

With this innovative tool, mechanical advantage becomes builder advantage.

BY ED WISCHMEYER

It's hard to find a new tool to get excited about these days, but the new DRDT-2 dimpler from Tucson-based ExperimentalAero (EA) has totally won me over. For years, I'd been content with a C-frame dimpler, first one from Avery Tools and then another from Cleaveland Aircraft Tools, but that changed unexpectedly. After a 90-minute session of drilling holes continuously in tailcone longerons on my under-construction RV-10 kit, with my index finger down for seemingly 89 of those minutes, I was afflicted with a wicked case of lateral epicondylitis (tennis elbow), and



The linkage at the top of the tool is almost over-center, providing tremendous mechanical advantage for easy dimpling.

I've had it for two months now. So how do you keep building when you can just barely lift the brass mallet to dimple with the C-frame?

A visit to fellow RV-10 builder John Ackerman introduced me to the EA dimpler. I'd seen pictures of it before, and, silly me, ho-hummed it. When I borrowed Ackerman's dimpler, however, I found it much easier to use than the C-frame. Why? Because the over-center linkage, similar to that of the Cleaveland Tools "Main Squeeze" hand squeezer, gives you a tremendous mechanical advantage. No iron grip required!

The EA dimpler is much faster than a C-frame, too, because you don't have to

put a mallet down to move the work—the dimpler handle just floats there in mid air, ready for use. In fact, there were many 30-second intervals in which I was able to do 10 dimples—that's screaming! And, because you're squeezing and not banging with a mallet, the EA dimpler is virtually silent in operation—except, of course, for the contented sighs from the operator, of course.

Even on smaller parts, where you don't need the large throat of the dimpler, it's my tool of choice. Why?

The action on my pneumatic hand squeezer can be awkward, and with my puny hand strength, I'm always sore after using it much. The throat length on the dimpler is $22 \frac{1}{4}$ inches, versus $22 \frac{1}{8}$ inches on the long-frame Cleaveland—insignificantly better. I've not yet tried dimpling rib or bulkhead flanges, but the bottom frame is tapered so that it should be simple. And with the handle on the EA unit, you'd think that you would not be able to dimple leading-edge skins; you can, but there's a trick. Put the male dimple die in the top and turn the work over so the handle is out of the way. As you can likely tell from the photos, the EA dimpler is much heavier than a C-frame dimpler—60 pounds versus 13. That's because the tool squeezes the dimple, and the top and bottom arms have to offset that enormous squeezing force. In a C-frame dimpler, the frame does little more than hold the male and female dies in alignment while the mallet does the work. The flip side of this is that a C-frame dimpler can be used to drive rivets, and the EA dimpler can only dimple.

The EA dimpler comes with plans for a neat work platform that allows the dimpler to slide in and out for greater flexibility. The one change I'd suggest is that the table height be raised closer to the top of the male dimple die so you can easily slide the work over the bottom die without scratching the work. I used a piece of carpet with a hole in it to provide this function, but the hole was big enough (about 4 inches across)



The EA DRDT-2 dimpler at hand, RV-10 builder John Ackerman dimples a rudder skin with peak rates of six dimples per minute.



Product Review: **EA DRDT-2 Dimpler**

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EA Dimpler *continued*

that the aluminum could flex slightly to be dimpled without being permanently deformed.

Negatives? You'll still need some sort of squeezer in addition to the dimpler. And the EA squeezer won't fit into tight spaces very well, especially on existing structures like quickbuild assemblies.

The DRDT-2 comes ready to dimple (after minor assembly) for \$333. A kit version is also available—the company's DRDT-2 Front End Kit costs \$145 and includes the dimpling mechanism and frame fabrication drawings. The steel itself is not included, and basic welding skills and tools are required for completion.

My shop has a C-frame dimpler and an expensive pneumatic squeezer. If I had it to do over, I'd think real hard about spending the big bucks first on the ExperimentalAero dimpler and then getting whatever squeezer my remaining budget would allow. ✚

For more information on the dimpler, visit www.kitplanes.com for a direct link to the ExperimentalAero web site.



The business end of the EA dimpler. Note that the male dimple die is well above the plane of the table.