

Axial Alignment Welding Fixture, version 1

By R. G. Sparber

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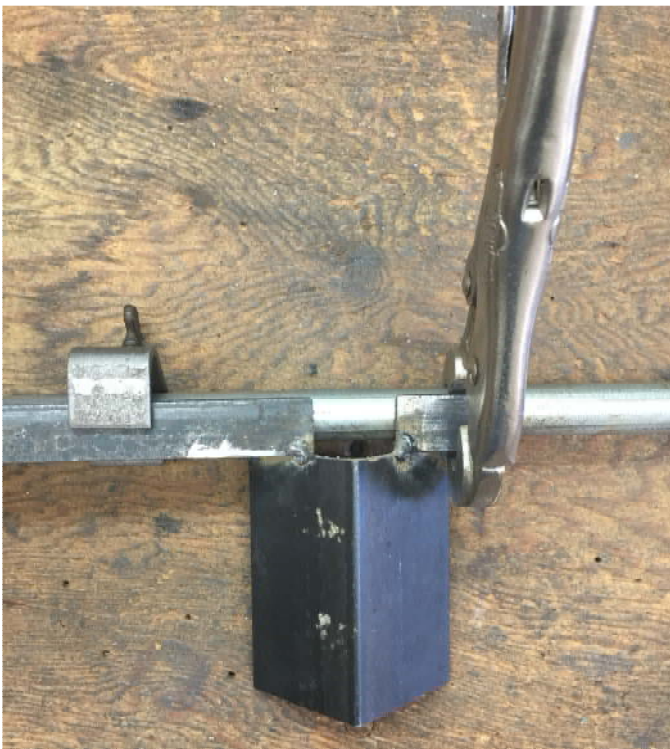


The name is way too fancy for the actual fixture. I needed a way to hold a ¼" diameter rod of CRS and a hex screw driver bit so they would be in alignment plus have room for my MIG welder.

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To make the fixture, I started with an 8" length of 1/2" angle and cut about 2" off the end. Then I clamped the two pieces to a length of EMT conduit. Placing it down on the end of a piece of 2" angle, I adjusted one of the clamps so the two pieces of 1/2" angle rested flat on the end of the 2" angle.



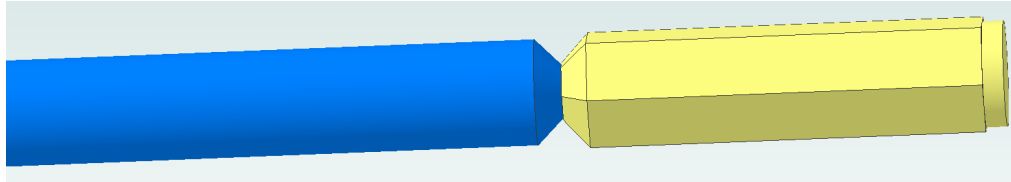
Then I tacked it all together with my MIG welder.



This arrangement gave me a means of aligning two rods of equal diameter while having plenty of room to tack weld. It is best to spray the $\frac{1}{2}$ " angle with anti-spatter before each use.



This is a test run using a broken bit.



I first turned a bevel on the end of the piece of 1/2" CRS

such that I was left with about 1/8" of metal in the center. I then used my belt sander to grind a similar bevel in the bit. They were both clamped into the fixture using VISE-GRIPS®.

It was then easy to tack weld on opposite sides and let it cool. Then I unclamped the part, turned it 90° and tacked on opposite sides. The result looked really ugly but a few seconds on my bench grinder and most of it the ugly was ground off. The bit is very securely attached to the rod. So now I can make slender screwdrivers of just about any length. This will be particularly useful when the need arises and all of the stores are closed.

Care must be taken not to apply too much heat at a time or the bit will lose its temper.

Richard Marchi suggests that drill bits can be secured to the end of a rod too. Great idea!

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.

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