

# Drone Safety Tips

Drones + Air Travel

DSHB-ST-001-01

*Do you need to travel somewhere and take your drone with you? Will you be travelling by Air? Here are some basic Air Travel safety tips – common to most Air Carriers.*

## IMPORTANT

*Lithium-based batteries, including Lithium-Polymer (LiPo) and Lithium-Iron-Phosphate (LiFePO4) batteries, are classified as **Dangerous Goods** by the International Air Transportation Association (IATA). Improper handling of such items during air travel can lead to serious safety risks, including fires and explosions. To prevent this, IATA regulations for Lithium-based batteries require that air travelers adhere to specific rules when travelling with such items – the most prominent of which have been repeated here.*

*Refer: <https://www.iata.org/whatwedo/cargo/dgr/Pages/lithium-batteries.aspx>*

### Travel Tip 1 : Use Carry-on

If possible, take your drone onboard as carry-on luggage. This will be size and weight dependent (and the Air Carrier may not allow it), but always better if you can, as you have control over the way in which the drone case is treated. A tossed-about drone case could, regardless of the strength of the case and padding inside, lead to a damaged drone, which can either compromise safety during flight, or lead to a task-abort situation.



### Travel Tip 2 : Split Drone and Batteries

Always split the drone and the batteries during travel, i.e. never put them in the same case during Air Travel. This will make declaration of batteries easier (if required), and remove a potential source of fire from the drone.



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### Travel Tip 3 : Battery Bag

Put the batteries in a special “battery bag” for increased safety, and to prevent short circuits. Many “battery bags” are marked “Li-Po” safe – easy for identification by an Air Carrier – and are fire and combustion proof.



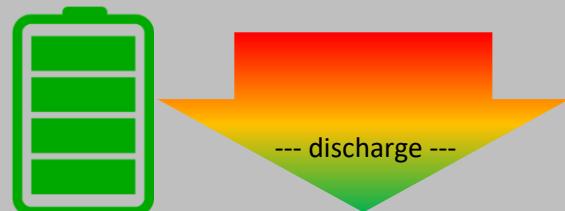
### Travel Tip 4 : No Batteries in Hold

NEVER check the batteries into the hold – always take them onboard with you as carry-on luggage. Remember to keep the drone and batteries apart, even if both are taken on-board as carry-on luggage.



### Travel Tip 5 : Discharge Batteries

Always discharge the batteries before you embark on your travels. Discharge to the lowest level possible for your battery type, but to at least 30% of the total charge.



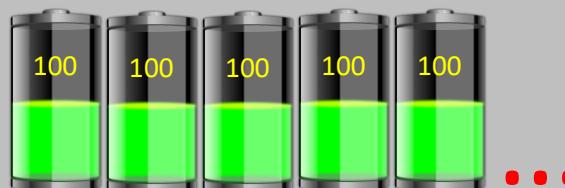
### Travel Tip 6 : Establish Battery Capacity (Wh)

*Battery Capacity = lithium content = watt-hours (Wh)*

*Wh = voltage (V) x ampere-hours (Ah)*

### Travel Tip 6.a : Battery Capacity = maximum 100Wh

Most carriers allow unlimited numbers of batteries having a maximum capacity of 100Wh or less. Always DECLARE your batteries prior to boarding!



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### Travel Tip 6.b : Battery Capacity = more than 100Wh, but less than 160Wh

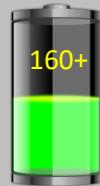
Most carriers allow a maximum of two (2) battery packs per passenger if they have a capacity ranging between 100 and 160Wh. Always DECLARE your batteries prior to boarding!



2 battery packs

### Travel Tip 6.b : Battery Capacity = 160Wh or more

Most carriers will only allow carriage of batteries having a capacity in excess of 160Wh on a special-permission basis. Some carriers do not allow carriage of any batteries having a maximum capacity in excess of 100 Wh.



special permission only

### Travel Tip 7 : Pre-Flight Check

Always check your drone before flight, after re-assembly following a journey by air. This will help to detect any faults originating as a result of the travel experience.



### More Info

*These are the basics, but ALWAYS check with the Air Carrier you are using to see if they have any special requirements not covered above, before you arrive at the airport with your drone!*

#### *Additional Sources of Information:*

- <https://www.iata.org/whatwedo/cargo/dgr/Pages/lithium-batteries.aspx>
- <https://www.dronethusiast.com/can-you-take-a-drone-on-a-plane-flying-with-your-drone/>
- <https://www.dronethusiast.com/traveling-with-lipo-batteries-drone/>
- <http://www.airsafe.com/issues/baggage/drone.htm>