
















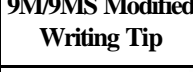






	For burning larger feathers (life sized geese or eagle feathers). Very limited turning radius.		Smaller than the Large Skew, has many of the same uses. Medium to Long lines, limited turning radius.
<b>1 - Large Skew</b>		<b>11 Medium Skew</b>	
	Good for concave areas such as under necks. Good for not leaving a depression from the point. The "2B" version is not sharpened, and is bent at a 45 degree angle for shading.		Like the small skew, but can turn a corner real easily. This is the most popular pen that we sell. Used for fur & small feathers.
<b>2 - Small Round &amp; Shader 2B - Shader</b>		<b>12 - Small Rounded Skew</b>	
	Same as small round, just a bit larger diameter. The 3B version is not sharpened, and is bent at a 45 degree angle for shading.		An even smaller version of the ever popular #12 pen tip. Song bird carvers really like this pen, as do tagua nut pyrographers.
<b>3 - Large Round &amp; Shader 3B - Shader</b>		<b>12S - Micro Rounded Skew</b>	
	Same as a Medium sized Skew knife, but at a lesser angle. Good for lefties'.		Used on flatwork for buildings, carvers use it for fishscales & bumping feathers. (S=3/32", M=1/8", L=1/4")
<b>4 - Flat Skew</b>		<b>13 - Spade Shader/Scaler</b>	
	Good for getting into tight places like under wings.		Used on bird carvings for "bumping" large primary feathers. Right handed version.
<b>5 - Spear Point</b>		<b>14 - Guge RHV Feather Edger</b>	
	Some carvers prefer this for running quill lines.		Same as #14, but is the Left handed version.
<b>6 - Chisel Point</b>		<b>15 - Guge LHV Feather Edger</b>	
	A variation of the Medium Skew, tip is rounded at both the point and heel. Turns easy if you lift the heel.		Basically looks like a small 1/8" chisel tip. Can be used for purposes other than calligraphy. Available in 1/16" version.
<b>7 - Round Point Skew</b>		<b>16 - Small Chisel</b>	
	Works great for doing 1/2" to 1" high calligraphy lettering.		Used to make course hair on your caricature or mammal carvings (up to 1mm wide).
<b>8 - Burnisher</b>		<b>17 - Course Hair</b>	
	Used for writing your name on your carvings.		Flatwork shader used for animals, people, landscapes. Available in Large (Shown), Medium, & Small.
<b>9 - Writing Tip</b>		<b>18 Spear Shader</b>	
	Similar to the #9, but has the end of the tip ground symmetrically, and the end is perfectly round. 9M=0.04", 9MS=0.03".		Draw lines, writing, shading, pointillism, and much more. Available in four sizes: S=1/16", M=5/64", L=1/10", XL=1/8" (S shown).
<b>9M/9MS Modified Writing Tip</b>		<b>19 - Ball tip (S, M, L, &amp; XL)</b>	
	This version of the #9 has been ground so that it comes to a sharp pin point.		Make straight line cuts into gourds with a sawing motion. The #20 can do gourds up to 1/4" thick, the 20L (Shown) can do up to a little over 3/8" thick gourds. Extremely sharp
<b>9PP - Pin Point Tip</b>		<b>20 &amp; 20L Gourd Sawing tip</b>	
	Great for the miniature carver or anyone that needs to do small fine detailed work.		This tip is used to create a faux basket bead on platters or bowls. Used to burn the lines that go across the profile of the turned beads
<b>10 - Small Skew</b>		<b>21A - Basket Illusion 1/8"</b>	
	An even smaller version of the #10 pen tip. Song bird carvers use for fine features.		
<b>10S Micro Skew</b>			

# The Optima 1 Pyrographic System

By P.J.L Enterprises



**INSTRUCTIONS FOR USE:**  
(For Optima 1 Single or Dual burners)

**READ ALL OF THESE INSTRUCTIONS CAREFULLY BEFORE OPERATING YOUR OPTIMA 1 BURNER.**

**KEEP THESE INSTRUCTIONS FOR FUTURE CONSULTATION.**

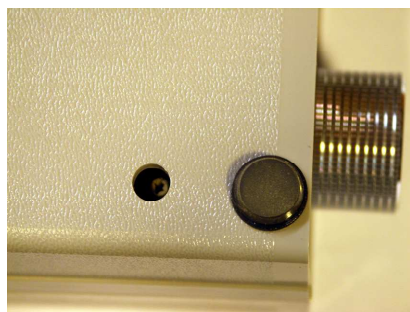
1. **Do not** use excessive pressure on the Ultra Fine pen tips. The Optima 1 Ultra fine tips are made for fine, professional type texturing, and the finer tips will bend or break if too much pressure is used. The HD tips can stand a bit more heat and pressure, but tip lifetime is still dependent upon what type of usage they are exposed to.

2. **Do not** turn the power supply up into the “red-hot” range to “condition” tips, or to “burn off” carbon deposits, as some other brands may recommend. For most burning, you should not have to turn the control past “6” on the dial. However, if you intend carve deeply into material at low heat, you may want to anneal the tip first, by turning the control dial to high until you can not see anymore temperature change; and then slowly turn it all the way down within a 30 second time period.

3. **Do not** clean the pen tips with a stone, coarse sandpaper (< 1500 grit), or any other harsh abrasive, as this will wear out the tip prematurely. Use a leather or fabric strop, or a felt buffing wheel, with a bit of metal polishing compound on it to clean off carbon deposits and keep the tip polished. Aluminum oxide polishing compound on a strop works very well (“paper white” in color). If you are using a fine sandpaper (>= 1500 grit), you only need to move the side of the tip 1/16”, just enough to pop off the carbon. Tips will turn blackish in color upon moderate usage. This is not necessarily carbon, but Chromium Oxide. Do not remove this protective layer (hence, no sandpaper), as it keeps the tip from oxidizing further, and it tends to keep carbon from sticking to the tips in the first place. Pen tip is clean when it reflects light (carbon won’t polish).

4. Send the pen into PJJ Enterprises for tip replacement when necessary. The fee is \$7.00 plus shipping via US first class mail (for up to 13 ounces). Each pen weighs an ounce, and a padded envelope weighs the same. Either give us a call, check with your local post-master, or go to [postcalc.usps.gov](http://postcalc.usps.gov), to accurately estimate shipping costs.

5. The Optima 1 has an adjustment to allow you to set the low end of the temperature range to wherever you prefer. Insert a small flat screwdriver into the trim adjust slot, located in the small hole on the bottom of the unit. Turn it counterclockwise all the way. Turn the main adjustment to low also. Turn the unit on, and then plug a pen into the cord (be “aware” of where that potentially hot pen tip is during this procedure). Turn the adjustment clockwise very slowly while listening very closely to the unit. When you hear a slight buzzing sound coming from the unit, your at the best setting possible. You don’t necessarily need to do this adjustment, do it **ONLY** if your low end is too hot, or the tip has no heat at the lowest setting (i.e.: it turns on at 2 or 3 settings).



6. **Turn off** the Optima 1 while not in use, and **UNPLUG the PENS** to avoid a fire hazard.

7. **KEEP THIS AND ALL DANGEROUS TOOLS OUT OF THE REACH OF CHILDREN. TIPS ARE SHARP AND VERY HOT, AND WILL BURN SKIN MUCH EASIER THAN WOOD! AGAIN, DO NOT LEAVE PEN(S) PLUGGED IN!!**

8. Use Optima brand pen cords only. Use of any “homemade” cords, another brand, or adapter jack/cord combinations may result in damage to the power supply if it shorts out, and will void any warranty coverage. Do not attempt to repair cords yourself, or have someone else do it. Send them in, or call, so that we may honor our warranty, and replace it for you.

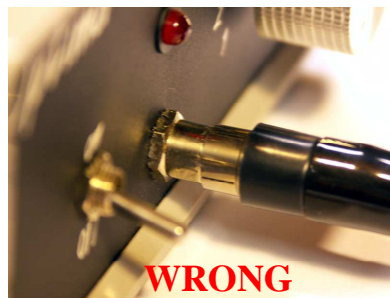
9. The Optima 1 comes with 1 or 2 plastic pen holder clips. Place your pen into it by rotating the foam grip part of the pen into the open side of the pen clip (rotate clockwise when the open side of the pen clip is facing to the right). Do the reverse to extract pens. Keep and store pens in their original pen tubes when not in use.

10. Be sure to insert the cord plugs, on each end, **fully** into the power supply and pen jacks. If your cord plugs get excessively warm near one or both of the cord jacks, this could be the reason (loose jacks). You should only have about a 1/32” to 1/16” gap between the outer edge of the male jack and where the female jack gets larger, or turns into a hex head. When detaching the pen cord(s) from the pens or power supply, be sure **NOT** to pull on the pen cord (grasp the cord cap only). When attaching or detaching the cord from the unit or pens, only rotate jacks “clockwise” to keep from unscrewing either the cord jack or chassis mount unit jacks. If either cord jack still gets excessively hot, stop using that cord immediately, and contact PJJ Enterprises for diagnosis and repair assistance.

**WRONG**



**CORRECT**



**WRONG**



**CORRECT**

#### **WARRANTY INFORMATION:**

The Optima 1 control unit, cord, and handpiece carry a limited lifetime warranty against “manufacturing defects”. Pen “tips” are not under warranty since their use, or abuse, is beyond our control. However, an obvious factory defect will be replaced for free.

#### **Warranty Contact Information**

PJJ Enterprises

P.O. Box 273 (US Mail Only) or 720 N. Perry Ave. (UPS or FedEx)

Browerville, MN 56438

Phone: 320-594-2811

Website: [www.carvertools.com](http://www.carvertools.com)