsibilities

Store Batteries at the required Charge Level

- Store batteries at **40–60% charge**
- Do **not** store batteries:
  - Fully charged
  - Fully discharged

Operator note:

If you finish a flight with a full battery, allow it to auto-discharge (DJI batteries do this automatically).

Control Storage Temperature

- Recommended storage temperature: **15–25°C (59–77°F)**
- Avoid:
  - o Direct sunlight
  - o Vehicles on hot days
  - o Freezing environments

Operator note:

High heat is one of the most common causes of battery swelling and failure.

Use a Safe Storage Location

- Store batteries in a **dry, ventilated area**
- Use **fire-resistant LiPo bags or metal battery cases**
- Keep batteries away from flammable materials

Never store batteries inside the aircraft.

Inspect Batteries During Storage

- Check batteries every **2–3 months**
- Verify:
  - o No swelling & No damage
  - o Charge still near **40–60%**

If a battery shows damage, remove it and isolate for safety.

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DJI Battery Procedures for Operators

DJI batteries include an internal Battery Management System (BMS). Operators must allow this system to function as designed.

DJI Auto-Discharge

- DJI batteries automatically discharge after **5–10 days of inactivity**
- Target level is approximately **60%**

Operator note:

Do not attempt to bypass or disable auto-discharge.

Long-Term Storage (More Than 3 Months)

- **Every 3–6 months:**
  - o Fully charge the battery once
  - o Then discharge back to 50–60%

Failure to perform this may result in permanent battery damage.

DJI Storage Procedure

Before storage:

1. Confirm battery is **50–60% charged**

2. **Power off** the battery

3. **Remove** battery from the drone

4. Place in **a fire-resistant container**

5. Store at **room temperature**

Battery Calibration (DJI)

- Calibrate every **3 months or ~20 flight cycles**
- Calibration steps:

1. Charge to 100%

2. Fly or discharge to **10–15%**

3. Allow battery to cool

4. Recharge to 100%

Purpose:

Ensures accurate battery readings and safe return-to-home calculations.

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When an Operator Must Ground a Battery

Remove the battery from service if you observe:

- Swelling
- Overheating during charge or flight
- Rapid voltage drop
- Error messages in the DJI app
- Uneven cell voltages

Do not attempt to repair batteries.

Dispose of them through approved recycling channels or standard procedure.

Why Battery Safety Matters for Operators

Operational Safety

Improper battery storage can cause in-flight power loss, fire, or aircraft failure.

Fire Risk

Lithium battery fires:

- Burn extremely hot
- Are difficult to extinguish
- Can re-ignite

Safe storage protects:

- Personnel
- Aircraft
- Facilities
- Vehicles

Regulatory and Manufacturer Compliance

Following battery procedures is required to:

- Maintain DJI warranty
- Comply with aviation safety guidance
- Protect insurance coverage

Equipment Reliability

Correct battery care:

- Extends battery life
- Improves mission reliability
- Reduces unexpected downtime