Subject: Control Stick Grip
Posted by Jinkers on Thu, 21 Mar 2013 21:03:59 GMT
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I'm new to the forums and new to 3D printing, but why let that stop me...

I am currently building a amateur home built light sport aircraft (Air-Bike if anyone is interested) and have been experimenting with ways to build it cheaper, lighter or just use new and creative methods. One of the items to be built or purchased is the control stick grip. There are certainly commercially available grips to be used but the ones I am looking at are in the $200-500 range. I was thinking that with the advances in 3D printing that designing my own grip and having it printed would be a unique and fun challenge and might save me some money.

A mic push button and hat switch for radio management can be had for around $20 total so if I could have the grip itself printed for $180 or less I would break even on cost. I have been looking around and believe that a simplified version of the B-8 fighter stick grip would be just about perfect. remove the trigger, thumb button and pinky switch and it's just what I'm looking for.

However, before I spend to much time working this up in Inventor I'd like to hear some "expert" opinions on what material would work best and what kind of cost I'd be looking at for a one off?

Thanks!

Scott

Subject: Re: Control Stick Grip
Posted by stonysmith on Thu, 21 Mar 2013 22:14:15 GMT
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The price shouldn't be all that bad. If it's 2" in diameter and 6" tall.. it should run less than $100 for printing:
http://stonysmith.com/wired/VolumeEstimator.asp?L=50&W=5 0&H=152&T=3&S=1
of course, you'll need to allow some markup on top of that for the designer.

Subject: Re: Control Stick Grip
Posted by Jinkers on Fri, 22 Mar 2013 14:48:17 GMT
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Thanks, That sound like it's in the ball park.

Any suggestion of the best material to use? The grip should be pretty strong without any flexing in normal use.

I am also wondering if it would be better to make it in two halves or if one piece would work better. Two halves would make wiring the switches easier but requires a very smooth surface where they join. Any thoughts on this?

Thanks!

Subject: Re: Control Stick Grip
Posted by tomrust on Wed, 27 Mar 2013 03:46:40 GMT
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Hollow stick will cost much less. Make it with pwsf or wsf- 1mm walls will be plenty rigid.
Yes making it in 1/2s will make it simple to add switches. Keep all the buttons on one side.
Is this the gyrocopter bike?

Subject: Re: Control Stick Grip
Posted by Jinkers on Wed, 27 Mar 2013 13:23:08 GMT
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Thanks Tom,

I was planning on 3 mils but if I can get it down to 1 that would save a lot of $$$. If I used the dyed pwsf would that change anything? How well does the pwsf take paint?

The Air-Bike is a single seat LS sport fixed wing airplane. I think that there is a Skybike that is is a gyro and a Skycycle that is a single seat helicopter. Gyros & Heli's have too many moving parts for my liking

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Subject: Re: Control Stick Grip
Posted by tomrust on Wed, 27 Mar 2013 19:59:31 GMT
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We have dyed both wsf & pwsf using iPoly dyes, mainly black. We have an ongoing forum note on it.

Dont know about painting, we have not done that, but Im fairly sure a number of other people have.
Looks like a fun plane - I fly hang gliders myself - used to fly power 40 years ago.
Buddy of mine is helping on a gyro bike project, thats why I asked.
If you need some help designing, let me know - Id be happy yo help. We also get 10% discounts as we do some volume with several 3D companies.