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# **DIAMOND MAX™**

TWO-IN-ONE GLASS GRINDER

*OPERATIONS MANUAL*

## Before You Begin

*Read and follow all instructions carefully.*

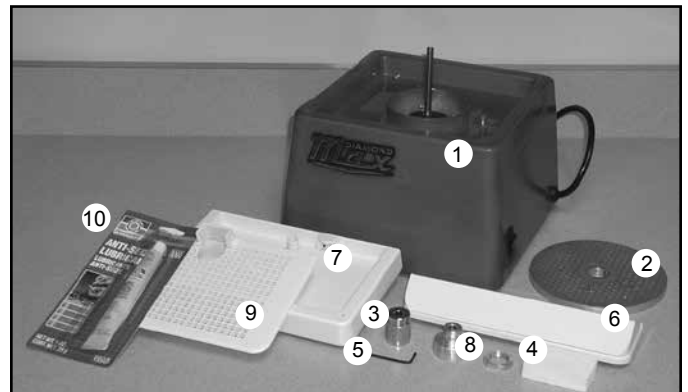
- After unpacking all components, assemble grinder on a firm level surface to prevent grinder from tilting and rocking.
- Be sure the power switch is in the OFF position before plugging in the grinder.
- Always disconnect grinder from electrical outlet before setting up or servicing.
- Wear proper apparel. Never wear loose fitting clothes, neckties, jewelry and gloves that may get caught in moving parts.
- Always wear safety glasses. Everyday eyeglasses have only impact resistant lenses they are not safety glasses.
- Never turn on grinder while glass or working materials are touching the bits or disks.
- Never leave grinder running unattended. Turn power OFF when not in use.
- Do not operate while under the influence of medication or alcohol.
- To ensure top performance keep grinder properly maintained and lubricated.

**WARNING: This product contains small parts that may be a choking hazard to small children. KEEP OUT OF REACH OF CHILDREN.**

## Contents

Your Diamond Max 2-in-1 Grinder™ has been shipped partially assembled. Carefully remove grinder and parts from the packaging.

- 1 - Grinder Body
- 2 - 6" Flat Disk (260 Grit)
- 3 - 1" Silver Bullet™ Bit
- 4 - Advanced Super Sponge™
- 5 - Adjusting Hex Wrench
- 6 - 30°/45° Bevel Block
- 7 - Water Reservoir with Slide Valve
- 8 - Disk Support Collar and Disk Retaining Nut
- 9 - Easy Glide Work Surface
- 10 - Anti-Seize Lubricant



### DELUXE MODEL ALSO INCLUDES:

- 1 - Bit Spacing Collar
- 2 - 3/4" Silver Bullet™ Bit
- 3 - 1/4" Silver Bullet™ Bit
- 4 - Easy-On™ Footswitch

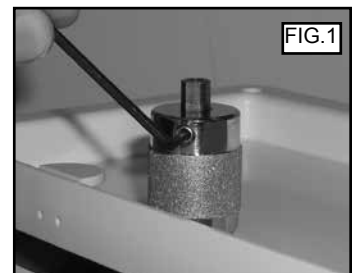


## Assembly Instructions

### A. Disk Installation

*Disk installation is necessary in order to simultaneously use both the bit and disk. Disk installation also prevents water from dripping into the motor housing.*

1. Remove the packing included to protect the grinder during shipment.
2. To install the grinder disk use a hex wrench to loosen and remove grinder bit (FIG.1).
3. Remove the grid surface, water tray and beveling block.



Remove the disk retaining nut from the disk support collar which is already installed on the base of the grinder shaft (FIG.2).

4. Using the hex wrench, loosen the screw holding the disk support collar on the shaft and remove the collar (FIG.3).
5. Lubricate the full length of the grinder motor shaft (FIG.4), as well as the inside opening of the disk support collar, the disk and the disk retaining nut threads with a thin coat of anti-seize. Anti-seize lubricant helps prevent the bit from seizing on the shaft and seals out ground glass particles. Anti-seize is readily available at any hardware store.
6. Reinstall the disk support collar by aligning the flat surface of the shaft with the collar hex screw.
7. Line up the pin hole on the bottom of the disk with the pin on the disk support collar and lower the disk into place (FIG.5). Push disk down firmly to minimize disk vibration and secure by threading the disk retaining nut onto the collar.
8. Replace the water tray, grid surface, splash guard and beveling block (optional).

### B. Bit Installation

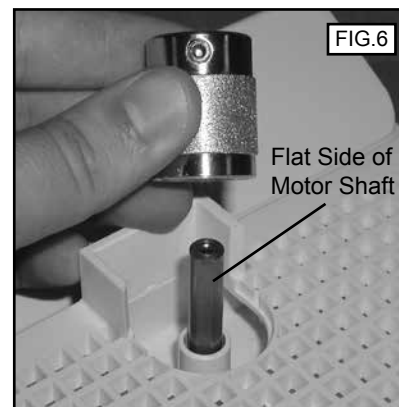
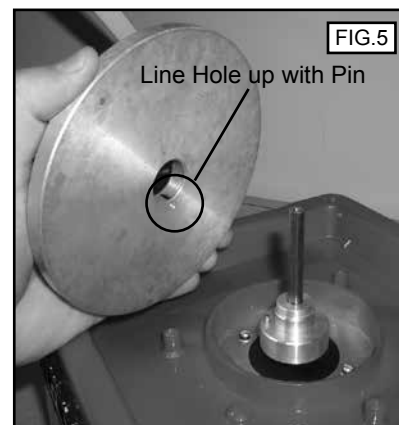
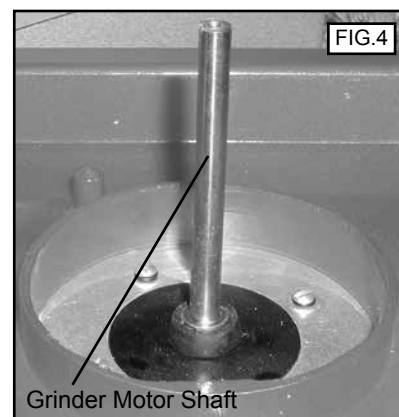
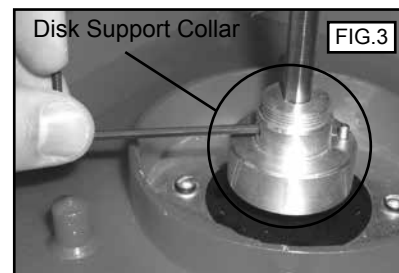
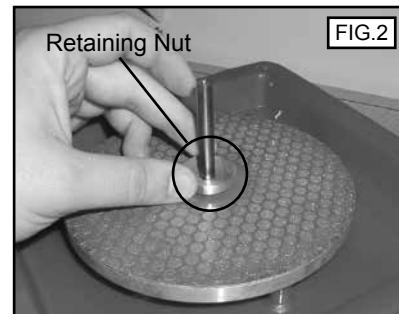
1. Before reinstalling the grinder bit, lubricate the top of the motor shaft and inside the bit by applying a thin coating of anti-seize lubricant.
2. Slide the bit onto the motor shaft, positioning the set screw over the flat side of the motor shaft (FIG.6). Position the bit on the shaft so at least 1/8" of the diamond surface is exposed above the grid work surface.
3. Secure the bit to the shaft by turning the set screw clockwise with the hex wrench.

**IMPORTANT:** Always secure the bit to the flat side of the motor shaft. Tightening the bit to the rounded side can scar the shaft and prevent bit removal!

### C. Sponge Installation

*The technologically advanced Super Sponge™ can absorb over 10 times its weight in water. Its superior wicking ability insures a sufficient water supply to protect the bit and keep the glass cool.*

1. Wet the Super Sponge™ by immersing it in water until soft and pliable.
2. Fill the water reservoir (FIG.7) about 3/4 of the way to the top. You may add special grinding lubricant if desired.
3. When using the grinder bit, keep the slide valve closed (FIG.8).
4. Insert the sponge between the sponge holder on the work surface and grinder bit so that the bottom of the sponge is in contact with the coolant/water in the reservoir and the top of the sponge is in contact with the diamond surface of the bit (sponge may be trimmed to ensure proper fit).
5. The wet sponge should remain in contact with the bit while grinding (FIG.9). Periodically rinse out the sponge to remove grinding residue. When the sponge becomes worn, replace it.
6. Should your sponge become dry during periods of non-use, simply immerse in water and reinstall.



**Deluxe Model Only**

*The Diamond Max Deluxe comes with 3/4" and 1/4" Silver Bullet™ Bits for grinding versatility.*

1. To install the 3/4" grinder bit, remove 1" grinder bit.
2. Snap spacing collar into the grid surface to reduce the size of the opening (FIG.10).
3. Slide the bit onto the motor shaft, positioning the set screw over the flat side of the motor shaft. Position the bit on the shaft so at least 1/8" of the bit surface is exposed above the grid work surface.
4. Secure the bit to the shaft by turning the set screw clockwise with the hex wrench.
5. The 1/4" grinder bit is useful for both drilling holes and intricate grinding. The 1/4" bit is placed directly onto the top of the shaft and tightened with the hex screw. It can also be installed without removing the 1" or 3/4" bit by lowering the position of these bits on the shaft and installing the 1/4" bit on top of the existing bit. You now have two bits to work simultaneously.
6. Deluxe models also come with an Easy-On™ foot-switch. This switch allows you to easily turn the grinder on or off with a simple tap of the toe. To use, plug grinder directly into the foot-switch, then plug foot-switch into any outlet. Turn grinder to the ON position.

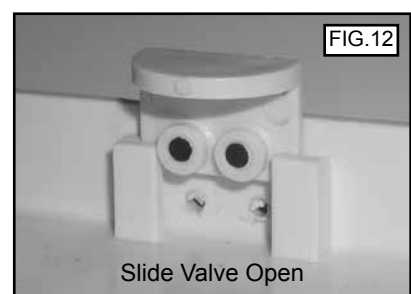
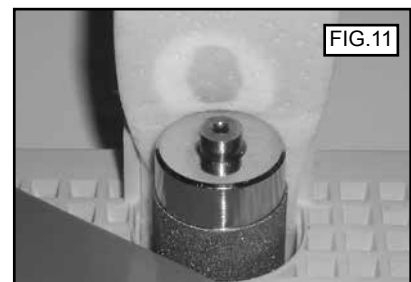
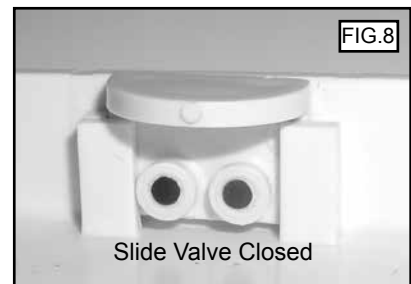
**Grinder Use and Maintenance****A. Bit Use**

*Remember to wear safety glasses or install a protective face shield when grinding.*

1. If you are a first time user, get the feel of the grinder by turning on the grinder and grinding a piece of scrap glass. Begin by pushing the glass into the grinding bit using light pressure and moving the glass back and forth across the bit (FIG.11).
2. Slowly increase the pressure until you feel comfortable with the grinding speed and your control. You'll quickly learn the optimum grinding pressure for the types of glass you use.
3. Stop periodically and check the sponge placement and water level. Grinding without water greatly reduces the life of your grinding bits.
4. Over time, a bit may grind less effectively causing your glass to chip this is a result of wearing away of the bit's diamond surface. When this happens, it is time to expose a new portion of the diamond surface. Loosen the set screw using the hex wrench and move the grinding bit up on the shaft to expose a new 1/8" section of diamond.
5. Secure the bit back in place making sure to tighten it against the flat side of the motor shaft. Reposition the sponge if needed.

**B. Disk Use**

1. When ready to start disk grinding, remove the grid work surface, fill the water reservoir 3/4 full, open the slide valve (FIG.12) and replace the surface grid. If needed, you can increase water supply to the grinding disk by slightly enlarging the holes located behind the slide valve using a paper clip or a ridged metal object. Use caution to prevent over-enlargement of the holes. Your Diamond Max™ comes with a drain opening on the grinder base to prevent excess water from building up under the disk (FIG.13).

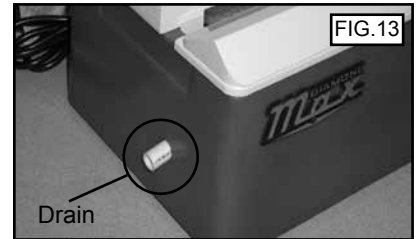


*Do not plug drain hole.* Set your grinder on a collection tray or shallow pan that will capture the excess water.

2. While grinding, hold glass firmly and move the glass from side to side over disk. To grind an accurate 90° straight edge hold material against the back of the water reservoir. To grind accurate 30° or 45° miter edges, use the reversible bevel block (FIG.14).
3. To avoid unnecessary disk vibration, ensure a secure fit between the disk and lower support collar.
4. Minor chipping may occur with a new disk. Chipping will stop after a little use.

### C. Care Information

1. NEVER GRIND DRY. Always make sure the sponge for the grinder bit is wet or that water is dripping on the disk while grinding.
2. DO NOT OPERATE WITHOUT DIAMOND DISK INSTALLED. Disk acts as a cover to keep water from dripping on the motor housing.
3. While using the grinder bit, use only light to medium pressure on the bit. Do not push material against bit using excessive force. Unnecessary pressure will shorten grinder and grinder bit life.
4. Clean water reservoir and Super Sponge™ after each use. Remove water reservoir and flush out grinding residue around the sides of the base under the disk. The drain hole in the grinder box allows water to flush through when cleaning or if using large volumes of water on the disk when grinding.
5. If the grinding bit becomes dry, add water directly to the Super Sponge™.
6. To extend the life of the grinder, clean and lubricate the motor shaft, inside openings of all disks and bits and all set screws every 25 hours of use.
7. Grinder bits and disks should be removed from the machine if they are not in use for a week or more. This will keep them from “cementing” to the shaft. It will also provide you with the opportunity (and habit) of inspecting the motor shaft and bits for proper care and maintenance.
8. Some rust may form on the diamond disk, this will not effect the efficiency or life of the disk.
9. DO NOT GRIND METAL. It will make the surface unsuitable for glass in seconds.



## Troubleshooting

**Problem:** Grinder bit, disk or disk collar has become stuck onto the motor shaft.

**Solution 1:** Loosen set screws and push the bit as far down the shaft as possible. Most often the shaft *above* where the bit was mounted crusts with glass debris, coolant, hard water residue, etc. Using a small piece of fine steel wool or scrubby, polish the end of the shaft all the way down to where the bit rests.

**Solution 2:** If you can push the bit down as above, but you notice that there is a burr or scar on the round side of the motor shaft caused by the set screw in the wrong position (it appears as a small ring cut into the shaft), you will need to polish it out. This can often be done by using the same steel wool mentioned above, but occasionally it requires stronger abrasives. Be very careful here! You only want to remove the scar, you do not want to make the shaft smaller. It may be necessary to use very fine grit emery cloth or sandpaper here. But again, be very careful, the motor shaft can be easily damaged. Once the scar is polished out, remove the bit. Clean both the bit and shaft and use lubricant. Never tighten the bit to the round side of the motor shaft.

**Solution 3:** If the bit or disk is still stuck, use a plumbers helper or vice grip to remove the bit. If further assistance is necessary, call Diamond Tech toll free at (800) 937-9593 for tech service or to obtain a Return Authorization Number and further instructions to send your machine in for repair.

## Additional Parts and Accessories

Item	Item Number
WORK SURFACE GRID	289
UNIVERSAL FACE SHIELD	75
STEP-UP WORK SURFACE	72
EASY-ON FOOTSWITCH	42
MAX SPLASH GUARD	P203
GRINDER MOTOR 110V/220V	P216/P216A
GRINDER CAPACITOR 110V/220V	P221/P221A
GRINDER DISK COLLAR WITH RETAINING NUT	P218
SLIDE VALVE	P201
SUPER SPONGE REPLACEMENTS	66SUPER
1/4" FAST BIT	23
1/4" STANDARD BIT	60
3/4" FAST BIT	36
3/4" STANDARD BIT	35
1" FAST BIT	29
1" STANDARD BIT	41
ANGLED BIT	30
REDUCING BIT	31
180 GRIT DISK	57
260 GRIT DISK	56
360 GRIT DISK	32

### Diamond Tech Diamond Max Series 6 Year Warranty

All *Diamond Tech* grinders and accessories are manufactured to high quality standards and are serviced by highly qualified technicians.

**Diamond Max Grinders** are warranted to the original purchaser for six full years from the original purchase date. During the six year period, if you feel the **Diamond Max Grinder** is not performing properly and needs to be serviced, contact Diamond Tech at 800-937-9593 or email [info@dtcrafts.com](mailto:info@dtcrafts.com) for a Return Authorization Number. Equipment will not be accepted at Diamond Tech without a Return Authorization Number.

If returning your grinder for evaluation or repair, be sure to include your Name, Address, Daytime Phone Number with Area Code and a letter explaining the specific problem you are encountering. You will be contacted if any necessary parts or service are not covered under the warranty.

Date of purchase \_\_\_ / \_\_\_ / \_\_\_

Mark the Return Authorization Number clearly on every package! *Do not send this product back without such prior authorization!* Return postage and insurance are the responsibility of the consumer. Diamond Tech will return your grinder postage paid and insured if it is under warranty. Any grinder no longer under warranty will be returned at the owner's expense. Diamond Tech reserves the right to repair or replace faulty equipment at its discretion. The **Diamond Max Grinder** is warranted against defective materials or workmanship. If the **Diamond Max Grinder** suffers damage due to customer modifications and/or is used for any application other than that for which it was designed, this warranty is void. This warranty does not include damage due to: (A) neglect (B) accident (C) unreasonable use (D) improper maintenance (E) any other causes not attributed to defects in material or workmanship. This warranty specifically excludes the Diamond Max Grinder bits or disks. Any implied or otherwise explicit guarantees made through merchandiser of this product are not covered in this warranty coverage agreement and are expressly disclaimed.

**IMPORTANT NOTE:** This machine was designed for certain applications only. *Diamond Tech* strongly recommends that this machine NOT be modified and/or used for any application other than that for which it was designed. If you have any questions relative to its application, please contact us and we will advise as to its proper use.



5600 Airport Blvd, Suite C, Tampa, Florida 33634  
Tech Support: 800-937-9593 • (U.S.A., Canada) 813-806-2923  
Fax: 800-299-3313 • Email: [info@dtcrafts.com](mailto:info@dtcrafts.com)  
[www.DiamondTechGlass.com](http://www.DiamondTechGlass.com)