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How to remove a stuck bit

If you've loosened the collet nut but the bit won't release, apply a few drops of penetrating lubricant, such as WD-40 or Liquid Wrench, and let it seep into the collet around the bit shank.

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Loose nut, stuck bit



lubricant, such as WD-40 or Liquid Wrench, and let it seep into the collet around the bit shank. Next, hold the spindle with a wrench (or spindle lock, if so equipped). Then, with a thick work glove on your other hand, grab the bit and twist back and forth to free it as shown in the *above*.

Tap in to pop it out

If that doesn't work the bit loose, remove the bearing and washer from the end (if so equipped). With the router standing base-up on a solid surface, hold a hardwood scrap against the bit end (to avoid damaging the threads) and tap it lightly with a mallet or hammer. Although driving it deeper into the collet seems counterproductive, a small amount of movement just might free the bit. If that doesn't loosen the bit, strike the block a little harder as shown in photo *below*.



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Bust the nut loose

If you can't even loosen the collet nut, then support it against a piece of hardwood and tap it lightly with a hammer, as shown *below*. Rotate the nut and tap each face of the nut. Then break it loose with the router wrenches.



Torch it

Still stuck? Then it's time to bring the heat. Use a small propane torch to heat the collet and bit shank, as shown *below*. Rotate the router to spread the heat evenly around the shank. Don't get it red-hot, and avoid directing flame toward the router—you don't want to damage the seals around the spindle bearings. After heating it for a short time, go back to your glove and wrench and twist the bit loose. Repeat until the bit works free.



Where there's a problem, there's a prevention

We spoke to router specialists with several tool manufacturers to get their input on this subject. They shared the following pointers for avoiding stuck bits in the first place.

Problem: Giving up when the nut tightens up after initially loosening

Prevention: Although it might sound funny if you're familiar with self-releasing collets, these experts tell us they've helped countless customers who simply needed to continue loosening their collets after feeling them initially loosen. Self-releasing collets—usually identifiable by a snap ring or other device that holds the collet and nut together—have two "break" points: the initial one, and then about two turns later another that releases the bit.

Problem: Dirty collet

Prevention: Blow out the collet regularly with a blast of compressed air. If needed, clean the



Problem: Dirty bit shanks

Prevention: Wipe router bit shanks with a cloth and mineral spirits; lightly sand with 320-grit abrasive to remove rust or tough grime.

Problem: Overtightened nut

Prevention: You don't need to tighten a collet nut as much as you would bolts while assembling a machine, such as a tablesaw. Instead, tighten the nut only about one-eighth of a turn after it snugs up.

Problem: Bottomed-out bit

Prevention: When installing a bit in the collet, push it to the bottom, and then pull it back up about $\frac{1}{8}$ " before tightening. This gives the collet some room to expand downward while compressing a firm grip on the shank.

Problem: Leaving bits in a router too long

Prevention: If you're not using a bit and it's been in the collet more than a few days, remove it from your router. Humidity can cause rust even inside a collet, and that can seize a bit shank inside the collet.

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