INTRODUCTION

GEM® is not a modified power tool; rather, it’s a device that has been designed specifically to cut rings quickly and safely. The abrasive quality of the GEM® discs, not high speed, high power or sharpness, is responsible for cutting. Rings are made from any number of metals and alloys; some are considered soft metals, such as the purer forms of gold and silver and some metals are classified as hard, such as titanium, steel and platinum. GEM® uses a disc made from carbide (blue color-coded #224) to cut rings made of soft metals and a diamond-coated (red color-coded disc #223) to cut hard metals. It is not possible for one disc to cut both types of metals. If you use a diamond-coated disc on a soft metal the powder created by cutting will pack around the diamond coating and will quickly render the disc useless. If you use a carbide disc on hard metals it will chip or even shatter the disc.

SELECTING THE CORRECT GEM® CUTTING DISC

Review the GEM® Quick Reference Chart. It shows which metals each disc type is used for and examples of rings and other constrictions that you might encounter which are made from the material.

Observe the size and appearance of the ring, many rings may appear to be gold or silver but are primarily made from base (hard) metals, with a thin coating of gold or silver. A good example of this is the common school class ring along with most thick or wide silver or gold appearing rings.

Ask the patient if they know what the ring’s material is. This is especially helpful in determining if the ring is made from one of the hard metals such as titanium or platinum. Use the patient’s response along with your own observation of the ring’s general appearance and size to help you make a determination of material.

When in doubt about the ring’s composition, begin using the #224 carbide (blue) disc. If it doesn’t begin to cut immediately change to the #223 diamond (red) disc.
GEM® CUTTING TECHNIQUE

IT’S ESSENTIAL that the correct technique be used. If not, GEM® will not cut correctly and you may damage the drive unit, the cutting discs and the ring that’s being cut.

Remember GEM® relies on friction; not sharpness, high speed or high torque to cut. The disc floats back and forth across the surface of the ring and abrades layer after layer of metal until the ring is cut through. Use the lightest touch. If you press down the motor will stall or stop entirely. The lighter your touch the better your GEM® will cut. Practice, use the practice model and rings included with the system to perfect your technique.

ASSEMBLING GEM®

STEP ONE - Installing the disc. After you’ve selected the correct disc to use, unscrew the disc screw from the mandrel. Push the disc screw through the hole in the center of the disc. With one thumb apply pressure against the mandrel so that it cannot turn, use the small screwdriver supplied with the system to tightly secure the disc to the mandrel.

STEP TWO – Installing the battery cassette in battery-powered GEM®:
(1) unscrew the drive unit’s end cap and load four AA fresh alkaline batteries according to the diagram on the inside of the cassette; (2) slide the cassette into the drive unit in the direction of the arrows on the drive unit and cassette and secure the end cap tightly.

STEP TWO – Connecting AC-Powered GEM® TITANIUM:

(1) Connect AC-adapter to drive unit (2) plug AC-adapter into wall outlet
USING THE GEM® FINGER GUARD

STEP ONE – Lubricate. Apply KY jelly or a similar product to the ring and the surrounding skin surface. This will make positioning the finger guard easier, serve as coolant to absorb heat generated during cutting; and, trap any metal particles that result from cutting.

STEP TWO – Position the guard. The finger guard is thin and flexible. It can be bent, even into a “U” to make positioning easier. Slide the guard between the ring and the finger.

STEP THREE – Mate the guard to the drive unit. The channel of the finger guard is designed to precisely guide the disc in order to produce an accurate cut. This channel accepts the circular guide that’s on the drive unit’s extension arm (see figure).

ACTIVATING GEM®

STEP ONE – Always use eye protection.

STEP TWO - Push the red button to activate.

STEP THREE - Check your progress. Stop frequently to check how far through the ring you’ve cut. This ensures that you do not cut through the ring and into the finger guard. The first sign that you’ve cut into the guard is a patient’s complaint of the ring getting warm.
HOW MANY CUTS TO MAKE?

It's best to make two full-thickness cuts, separated by approximately 180 degrees (allowing for the design of any setting). This will allow the ring to be easily repaired by a jeweler.

When it's not possible to make two cuts, make a single full thickness cut and then use a ring spreading instrument or two hemostats to gently spread the ring and slip it from the finger. Spread only as far as necessary to slip the ring from the finger. To reduce the tension in the high-tensile strength metals, such as steel, first make a quarter-thickness cut and then a full-thickness cut on the opposite side of the ring. This will reduce the tension and allow the Ring Remover instrument to be used.

WHEN TO REPLACE GEM® CUTTING DISCS

GEM® cutting discs eventually dull or wear down. They must be replaced when this happens. If a dull or worn disc is used it will not cut the ring and will lead to excessive heat and possible damage to the drive unit.

Diamond (red) cutting disc: run your finger along its edge, if the edge is smooth, discard. Using a dull diamond discs will eventually damage the drive leading to a costly repair.

Carbide (blue) disc: if the carbide is worn down to the point that it will not cut completely through a ring, discard.
CLEANUP

WARNING: NEVER AUTOCLAVE OR SOAK

STEP ONE – Remove battery cassette or AC-adapter. Never leave the cassette inside the drive unit after use, the batteries may leak and cause damage.

STEP TWO – Remove the disc after each use. Put it away in its color-coded container.

STEP THREE – Clean drive unit and finger guard with alcohol.

STEP FOUR - Put the components away. Make sure that all components are placed in the carrying case ready for the next use.

OVERCOMING PROBLEMS

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>CORRECTIVE ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring gets hot</td>
<td>1. Make sure that you have not cut through the ring and into the finger guard.</td>
</tr>
<tr>
<td></td>
<td>2. Check to ensure that you’re using the correct disc.</td>
</tr>
<tr>
<td></td>
<td>3. Is the disc is worn or dull? If so, discard.</td>
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<tr>
<td></td>
<td>4. Have you applied KY? Stop, reapply.</td>
</tr>
<tr>
<td></td>
<td>5. Lie hand on ice bag or instant cold pack</td>
</tr>
<tr>
<td>Disc spins loose</td>
<td>1. Tighten the disc securely to the mandrel with the screwdriver included with the system. Refer to Assembling GEM®, Step One.</td>
</tr>
<tr>
<td>Cuts slowly</td>
<td>1. Wrong type of disc has been selected. Refer to Selecting the Correct Gem® Disc.</td>
</tr>
<tr>
<td></td>
<td>2. Disc is dull or worn. See When to Replace Gem® Cutting Discs.</td>
</tr>
<tr>
<td></td>
<td>3. Install four, fresh AA alkaline batteries with fresh units. See Assembling Gem®.</td>
</tr>
</tbody>
</table>
Motor will not turn **GEM® Battery-Powered System**

1. Check that 4 fresh AA batteries are installed correctly.
2. Is the cassette installed correctly into the drive unit?

Motor will not turn **GEM® TITANIUM AC-Powered System**

1. Check adapter is inserted into drive unit.
2. Check AC adapter is plugged into wall outlet.
3. Check that wall outlet is energized.

**REPAIRS**

There are no field replaceable parts in the **GEM®** system. It should be returned to Mooney & Co. for repair. Any attempt to disassemble the drive unit, not specifically authorized, with invalidate the warranty.

**WARRANTY**

The **GEM®** drive unit is warranted against defects in materials and workmanship for a period of one year after date of purchase. Other components of the **GEM®** system are warranted against defects in material and workmanship for a period of 90 days.

**QUESTIONS**

**CALL**  
1-541-488-2381/1-800-230-5770

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1-541.488-2396

**EMAIL**  
info@www.ringcutter.com

**WEB**  
www.ringcutter.com
GEM® ORDER CODE NUMBERS

#522  GEM® Ring Cutting System
#522-1 GEM® Battery-powered drive unit and cassette
#622  GEM® TITANIUM AC-powered system
#622-1 GEM® TITANIUM AC-powered drive unit, AC adapter, carrying case
#223  Diamond cutting disc (2 discs per pack)
#224  Carbide cutting disc (6 discs per pack)
#525  GEM® finger guard (1 per pack)
#360  GEM® disc retaining screws (pack of 4)

COMPLETE IN-SERVICE MATERIALS ARE AVAILABLE ONLINE AT

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