



## RIVET REMOVAL DRILL GUIDE

BY JOE NORRIS

**THE FEBRUARY ISSUE OF *EAA Sport Aviation*** contained a hint for removing defective rivets that works well if you have just a few to remove. Ken Pavlou, EAA 603659, has submitted a method that is especially useful if you have a large number of rivets to remove.

Ken's idea is based on a drill guide that makes drilling into the exact center of the rivet easier by assuring that you're lined up with the center of the rivet every time. He made his out of scrap aluminum. If you have a lot of rivets to drill out, you may want to make the drill guide out of steel instead, as this may give it a longer service life.

The drill guide will be specific to the size of the rivet being removed. Ken's is for 3/16-inch rivets. Ken explains how he made it and how it's used:

The procedure consists of drilling through the center of the rivet, snapping off the head, and then punching out the rivet with a pin punch and hammer.

I made a self-aligning drilling guide to drill out the center of the rivet out of 1-inch square aluminum bar stock cut into a "T" section profile. A 5/32-inch hole is drilled through the middle. The hole is then countersunk a little at a time to fit the factory rivet head perfectly. This will align the hole in the guide with the exact center of the rivet being removed.

The guide is placed over the rivet and clamped on each side. A 5/32-inch bit is used to drill into the rivet to within 1/8 inch of the opposite end. The guide is removed and a pin punch is used to snap the rivet head off with a sideways motion. The rivet is then punched out as mentioned above.

This method preserves the hole and allows the use of the same size rivet. The entire procedure takes about two minutes per rivet.

The method Ken devised is a modified version of a procedure called the Navy method for removing solid rivets. (Access



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links to the original Navy method at [www.SportAviation.org](http://www.SportAviation.org).) Ken simplified the Navy method by eliminating the second step of drilling just through the head with a larger drill. He found that drilling down the center was sufficient to allow the head to be snapped off on the rivets he was working with. On some larger rivets you may need to perform the extra step of drilling through the head, using a drill the same size as the rivet diameter.

It may take time to make the drill guide, but if you have a significant number of rivets to remove, you may save time overall. Remember that you'll have to make a different drill guide for each size rivet you need to remove because the guides are custom-fitted to the diameter and head size of the rivets being removed.

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