

Starter Wrench

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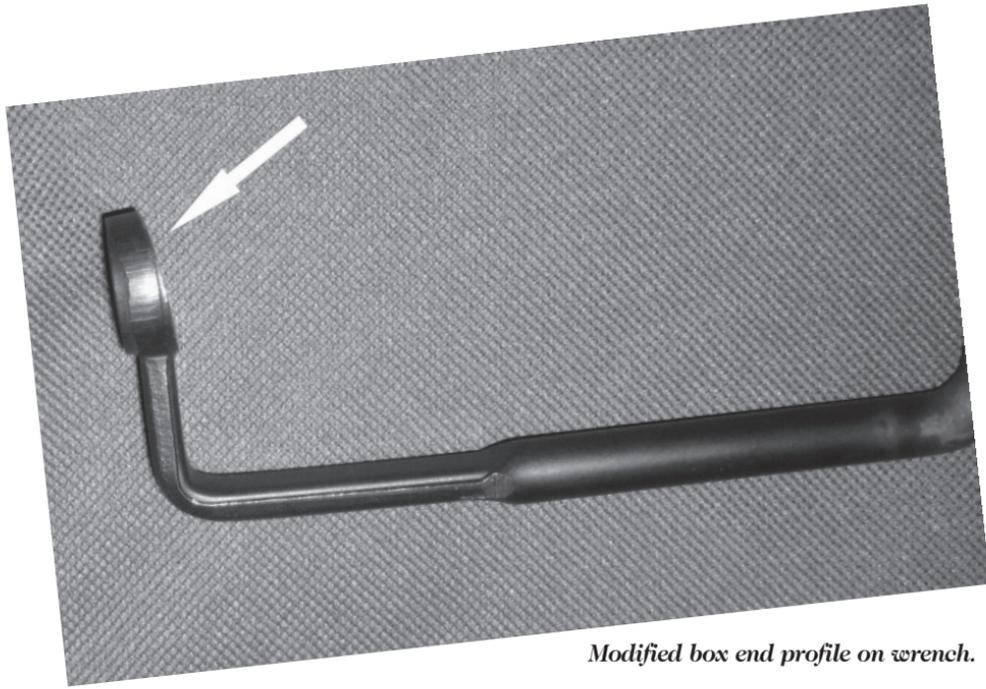
Recently, I rebuilt both of my Twin Comanche's original Prestolite starters with new brushes, bearings, and in one of them, a new armature. In the process, I got to relive the challenge of removing and re-installing the starters.

On the side away from the alternator, the bolt and nut for the stud that attaches the starter to the engine block are easy to get to with an open-end wrench. However, the two nuts on the opposite side (especially the one in the rear) are difficult to access with conventional tools, except perhaps with a crowfoot adaptor on a socket wrench. In my hands, the crowfoot often seems to slip and round off the facets on the nuts before I

can completely remove or tighten them. This is probably because I seem to have a difficult time keeping the crowfoot aligned on the nut without it becoming slightly cocked.

Several years ago, a mechanic friend of mine fashioned a *starter wrench* out of an old Snap-On distributor wrench that worked very well, so I decided to see if I could make one and possibly improve on it.

*Completed
starter
wrench.*



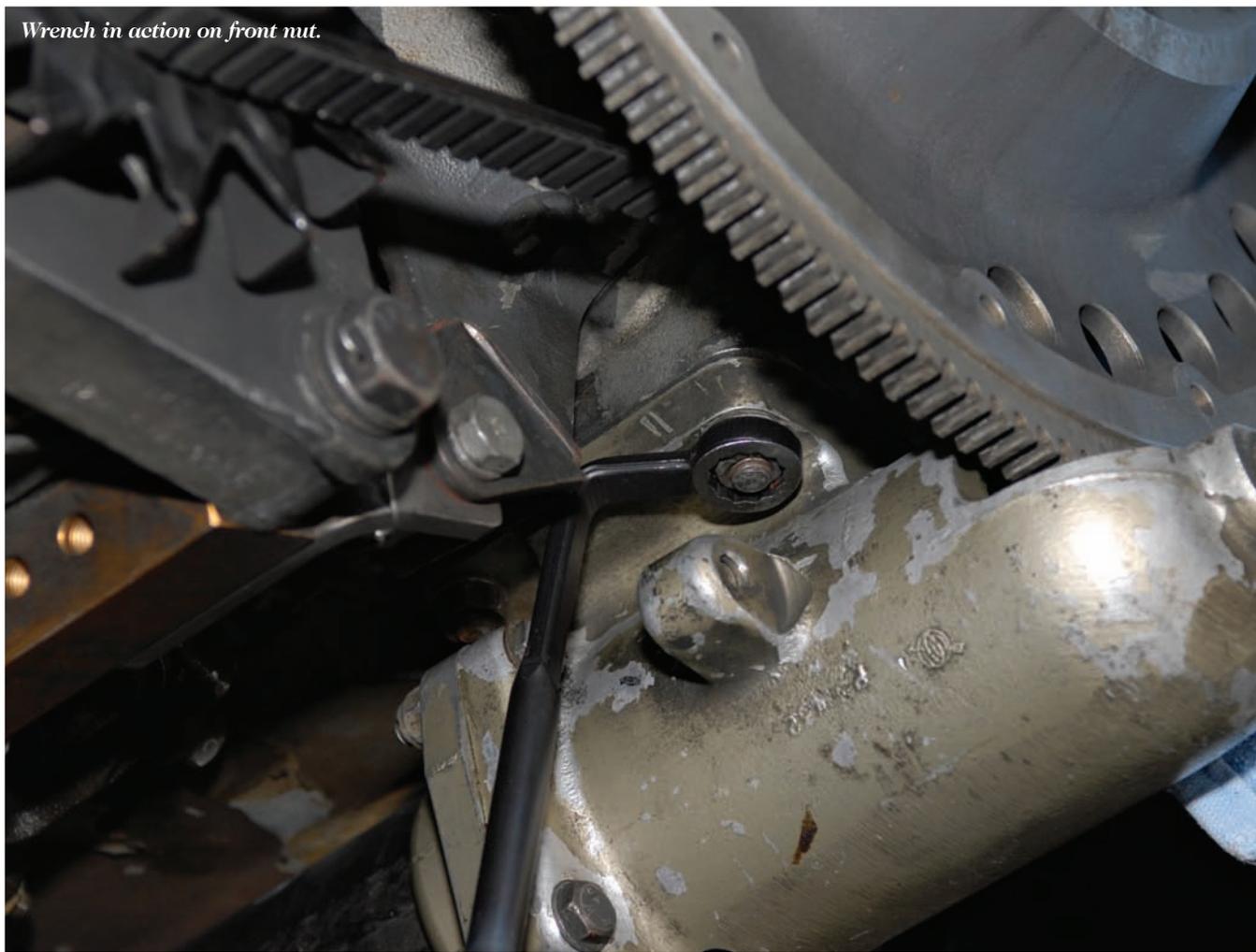
Modified box end profile on wrench.

Right off the bat, I decided against the Snap-On tool modification when I learned they wanted \$56 for their distributor wrench. I did an extensive search on the Internet and found that nobody seemed to be making a starter wrench for airplane engines, but there was a company called

VIM Tools that made a much less expensive version of the Snap-On tool for about one-third the cost. It was the VIM V108 1/2, and I found it to be cheapest at *Toolsource.com*. I obtained one of these wrenches and then started the modification process.

1. First, I cut off a lot of excess wrench handle.
2. Next, I ground down the one-half-inch box end portion of the wrench to give it a thinner profile. This was to accommodate the nearly inaccessible nut on the rear of the starter mounting plate, which is placed very close to the alternator mounting bracket. In addition, there is no room to get a normal box end wrench on that nut because of space limitation between the stud and the starter Bendix housing itself.
3. Finally, I bent the handle on the new tool after heating it with an acetylene torch.
4. Most of us have a number of tools we have fabricated or modified to suit our specific needs in working on airplanes. I doubt that my mechanic friend and I are the only ones who have ever struggled with installing a starter and wondered if there was a better or easier way. This wrench definitely makes my life easier, and it does not slip off the nuts like the crowfoot wrench did. 

Wrench in action on front nut.



Wrench in action on rear nut.

