

# Starting Holes On Domes and The Ends of Rods, Version 1.1

---

By **R. G. Sparber**

Protected by Creative Commons.<sup>1</sup>

This idea was brought to my attention by Nelson Collar. Thanks Nelson!



It is sometimes necessary for me to drill out a rivet. The drill tends to slide off the head until I cut a small divot. Then the job is easy. A trick is needed to get the drill centered.



One answer is to make a drill guide. Nothing fancy.



Take the drill you want to use on the rivet head and drill through the end of a piece of scrap metal. I'm using aluminum here. If the tool is going to see a lot of action, you could use steel or even press in a hardened drill guide. The drill guide hole must be smaller than the diameter of the dome.

Then drill a countersink. I wanted to try something different so used a ball end mill but this would only work well if the radii matched. The straight sides of the countersink will fit more sizes of domes.

---

<sup>1</sup> This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.



Poke the drill through your new drill guide with the countersunk side facing towards the point of the drill.



Place the assembly over the rivet head and adjust the top face of the guide so it is perpendicular to its major axis. You are now centered.

Once you have drilled in enough to cut a starting hole, you can remove the guide and finish the job.



Here you see the top of the rivet almost cut off. I did have to adjust my drilling angle to stay centered but



the starting hole was nicely centered.



This drill guide works equally well on the end of a rod.



## Acknowledgement

Thanks to Nelson Collar for showing me this trick. Thanks to Anthony Nagy for improving the clarity of this article.

I welcome your comments and questions.

If you wish to be contacted each time I publish an article, email me with just "Article Alias" in the subject line.

Rick Sparber

[Rgsparber.ha@gmail.com](mailto:Rgsparber.ha@gmail.com)

[Rick.Sparber.org](http://Rick.Sparber.org)