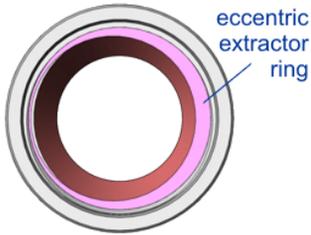


INVENTABLES®

Working with ER Nuts and Collets

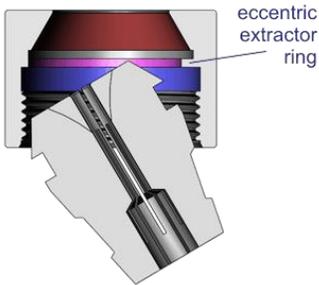
One of the hallmarks of the ER system of nuts, collets, and wrenches is their ease of use. The architecture is reliable, durable and able to provide exceptional performance (low TIR, good balance, excellent tool retention, etc.) in an affordable package. That being said, the following tutorial will no doubt take a VERY easy process and render in all but impenetrable.

If you look down the barrel (threaded portion) of the nut, you will notice an eccentric ring at the top of the threads. This is referred to as an "extractor ring" for reasons that will soon become apparent.



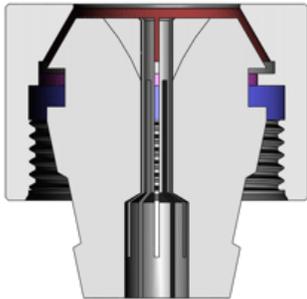
The purpose of this ring is two-fold. First of all, it serves to hold the collet in the nut so that they can be removed and handled as a unit without fear of them falling apart. Second, as the nut is loosened, the ring runs around the groove in the collet and lifts it out of the spindle bore (kind of like running a finger around the lid of a plastic container to remove it). With this kind of system, there is no way for the collet to remain jammed in the spindle as the nut is removed. Automatic collet extraction at its finest.

As far as putting the collet and nut together, the trick is to insert the collet so that the annular groove straddles the extractor ring and the tapered top rim of the collet seats properly into the conical cavity of the nut.



This is easily done by angling the collet up into the nut and pushing it past the extractor ring until the entire top portion of the collet is above the ring.

Now, push on the bottom of the collet until the collet completely enters, and lines up with, the nut. As the collet moves into proper alignment, you will hear and feel a distinct **click**, indicating that the top of the collet is safely secured above the extractor ring.



The nut / collet assembly can now be screwed onto the spindle, loaded with a bit, and made ready to use.

NOTE

NEVER ACTIVATE (TURN ON) A SPINDLE WITHOUT A TOOL SECURELY FASTENED INSIDE THE COLLET, AND THE NUT PROPERLY TIGHTENED. FAILURE TO FOLLOW THIS SIMPLE PRECAUTION COULD LEAD TO DAMAGE TO THE SPINDLE, COLLET, NUT AND ANY UNFORTUNATE BYSTANDER.

Removing the collet from the nut is also quite easy.

1. Remove the nut / collet from the spindle and remove any bits from the collet bore ("DUH" you say, but you would be surprised!).
2. Gripping the nut with one hand, tilt the collet over as far as it will go with the other.
3. While maintaining pressure on the collet, twist the nut until you hear / feel a **click**.
4. The "**click**" indicates that the top rim of the collet groove has completely snapped out of the extractor ring and the collet can be removed from the nut. **Note: with a new nut or collet it might be necessary to also press on the top of the collet with your thumb as you twist the nut to achieve separation.**

