



Emek Timer Watch Back Cap by Muddy Bloody Factory



HomeGrown3D

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Summary

A bolt back cap for Planet Eclipse Emek 100 paintball markers. Mounts a Casio watch for keeping track of game time.

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A design by <https://muddybloody.com/>

Background:

The design that started it all for me! My first attempt at these I hired some random guy to design one. He did a terrible job and while trying to instruct him to fix it I just designed one myself.

Rodney Squires from Dynasty hit me up saying he liked my back cap, but he wanted a bigger screen for the watch. After both of us looked for hours and hours, in terms of durability, size, and having a programmable countdown timer function, the best we could find was the f201. I was a bit better at design when I did my revision so I think it is a bit cleaner.

Two Different Versions

-My original back cap, for the Casio watch F91W.

-Then the newest revision, for the Casio watch F201. There are several versions of the F201 watch, all that I tried seemed to work.

Design, Function, and Set Up

The two tabs are supposed to smush in for tension on the watch. You will need to use the tool that comes with the spring bars, or a tiny screw driver, etc. to suppress the spring bar while you put the watch on.

If you buy the F201 watch you can just rip the watch bands out. The f91w seemed to like more finesse with suppressing the bar before you take it off, if you don't it tore the watch plastic.

Parts and Watches (amazon affiliate links, I earn from qualifying purchases)

A single 1.5 x 18mm watch Spring Bar
(pack of 6 with tool linked)

<https://amzn.to/3Lmq5VQ>

Recommended Casio F201-1A

<https://amzn.to/3LrguwZ>

Also Casio f91w, neat if you like colors, but not as nice as the f201 in terms of function

<https://amzn.to/3LFynIP>

Sourcing

Both printed great for me on <https://www.shapeways.com/> and <https://www.jawstec.com/>.

Shapeways refused to list it on my shapeways store because the thin spring bar wall would not print consistently enough for them to be happy. I'd really suggest ordering these from a place like jawstec or <https://facfox.com/> Get a sample first, and then for your whole team at a time, and/or to resell them. Please give me credit when you do! Consider donating if you make money from these!

Home Printing

The thin wall for the spring bar is the problem with both outsourcing, and more so, home printing.

I haven't printed one of these in a while and I am a lot better at printing now so take this with some grain of salt.

I found these worked great in PLA+, but PLA+ isn't the best in the heat. I had real mixed results with PETG. Sometimes I could get the thin wall to hit, other times I couldn't.

Now I reckon I could probably do it in petg and trust it. Not sure how durable it would be if shot. I think the watch would hide most of the weak parts but who knows.

I will print another one and update this description at some point.

You are going to have to print these with supports and it may take a bit of effort to dial it in.

I liked printing with the 3 pegs down on the plate. Very slow first layers really helped with the printing the pegs. Same with a higher x/y distance on the support settings so that the supports didn't mess with the three

pegs.

Inspiration and Sources

The original design was based off of this stand:

<https://www.thingiverse.com/thing:3350479>

Happy printing and I hope these help you destroy your opponents on the field! Feel free to sell them, but please give me credit and respect the sentiment of a Attribution - Share Alike license.

-Jacob @ Muddy Bloody Factory <https://muddybloody.com/>

Model files



muddy-bloody-factory-emek-timer-back-cap-f91w.stl



muddy-bloody-factory-emek-timer-back-cap-f201.stl

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