

# inland

## Impulse™ and Aero™

### Diamond Glass Grinder

#### User Guide

Thank you for buying this Inland product. This booklet contains instructions for set up and use of both the Impulse™ and Aero™ machines. Please take time to read all the instructions to understand the correct components, set up, and use of the model you purchased.

## Safety

- It is extremely important to wear proper eye protection when using any glass grinder. We highly recommend that you wear safety goggles rather than safety glass. You can also use the Inland FaceShield™ or MagnaShield™ in conjunction with proper eye wear for added protection: A shield alone is not adequate eye protection.
- **DO NOT** wear loose clothing or any accessories (long necklaces, bracelets, shirts with long fringes, and similar) that might get caught by the grinder head while using any Inland grinder.
- Use only in a properly grounded and tested outlet. Under **NO** circumstances should you override the grounding system or modify the plug.
- Set up your machine on a sturdy, level work surface that is water tolerant and a comfortable height to work on
- Do not sit your grinder in a pan, on a towel or carpeting.

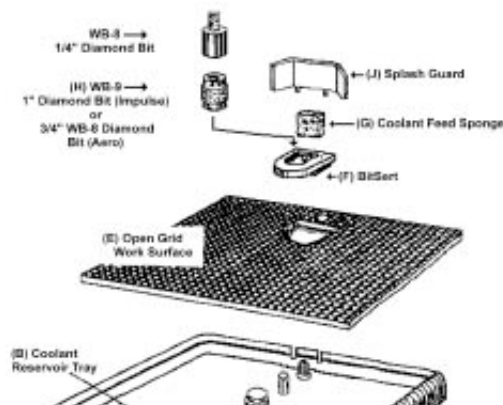
## Parts

Check and make sure that you have all the parts listed for your particular machine before beginning assembly. The following are standard parts and accessories for both the Impulse™ and Aero™.

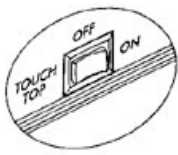
<b>Part Number and Name</b>	<b>Impulse™ Quantity / Color</b>	<b>Aero™ Quantity / Color</b>
(A) Grinder Body	(1) Black / White	(1) Maroon / White
(B) Coolant Reservoir Tray	(1) Black	(1) Maroon
(E) Open Grid Work Surface	(1) White	(1) White
(F) BitSert™	(1) White	(1) White
(G) Coolant Feed Sponge	(2) Yellow	(2) Yellow
(I) Allen Wrench	(2) Black	(2) Black
(J) Splash Guard	(1) White	(1) White
<b>The following item(s) are standard with the Impulse™:</b>		
1" WB-9 Grinding Head	(1) Brass	(not for use on Aero™)
(not for use on Aero™)	(1) Brass	(optional accessory)
<b>The following item(s) are standard with the Aero™:</b>		
3/4" WB-1 Grinding Head	(optional accessory)	(1) Brass

## Assembly

Refer to the exploded view diagram. Place the Coolant Reservoir Tray (B) on top of the white Grinder Body (A), inserting the locator pegs on the reservoir bottom into the corresponding holes in the grinder body. NOTE: The other hole in the top will be covered by the coolant reservoir. Next place the Work Surface (E) on the coolant reservoir and insert the white BitSert™ (F) into the work surface. Insert the Splash Guard (J) behind the motor shaft by inserting it into the holes in the BitSert™.

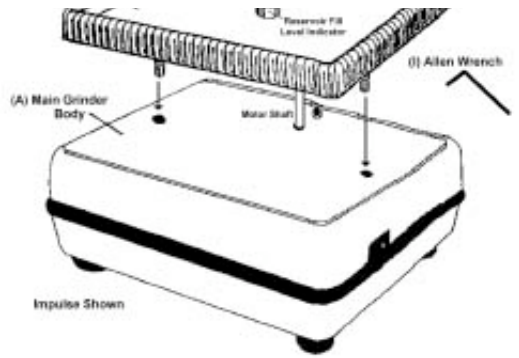


## The TouchTop™ Feature



Your grinder has a three-way switch located on the right side of the body. You can select off, continuous run - on, or TouchTop™. When set for TouchTop™, the machine turns off and on automatically when you put the glass and your hands onto the work surface to grind. It then turns off

automatically when you remove them. Using the TouchTop™ feature is convenient and greatly extends motor life. You can adjust the sensitivity of the work surface to the feel you like best. On the underside of the reservoir tray (B on the diagram) is a sensitivity set screw. Turning the screw tighter, or clockwise decreases sensitivity. Loosening the screw increases the sensitivity. To adjust the sensitivity, use a one pound weight to compensate for the load of coolant that will be in the reservoir when you are grinding. Do not adjust the washer nut for the TouchTop switch found on the grinder base. Take the time to adjust the TouchTop™ feature to your preference now.

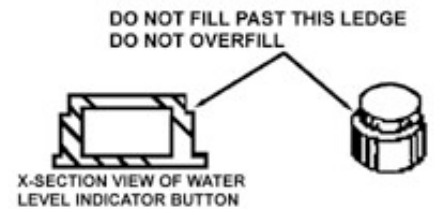


## Installing the Grinding Bit

Apply a thin coating of Inland Motor Shaft Lubricant™ (#50022) to the motor shaft. Our Teflon based lubricant helps prevent the bit from seizing on the shaft and seals out ground glass particles. In a pinch, you can use a bit of Vaseline. Loosen the set screw on the 3/4" Grinding Head (H) by turning it counterclockwise with one of the black Allen Wrenches (I). Slide the bit down onto the motor shaft, positioning the set screw over the flat side of the motor shaft. Bits should slide on easily. **Do not force!** Contact customer service if you have problems. Lower the bit down until just over an 1/8" of silver diamond is exposed above the grid work surface. Secure the bit to the shaft by turning the set screw clockwise with the allen 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!**

## Filling the Coolant Reservoir

A water/coolant mixture prevents airborne glass dust, increases grinding speed, and prolongs the life of the diamond surface. Pour 12 ounces (1½ cups) of water into the reservoir tray. (**DO NOT** use antifreeze) This amount fills the reservoir to the coolant level indicator located in the center of the reservoir tray. **IMPORTANT: Never pour water directly onto the grinding head or motor shaft!** You can then add a capful of Inland Diamond Coolant (#50011) to increase bit life and grinding speed if desired. Replace the grid surface.



## Sponge Placement

Coolant is fed up to the grinding bit through the yellow Coolant Feed Sponge (G) held in place by the BitSert™ (F). The bottom of the sponge contacts the coolant in the reservoir and the upper portion contacts the diamond surface of the grinding bit. Insert the sponge into the rectangular hole in the back of the BitSert™ so that the bottom of the sponge contacts the coolant in the reservoir and the top of the sponge is in contact with the diamond surface of the bit. You may need to wet the sponge before grinding by pouring a small amount of water onto it. The sponge must remain in contact with the bit while grinding. If a white paste develops on the head or your glass when grinding, either the sponge is not properly positioned or the water / coolant level in the reservoir is low. Periodically rinse out the sponge to remove accumulated grinding residue. When the sponge becomes worn, replace it.



## Grinding

Turn on the machine and start grinding a piece of scrap glass to get a 'feel' for the grinding action. Begin by pushing the glass into the grinding bit using light pressure and moving the glass back and forth across the bit. 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. When grinding out deep cuts, use intermittent pressure to allow coolant to rinse ground glass from the head. If you ever have a white paste form on the bit, it is not getting enough coolant. Stop and check the sponge placement and coolant level. Grinding without coolant greatly reduces the life of your grinding heads.

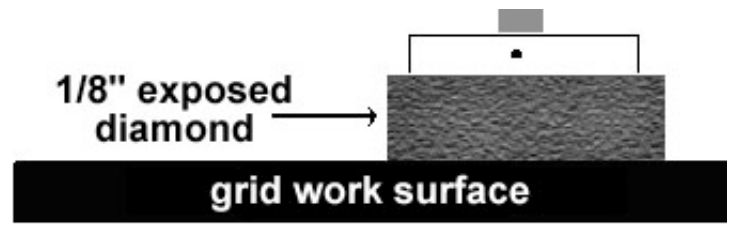
## Diamond Grinding Heads

Diamond grinding heads, or bits, have actual diamond crystals. As the diamond surface wears, you will feel it grind less effectively. When this happens, it is time to

**Motor Shaft**



expose a new portion of the diamond surface. Loosen the set screw using the allen wrench and move the grinding head up on the shaft to expose a new 1/8" section of diamond. Secure the bit back in place making sure to tighten against the flat side of the motor shaft. Reposition the sponge if needed. You have a 5/8" vertical section of usable diamond on 1" and 3/4" diameter grinding bits. Since most stained glass is 1/8" thick, by adjusting the bit up and down on the shaft, you have up to 5 usable sections of diamond before you need to consider replacing the entire bit.



**Grinding Head Placement**  
(cross section view)

## How To Drill A Hole

The Impulse™ comes with a 1/4" grinding / drilling head. If you purchased the Aero™, you will need to purchase a drilling head first. The 1/4" WB-8 bit is useful for both drilling holes and intricate grinding. The 1/4" WB-8 is placed onto the motor shaft so it sits on top of the 1" WB-9 head. Loosen the set screw and place the bit onto the shaft, securing it to the flat side of the motor shaft like any other bit.

You will need to apply coolant to the bit head while drilling using another sponge soaked in coolant. Begin drilling the hole by holding the front surface of the glass against the upper edge of the bit at about a 45° angle, with the coolant soaked sponge held against both the bit and glass. (You may want to use two hands). Start the machine and slowly move the glass down onto the bit to a horizontal position. Continue to work the glass down and around the bit top in a circular motion, making sure to keep the glass and bit surface wet at all times. You may need to stop and reload the sponge several times. Ease up on the pressure as you begin to see the bit come through the back of the glass to help reduce chipping. It is advisable to practice on a piece of scrap glass before you begin drilling on your final project.



## Maintenance

Maintenance to your grinder is minimal but important to prolonging the life and performance of the machine.

1. Apply Inland [Motor Shaft Lubricant](#) (#50022) to the shaft whenever changing or removing grinding heads. Remove the head if you won't be using the grinder for more than a week.
2. Tighten grinding head set screws **ONLY** to the flat side of the motor shaft to prevent scaring the shaft which makes removing the head nearly impossible. Never force a bit onto the shaft and never pry off a bit. If the bit is stuck, contact Inland Customer service for instructions at 1-800-521-8427, ext. 306
3. It is very important not to overfill the water reservoir. Fill only until the water is level with the fill line. Over filling can create an electrical shock and damage the motor.
4. After every hour of use you need to remove accumulated glass residue from the sponge in the BitSert. Remove the sponge and hold it under running water and squeeze it several times to rinse it clean. Replace in the BitSert.
5. Remove and clean the reservoir after every 4 hours of use (or more often if grinding heavily). Ground glass accumulates in the reservoir and can slow down the bit and hardened residue is difficult to remove. To remove the reservoir first remove any grinding bits. Lift off the work surface and then lift the reservoir tray off the grinder body. Scrape the glass sludge into the trash and rinse clean. Reassemble the machine (refer to Assembly section).
6. The work surface is reversible. When one side becomes worn, simply flip it over. Replacement grids are available.
7. Motor bearings are permanently sealed and lubricated.

## Popular Accessories

- [TwinSpin RetroFitKit](#)™ #50005: The RetroFitKit™ converts the Impulse into a versatile TwinSpin™ Disc Grinder. Make it easier to grind straight pieces, angles, and compound angles and still be able to grind using standard bits.
- [3-Step! BevelerKit](#)™ #50006: Convert your Impulse™ into a mini-beveling machine. Modify stock bevels and clusters, remove small scratches and polish in an exclusive 3 step process.
- [SecondStory](#)™ **Work Surface** #50001: This handy elevated work surface sits on top of your existing work surface to make grinding with smaller bits easier. A self contained coolant reservoir keeps bits lubricated while you work.

- **FaceShield™ #50017:** A clear 9" x 12" acrylic shield for added protection against grinder chips and spray.
- **MagnaShield™ #50018:** This 9 x 12" acrylic shield has an optical quality convex magnifying surface built in to reduce eye strain and make detail work easier.
- **MagnaLight™ #76020:** A combination magnifying glass and worklight that makes all your work easier to see by providing light exactly where you need it.
- **DiamondCoolant™ #50011:** Use this water soluble coolant to grind faster and make your bits last longer by reducing grinding friction.

## Popular Grinding Heads

- **WB-1 3/4" Diamond Bits:** Available in [extra fine](#), [fine](#), [standard](#), [speed and super speed grits](#) for every type of grinding need. For use on both Impulse™ and Aero™ machines.
- **WB-8 1/4" Diamond Bits:** Available in [fine](#), [standard](#), [speed](#) grits. Use for drilling holes and grinding intricate details and tight curves. For use on both Impulse™ and Aero™ machines.
- **WB-9 1" Diamond Bits:** Available in [extra fine](#), [fine](#), [standard](#), [speed and super speed grits](#) for every grinding need. For use on Impulse™ machine.
- **Drilling Bits:** Available in 1/8" (#40318), 1/4" (#40314), and 3/8" (#40338) diameters. Require Drill Head Adapter (#40317). They sit on top of standard grinding bits. Useful for drilling holes for hanging, eyes, and for intricate details.
- **DropOn™ Bits:** This unique system of adapter and bit sleeves allow you to quickly change grit types without any tools. Simply slide of one sleeve and drop on the next. They come in 3/4" full size and half size sleeves and 1" diameter full size sleeves. Available in the full range of grits

## Replacement Parts

Part Name	Impulse™	Aero™
Grid Work Surface	50081	50081
1" Standard BitSert™	40041	not available
3/4" Standard BitSert™	40036	40036
Replacement Sponges	90102	90102