



# Beginner's Essentials Glass Beadmaking Kit

Instructional Manual



*A beadmaking class from a skilled professional can be very beneficial to improving your skills. For a listing of instructors near you visit the International Glass Bead Society's website at [www.isgb.org](http://www.isgb.org)*

**CAUTION: THIS IS NOT A TOY! Glass beadmaking can be dangerous, and users should follow safety procedures, wear protective clothing and eyewear at all times during the use of this kit and its contents. Kit uses flammable gas and open flame. NOT RECOMMENDED FOR CHILDREN.**

# Safety Instructions

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- When working with glass, protect your feet and legs by wearing non-synthetic pants and closed top shoes.
- Eye protection is essential. Cold glass, when heated too quickly, may fragment off. Always wear eye protective gear to shield yourself from possible hazardous glass projectiles.
- Work area should be free from curtains or other combustible materials.
- Make sure work area is also well ventilated.
- Keep a fire extinguisher handy in your work area for emergency purposes.
- Glass and flame can reach temperatures of 1400° F - 1600° F which is extremely hot. Temperatures this high can cause serious bodily harm and property damage if not handled properly. Keep torch and beads away from children and animals while working in the flame and cooling.
- Use at your own risk and follow all recommendations and common sense safety precautions.



## Kit Content

1. Fiber Blanket - Used to slowly cool completed bead.
2. Bottle Holder - Fireworks™ bottle holder assembly clamps on the edge of any table to hold the MAPP Gas tank securely in place without slipping.
3. Bead Release - A thick liquid coating that prevents glass from sticking to metal.
4. Fireworks Quick-Light Torch - Designed exclusively for Fireworks™, this unique torch head has a self-igniting system for easy use. CAUTION: Do not store with torch attached to fuel tank.
5. Rake - Use rake to manipulate molten glass by dragging, raking, feathering or swirling the surface. It can be used to make air bubbles inside the bead or poke holes through the glass. Fireworks rake has a bent tip for a comfort grip.
6. Mandrels - Stainless steel rods used to wrap molten glass around to create a bead. They have a low heat transfer, keeping your fingers cool while working in direct open flame.
7. Glass Rods - Your kit contains an assortment of translucent and opaque Italian glass rods. They are 104 COE and heat evenly and quickly in the torch flame.
8. Scrubber - Helps to remove bead and mandrel release residue.
9. Texturing Marvers - Roll or press your glass into the ridges of this 2" x 4" textured surface to make interesting

patterns. Experiment by rolling bead at different angles. Warm marver before using by holding 6" from flame for approximately 15 seconds.

10. 2-Piece "Easy-Store" Heat Resistant Work Surface - Protects your table or counter top.
11. Bead Hole Cleaner – Diamond coated abrasive for effective and efficient removal of bead release residue.
12. Fireworks Clear Safety Glasses – Safety First

### Setting Up

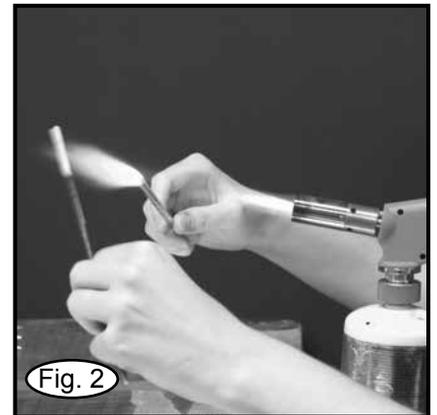
Remove all components from kit and packaging. Place heat resistant work surface on counter or table top with metal side facing up; to assemble, insert sections together and slide protective covering over seam. Place all tools on work surface for easy access. Keep a fire extinguisher handy in your work area for emergency purposes. Before attaching torch head to the MAP/Pro Gas tank; make sure valve is completely closed by turning it clockwise. Next, screw threaded opening onto the tank. Secure the tank to the edge of table or counter top, using the enclosed bottle holder attachment. Wrap bottle band around MAP/Pro tank and insert "L" bracket between the tank and the band. The torch head should be directed away from you. Using a screwdriver, tighten the locking screw until snug. Position tank so one arm of the "L" bracket is on the table top, then secure the "L" bracket to the table using the "C" clamp (Fig. 1).



### Bead Release Application

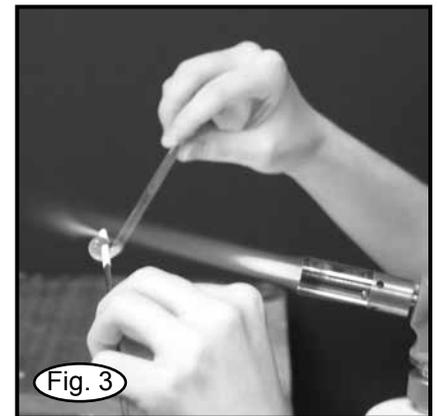
New steel, including the mandrels, will have an oil residue that can cause the bead release to flake off during initial use. Therefore, wash mandrels with soap and water and "prime" by heating the bare mandrel in the flame until they glow red and then cool. This will burn off the residue.

Fireworks bead release can be both air and flame dried. When mixed with water, it should have a thin creamy consistency, like buttermilk. Thick coats are more likely to crack off. Should release become thick, thin with water as needed. Apply a thin even coat and shake off excess back into the jar. If air drying, allow 1-2 hours or allow to sit overnight. If drying in the flame, allow to air dry 15-30 minutes, then slowly introduce the coated mandrel into the heat, 6-8 inches away from the flame. Bead release will lighten in color as it dries.



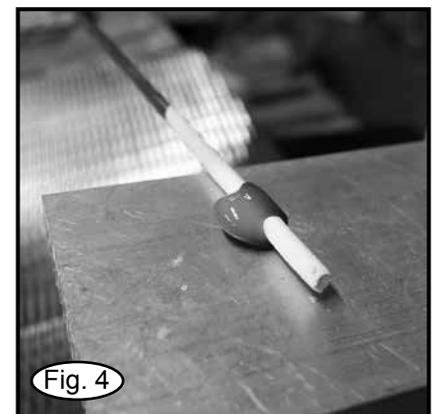
### Igniting Torch

The source of heat is the MAP/Pro Gas tank and torch head. Ignite torch by turning the valve at the rear of torch head slowly counter clockwise, releasing gas. When you hear a slight hissing sound, gently squeeze trigger. Adjust flame height with the control valve knob, providing a "blue" flame length of 1". Turn off torch by turning control valve clockwise, until flame is exhausted. Do not attempt to handle torch head until it has sufficiently cooled down.



### Basic Bead Technique

Begin by warming a glass rod in the flame (Fig. 2). NOTE: Wear safety glasses. Starting 3"-4" from flame, gradually bring the tip of the glass towards the blue flame. For best results, work about 2" from the tip of the blue flame. Work glass in flame until a hot molten ball forms. In your second hand, warm your coated mandrel using the same procedure used to warm the glass rod (Fig. 3). When molten and glowing, wrap glass evenly around heated mandrel. While rolling the mandrel away from you, drape glass on mandrel from the top down. Do not pull cool glass. Pulling glass may remove mandrel release resulting in residue inside your finished bead. Heat more glass as you roll. When sufficient glass is wrapped on mandrel, separate glass rod from bead by directing heat to the joint and pulling away. Place glass rod on work surface to cool (Fig. 4). Continuously roll the mandrel with your bead in the flame to shape. Using the smooth surface of the marver, briefly take the bead out of the flame and roll on marver surface to shape your base bead.



Bead will cool and start to harden upon contact with marver. When this occurs, place bead back into flame to soften and roll again on marver until desired shape.

To increase bead size or to add another color, begin by heating another glass rod (Fig. 5). Keep the base bead warm near flame while heating the glass rod (Fig. 2). Once the glass glob is molten, add to the base bead. Turn mandrel, as in Fig. 3, adding glass until you are satisfied with the size and shape of the bead. Bead should not be larger than 10mm in diameter to prevent cracking during cooling. Keep rolling mandrel in flame until a well balanced bead is formed, using the marver as desired. Holding the bead at an angle, roll against the marver edge to bevel the end if desired. If glass becomes too hard to shape, return bead to the flame to soften glass.

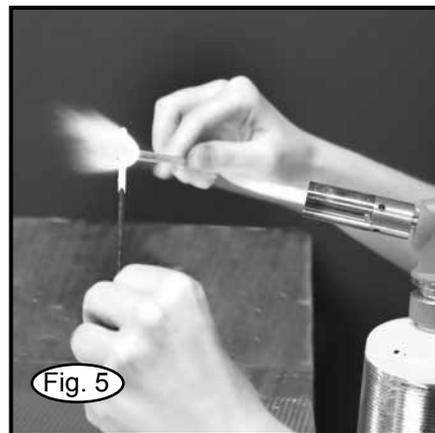


Fig. 5

### Cool Down

Cool bead by removing it slowly from the flame and allowing the red glow to disappear, 10-15 seconds (Fig. 6). Place bead and mandrel between the layers of the fiber blanket to cool. Do not remove the beaded mandrel from the blanket for 60-90 minutes to allow sufficient cooling to take place. If not, your bead may crack.

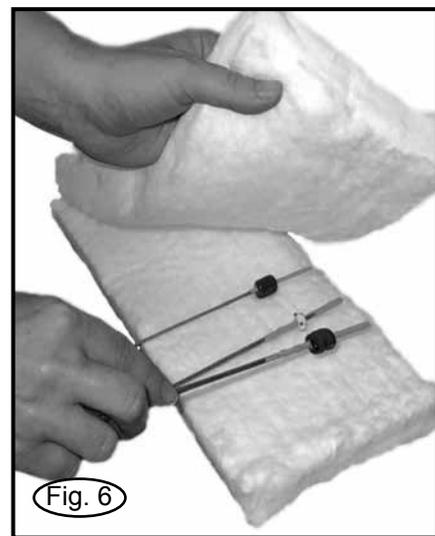
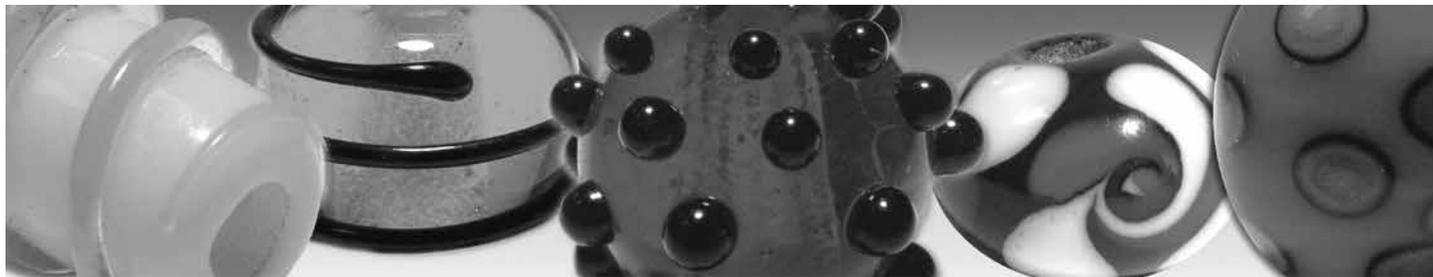


Fig. 6

### Tool Care Instructions

Proper bead making technique is to heat glass in the flame while working in direct heat with the tools. If a tool is used to hold hot glass, make sure it is not placed directly in the flame. Hot metal tools will stick to glass. If you are using a tool to hold glass, you want the metal warm, but not hot. It is acceptable to warm a metal tool by quickly placing it near the flame. If you are using a metal tool to poke, scrape or rake the glass, they should be as cool as possible. If it becomes too hot, switch it with a backup tool or immerse the metal tool in water to cool it down.

After bead has cooled, remove from mandrel. Place bead and mandrel in a cup of water for 15 minutes and using a green scrubby, turn the mandrel to loosen. If bead cannot be removed easily, use a plier to grab the mandrel below the bead and twist off. The bead release residue will flake away as you slide the bead off. If the bead is still difficult to remove, soak in water longer. Don't be discouraged by a poorly developed first bead, success comes with practice. So keep on rolling!



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