



Variable Speed Polishing Bench Lathe



Overview

Variable Speed Polishing Bench Lathe. Bench Basics

This compact polishing motor from PePETools is perfect for all your silver and gold jewelry polishing needs. The whisper-quiet motor accepts buffs up to 4" in diameter and grinding wheels up to 2" in diameter. With a variable speed control ranging from 500RPM to 8,000RPM, you can easily adjust the speed to suit your needs.

The motor comes with a right and left spindle, Two 3" buffs, mounting screws, and an extra set of brushes. The permanently lubricated ball bearings and sealed on/off switch ensure smooth operation and long-lasting durability. The 6-foot 3-prong power cord allows for easy use and the dimensions of 4" x 5" and weight of 6lbs makes it easy to store and transport.

Includes:

- Right and Left Spindles
- Hex wrench
- Two 3" Buffs
- Mounting Screws
- Extra set of carbon brushes

Features:

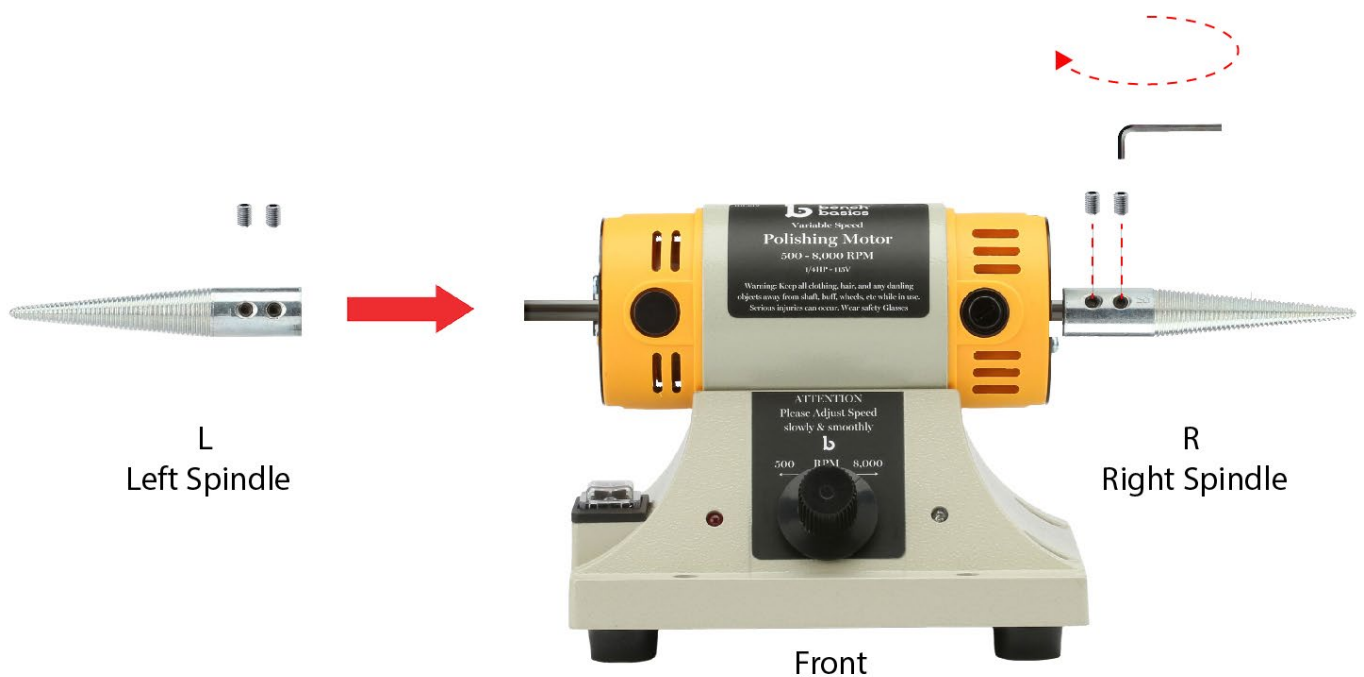
- Compact size, minimal space requirements
- Variable speed 500rpm - 8,000rpm
- Powerful ¼ Horsepower Motor
- Permanently lubricated Ball Bearings
- Sealed off/on switch.
- 6-foot power cord
- Dimensions, 4" x 5"
- Weight 6lbs
- 110/115V USA and 220V UK Versions available.



Setup

Attaching the spindles.

Before attaching the spindles (also known as Pigtails), Note there is an L and R stamped on the spindles, as they rotate in opposite directions. You must get them the correct way around, (or your mops will simply fall off). The motor rotates towards you at the top, down at the front and away from you at the bottom. Using a small Hex wrench, loosen the two grub screws on each spindle and slot the spindle over the shaft of the motor (front facing you). Ensure the spindle is fully on the shaft and is not being stopped short by the grub screws. Once in position tighten both screws with the hex wrench. Repeat for the other side. Check that both spindles are tight and they rotate true (without wobble).



Mounting

The polisher must be firmly mounted to a sturdy bench. It comes with screws, but you may prefer to drill through your bench top and use long bolts to secure it. In either case, the rubber feet will help to reduce vibration.

Tip, if you want the polisher to be movable, or don't wish to damage your bench. You can opt to screw or bolt it to a short plank of wood. This in turn can be fixed to your bench or worktop using G clamps, or quick-release trigger clamps, for a movable solution.

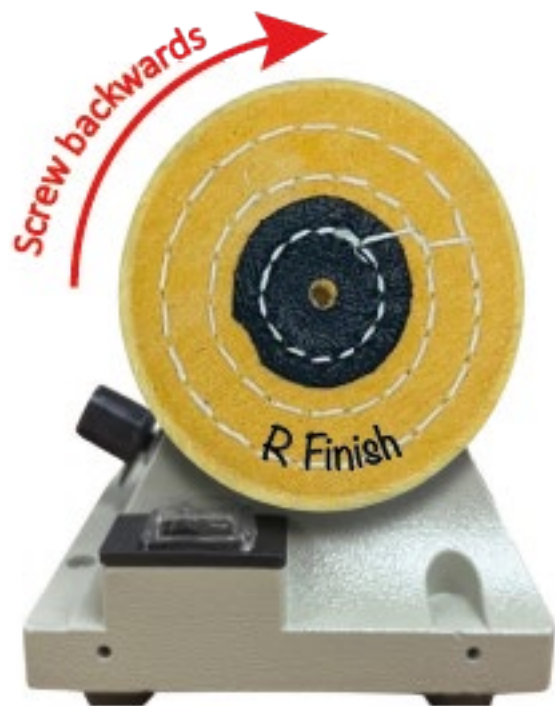
Mops

Attaching mops.

Important tip: - A new mop can go on either side, but once you have begun using it, it must always return to the same side and be used in the same direction. It's a good idea to mark an arrow on the outside of the mop indicating the side and direction. Before changing mops (the buffing wheels), switch off the polisher at the wall outlet for safety. Gently push the mop onto the tapered spindle. Whilst holding the spindle (or the other side), rotate the mop 'backward' (top away from you) to screw it onto the spindle. Important it screws on in the opposite direction to its normal rotation. Repeat for the other side, again rotating the mop backward, top away from you, to screw it onto the spindle.



Left



Right

Turn the speed to its lowest, and switch on the polisher, slowly increasing the speed for a few seconds. This will help the mops, screw in firmly.

Polish

Polishing compounds

To use mops, you will need polishing compounds. Depending on the material you are working with you will want a pre-polish and a finishing polish. In most cases for jewelry and non-ferrous metals, Tripoli is used as the pre-polish, this comes in a brown waxy bar impregnated with tiny abrasive particles. The Tripoli being mildly abrasive will remove small surface scratches and blemishes, ultimately giving a semi-shiny finish.



Traditionally jewelers have used rouge as finish polish. Again, this comes in a waxy bar, impregnated with a fine red powder. Less abrasive than Tripoli, this will give a high gloss mirror finish to non-ferrous metals such as copper, brass, silver, and gold. Small 6" bars are shown above.

Many modern alternatives are now available, using modern abrasives impregnated into the bars. With special polishes available for harder metals such as stainless steel, and Platinum. For the explanations here we will assume you are using Tripoli and rouge to polish precious and non-ferrous metals.

Important – Never cross-contaminate polishes. Keep one mop for the pre-polish (Tripoli) and one mop for Rouge (or final polish). Keep them separate at all times. Putting Tripoli on your rouge mop will ruin its ability to produce a mirror finish. Likewise adding rouge to the Tripoli mop will reduce its cutting power.

Safety first.

As with any power tool, eye protection should be worn at all times. Avoid any loose clothing or jewelry, especially around the hands and sleeves. Polishing can create a lot of dust, so it is recommended to wear a dusk mask. Polishing can also generate heat and the piece being polished can get quite hot to the touch. Whilst some people like to use leather gloves, this can seriously impair your grip and control.

There is always the danger that the piece can slip out of your grip and be thrown out by the mop. Be mindful of this and keep a firm grip on your piece.

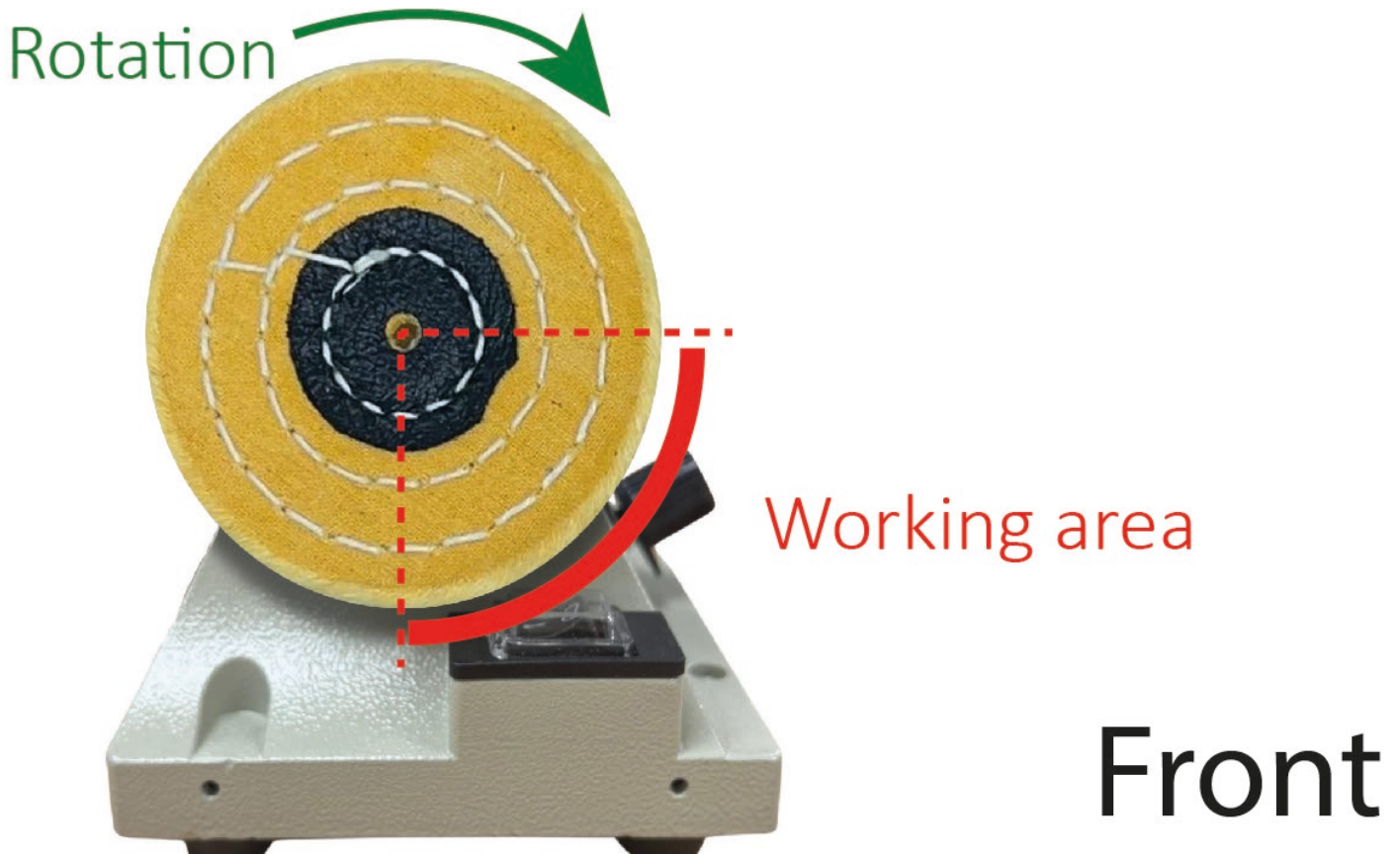
A dust extraction hood is superb addition to the polishing motor. Right, Freedom Dust extraction hood with filters, shield and light. See PepeTools.com for the latest options.



First Use

Working area.

Anything that touches the mop, either the piece to be polished or the polishing compound itself, should always be positioned on the lower front half of the mop, where it is rotating down and away from you. Work should be angled downwards and pointing towards the rear. Pushing work pieces into the mop at the top half may cause them to be thrown towards you.



Loading the mops.

Start the polisher and run it at a medium speed. (Speed control dial on the front). Touch the polish bar to the bottom half of the mop, as shown above, and move the bar side to side to apply polish across the edge of the mop. The first time you do this you may see some fluff and cotton dust coming off the mop. This is perfectly normal.

Remember to only ever use one type of polish on each mop, and do not cross-contaminate them.

Polishing

Polishing.

Turn on the polisher at medium speed. Beginning with the pre-polish (Tripoli mop), hold the piece firmly and touch it to the mop in the lower front half of the mop. Do not apply too much pressure. Move the piece left to right across the width of the mop and keep it moving. Remaining in the same spot for too long can potentially create flat spots on the piece. Longer pieces can be moved up and down along their length, always remembering to keep the point of contact within the lower half of the mop.



Photo showing myself, polishing a bracelet.

Note the position of the piece, on the lower part of the mop and pointing downwards.

Heat build-up. With the more abrasive Tripoli and similar pre polishes, heat can be generated from friction. Apply only light pressure and keep moving and rotating the piece. Use slower speeds, to reduce the heat.

Tips: - when doing a lot of polishing keep a dish of water handy, to dip the piece into if it becomes hot. Note in the photo above I am wearing a thick leather glove, to protect my fingers from heat. But I only wear the glove on one hand. I keep the other hand free to aid dexterity and to be able to feel the piece.

Polishing

SUPER TIP: - After the pre-polishing is done, you must clean the piece thoroughly to remove all traces of the Tripoli from the piece. As above, you mustn't contaminate your final finish rogue mop with the Tripoli, likewise, any Tripoli remaining on the piece will dull the final finish. For optimal results, the piece must be thoroughly cleaned before moving on to final polishing. The polish is greasy, so to remove it use HOT soapy water and a soft brush (an old toothbrush is ideal). Alternatively, use a 'heated' ultrasonic cleaner if you have one.



A Silver Money clip, being cleaned in the ultrasonic in between polishing stages.
This is a vital stage before going on to final polishing.

Once cleaned, begin the final polishing in the same way, load the (other) mop with Rogue, and move the piece lightly from side to side. You may wish to use a slightly higher speed and use a light touch, keeping the piece moving at all times for the optimal mirror finish.

Again, wash the piece with hot soapy water (or ultrasonic) to remove all polish and buff it with a jewelry cloth.

Buying Mops

Buying different mops.

There is a vast array of mops available. But they can generally be broken down into several types.

Stitched mops (as come with the kit). These are made up of many circular layers of material, usually cotton, or calico – a harsher cotton. In this case, the layers are stitched together all the way from the center to the edge. This produces a firm mop, which tends to keep a flat square edge. It allows you to push against it a little harder. These stitched cotton mops are ideal for pre-polish.



Loose (unstitched) cotton mops. Like the above these are made of multiple circular layers of cotton, fixed at the center, as all mops are. But here the layers are loose and open. When you press the piece into the mop it spreads out wider and wipes the piece. This gives a gentler polish and is ideally suited to final finishing.



Swansdown mops. These are also loose unstitched cotton mops but using softer finer cotton. Perfect for final finishing on soft or precious metals such as high-carat gold.



Sisal mops. These are very hard and rough mops made from a wound disc of sisal rope. Used with harsh cutting abrasive compound these mops are ideal for polishing tools, such as hammer faces, steel blocks, etc. definitely a useful addition.

Buying Mops

Mop sizes. Whilst mops are available in a range of different sizes (diameters), do not be tempted to fit huge mops, which are too big for the motor. This polisher uses 3" or 4" mops, allowing ample workspace and clearance between the mop and the bench top. The ¼ horsepower motor will spin the mop with lots of force to polish the piece with ease.

Note that larger diameter mops, act as levers and can stall the motor if too much pressure is applied. Also, rather like a record player, the edge of a large mop rotates slower than a smaller mop running at the same speed setting (bizarre but true). So, for optimal results stick to 4" diameter mops or smaller.

You will also see mops described with their width for example 4" X 1", in this case, 4 inches diameter, and 1 inch wide. The spindle can easily accommodate wider mops 1 ½ "or even 2" to allow for faster polishing of larger items. But do not exceed the 4" diameter.

Tip: - Grinding. If fitting grinding or sanding wheels to the polisher, 2" max is recommended, to gain maximum power.

Finger mop. This unusual mop is made of cotton or felt and attaches to the spindle lengthways. It is long and tapered and designed to polish the inside of rings, bangles, etc. Used with a polishing compound it is highly recommended.



Radial discs.

A more recent invention are the radial discs, small spiral-shaped rubber discs with radial arms. The rubber is impregnated with abrasives, meaning no polishing compound is needed. This makes them very clean and efficient, leaving no polishing residue on the piece. Again 4" or smaller are recommended for use with this polisher. Attach to the spindle ensuring that they are pointing backward at the top as shown.

Available in a wide range of abrasive grits you can quickly go from sanding through to final polish, in just a few simple steps. Ideal for small repairs and quick touch-ups. Use slower speeds and apply light pressure. Check out PepeTools.com



Maintenance

Maintenance: The polishing motor has sealed bearings which require no maintenance. Simply use a dry paintbrush to sweep dust and debris off the motor. Keep the air vents clear at all times.

Replacing carbon brushes.

After a long period of use, you may need to replace the carbon brushes (extras supplied). Unplug the motor and remove the brush covers as shown with a flat-blade screwdriver. Remove the old brushes. (Compare to the new ones to see the amount of wear). Note the length of the carbon (the lack block), if it is getting worn down close to the end of the spring, replace as necessary with the new ones, carbon block first, and replace the covers with a flat blade screwdriver. Set the speed to its lowest setting, plug it in and switch it on. Allow the polisher to run for a few seconds at a slow speed to “bed in” the brushes. If you do decide to change the brushes. Grab yourself another set, from Pepetools.com so you always have them ready to go.



Mops will eventually wear down with use. The diameter will get smaller, as the outer edge wears. Replace them as necessary with new ones, remembering to mark and label them before fitting.

Tip: - slightly smaller diameter worn mops can sometimes be useful for polishing the inside of bangles.

For all your replacement supplies and consumables check out

www.Pepetools.com

Written and illustrated by Dave Wilson

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Contacts

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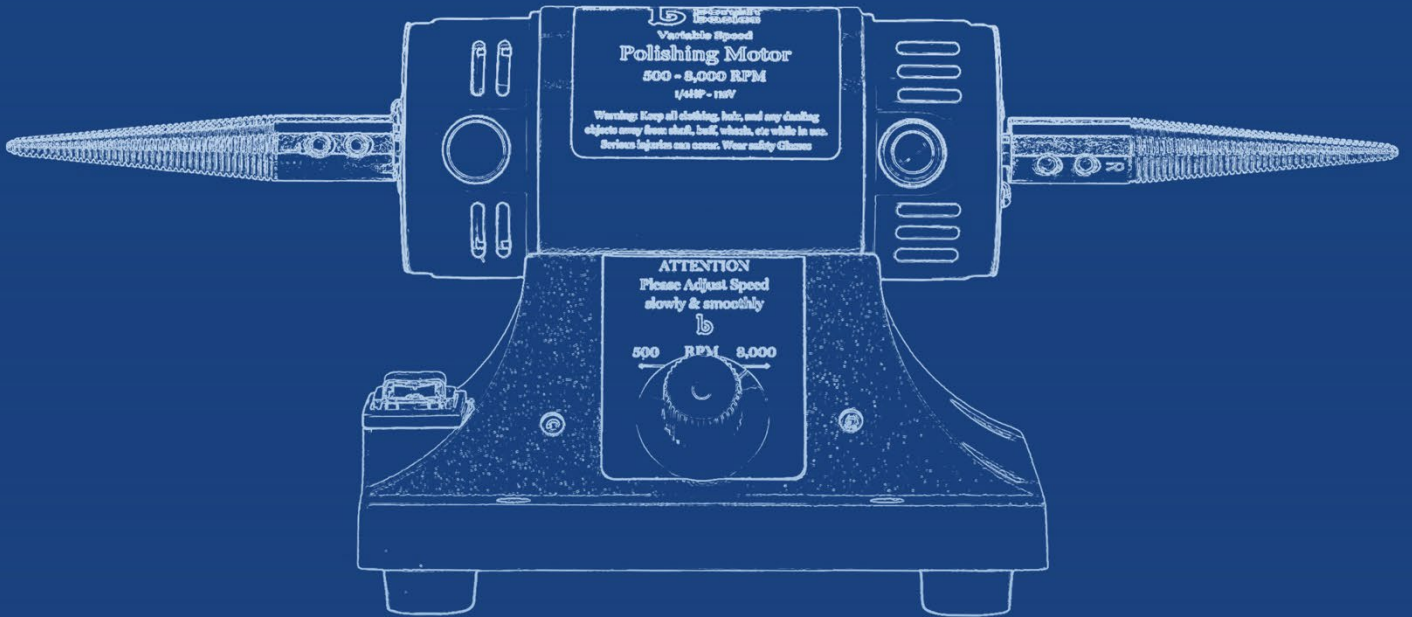
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