

## Tip 72—Accurately Squaring a Thread Die to the Stock/Dave Joseph

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When squaring a thread die to the stock it is absolutely necessary to get the die as square as possible to the stock before starting the cutting. Many people use starting chamfers on the stock and also tailstock die holders, both of which work fairly well but still may not be good enough. With only two to three cutting leads on a die, just a little tilt will send the die off into never, never land and you end up with a jammed die or threads not true to the shaft axis. I use a pin gauge to gauge the inside diameter of the die, which is the approximate minor diameter. I then allow extra stock on the part I'm threading turned to that gauged diameter and approximately equal to the length of the thread die. The die is then simply slid over this sacrificial stock down to where the thread's major diameter starts, a die stock placed on the die and start threading. After threading, the die is removed and the sacrificial stock either parted or turned off. When done properly the die will leave very light scribed lines on the extra stock. If the thread's major diameter and extra stock (minor diameter) are cut at the same time, this technique produces die cut threads that are nearly as perfect as turned threads as far as squareness and runout to the axis are concerned.