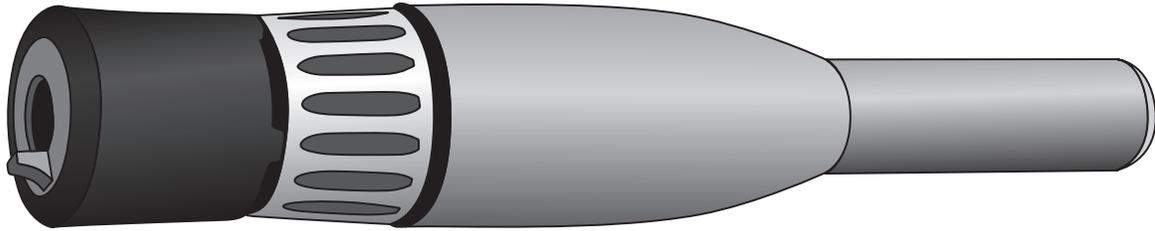




Maestro™ EX Handpiece

For any GRS GraverMach®, GraverMax®, GraverSmith®, or GraverMate®
INSTRUCTIONS • PART #004-905



NORMAL OPERATING RANGE

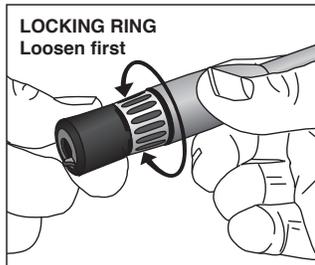
18-22 psi (1.2-1.5 bar) / 1400 - 3400 spm

RECOMMENDED INITIAL SETTING

19 psi (1.3 bar) / 2700 spm

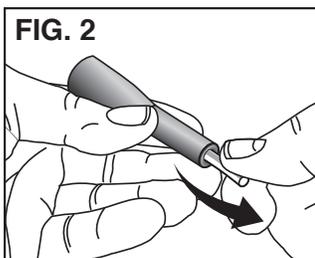
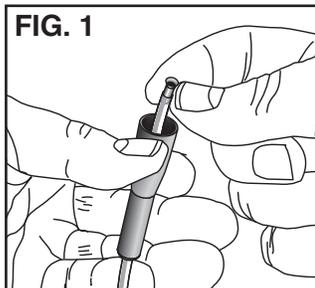
ADJUSTING THE HANDPIECE

The handpiece knob and barrel body are threaded together to allow adjustment of the overall handpiece length. The length can be adjusted from 4" - 4.25". While firmly holding the knob, loosen the locking ring. To lengthen, firmly hold the barrel and unthread the knob to the desired position. To shorten, firmly hold the barrel and unthread the locking ring to the desired position. Finally, thread the locking ring or knob together and tighten. *NOTE: Extending the overall length may cause a loss of power.*



HOW TO ATTACH NEW HOSE

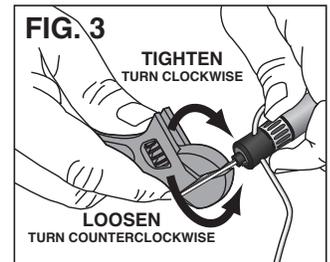
Loosen the locking ring and remove the knob from the handpiece. Remove the old hose simply by cutting it off close to the knob. With a small punch, push the hose/brass fitting back into the knob body. Remove the brass fitting (#004-409 Air Hose Retainer) from the cut off hose piece. Feed the new air 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 around the outside end of the hose next to the brass fitting and pull the



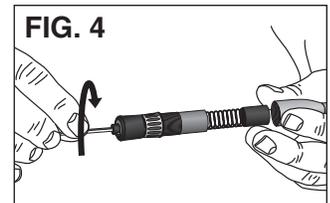
hose back (FIG. 2) into the knob until you see the tip of the brass fitting protrude through the side of the knob. This must be an air-tight fit, so you will have to pull somewhat hard (a few pounds, at least).

MAINTENANCE

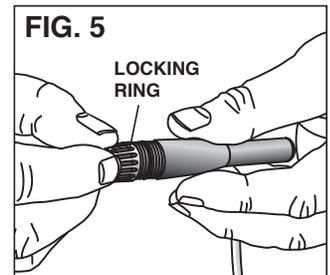
The only basic maintenance for the GRS Maestro EX Handpiece is keeping it clean on the inside. Problems will occur if oil or moisture gets into the handpiece, especially on the piston. If you notice a loss of power or erratic performance, the **FIRST THING** to check is to make sure the RECEIVER (chuck) 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, 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.

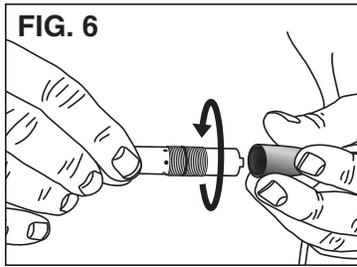


After loosening you can turn the chuck retainer out with your fingertips (FIG. 4). As you pull out the chuck, there will be a spring and piston.



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).



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 allow moisture in the air hose. Before reassembly, make sure everything is dry.

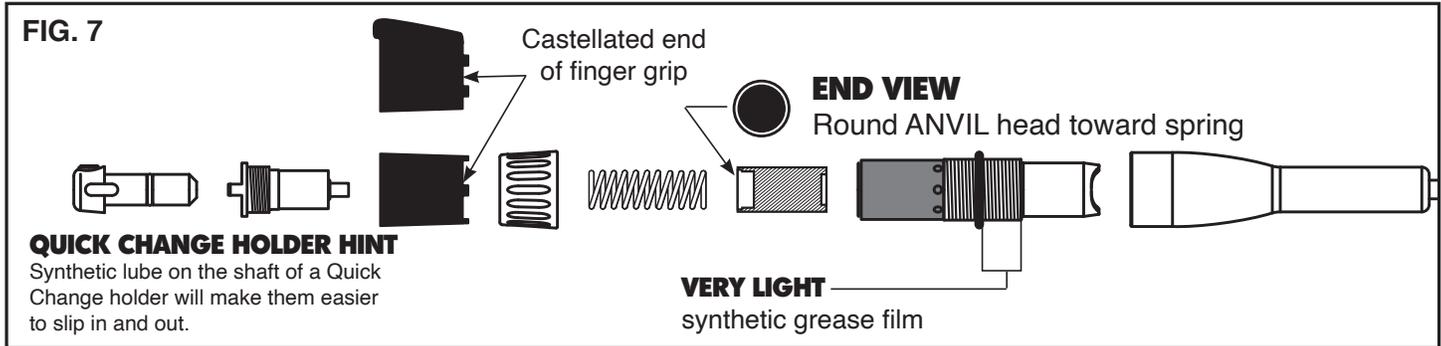
DO NOT OIL INSIDE THE HANDPIECE. NO LUBRICANT IS REQUIRED. Lubricant will actually take away performance!

REASSEMBLY NOTE:

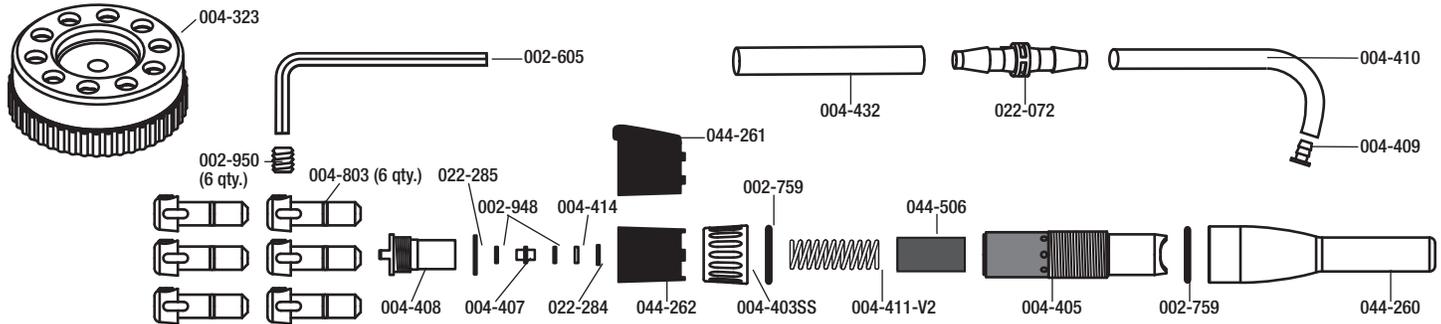
There is an O-ring inside the knob that makes getting the handpiece body to thread a little difficult when reassembling. Use a very small amount of synthetic lube to create a thin film around the OUTSIDE of the shaft between the threads and the end (see VERY LIGHT in FIG. 7).

Do not use petroleum-based oils. Use **synthetic oils only**. Fossil oils can damage the O-Rings.

Please Note: Castellated end of finger grips must face the locking nut (FIG. 7). The castellated portion allows exhaust from the handpiece to vent. Failure to vent exhaust properly could damage handpiece.



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 PARTS LIST • #004-905



Part No.	Description
002-605	Allen Wrench 5/64
002-759	(2 qty.) O-Ring, .625"D, .5"ID
002-948	(2 qty.) O-Ring, .25"OD, .125"D
002-950	8-32 X .13
004-323	Silver-Gray Carousel Cup
004-403SS	Locking Nut
004-405	Handpiece Barrel
004-407	Anvil
004-408	Tool Receiver (901)
004-409	Hose/Barb Retainer
004-410	Tubing, PU CLR .188"OD, .125"ID
004-411-V2	Spring 901 (Version 2)
004-414	Washer, .25OD, .119ID x .03"
004-432	Tubing, PU CLR .25"OD, .17"ID
004-803	(6 qty.) QC Holder
022-072	Tube Coupling, 5/32
022-284	C-Clip, .25 Internal
022-285	O-Ring 12 mm OD 10 mm ID
044-260	Maestro EX Handle
044-261	Ribbed Finger Grip
044-262	Round Finger Grip
044-506	Heavy Piston 901