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Subject: Threading

Posted by [dskarol](#) on Mon, 18 Jul 2011 17:57:20 GMT

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Hello!

I have an assembly with four holes that need to be threaded in order for me to assemble it properly.

I have:

3/8-16" Hole for a shoulder bolt

NPT 1/8" or 1/4" hole at the end of a peg for a pneumatic tubing insert

10-24 through hole for a pneumatic cylinder rod

7/16-20 through hole for a pneumatic cylinder mounting nut

After having a suction cup printed out of WSF i'm reasonably certain I can make threads fine enough for the 3/8-16 hole with the model directly.

How would you suggest i make these threads? Another thread suggested that i should take a look at threading inserts. McMaster-Carr carries a wide range of options and Im having a hard time selecting the correct option and accounting for material flex and stress.

<http://www.mcmaster.com/#threaded-inserts>

It would be significantly easier if I could directly tap the material, does any one have experience doing this? Im planing on making all of these pieces out of WSF or ALUMIDE.

-Daniel Karol

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Subject: Re: Threading

Posted by [ahncinema](#) on Wed, 20 Jul 2011 18:19:18 GMT

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I have hand-tapped 1/4"-20 and 3/8"-16 holes directly into WSF with reasonable success. The material taps very cleanly, but as you alluded, there is a certain amount of flex to take into consideration. If you're tapping the holes in order to permanently screw two pieces together, there's no reason hand-tapping should be a problem. If, like me, you need to be able to insert and remove screws with some frequency, the tapped holes tend to be a little snug. My solution was to have the model nickel-plated and have the coating facility continuously tap the holes throughout

the process. That way, you get clean, mechanically perfect threaded holes and there's less chance of the threads stripping or wearing out.

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Subject: Re: Threading

Posted by [dskarol](#) on Wed, 20 Jul 2011 18:39:59 GMT

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Thanks albasicdude,

It sounds like for the larger holes, I should go ahead and tap them directly, For the smaller holes, especially NPT 1/8", Im a little concerned. NPT threading wraps around a cone shape instead of the traditional threading's cylindrical profile.

With luck (and probably a lot of it) once these pieces are assembled I will never need to take them apart again.

-Dan

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