

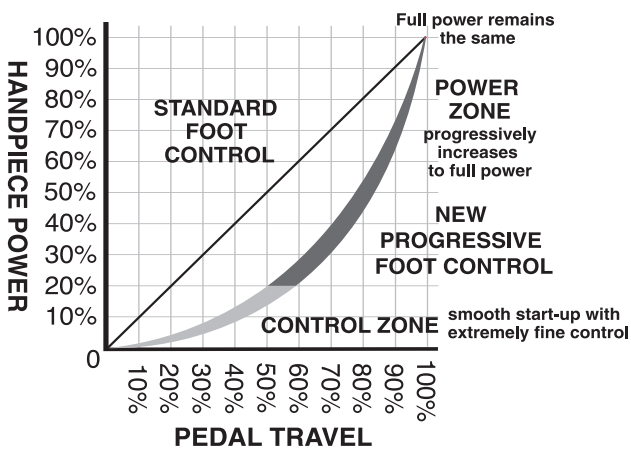
# INSTRUCTIONS for: Precision Remote Air Regulator - SEE INSIDE Progressive Foot Control - SEE BACK COVER

## Progressive Foot Control

for GraverMax / GraverMate

*Advanced Design combines  
FINE CONTROL with FULL POWER*

This new GraverMax foot control gives you extremely smooth start-up, excellent control for bulino, banknote engraving and fine shading PLUS an amazing wide power range. It does this by combining a **control zone** and a **power zone** in one seamless foot control. You can add this new technology to your GraverMax for only \$98. You'll instantly benefit from more confident engraving, stone setting and other fine hand skills.



The Progressive Foot Control changes how the GraverMax unit delivers power to the handpiece. The graph above shows that standard foot controls give about 50% power at half pedal travel. But, the Progressive Foot Control starts with a **control zone** that meters just 20% power for the first half of pedal travel. In the last half, the **power zone** adds progressively more power until 100% is reached at full pedal travel. This means the new Progressive Foot Control provides extremely fine control at the beginning of each cut plus full range of power as you need it.

This new technology is wonderful. The start of each cut is predictable and consistent for even the finest engraved lines. As you push further with your foot, handpiece power increases smoothly so you maintain confidence in all of your work. This helps you not only perform the finest work you've ever done, but also the boldest and deepest, too.



Order Number:  
004-519PRO

SEE BACK COVER FOR  
INSTALLATION INSTRUCTIONS

## Precision Remote Air Regulator

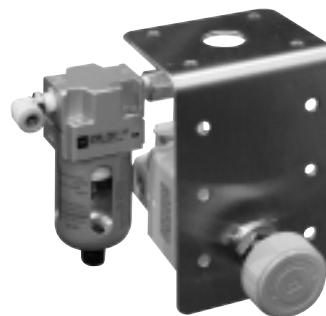
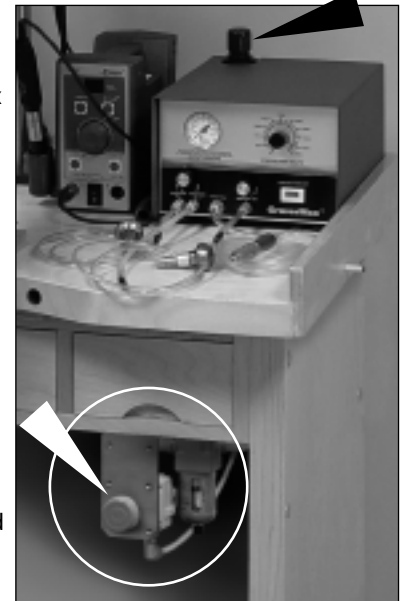
*Get rock-steady air  
pressure regulation  
with remote mount  
convenience*

*Instead of adjusting air pressure here,  
you can now have a convenient remote  
regulator closer to your work area.*

For the best performance and control from your GraverMax or GraverMate, you need precise air pressure control. Most compressed air supplies drift up and down in pressure for several reasons including compressor on/off cycles, air regulator design or pneumatic component aging. Pressure drift can cause inconsistent handpiece start-up and loss of fine control. This new Precision Remote Air Regulator kit uses a special laboratory-grade regulator that maintains air pressure much better than other regulators, including the standard unit built into the GraverMax and GraverMate.

This accurate air pressure regulation means your handpiece will start at precisely the same foot pedal position time after time and handpiece power delivery is smoother across a wider range of stroke speeds. Another benefit is that you can mount this air regulator at the most convenient location for faster and easier adjustment.

This kit includes a stainless steel bracket that mounts almost anywhere including under a work bench top or on the side of a table leg. Plus, you get a high quality filter to keep the precision regulator and downstream air system clean.



Order Number:  
004-930

SEE INSIDE  
FOR INSTALLATION  
INSTRUCTIONS



Glendo Corporation  
900 Overlander Road  
Emporia, KS 66801

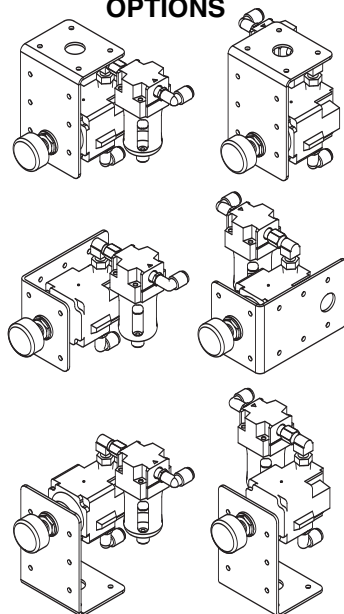
Fax: 620-343-9640  
e-mail: GRS@GrsTools.com  
www.GrsTools.com

LIT#272

For More INFO Call: 800-835-3519

## PLEASE READ INSTRUCTIONS BEFORE INSTALLATION

### ILL. A BRACKET PLACEMENT OPTIONS



The **Precision Remote Air Regulator** installs between the air supply and the GraverMax (GraverMate) machine. Before mounting, take a moment to decide where you want this unit placed on your bench. Which location would be the most handy? You will want it close at hand if you switch handpiece often.

Shut air supply off. Disconnect the air supply line from the back of the GraverMax (GraverMate). If the line is attached to a barb fitting, remove the barb fitting and replace with the extra push-to-connect fitting that comes with this regulator kit. Keep the barb fitting handy.

**NOTE:** If your machine has a push-to-connect fitting, just disconnect the hose. If you have a 1/4" compression fitting, remove hose and cut about 1/2" off the end to remove any hose distortion. You can use the compression fitting or replace with the push-to-connect fitting.

For machines with a barb fitting, you will need to remove the push-to-connect fitting from the remote **AIR FILTER** on the Precision Remote Air Regulator unit and replace with the barb fitting you removed. This connector is located by the marking "N" on the remote air filter.

Now, to attach the Precision Remote Air Regulator unit to your bench. The orientation of the regulator bracket can be easily changed to fit your needs. Note **ILL. A** for bracket placement choices.

**To change bracket position:** Remove the control knob by turning it counter clockwise until it screws out completely. Loosen and remove the nut / washer. Position the bracket as desired.

**IMPORTANT: The AIR FILTER must always be positioned vertical with the clean-out valve located at the bottom.**

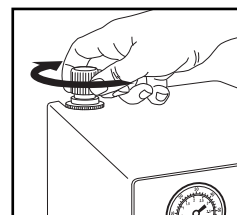
The air filter can be rotated to either side or even behind the regulator to accommodate your needs. Remember, you will need to get to the air filter to empty moisture from the bowl, so make it accessible. Once you have decided the best "set-up", you will find it is easier to mount the bracket to your bench without the regulator/filter attached. Mount the bracket with the included screws and reassemble the regulator/filter with the washer/nut. Replace the knob by turning it clockwise. Turn the knob until you meet a slight resistance. When the knob meets this resistance, it is against the internal valve, stop turning at this point. You will adjust this later when the air supply is on.

With the unit installed, connect one end of the 10 foot hose (included) to the push-to-connect fitting on the bottom of the remote regulator.

*If "push-to-connect" fitting are new to you...they are amazing. With the AIR PRESSURE SHUT OFF, simply insert the hose all the way into the fitting opening — they stay attached. To disconnect, press in on the orange ring while gently pulling the hose out.*

Attach the other end of the 10 foot hose to the push-to-connect fitting you installed on your GraverMax (GraverMate). **IMPORTANT: DO NOT cut the 10 foot hose.** We recommend using the full length. Roll the excess hose up and tuck it up under your workbench. This extra length steadies air fluctuation.

Connect the air supply to the air filter on the REMOTE regulator. Before turning on the air supply, adjust the original built-in GraverMax (GraverMate) air regulator to maximum pressure by turning the adjustment knob clockwise (viewed from above) all the way until it clicks a few times. This will indicate it is at the maximum air pressure setting. You will not use or adjust this regulator again. Full control is now on the new **Precision Remote Air Regulator**.



Turn on the air supply. You may notice what sounds like a slight air leak. A very small amount of air will bleed from the Precision Remote Air Regulator, this is normal. If it sounds excessive, check your hose connections.

## VERY IMPORTANT NOTE ON AIR PRESSURE

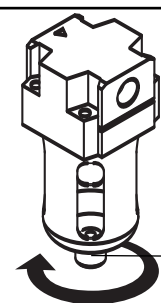
Many GraverMax / GraverMate users put too high of air pressure on their handpieces. Use just enough to stop the handpiece from stroking on its own. Then the foot control will start the handpiece immediately without excessive pre-travel. You will also have the finest control this way. With the Precision Remote Air Regulator, it is best to lower air pressure (turn knob counter clockwise) below what you need, then increase pressure (turn knob clockwise) up to the desired pressure. If you go past the desired setting, turn knob back below desired pressure and bring it back up. You will notice with your new Precision Regulator that the needle in the gauge on the GraverMax (GraverMate) moves more precisely.

### ILL B:

BOWL

BOWL COVER

TO OPEN  
CLEAN-OUT  
TURN CLOCKWISE



### AIR FILTER

To clean moisture out of the air filter, grasp the black button, located at the bottom of the filter, between your thumb and finger and unscrew it clockwise. The button will loosen as you turn it. To close the valve, pull down on the button as you turn it counter clockwise.

Clean out the air filter when you see moisture in the bowl. If you find excessive moisture build-up, you may want to check your air source.

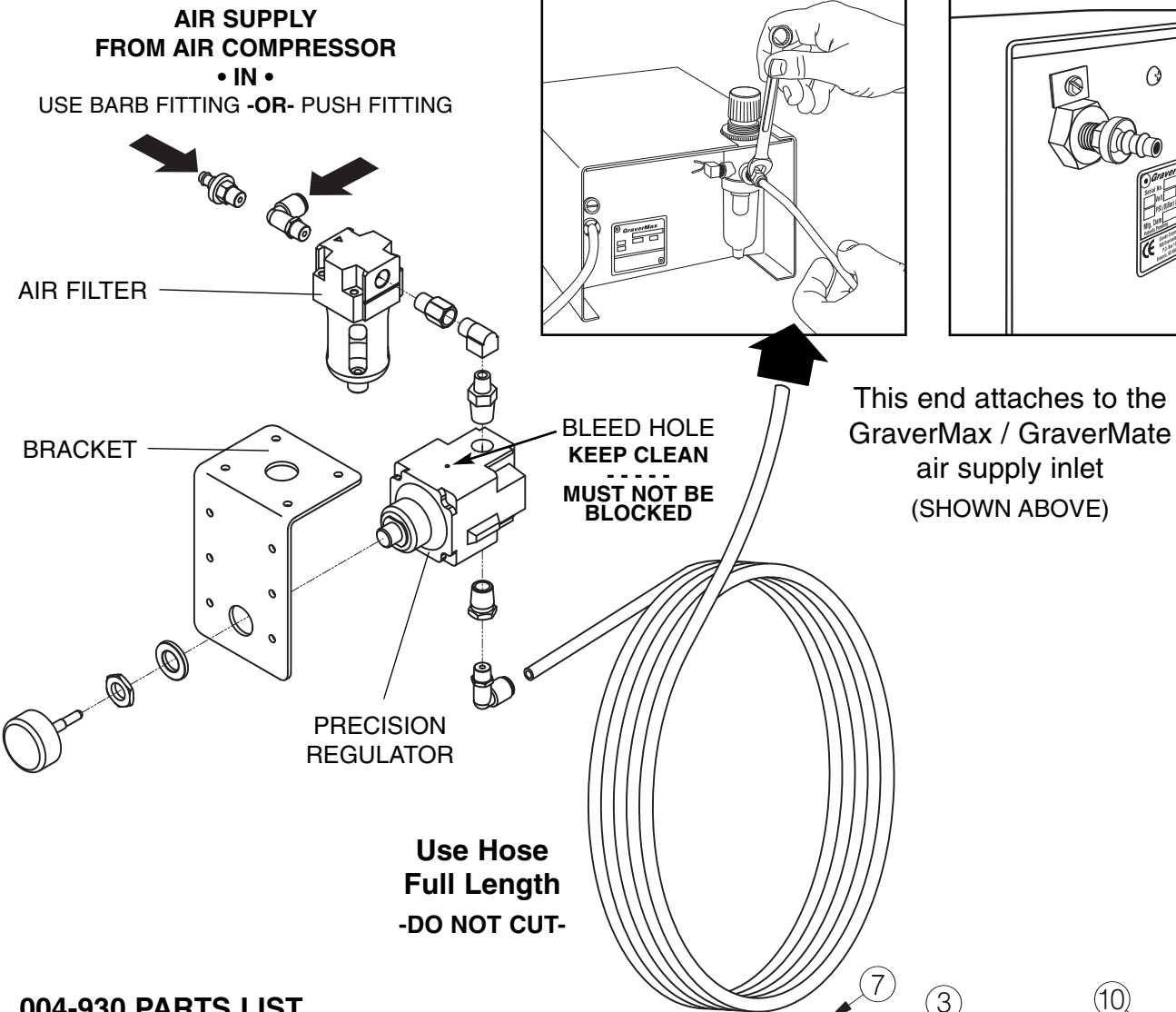
**INSET - ILL B:** For thorough cleaning of air filter, remove the bowl cover by turning it clockwise, then work the bowl out that is held in with an O-ring.

## GraverMax

SHOWN WITH COMPRESSION  
FITTING THAT MAY BE REPLACED  
WITH PUSH-TO-CONNECT FITTING

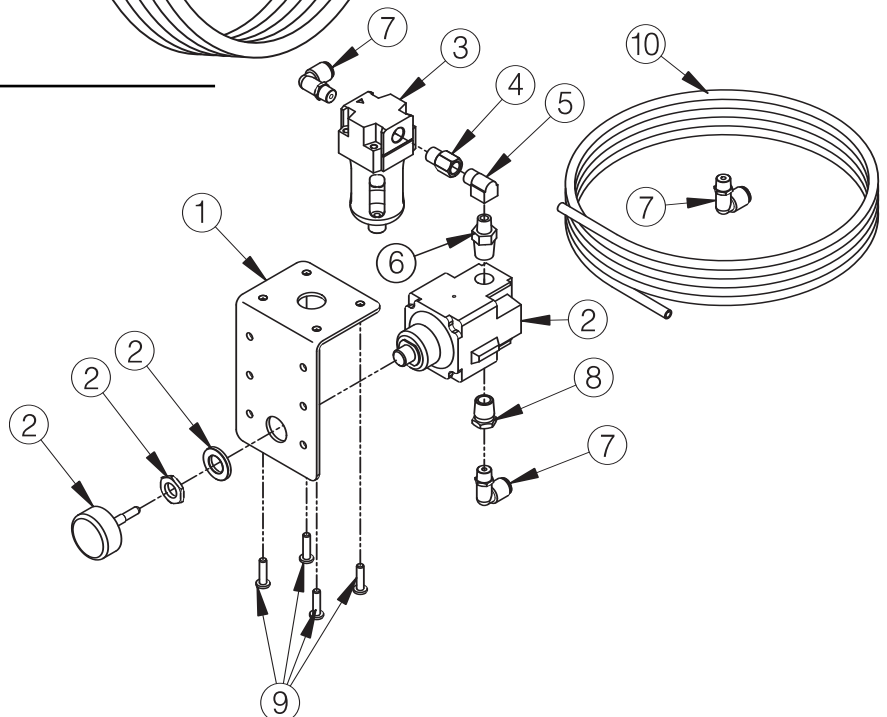
## GraverMate

SHOWN WITH BARB FITTING THAT  
NEEDS TO BE REPLACED WITH  
PUSH-TO-CONNECT FITTING



## 004-930 PARTS LIST

1	004-339	Bracket
2	022-943	Precision Regulator
3	022-944	Air Filter & Bowl
4	002-385	Adapter
5	002-387	Street Elbow
6	002-746	Male 1/4 to 1/8 Pipe Fitting
7	022-230	Push-To-Connect Fitting
8	002-379	Bushing 1/4 to 1/8
9	022-945	#10 - 3/4" Phillips Screws
10	050-004	10 Feet Tubing



# INSTALLATION INSTRUCTIONS

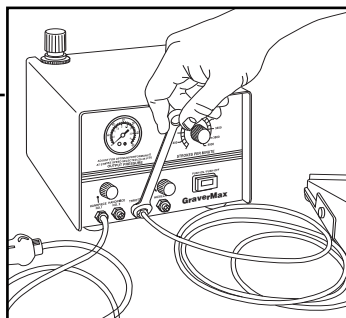
## Progressive Foot Control

The Progressive Foot Control has the same maximum power as the one you are using, but this one is designed to add power much more slowly than the original unit. This may take some getting used to, but you will find it adds considerably more control for fine work.

### CONNECTING

#### GraverMax

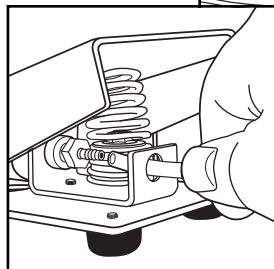
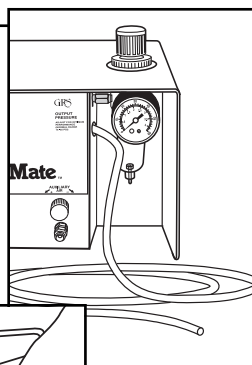
Disconnect existing foot control hose with 7/16" open end wrench and reattach new hose from Progressive Foot Control.



#### GraverMate

The foot control hose is attached internally on the GraverMate. So, disconnect the hose at the foot control. Also, remove the hose that came connected to your new Progressive Foot Control. Simply pull or pry it off with a screwdriver.

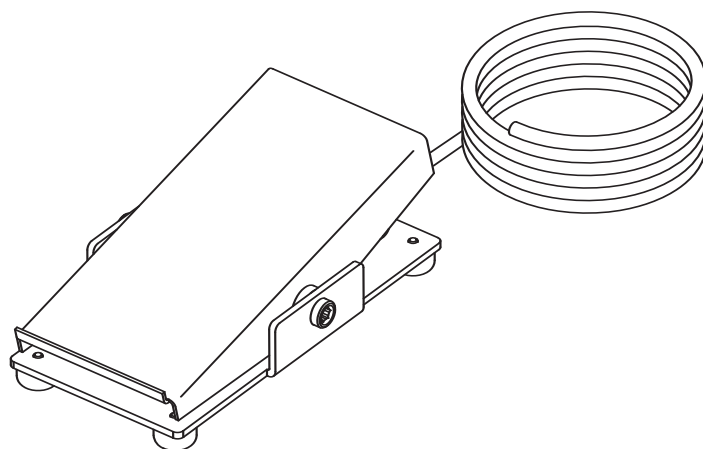
Make sure that small spring over the barb fitting does NOT move out of position. Cut about an inch off the hose end from the GraverMate machine and attach it to the barb fitting on your new foot control.



### GraverMax / GraverMate FOOT THROTTLE # 004-519PRO

- |    |         |                               |
|----|---------|-------------------------------|
| 1  | 004-006 | Throttle Base                 |
| 2  | 004-007 | Hinge Plate                   |
| 3  | 004-010 | Pivot Shaft                   |
| 4  | 044-001 | Progressive Bleed Shaft       |
| 5  | 022-170 | 1/4-40 X 3/16" SHSS           |
| 6  | 002-073 | 1/4-28 Nut (2)                |
| 7  | 011-210 | Rubber Foot Assy. 8-32 X 3/8" |
| 8  | 002-527 | 10-32 X 3/4" RHMS             |
| 9  | 002-526 | Spring Retainer               |
| 10 | 002-204 | 10-32 Hex Whiz Loc Nut        |
| 11 | 001-028 | Throttle Hinge Nut (2)        |
| 12 | 004-009 | Spacer (2)                    |
| 13 | 004-012 | Outlet                        |
| 14 | 002-517 | 1/8" X .170 Barb Fitting      |
| 15 | 004-031 | Throttle Outlet Spring        |
| 16 | 004-008 | Spring Retainer               |
| 17 | 002-065 | 10-32 X 3/8" RHMS (2)         |
| 18 | 001-036 | Throttle Spring               |
| 19 | 004-459 | Spring Retainer               |
| 20 | 002-247 | Washer                        |
| 21 | 022-554 | Extension Spring              |
| 23 | 004-050 | 6 feet of #050-002 Hose       |

### #004-519PRO



### MAINTENANCE

Keep your Progressive Foot Control clean and free of dirt. Set your foot control on top of your bench when you sweep the floor.

