

NORMAL OPERATING RANGE

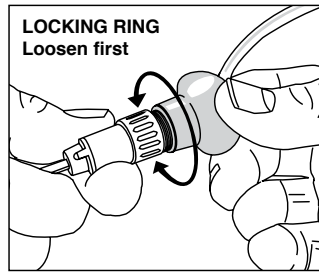
11-14 psi (0.7-0.9 bar) / 2400 - 4000 strokes per min.

RECOMMENDED INITIAL SETTING

12 psi (0.8 bar) / 3600 strokes per min.

ADJUSTING THE HANDPIECE

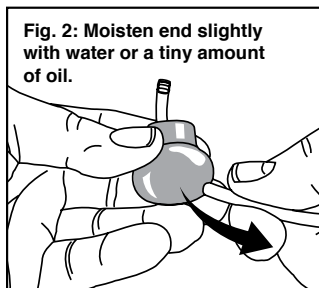
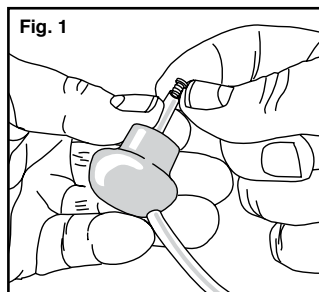
The handpiece knob and the body (barrel) are threaded together allowing you to rotate the hose where you want it. You can also extend the length of the handpiece a little by unscrewing the knob and body even more. *NOTE: By extending the length you may notice a loss of power depending on the type of work you are doing.*



With the locking ring slightly loose, you are able to turn the handpiece body and knob independently. Position the Quick Change holder with the graver "point" down and rotate the knob until the hose position is the most comfortable to you. When you have the ends in the position that fits you best, tighten the locking ring.

HOW TO ATTACH NEW HOSE

Loosen the locking ring and remove the knob from the handpiece. Remove the old hose simply by cutting it off close to the knob. With a small punch, push the hose/brass fitting back into the knob body. Remove the brass fitting (#004-422 Air Hose Retainer) from the cut off hose piece. Feed the new air hose through the hole in the knob (Fig. 1). Insert the brass fitting into the end of the hose making sure it is fully seated. Moistening the fitting first may help it slip into the hose easier. Then apply a small amount of moisture or oil (you can even use "skin oil" from your nose or forehead) around the outside end of the hose next to the brass fitting and pull the hose back

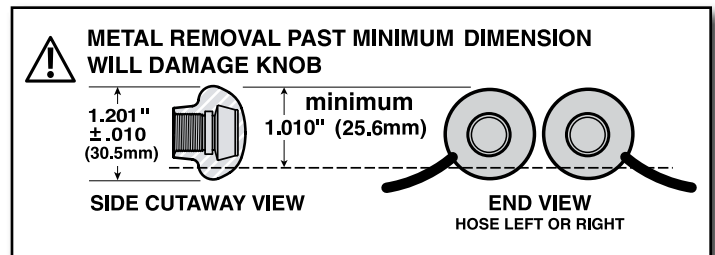


(Fig. 2) into the knob until you see the tip of the brass fitting protrude through the side of the knob. This must be an air tight fit, so you will have to pull somewhat hard (a few pounds, at least).

PUTTING A FLAT ON THE BOTTOM OF HANDPIECE KNOB

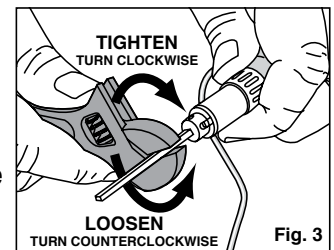
(If Desired) If you choose to put a flat on the knob you should use the handpiece first to be sure where the hose "exit" is most comfortable for you. Note critical dimensions below and warnings at right.

IMPORTANT: IF TOO MUCH MATERIAL IS REMOVED, KNOB WILL BE RUINED. (PART #004-415) NOTE: Any damage from adding a flat to the knob is NOT covered by the warranty.

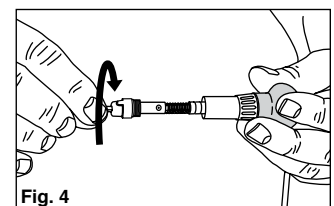


MAINTENANCE

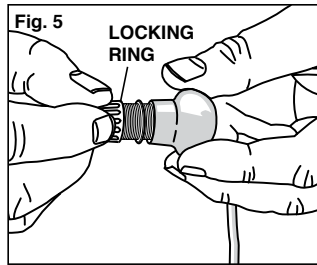
The only basic maintenance for the GRS Monarch Handpiece is keeping it clean on the inside. Problems will occur if oil or moisture gets into the handpiece, especially on the piston. If you notice a loss of power or erratic performance, the **FIRST THING** to check is to make sure the **RECEIVER (chuck) IS TIGHT IN THE HANDPIECE BODY**. Using a crescent wrench or pliers with a graver inserted in the QC Holder, gently tighten receiver clockwise (Fig. 3) If erratic performance continues, then disassemble and clean the handpiece.



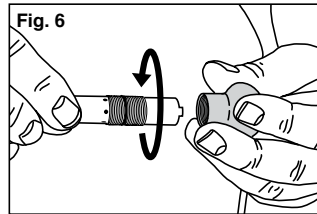
To disassemble the handpiece, use the crescent wrench or pliers to grip the graver (Fig. 3) and turn it counterclockwise to loosen the chuck retainer. After loosening, turn the chuck retainer out with your finger tips (Fig. 4). As you pull out the chuck, there will be a spring and piston.



Loosen the locking ring and remove it (Fig. 5). Grip the knob and turn the handpiece body counter-clockwise until it is out of the knob body (Fig. 6).



Now, with the handpiece disassembled, clean the parts with a NON-residue solvent like denatured alcohol. Make sure the holes in the handpiece body are clear from dirt and debris. DO NOT get moisture down the air hose. If this happens you will need to clear and dry it before reassembly.



Before reassembly, make sure every thing is completely dry. **DO NOT OIL INSIDE THE HANDPIECE.** NO lubricant is required. Lubricant will actually take away performance!

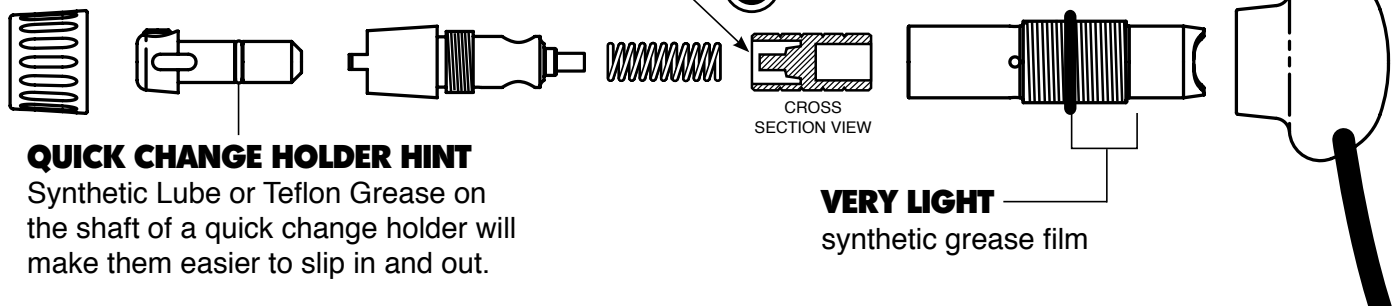
REASSEMBLY NOTE:

There is an O-ring inside the knob that makes getting the handpiece body to thread a little difficult when reassembling. Use a very small amount of synthetic lube or Teflon grease and create a thin film around the OUTSIDE of the shaft between the threads and the end (see call out in Fig. 7).

NOTE: Do NOT use petroleum based oils - USE ONLY Synthetic oils. Fossil oils can damage the O-Rings.

See "Adjusting the Handpiece" on the other side of this sheet for adjusting graver and hose position.

Fig. 7

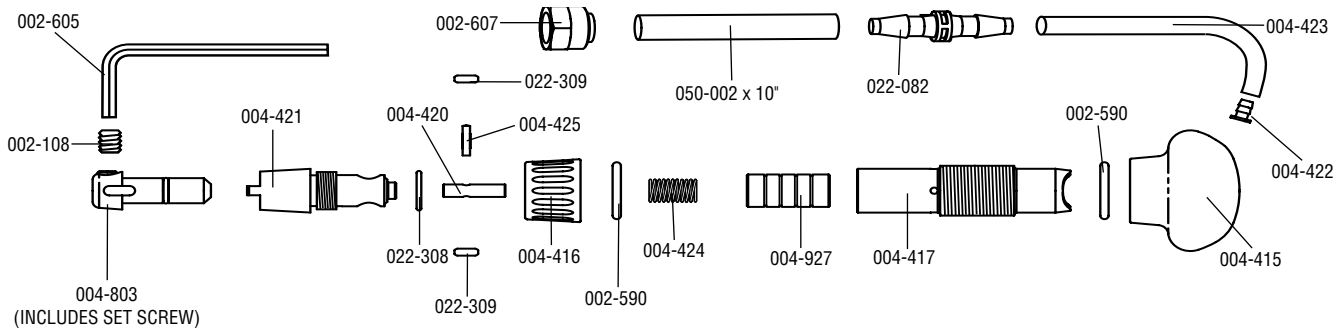


QUICK CHANGE HOLDER HINT

Synthetic Lube or Teflon Grease on the shaft of a quick change holder will make them easier to slip in and out.

GRS Monarch QC Handpiece
For GraverMach / GraverMax SC • PART #004-921

PARTS LIST



Part No.	Description
002-108	Set Screw
002-605	Allen Wrench
002-607	Nut with Sleeve
002-590	O-Ring 1/2" ID X 1/16" Wide
004-803	Quick Change Chuck (complete with set screw)
004-415	Handle Knob
004-416	Locking Nut
004-417	Handpiece Body
004-420	Anvil
004-421	Chuck Receiver
004-422	Air Hose Retainer
004-423	Air Hose - 1/8" dia. X 38"
004-424	Spring
004-425	Roll Pin
004-927	Piston / Hammer
022-308	O-Ring 8mm ID X 1mm Wide
022-309	O-Ring .070 ID X .070 Wide
022-082	Tube Coupling
004-431	Urethane Tubing .170" I.D. X 10"

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