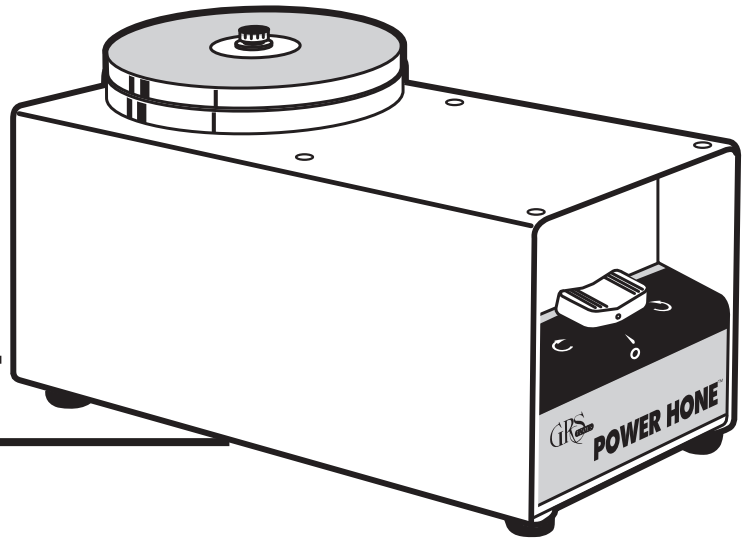


OPERATION AND MAINTENANCE OF THE

POWER HONE

MODEL B



The GRS® Diamond Power Hone is designed for a long, useful service life. The spindle is driven by a smooth belt system at 240 RPM. The diamond wheel supplied with your hone provides true diamond performance. This means carbides, hard metals, ceramics, and other exotic materials are all within the capability of your Power Hone. Replacement diamond wheels are available from GRS® Tools in several grits for a wide range of applications.

ATTACHING THE QUICK CHANGE DRIVE PLATE

First align the pin located on the spindle with hole in the QC drive plate. Make sure plate rests fully on spindle. Insert spindle nut, tighten snug with a 3/8" open end wrench. (Do NOT over tighten) Plug machine in, turn it on, check to see if plate runs true and does not wobble. If it wobbles, turn off, double check that the pin aligns with the hole in QC plate and is seated properly on spindle.

Place diamond wheel on top of QC plate and insert thumb screw/washer into spindle nut and finger tighten.

TOOL SHARPENING

When using the Power Hone, hold the tool relatively stationary while the rotary motion of the wheel sharpens the tool. Sweep the tool slowly across the working surface of the wheel. This extends wheel life by using the entire cutting face and prevents grooving. The Power Hone is designed mainly for fine tool sharpening and finishing. Use a bench grinder to rough shape tool points, then give them a fine finish on the Power Hone. This will save time and extend diamond wheel life.

ENGRAVING & JEWELRY TOOLS

The Power Hone was originally designed to sharpen engraving and jewelry tools. Sharpening fixtures to hold the gravers to the precision angles required for fine engraving tools are available from GRS®.

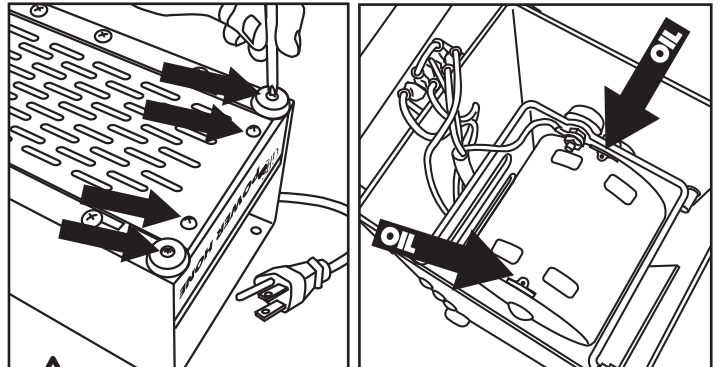
NOTE: For very delicate work such as heeling small gravers, try using the diamond wheel with the machine turned off. This will prevent removing too much material.

HOUSEHOLD & SHOP ITEMS

The Power Hone is useful around the house and shop to sharpen items like: scissors, knives, craft tools, hobby tools, chisels, wood and metal lathe tools, etc. With the ceramic lap wheel you can even put an edge on a razor blade.

MAINTENANCE

The Power Hone is virtually maintenance free. For normal service, yearly lubrication is required. For extremely heavy service, the motor should be oiled every 6 months with several drops of SAE 20 non-detergent oil. Oil holes for the two motor bearings are accessible by removing the front switch plate. Turn machine upside down and remove four screws: two holding the front rubber feet and the two between them (Fig. 1).



Always unplug machine before any service is done.

Recommended Oil: SAE 20 weight non-detergent

REPLACING THE DRIVE BELTS

These drive belts are made of a special elastic material designed for this service. Regular belt inspections are unnecessary. If you were to notice a drag or loss of power while honing, it may be a broken belt. A spare set of belts is a good item to have on hand (part #002-140 - two required).

Tools Required: 1/8" & 3/32" hex wrench, 3/8" open end wrench, #2 Phillips screwdriver and needle nose pliers. Unplug the machine before opening unit. Turning the switch off is NOT sufficient.

1. Turn the machine upside down and remove the bottom cover, 3 screws (Fig. 2).

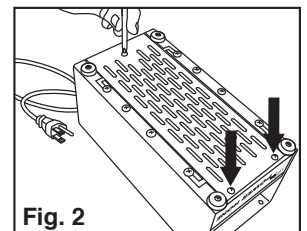
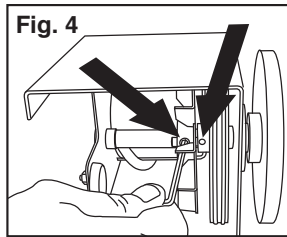


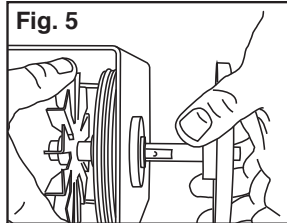
Fig. 2

2. Remove rear cover by removing the two rear rubber feet. *Note: Power cord will limit cover movement.*

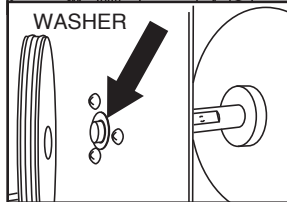
3. Lay hone on its side and loosen the set screw for the fan and pulley (Fig. 4).



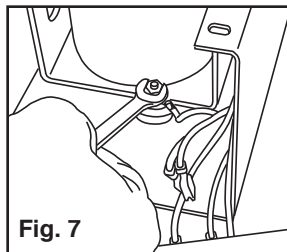
4. Pull the spindle out of the bearing. Use one hand to counter the sideward pull of the rubber belts. **IMPORTANT:** Make sure to locate and save the nylon washer that is above the pulley assembly (Fig. 5).



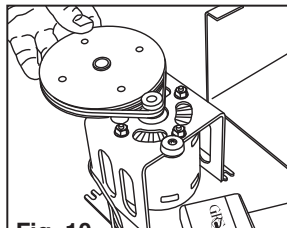
5. Remove the front panel by removing the front rubber feet. Disconnect the two center wires on the switch using a pair of needle nose pliers. Remove the ground (green/yellow stripe) wire from the motor mount (Fig. 7).



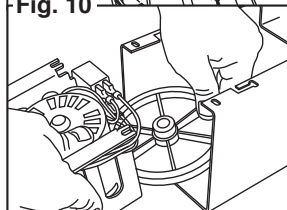
6. Loosen the front two motor mount screws and slide them out of the assembly using the slots cut in the hone body. Loosen, **BUT DO NOT REMOVE** the rear motor mount screws. Slide the motor mount out the front of the hone body, guiding the pulley past the threaded standoffs.



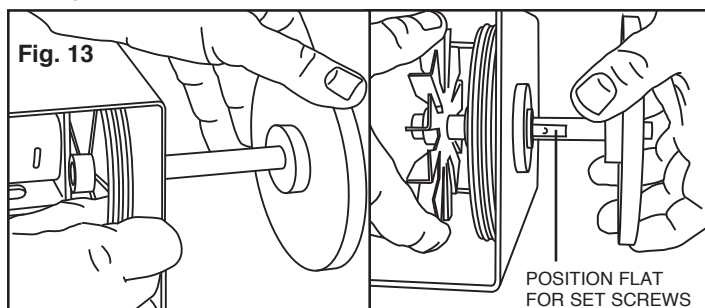
7. Replace belts and slide motor pulley assembly back into the housing, guiding the pulley past the threaded standoffs (Fig. 10).



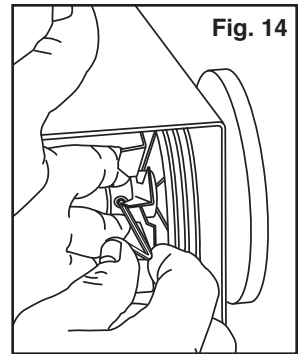
8. Stand the machine on its end and let the motor mount seat all the way onto the rear mounting screws. Snug but do not tighten. Replace the front motor mount screws by sliding them into place through the slots cut in the hone body. Tighten all 4 screws.



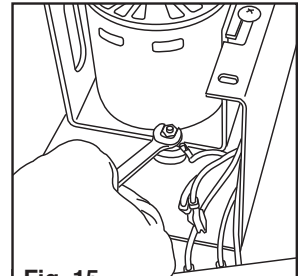
9. Insert the spindle into the bearing far enough that you can place the nylon washer on it from inside the body (Fig. 12). Pull the pulley assembly back and slip the spindle into it far enough to allow the fan to be slipped onto the shaft also (Fig. 13).



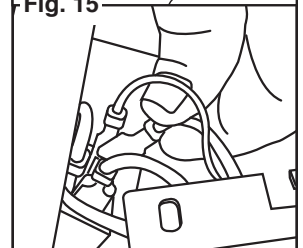
10. Slide the spindle all the way into the body. Slide the pulley up and trap the nylon washer between it and the bushing. With gentle pressure remove any end play and tighten the set screw of the pulley onto the flat, milled on the spindle. Slide the fan up to the pulley and tighten it onto the spindle also (Fig. 14).



11. Attach the ground wire to the motor mount and the two wires to the switch center posts (Fig. 15). It will not matter if you turn these wires around.



12. Attach the end panels and the bottom panel by screwing the feet back on.

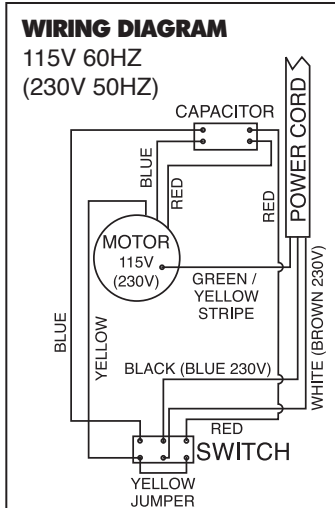
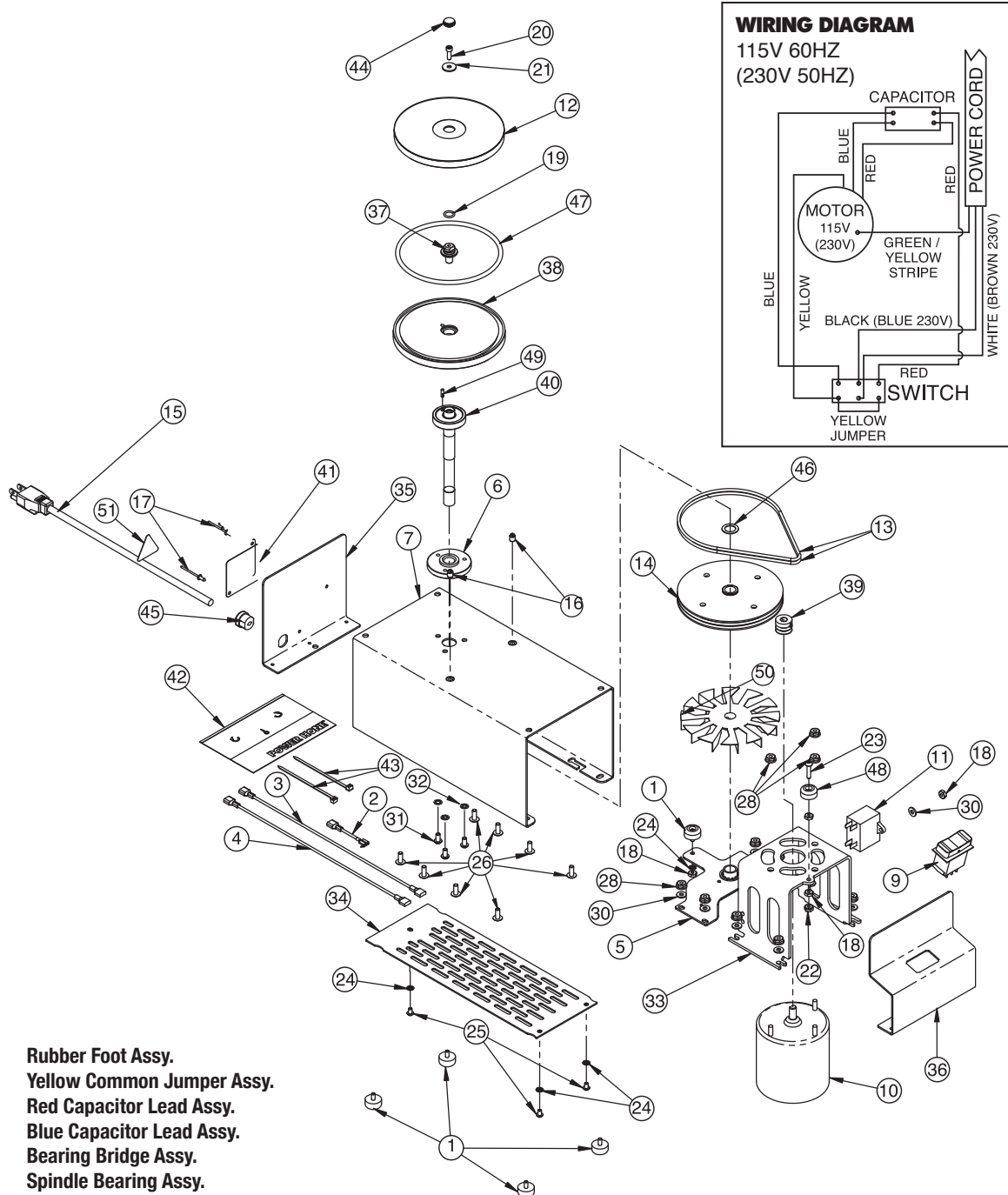


DIAMOND WHEEL CARE

Diamond wheels provide long term economy and performance in abrasive service if used correctly. Although the diamond is the hardest material known, the bonding which holds the diamond particles in place can be damaged. Grooving the wheel by gouging the bonding material is the biggest error. The finer the grit, the easier it is to damage the wheel.

The user should not be afraid to apply moderate pressure while honing, as the wheels are designed for this. The following tips will provide valuable information on using diamond wheels.

1. Approach the diamond surface carefully with the tool. Apply cutting pressure smoothly. Be especially attentive when first cutting sharp points.
2. Wet the diamond surface with a water soluble wetting agent sprayed on with a spray bottle. Occasional spraying to keep surface wet is all that is required. A wet wheel will cut better, yield superior tool finishes, and resist loading.
3. Remove and clean wheel when dirty. Usually scrubbing with water, mild scouring powder, and a clean cloth is sufficient. Our diamond wheel cleaning sticks, #001-783, are designed for a thorough cleaning. These soft abrasive sticks are consumed while cleaning the wheel. Proper use will extend wheel life. We do NOT normally advise using solvents on wheels. If solvents are used, NEVER dip or soak wheel in a solvent. Only wipe top cutting surface and then immediately wash with soap and water. Keep wheel out of direct sunlight and away from excessive heat.
4. Use the entire face of the wheel for cutting.
5. The 600 grit wheel is recommended for general use. It provides a good finish with an adequate material removal rate. Finer grits are normally for finishing operation after using a coarser wheel or other abrasive.



- | | | | | | | | | |
|----|-------------------------------|----------------------------|----|---------|--------------------------|-------------------------|---------|---------------------------|
| 1 | 011-209 | Rubber Foot Assy. | 23 | 002-289 | #8-32 x 3/4 RHMS | 41 | 011-289 | Power Hone Label 115 Volt |
| 2 | 011-400 | Yellow Common Jumper Assy. | 24 | 002-063 | #8 Lock Washer | 42 | 011-403 | Power Hone I.D. Decal |
| 3 | 011-401 | Red Capacitor Lead Assy. | 25 | 002-568 | #8-32 x 1/4 RHMS | 43 | 002-137 | Wire Tie |
| 4 | 011-402 | Blue Capacitor Lead Assy. | 26 | 022-572 | 10-32 x 1/2 Truss Head | 44 | 022-056 | Thumbscrew Knob |
| 5 | 001-976 | Bearing Bridge Assy. | 27 | 002-108 | #8-32 x 3/16 SSS | 45 | 002-300 | Cord Retainer |
| 6 | 001-975 | Spindle Bearing Assy. | 28 | 002-204 | #10-32 Hex Nut | 46 | 002-279 | Nylon Washer |
| 7 | 001-977 | Hone Body | 29 | 002-062 | #8-32 x 1/2 RHMS | 47 | 002-780 | O-Ring |
| 8 | 002-113 | Quick Disconnect Terminal | 30 | 002-110 | #8 Plt'd. Washer | 48 | 002-036 | Rubber Mounting Foot |
| 9 | 022-568 | 2 Position Switch | 31 | 002-065 | #10-32 x 3/8 RHMS | 49 | 002-770 | Driv-Lok Pin |
| 10 | 022-530 | 115 Volt AC Motor | 32 | 002-069 | #10 Plt'd. Washer | 50 | 022-571 | 4.5" Cooling Fan |
| 11 | 022-567 | Capacitor for Motor | 33 | 011-393 | Motor Mount Bridge | 51 | 011-270 | Electrical Warning Label |
| 12 | DIAMOND WHEEL (SEE BACK PAGE) | | 34 | 011-396 | Vented Bottom Panel | | | |
| 13 | 002-140 | Drive Belt | 35 | 011-395 | Cord End Panel | 230 VOLT UNIT #001-543B | | |
| 14 | 001-641 | Double Pulley Assy. | 36 | 011-394 | Switch End Panel | 10 | 022-547 | 230 Volt 50HZ PH Motor |
| 15 | 001-533 | 115 V Power Cord Assy. | 37 | 011-398 | Spindle Nut | 11 | 022-578 | Capacitor for 230V Motor |
| 16 | 022-576 | Plastic 1/4-20 Set Screw | 38 | 011-397 | Quick Change Drive Plate | 15 | 004-650 | 230 V Power Cord Assy. |
| 17 | 002-186 | Pop Rivet | 39 | 001-115 | Motor Pulley 1/8" | 41 | 011-290 | Power Hone Label 230 Volt |
| 18 | 002-064 | #8-32 x 1/2 SHCS | 40 | 011-399 | Power Hone Spindle | 45 | 002-955 | Cord Retainer |
| 19 | 002-084 | O-Ring 3/8 x 1/2 x 1/16 | | | | | | |
| 20 | 022-001 | #8-32 x 1/2 SHCS | | | | | | |
| 21 | 002-247 | Washer | | | | | | |
| 22 | 002-104 | #8-32 Nut | | | | | | |

WHEELS AND ACCESSORIES

Diamond Wheels

#002-138	5" Dia., 260 Grit Diamond Wheel
#002-055	5" Dia., 600 Grit Diamond Wheel
#002-139	5" Dia., 1200 Grit Diamond Wheel

6" Ceramic Lap Wheel

For polishing a mirror finish on tools. Requires Diamond Spray (1/2 micron normally recommended).

#002-415

Blank Wheels

Precision aluminum wheel blanks let you make your own special sharpening or polishing wheels using abrasive paper, leather, etc.

#002-537	Blank Wheel for Power Hone, 6"
#002-129	Blank Wheel for Power Hone, 5"

Spray Diamond

#002-752	Diamond Spray, 1/4 Micron
#002-753	Diamond Spray, 1/2 Micron
#002-754	Diamond Spray, 1 Micron
#002-755	Diamond Spray, 3 Micron

Wheel Storage Rack

Protect and organize your wheels with this convenient storage rack. Steel construction.

#001-694

Wheel Wetting Agent Concentrate

#001-659	Pkg of 3 (makes 1 gal. per pkg)
#001-660	Pkg of 12

#001-783	Wheel Cleaning Sticks
#001-958	Power Hone Parts Kit

GRAVER SHARPENING FIXTURES

#003-100	Standard Graver Sharpening Fixture
#003-570	Dual Angle Sharpening Fixture
#003-580	QC Sharpening Fixture

Quick Wheel Change Adapter for the Original Power Hone

This drive plate assembly replaces the standard wheel knob on the original Power Hone so you can change wheels simply by lifting off and on.

#001-838

Other wheels available, contact your dealer OR our sales department for complete information.



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