Landing gear bay covers for Hobbyking Durafly Vampire

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VIEW IN BROWSER

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Summary

I designed these to cover the main and nose landing gear bays of my Durafly D.H.100 Vampire from Hobbyking. The wheels...

Toys & Games > Outdoor Toys

Tags: rcplane hobbyking vampire thingiverse durafly

I designed these to cover the main and nose landing gear bays of my Durafly D.H.100 Vampire from Hobbyking. The wheels on this plane are small, thus landing on grass might lead to bent struts/pins. I hand launch and belly land the Vampire, and thus decided to remove the retracts and steering servo in order to save some weight (retracts, struts, and servo is about 195 grams).

The covers for the main bays are flat and thin and conform to the shape of the wing easily once the retracts are removed. I left some holes towards the fuse so that I can grip the plane for hand launch. The nose bay cover has a NACA style duct in order to provide some air for cooling to the ESC (I opened up the area behind the nose wheel into the fuse before making this thing). You can keep that area as is, but then the duct will do nothing for you (apart from making glueing it in more difficult).

Printing:

Parts print without support and minimal infill (10% for the boom fillers). 2 perimeters and 2 top/bottom layers, no top/bottom layers for boom fillers. You will need 2 of the boom fillers, 2 of the main bay covers (mirror one to have the bed surface "on top" when installing the cover), and 1 of the nose bay cover.

EDIT 24 Aug 2021:

I added stl files for both covers without the finger hole (main) and NACA duct (nose), as well as the (poorly) commented OpenSCAD files.

Print Settings

Printer Brand:

Creality

Printer:

Ender 3

Rafts:

No

Supports:

No

Resolution:

0.2

Infill:

10

Filament: eSun PLA+ Grey

Post-Printing ==========

Remove the main and nose landing gear and steering servo. All of this can be done with a fully assembled plane, getting the main retract wires / connectors out without damaging the foam is the main difficulty in that case.

Test fit the covers before gluing them. I spray painted them in silver before installation as that required less masking. For the silver of the Vampire

Rust-Oleum Painter's Touch 2X Aluminum seems to be a decent match, the red spray pain I had was not (too dark), but will do for now. Be careful when removing masking tape (if any) after spraying, as the original paint on my Vampire will come off when looking at it...

Glue the main bay covers with Foam Tac or foam safe CA and then insert the boom fillers (CA onto the bay covers for these). The nose bay cover needs a bit more coercion to follow the outline of the cutout, as it is much stiffer. I used foam safe CA plus kicker starting at the front and working my way back. Using Foam Tac and taping the cover to the fuse while that sets could also work, but see above about the existing paint and tape.

Be sure to check CoG before your next flight.

How I Designed This

I used OpenSCAD for this.

Category: R/C Vehicles

Model files

vampire_mainlg_cover_nohole.stl

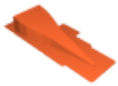
vampire_noselg_cover.scad

vampire_mainlg_cover.scad

vampire_mainlg_cover.stl

vampire_mainlg_boomfiller.stl

vampire_noselg_cover_nonaca.stl



vampire_noselg_cover.stl

Find source .stl files on Thingiverse.com

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