

A Project for an Afternoon

by Ken McNeil

THREAD CHASERS

We have discussed taps and dies numerous times within these pages. A tap is a tool for cutting inside threads in metal and a die is a tool for cutting outside threads, as on a bolt or threaded rod.

It is pretty typical though, that when you have a bolt or threaded rod, you are going to have an occasional damaged thread. In our June 2010 issue we featured a column on nuts and bolts. One of the points that we made was that there is a certain amount of plasticity in both nuts and bolts, and, by design, they stretch and distort in order to hold tight.

Whether a bolt is damaged from rough use, a slipped wrench or normal stretch that doesn't fully recover, the threads may not allow a nut to run their length without binding or catching. If a new bolt can be used, that is probably the best choice, but it is not always possible or practical. Sometimes an old or original bolt has to be used.

DO NOT use a die to try to clean up those damaged threads. As stated above, a die is designed to cut new threads and when used on a damaged bolt it will cut the metal rather than properly reshape it. The correct tool for straightening or reforming a bolt's threads is known as a 'chase' or 'chaser.' Unfortunately it is a tough tool to find. The local hardware store or home building center has probably never heard of a 'chase.' You will most likely have to go to an industrial supply hardware store or the internet to find a set. Plan on spending \$50 and up (sometimes way up) on a set. And they will include only the most popular diameters/pitches. If you need an odd-ball thread size or pitch, plan on paying big dollars.

Or you can spend just a few pennies and a little time and make your own set. And your set can include whatever sizes you most often use.

First thing is a trip to the hardware store to buy two nuts of every size chase that you

would like to have in your set. The second nut is just in case you make a mistake on the first. It will save you another trip to the store. Don't buy hardened or stainless steel nuts. Just plain, simple grade 1 or 3 will do just fine. While you are at the hardware store, buy a good fine-tooth hacksaw blade. Start with a new, good quality blade. It will save a lot of aggravation later.

Here goes: start with the largest size nut in your new set. The larger sizes are easiest to work with until you get the knack of it. Place the nut in a vise with one flat side parallel to the top of the vise jaws. Cut a slot in the nut, right in the center of the flat. Try to keep the cut straight. It won't make much difference in how the new tool works, but it does look more professional. With a very small, fine file, clean up any burrs in the cut.



You're done! You have your first 'thread chase.' Cut one nut for every size chase that you want in your set the same way.

By cutting the nut you have opened up the inside threads and effectively increased the inside diameter. When you run the new chase up a damaged bolt it will do so easily because the I.D. is greater than the O.D. of the bolt. Use a socket or open-end wrench to work the chase over the damaged section of threads. Normally this is enough to reform the threads to their proper configuration, but if not, use

a Vise Grip® to apply the necessary pressure to close up the chase just a little to help reform the threads.

The only things missing are the laser size designations found on the commercial set. Use a small string tag (available at most stationery stores) to write the diameter/pitch, and hang it from the chase. Not as neat as laser marks but just as effective.

S.K.