



## DJI Neo 2 Drone Backpack Rugged Case

 **Wolf Island Diver**

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### Summary

A small case designed to fit in a hydration pack and not break on impact - New Digital Image Transmission Module Version

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**UPDATE: NOW INCLUDES A VERSION THAT SUPPORTS THE DIGITAL IMAGE TRANSMISSION MODULE!!**

I don't like the Neo 2 drone cases I've tried, so I made my own. If you just need storage, I recommend you buy a great molded (Pelican-style) padded case for \$45 that holds the drone and all accoutrements. What I needed was a case small enough to easily stash in a hydration pack, but also able to withstand a bike crash. Nothing I've seen meets the 2nd requirement. Most of the cases here are flimsy sleeves that I was able to crush with my hand. Even printed in extra draft, you can stand on this case. All of its walls are 4mm thick. I find printing in PLA+ .20 Standard w/ 3 walls is a good balance between weight and strength and makes the center supports solid. The case has 6 internal supports to help prevent crushing, 2 of which go through the drone itself. There are 2 12mm x 3mm holes each on the lid and case for closure magnets. Close tolerances keep the lid from being sloppy without the magnets, but you can do some sanding

if you prefer. I didn't want external clasps or hinges or clips, all of which stick out and frequently break when 3d printed. This case uses 2 TPU straps to hold the case closed in an impact. These also provide some additional protection and non-slip. The case has retention bumps to hold them in place. They just slide on and off. Alternatively you can use velcro straps, tape, nylon webbing, baling twine, 10,000lb ratchet straps, etc. There's enough space in the case to add padding to the lid and I've included a template for cutting out a liner out of 1-2mm EVA craft foam sheet material although the case doesn't require it. With the liner there's zero rattling. Note: A liner may require cut outs to prevent it pushing the battery button.

The new version that supports the digital image transmission module may require some finagling to insert the rabbit ears. It may make it easier to insert/remove the drone from the lid upside down and then installing/removing the base onto the lid/drone. This version has a very thick top to facilitate a clean print without using support. I may add storage to this extra space at some point.

I've included a similarly designed case for the battery charger although it lacks internal supports. It's strong but not as strong as the drone case. It has a similar closing mechanism, but rather than add magnets, which would have required an irregular shape, this requires the TPU straps to stay closed. Additionally, it has an opening for accessing the power button, USB-C port and status light. I've included a plug for the opening that can clip on to a 3-4mm USB cable when removed from the case to prevent loss. I've also included a template for making a lid liner for this case, although, like the drone case, it's not needed. With the liner there's zero rattling. There are 2 additional straps for this case. One provides loops for velcro or nylon webbing for strapping the battery case to a power bank. I would not trust these loops for lashing the case to the outside of a pack. The other is specifically designed for an Anker 20100 mAh bank, which is approximately 63mm x 22mm. Note: A liner may require cut outs to prevent pushing on the battery buttons.

**Note 1: This drone case DOES NOT Support the Digital Image Transmission Module (rabbit ears). I may make a version that does at a later date if I can make it clean. For mountain biking I don't use the remote.**

**Note 2: I didn't add any graphics since this is a tool that I would prefer to remain nondescript, but I can add a "I'm a \$400 Drone. Please Steal Me!" graphic at a later date.**

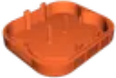
**Note 3: The digital image transmission module version can use the same template for cutting out padding.**

Printing:

Cases and Lids: PLA/PLA+ or your filament preference, e.g., ASA - .28 Extra Draft - .20 Strength. You can make this as solid as a brick if you want. (3 walls are needed to make the center supports solid). Note: I recommend printing with support for the battery box port, to prevent minor sagging although this doesn't affect the port plug working.

Straps and port plug: TPU 95A - .20 Standard. Note: I recommend support for the port plug and printed with its inside facing down.

## Model files

| Drone Case                                                                          |                                | 4 files |
|-------------------------------------------------------------------------------------|--------------------------------|---------|
|   | <b>drone-case.stl</b>          |         |
|  | <b>drone-case-lid.stl</b>      |         |
|  | <b>drone-case-strap.stl</b>    |         |
|  | <b>drone-case-template.stl</b> |         |
| Battery Case                                                                        |                                | 7 files |
|                                                                                     |                                |         |
|                                                                                     |                                |         |
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|                                                                                     |                                |         |



**drone-battery-box.stl**

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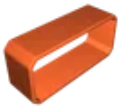
**drone-battery-box-lid.stl**

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**drone-battery-box-plug.stl**

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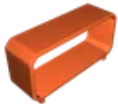
**drone-battery-box-strap.stl**

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**drone-battery-box-anker-loops.stl**

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**drone-battery-box-strap-with-loops.stl**

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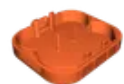


**drone-battery-case-template.stl**



**Drone Case Digital Image Transmission Module Version**

4 files



**drone-case-with-module.stl**

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**drone-case-with-module-lid.stl**



**drone-case-with-module-band-right.stl**



**drone-case-with-module-band-left.stl**

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