



VERDANT RIDE · FREE TO PRINT

# EFOIL GEAR TAGS

Two-colour, two-sided keychain tags for every Fliteboard front wing. Clip one to each wing bag and you know what is inside without unzipping it.

23 wings

35 × 35 mm

2 filaments

No supports

Ø3 mm keyring hole

Bambu plates ready to slice

02 Pick a build

03 One piece

04 Glued halves

05 Snap together

06 Printing the whole set

07 Print settings

08 All 23 wings

10 Adding a wing

[START HERE](#)

## PICK A BUILD

Three ways to make the same tag. They look identical when they are finished — what differs is how much assembly you feel like doing, and how many filament changes you are willing to pay for. Every download contains all 23 wings.



### NO ASSEMBLY

#### ONE PIECE

One part, one plate, artwork on both faces. Print it and clip it on.

|                |               |
|----------------|---------------|
| Thickness      | <b>3.2 mm</b> |
| Parts          | <b>1</b>      |
| Assembly       | <b>none</b>   |
| Colour changes | <b>most</b>   |

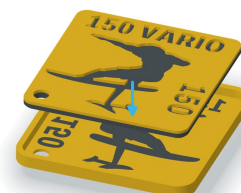


### FEWEST CHANGES

#### GLUED HALVES

Two flat halves side by side on one plate. A dab of hot glue and a squeeze.

|                |                 |
|----------------|-----------------|
| Thickness      | <b>3.2 mm</b>   |
| Parts          | <b>2</b>        |
| Assembly       | <b>hot glue</b> |
| Colour changes | <b>fewest</b>   |



### NO GLUE

#### SNAP TOGETHER

A tray and an insert with a 0.20 mm press fit. The keyring holds it shut.

|                |                  |
|----------------|------------------|
| Thickness      | <b>2.4 mm</b>    |
| Parts          | <b>2</b>         |
| Assembly       | <b>press fit</b> |
| Colour changes | <b>middle</b>    |

**No preference?** Print the glued halves. Fewest colour changes, fastest print, and hot glue is stronger than it sounds. Move to snap-together if you would rather not own a glue gun, and to one-piece if you want the toughest tag and do not mind the extra changes.

## WHAT IS IN THE DOWNLOAD

### print-all-23/

One project file with every wing already laid out across Bambu X1C plates, 25 tags to a plate. Open it and slice, one plate at a time.

### tags/<wing>/

One folder per wing, if you only want a couple. 3MF with both colours assigned, plus single-material STLs.

### index.html

Open it in a browser to see all 23 tags at once and click straight through to the file for your wing.

### generator/

The Python that produced all of this, driven by a CSV. Add a wing Fliteboard releases later in one line.

BUILD ONE · 3.2 MM · ONE PART

# ONE PIECE

The whole tag prints as a single object with the artwork worked into both faces. There is no second part, nothing to glue, and nothing to lose in a drawer.

### One piece — nothing to assemble

Print it. That is the whole build.

**1 Print**



One part, one plate, two filaments. The artwork goes into both faces as it prints. No supports.

**2 Both faces read**



front back

Front and back are the same tag. Nothing to glue, nothing to press in, no second part to lose.

**3 Ring it**



Straight onto the bag. 3.2 mm thick and solid all the way through — the toughest of the three.

35 x 35 x 3.2 mm · two filaments · verdantride.com

**1 PRINT**

Open <wing>-one-piece.3mf. Base colour in slot 1, face colour in slot 2. Slice and print — no supports, no brim.

**2 BOTH FACES READ**

Front and back carry the same tag, the same way up. Only the keyring hole changes corners, which is why there is one in each bottom corner.

**3 RING IT**

Straight onto the bag. 3.2 mm and solid all the way through — the toughest of the three builds.

## WHY THIS ONE COSTS MORE COLOUR CHANGES

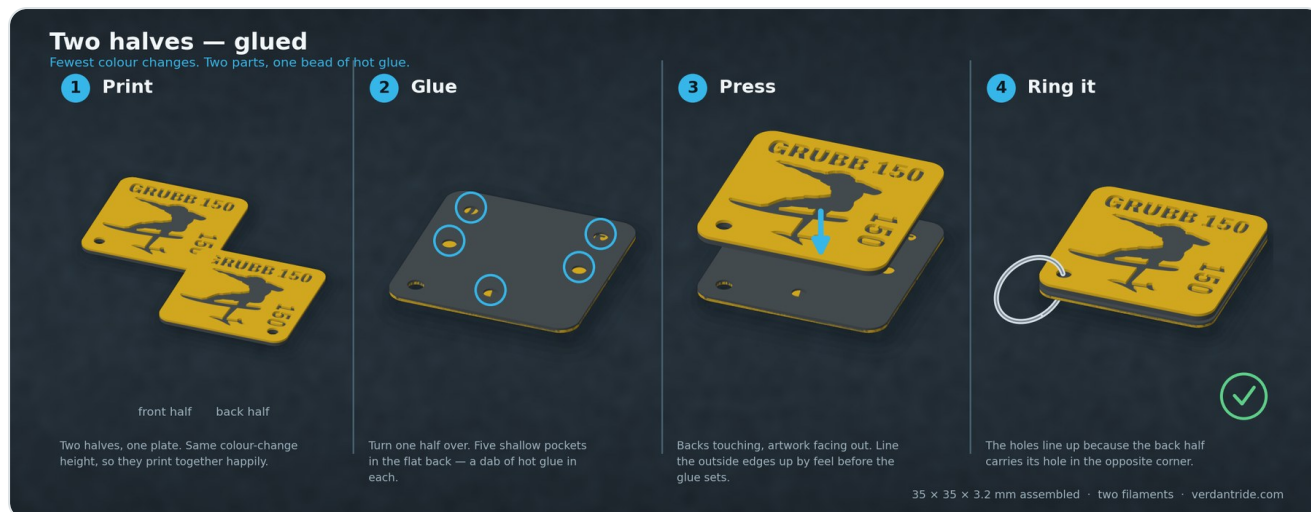
The front face is a recess: the plate is cut away and the colour underneath shows through. That is cheap — one change on the way up.

The back face cannot work that way. A recess on a downward-facing surface would leave the counters of letters like **O** and **0** as loose islands sitting on the build plate. So the back is a **flush inlay** instead: both colours laid down side by side within the same layers, holding each other in place. It reads perfectly and it prints reliably — it just means the printer swaps filament repeatedly through the first 0.6 mm.

## BUILD TWO · 3.2 MM · TWO PARTS

## GLUED HALVES

Two flat halves, both on one plate, glued back to back. The quickest to print and the least demanding on the printer — one filament change per half and nothing else.



1

## PRINT

Open <wing>-glue-pair.3mf. Both halves are already on the plate with both colours assigned.

2

## GLUE

Turn one half over. Five shallow pockets in the flat back — a dab of hot glue in each. They stop the glue squeezing out at the edges.

3

## PRESS

Backs touching, artwork facing out. Line the outside edges up by feel before it sets; the halves are exactly the same size, so flush edges means aligned.

4

## RING IT

The holes line up because the back half carries its hole in the opposite corner. If they do not, you have two of the same half.

## IF THE HOLES DO NOT LINE UP

You have printed two front halves or two back halves. The pair on the plate is deliberately not identical: - front - half has its keyring hole in the left corner, - back - half in the right, so that once the back one is turned over the two holes meet.

The five glue pockets are mirror-symmetric about the vertical centreline for the same reason — turn a half over and they still land on top of each other.

BUILD THREE · 2.4 MM · TWO PARTS

# SNAP TOGETHER

A tray and an insert that press together and stay together. No glue anywhere, the thinnest of the three, and the cleanest edge once it is closed.

### Tray and insert — snap together

No glue at all. The keyring is what holds it shut.

#### 1 Print



tray      insert

A tray and an insert. Give them separate plates — same-colour layers print far better together.

#### 2 Press it in



Artwork up. The lead-in chamfer starts it, then it presses down until it bottoms out on the floor.

#### 3 Ring it



The ring threads both parts at once. It cannot push in any further and it cannot lift back out.

35 × 35 × 2.4 mm · 0.20 mm press fit · verdantride.com

## 1 PRINT

Give the tray and the insert **separate plates** — see overleaf for why. Both are in <wing>-snap.3mf.

## 2 PRESS IT IN

Artwork up. The lead-in chamfer starts it, then it presses down with thumb pressure until it bottoms out on the tray floor.

## 3 RING IT

The ring threads both parts at once. The insert cannot push in any further and it cannot lift back out.

## THE FIT

|                                                  |         |
|--------------------------------------------------|---------|
| Clearance — insert to cavity, per side           | 0.20 mm |
| Lead-in — chamfer round the bottom of the insert | 0.4 mm  |
| Wall — two clean perimeters at a 0.4 nozzle      | 1.2 mm  |
| Floor — three layers at 0.2 mm                   | 0.6 mm  |

### TOO TIGHT, OR TOO LOOSE?

That is your printer, not the model. Open `shellkit.py` in the generator, change `clear` in the class named `S`, and regenerate: **0.15 mm** for a printer that runs tight, **0.25 mm** for one that runs loose. Everything downstream follows from that one number.

The insert bottoms out on the tray floor rather than floating on side friction, so a finished tag is effectively solid rather than a hollow shell.

verdantride.com

05

DOING ALL 23 AT ONCE

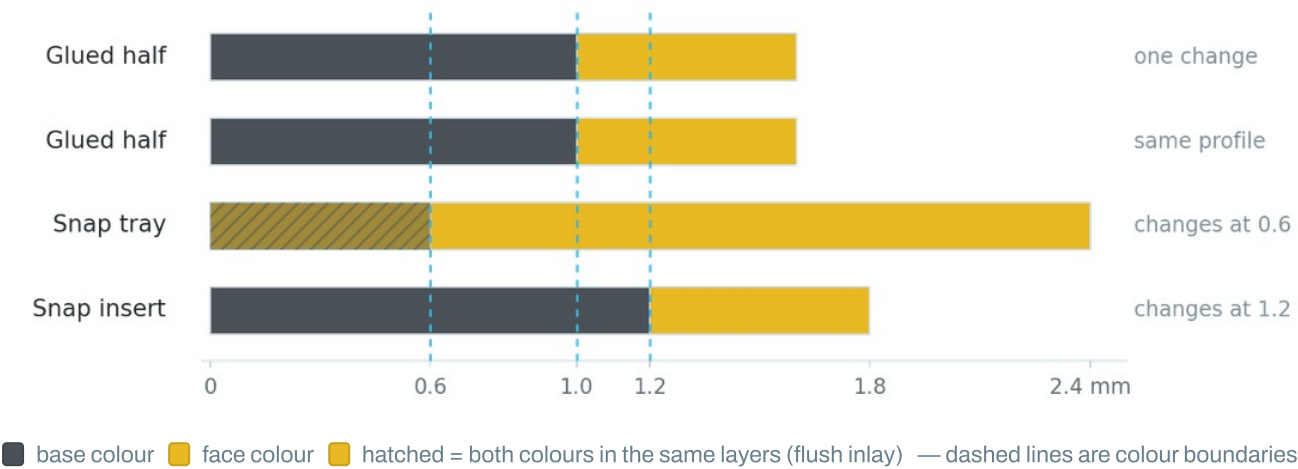
# PRINTING THE WHOLE SET

Each build has a project file with every wing already arranged on Bambu X1C plates, 25 tags to a plate. Open it, and slice the plates one at a time.

| FILE                                        | PLATES | PARTS |
|---------------------------------------------|--------|-------|
| all-23-one-piece.3mf                        | 1      | 23    |
| all-23-glue-halves.3mf                      | 2      | 46    |
| all-23-snap.3mf — trays first, then inserts | 2      | 46    |

## WHY TRAYS AND INSERTS NEVER SHARE A BED

A filament change costs time and a purge. What decides how many you pay for is not how many objects are on the plate — it is whether they all change colour at the **same height**. Put parts with matching profiles together and the whole plate costs two changes. Mix them and the printer swaps on nearly every layer until the last boundary is past.



### THE SHORT VERSION

Two glued halves share a profile exactly, so they happily share a plate. A snap tray changes at 0.6 mm and its insert at 1.2 mm, so together they would cost a change nearly every layer for the first millimetre and a half. That is the only reason the snap download is four plates instead of two.

## REFERENCE

# PRINT SETTINGS

Defaults work. Nothing here needs tuning, and none of it is fussy — these are small flat parts with no overhangs anywhere.

## SETTING

|                                                                                                                                                                 |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Layer height</b> — 0.08–0.12 mm makes the small text noticeably crisper if you do not mind the wait                                                          | 0.2 mm |
| <b>Nozzle</b> — the thinnest feature in the artwork is about 0.84 mm, which is two extrusions at 0.4. A 0.6 mm nozzle starts losing the mast and the front foil | 0.4 mm |
| <b>Infill</b> — at this thickness the part is nearly solid whatever you pick                                                                                    | any    |
| <b>Supports</b> — nothing overhangs                                                                                                                             | none   |
| <b>Brim</b> — the footprint is 35 mm square and flat                                                                                                            | none   |
| <b>Build plate</b> — everything prints artwork-up, so the plate texture lands on a face you do not look at                                                      | any    |

## COLOUR BOUNDARIES

The 3MFs already carry both colours. Use this table only if you are working from the STLs and adding the change by hand. Every boundary lands on a layer line at 0.2, 0.1, 0.08 and 0.05 mm.

| PART                                                      | CHANGE AT |
|-----------------------------------------------------------|-----------|
| <b>Glued half</b> — base colour below, face colour above  | 1.0 mm    |
| <b>Snap insert</b> — base colour below, face colour above | 1.2 mm    |
| <b>One piece</b> — front face only                        | 2.6 mm    |
| <b>Snap tray</b> — one colour throughout                  | no change |

### WHAT THE STLs CANNOT SAY

The one-piece tag and the snap tray both carry their back artwork as a flush inlay — two colours side by side within the same layers, rather than one stacked on the other. A single-material STL has no way to describe that, so on those two parts the back face comes out blank. Use the 3MF if you want both faces to read.

Printed in a single colour everything still looks decent, mind: the front artwork is a 0.6 mm engrave, so it reads as a recessed design rather than vanishing.

### CHOOSING COLOURS

Base colour in slot 1, face colour in slot 2. The original is grey behind yellow. Any pair works as long as there is contrast — go dark behind light, or light behind dark, so the wing name reads across a beach car park.

THE SET

# ALL {N} WINGS

Current production and discontinued. Areas, spans and {SOURCES} Faded tiles are wings {MAKER} no longer sells.

CRUISER 2



**Cruiser 1100**  
1126 cm<sup>2</sup> · 75 cm · AR  
4.95



**Cruiser 1800**  
1826 cm<sup>2</sup> · 93 cm · AR  
4.74

CRUISER JET 3



**Cruiser Jet 1500 C**  
1529 cm<sup>2</sup> · 94 cm · AR  
5.83



**Cruiser Jet 1500**  
1529 cm<sup>2</sup> · 94 cm · AR  
5.83



**Cruiser Jet 1800**  
1817 cm<sup>2</sup> · 104 cm · AR  
5.9

FLOW 5



**Flow 900**  
896 cm<sup>2</sup> · 82 cm · AR  
7.43



**Flow 900 C**  
896 cm<sup>2</sup> · 82 cm · AR  
7.43



**Flow 1100**  
1099 cm<sup>2</sup> · 90 cm · AR  
7.44



**Flow 1100 C**  
1099 cm<sup>2</sup> · 90 cm · AR  
7.44



**Flow 1300**  
1331 cm<sup>2</sup> · 100 cm

FLOW S 5



**Flow S 900**  
863 cm<sup>2</sup> · 70 cm · AR  
5.74



**Flow S 1100**  
1059 cm<sup>2</sup> · 78 cm · AR  
5.75



**Flow S 1100 C**  
1059 cm<sup>2</sup> · 78 cm · AR  
5.75



**Flow S 1300 C**  
1283 cm<sup>2</sup> · 86 cm · AR  
5.69



**Flow S 1300**  
1314 cm<sup>2</sup> · 86 cm · AR  
5.7

MN

1



**MN 1300 C**  
1294 cm<sup>2</sup> · 96 cm · AR  
7.11

RACE

1



**Race 700**  
697 cm<sup>2</sup> · 79 cm · AR  
9.02

WAVE

2



**Wave 850 C**  
851 cm<sup>2</sup> · 90 cm · AR  
9.48



**Wave 1000 C**  
1010 cm<sup>2</sup> · 89 cm · AR  
7.88

FLUX

3



**FLUX 707 AB**  
707 cm<sup>2</sup> · 77 cm · AR  
8.5



**FLUX 808 AB**  
808 cm<sup>2</sup> · 85 cm · AR  
8.7



**FLUX 1010 AB**  
1010 cm<sup>2</sup> · 92 cm · AR  
8.5

FLYER

1



**Flyer 800**  
828 cm<sup>2</sup> · 74 cm · AR  
6.7

## MAKING IT YOURS

## ADDING A WING

Flite will release something new. When they do, you do not need CAD — the whole set is generated by a Python script driven by a CSV, and adding a wing is one line.

**THREE COMMANDS**

```
pip install trimesh shapely manifold3d mapbox_earcut fonttools numpy
cd generator # then add a row to wings.csv:
name,number,series,status,span_cm,area_cm2,aspect,notes
python3 genall2.py
```

That regenerates all three builds, the STLs, the previews and the multi-plate files for every wing in the CSV, in about a minute.

### THREE RULES THE DESIGN DEPENDS ON

**Recesses only on upward faces.** A recess on a downward face leaves the counters of letters like O and 0 as loose islands on the build plate. Anything that has to read from underneath is a flush inlay instead.

**Artwork must clear both bottom corners.** The keyring hole sits in the left corner on one half and the right corner on the other, so the size number sits at mid-height up the right edge rather than down in a corner.

**Glue pockets stay mirror-symmetric** about the vertical centreline, or they will not meet when the back half is turned over.

### WHERE THE NUMBERS LIVE

Every dimension is a class attribute at the top of `shellkit.py` — S for the shell and insert, G for the glued halves, 0 for the one-piece. Change one and rerun; nothing is hard-coded downstream.

### LICENCE

Free to print, remix and share. Sell prints if you like. A link back to [verdantride.com](http://verdantride.com) is appreciated but not required. Typeface is Archivo Condensed ExtraBold under the SIL Open Font License.

Wings, sizes and model names are trademarks of Fliteboard. This is an unofficial community project and is not affiliated with or endorsed by Fliteboard.

Found a wrong spec, a missing wing, or a tag that will not print right? Tell us at **[verdantride.com](http://verdantride.com)** and we will fix it.