READ FIRST
We know you are eager to use your new GRS Ring Size Cutter. But, PLEASE familiarize yourself with proper installation and operating procedures BEFORE you begin. Improper installation and use could damage your new ring cutter or cause personal injury! Thank you for buying a GRS product.

INSTALLATION
The ring size cutter comes with its handle moved for shipping. You must reposition the handle in order to use it. First, remove the hex-head bolt and spacer located on the cutter crank pin (FIG. 1). Slide the handle out and rotate the cutter crank pin until you can replace the handle as shown in FIG. 2. Replace the hex-head bolt with spacer into the tapped hole in the handle and tighten.

Use the 4 metal screws provided to securely fasten the ring size cutter to a workbench or table top. If these screws are not compatible with your bench top, you must supply a fastener with equal or greater strength. The shearing action requires moderate force on the handle. The cutter must be secured to safely absorb this force without pulling itself loose from the workbench. Be certain that the ring cutter is mounted properly to avoid possible injury.

Most users will want to mount the ring cutter near the front of their bench. We suggest that you mount it back far enough to allow for a “catch tray” under the cutter area to collect the ring slugs. You might consider putting the front mounting screws about 6” in from the edge of your bench. (FIG. 3)

CAUTIONS
Since this tool will cut metals, it will easily cut your finger or most anything else you put under the cutters. You do NOT need to have your fingers near the cutter when actually making a cut. Once you are certain that the ring and cutter are correctly positioned, remove your fingers and smoothly pull the handle.

OPERATION
The ring size cutter is actually a special shearing tool. It works by shearing a selected size of shank material from the bottom of the ring. You control the amount of material removed by selecting the corresponding cutter size. There are seven cutter sizes that come with the USA / British ring cutter: from 1/2” to 2”, in 1/4” increments. These sizes directly relate to ring sizes. Thus, if you want to reduce a ring by 1 ring size, choose the size 1 cutter. It’s that simple. For the metric version there are nine cutter sizes to choose from. Once you have chosen the cutter size, you will then need to correctly install the cutter for use. First lower the handle to its full down position. Now, loosen the adjustment knob (FIG. 4) by turning it counter-clockwise. Install your selected cutter by placing its hole over the crank pin and
then swinging it down between the two cutter bars (FIG. 5).
If necessary, loosen the adjustment knob further to widen
the space between cutter bars.

You are now ready to set the proper clearance for a clean
shear cut. Visually verify that the cutter is hanging between
the open cutter bars. Now, hold the cutter inward with your
finger (FIG. 6) and simultaneously turn the adjusting knob
clockwise until a light squeeze is felt between the cutter
bars and the cutter. DO NOT OVER TIGHTEN! You have
now set the correct clearance for your cut.

Raise the handle up fully and position your ring over the
cutter bars (FIG. 7 & FIG. 8). Now lower the handle to bring
the cutter in proper contact with the ring. After verifying that
the cutter is correctly positioned over the ring (FIG. 9), pull
smoothly downward on the handle until it stops. Your cut is
complete. Raise the handle, remove the ring. BE SURE TO
REMOVE THE RING SLUG from between the cutter bars.

Once you are familiar with cutter selection and adjustment,
you will find it to be a fast and simple process. The ring size
cutter has specially shaped cutters that conform to most
convex ring shanks. Notice that the actual cutting area is a
concave notch. This notch must be positioned properly over
the ring shank to make a clean cut. Fig. 9 shows both the
incorrect and correct cutter positions. Although these figures
are somewhat exaggerated, they illustrate an important
point.

INCORRECT CUTTER POSITIONS CAN PRODUCE
ROUGH CUTS AND DAMAGE THE CUTTERS
THEMSELVES!

If you follow the correct procedure for adjusting the cutter
clearance (FIG. 4 to FIG. 9), you will have little trouble with
this problem. Please be sure that the cutter is correctly
aligned before you pull the handle to cut.

MAINTENANCE
There is very little maintenance required for the ring size
cutter. With proper care, the cutters will provide good
service. This tool is designed to CUT PRECIOUS METAL
ALLOYS ONLY, such as used in jewelry. Do NOT use it
on hard steels, stainless steels, etc. The cutter and cutter
bars are replaceable. You will find the complete parts listing
on the back of these instructions. Cutters may be ordered
individually or in sets.

The cutter crank may need lubricant from time to time. Most
oils or grease will work. You may find small amounts of
metal building up on the cutters and inside the cutter bars.
This build-up can hamper correct cutter clearance since
it keeps the cutter bars further apart. If this happens, just
remove this built-up metal with a small file, but be careful
not to round the cutting edges. You should NEVER attempt
to cut anything that does not fit across BOTH cutter bars.
This tool is designed to cut a notch from a ring or part that
is supported on both sides. It is NOT a one side shear;
using it this way could cause damage.

TIPS: AVOIDING FRUSTRATION
AND RING DAMAGE
The GRS Ring Cutter cuts by shearing. Some ring shank
shapes and softer alloys may be distorted by this cutting
process. Here are some ways to minimize or prevent this:

1. Observe how the ring shank fits the curved area of
the cutter. Some shanks don’t fit the cutter curve well
enough. In a short time you’ll know which rings may
cause problems just by looking at them. You may decide
not to cut some rings with the Ring Cutter. Most jewelers
report using the GRS Ring Cutter well over 80% of
the time. Many tell us they use it virtually 100% once
they understand it. We want to share this actual trade experience because the more you understand, the more you’ll like this wonderful tool.

2. From a lifetime bench jeweler: If you think distortion may be a problem, select the ring cutter that is 1/4 size less than the total you need to remove. After cutting with the ring cutter, close the ring shank but don’t solder it yet. It should now be 1/4 size bigger than the desired final size. Using a rigid separating disc in your flex shaft or rotary handpiece (the standard disc is 0.023" (0.6 mm) wide), cut the ring shank along the same cut shank again. You should now have a nice parallel joint, free from distortion. Now solder and finish. The ring should be the correct size since the separating disc removed the last 1/4 ring size. Note: You shouldn’t need to use this technique often, but it’s nice to know.

3. If the shank is such that it must be sawed, put it in the ring cutter with the correct cutter size. Then, pull down on the handle just enough to slightly mark (with two slight dents) the ring shank with the cutter. These two “dents” will now help guide your saw blade to cut the precise width you need.

4. Use only with gold or silver rings.

5. Always remove the cut piece left between the jaws BEFORE cutting the next ring. This piece stays so it won’t fall and get lost, but you have to remove it (just open the jaws by turning the knob) so it doesn’t interfere with the jaw spacing on your next cut.

COMPLETE RING CUTTERS

- #004-642 Includes complete unit plus 7 USA / British cutters
- #004-643 Includes complete unit plus 9 Metric cutters

REPLACEMENT CUTTER KITS

- #004-585 USA / British Cutter Kit: Includes 7 cutters
- #004-600 Metric Cutter Kit: Includes 9 cutters
# Ring Size Cutter

**PARTS LIST** • USA/British Model #004-642 • Metric Model #004-643

## INDIVIDUAL CUTTERS

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## MAGNETIC STORAGE FOR CUTTERS

1. 004-296 Post, Ring Shear
2. 002-815 Washer, 0.255" x 1/2" x 0.005"
3. *NOTE: When replacing Cutter Bars -BOTH- should be replaced for the ring cutter to work correctly. Factory replacement recommended.
4. 002-900 1/4-20 x 1 1/8" SHCS
5. 004-155 Spacer, Ring Shear
6. 004-292 Spacer
7. 004-271 Right Hand Side Plate
8. 002-536 Nut, 1/4-20 Lock
9. 002-107 1/4-20 x 1/2" SHCS
10. 004-269 Adjustment Shaft
11. 002-901 Spring
12. 002-962 Spring Washer
13. 004-290 Knob
14. 004-584 Crank Pin Assembly
15. 002-490 1/4-20 x 7/8" SHCS
16. 004-195 Spacer, Ring Shear
17. 004-297 Cutter Storage Bar
18. 002-489 1/4-20 x 5/8" SHCK
19. 050-011 0.060 x 1" Magnet Strip
20. 002-554 #10 x 3/4" SMS
21. 002-742 3/16" Hex Wrench
22. 022-211 10 Compartment Box

*NOTE: When replacing Cutter Bars -BOTH- should be replaced for the ring cutter to work correctly. Factory replacement recommended.*

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**GLENDON LLC**

900 Overlander Road • Emporia, KS 66801 USA
800-835-3519 • 620-343-1084 • Fax: 620-343-9640
grs@grstools.com • www.grstools.com
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