
Subject: enough clearance?

Posted by [sykocus](#) on Thu, 02 Aug 2012 05:44:52 GMT

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I'm designing a cradle to hold a GoPro camera to the bottom of an AR Drone. It's obviously not complete, but I wanted to make sure I had designed the clearances for the male and female sections that join the two halves correctly. This doing 3d modeling. Right now I have a .5mm clearance on each side, but that leaves the parts with a 1mm wall which is close to the minium. Should I make the walls thicker? I would like the parts to fit together as snugly as possible, can I reduce the clearance any? My plan is to use strong and flexible plastic, polished.

My overall goal it to make it light. Strength is not as much of a factor, but I don't want it to fall apart under it's own weight. It just doesn't have to survive a 50' drop.

File Attachments

1) [Screen Shot 2012-08-02 at 3.16.28 PM.png](#), downloaded 52 times

2) [gopromount.skp](#), downloaded 47 times

Subject: Re: enough clearance?

Posted by [sykocus](#) on Sat, 04 Aug 2012 07:38:48 GMT

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Well I've thrown that design out in favor of a one piece frame that's open in the back and a piece of plastic that snaps in the back to hold the camera in place. I could forego the snap and just wrap a rubber band around the whole thing, but that wouldn't be as fun. I'm wondering what kind of clearance I should use between the snap and the frame. If I use the .5mm I think it would be too lose. As I understand it the main reason for using .5mm is to keep the parts from fusing during printing if they are being printed in place. However if the parts are printed separately what kind of clearance can I get away with? Also I'm wondering about the dimension of the snap tab. Is it going to be both strong and flexible enough? Anyone's experience is welcome as I have none.

Thanks

File Attachments

1) [GoProMount3.skp](#), downloaded 29 times

Subject: Re: enough clearance?

Posted by [stonysmith](#) on Sat, 04 Aug 2012 17:53:24 GMT

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For separately printed parts, you might actually consider "negative clearance" - make the parts slightly overlap. Then, when you receive the peice, do some sanding to optimize the fit. This would ensure that it's not too loose.

Subject: Re: enough clearance?

Posted by [sykocus](#) on Mon, 06 Aug 2012 00:29:26 GMT

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Thanks for the suggestion. Any thoughts on the durability? The part that's going to doing most of the flexing is only 1mm thick. I'm hoping it's thin enough to be flexible but isnt going to break too easily.
