

iPod Touch® Holder for Photography

By R. G. Sparber

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This project is ideal for those new to the hobby of machining. The material machines easily, will not hurt the cutter if there is a tool crash, and is low in cost. Furthermore, accuracy demands are very low by machining standards. If you are within 1/16", it will be fine.



Although I do take a lot of pictures, my equipment is rather modest. In fact, my best camera is my iPod touch 5th generation. It can take both still pictures and videos.

The problem was the lack of mount hardware. How do I put my iPod on my magnetic camera support². The solution is shown here. A simple U shaped holder with side grooves milled into it. My iPod drops in the top ready to go. The material is soft so it does not scratch the device yet strong enough.

A secondary problem solved with this design was given to me by my good friend Rod Grantham. He introduced me to expanded PVC planks sold by Lowe's³. This material is a wonderful solution, but until now, I didn't know the problem it solved.

The great solution of expanded PVC and the problem to be solved came together in supporting my iPod touch.

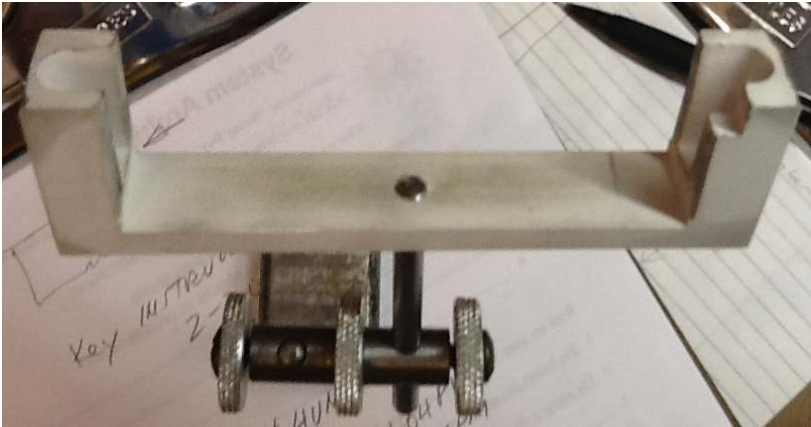
¹ You are free to copy and distribute this document but not change it.

² For details, see <http://rick.sparber.org/rcp.pdf>

³ EverTrue 0.75-in x 3.5-in x 8-ft Exterior Paint Grade PVC S4S



The notch on the right tells me how to orient the iPod in the holder so the camera lens is on top. It also gives me a little more room to reach the power button.

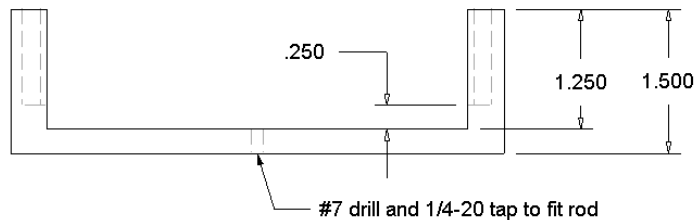
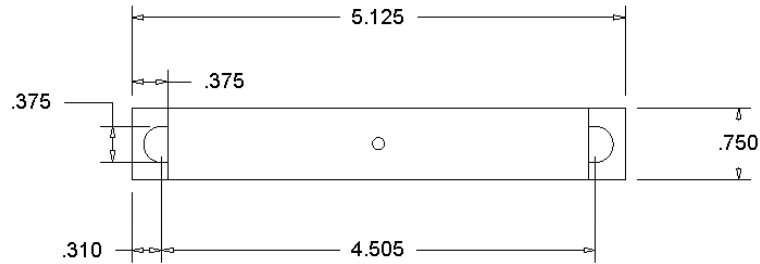
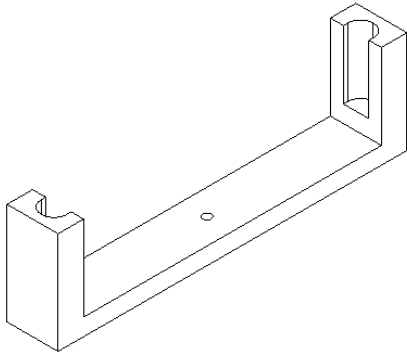


This expanded PVC has some give. I drilled the hole in the bottom with a #7 drill and then ran a 1/4-20 tap through it. The hole took the threads but also shrank a little. This was a help because when I screwed in a piece of 1/4" cold rolled steel rod that had the end threaded, the rod and holder held very tightly. No need for a lock nut.

Shop Work

iPod touch(r) 5th Generation Holder for Camera Mount

material: expanded PVC



Expanded PVC machines almost as easily as wax. I started by sawing off a $5 \frac{1}{4}$ " length of material which is $3 \frac{1}{2}$ " wide and $\frac{3}{4}$ " thick. Then I roughly cut out unwanted material. I cut such that the bottom of the part has a finished surface. It became my reference primary surface.

Moving to my mill, I installed a $\frac{3}{8}$ " diameter 2 flute end mill. The rough cut part was placed flat in my vise so I could reach the end. The reference surface was placed against my fixed jaw.

I then milled the overall length to $5 \frac{1}{8}$ ". Next, the part was put down on its one finished edge and the height machined to $1 \frac{1}{2}$ ". The end flanks of the posts were side milled and the bottom of the U end milled.

My end mill was then raised $\frac{1}{4}$ " and centered front to back so the two notches could be machined. All work was all done by eye or with a steel ruler. I wanted a loose fit between holder and iPod touch but certainly not so loose that it could fall out.

The final step was to drill and tap the mounting hole. I already had a spare 1/4" diameter CRS rod with the end threaded.

I welcome your comments and questions.

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