helping you do your best work

J.L.Smith & Co.
TOOLS AND SUPPLIES

2008 catalog

www.jlsmithco.com
Dear Friends,

Thanks to customers like you, our business continues to grow. We are searching worldwide to offer you the best products available to our trade. Since we are unique in that we also have an on-site repair shop, our products are tried and tested. This year we have adopted the slogan “Helping You Do Your Best Work” and I hope you will find that to be true in the following pages of our catalog, on our websites or from the technical help and customer service you receive from my team members.

We are continuing to grow the Valentino line of products offering some new and innovative items. We are also still cycling through the Ed Meyers tools and should have more items available throughout this year. Thank you for your patience with us during this transition.

We will be exhibiting this year at NAMM, MusicMesse, the annual NAPBIRT convention as well as local NAPBIRT events. If you are attending any of these, please make sure you come by our booth to say hello. We are always glad to see old friends as well as meet our new customers. The most up to date information on locations and dates of where we will be can be found on our web site.

I’m trying to build a better company, and I would appreciate your thoughts on how we operate our business. Please send your comments directly to me at jsmith@jlsmithco.com. If you are willing to let me use your comments for promotional purpose (on the web and so forth), please indicate this in your message. I would appreciate that. I would also enjoy having a picture of you in your workshop.

Enjoy, and let me hear from you!
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valentino felt pads

**saxophone**

We focus on creating a consistent pad with predictable diameters and thicknesses. Our 350 series saxophone pad is a premium thin pad featuring a densely woven felt with an imported, tight-grained, dark brown skin. The skins are made so that they will not stick or cause that annoying “kissing” sound. The thickness of this pad allows for use with most modern instruments. Excellent choice for top level work. Nice solid feel under the fingers.

Available in 7.0mm - 64.0mm in .5mm increments

- 350 .160” (4mm) no resonator (center hole only on pads 18mm and larger)
- 350P .160” (4mm) w/plastic resonator
- 350M .160” (4mm) w/domed metal resonator
- 350A .160” (4mm) w/aluminum Hollywood resonator
- 350B .160” (4mm) w/brass Hollywood resonator

**thin flute**

Our premium, double skin felt pad is perfect for thin pad cups.

- Nice durable double skin.
- Thickness is about 2mm (.080”)

Sold in .5mm increments

- 370 Yellow, 11 - 12.5mm and 16.0 - 20.0mm in .5mm increments
- 370F 17.0 - 18.5 mm in .5mm increments, open hole

**clarinet**

Our premium, double skin felt beveled style pad is perfect for thin pad cups.

- Beveled style pad runs approximately 3mm (.120”) thick with felt exposed 1.75mm (.070”).
- Firm pressed felt, flat pad, very consistent sizing.
- Nice durable double skin.

Sold in .5mm increments

- 360 White, 7.5 - 18mm in .5mm increments

---

valentino custom sax pad sets

- 700175 Custom sax pad set, soprano sax
- 700176 Custom sax pad set, alto sax
- 700177 Custom sax pad set, tenor sax
- 700178 Custom sax pad set, baritone sax

Specify pad sizes, make, model and serial number of instrument.

---

valentino custom sax pad sets

- 700175 Custom sax pad set, soprano sax
- 700176 Custom sax pad set, alto sax
- 700177 Custom sax pad set, tenor sax
- 700178 Custom sax pad set, baritone sax

Specify pad sizes, make, model and serial number of instrument.

---

valentino custom sax pad sets

- 700175 Custom sax pad set, soprano sax
- 700176 Custom sax pad set, alto sax
- 700177 Custom sax pad set, tenor sax
- 700178 Custom sax pad set, baritone sax

Specify pad sizes, make, model and serial number of instrument.
Lucien Deluxe Pads are made to our specs by Pisoni of Italy. They are of premium quality and are priced accordingly. We find customers using these for high end professional instruments as well as student and school horns. A quality pad is always the best value when trying to effect quality work in the least amount of time.

- Beveled style pad runs approximately 3mm (.120") thick with felt exposed 1.75mm (.070").
- Firm pressed felt, flat pad, very consistent sizing.
- Nice durable double skin.

**Lucien Deluxe Pads**

**Clarinet**

- Beveled style pad runs approximately 3mm (.120") thick with felt exposed 1.75mm (.070").
- Firm pressed felt, flat pad, very consistent sizing.
- Nice durable double skin.

<table>
<thead>
<tr>
<th>Increment</th>
<th>Color</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5mm</td>
<td>White</td>
<td>7.5mm - 18mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>Yellow</td>
<td>7.5mm - 17.5mm</td>
</tr>
</tbody>
</table>

**Medium Flute**

- Our woven felt style is approximately .110" in thickness and is perfect for most brands. This can be used for student and pro work. The quality of the pads reduces the amount of shimming required.
- Skin is very tough - requires little or no ironing.
- Recess cut in cardboard allows for fit over stud.
- Cardboard thickness (.025") allows pad to react to partial shimming.
- Woven felt is firm - not hard, though (will not take deep impression).
- Consistent thickness.
- These pads are flat and even across the face.
- They will save you much time in quest of great pad work!

<table>
<thead>
<tr>
<th>Increment</th>
<th>Color</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5mm</td>
<td>White</td>
<td>11mm - 12.5mm, 16mm - 20mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>Yellow</td>
<td>11mm - 12.5mm, 16mm - 20mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>White Open Hole</td>
<td>17mm - 18.5mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>Yellow Open Hole</td>
<td>17mm - 18.5mm</td>
</tr>
</tbody>
</table>

**Thin Flute**

- Our thin, pressed felt Lucien Deluxe pad is perfect for professional instruments and flutes with a shallow cup. These run just slightly over 2mm thick (about .085"). The pressed felt reduces the possibility of a deep impression, and as you would imagine, needs a very good tone hole face.

<table>
<thead>
<tr>
<th>Increment</th>
<th>Color</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5mm</td>
<td>Yellow</td>
<td>11mm - 12.0mm, 16mm - 20mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>Yellow Open Hole</td>
<td>17mm - 18.5mm</td>
</tr>
</tbody>
</table>

**Alto and Bass Flute**

- About .120" in thickness.

<table>
<thead>
<tr>
<th>Increment</th>
<th>Color</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5mm</td>
<td>Without center hole</td>
<td>13.0mm - 16.6mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>With center hole</td>
<td>20.5mm - 28.5mm</td>
</tr>
</tbody>
</table>

**Thin Piccolo, Oboe, and English Horn**

- All the attributes of the flute pads.
- Pressed felt.
- .085" in thickness.
- Slightly beveled in profile (cardboard smaller diameter than felt).
- Some would not call this a beveled pad.

<table>
<thead>
<tr>
<th>Increment</th>
<th>Color</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5mm</td>
<td>White</td>
<td>6.5mm - 15.5mm</td>
</tr>
<tr>
<td>.5mm</td>
<td>Yellow</td>
<td>6.5mm - 15.5mm</td>
</tr>
</tbody>
</table>
saxophone - lucien deluxe

- Available in 7.0mm - 70.0mm in .5mm increments.
- Nice flat pad with firm woven felt.
- High quality skin.
- Takes shallow to moderate impression.
- Diameter sizing is excellent, fits cup nicely.
- Approximately .170” in thickness. On the thin side of medium.
- 4mm center hole allows for resonator of your choice, or rivet.

- 300 With center hole only
- 300R With rivet only
- 300P With Selmer style brown plastic resonator
- 300M With Selmer style domed metal resonator

bassoon

About .150” (3.7mm) in thickness.

Sold in .5mm increments

- 310 White (8.0mm - 32.0mm)

lucien deluxe assortments

All of our Lucien pad assortments contain pads sorted by size and determined by need. All Technician Assortments are packaged in tough plastic divided bin boxes for convenient storage. The bins are labeled for easy reordering. Assortments are a great way to get started, and keep organized.

Lucien Deluxe Clarinet Pad Assortment
800030 White Clarinet Pad Assortment - 114 pads.

Lucien Deluxe Flute Pad Assortments
800025 White Flute Pad Assortment - 112 pads
800026 Yellow Flute Pad Assortment - 112 pads (shown)
800027 Thin Yellow Pad Assortment - 112 pads

Lucien Deluxe Piccolo Pad Assortments
800028 Yellow Piccolo Pad Assortment - 102 pads
800029 White Piccolo Pad Assortment - 102 pads

valentino synthetic pads

Please order by the Series No. plus the 3 digit mm diameter (No decimal). For example, the item code for 100 of Greenback .110” thick 16mm is 702160 or 1 dozen is 712160.

greenback white pads:

- Top Seal
- Core
- Paper

Sold by diameter 6.5 - 12mm in .25mm increments, 12.5 - 20 in .5mm increments.

- .080" Our thinnest pad primarily used for piccolo, oboe and English horn.
- .110" Our .110” thick pad can be used as a medium piccolo pad and as a thin clarinet pad. Also used for trills and the C key on flutes.
- .120" Our .120” thick pad is used as a medium clarinet pad. Also used for trills and the C key on flutes.
- .120” Alto clarinet aperture pad
- .120” Bass clarinet aperture pad
- .130” Our .130” thick pad will be used as a thick clarinet pad, alto and bass clarinet. Sizes 6.5mm-34mm
- .150” Our .150” thick pad will be used as a thick bass clarinet pad. Sizes 17.5mm-30mm

greenback cork pads:

- Top Seal
- Core
- Paper

Sold by diameter 6.5 - 12mm in .25mm increments, 12.5 - 20 in .5mm increments.

- .110” This pad can be used as a medium oboe, thin clarinet and thin bassoon pad.
- .120” This pad is used as a medium clarinet and bassoon pad, or as a thick oboe pad.
- .130” This pad can be used as a thick clarinet pad, alto and bass clarinet.
greenback white flute pads with center hole:

4mm center hole sold by diameter 16mm - 20mm in .5mm increments. Call for alto and bass sizes. Flute pads without center hole (trills, C, etc.), please order white greenback pads.

.065” Our thinnest flute pad is used on flutes with stabilizers. ...........................(dozen) 731 ............(hundred) 721
.080” Our thin flute pad is used on flutes with shallow key cups as well as with stabilizers or adhesive floating techniques. ...........................(dozen) 732 ............(hundred) 722
.110” Our medium flute pad is used on many brands of instruments with deep cups or requiring more exposure out of the cup. ...........................(dozen) 733 ............(hundred) 723

greenback white french flute pads with large center hole:

Feature a larger 9mm center hole for use on open hole “French” keys. Specify diameter 17mm - 18.5mm (.5mm increments).

.065” Our thinnest flute pad is used on flutes with stabilizers. ...........................(dozen) 735 ............(hundred) 725
.080” ...........................(dozen) 736 ............(hundred) 726
.110” ...........................(dozen) 737 ............(hundred) 727
.120” ...........................(dozen) 738 ............(hundred) 728

adhesive back pads:

Adhesive back pads feature a peel off backing for quick/easy emergency install peel-and-stick application. Sold by diameter 6.5mm - 20mm (.5mm increments) unless specified otherwise.

.110” Used as a quick/easy install pad on oboe, small clarinet pads, flute trills. White. ...........................(dozen) 791 ............(hundred) 781
.130” Used as a quick/easy install pad on clarinets. White. ...........................(dozen) 793 ............(hundred) 783
.130” Used as an quick/easy install pad on clarinets. Cork. ...........................(dozen) 795 ............(hundred) 785
.150” Used as an quick/easy install pad on bass clarinets and saxophones. Specify diameter 16.5mm-20.5mm (.5mm increments). White. ...........................(dozen) 794 ............(hundred) 784
.150” Used as an quick/easy install pad on saxophone octave keys. Specify diameter 9mm or 9.5mm. Cork. ...........................(dozen) 796 ............(hundred) 786

a note about stabilizers

Our Valentino Flute Pad Stabilizers offer the technician a perfect way to create a flat and stable bed for flute padding. Once there is a level bed inside the cup, the pad will be much more reliable over time, because it is properly supported. The stabilizers reduce the amount of shimming, and make that job much more pleasant.

The Valentino plastic stabilizers measure .040” thick. They are to be glued in with slow cure epoxy (105104) and are intended for very thin pads. They work perfectly with our .065” flute pad, creating a “setup” thickness of .105”-same as an average flute pad.

Available in individual sizes or in an assortment.
flute pad stabilizers

Our new black plastic flute pad stabilizers are available individually or in an assortment. Stabilizers are a great way to establish accurate and reliable padding in flute keys by creating a flat base for the pad inside the key cup. The domed cup shape of most keys can lead to distortion of the pad, and causes issues with pad coverage. Stabilizers measure .040” in thickness (1mm). Our stabilizers are intended to be glued in, prior to installing a flute pad. We recommend gluing these in with our slow set 105104 epoxy. Apply a small dab on 4 points of the stabilizer bottom (profiled side) with a toothpick. Place the stabilizer into the cup. Apply a twisting motion to distribute the glue (use a 113002 swab for this). Clean any excess glue with a fresh 113003 swab. Set the key aside to allow the glue to cure before handling further.

168028 Valentino Flute Pad Stabilizer 16mm
168029 Valentino Flute Pad Stabilizer 16.5mm
168030 Valentino Flute Pad Stabilizer 17mm
168031 Valentino Flute Pad Stabilizer 17.5mm
168032 Valentino Flute Pad Stabilizer 18mm
168033 Valentino Flute Pad Stabilizer 18.5mm
168034 Valentino Flute Pad Stabilizer 19mm
168035 Valentino Flute Pad Stabilizer 19.5mm
168036 Valentino Flute Pad Stabilizer 20mm
700026 Valentino Flute Pad Stabilizer Assortment
138 Stabilizers assorted by need. Comes organized and labeled in our plastic bin box

113002 Standard Swab 100/pk
113003 Pointed Swabs 10/pkg
105104 Slow Set 30 Min Epoxy

Pad Sets: Purchasing sets may be economical and appropriate under certain circumstances. Since makers may make changes from time to time, we cannot always be certain that the pad sets you order will fit a specific instrument or model year.

valentino pad sets

Flute Sets
700201 Gemeinhardt
700202 Armstrong (shown)
700203 Selmer/Bundy
700204 Yamaha
700212 Fits most Chinese models
700210 Custom Flute Set, C foot
Specify pad sizes, make, model and serial number of instrument.

Flute w/Low B Open Hole
700205 Gemeinhardt
700206 Armstrong
700207 Selmer/Bundy (shown)
700208 Yamaha
700211 Custom Flute Set, B foot
Specify pad sizes, make, model and serial number of instrument.

Piccolo Sets
700259 Emerson - All
700251 Armstrong - Plastic
700257 Armstrong - Metal
700258 Armstrong - Wood
700252 Gemeinhardt - Plastic
700255 Gemeinhardt - Metal
700256 Gemeinhardt - Wood
700253 Yamaha - US (shown)
700254 Yamaha - Japan
700261 Fits most Chinese models
700260 Custom Piccolo Set
Specify pad sizes, make, model and serial number of instrument.
Clarinet Sets

- **700151** Universal clarinet pad set with adhesive back
- **700152** Universal clarinet pad set greenback (shown)
- **700153** Yamaha clarinet pad set blueback (press fit uppers)
- **700154** Yamaha clarinet pad set greenback
- **700155** Bundy/Selmer USA clarinet pad set greenback
- **700156** Vito clarinet pad set greenback
- **700157** Buffet clarinet pad set greenback
- **700162** Fits most Chinese models
- **700163** Vito bass clarinet, old style (low Eb on bell)
- **700164** Bundy bass clarinet
- **700165** Vito bass clarinet, new style (low Eb on body)
- **700161** Custom clarinet set
  Specify pad sizes, make, model and serial number of instrument. Measure the inside diameter of pad cup on clarinet, not diameter of old pad.

**valentino technician’s assortments**

**.065” flute pad assortment w/stabilizers**

102 of the most popular .065” flute pads, and all needed stabilizers, organized in a durable plastic case.

(also see individual stabilizers on page 5)

**700030** .065” Flute Pad Assortment w/Stabilizers

**.110” clarinet pad assortment**

228 of the most popular .110” clarinet pads, organized in a durable plastic case.

**700032** .110” Clarinet Pad Assortment

**.110” flute pad assortment**

196 of the most popular .110” flute pads, organized in a durable plastic case.

**700031** .110” Flute Pad Assortment

**piccolo pad assortments**

174 of the most popular .080” or .110” piccolo pads, organized in a durable plastic case.

**700033** .080” Piccolo Assortment
**700034** .110” Piccolo Assortment

**.080” Piccolo Assortment**

700033

**.110” Piccolo Assortment**

700034

Mark Farley
Valentino Fabrication
Team Leader
seaman piccolo pads

We now have the original Seaman style piccolo pads. Seaman pads are known for longevity and stability. Fits Zentner, Seaman and other brands. Available either by the set or by the size (in white). Sets contain 5-8mm, 5-9mm, 3-10mm and 2-11mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>319000</td>
<td>Seaman style white piccolo pad set</td>
</tr>
<tr>
<td>319001</td>
<td>Seaman style yellow piccolo pad set</td>
</tr>
<tr>
<td>319080</td>
<td>8mm white</td>
</tr>
<tr>
<td>319090</td>
<td>9mm white</td>
</tr>
<tr>
<td>319100</td>
<td>10mm white</td>
</tr>
<tr>
<td>319110</td>
<td>11mm white</td>
</tr>
</tbody>
</table>

pilot pivot end-play washers

“Pilot Pivot” screws are those that are straight rather than tapered. While tapered pivots allow you to remove end-play with traditional key fitting methods, “pilot pivots” don’t give you the same opportunity. For top performance, it is still important to remove end-play on these instruments. The only practical way to do that is by using our “Pilot Pivot” washers. These washers are simply placed between the key and the post, while you are inserting the pivot screw. You’ll save yourself a lot of trouble if you use tweezers. The clarinet size works for flute, the saxophone size also works for bass clarinet.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>165001</td>
<td>Clarinet Pilot Pivot Washer .005” Teflon - 25 pack</td>
</tr>
<tr>
<td>165002</td>
<td>Clarinet Pilot Pivot Washer .0075” Plastic - 25 pack</td>
</tr>
<tr>
<td>174001</td>
<td>Saxophone Pilot Pivot Washer .005” Teflon - 25 pack</td>
</tr>
<tr>
<td>174002</td>
<td>Saxophone Pilot Pivot Washer .0075” Plastic - 25 pack</td>
</tr>
</tbody>
</table>

hinge end-play washers

We now make Hinge Washers for instruments where it is not practical to expand the hinge by swedging. This may be the case on student instruments where budgets don’t allow time consuming key fitting, or on instruments that have hard nickel plating and so forth. These tough plastic washers will fill the gap between the post and the end of the hinge tube. The clarinet size works for flute, the saxophone size also works for bass clarinet.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>165003</td>
<td>Clarinet Hinge Washer .0075” - 25 pack</td>
</tr>
<tr>
<td>174003</td>
<td>Saxophone Hinge Washer .0075” - 25 pack</td>
</tr>
</tbody>
</table>

JS digital gold flute pads

JS Gold flute pads have a layer of pure gold powder that is infused directly into the skin and exposed on the pad surface. The gold is bonded onto a synthetic film that is much more durable than bladder skin. The metallic powder is so thin that it does not reduce the softness of the pads, nor does it increase the closing noise of the pad. Other pads may allow some of your precious tone to be absorbed into the pad cushion. Gold reflects all of that beautiful sound to the listener’s ear. Digital pads stay flat and stable. They do not require as much maintenance as other flute pads. Their reliability and stability gives you peace of mind because they offer a superior and consistent seal without absorbing moisture and warping like conventional pads. Each pad comes with a plastic backing washer. Open hole French pads MUST use JS delrin bushings or they will leak. These pads are extremely flat and require flat tone holes to match (use 227019 JS diamond rotary tone hole files). Delrin plastic bushings and soft plastic retainer screw seals are essential for a perfect job. Specify brand and model. When ordering these sets, please describe the flute as completely as possible. We’ll need: serial number, open-hole or plateau, B or C foot, C# trill or not.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>328002</td>
<td>Digital Gold Flute Pads (C or B Foot)</td>
</tr>
<tr>
<td>328003</td>
<td>Digital Gold Flute Pads (B Foot w/C# Trill)</td>
</tr>
</tbody>
</table>

JS gold sax pads

These amazing sax pads are actually infused with metal right on the surface of the soft cushion for the ultimate in tone and dependability. Metal particles are also embedded directly into the film - this high tech achievement gives you an extremely durable surface. Using a metallic pad is like using a pad that is entirely resonator - all that beautiful tone is reflected to the listener. Metal is much more sound reflective than leather and does away with sticky problems as well. The metal is so thin and flexible that it closes quietly on the tone hole. These pads are not porous and they seal much better than leather pads. They are very stable because they do not shrink or swell with moisture. Each pad comes with a hard plastic backing to keep it perfectly flat. Their excellent flatness requires that tone holes be flat as well (use JS diamond rotary tone hole files. To be floated in as usual with hot glue (not shellac), use our 105003. Expensive, but the tone improvement is worth the cost. Metalized pads come with domed metal resonators installed. Other types of resonators installed by special order.
We stock sets for popular models – other sets and individual pads by special order (please supply cup internal dimension).

168008 Gold Set for Alto and Tenor (specify make, model and serial no.)

delrin french flute pad retaining bushing (plastic grommet)

<table>
<thead>
<tr>
<th>Size (mm) (bushing interior)</th>
<th>Brand</th>
</tr>
</thead>
<tbody>
<tr>
<td>168026 7.5</td>
<td>Altus, Williams</td>
</tr>
<tr>
<td>168027 7.6</td>
<td>Brannen, Lusk, Lamberson, Pearl</td>
</tr>
<tr>
<td>168022 7.7</td>
<td>Haynes, Powell, Miyazawa, Powell 2100 &amp; 3100, McCanless</td>
</tr>
<tr>
<td>168044 7.8</td>
<td>Muramatsu, Moore, Koregelo, Lopatin</td>
</tr>
<tr>
<td>168021 7.9</td>
<td>Armstrong, Arista, Sankyo, Emerson 88, Burkart, Tom Green, Trevor James</td>
</tr>
<tr>
<td>168045 8.0</td>
<td>Powell Signature, Artley</td>
</tr>
<tr>
<td>168046 8.1</td>
<td>Very old Powell, Goosman, Landell</td>
</tr>
<tr>
<td>168024 8.2</td>
<td>Gemeinhardt, Powell Commercial, also for JS steel sleeve Yamaha rebuild kit</td>
</tr>
<tr>
<td>168047 8.3</td>
<td>Delrin Bushing Assortments</td>
</tr>
</tbody>
</table>

Delrin bushing assortments come in a 6 compartment container with 6 sizes (5 per size) from 7.6 To 8.1mm. This will give you a set of bushings for each size, allowing you to overhaul any common model instrument with the JS bushings. Then you can reorder only the sizes you have used. The best way to get started with these great bushings.

bushing and sleeve upgrade kit for yamaha

This set allows the tech to use JS pads on Yamaha flutes. Stainless steel sleeves fit over key cup chimneys and are glued in place with thread locker. Delrin bushings will replace the Yamaha metal bushings. Set for one flute. Fits 500 series and up. Does not fit 300 or 400 series.

JS plastic pad screw washer

Soft plastic washers keep the screw tight to the washer and seal against the washer. Makes quite a difference in amount of leakage.

168040 Pad Screw Washers, .006” thick (pkg/10)

JS pad retaining magnet system

Now you have an alternative to the old screw and washer retaining system for flute pads. Replace the old retaining washers with a small pair of powerful magnets (one attached to the retainer disc and the other to the cup). The screw-free metal surface of the retaining washer is more streamlined. This streamlined shape benefits the acoustical properties and projection of the flute. Another plus is that since there is no screw hole in the center, there is no possibility of leakage in this area. The magnets exert just the right amount of tension on the pad and that tension is constant. The magnetic retainer is a simple and attractive improvement over a screw and hole that can loosen, leak and fail. Kit assemblies include magnets, mount and sterling silver washers. Choose retainers for regular cups or deep cups (old Haynes and Powell).

168048 JS Pad Retaining Magnet Set

The magnets are sold in sets of 10 which provides for most b foot models plus an extra, or this allows for a c# trill (no extra). Complete with instructions.

We recommended these tools for installing the magnet system:

227038 Magnet Key Base

This is essentially a base peg with a recess cut for the key arm (felt lined), which will hold the key centered. Inside the base is an imbedded magnet. This magnet base sets the orientation of the pad spud magnet.

227037 Magnet Radius Tool

The radius tool peens the copper housing over to hold the magnet securely into the key housing.
We now offer complete size arrays and assortments of flute shims in paper, waterproof-paper, and plastic. These are made in-house on our custom equipment.

Benefits to technicians include:
- Consistent sizing. We have selected papers and plastics, which maintain a tight tolerance.
- Waterproof paper and plastics do not absorb water. Leads to a more stable repair.
- Color-coding keeps the bench organized and leads to more efficient repair.
- 9.5mm center hole fits flutes better than standard 9mm.

Our flute shims are made in-house for precise quality control. See why major factories and repair shops prefer our shims.

**Valentino Paper Flute Shims:**

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Diameter</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>.001&quot;</td>
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</tr>
<tr>
<td>.002&quot;</td>
<td></td>
<td></td>
</tr>
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<td></td>
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<tr>
<td>.012&quot;</td>
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</tr>
</tbody>
</table>

Complete Paper Shim Assortment - Contains 100 each of diameters from 16mm-19.5mm, and thicknesses .001"-.008". 4800 shims.

Whole Size Paper Shim Assortment - Contains 100 each of diameters 16, 17, 18 and 19mm, and thicknesses .001"-.008". 2400 shims.

**Valentino Waterproof Paper Shims:**

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Diameter</th>
<th>Codes</th>
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</tr>
<tr>
<td>.008&quot;</td>
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</tbody>
</table>

Our waterproof shims are paper shims that are treated to repel water. Sold in 100 packs.
valentino plastic flute shims:

Our plastic flute pad shims are ideal for cups that are machined with a flat interior, or when a glued-in stabilizer is used. Perfect for conditions where water vapor can get to the shim. Sold in 100 packs.

<table>
<thead>
<tr>
<th>Thickness</th>
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<th>.001&quot;</th>
<th>.002&quot;</th>
<th>.003&quot;</th>
<th>.004&quot;</th>
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800005 Complete Plastic Shim Assortment - Contains 50 each of all diameters in all thicknesses but .075".
800004 Whole Size Plastic Flute Shim Assortment- Contains 50 each. Does not contain half size diameters.

valentino alto/bass flute shims:

Sold in 25 packs.

<table>
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<th>.004&quot;</th>
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<td>546003</td>
<td>546004</td>
<td>546005</td>
<td>546006</td>
<td>546007</td>
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</tbody>
</table>

800003 Alto flute shim assortment.
Contains 1000 shims (25 each of all thicknesses except .001" and .010", in diameters 20, 22, 23, 24, 25, 26, 27 and 28mm) to handle all of your shim requirements for alto flute. Organized for you in our crush proof plastic assortment box (with the handsome JLS logo).

valentino piccolo shims

Our piccolo shims are intended for those that prefer to set their piccolo pads “on the hard” rather than float them in. Once the pads are shimmed properly for coverage, they are then glued in with liquid shellac or similar. Sold in 100 packs.

<table>
<thead>
<tr>
<th>Thickness</th>
<th>.001&quot;</th>
<th>.002&quot;</th>
<th>.003&quot;</th>
<th>.004&quot;</th>
<th>.006&quot;</th>
<th>.010&quot;</th>
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<td>560004</td>
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<td>562004</td>
<td>562005</td>
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<td>563006</td>
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<td>564003</td>
<td>564004</td>
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<td>565004</td>
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<td>566003</td>
<td>566004</td>
<td>566005</td>
<td>566006</td>
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<td>567004</td>
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<td>567006</td>
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<td>568002</td>
<td>568003</td>
<td>568004</td>
<td>568005</td>
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<td>569003</td>
<td>569004</td>
<td>569005</td>
<td>569006</td>
</tr>
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</table>
flute pad screw washers - paper

Our paper flute screw washers are intended to set between the pad screw and the pad retaining washer. This will keep the screw secure, and will eliminate a potential leaking point.

- 168037 0.1mm (.004”) Flute Pad Screw Paper Washer (25)
- 168038 0.2mm (.008”) Flute Pad Screw Paper Washer (25)
- 168039 0.3mm (.012”) Flute Pad Screw Paper Washer (25)

flute pad screw washers - plastic

Our plastic flute screw washers will be installed between the pad retaining washer and the spud. These are for very critical padding situations on professional model flutes. The purpose of the plastic washer is to shim up the pad retaining washer so that it doesn’t compress the pad too much when the pad screw is anchored home.

- 168042 0.1mm (.004”) Plastic (25)
- 168043 0.19mm (.0075”) Plastic (25)

bedding adhesive washers

The Abell-Tretick “Bedding Adhesive Washer” method is a collaboration between Chris Abell (master flutemaker) and Clifford Tretick (master flute technician).

The end result of this process will leave a paper washer glued into the pad cup. This washer will serve as the bedding for any subsequent full or partial washers required to set the pad. The washer glued in place will “mirror” the tone hole onto the cup. The objective of this system is to achieve a firm, flat bed for the flute pad that is directly indicated from the tone hole seat. When properly executed, the method will reduce shimming, resulting in greater stability, and longer pad life.

For a discussion of the merits of this method, request articles by Chris Abell and Jeff Smith.

Use the washers or bedding disks for applying the perfect amount of adhesive for flute pads, piccolo pads, clarinet and oboe. Sold in 25-packs. Bulk packaging available for larger quantities.

<table>
<thead>
<tr>
<th>Washers</th>
<th>Plugs</th>
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<tbody>
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<td>105030 16.0mm</td>
</tr>
<tr>
<td>105022 16.5mm</td>
<td>105031 16.5mm</td>
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<td>105024 17.5mm</td>
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<td>105034 18.0mm</td>
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<td>105026 18.5mm</td>
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<td>105027 19.0mm</td>
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<td>105028 19.5mm</td>
<td>105037 19.5mm</td>
</tr>
<tr>
<td>105029 20.0mm</td>
<td>105038 20.0mm</td>
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</table>

890100 Bedding Adhesive Washer Instructions

jls spring hook

Push-pull spring hook for larger instruments on one end, smaller instruments on the other. Non-slip grip.

700060

Harold Phillips
Director of Repair and Supply
resonators

selmer style plastic (390)
The brown plastic domed style you see on most production horns today. Very easy to install on a pad with a center hole. Comes with a brass snap. Just press the snap in place. Installs quickly.

<table>
<thead>
<tr>
<th>390080</th>
<th>8mm</th>
<th>390180</th>
<th>18mm</th>
<th>390280</th>
<th>28mm</th>
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<tbody>
<tr>
<td>390100</td>
<td>10mm</td>
<td>390210</td>
<td>21mm</td>
<td>390310</td>
<td>31mm</td>
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<td>390140</td>
<td>14mm</td>
<td>390240</td>
<td>24mm</td>
<td>390340</td>
<td>34mm</td>
</tr>
</tbody>
</table>

390001 Snap for above
800006 390 Series Resonator Assortment 252 assorted resonators (with snaps) packaged in a tough plastic divided and labeled bin box for convenient storage.

heat staking resonator (398)
Use Heat Staking Tool (#257008) to install. Brown Selmer style resonator tapers to clean edge.

<table>
<thead>
<tr>
<th>398080</th>
<th>8mm</th>
<th>398240</th>
<th>24mm</th>
</tr>
</thead>
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<tr>
<td>398100</td>
<td>10mm</td>
<td>398280</td>
<td>28mm</td>
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<td>398140</td>
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<tr>
<td>398210</td>
<td>21mm</td>
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<td></td>
</tr>
</tbody>
</table>

800035 Heat Staking Resonator Assortment 252 assorted resonators packaged in a tough plastic divided and labeled bin box for convenient storage.

resonator sizing and installation guide
The beauty of buying sax pads with only a center hole, and then installing the resonator of your choice, is the flexibility and economy that this offers. You can meet special requests of customers and properly service a variety of brands without having to stock many different pads. It’s an additional benefit to have the predictable results of using one pad that you know and trust. Ideally, you want to compare the resonator to the tone hole it is intended for. Matching it to the pad size alone can get you close though.

<table>
<thead>
<tr>
<th>Pad Size (mm)</th>
<th>Plastic Selmer style</th>
<th>Metal</th>
<th>Hollywood</th>
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<td>rivet</td>
<td>rivet</td>
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<td>20.5 - 23.5</td>
<td>8</td>
<td>12</td>
<td>11.5</td>
</tr>
<tr>
<td>24.0 - 26.5</td>
<td>10</td>
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<td>11.5</td>
</tr>
<tr>
<td>27.0 - 32.0</td>
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<td>42.0 - 43.5</td>
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<td>26.5</td>
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<tr>
<td>44.0 - 49.5</td>
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<td>32</td>
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<tr>
<td>50.0 and up</td>
<td>34</td>
<td>32</td>
<td>31</td>
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</table>

flat stainless resonators (394)
Use with rivet (not included-order separately). Use also as backup plate for rivets where pad hole is larger than rivet.

<table>
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<th>20mm</th>
<th>394320</th>
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</table>

800010 Flat Metal Resonator Assortment 216 assorted resonators (with 96 regular and 168 long rivets) packaged in our assortment box for ease of use, and convenient storage.

selmer style metal (391)
Selmer domed metal resonators such as those first popularized on Super-Action 80 series horns. These are also being seen on many “newcomer” model saxophones including many Taiwanese and Chinese brands. Rivet supplied must be split. Use Rivet Peening Punch Tool (#257007).

<table>
<thead>
<tr>
<th>391120</th>
<th>12mm</th>
<th>391200</th>
<th>20mm</th>
<th>391280</th>
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<td>391320</td>
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800007 391 Series Resonator Assortment 216 assorted resonators (with rivets) packaged in a tough plastic divided and labeled bin box for convenient storage.

hollywood boosters (392 & 393)
(a.k.a. Noyek, or Star Boosters) This metal resonator is not domed like our 391 Series, but has a wave around the edge. When installed with rivets (supplied), these resonators will make an otherwise tame horn come alive!

<table>
<thead>
<tr>
<th>Aluminum</th>
<th>11.5mm</th>
<th>15.5mm</th>
<th>22.5mm</th>
<th>26.5mm</th>
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800008 Aluminum Hollywood Boosters Assortment
800009 Brass Hollywood Boosters Assortment 132 assorted resonators (with rivets) packaged in a tough plastic, divided and labeled bin box, for convenient storage.
reso-tech resonators

These flat metal resonators echo those of vintage model Selmers. The resonator has a uninterrupted face and is held securely by a screw backside. Flat construction aids in producing the finest pad work with less anguish than their domed counterparts. Screw-in back makes resonator reusable. A domed washer can be inverted to allow for all pad thicknesses. Stock sets are dimensioned for Selmer MK VI models. Other brands and models of saxophones are sold as "custom" please specify the brand and model and we’ll make up a set for you.

396001 Soprano Brass (MK VI)
396002 Soprano Brass (Custom - Specify Model)
396006 Alto Brass (MK VI)
396007 Alto Brass (Custom - Specify Model)
396010 Tenor Brass (MK VI)
396011 Tenor Brass (Custom - Specify Model)
396014 Bari Brass (MK VI)
396015 Bari Brass (Custom - Specify Model)
396003 Soprano Sterling Silver (MK VI)
396004 Soprano Sterling Silver (Custom - Specify Model)
396008 Alto Sterling Silver (MK VI)
396009 Alto Sterling Silver (Custom - Specify Model)
396012 Tenor Sterling Silver (MK VI)
396013 Tenor Sterling Silver (Custom - Specify Model)
396016 Bari Sterling Silver (MK VI)
396017 Bari Sterling Silver (Custom - Specify Model)

rivets

Sold in dozens and hundreds.

396022 Plain Resonator Rivets
396021 Plain Resonator Rivet – Long
396023 Brass Resonator Rivet – Long
396019 Brass Reso-Rivets
396020 Nickel Reso-Rivets

resonator tools

reso-rivet punch

257005 Reso-Rivet Punch

rivet splitting punch

This tool will split the rivets banana style. This works best for the rivets with relatively thin walls. When the rivet is viewed from the side, this style rivet looks to be rounded in on the hole end.

257006 Rivet Splitting Punch

rivet peening punch

This tool will peen the rivets mushroom style. This works best for the rivets with thicker side walls. When the rivet is viewed from the side, this style has straight sides on the end where it is open.

257007 Rivet Peening Punch

heat stake tool

As you have guessed by now, this is the tool to help you install the heat staking resonators. One useful way to use this is to cut the handle off, spin it in a bench motor while apply moderate heat from a torch. While spinning the warm tool, press the pad with resonator installed, into the tool. This will melt and form the back. Takes a little practice maybe, but is very quick when mastered.

257008 Heat Stake Tool
cork products

cork sheets
All sheet cork is sold as 300mm x 100mm (12"x4"). However, sometimes only 100mm x 150mm (4"x6") sheets are available. In this event, we will send 2 “short sheets” when you order one. Hope I haven’t confused you.

We sell natural cork as well as press-filled. Press-filled doesn’t sand as nice or glue up quite as well as 100% natural cork but we are all getting used to it. It provides an economical answer to satisfying some manufacturing concerns - so it’s definitely here to stay. Please note: Press-filled is not synthetic cork! It is natural cork that has had the pores filled with cork dust and a special binder. For synthetic sheet products, please see the Valentino Products section.

1/8” and thicker are sold in short (half sheets) to help keep your cost down as these may not be used daily.

You will find that our regular grade cork is better quality than other suppliers. We demand the best cork from our vendor and we get it. We inspect our cork when it arrives and set the best aside as “premium” if it meets our requirements. We can never be sure how much “premium” cork will be in each shipment, therefore we cannot backorder the premium. Most technicians will be quite pleased with our regular cork.

trombone slide bumper cork
Replacing the handslides should be part of every slide job.

401485  25-packs

cork pads
Our cork pads are the finest available anywhere. The cork is “shive cut,” not cross grain, eliminating possible leaking across the grain.

Pads are cut straight sided allowing you to bevel as desired or install as is. To bevel, use our 248 Series Cork Pad Spinners to hold and spin the pad in a bench motor while sanding or filing your bevel.

These are perfectly clear, pore free pads cut with straight sides (no bevel). Thickness is .110"

waterkey corks - natural
Sizes shown are diameter x thickness. See our synthetic waterkey corks under Brass Supplies and under the Valentino Products section.

Sold in dozens and hundreds.

cork piston washers
Size listed below is thickness. Sold in dozens and hundreds.

Tapered:

cork stick cork
All cork sticks are 38.1mm (1 1/2”) long. Sold in dozens and hundreds.

www.jlsmithco.com 15
brasswind cork assortment
Brasswind cork assortment contains waterkey corks (24 each of 4 sizes), cork piston washers (36 each of 3 sizes) and French horn cork sticks (12 each of 4 sizes). 252 pieces. 800031 Brasswind Cork Assortment

cork wedge
Composite cork wedge as used by the factories when shipping horns. Use as they do, or, use in shop to put pad impressions in before final adjustments. Sold in dozens and hundreds. 401435 3/4" x 1/4" x 3/16"

cross-grain cork strips
As opposed to the “shive cut” sheet cork, cross-grain cork is sliced with the grain (pores). Cross-grain cork makes the finest looking feet corks, and is preferred by some technicians who wish to cut their own cork pads (though we recommend purchasing our 329 series cork pads). shipped loose in 1/2 oz. bags. 400420 1/64" 400416 .090" 400418 1/32" 400417 .110" 400419 1/16"

tech cork
Tech cork is a high quality rubberized composite cork. Formulated to be more resistant with a higher recuperation rate after compression. Our tech cork is tested at 980 kilos pressure (not by me personally!). It is very flexible and it has a high rate of resistance to all oils, thinners and friction. Sold in sheets 125mm x 100mm. Tech cork is excellent for application under adjustment screws and at key sliding points. 400430 0.4mm (1/64") 400433 1.0mm (.039") 400431 0.5mm (.020") 400434 1.2mm (3/64") 400432 0.8mm (1/32") 400435 1.5mm (1/16")

flute head cork
Our standard head cork is straight and bleached. The beveled cork features a chamfer to make insertion cleaner. Our beveled cork is unbleached and shows a darker color. Min. Quality of 6.

<table>
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<th>Hole</th>
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<td>9/64&quot;</td>
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<td>1 1/16&quot;</td>
<td>1 1/2&quot;</td>
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piccolo head cork
Minimum quantity of 6.

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<td>1/2&quot;</td>
<td>13/16&quot;</td>
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</tbody>
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pre-shaped trill and e flat corks
Pre-shaped corks help save time and aggravation. Natural cork, not synthetic or composite. Sold in dozens and hundreds.

401457 Emerson E Flat 401454 Armstrong Trill
401458 Emerson Trill 401453 Armstrong E Flat
401451 Gemeinhardt E Flat 401456 Yamaha Trill
401452 Gemeinhardt Trill 401455 Yamaha E Flat

We recommend using George's glue 105010 or CA (cyanoacrylate) 105102 to affix these corks.

trill corks
Can be sanded to fit trill key curvature. Compress with plier to fit smaller radius keys. Sold in dozens and hundreds. 401433 trill cork 13/16" x 1/4" thick 401434 small trill cork 11/16" x 1/4" thick

flute headjoint cork tool set
This set allows for easy removal and installation of flute headjoint corks. Both tools feature a larger side for gripping that helps prevent hand pinching. The shorter tool removes the cork carrier with gentle tapping from a bench hammer. The longer tool's length can be adjusted to show the original cork location. After removing the cork carrier, the new cork can be installed to its former setting if desired. 227023 Flute Headjoint Cork Tool Set
epoxies
Squeeze out equal length beads of the desired amount of epoxy, then mix together thoroughly with our 201013 steel spatula. In cold weather, epoxy takes longer to cure (too cold and usually they never fully cure) and becomes more difficult to get out of the bottle, especially if it’s less than 1/2 full. The epoxies can be heated in a microwave oven for about 10 seconds so that they flow easier. The heating process, with the caps off, also releases any moisture that can be absorbed by epoxies. Their shelf life, therefore, is virtually unlimited. Acetone works as the best solvent for cleaning epoxy from brushes and unwanted surfaces before it cures. While contact should be avoided, uncured epoxy can be washed from your skin with soap and water. Allergic reactions are rare. Cured epoxy and CA can be peeled off the skin and usually are gone after a full day of normal activity. UN-CURE Cyanoacrylate Debonder will debond any body parts that get stuck together if a peeling action (never pull!) doesn’t work.

QUIK-CURE 5 Minute Epoxy
cures to a slightly flexible consistency. This lack of brittleness allows it to form a lasting bond in areas subjected to high vibration or stress. Items bonded can be handled after 15 minutes. Full strength is reached in 1 hour.

SLOW-CURE 30 Minute Epoxy
has the highest strength of our epoxies. It is waterproof and more heat resistant, and can be used for bonding if you’re willing to wait overnight. Fillers can be mixed with it to form a putty-like consistency. Such fillers will usually decrease the working time by about 25%. Bonded objects can be handled after 8 hours and the cured epoxy reaches full strength within 24 hours.

105103 QUIK-CURE 5 Minute Epoxy
105104 SLOW-CURE 30 Minute Epoxy

cyanoacrylates (CA’s)
These have become the adhesive of choice for many band instrument and general shop applications. High quality CAs such as INSTA-CURE Thin, when used properly, form bonds that in many cases are stronger than the material that is being adhered.

INSTA-CURE Thin is a highly refined CA which, combined with its freshness, gives a guaranteed 2-year shelf life. INSTA-CURE Thin has a water-thin viscosity that wicks deep into joints by capillary action and cures in a matter of a few seconds. Surfaces to be bonded must be tight fitting and should be held together while you apply the CA around the edges of the seam. At the moment CAs cure, they give off a vapor that can irritate the nose and eyes, so be prepared. Thin CAs work very well on grenadilla since they penetrate into the wood and form more than just a surface bond. Perfect for wicking into wood dust when filling voids and cracks.

INSTA-CURE+ Medium is a thicker viscosity CA for loose fitting joints in which the adhesive must bridge gaps. Normally, the thicker CA is applied to one surface and then the parts are held tightly together for about 5 to 15 seconds. For large surface areas, including those with close fitting joints such as laminations, INSTA-CURE+ Medium CA should also be used. To prevent premature curing, don’t spread the glue into a thin film. Lay down a serpentine bead with about 1” separations on one surface, then assemble the parts, letting the pressure spread the CA out.

MAXI-CURE Thick is the best CA for most plastics. When used with our INSTA-SET CA Accelerator, this works better than any putty for modifying or filling voids. It can be carved with a knife or razor blade and sanded and feathered to form a finish indistinguishable from plastic. MAXI-CURE Thick bonds fiberglass, hardwood, metal and rubber better than any other adhesive.

105100 INSTA-CURE Thin Cyanoacrylate
105101 INSTA-CURE+ Medium Cyanoacrylate
105102 MAXI-CURE Thick Cyanoacrylate
105108 INSTA-SET Accelerator
105109 UN-CURE Cyanoacrylate Debonder
105105 Ex-long Extender Tips
105110 Empty 1 oz. Bottle with Top
dominion sure-seal adhesive weld

Excellent high strength cyanoacrylate adhesive used for repairing broken ABS plastic instrument parts, clarinet tenons and so forth. Supplied as a kit with an activator (1 oz. adhesive).

105001 Dominion Sure-Seal Adhesive Weld

“straw melt” hot glue

10” long sticks are 1/2” in diameter. Temperature resistance -40°F to 160°F. Good open time (float time) of 40 seconds. Will bond plastics, good for case repair. Operates well with hardware store variety glue guns (they run at lower temps than commercial guns).

105002 “Straw Melt” Hot Glue stick

“amber melt” hot glue

10” sticks. Higher temperature resistance than our Straw Melt, and requires a hotter gun. Works well in open flame. Smell is reminiscent of shellac. Nice floating character. Unlike most glues, neither glue has as many stringing problems. Squeeze out is diminished also. Contains no paraffin, therefore it won’t blacken and smoke like the common variety.

105003 “Amber Melt” Hot Glue stick

glue pellets

Our famous Amber Melt glue is now available in pellet form for those who like to work this way.

105014 1/4 lb. Amber Melt Pellets

using pellets:

One may place a certain number of pellets in each pad cup to establish an ideal adhesive build up. Large cups get more pellets than smaller cups. Pellets may be squeezed flat with pliers for some applications, particularly when you don’t want to remove keys.

On hot melts:

Store bought hot melt glues tend to shrink as they cool. This causes the pad to draw up into the cup causing leakage in the back of the pad (12:00). You will find yourself chasing your tail to get pads set with precision. Our Amber Melt and George’s Glue have a very small shrink factor in comparison. This will help you with more accurate and predictable padding.

glued adhesive disks

Now available for all woodwinds! These easy-to-handle disks allow for even glue allotment from one pad to the next in all padding situations. They are also excellent for adding adhesive to pads on newer model instruments shipped without adhesive backing. Used by major manufacturers. Offered in two thicknesses: .5 and 1mm. 5mm bedding adhesive disks are available in 0.5mm increments. 1mm bedding adhesive disks are available in 2mm increments. Sold in 25-packs.

105039 .5mm thick x 6.0mm 105055 .5mm thick x 16.0mm
105040 .5mm thick x 6.5mm 105056 .5mm thick x 17.0mm
105041 .5mm thick x 7.0mm 105057 1mm thick x 18mm
105042 .5mm thick x 7.5mm 105058 1mm thick x 20mm
105043 .5mm thick x 8.0mm 105059 1mm thick x 22mm
105044 .5mm thick x 8.5mm 105060 1mm thick x 24mm
105045 .5mm thick x 9.0mm 105061 1mm thick x 26mm
105046 .5mm thick x 9.5mm 105062 1mm thick x 28mm
105047 .5mm thick x 10.0mm 105063 1mm thick x 30mm
105048 .5mm thick x 10.5mm 105064 1mm thick x 32mm
105049 .5mm thick x 11.0mm 105065 1mm thick x 34mm
105050 .5mm thick x 11.5mm 105066 1mm thick x 36mm
105051 .5mm thick x 12.0mm 105067 1mm thick x 38mm
105052 .5mm thick x 13.0mm 105068 1mm thick x 40mm
105053 .5mm thick x 14.0mm 105069 1mm thick x 42mm
105054 .5mm thick x 15.0mm 105070 1mm thick x 44mm

We offer two different Adhesive Disk Assortments. Our 800016 contains over 600 disks for smaller instruments and has diameter sizes 6mm through 17mm. Our 800017 assortment has almost 300 disks in sizes ranging from 18 to 44 for saxophone.

800016 Small Diameter Adhesive Disk Assortment
800017 Large Diameter Adhesive Disk Assortment

gorge’s glue

Pad cement developed for the trade by the late George Jameson. High melt temperature and a very thick body makes this a great glue for floating. Smaller sticks for most applications. Large sticks for sax. We have modernized George’s process a little, giving us more capacity and making the sticks more uniform. They’ll work the same of course.

105114 Small sticks (about 1/8” x 5/32” x 6.25”)
105010 Medium sticks (about 1/8” x 5/16” x 6.25”)
105011 Large sticks (about 1/8” x 7/16” x 6.25”)
105013 Pellet Form 1/4 lb.

George’s Glue is great for cork padding! Excellent for piccolo, oboe, clarinet and bassoon. Since George’s Glue has a higher melt temperature, we do not recommend it for padding with Valentino pads as they are more heat sensitive.
about shellac
Shellac is a secretion of the Coccus lacca insect, which is found in the forests of India and Southeast Asia. Now you can imagine why it has become expensive.
Shellac is a natural polymer and its chemistry is similar to synthetic polymers, therefore it is considered a natural plastic. For repair purposes, it can be dissolved in either acetone or denatured alcohol. Acetone dissolves more quickly than alcohol, giving you less working time. Acetone based shellac is great for “sizing” (starching) felt to make it firmer for key work. Shellac is used in the traditional “French polish” method of finishing (polishing) furniture, and some violins and guitars. Shellac has been used as a glazing agent on pills, candies, and fruit. In the pill trade, it is called “beetlejuice,” since it may contain crushed beetles. Not strictly vegetarian. Long the traditional adhesive of choice for repair technicians, many don’t trust its brittle nature.

shellac sticks
Ours is an affordable high quality traditional shellac stick for floating woodwind pads.
105016 Transparent
105017 Honey
105112 Black Lacquer Stick
105113 White “French” Cement

flake shellac
Our flake shellac can be used in several ways. You may place flakes directly into the pad cup, then heat the cup to melt the adhesive. You may choose to make your own sticks as I did in my early career. You may dissolve the flakes in denatured alcohol to make liquid shellac. Liquid shellac can be used to glue pads in (a squeeze bottle works well). One can use liquid shellac to glue adjustment shims and flute pad shims.
105083 1 lb. Flake
105015 6 oz. Flake

brush top can
4 oz. metal brush top can. For use with contact cement. Barge cement that is.
105007 Brush Top Can

miniature glass brush top bottle
Excellent for controlled application of contact cement and shellac.
105111 Miniature Brush Top Bottle

barge contact cement
This is the real deal. Barge cement is the best contact cement on the market. We’ve been using it and selling it for years and have created many believers.
Originally developed for the shoe manufacturing business, this fast drying, water resistant and long lasting adhesive spreads easily and bonds to most materials, such as: metals, plastics, felt, cork, paper, etc. Extremely flexible, will not freeze or melt, performs well under extreme temperature conditions and/or changes. This is a high grade industrial solvent-based cement. Read the label. Follow all instructions. Please use adequate ventilation. And, no smoking in the shop!
105004 Quart
105005 4 oz. in Brush Top Can
105008 3/4 oz. squeeze tube

cement thinner
Barge brand thinner for contact cement. Will work for other brands of cement as well, but why would you use any other than Barge cement? Sold in quart cans.
105006 Cement Thinner

using contact cement
The simplest method to employ is to apply a coat of cement to both surfaces to be bonded. Let the pieces dry. When the finish gloss is gone, press both pieces together.

Preparing Cork
To get superior results with contact, I recommend creating “prepared” cork. Since cork is porous, I can get best results by preparing the cork with three thin coats of cement. Let the cork dry completely between coats, allowing about 45 minutes. Prepare as much cork this way as you will use over two weeks time.

Using Prepared Cork
For Joints:
When it is time to use the cork for joint and neck corks, apply a fresh thin coat to both surfaces. The fresh coat will bond to the previous coats and you will have a superior bond.

For Keys:
To use prepared cork for key work, you may use it as with joint corks, or heat the key part- then while warm apply a thin coat of cement to the key. Use a 113001 pipe cleaner to apply this cement. While still warm to the touch, press the previously prepared cork to the key, and trim. The heat activates the three old coats of cement and the fresh coat on the key bonds it quickly.
**duco cement**
Great for sax felt discs and bumpers. Apply a drop of Duco directly to the felt, then slip it into place (while still wet), using a needle tool or tweezers. Works on wood, metal, leather, paper, etc. Dries clear and hard.  
105009  Duco Cement, 1 oz. tube

**mucilage**
A thick, gummy, slimy, glutinous substance, related to the natural gums, comprised mostly of protein (think horse glue). Actually, Mucilage is secreted by the seed covers of various plants including marsh plants and certain seaweeds. In medicine, it is used as an emollient and a demulcent. Here we employ Mucilage as an adhesive. Just so you know. We use mucilage for recovering Straubinger pads, and for similar events.  
105072  Mucilage

**liquid lock nut**
Safely locks adjusting screws in place. Can be loosened with heat or solvent.  
105020  Liquid Lock Nut

**pad guard**
Our Pad Guard waterproofs, and seals pads against leakage. Use on leather and bladder. A must on bladder piccolo pads where tiny skin defects cause major performance problems. Many of our customers offer this on saxophone repads, adding value to their service. Some charge extra for adding the preservative. Easy to use. For saxophone repads, spray a light coat directly onto the pads. If you wish to help preserve the resonator (think Aluminum Star Boosters) then add the spray after installing the resos.
For sticky sax pads on assembled instruments, apply a short spray burst to our 113004 Industrial Wipe Strips, then, while the strip is still wet, pull it between the pad and tone hole. Let the pad dry while open (don’t let it dry while sitting on the tone hole). Drying time is about 10 minutes.
For bladder pads a direct spray is a little much. For these, spray directly on a glass block (or steel bench block). Dip a 113002 swab into the liquid and apply a light but thorough coat to the pad. Our Pad Guard will seal the pores, and eliminate the annoying pad kissing sound. We advise cleaning the pad and tone hole first with 113026 Pad Juice. Pad Guard is your secondary step.
Pad Guard must be used with adequate ventilation.  
(ground shipping only)  
135001  Pad Guard

**duall #88 contact cement**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
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<td>105073</td>
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<tr>
<td>105074</td>
<td>8 oz. Brush Top Can</td>
</tr>
<tr>
<td>105075</td>
<td>Thinner Quart</td>
</tr>
</tbody>
</table>

**burn in glue**
Used for gluing all types of pads. Just put a small amount in pad cup, light with flame and install pad with a twist.  
105076  6 oz.  
105078  Thinner 8 oz.

**plastic "wax" glue sticks**
When you need more working time, this is the glue for you. Depending on glue temperature, working time is approximately 20-40 seconds.  
105079  1/4” x 1/2” x 10” Stick (Clear)  
105080  1/4” x 1/2” x 10” Stick (Green)

**vinyl cement**
This cement is a high content resin/acetone blend.  
105081  8 oz. Brush Top Can

**ABS cement (acrylonitrile-butadiene-styrene)**
A welding compound that will fill and hold any of the black plastic type woodwinds.  
105082  4 oz. Brush Top Can

**super gel glue**
Many techs now use CA gel glues to apply key corks.  
105084  Thick - .7 oz. (20g)
buffing wheels

loose buffs
Specify arbor hole when ordering.
110001 6", 18 Ply
110002 8", 18 Ply
110003 10", 18 Ply

unbleached muslin buffs
Specify arbor hole when ordering.
110004 2" Mini buff, yellow (hard)
110005 2" Mini buff, white
110006 4", 40 Ply, sewn 3 rows
110007 6", 75 Ply, sewn 4 rows
110008 8", 55 Ply, sewn 4 rows
110009 10", 65 Ply, sewn 5 rows

canton flannel buffs
Specify arbor hole when ordering.
110010 4", 30 Ply, sewn 3 rows
110011 6", 30 Ply, sewn 4 rows
110012 8", 30 Ply, sewn 4 rows
110013 10", 30 Ply, sewn 5 rows

chamois buffs
These buffs work great on the bench motor back spindle or other slow drive units. Ideal for touch up work on keys. Chamois Buffs are lint free!
110024 6", 8-ply, sewn 3 rows, leather center pin hole

pieced buffs
Used for fast cut down and getting into tight places like between sax posts! All pieced buffs are constructed with the highest quality full count buff cloth, sewn with high test thread for strength and durability. Standard material is 80/80 muslin. 30 Ply.
Specify arbor hole when ordering.
110014 6", 1/4" Spiral Sewing
110015 8", 1/4" Spiral Sewing
110016 10", 1/4" Spiral Sewing

leather center “razor” buffs
Yellow wheels are hard, tough, and long lasting. White wheels are soft and more forgiving while in use. Specify arbor hole when ordering.
110025 6", 1/4" Spiral Sewing (White)
110026 6", 1/4" Spiral Sewing (Yellow)
110027 8", 1/4" Spiral Sewing (White)
110028 8", 1/4" Spiral Sewing (Yellow)

bias buffs
All purpose, “pleated face” buffs that eliminate fraying and provide better contact with contour surfaces. Standard material is 86/80 muslin. The yellow buffs are treated cloth for a harder and stiffer cutting. Standard 1 1/4" Arbor hole. If smaller, order bushing with proper shaft size. 6" buff needs a minimum 1 1/2 horse power & 8" should have 2 horse power; however, 3 horse power would be better.
If you want a faster color wheel try the 60/60 bias buff. This wheel is the very best coloring wheel you will ever use and because the cloth is cut on a “bias” there is very little lint at the end of the day!
110017 6", 1 1/4" Arbor (Yellow)
110018 8", 1 1/4" Arbor (Yellow)
110019 6", 1 1/4" Arbor (White)
110020 8", 1 1/4" Arbor (White)
110021 6", 1 1/4" Arbor 60/60 (White)
110022 8", 1 1/4" Arbor 60/60 (White)

ragging tape
This product is very strong and thin enough to slip between any tubing you will encounter!
110049 1/2" x 100 Yard spool
110050 1/4" x 100 Yard spool

pure white cotton gloves
Protects fine metals from fingerprints, spotting and tarnishing. One size fits most hands. Sold by the dozen.
113008 Heavyweight

1/2" round felt bob
Harold calls this our “felt ball on a stick,” and it’s great for finishing valve and casing ports.
110054 1/2" Felt bob
buffing compounds

**black rouge**
Excellent finish for white metals, silver, pewter and aluminum. Fast cutting. 1 lb. bar.
110034  Black Rouge

**green rouge**
Produces high luster for final finish. Can be used on precious metals, steel, stainless, and plastics. Clean working, leaves little residue; also works well with non-ferrous metals. 1 lb. bar.
110035  Green Rouge

**dark green chrome rouge**
Hand-rolled “Old Style” is an excellent choice for touching up keys after a service job. Use a chamois buff at low speed for that purpose. We have used the dark green in our shop for years in place of Burns Red. Produces the same final finish, with less mess than Red Rouge. Easy clean up, 1 lb. bar.
110036  Dark Green Chrome Rouge

**yellow rouge**
For cut and color on non-ferrous metals and plastics. Less cut and higher color than XXX White Diamond. Excellent on nickel plate. 1 lb. bar.
110037  Yellow Rouge

**white diamond**
Superior dry compound for cut & color on gold, silver, brass, copper & plastics. Just the compound for tough nickel plated parts. 1 lb. bar.
110038  XXX White Diamond

**burns red rouge**
The ultimate finish for brass, copper, silver, and gold. Completely free of grit or other coarse matter. A special wetting agent makes the compound emulsify in hot water for easy removal of residue. Provides a mirror finish on metals after prior cut-down. 1 lb. bar.
110039  Burns Red Rouge

**tripoli**
Our high grease Tripoli is the bar to go to when removing scratches, tool marks and pits. Fast working on all non-ferrous metals. With our Tripoli, the tech can easily buff off lacquer for touch-up purposes. A must have compound! 2 lb. bar.
110040  Tripoli

**nuwhite**
This popular compound offers a excellent final finish with a slight amount of cut. Works clean on all metals, especially good on steel, nickel, and chrome. 1 lb. bar.
110041  Nuwhite

**cut "n" color**
Made of very fine uniform abrasives, produces a good cut with no wild scratches and works to good color on all metals. May be used for cut and color as one step, rather than two operations. If you only buy one compound THIS IS THE ONE. An economical choice for shops who do "econo overhauls." 1 lb. bar.
110042  Cut “N” Color

**fabulustre**
The ultimate in buffing compounds! For all metals & plastics. Clean & greaseless—no residue. High finish at low cost.
110048  Fabulustre 1 lb. tube
sheet goods
ultrasuede, teflon, felt, leather

leather sheet
100mm x 300mm (4” x 12”) sheet of leather approximately .75mm (.030”) thick (thicker than pad leather). Available in either black or brown. Very useful where cork would wear through such as a clarinet Ab/Eb key. Use to personalize your work like wrapping bars on sax stack keys. Great on harmony clarinets and bassoons!

- 403021 brown
- 403022 black

thin leather sheet
Used for pad making and personalizing key work. Bonded to .4mm (1/64”) Valentino or regular cork, this becomes even more versatile. 100mm x 300mm (4” x 12”) sheet - tan.

- 403023 tan
- 403024 black

teflon sheet
Teflon is sold in 100mm x 300mm (4” x 12”) sheets which are etched on one side to allow for bonding. Teflon sheet offered in the two common thicknesses. .005 will be most useful in key work. Laminated to 1/64” cork, the .005 becomes even more versatile. The .015 will have some use in key work, but it’s more helpful in brass work. Cover your dent machine shoes and your dent hammer faces to reduce threat of tool marks.

- 403028 .13mm (.005”)
- 403029 .38mm (.015”)

ultrasuede
This material has many of the same applications as sheet felt. It produces a smoother action and is much more durable than cork. It is great for the top of stack feet on sax and on keys that connect with a body push rod on bassoon. 100mm x 300mm (4” x 12”) sheet measures approximately .75mm (.030”).

- 403026 black
- 403027 tan
- 403033 thin black

1.6mm (1/16”) sheet felt
Punch and cut your own shapes from sheet. All sheet is provided in a 100mm x 300mm (4” x 12”) size, 1.6mm (1/16”) thick, in green, black, white or red.

- 403004 green
- 403003 black
- 403006 white
- 403005 red

.8mm (1/32”) sheet felt
.8mm (1/32”) thick, 100mm x 300mm (4” x 12”).

- 403001 green
- 403002 red

1.3mm (.050”) sheet felt - firm
Replaces our previous white felt. Firmer - great for key work. Our pressed felt cuts cleanly and can be sanded. 100mm x 300mm (4” x 12”).

- 403007 white

synthetic felt
Perhaps the ultimate felt for key work. Excellent for critical adjustment applications. Oboe, piccolo, and flute work can benefit for the precision of our synthetic felt.

You can glue this up with a variety of methods. We use George’s glue with great results, but this only works when you can apply heat to the key. Not always possible.

To use the George’s simply heat the key in a flame (our alcohol burner works fine, as does our Votaw Pad Cup Heater 248013, then quickly wipe the glue stick across the hot key, depositing a thin layer of glue. Quickly press the felt to the key. Let this cool for a minute, then trim the felt. If you use our PRECUTS, you will not be trimming the felt of course.

100mm x 300mm (4” x 12”) sheets

- 403008 0.5mm (.020”) - white (approx. 1/64”)
- 403009 0.5mm (.020”) - charcoal (approx. 1/64”)
- 403010 0.5mm (.020”) - cork (approx. 1/64”)
- 403011 0.9mm (.035”) - white (approx. 1/32”)
- 403012 0.9mm (.035”) - charcoal (approx. 1/32”)
- 403013 0.9mm (.035”) - cork (approx. 1/32”)
- 403014 1.2mm (.047”) - white (approx. 3/64”)
- 403015 1.2mm (.047”) - charcoal (approx. 3/64”)
- 403016 1.2mm (.047”) - cork (approx. 3/64”)
- 403017 1.5mm (.059”) - white (approx. 1/16”)
- 403018 1.5mm (.059”) - charcoal (approx. 1/16”)
- 403019 1.5mm (.059”) - cork (approx. 1/16”)
- 403020 1.8mm (.071”) - white (approx. 5/64”)

1.8mm (.071”) sheet felt - white
White felt .8mm (.032”) thick, 100mm x 300mm (4” x 12”).

- 403025 white
felt components

We use only top quality felt in our components. Our bumpers are made of firm felt that holds a dimension and good profile without being noisy. We've added red felt to our lineup. We are the only supplier with quality felt disk, sheet, and bumpers in black, white, green and red. We punch our own felt products. Sold in 25s and hundreds.

saxophone discs

All 1/16" felt, in Green, White, Red or Black.

3/8" Felt Disc
404051 5/16" o.d. x 1/4" - Green
404052 5/16" o.d. x 1/4" - White
404053 5/16" o.d. x 1/4" - Red
404054 5/16" o.d. x 1/4" - Black

1/2" Felt Discs
404055 5/16" o.d. x 3/8" - Green
404056 5/16" o.d. x 3/8" - White
404057 5/16" o.d. x 3/8" - Red
404058 5/16" o.d. x 3/8" - Black

5/8" Felt Disc
404059 5/16" o.d. x 3/8" - Green
404060 5/16" o.d. x 3/8" - White
404061 5/16" o.d. x 3/8" - Red
404062 5/16" o.d. x 3/8" - Black

11/16" Felt Disc
404063 5/16" o.d. x 3/8" - Green
404064 5/16" o.d. x 3/8" - White
404065 5/16" o.d. x 3/8" - Red
404066 5/16" o.d. x 3/8" - Black

saxophone felt assortments

Each of our saxophone felt assortments carries over 450 felts. All popular sizes in bumpers and key discs are included in the kits. Provided in our tough plastic assortment boxes.

800020 Green Saxophone Felt Assortment
800021 Red Saxophone Felt Assortment
800022 White Saxophone Felt Assortment
800023 Black Saxophone Felt Assortment

trombone slide bumper felts

Last longer than cork and can be stacked; the felts are easier to remove.

405110 Trombone, package of 25
405111 Bass Trombone, package of 25
brasswind felt
Sold in 25s and hundreds.

405001 white
Fingerbutton. Fits most makes. A410 Size.

405013 white
Valve Stem. Fits most makes.

405002 green
Valve Stem & Fingerbutton. Fits most makes. A412 Size.

405003 red
Valve Stem & Fingerbutton. Fits most makes. A413 Size.

405004 red
Valve Stem & Fingerbutton. Fits most makes. A415 Size.

405005 green
Top Cap. Fits Holton and Bundy trumpet and others. A400 Size.

405006 green
Trumpet. Fits Olds and others. A401 Size.

405007 red

405008 red

405009 black

405010 green
Top Cap. Sousaphone. Fits King and others. A406 Size.

405011 green

405012 white
Top Cap. Trumpet. Fits Leblanc, Selmer and others. A416 Size.

brass felt assortment
Our brass felt assortment contains over 400 popular brass instrument washers for the valve stem upstroke and the fingerbutton and topcap downstroke.

800019 Brasswind Felt Washer Assortment
PRE CUTS help the tech to work more profitably by cutting time dramatically. No more trimming corks and felts to shape. Saves time, creates a more professional look.

These are available in Cork, Tech Cork, Synthetic felt, Teflon and others. The cork are also available precoated with shellac or contact cement.

Both the shellac and cement coated can be applied by heating the key and pressing into place. With the cement coated, you may wish to apply a thin coat of cement to a hot key, then apply the precoated PRECUT. This creates a great bond.

We can also make precuts for your specific use. Send us a drawing with material requirements.

These dimensions, shapes and sizes fit a variety of applications, only a few of which are listed.

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**material codes**

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<thead>
<tr>
<th>Material Code</th>
<th>Material Code</th>
<th>Material Code</th>
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<td>Cork 1/32 6012</td>
<td>Cork 3/64 6013</td>
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<td>Cork 1/6 6014</td>
<td>Cork-Shellac Back 1/64 6021</td>
<td>Cork-Shellac Back 1/32 6022</td>
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<td>Cork-Shellac Back 3/64 6023</td>
<td>Cork-Shellac Back 1/6 6024</td>
<td>Cork-Cement Back 1/64 6031</td>
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<td>Cork-Cement Back 3/64 6033</td>
<td>Cork-Cement Back 1/16 6034</td>
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<td>Tech Cork .4mm 6111</td>
<td>Tech Cork .5mm 6112</td>
<td>Tech Cork .8mm 6113</td>
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<td>Synthetic Felt-Charcoal .5mm 6671</td>
<td>Synthetic Felt-Charcoal .9mm 6672</td>
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<td>Synthetic Felt-Charcoal 1.2mm 6673</td>
<td>Synthetic Felt-Charcoal 1.5mm 6674</td>
<td>Teflon .015” 6311</td>
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**shapes**

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<th>Shape</th>
<th>Size (mm)</th>
<th>Application</th>
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<tbody>
<tr>
<td>#01</td>
<td>2.54 x 6.35</td>
<td>All brands of flutes key foot.</td>
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<tr>
<td>#02</td>
<td>2.50 x 6.0</td>
<td>Bundy (and other) clarinet F-C keys.</td>
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<tr>
<td>#03</td>
<td>2.50 x 8.0</td>
<td>Bundy clarinet (and others) thumb ring, C trill, E-B lever (foot), F#-C# lever (foot).</td>
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<td>#04</td>
<td>2.50 x 10.0</td>
<td>Bundy (and other) clarinet F# trill, F# ring, B-F#.</td>
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<tr>
<td>#05</td>
<td>2.0 x 4.5</td>
<td>Bundy (and other) clarinet Bb trill, F-C lever.</td>
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<tr>
<td>#06</td>
<td>5 x 9.5</td>
<td>Bundy (and other) clarinet crowsfoot, lower bridge, G#.</td>
</tr>
<tr>
<td>#07</td>
<td>5.5 x 11.6</td>
<td>Selmer sax long rod cradle, Yanigisawa sax body under RH feet.</td>
</tr>
<tr>
<td>#08</td>
<td>3.0 x 9.5</td>
<td>Bundy (and other) clarinet aux Eb-Bb, most sax key feet, Yanigisawa sax G to bis.</td>
</tr>
<tr>
<td>#09</td>
<td>5.0 x 4.0</td>
<td>Bundy clarinet (and others) side Bb, A, register.</td>
</tr>
<tr>
<td>#10</td>
<td>4.8 x 5.6</td>
<td>Bundy (and other) clarinet upper bridge.</td>
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</table>

<table>
<thead>
<tr>
<th>Shape</th>
<th>Size (mm)</th>
<th>Application</th>
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<tbody>
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<td>6.8 x 8.0</td>
<td>Bundy (and other) clarinet C#-G#.</td>
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<td>#12</td>
<td>16 x 9.0</td>
<td>Selmer (and other) Front F.</td>
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<td>#13</td>
<td>12.7 x 11.7</td>
<td>Bundy (and other) clarinet thumb rest.</td>
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<tr>
<td>#15</td>
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</tr>
<tr>
<td>#19</td>
<td>9.0</td>
<td></td>
</tr>
</tbody>
</table>

**when ordering, please specify:**

**material code + shape**

For example, the number 07 sax saddle shape in .015” thick teflon (material code 6311) would be 631107.

Sold in 25-packs or hundreds.
lubricants

valentino key oils
Our #4 petroleum based bench oil is a perfect general use key oil. This is perfect as a thin rotor and bearing oil also.

119021 Valentino #4 Thin Bench Oil-shop size

Our #7 petroleum based bench oil is a fine thick key oil. Great as a medium rotor oil. 6 oz.

119022 Valentino #7 Medium Bench Oil-shop size

Our #9 petroleum based bench oil is an excellent choice for saxophone keys. This runs thicker than our #1 and feels very slick to the touch. 6 oz.

119023 Valentino #9 Thick Bench Oil-shop size

Our #21 is a synthetic base available in a 3/4 oz. oiler, a 2 oz. oiler, or a 6 oz shop refill size. Perfect for smaller instruments, or those with tighter clearances.

119013 Valentino #21 Medium key oil - 3/4 oz. needle oiler
119015 Valentino #21 Medium key oil - 2 oz. needle oiler
119017 Valentino #21 Medium key oil - shop size

Our #23 is a synthetic base available in a 3/4 oz. oiler, a 2 oz. oiler, or a 6 oz shop refill size. Great for saxophone & larger instruments.

119012 Valentino #23 Heavy key oil - needle oiler
119014 Valentino #23 Heavy key oil - 2 oz. needle oiler
119016 Valentino #23 Heavy key oil - shop size

valentino valve oils
Our #10 petroleum based valve oil is great for new valves, or ones with tight clearances. 6 oz.

119024 Valentino #10 Thin Valve Oil-shop size

Our #11 petroleum based medium valve oil is “just right” for most valves. 6 oz.

119025 Valentino #11 Medium Valve Oil - shop size

Our #12 heavy petroleum based valve oil is great for older horns, or ones with loose tolerances. 6 oz.

119026 Valentino #12 Heavy Valve Oil - shop size

valentino slide grease
Based on and old Ed Myers formula, our #13 is a great anti-sticking grease to apply to tuning slides that may not be used daily. 1 lb. jar.

119027 Valentino #13 Slide Grease - 1 lb. jar

Our #14 “Slide Jelly” looks and feels like honey. Holds up well and is very tenacious. Very thick and will stay put. 6 oz.

119028 Valentino #14 Slide Jelly - shop size

Our white slide grease is great for most tuning slide servicing. And this is a great lubricant for burnishing and dent machines.

119029 Valentino #15 White Slide Grease - 1 lb. jar

Our #16 lubricant is a thinned jelly. Medium viscosity, pretty thick and stays put. 6 oz.

119030 Valentino #16 Slide Lube - shop size

bore oil
An old formula credited to both Hans Moenning and the Buffet company, this all natural bore oil is a must for woodwinds.

119031 Valentino #18 Bore Oil - 6 oz. shop size

naylor bore oil
Naylor’s Bore Oil is a specific blend of organic vegetable oils and an organic antioxidant. His oil restores and improves the resilience of wood. In turn, that greater resilience yields greater dimensional stability and resistance to cracking. If used regularly, the oil also increases the natural resonance of the instrument, stabilizes its scale, and inhibits saliva damage.

119001 1 oz.
119002 Pint
201030 Oiling Rod for Clarinet, Oboe or English Horn

precision squeeze drop dispensers
Excellent for oil, liquid flux, penetrating oils etc. The high quality Luer-Lok adapter and stainless needles allow for a long and dripless life. Not for use with solder flux.

119003 3/4 oz with .033 tip (for thicker oils)
119004 3/4 oz with .016 tip (for medium oils)
119005 3/4 oz with .013 tip (for thin oils, flux)
119006 2 oz with .033 tip (for thicker oils)
119007 2 oz with .016 tip (for medium oils)
119008 2 oz with .013 tip (for thin oils, flux)

Spare Needles:
119009 .033 Needle Only (Pink)
119010 .016 Needle Only (Black)
119011 .013 Needle Only (Blue)
**blaster penetrating oil**

PB Blaster is an excellent penetrating oil for freeing up frozen brasswind parts as well as woodwind keys. Blaster has a powerful, concentrated penetrating catalyst. It is a non-evaporating lubricant and protects further against rust. Blaster will break free rusted and corroded joints by removing surface tension.

119033 Blaster Penetrating Oil, 7 oz.

**stick lubricant**

Tap Ease. Developed as a lubricant for threading with taps and dies, this lube stick works beautifully for lubricating dent balls and rods. Perfect lube for flat springs (where they contact the instrument), wing screws (between screw and neck receivers). Use between any sliding key work, levers, etc. Use for swedging! One stick lasts quite a long time.

119018 Stick Lubricant

**beeswax**

Great lubricant for burnishing and swedging.

Use this for sealing vent tubes and so forth. Use the Votaw Pad Cup Heater to heat vents and body tubes (think clarinet and oboe). Place a shaving of beeswax next to the heated tube and see the wax get drawn around and in to seal beautifully.

119020 1 oz. Small Tube

**parafin cake**

Use to seal bassoon pads, lubricant for swedging, seal joint corks and strings. Many techs seal flute head-joint corks with paraffin. Also use for saxophone neck corks. Parafin seals the pores in the cork and make the cork last much longer and leaves a beautiful finish. Simply heat the wax in a flame, drop a few drops on the cork, then spread the wax with a hot knife or spatula. Wipe the excess of with our 113005 wipes while still warm. That's it!

119019 4 oz. cake

**dark brown filler wax plugs**

Chlorinated wax will never harden in a cracked woodwind instrument or when used as a filler on a sax body joint.

119032 1 lb. Wax Plug

**JS magic pad dust for sticking pads**

Apply a light coat of this charcoal colored dust to bladder skin pads to eliminate sticking.

113029

---

**leak locating**

**the “MAG” leak machine**

Instructions at jlsmithco.com

This machine will work on any woodwind instrument. It is used to detect even the smallest leak in a pad, defect in a tone hole, etc. This will take your repair work to another level!

The purpose of the “MAG” machine is to determine if an instrument is leaking and to help locate leaks that cannot be found with other traditional methods such as leak lights and feelers. The machine will also show you the degree of leakage in increments on the dial gauge. The “MAG” will show you even minute leaks (yes, these affect performance!). It will even show you the minor leakage of your fingerprints on clarinet holes and French flute holes. Once the machine is calibrated, a perfect seal will read 0 on the meter. Therefore a “perfect job” will read 0 with light (first touch) pressure on the keys.

**Standards**

Standards may vary according to the style of pads used, the nature of the instruments quality level (professional, student, etc.) You might find that you achieve a different result on instruments with cork pads than you do with bladder pads on flute. Synthetics such as Valentino pads will seal better than bladder also, therefore you may wish to assign different standards for different styles of jobs.

Many manufacturers are using the the “MAG” and their standards may be different than a technician’s. Differing work situations and pressures create differing needs. Once established though, consistency is the challenge. This is where the “MAG” comes in. You have a standard for leakage that can be required. The results are visual and not highly arguable. The “MAG” is used not as a first test but rather as a 2nd or even third test. The “MAG” is a supplement to, not a replacement of your feelers and lights. However, these machines are used frequently in front of the customer when doing diagnosis and estimating. It is a visual representation of the general leak-wise health of the instrument. (Be prepared to show the customer the results after the work has been done also).

The “MAG” does not isolate the leak to tell you specifically where it is. The device will only show you if, and by what degree, a section of tube is leaking. Therefore it is up to the user to seal the tube at various points along its length to isolate leaks.
Clarinets, Piccolos, Oboes, English Horn, Bassoon
You can plug all holes in the body joint with the "MAG" hose inserted in one end. If you are not happy with the reading, press down on keys individually to see if the pressure improves the reading. If so, then the pad coverage is at fault. If this is not the issue, remove the keys. Now check the body alone with all keys off. Occasionally you will find leaks in the body alone, a subtle crack, a post-hole that leaks into the body etc. If you have such a leak, you may submerge the body joint in a bucket of water while testing and you will see bubbles at the trouble spot.

Once certain of body integrity, (the body reads 0) assemble one key at a time. If you see a jump in the reading the key you just installed is leaking. Leaking can come from grain in a cork pad, cracks or holes in pad skins, spring tension that is too light on a key that is sprung closed, tone hole defects. Tone hole defects include checks, un-level faces, and open grain.

After testing with a leak light and feeler, plug one end of the flute with a stopper. If the flute has French open-holes, plug those with stoppers or use wetted fingers to seal. Insert The "MAG" hose inserted in one end. If you are not happy with the reading, press down on keys individually to see if the pressure improves the reading. If so, then the pad coverage is at fault. Once pad coverage is certain, if the flute doesn't reach acceptable limits, use a 236030 "Flute Leak Isolator." The "Flute Leak Isolator" will isolate the flute tube along its length so that the user may determine the area of the leak.

Once the area of the leak (specific pad and tone hole) is found, check again the integrity of the pad coverage and key-to-key adjustment. Once this checks out, you must have a leak at the pad skin, the pad washer, the bushing (grommet), or the tone hole itself.

If this is not the issue, remove the keys. Now check the body alone with all keys off. You may find leaks in the body alone. These can come from leaks at solder joints included tone holes and boxes (receivers). You may even occasionally find a small hole in the body tube itself. If you have such leak, you may submerge the body joint in a bucket of water while testing and you will see bubbles at the trouble spot.

Leaking can come from cracks or holes in pad skins, spring tension that is too light on a key that is sprung closed, and tone hole defects. Tone hole defects include checks, un-level faces, and machining marks. If you press on the G# or D# key to seal and find that the pad had been blowing open, you may wish to adjust down the air pressure. This assumes you do not wish to increase the spring tension.

On Brass
I personally have only limited experience with the "MAG" on brass, but I’ve heard from many techs who regularly use the machine to detect brass problems. Most recently, I talked to a technician in California who discovered some leaks in a piston set using the "MAG". The piston ports were not soldered completely around their edge, creating a blow through point.

Many techs have bought our neoprene plugs to seal up various tubing points, while testing the area for leaks with the "MAG". You can of course plug the bell of say a trumpet (with a small soft ball) and then insert the "MAG" hose into the mouthpiece receiver.

Additional Items
- Clarinet testing plug kit
- Flute testing plug kit
- Oboe testing plug kit
- Piccolo testing plug kit
- Master Plug Assortment
- Standard assortment testing plug kit
- Plug/Hose Connector
- Soft Hose

I personally have only limited experience with the "MAG" on brass, but I’ve heard from many techs who regularly use the machine to detect brass problems. Most recently, I talked to a technician in California who discovered some leaks in a piston set using the "MAG". The piston ports were not soldered completely around their edge, creating a blow through point.

Many techs have bought our neoprene plugs to seal up various tubing points, while testing the area for leaks with the "MAG". You can of course plug the bell of say a trumpet (with a small soft ball) and then insert the "MAG" hose into the mouthpiece receiver.

236044 The MAG Leak Machine (110v)
236044EU The MAG Leak Machine (220v)

236003 Clarinet testing plug kit
236004 Flute testing plug kit
236005 Oboe testing plug kit
236006 Piccolo testing plug kit
236001 Master Plug Assortment
236002 Standard assortment testing plug kit
236045 Plug/Hose Connector
236046 Soft Hose

236056 MAG Upgrade
If you have an original series "MAG" machine in the plastic box, you may send it to us to rebuild it to new specs. The new style machine features a more durable metal casing and improved interior fittings. The machine now is more reliably accurate and runs quieter.
flute leak isolator

This simple tool can be very helpful in locating leaks of the typical gaps between tone holes and pads, and key to key adjustments. Of course, these are leaks that can be found with traditional methods such as feelers and leak lights.

While this tool will diagnose these problems, the additional strength of this tool is in finding broken and porous skins, small holes in pad skins and leaks around pad screws and washers. Works independently, or in conjunction with our 236044 Mag Machine. Directions enclosed.

236030 Flute Leak Isolator
236033 Replacement Rubber Washer
236059 Alto Flute Leak Isolator Washer
236060 Bass Flute Leak Isolator Washer

schmidt leak isolator for MAG

Jim Schmidt's version of the flute pad leak isolator will isolate one pad at a time. This conveniently attaches to our 236044 Mag machine. Lubricate the O-rings with “Magic dust” (for sticky pads), molly or graphite. Move the tool slowly in the flute bore. Sharp/soldered toneholes edges can damage the O rings. If an O ring gets damaged, replace it promptly.

236042 Schmidt Leak Isolator
236043 Replacement O-Rings for Schmidt Isolator
113029 Schmidt Magic Pad Dust

russell leak light system

From the workshops of Brian Russell, this small tube lamp offers gentle light with low heat which is easy on the eyes and the instrument. The small diameter allows one to use the small lamp in piccolos, soprano sax top pads, etc. The large lamp works perfectly for flute and saxophone.

236027 Russell Leak Light Power Pack
236028 Russell Leak Light Light Small Bore
236029 Russell Leak Light Lamp Large Bore

Brian Russell

cigarette papers

I’ve saved you the embarrassment of procuring your own. Every technician has a small stash of these on the bench for feelers, pad cleaners, etc. 32/pkg.

236055 Cigarette Papers

paper regulator strip set

This complete selection of different thickness papers is a must adjusting handmade flutes that don’t have adjusting screws. Also for other woodwinds such as oboes beneath the adjusting screws.

403032

The 236034 includes control unit and 12” fluorescent lamp and works in alto and tenor saxophones, alto and bass clarinets, bassoons and flutes. The 236035 model also works in alto and tenor saxophones, alto and bass clarinets, bassoons and flutes. A miniature lamp allows the unit to work
ultra fine point marker

Use the ultra fine marker to mark locations for partial shims on flute cups. Mark tubing and rod stock for cutting to length. Write part numbers on brass instrument parts. A variety of shop uses. Remove marks with rubbing alcohol.

123016 Sharpie® Marker

saxophone neck leak isolator

Neck leaks are often overlooked by many technicians and can be the source of performance problems on an otherwise perfect horn. This area warrants careful inspection. These tools use an expanding washer to plug the body below the neck tenon. Check suction with neck installed. The neck fits over the tool.

236031 Alto
236032 Tenor
236057 Replacement Washer for Alto
236058 Replacement Washer for Tenor

feeler material

These strips are the finest and half the thickness of what you have been using, allowing for more sensitivity. They are resistant to breakage, bending and don’t possess the inclination towards static cling. One strip makes 4 regular size feelers for small instrument pads. Package of 25.

236053 1/4” x 2” x .0005” thick

plastic feeler stock

Color-coded feeler stock allows you to cut many feelers from sheet. This is an excellent way to “read” for flute pad shim thicknesses. Keep several feelers on hand loaded with each size. Same material and color code as our plastic flute shims. 4” x 4” sheet.

236047 .0005”
236048 .001”
236049 .002”
236050 .003”
236051 .004”
236052 .0075”

bladder skins

Used as key silencers, feelers, etc. Can be used to recover unique pads. 4” x 12” sheet.

403030 White
403031 Yellow

Also available in 20 packs, pre-cut

403034 White
403035 Yellow

feeler strip holder

Our lightweight plastic feeler holder provides quick and easy insertion of feeler strip material with just the right tension.

236054 Feeler Strip Holder

neoprene plugs

An assortment of plugs is a must in each shop. Plugs can be used temporarily to plug tone holes when trying to isolate leaks, or plug body tube ends to check overall leakage. Can be used to keep lacquer out or chemicals in brass instruments.

Sold in dozens and hundreds.

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<th>Item #</th>
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neoprene plug assortments

236001 Master Plug Set - Standard set plus bassoon joint sizes. 92-pieces (shown)
236002 Standard Plug Set - for most instruments. 78-pieces
236003 35-piece Set for Clarinet
236004 27-piece Set for Flute
236005 34-piece Set for Oboe
236006 20-piece Set for Piccolo
springs

blued steel flat springs

For Clarinet:
180001 .008" x .610"
180002 .008" x 1.379"
180003 .012" x 1.379"
180004 .019" x 1.379"

For Sax:
180005 .008" x 1.418"
180006 .012" x 1.379"
180007 .019" x 1.379"
180008 .019" x 1.260"

Minimum quantity: 6

blued steel needle springs

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<td>180219</td>
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<td>180223</td>
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<td>180225</td>
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<td>180255</td>
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Minimum quantity: 6

gold spring wire

Our gold spring wire is 14k white gold, 3 die hard. Sold by inch.
180027 .025" (.634mm)
180028 .032" (.812mm)
180029 .020" (.507mm)

ds alloy stainless woodwind instrument springs

Okay, stainless springs aren't sexy. They don't have the hype and lore of needle springs from days past... when a horn was a horn... and a spring was a spring.
The correct stainless springs can be very cool though. Why, you ask? Because they work!

Our DS Alloy Stainless Springs are the most reliable for the technician and the musician. Every one out of the box can be trusted to act like a good spring - day in, day out. Stainless springs have no dangerous needle points (unless you create them). They aren't brittle or dead, and they don't break or rust.

Our DS Alloy Stainless Springs are made in house with the stainless wire alloy that is made and drawn to our specs. Do not confuse our springs with cheaper stainless springs that are used on poor quality instruments, or those which are sold by some suppliers.

We supply our springs with the “post flat” already stamped in. This is ideal for manufacturers and the many techs who prefer this type of spring. Some technicians will prefer to cut off or grind down the flat so that they can more precisely peen the flat to their needs. This is especially true for those who prefer to spin a point on the end of the spring, as the flat will not allow the spring to be chucked in the bench motor.

To peen the “post flat” simply use our 230007 riveting hammer on the side of a 201003 bench anvil.

Some spring cradles on instruments made for needle springs are too small for a straight spring of the same diameter. The technician must chose between opening up the spring cradle, or pointing the end of the spring.

Pointing the spring is simple. Chuck up the spring in your bench motor and file one end to a point (while under power). Finish with a toolmaker’s stone or a sanding stick.

On saxophones, we find that we often need to increase the diameter of the spring when replacing needle springs with stainless. This is simple to do. Use the new spring itself as a reamer by grinding a “blade point” on one end of the spring. Using a 201027 pin vise, twist the “blade point” into the post’s spring hole. This bench made reamer will cut a precise hole for the new spring.

With a perfect hole like this, you won’t need much of a flat on the spring to hold it secure. Peen the spring only enough to secure it. Touch up the post end of the spring with a grinder so that the spring will lay flush with the post once secured.

Sold in 25-packs
180116 .016"  180128 .028"  180140 .040"
180118 .018"  180130 .030"  180142 .042"
180120 .020"  180132 .032"  180144 .044"
180122 .022"  180134 .034"  180146 .046"
180124 .024"  180136 .036"  180148 .048"
180126 .026"  180138 .038"  180150 .050"

800033 Stainless Spring Assortment
The 360 springs in this assortment puts any size stainless spring at the ready for any clarinet, saxophone, piccolo or oboe work.
### waterkey springs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>180500</td>
<td>Conn Trombone Style (A348)</td>
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<tr>
<td>180501</td>
<td>King Trombone Style (A349)</td>
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<tr>
<td>180502</td>
<td>Trombone- Olds, Bundy, many others (A350)</td>
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<tr>
<td>180503</td>
<td>Trombone- Getzen, many others (A351)</td>
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<td>180504</td>
<td>Trombone- Olds (A352)</td>
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<tr>
<td>180505</td>
<td>Trombone- Holton (A358)</td>
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<td>180506</td>
<td>Valve Instruments- Holton (A359)</td>
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<td>180507</td>
<td>Valve Instruments- Conn</td>
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<td>180508</td>
<td>Valve Instruments- Conn</td>
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<td>180509</td>
<td>Valve Instruments- King</td>
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<td>Valve Instruments- Olds</td>
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<td>180511</td>
<td>Valve Instruments- Getzen</td>
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### lever springs

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<tr>
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<td>Conn- Universal French Horn</td>
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<td>180513</td>
<td>Holton- Universal French Horn</td>
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### valve springs

<table>
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<th>Description</th>
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<td>180514</td>
<td>Trumpet- Bottom Action, will fit most makes. (A370)</td>
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<tr>
<td>180515</td>
<td>Trumpet- Top Action, will fit those that do not take the 180514. (A371)</td>
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<tr>
<td>180516</td>
<td>Trumpet- Olds Top Action (A372)</td>
</tr>
<tr>
<td>180517</td>
<td>Trumpet- Will fit most top action models (A373)</td>
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<tr>
<td>180518</td>
<td>Trumpet- King Top Action (A374)</td>
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<td>180519</td>
<td>Trumpet- Top Action, will fit many foreign makes (A375)</td>
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<td>180520</td>
<td>Trumpet- King &amp; Holten (A376)</td>
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<td>180521</td>
<td>Baritone Bottom Action- fits all (A380)</td>
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<td>180522</td>
<td>Sousaphone Bottom Action- fits most models (A383)</td>
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<td>180523</td>
<td>Sousaphone- King Bottom action (A384)</td>
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<tr>
<td>180524</td>
<td>Universal Valve Spring Sousaphone Besson Bottom (A385)</td>
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Minimum quantity 6 on all springs.
**parts**

**high e facilitator**

The high E facilitator (a.k.a. “donut” or poor man’s split-E) is a way to easily tame the high E on the flute. This note can be problematic. It tends to respond stubbornly, with stuffiness and intonation problems.

Easy to install pre-made high-E facilitator for flute. Glue into the lower G hole with 105103 5-minute epoxy. Make sure that the facilitator sits below the edge of the hole. Measure the inner diameter of the hole to ensure the right size part. Available in white Delrin and Aluminum. Most prefer Aluminum for its similar color to silver.

**To install:**

**Step 1:** Measure to select the correct size High E Facilitator. The diameter of the facilitator should fit the hole securely as possible without being tight.

**Step 2:** Insert your Flute body mandrel into the bore of the instrument. Please ensure that the mandrel is clean and polished, and wipe the bore first. We don’t want to create any scratches.

**Step 3:** Wearing your gloves, mix up some quick set epoxy and apply a small amount to the edge of the High E Facilitator. Use a toothpick for this (in our next catalog-to be sure!).

**Step 4:** Set the High E Facilitator into the hole (make sure it’s the right hole). Set the High E Facilitator into the hole so that the saddle shaped side is fitting down on the mandrel. The mandrel serves as an alignment tool, and as a stop when inserting the High E Facilitator.

**Step 5:** Clean up any glue squeeze out quickly before the glue sets. After a minute, pull the mandrel out. Let the glue set up for half an hour then reassemble the instrument. I did tell you to take the keys off the flute before shoving the High E Facilitator in, didn’t I?

<table>
<thead>
<tr>
<th>Bushing Interior Size (mm)</th>
<th>Brand</th>
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<tr>
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<td>Altus, Williams</td>
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<td>7.6</td>
<td>Brannen, Lusk, Lamberson, Pearl</td>
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<tr>
<td>7.7</td>
<td>Haynes, Powell, Miyazawa, Powell 2100 &amp; 3100, McCanless</td>
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<td>7.8</td>
<td>Muramatsu, Moore, Koregelos, Lapatin</td>
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<td>7.9</td>
<td>Armstrong, Arista, Sankyo, Emerson 88, Burkhardt, Tom Green, Trevor James</td>
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<td>8.0</td>
<td>Powell Signature, Artley</td>
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<tr>
<td>8.1</td>
<td>Very old Powell, Goosman, Landell</td>
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<td>8.2</td>
<td>Gemeinhardt, Powell Commercial, Also for JS steel sleeve Yamaha rebuild kit</td>
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<td>8.3</td>
<td>For the plus-size flutes</td>
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168026, 168027, 168022, 168044, 168021, 168045, 168046, 168024, 168047

168001 Delrin Bushing Assortments
Delrin bushing assortments come in a 6 compartment container with 6 sizes (5 per size) from 7.6 To 8.1mm. This will give you a set of bushings for each size, allowing you to overhaul any common model instrument with the JS bushings. Then you can reorder only the sizes you have used. The best way to get started with these great bushings.

Elizabeth Pritchett
Director of Flute Department

Sarah Haymore
Flute Specialist
bushing and sleeve upgrade kit for yamaha
This set allows the tech to use JS pads on Yamaha flutes. Stainless steel sleeves fit over key cup chimneys and are glued in place with cyanoacrylate glue. Delrin bushings will replace the Yamaha metal bushings. Set for one flute. Fits 500 series and up. Does not fit 300 or 400 series.

168023 Bushing and Sleeve Upgrade Kit for Yamaha

JS plastic pad screw washers
Soft plastic washers keep the screw tight to the washer and seal against the washer. Makes quite a difference in amount of leakage. .006” thick.

168040 Pad Screw Washers (pkg/10)

flute pad screw washers-paper
Our paper flute screw washers are intended to set between the pad screw and the pad retaining washer. This will keep the screw secure, and will eliminate a potential leaking point.

168037 .004” Flute Pad Screw Paper Washer (25-pack)
168038 .008” Flute Pad Screw Paper Washer (25-pack)
168039 .012” Flute Pad Screw Paper Washer (25-pack)

flute pad screw washers–plastic
Our plastic flute screw washers will be installed between the pad retaining washer and the spud. These are for very critical padding situations on professional model flutes. The purpose of the plastic washer is to shim up the pad retaining washer so that it doesn’t compress the pad too much when the pad screw is anchored home.

168042 .004” Plastic (25 pack)
168043 .0075” Plastic (25 pack)

“milk bottle” braces

1/2” round with 3/8” long socket
Uses a 5/32” connection rod. Great for tight spots.

158001 Brass
158001S Silver Plated Brass

5/8” round with 3/8” long socket
Uses a 5/32” connection rod. A good all-around small brace.

158002 Brass
158002S Silver Plated Brass

5/8” round with 1/2” long socket
Uses a 5/32” connection rod. A good all-around small brace.

158034 Brass
158034S Silver Plated Brass

3/4” round with 1/2” long socket
Uses a 5/32” connection rod. Works well on marching brass: baritones & euphoniums.

158003 Brass
158003S Silver Plated Brass

3/4” round with 7/16” socket
Uses a 1/4” Connecting Rod. A good all around “low brass” brace.

158011 Brass
158011S Silver Plated Brass

1” x 1” diamond with 5/8” socket
Uses a 1/4” connecting rod. Heavy duty brace designed for Sousa & Tuba.

158012 Brass
158012S Silver Plated Brass

angled 1” x 1” diamond with 5/8” socket
Uses a 1/4” connecting rod. Use this brace when an angle is needed.

158013 Brass
158013S Silver Plated Brass

collection rods

158007 5/32” x 1” long. Brass
158007S 5/32” x 1” long. Silver Plated Brass
158008 5/32” x 16” long. Brass
158008S 5/32” x 16” long. Silver Plated Brass
158009 1/4” x 1.5” long. Brass
158009S 1/4” x 1.5” long. Silver Plated Brass
158010 1/4” x 16” long. Brass
158010S 1/4” x 16” long. Silver Plated Brass
### Bell Branch to #2 Valve Casing

3/4" round x 15/16" shield flange with a 3/16" spacing.

- **158005**: Brass
- **158005S**: Silver Plated Brass

### Mouthpipe to #2 Valve Casing

5/8" round x 15/16" shield flange with a 3/16" spacing.

- **158006**: Brass
- **158006S**: Silver Plated Brass

### Bach Style Parts

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Code</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brace Post</strong></td>
<td>158004</td>
<td>Brass</td>
</tr>
<tr>
<td>7/8&quot; x 3/8&quot; elongated diamond flange with a 1/2&quot; long socket.</td>
<td></td>
<td>158004S: Silver Plated Brass</td>
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<tr>
<td><strong>3rd Slide Post w/ Lock Screw</strong></td>
<td>158014</td>
<td>Bach Post w/ lock screw. Brass</td>
</tr>
<tr>
<td>158014S: Silver Plated Brass</td>
<td></td>
<td>158017: Set Screw</td>
</tr>
<tr>
<td><strong>3rd Slide Post with Hole</strong></td>
<td>158015</td>
<td>Brass</td>
</tr>
<tr>
<td>158015S: Silver Plated Brass</td>
<td></td>
<td>158017: Screw</td>
</tr>
<tr>
<td><strong>3rd Slide Rod Nut</strong></td>
<td>158016</td>
<td>Brass</td>
</tr>
<tr>
<td>158016N: Nickel Plated Brass</td>
<td>158016S: Silver Plated Brass</td>
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</tr>
<tr>
<td><strong>3rd Slide Bumper Nut</strong></td>
<td>158019</td>
<td>Brass</td>
</tr>
<tr>
<td>158019N: Nickel Plated Brass</td>
<td>158019S: Silver Plated Brass</td>
<td></td>
</tr>
<tr>
<td><strong>3rd Slide Rod</strong></td>
<td>158018</td>
<td>3rd Slide Rod - Brass</td>
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<tr>
<td>158018S: Silver Plated Brass</td>
<td></td>
<td>158017: Screw</td>
</tr>
</tbody>
</table>

### Spoon Braces

All the “spoon” braces below are coined and not cast; therefore, they can be bent without fear of breakage as with the old style “cast” brace! All Braces are available in brass or silver. The quarters in the photos are available for $0.25 each.

### 1st Slide Coil to Body

- **158020**: Brass
- **158020S**: Silver Plated Brass

### 1st Slide to 5th Branch

- **158021**: Brass
- **158021S**: Silver Plated Brass

### Mouthpipe to 1st Slide Top Coil

- **158022**: Brass
- **158022S**: Silver Plated Brass

### Mouthpipe to 2nd Slide

Conn 20-K (no longer manufactured)

- **158023**: Brass
- **158023S**: Silver Plated Brass

### Mouthpipe to 1st Slide

- **158024**: Brass
- **158024S**: Silver Plated Brass

### Mouthpipe to 2nd Slide

- **158025**: Brass
- **158025S**: Silver Plated Brass

### 1st Slide to 2nd Branch

Fits 14-K & 36-K

- **158026**: Brass
- **158026S**: Silver Plated Brass

### Guard Wire

- **158030**: Sousaphone Branch 36”
- **158031**: Sousaphone Branch 32”
- **158032**: Sousaphone Bell 11”
- **158033**: Tuba Bell 22”
sousaphone parts

sousaphone mouthpipe
conn (also fits most eb)
177001

sousaphone tuning bits
conn
177002

sousaphone mouthpipe
king & cleveland
177003

sousaphone tuning bits
king
177004

sousaphone mouthpipe
olds & reynolds
177005

sousaphone tuning bits
olds & reynolds
177006

sousaphone tuning bit holton
177007

sousaphone tuning bit holton w/screw
177008

sousaphone mouthpipe holton
177009

lower sousaphone mouthpipe
model 1250 & 2350 bbb
177010

lower sousaphone mouthpipe
for conn 14k
177012

lower sousaphone mouthpipe
old style king cleveland
177013

yamaha tuning bit-
45° angle
177014

yamaha tuning bit-
20° angle
177015

sousaphone mouthpipe
yamaha lacquer
177016

sousaphone upper mouthpipe
king new style
177017

trumpet parts

184001 (A104) Trumpet crook - fits many 1st, 2nd, & 3rd slide crooks.
184002 (A105) Trumpet inside slide tubing - 1/2” o.d. x 30” length.
184003 (A106) Trumpet outside slide tubing - fits 184002 - 30” length.
184004 (A115) Trumpet mouthpiece receiver - fits most trumpets.
184005 (A116) Trumpet mouthpipe tube only will fit most trumpets, trim to length.
184006 (A116-P) Pro Trumpet mouthpipe tube only - use for large bore instruments - trim to length.
184007 (A117) Trumpet tuning slide crook. Fits Conn and many others, .440 Bore universal.
184008 (A120) Trumpet tuning slide crook - universal with .460 bore.
**Bach Trumpet Parts**

184009 (A114) Bach trumpet mouthpipe tube for model 25 & 43.
184010 (A118) Bach New York trumpet mouthpipe tube.
184011 (A405) Bach trumpet inside slide tubing - brass .459 X .508.
184012 (A408) Bach trumpet outside slide tubing - brass .509 X .546.
184013 (A409) Bach trumpet outside slide tubing - nickel silver .509 x .546.
184014 (A411) Bach trumpet model 25 & 43 tuning slide crook .460 bore.

**French Horn Parts**

169001 (A170) Universal French horn mouthpipe straight & filled, will fit most french horns.
169002 (A171) French horn mouthpiece receiver will fit any make.
169003 (A173) Universal French horn mouthpipe, straight and filled, will fit most double horns.
169004 (A173N) Universal French horn mouthpipe, solid nickel silver, straight and pitch filled, will fit most doubles, will not rot out.
169005 (A1036) Conn mouthpipe & receiver - Conn 14D.
169006 (A1037) Conn mouthpipe & receiver - Conn 4D.
169007 (A1038) Conn mouthpipe & receiver - Conn 6D.
169008 (A182) Conn 8D French horn mouthpipe complete with receiver, bent & buffed - nickel silver.

**Trombone Parts**

188016 (A127) Trombone goose neck - fits most models - 12” long.
188017 (A139) Hand slide crook only. Fits Conn, Olds, King, Getzen, many others, crook will fit most models if slide braces are adjusted to fit.
188018 (A140) Hand slide crook end cap guard.
188019 (A143) Tuning slide crook- tapered, fits many makes. Width outside to outside 5 1/8” - width inside to inside 3 3/4”.
188020 (A142) Rubber bumper-end guard-fits Olds & others.
188021 (A144) Rubber bumper-end guard-fits Holton & others.

**Trombone Handslide Tubes**

188001 (A133) Trombone inside slide tube-chrome plated, stocking .522” o.d.
188002 (A134) Trombone outside slide tube - brass - for 188001. Fits many Conn, King and Olds upper slide, many others. If one or the other is not an exact fit replace both tubes.
188003 (A135) Trombone inside slide tube-chrome plated, stocking .538” o.d.
188004 (A136) Trombone outside slide tube - brass - for 188003. Fits some King, Getzen and Olds lower slide tube, many others.
188022 (A138) Mouthpipe (venturi tube) - fits Olds, Amb., others.
188023 (A141) Mouthpipe (venturi tube) - fits large bore models.
188005 (A145) Trombone inside slide tube - chrome plated - stocking .530” o.d.
188006 (A146) Trombone outside slide tube - brass - for 188005, fits Conn, King, Getzen, Besson and many others.
188007 (B-200S) Bach model 36 inside slide tube - chrome plated - nickel tube - .530” i.d. x .557” i.d. of stocking diameter x 29 3/4” long.
188008 (B-201SA) Bach model 36 outside slide tube to fit 188007 - inside slide- without end piece drawn on slide - 1 pc - 29” long.

**Baritone Parts**

153001 (A150) Baritone mouthpipe - straight & filled - fits most makes.
153002 (A151) Baritone mouthpiece receiver.
153003 (A160) Baritone horn inside slide tubing - brass - .565” i.d. x .625” o.d., 30” long.
153004 (A161) Baritone horn outside slide tubing - brass - .628” i.d. x .670” o.d.

**Tuba Parts**

192001 (A222) Tuba mouthpipe - straight & filled - fits most large sizes.
192002 (A221) Tuba mouthpiece receiver.
case hardware

By popular demand, we now carry case hardware. These high quality items allow you to replace worn or damaged latches, hinges, drawbolts and even case handles. A must for the full service shop.

162001  Drawbolt Medium Cutout Style - 1 3/8" x 2 3/8"
162002  Drawbolt Medium - 1 5/16" x 2 1/8"
162003  Drawbolt Bundy Style - 5/8" x 2"

162004  Latch Wood Case - 2 1/4" x 2 1/2"
162005  Latch Molded Case - 1 3/16" x 2 1/2"
162006  Latch Leblanc - 1 1/2" x 1 9/16"

162007  Drawbolt Large - 1 3/4" x 3 1/4"
162009  Drawbolt Small - 1 1/2" x 2 3/4"

162010  Latch Flute Cutout, Left - 5/8" x 1 1/2"
162011  Latch Flute Cutout, Right - 5/8" x 1 1/2"
162014  Stop Hinge Small D-Shape - 1 1/8" x 2"
162015  Stop Hinge Large D-Shape - 1 1/2" x 2 1/2"

162016  Stop Hinge Small - 1 1/8" x 1 7/8"
162017  Stop Hinge Large - 1 1/2" x 2 3/4"

162018  Handle Black Leather Buckle, Adjustable
162019  Handle Black Leather Buckle Steel, Adjustable

162020  Handle Padded Vinyl/Steel Core - 4 1/4"
162021  Handle Black Plastic - 4 1/4"

162022  Case Angles Medium - 5/8" wide, 1 3/8" corner to end
162023  Case Angles Narrow - 1/2" wide, 1 3/8" corner to end
pop rivets
1/8" standard pop rivets 1/2" long. Aluminum body with aluminum mandrel. Use #30 drill. Most common size.
162024  Pop Rivets (hundred)

banana peel rivets
Great for riveting in tight or inaccessible places where a backer washer cannot be used.
162025  5/8"
162026  9/16"
162027  1/2"

pneumatic rivet gun
This pneumatic air riveter performs well at any angle and gets into hard to reach areas. This is a powerful and versatile tool. Handles the following size rivets: 3/16", 5/32", 1/8", and 3/32". A must for the school band shop that performs case repairs. Requires shop compressed air.
201031  Pneumatic Rivet Gun

naturalizer aerosol
Our 12 oz. Naturalizer multi purpose remover is excellent for cleaning up rental return cases. It effectively removes most adhesives, many types of inks, graffiti, decals, gum and paint overspray. It is nonchlorinated, and has a pleasant citrus fragrance.
135003  Naturalizer Aerosol, 12 oz.

air stapler
Drives 18 Gauge, 3/8" to 1" staples.
• Safety trigger
• 1/4" air inlet
• Needs 55-95psi air supply.
• Sold in carrying case with oil and wrench.
• Great time saver when working on cases, both inside and outside
201043  Air Stapler
201044  Combination Air Stapler/Brad Nailer

“cast out” odor eliminator spray
Ever get knocked off your feet when you open a case? This is a must have item for every shop and school band room. Safely removes odors from cases and instruments. Just spray a few bursts into the case or on brass instruments to remove that musty smell.
• Eliminates odors at their source, including smoke odors
• Safe on virtually all water-safe surfaces
• Doesn't mask the odor with heavy perfumes
• Contains no caustics or acids
135004  24 fl. oz.

Brad Gray
Graphics Coordinator
A good library is an affordable and essential element in a technician’s and musician’s repertoire. We at J. L. Smith & Co. Offer a variety of these books to help your business while improving your knowledge.

**the complete metalsmith**
by tim mccreight

An illustrated handbook, describing everything from metals and their properties to tools and how to use them. Soft cover. 150 pages.

109014

**how to run a lathe**

From the South Bend Lathe folks. Excellent resource for all machinists. Numerous tables, photos and drawings. 128 pages.

109016

**a guide to repairing woodwinds**
by ronald saska

A very thorough work on woodwinds covering very simple work through complex procedures. Section on clarinet, flute, saxophone, bassoon, oboe and harmony clarinets. Developed as text for the Instrument Technology Program at the State University of New York, College at Morrisville. 273 pages, plenty of graphics, spiral bound.

109004

**the complete guide to the flute and piccolo**
by burkart-phelan

Covers the practical side of the flute and relates every aspect to its ultimate performance and tone. Offers an understanding of how the instrument works and what determines how well it plays. This revision includes new sections on piccolos and headjoints.

109005

**on the sensations of tone**
by hermann helmholtz

Helmholtz helps to bridge the gap between the natural sciences and music theory. He explains the sensation of sound in general vibrations, sympathetic resonances and other phenomena. It also includes Helmholtz’s detailed study of our tonal system. Illustrated with graphs, diagrams, tables and musical examples.

576 pages.

109008

**woodwind instruments and their history**
by anthony baines

Widely acclaimed for its scholarship, comprehensiveness and originality, this superior study by a leading authority on woodwind instruments is considered the definitive work on the subject. Anthony Baines, a well-known English musicologist, conductor, instrumentalist and curator of the Bate Collection of Historical Wind Instruments at Oxford University, combines a history of woodwinds with detailed descriptions of the various instruments in use today.

109011
a method for adjusting the oboe and english horn
by carl j.sawicki

Complete guide to oboe adjustment. This text is also included in The Oboe Revealed.

fundamentals of musical acoustics
by arthur h. benade

Deals extensively with the fundamental sound production of instruments. The basis of scales and harmony and the craft of instrument makers are also discussed in this masterly text. It includes numerous illustrations, bibliographical information and a stimulating section of “Examples, Experiments and Questions” at the end of each chapter.

horns, strings and harmony
by arthur h. benade

This book explores simple and complex vibrating systems and the ear’s reception of sound. It describes the fundamentals of the piano, violin, trumpet, bugle, trombone, oboe, clarinet, flute, saxophone and many others. It offers simple outlines of the basic physics of what happens within a musical instrument. Included in the book are enhanced, clear diagrams and easy scientific models. 76 illustrations. 288 pages.

the flute and flute playing
by theobald boehm

Boehm created the modern flute in 1847. With only minor modifications, this is the flute that is used today. Boehm published an account of his research and accomplishments, a book which has come to be recognized as one of the classics of musicology. He covers acoustics; techniques for establishing proportions and keying; his new system of fingering and the mechanism. The present edition of Boehm’s work was translated by Dayton Miller and contains bibliographical notes about Boehm. Over 50 musical excerpts and illustrations. 197 pages.

brass instruments, their history and development
by anthony baines

In this readable, well researched history, a distinguished authority on musical instruments offers a concise survey of the evolution of trumpets, trombones, bugles, cornets, french horns, tubas and other brasswind instruments. Baines documents the various stages of the evolution of brass instruments with immense learning and a wealth of detail. An indispensable resource for any brass enthusiast. 143 illustrations. 320 pages.

the sax and brass book
by priestly, gelly, trynka & bacon

The Sax and Brass book artfully tells the story of the jazz of yesterday and today... and then widens its focus to reveal the position of brass instruments in the world of pop music, from Louis Jordan and Bob Willis to James Brown and the 2-Tone. Supported by a detailed guide to manufacturing history and a unique collection of full-color photographs displaying great saxophone, cornets, trumpets and trombones as well as rare memorabilia.

The Sax & Brass Book practically and entertainingly highlights the essential interplay between great musicians and great instruments.
table top machining
by joe martin

A basic approach to making small parts on miniature machine tools. This book gives you not just the "hows," but also the "whys" of machining practices. Included are down-to-earth descriptions as well as detailed photos and drawings. Lathe and mill set-ups, cutting tools, materials - it is all covered here. By the founder of Sherline.

109020

the saxophone is my voice
by ernest ferron

This book explains how the instrument functions, information on mouthpieces and reeds, adjustment techniques, harmonization, padding and repairs. A must for anyone doing sax repair!

109018

the clarinet revealed
by ernest ferron

This English translation of his French work is a thorough discussion of the instrument. Chapters on functions of the bore, barrel, tone holes and the mouthpiece. Repairs and tool making are also covered.

109015

the amateur wind instrument maker
by trevor robinson

Includes description of materials and methods for making wind instruments, detailed plans and special techniques needed for wind instrument making; bore, and reaming, placing finger holes, making joints and keys, shaping bells, etc.

109017

a clarinetist's notebook
vol i: care & repair
by robert schmidt

Thankfully back in print! This is a comprehensive book covering the techniques of reknown master craftsman W. Hans Moenning of Philadelphia. Over 250 photographs and some 140 drawings. From simple assembly, to padding, through acoustic adjustments and tuning. A must have for any clarinet technicians office.

109003

servicing the flute
by j.l. "jeff" smith

This book is the companion guide to the Valentino Flute FixKit™, and an invaluable introductory guide to anyone learning to service the flute. Includes sections on disassembly and assembly, dealing with pad leaks, replacing pads, "kickers," adjusting, lost motion and key height, head corks, and oiling. If you want to learn more about making a flute play its best, you need this book. 41 pages and 115 clear illustrations and close-up, step-by-step photographs make following the text easy.

109022
This dynamic program, designed especially for musical instrument repair shops, has been used by shops worldwide for more than ten years. Shop Tracker Pro lets you track the horn from check-in to pick up with Work Orders, Invoicing, Inventory Control, Customer Tracking and Built-in Reports. The team at Markowitz Technologies has thought of everything with Shop Tracker including a case contents checklist. This program will keep your shop organized and profitable. Requires Windows Operating System and is PC Network Capable.

123010  Shop Tracker Pro

"Shop Tracker - I love it!!"  
-Dan Myers, Buckeye Music

"I like the professional look of a printed order form...and so do the people receiving my faxed orders."  
-Ken Jensen, Riverton Music

"I already had my own invoicing and job management system set up on my computer but, being impressed with Markowitz Technologies, I decided to try Shop Tracker. Without a second thought, I abandoned my old, clunky system and immediately started using Shop Tracker. It is incredibly easy to use, and far more flexible than any program that I have seen. It is a complete shop management system. If you need to be able to check on the status of any repair in your shop at any time, run, do not walk, to your nearest phone and order Shop Tracker."  
-Langdon G. Nevens, Music Unlimited

professional development apprenticeships

Do you need to build confidence with a particular skill set? Do you suddenly need to repair saxophones when you’ve specialized in flutes? Are you attracting new clients who are demanding services that you can’t provide? Or are you slow on a particular aspect of your work because you haven’t developed proper procedures? J. L. Smith & Co. presents for the first time a unique opportunity for the practicing technician to resolve these issues. This is a concentrated, practical, real-world program working only on your areas of concern. Our mentors, Jeff Smith and Harold Phillips have more than 50 combined years of experience and have trained many technicians through clinics and apprenticeships.

You will be working one-on-one, in a comfortable and helpful environment. The student must provide his or her own work/study instruments. Your curriculum is instrument specific and will be established in advance by mutual agreement. Possible areas of concentration may include subjects such as:

- Padding
- Crack repair
- Key fitting
- Tone hole repair
- Regulating
- Dent work
- Soldering
- Overhaul procedures
- Play condition
- Lathe work

This is one investment you will instantly profit from. Schedule is limited. Reserve space early.

software

shop tracker pro 3.0 – software power tools for the professional shop from markowitz technologies

crack repair

pin wire

Our pin wire is sold in 12” lengths.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>115002</td>
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<tr>
<td>115003</td>
<td>2-56</td>
</tr>
<tr>
<td>115004</td>
<td>4-40</td>
</tr>
</tbody>
</table>

carbon graphite banding material

In everyday repair work, I use graphite banding where a crack that had been previously pinned, subsequently opens up. Also, I use it frequently to forestall having to do a socket replacement on an instrument that has a crack from ring to first tone hole on the lower joint (if this instrument comes in before the socket explodes). The graphite is sold in ribbon form, approximately 12 feet in length, about 1/4” wide. This is enough to make maybe 8 bands. It appears very similar to a hank of violin bow hair and is black in color. The color allows for a very good cosmetic appearance against grenadilla, but will not be invisible. We will use a lathe (Sherline will do well) with a cutoff/parting tool to cut the track that the graphite will rest in. The graphite will be imbedded in our slow set 105104 epoxy. (You may wish to inlay the graphite below the surface, filling the remainder with grenadilla dust and 105100 SuperThin CA glue).

When properly executed, you will have a cosmetically pleasing, permanent repair that will be the most effective solution to many structural problems I first used this item in repairing a thin wall grenadilla flute head joint that had a troublesome crack. There had been other previous repair attempts, but this is the only one that held the crack closed.

- Reinforce thin wall areas
- Reinforce sockets with hairline cracks
- Repair cracks in clarinets, oboes
- Reinforce tenons on clarinets (under the cork)
- Reinforce tenons on bassoons (under the string)
- Won’t open back up like pinning, CA glues, or fillers.
- Won’t compress the bore like metal bands.

Complete instructions enclosed.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>115001</td>
<td>Carbon Graphite Banding Material, 12’</td>
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<tr>
<td>105104</td>
<td>Slow-Cure 30 Min Epoxy</td>
</tr>
<tr>
<td>105100</td>
<td>SuperThin Cyanoacrylate</td>
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</tbody>
</table>

Instructions at jlsmithco.com

www.jlsmithco.com
grenadilla
Also known as African Blackwood, grenadilla is the most common tone wood for woodwinds. Keep grenadilla on hand for various body joint repairs, tenon sleeves, tone hole replacements, socket and tenon replacements. Use the wood dust to fill cracks after pinning or when just filling thumb rest screw holes. Use our 105100 INSTA-CURE Thin CA glue to bond the dust. Sold in various random lengths. Priced by the inch.

<table>
<thead>
<tr>
<th>Square</th>
<th>Round</th>
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<tbody>
<tr>
<td>456100</td>
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</tr>
<tr>
<td>456112</td>
<td>456112R</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>1 1/2&quot;</td>
</tr>
</tbody>
</table>

jeff’s “tenon sleeve” recipe
A tenon sleeve is a simple, elegant and affordable way to permanently repair the fit of a tenon joint. Any technician can easily master this procedure if one has access to a machine lathe. The conditions that indicate the need for this are: a wobbly or loose fit of tenon to receiver, cracks or chips in the tenon that don’t require complete tenon replacement. Please bear in mind that no matter what you do to the cork, if you don’t have integrity in the mating parts of the joint, you won’t have a good joint. The cork only serves to seal the joint, and to facilitate assembly. If you don’t have a good fitting joint, you may have other issues. Think about the bridge key adjustments on a clarinet. The following dimensions are appropriate for Bb clarinet.

Step 1: Machine the old tenon down to .750”.
Step 2: Machine sleeve from grenadilla. Drill a 3/4” center hole down the bore of the block deep enough to fit over the old tenon. You’ll need to center drill, then step drill up to 3/4”. No need for a bored or reamed interior. Unless you can’t hold a 3/4” drill in your tailstock. 
Face the block to the length of the old tenon
Step 3: Glue the new sleeve onto the old tenon. Use 105104 Slow Set epoxy for this. Let this glue up overnight.
Step 4: Machine the OD (outside diameter) of the tenon area to fit the instruments socket (receiver). Cut a cork track into the tenon.
Step 5: Recork the tenon.

View more detailed instructions at www.jlsmithco.com

cleaning and surface prep

scotch brite pads
Great for cleaning and finishing. We offer Scotch Brite in the two most useful grades for our work. The 113016 is a maroon color and is the more aggressive of the two. This is great at removing deposits inside tubing, etc. Cut off a small piece and mount on a flute rod in your bench motor. You will quickly bring a new surface to light. The 113017 is gray in color and will leave a beautiful dull-lustre finish. Great for cleaning up neck sockets and tenons, flute tenons, etc. Sheets measure 6” x 9”.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>113016</td>
<td>Standard (maroon)</td>
</tr>
<tr>
<td>113017</td>
<td>Ultra-Fine (gray)</td>
</tr>
</tbody>
</table>

chemstrip aerosol
A great aerosol spot lacquer remover.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>135002 Chemstrip, 14 oz.</td>
<td></td>
</tr>
</tbody>
</table>

simichrome polish
Simichrome Polish is an industrial grade metal polish. The fine paste comes in a 50 gram tube. Simichrome is preferred for removing scratches from silver and silver plate. The folks at Miyazawa flutes first clued us in on Simichrome. Cleans up easily, does not imbed and leaves no residue. Care must be used when using on silver plate. The silver plate can be removed revealing the base metal.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>113022</td>
<td></td>
</tr>
</tbody>
</table>

citra shine metal polish
A non-abrasive, foam cleaner and polish. Removes tarnish and oxidation from brass and silver.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>113021 14 oz.</td>
<td></td>
</tr>
</tbody>
</table>

wenol polish
Wenol Universal Metal Polish is great for gold, silver, and brass. Quickly removes oxidation, water spots, and tarnish. Our friends at Yamaha first told us about Wenol. They use it extensively on the line, even on lacquered surfaces.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>113024 100ml tube</td>
<td></td>
</tr>
</tbody>
</table>
polishes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>110029</td>
<td>Brasso, 8 oz Can</td>
</tr>
<tr>
<td>110030</td>
<td>Silvo, 12 oz. Can</td>
</tr>
<tr>
<td>110031</td>
<td>Hagerty, 12 oz. Liquid Polish</td>
</tr>
<tr>
<td>110032</td>
<td>Hagerty, 18 oz. “Silver Foam”</td>
</tr>
<tr>
<td>110033</td>
<td>Hagerty, 14.5 oz. Spray Polish</td>
</tr>
</tbody>
</table>

tarnish removing plate

Special alloy metal plate cleans by creating low-intensity electrolysis (a gentle positive magnetic field), which is just strong enough to attract the negative sulfur ions of tarnish. Excellent for tarnish removal on parts that are impossible to get at with other methods. Safe on silver and silver plate. Great for trumpets, flute and piccolo bodies and keys, etc.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113023</td>
<td>Tarnish Removing Plate</td>
</tr>
<tr>
<td>113075</td>
<td>Washing Soda, 7oz. bag</td>
</tr>
</tbody>
</table>

anti-tarnish strips

Anti-Tarnish Strips incorporate 3M's Tarni-Shield™ technology. Unlike some other tarnish protectors, they are completely safe and do not emit anything or leave a residue on the items being protected. These strips are an all-natural means of tarnish and corrosion prevention, protecting copper, brass, gold, silverplate or sterling items from unsightly and damaging corrosion and tarnish.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113076</td>
<td>Anti-Tarnish strips, 8-pack</td>
</tr>
</tbody>
</table>

3M tarni-shield silver polish

3M Tarni-Shield™ Silver Polish is easy to use and among the least-abrasive available. The patented anti-tarnish and oxidation reduction “shield” keeps silver items gleaming without frequent polishing.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113077</td>
<td>3M Tarni-Shield 10 oz.</td>
</tr>
</tbody>
</table>

fast’n clean silver and jewelry wipes

Pre-moistened wipes remove tarnish and dirt from silver, brass, bronze and stainless steel. 40 wipes in a pop-up dispenser.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113019</td>
<td>Fast’n Clean Silver &amp; Jewelry Wipes</td>
</tr>
</tbody>
</table>

tarnish ragging cloth

The ultimate for ragging silver and silver-plated instruments. Threads easily between posts, and slide tubes, etc. This is a fantastic way to polish silver and silver plated flutes, saxophones, trumpets, trombones, tubas and so on. This is thin enough to pull between valve casings and slides, and it will slip easily between posts and springs. You can even “rag” under a flute embouchre plate.

At our benches, we usually have a piece attached one end to our bench. Hold a key or other small part in hand, we can hold the Ragging Cloth tight in anther and draw the key or part over the cloth. A great way to clean up oboe and flute keys. This will not remove scratches. Use our Simichrome (No. 113002) for that. Our Tarnish Ragging Cloth contains a tarnish inhibitor to make your efforts last.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113007</td>
<td>2” x 100 yard roll</td>
</tr>
<tr>
<td>113078</td>
<td>2” x 25 yards</td>
</tr>
<tr>
<td>113079</td>
<td>2” x 4 yards</td>
</tr>
</tbody>
</table>

ragging tape

This product is very strong and thin enough to slip between any tubing you will encounter!

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>110049</td>
<td>1/2” x 100 Yard spool</td>
</tr>
<tr>
<td>110050</td>
<td>1/4” x 100 Yard spool</td>
</tr>
</tbody>
</table>

pure white cotton gloves

Protects fine metals from fingerprints, spotting and tarnishing. One size fits most hands. Sold by the dozen.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113008</td>
<td>Heavyweight</td>
</tr>
</tbody>
</table>

denim apron

Blue denim apron, 28” x 36” (71 x 91cm) with breast and waist pocket.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>123011</td>
<td></td>
</tr>
</tbody>
</table>
pipe cleaners
The plain old fashioned straight type that you prefer for cleaning hinge tubes, etc. Comes in bundle of 60.

113001

swabs
We now offer two different cotton swabs. The traditional stick swab is great for most general purpose work. The pointed swab easily gets into corners such as the inside edges of valve caps. (Harold loves these for cleaning tarnish in the groove of flute key cups). The long narrow swab is great for cleaning small tone holes on clarinets and oboes (use our pad juice as a cleaner). You’ll find hundreds of uses for these swabs if you keep each on your bench.

113002 Standard Style (100/pk.)
113003 Pointed (10/pk.)

blue wipes
A favorite with techs on the brass bench, these lint-free industrial cloths allow one to cleanly wipe pistons and rotors etc. Wipe anywhere without leaving dust and lint. Woodwind people love them for wiping steels before oiling. Extra absorbent, non-abrasive, great wet or dry.

113006 25/pkg.

industrial wipes
Full size sheets and strips same as supplied with our Pad Juice. Excellent for general shop use and instrument wipe down.

113004 Strips, bag of 90
113005 Sheets 13.5” x 15”, individual sheets

mouthpiece brushes

113041 With wire handle - reed instruments (top)
113042 Tapered with wire handle - brass instruments (bottom)
113044 1/2” tapered to 1/4”, 8” long (not shown)

valve brush
Perfect for cleaning piston ports and casings.

113043 Valve Brush

nylon tube brushes
Asize for every tube!

<table>
<thead>
<tr>
<th>Cat No.</th>
<th>Brush diameter</th>
<th>Brush length</th>
<th>Overall length</th>
</tr>
</thead>
<tbody>
<tr>
<td>113009</td>
<td>1/4”</td>
<td>2”</td>
<td>6 1/4”</td>
</tr>
<tr>
<td>113010</td>
<td>3/8”</td>
<td>2”</td>
<td>6 1/4”</td>
</tr>
<tr>
<td>113011</td>
<td>1/2”</td>
<td>3”</td>
<td>8 1/2”</td>
</tr>
<tr>
<td>113012</td>
<td>3/4”</td>
<td>3”</td>
<td>8 1/2”</td>
</tr>
<tr>
<td>113033</td>
<td>5/8”</td>
<td>3”</td>
<td>8 1/2”</td>
</tr>
<tr>
<td>113032</td>
<td>7/8”</td>
<td>4”</td>
<td>15”</td>
</tr>
<tr>
<td>113013</td>
<td>1”</td>
<td>4”</td>
<td>12 1/4”</td>
</tr>
<tr>
<td>113038</td>
<td>1”</td>
<td>4”</td>
<td>27”</td>
</tr>
<tr>
<td>113014</td>
<td>1 1/4”</td>
<td>4”</td>
<td>13”</td>
</tr>
<tr>
<td>113039</td>
<td>1 1/4”</td>
<td>4”</td>
<td>36”</td>
</tr>
<tr>
<td>113015</td>
<td>2”</td>
<td>5”</td>
<td>16 3/4”</td>
</tr>
</tbody>
</table>

tampico bell throat brush
Works wonders on inside bell stems. By removing the wood handle you can run the brush in your bench motor and apply greaseless compound to buff bell throats. Dollar bill shown is available for $1 extra.

113072 10” x 2 3/4” tapered to 1 1/2” brush x 15” long (wood handle)

micro tube brushes
Abrasive filament, ultra-fine. Improves the key action on any woodwind with hinge key polishing.

<table>
<thead>
<tr>
<th>Cat No.</th>
<th>Brush diameter</th>
<th>Brush length</th>
<th>Overall length</th>
</tr>
</thead>
<tbody>
<tr>
<td>113040</td>
<td>.030”</td>
<td>1/2” brush length</td>
<td>4” long</td>
</tr>
<tr>
<td>113046</td>
<td>.050”</td>
<td>1/2” brush length</td>
<td>4” long</td>
</tr>
<tr>
<td>113047</td>
<td>.075”</td>
<td>3/4” brush length</td>
<td>4” long</td>
</tr>
<tr>
<td>113048</td>
<td>.090”</td>
<td>3/4” brush length</td>
<td>4” long</td>
</tr>
<tr>
<td>113049</td>
<td>.105”</td>
<td>1” brush length</td>
<td>4” long</td>
</tr>
</tbody>
</table>
**flex hone brushes**
Silicon carbide.

- 113051 .552 x 2 1/2, 6” long
- 113052 .787 x 2 1/2, 6” long
- 113053 .875 x 2 1/2, 6” long
- 113054 1.000 x 2 1/2, 6” long
- 113055 1.125 x 2 1/2, 6” long

**trombone playing slide cleaning brush**
113050 5/8” x 4 1/2", 42” long

**trombone playing slide bore buffs**
If you must hone the bore, you can buff the inside for that original factory finish, using your bench motor or hand drill to spin the buff. Wire loop handle with nylon bristles.

- 113056 5/8” x 4 1/2”, screw mount
- 113057 32” drive mandrel
- 113058 1” x 4 1/2”, screw mount
- 113059 32” aluminum drive mandrel

**platers brush**
Hardwood handle. Used for general cleaning.

- 113045 13” x 1 1/4” block with 5 1/4” tampico brush

**stainless steel & brass brushes**
1/2” x 1 3/8” brush length x 5” long

- 113036 Stainless Steel
- 113037 Brass

**instrument cleaning brushes**

- 113060 4 1/2” x 10” handle, 1/2 hard, can be used wet or dry.
- 113061 4 1/2” x 10” handle, soft.

**tin handle flux/acid brushes**
High quality stiff black horsehair with flat face.

- 113054 3/8” x 3/4” brush, 5 3/4” long

**tampico wheels**
Use for delicate, scratch-free brushing.

- 113062 3” diam. x 1/2” wide with 1/2” arbor

**production brass wire wheels**
Produces antique or fine satin finish on precious and non-ferrous metals. Standard 1/4” arbor (can be run on tapered spindle). This is a heavy duty wire wheel allowing continuous usage throughout the day at higher speeds and pressure.

- 113068 3” diam. x 1/2” face x 2 rows
- 113069 4” diam. x 1” face x 4 rows

**circular wire scratch brush**
These scratch brushes are mounted on hardwood hubs with soft metal center for tapered spindles. They are filled with the best grade brass wire. Standard 1/4” arbor

- 113063 3” diam. x 1 row
- 113064 3” diam. x 2 rows
- 113065 3” diam. x 3 rows
- 113066 4” diam. x 4 rows
- 113067 4” diam. x 3 rows

201032 Small rotary brass brush mounted on a 1/8” mandrel. Use in bench motor or flex shaft tool. Just the brush for tight arbor.
nikolas spray lacquers
This quick drying nitrocellulose lacquer has been the standard in repair shops for years. Excellent for touch up work, no special curing or spray equipment required. Please use only with good ventilation.

110051  15 oz. Clear
110052  15 oz. Gold

pearl powder
This product can be mixed with any clear finish/any color for that shimmering Pearl look, and can be mixed with epoxy to make your own finger button pearls, sax key pearls, guitar inlays, you name it!

110053  Pearl Powder, 1/2 oz.

d.s.c. (acid, de-lime)
Mix 8 oz. to 1 gallon of water. Parts must be degreased before dipping into D.S.C. Removes all types of corrosion and dried spit in 3 minutes! Rinses with water, lacquer-friendly, no fumes, no acid fumes like Muriatic Acid.

113071  1 lb. bag, for 2 gallons
113073  5 lb. bag, for 10 gallons

g.s.c. cleaner/disinfectant
This cleaner contains Quaternary Ammonium and is effective against HIV and E. Coli viruses and other similar types of germs found inside of band instruments. Also contains penetrants for use in hot or cold water (110° to 125°F). Mix 20:1 for general cleaner, 10:1 for disinfecting. Biodegradable.

113070  1 Gallon Concentrate

cheesecloth
This product is 100% cotton and is LOW lint and will not scratch. Great for trombone slide clean up and general shop use.

113031  3' x 15' Continuous Roll

Chavis Byers
Fulfillment

Van Jordan
Valentino Fabrication
sanding, filing and abrasives

sandtaper sticks
Sandtaper sticks use a revolving belt of sandpaper. They are used to clean up file marks and as a replacement for files. Touch up key corks easily with these tools.

<table>
<thead>
<tr>
<th>Sandtaper Sticks</th>
<th>Sandtaper Belts - 10 pk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>127019 Red – 120 grit</td>
<td>127020 120 grit</td>
</tr>
<tr>
<td>127021 Blue – 240 grit</td>
<td>127022 240 grit</td>
</tr>
<tr>
<td>127023 Green – 320 grit</td>
<td>127024 320 grit</td>
</tr>
<tr>
<td>127025 Yellow – 400 grit</td>
<td>127026 400 grit</td>
</tr>
<tr>
<td>127027 Black – 600 grit</td>
<td>127028 600 grit</td>
</tr>
</tbody>
</table>

Micro-Mesh™
Micro-Mesh™ is a unique cushioned abrasive that produces a very fine and uniform scratch pattern. The nine grits range from 1,500 to 12,000 and would be used in applications requiring 400 grit sandpaper and finer. The 12,000 will leave a pattern that can not be detected by the unaided eye.

Use Micro-Mesh™ wet or dry on metals, woods and plastic. Excellent for finishing wood joints after crack repair, rubber and plastic mouthpiece scratches, tenons on flute and saxophone joints. You will discover a myriad of uses in your shop. Now in rolls as well as sheets.

<table>
<thead>
<tr>
<th>12&quot; x 12&quot; sheets:</th>
<th>1&quot; x 25' Rolls</th>
</tr>
</thead>
<tbody>
<tr>
<td>127001 1500 Grit sheet</td>
<td>127010 1500 Grit roll</td>
</tr>
<tr>
<td>127002 1800 Grit sheet</td>
<td>127011 1800 Grit roll</td>
</tr>
<tr>
<td>127003 2400 Grit sheet</td>
<td>127012 2400 Grit roll</td>
</tr>
<tr>
<td>127004 3200 Grit sheet</td>
<td>127013 3200 Grit roll</td>
</tr>
<tr>
<td>127005 3600 Grit sheet</td>
<td>127014 3600 Grit roll</td>
</tr>
<tr>
<td>127006 4000 Grit sheet</td>
<td>127015 4000 Grit roll</td>
</tr>
<tr>
<td>127007 6000 Grit sheet</td>
<td>127016 6000 Grit roll</td>
</tr>
<tr>
<td>127008 8000 Grit sheet</td>
<td>127017 8000 Grit roll</td>
</tr>
<tr>
<td>127009 12000 Grit sheet</td>
<td>127018 12000 Grit roll</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>127045 150 Grit - Sheet</th>
<th>127046 220 Grit - Sheet</th>
<th>127047 320 Grit - Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>127048 150 Grit 1&quot; x 25 yard roll</td>
<td>127049 220 Grit 1&quot; x 25 yard roll</td>
<td>127050 320 Grit 1&quot; x 25 yard roll</td>
</tr>
</tbody>
</table>

sandpaper rolls (silicon carbide)

<table>
<thead>
<tr>
<th>127051 120 Grit - 1&quot; x 50 yard roll</th>
<th>127052 180 Grit - 1&quot; x 50 yard roll</th>
</tr>
</thead>
<tbody>
<tr>
<td>127053 240 Grit - 1&quot; x 50 yard roll</td>
<td></td>
</tr>
<tr>
<td>127054 320 Grit - 1&quot; x 50 yard roll</td>
<td></td>
</tr>
</tbody>
</table>

abrasive cord

<table>
<thead>
<tr>
<th>127055 Abrasive Round Cord - .040&quot; 180 grit, 12'</th>
</tr>
</thead>
<tbody>
<tr>
<td>127056 Abrasive Flat Cord - 3/32&quot; 150 grit, 12'</td>
</tr>
</tbody>
</table>

jls non-embedding garnet lapping powder

The best on the market for lapping valves and slides. Compound is shipped as dry powder so you can select oil or water. If using as a water base use liquid soap and water.

| 110043 1/4 lb. dry powder, 400 grit/20 micron |
|-------|-------------------|
| 110044 1/4 lb. dry powder, 600 grit/14 micron |
| 110045 1/4 lb. dry powder, 800 grit/7 micron |
| 110046 1/4 lb. dry powder, 1200 grit/3 micron |

files

| 233053 4" x 1/16" round parallel file (cut 2) (hinge tube file) |
|-------------------|-----------------------------------|
| 233052 6" x 1/8" round parallel file (cut 2) |
| 233051 6" x 3/32" round parallel file (cut 2) |
**tumbler/polisher**

- Bowl Size 16” Dia./Capacity 12 1/2 Quarts
- Molded High-strength polypropylene
- 110 Volt - 60 Hz. Thermally Protected
- Internally cooled on precision ball bearing motor.

209001 Professional Machine
209002 Fast Cut Media, 10 lbs., long lasting
   Use this for Nickel keys and other hard parts.
209003 Polish Media
   Use this when tumbling silver or gold parts.

**hand held buffer**

- 20,000 rpm
- 10 3/4” long with 1/4” Collet Chuck
- Air consumption 4.0 CFM
- Weight 1.5 lbs.

"Take the buffer to your work not the other way around!"
Our small 2” buffs 11000S are perfect.

209004 Heavy Duty Extended Air Buffer

**soldering**

**acetylene torch kit**

Fast, concentrated flame with temperatures of 4800° F (2649° C). No oxygen tank involved. Special tip design gives the right mixture of atmospheric air and fuel gas. Tips feature slip-in design and seat perfectly by hand. Easily rotated to any position while flame is lit. Solid brass torch body has trouble-free needle valve. Pre-set regulator gives correct pressure and volume of fuel gas. With super fine tip (size 00) and 10’ (305 cm) hose.

260009 Torch Kit
260023 Replacement Hose

Additional and replacement tips:
(Size 00 is smallest; size 4 is largest)
260007 00 Clarinet Padding
260006 0 Saxophone
260005 1 Silver solder- Large Horn Solder
260004 2 Silver solder- Large Horn Solder
260003 3 Disassembling Large Horn
260002 4 Disassembling Large Horn

**little torch**

Used by many instrument makers for fine soldering on key work. This torch will give you ultimate control when silver soldering. The Little Torch feels right in your hand. It is just a fraction wider and longer than your middle finger.

This superbly balanced torch with a rugged aluminum alloy body weighs only 1.5 ounces. The Little Torch features a thin, extremely lightweight hose, which provides added maneuverability. The Little Torch is designed to meet the most exacting industrial standards for a small, multi-purpose torch.

260016 Kit without Regulators - Oxy-Acetylen
   For full size tanks (not supplied). Customer to supply regulators.
260017 Kit complete including disposable tanks and regulators
260018 Kit with regulators - Oxy-Acetylen
   For disposable tanks (not supplied). Complete with regulators.
260025 Little Torch Oxygen Universal Regulator - single
260026 Little Torch Acetylene Type B Regulator
magnetic torch holder
Versatile, magnetic, “third-hand” holder keeps your torch nearby on your bench. Use it right on the stand when you need both hands free. Heavy metal base keeps the holder safely in place and has seven holes for extra tip storage.

260014

torch-mate
Electronic torch lighter. Depress activator bar with torch and spark instantly lights torch. Uses 2 AA batteries (not included). Safe and easy to use.

260001

sparex #2 pickle
Dry granular acid compound specially made for pickling non-ferrous metals. Works best at 125 deg F (52 deg C). A crock pot works well. Sparex #2 is for non-ferrous compounds. Perfect for cleanup after brazing or silver soldering. For silver, gold, nickel silver, and brass.

131006 10 oz.

solder/assembly station
Large work area 12” x 91/2”. Fully adjustable and interchangeable holding fixtures. Slotted/grooved jaws to grip unusually shaped items. 3X magnifier for close-up work. Rubber edging holds the station in place. Soldering board 260011 must be purchased separately.

260010 Solder/Assembly Station
260011 Asbestos Free Soldering Board - 6” x 12” (152 x 305mm)

third hand soldering jig (set of two)
Double hand are mounted on two non-asbestos boards, each hand is movable.

260019

single third hand soldering jig
Holder makes soldering easy by holding precision parts right where you want them.

260020 3rd Hand
260022 3rd Hand w/tweezers

replacement arms
This unit is a precise gripper and stays constant regardless of heat! This arm may be mounted on any surface.

260021 Arm
260024 Replacement Tips

flux-pen
A convenient way to apply an even quality flux to parts without spillage and needle point corrosion. Water-soluble.

131007 1/3 oz.

ultra flux silver solder flux
Designed for use with all silver brazing alloys on all metals including silver, brass, nickel-silver, and gold. Not for use with aluminum, magnesium or titanium. Effective to 1600°F, and manufactured by Wolverine to our exacting specifications to assure the highest quality and consistency from batch to batch.

131003 1 lb jar

soldering flux
131011 Zinc based flux (low acid)
131012 “Hot Stuff” (acid based)
131013 Organic based (no bad smell)

hard solder flux
131014 1 lb. Jar midnight flux (black)
131015 1 lb. Jar “sure-flow” (white)
**precision squeeze drop dispensers**

Excellent for oil, liquid flux, penetrating oils etc. The high quality Luer-Lok adapter and stainless needles allow for a long and dripless life.

- **119003**: 3/4 oz, .033 tip (for thicker oils)
- **119004**: 3/4 oz, .016 tip (for medium oils)
- **119005**: 3/4 oz, .013 tip (for thin oils, flux)
- **119006**: 2 oz, .033 tip (for thicker oils)
- **119007**: 2 oz, .016 tip (for medium oils)
- **119008**: 2 oz, .013 tip (for thin oils, flux)

**Spare Needles:**
- **119009**: .033 Needle Only (Pink)
- **119010**: .016 Needle Only (Black)
- **119011**: .013 Needle Only (Blue)

**batters flux**

Batters flux is a self-pickling flux that can be used in place of paste fluxes.

- **131016**: 3 oz.

**silver solder**

Grade-Easy, Melting Point: 1240° F & 671° C; Wire .031" (.79mm); 1 oz (28 g)

- **131001**: Easy
- **131002**: Hard

**soft solder (solid wire)**

- **131010**: 1 lb. Spool 70/30 x 1/16" diam.

**heat shield protective paste**

- **131008**: Reusable Powder Blanket – 2000° F
  Made of a unique ceramic material which forms a protective blanket around adjacent metal being soldered. 2 oz. jar.
- **131009**: Water Wash-off Paste
  This paste is not reusable, but good to 5000° F. 1 lb. jar.

**solder tape**

Solder Tape is heat resistant (but will burn under direct flame) and can be used to bind parts together while soldering. The tape will withstand temperatures in the soft solder range (no brazing). This product is a hit wherever I demonstrate it.

Imagine holding a lip plate or rib in place while soldering. It doesn't leave the marks like wire, and is more flexible than clamping. Hold keys on saxophones while soldering adjacent posts and guards. Hold trumpet bells and leadpipes in place.

Great for all mounting work. 131004 binds to itself, so you must wrap it completely around the horn. 131005 has adhesive, so you may tape a part to another. Visualize taping a thumb ring to a tuba bell.

- **131004**: Self Binding, 36 ft.
- **131005**: With Adhesive, 108 ft. (top of photo)

**solder pads**

Non-asbestos soldering board. Withstands up to 2000° F.

- **260012**: 6" x 6" x 1/2" thick
- **260013**: 12" x 12" x 1/2" thick
our hammers

These hammers should be on the bench of every technician. Hammers “A” and “B” are designed for dent removal and Hammer “C” is an all-purpose woodwind bench hammer for key and post straightening. There are many advantages over the traditional dent hammer that most shops use including:

• Virtually eliminates hammer marks!
• Hammer faces fabricated from a material that is more dense than Teflon™ and with a higher lubricity.
• Eliminates the need for adding Teflon™ or other materials to the face of your steel hammers.
• Face curvature allows access to the bell flair all the way to the rim.
• No scratches when rubbing out those dents next to the bell rim.
• Handle has built-in flex to eliminate damage caused by using too much force.
• Unbelievable on trombone slide tubes!
• Works great on casing dents - we would never advise this with a steel hammer.
• Great for dent work on silver!

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>230001</td>
<td>Dent Hammer “A”</td>
</tr>
<tr>
<td>230002</td>
<td>Dent Hammer “B”</td>
</tr>
<tr>
<td>230003</td>
<td>Woodwind Hammer “C”</td>
</tr>
<tr>
<td>230004</td>
<td>Brass Handle “D”</td>
</tr>
<tr>
<td></td>
<td>Brass handle available by special order. For those who prefer a heavier blow.</td>
</tr>
<tr>
<td>230005</td>
<td>“E” Hammer (Tony Hawks Special)</td>
</tr>
<tr>
<td></td>
<td>Like our C hammer, but both sides are beveled. The bevels are at 90 degrees to each other.</td>
</tr>
<tr>
<td>230006</td>
<td>“F” Hammer</td>
</tr>
<tr>
<td></td>
<td>Like our C hammer, but neither side is beveled.</td>
</tr>
</tbody>
</table>

riveting hammer

4 oz. riveting hammer. Use for peening springs at the post end. Lengthening keys by swaging. Reforming various parts.

plastic mallet - 3.5 oz.

Light weight plastic head can be shaped and polished for applications in dent work. Good size and balance for glancing blows.

brass & nylon head mallet - 2.5 oz.

Perfect size, weight and balance for a hard dead blow to a concentrated area.

rawhide mallet #0 - 2 oz.

Our smallest rawhide mallet is excellent for general part alignment on brass instruments as well as key work on woodwinds.
rawhide mallet #2 - 6 oz.

Medium weight rawhide is useful in applications such as straightening bell rims, etc.

rawhide mallet #4 - 11 oz.

Heavy weight rawhide has many shop uses including delivering a solid dead blow when rebounding.

dent removing hammers

230013 1-1/8” x 1-1/8” Diam. Head
230014 9/16” x 1-3/16” Diam. Head
230015 3/4” x 3/4” Diam. Head
230016 1/2” x 1/2” Diam. Head

pliers

Knipex high precision tools from Germany combine function, performance and ergonomic features seldom found in other products. Attention to detail as well as durability have made these tools the favorite of serious craftsmen.

knipex long flat nose pliers

Long, narrow (shallow serrated) jaws serve a variety of general shop uses.

knipex round nose pliers

Heavy-duty, wear resistant. Chrome Vanadium electric steel, oil-hardened. 6 1/4” polished head, plastic-coated handles.

knipex 7” plier wrench

Gripping plier and wrench in one tool. Smooth parallel jaws, box joint construction. Suitable for gripping, holding, squeezing and bending work pieces.

knipex 7” heavy duty diagonal cutters

High leverage diagonal cutter features a polished head and plastic coated handles. Induction hardened cutting edges. Suitable for hard piano wire, springs, etc.

knipex revolving punch plier

Excellent quality punch. Great for punching any material for small round parts. Create your own round key silencers of felt cork, etc.

knipex end cutting nippers

251003
251006 Flat nose pliers, short and narrow.

251007 Flat nose pliers with a long narrow nose.

251008 Short round nose pliers.

251009 Long round nose pliers.

**spring bending plier**

251010 Great for bending springs for adjustment. Holds tubing while soldering.

**lindstrom flat nose plier**

251011 Lindstrom Flat Nose Plier

**parallel flat nose plier**

Parallel action, open throat, nickel plated and smooth jaws. 251050 Parallel flat nose pliers

**end cutting plier**

When you need to cut something really close. 251059 5" End cutting pliers

**trombone handslide plier**

The most common uses for these pliers is rounding out egg shaped tubing and flat spots. Can be used with or without a mandrel inside trombone tube. One size fits all. Both top and bottom jaws are machined with two different radiiues. 251062 6 1/2" Trombone playing slide pliers

**slide pulling plier**

When all else fails, and you have at leased 1/4" of tubing that you can grab, slip mandrel inside stuck tubing clamp tube and mandrel with pliers and twist back and forth PULLING. Mandrel set fits all Trumpets, Cornets, Marching Brass and French Horns. 251063 2 - 7" Vise locking pliers with 9 mandrels

**tenon cork compression plier**

Just before you sand, compress tenon cork; then sand. You'll have the same fit as the factory. 251064 8" Tenon cork compression pliers
kowalski flute key pliers

These tools are very easy and safe to use, allowing minute adjustments of flute key cups in all dimensions: side to side laterally, side to side tilt, and front to back on any instrument, without making contact with pads, tone holes or the flute body.

They reduce the need for partial shimming of pads, allowing pad setups to be made much more precisely and speedily.

Pads ought to be brought up to the proper thickness with full shims, and only final precision leveling should be carried out with these tools.

The set consists of four pliers:
The 251012 and 251013 Flute Cup Leveling Pliers permit adjustment of cups side to side laterally, that is centering on the hole. They also adjust side to side tilt and the back of the cup down, on closed and open hole flutes respectively. The Back Arm Pliers allows grasping the key cup arm from behind where it attaches to the cup, and tilting the front of the cup down. The pliers are both the fulcrum and the lever. Kowalski Key Foot Pliers are an ideal tool for making minor alteration to the key cup venting, or when regulating lost motion. They will allow very easy adjustments of the key foot in any direction. This allows you to keep a consistent look to the felt or cork thickness, and reduces time in setup.

flute pad bushing remover and pad slick combo tool

This tool works as a pad leveling tool on one end, and a bushing remover on the other. Smooth surface prevents pad damage when removing bushings.

teflon insert jig

Eliminate the need for silencers under adjusting screw. These tools allow a hole to be easily cut in the end of an adjusting screw. A nylon/Teflon insert can then be glued in. Many oboe players will thank you forever (and pay you handsomely) for making this conversion to their instruments. Instructions, drill bit and all materials enclosed. Use with bench motor or other power drill.
**knipex precision tweezers**
High quality tweezer. Great for managing flute shims, instrument felts and corks.

**tweezers**

- 201040  6” long, slide lock
- 201041  4 1/2” Needle point, stainless steel

**clarinet pad slick**
Used to shift and move pad for coverage while glue is molten.

**flute pad iron**
Used to iron the wrinkles from the pad skin. Slightly moisten the pad skin. Warm the iron and move on pad skin. Do not over heat the iron to “sizzle” the water as this will shrink the pad skin.

**key cup leveling tools**

- 233049  Hinged Sax Tool
- 233050  1/32” Thick Pad ell

**screw holding screwdriver**
Under every workbench there is a magical spot where small screws fall and are never seen again. Our top-quality screw holding screwdriver might just save your sanity!

**wiha precision screwdrivers**

**wiha screwdrivers**

**Blade high alloy chrome-vanadium-molybdenum-steel.**

- 254001  Perfect for flute adjustment and similar small screws.
- 254002  For clarinet and flute screws.
- 254003  Longer blade clarinet and flute driver.
- 254004  For clarinet.
- 254005  Longer blade clarinet driver.
- 254006  For sax and bassoon pivot screws.
- 254007
- 254008  For larger sax screws, Selmer, Conn, etc.
- 254009  For sax key guards and general shop use.
- 254013  For oboe and flute screws

**screwdriver rack**
Holds 5 precision screwdrivers, can be set on workbench. Also has holes for hanging and a base. High quality plastic. Really!

**screwdriver rack**

254012
**wiha magnetizer/demagnetizer**

To magnetize and demagnetize steel screwdriver blades, tweezers and similar tools. To magnetize, lead tool slowly through the lower square opening (+), to demagnetize guide tool slowly through the upper opening (-).

254010

**measuring tools**

**micrometer**

0-1” micrometer. A must have for every shop. Measure any part with the highest accuracy. A micrometer is the preferred tool (yes, even over a caliper) for measuring outside diameters (o.d.) of parts.

245008 Micrometer

**dial caliper**

6” dial caliper will become your most used measuring tool. Very versatile, very fast. The preferred tool for measuring accurate lengths. The tail can also be used to measure blind-hole depths and so forth.

245009 Dial Caliper

**digital caliper**

The digital version caliper offers a snap shot look for a measurement by reading out the measurement digitally.

245001 Inch/Metric

**plastic dial caliper**

Use plastic when measuring antique and valuable instruments, or when you don’t want to pay for the digital variety.

245002 U.S.
245003 Metric

**steel rulers**

245006 6” x 1/4” U.S.
245007 6” x 1/2” Metric

**thread pitch gauge**

245010 Metric
245011 U.S.

**drill gauges**


245004 Metric
245005 U.S.

**tap handle**

221001

**jls spring hook**

Push-pull spring hook for larger instruments on one end, smaller instruments on the other. Non-slip grip.

700060
pin vises
Pin vises are used for holding various tools, needles, cutters, etc.

hand vise
Has a large plastic handle with 0-1/4" capacity.
201027

handle with collets
Rounded wood handle with collets that open from 0 to .128" (0-3.3mm). Holds a variety of tools. Overall length 3" (76mm).
201028 With Two Chucks

swivel handle with collets
Ball-shaped wood swivel handle fits palm of hand, making it useful for setting, reaming, tapping, etc. Comes with two collets for holding burs and taps. Chucks open from 0 to .089" (0 to 2.3mm). Overall length 4' (102mm). Made in USA.
201029 Swivel Tool Handle with two collets

double-ended pin vise
Different size steel collets are mounted in opposite ends of hollow handle. Capacity 0 to .099" (0 to 2.5mm), length 4 1/4" (108mm).
201024

swivel head pin vise
With large free wheeling head, making it suitable for drilling, tapping, using as a screwdriver, etc. Comes with two double-ended collets, one in screw chuck and the other stored in the handle. Capacity 0 to .125" (0 to 3.2mm), overall length 3 1/2" (89mm).
201025 Precision Model

wood handle pin vises
Economical pin vises with black-fluted wood handles and steel chucks.
201026 Capacity 0 - .047" (0 - 1.19mm)

brass handle vise
Capacity is 0 to .028 (0 - .71 mm)
201034

keywork
reamers
Straight flute chucking reamers. Available in common drill sizes. The right tool for enlarging brass mouthpiece throats. You will use mostly sizes 19 through 27 recommended for most mouthpieces. Also used for reaming hinge tubing to remove dents and enlarging to accept a larger rod.

<table>
<thead>
<tr>
<th>part #</th>
<th>drill sz</th>
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<tr>
<td>233012</td>
<td>#26</td>
<td>0.147</td>
<td>3.73</td>
</tr>
</tbody>
</table>

sax key adjusting lever
A versatile tool that will perform several functions necessary to properly set up a saxophone. Most likely, you are currently using methods and possibly other tools to achieve the same results that this tool will give. Most will find the tool is a “hand saver,” and more exacting.
233041

pearl flute allen wrench
Used to disassemble pinless key work on Pearl flutes. You cannot service these flutes without this wrench.
227021 3/8” x 2 1/8”
post and key facing tool

From Brian Russell, the set includes a 4-flute cutter, and 7”- 9” long pilots. The pilots are hinge rods that thread into the cutter. The cutters do their job while being pulled into the work (post or key). Excellent for facing posts while mounted on the instrument. Can be operated in bench motor for major cuts, or with a hand chuck (our #201027) for fine adjustments.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>233039</td>
<td>Left-Hand Cutter w/Pilots</td>
<td></td>
</tr>
<tr>
<td>233040</td>
<td>Right-Hand Cutter Only</td>
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</table>

teflon insert jig

Eliminate the need for silencers under adjusting screw. These tools allow a hole to be easily cut in the end of an adjusting screw. A nylon/Teflon insert can then be glued in. Many oboe players will thank you forever (and pay you handsomely) for making this conversion to their instruments. Instructions, drill bit and all materials enclosed. Use with bench motor or other power drill.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>201036</td>
<td>Teflon Insert Jig</td>
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<tr>
<td>201035</td>
<td>#60 replacement drill bit</td>
<td></td>
</tr>
<tr>
<td>450005</td>
<td>Teflon Cord (PTFE Beading) .040” x 1’ replacement material for Insert Jig.</td>
<td></td>
</tr>
</tbody>
</table>

cutting broach set

Use to open pin holes, spring holes, etc. Contains six assorted sizes from stubs 43-72.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>233044</td>
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<td></td>
</tr>
</tbody>
</table>

rounding broach set

Set of 12 rounding broaches (burnishers really) covers drill sizes 30-70. Use for rounding tubing, holes, etc. Great for re-rounding the end of hinge tubing that has been dropped and damaged, or over swedged.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>233045</td>
<td></td>
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</tr>
</tbody>
</table>

flute tools

Straubinger Style Tools:

flute pad cup spud facer

Cuts the spud to the correct height when installing new spuds, or when setting the flute up to precise standards for best pad compression.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>227046</td>
<td></td>
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</tr>
</tbody>
</table>

flute tone hole tool set

The set includes 2 of the facer/testers, one of each size exterior facers, one of the interior facers, and 5 guides. Items available individually as well. These tools, after leveling the tone hole, can be used to remove the burrs left on the outer and inner edges of the tone hole as well as rounding the face of the tone hole. The complete set of tools covers tone holes of all brands of flutes.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>227006</td>
<td>Flute Tone Hole Tool Set</td>
<td></td>
</tr>
<tr>
<td>227011</td>
<td>Flute Tone Hole Facer/Tester</td>
<td></td>
</tr>
<tr>
<td>227007</td>
<td>Flute Tone Hole Exterior Facer “A” - Small</td>
<td></td>
</tr>
<tr>
<td>227008</td>
<td>Flute Tone Hole Exterior Facer “B” - Medium</td>
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<tr>
<td>227009</td>
<td>Flute Tone Hole Exterior Facer “C” - Large</td>
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<tr>
<td>227010</td>
<td>Flute Tone Hole Interior Facer</td>
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<tr>
<td>227012</td>
<td>Flute Tone Hole Delrin Guide Set</td>
<td></td>
</tr>
<tr>
<td>227076</td>
<td>Delrin Guide For Above -.265”</td>
<td></td>
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<tr>
<td>227077</td>
<td>Delrin Guide For Above -.480”</td>
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<td>Delrin Guide For Above -.515”</td>
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<td>227079</td>
<td>Delrin Guide For Above -.545”</td>
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<tr>
<td>227080</td>
<td>Delrin Guide For Above -.605”</td>
<td></td>
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</tbody>
</table>

flute pad retaining washer dimpler

This tool will put a dimple or a depression in the pad washer which will relieve the tension on the pad skin of the newer Delrin backed pads. With less pressure on the pad and skin the skin will have less of a tendency to tear or wrinkle. This tool can also be used with “traditional pads.” Stainless steel.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>227015</td>
<td>Flute Pad Retaining Washer Dimpler</td>
<td></td>
</tr>
</tbody>
</table>

1.800.659.6073  www.jlsmithco.com
**flute pad retaining washer spinner**

This tool has two purposes. It will allow you to polish the pad washer and screw during an overhaul, in a faster and more efficient manner, as well as create a bevel on the pad side of the washer to further relieve excess strain on the pad and skin.

227016  Pad Retaining Washer Spinner - inch  
227017  Pad Retaining Washer Spinner - metric

**sir james flute tone hole & body system**

The complete Sir James System has several different applications for repairing and servicing flute bodies. Its chief function is raising tone hole dips, but it can also be used to raise dented-in posts, re-round tone holes, and more.

The heart of the system is a pocketed mandrel that is equipped with 4 different size stainless steel balls for gently raising of low spots on tone holes surfaces from inside the body. These balls are adjustable in height to raise the tone hole area perfectly with little effort.

The Mandrel comes with an adjustable base vise for accurate body placement and technicians comfort. It also includes a simple pilot system to do a final dress of the tone hole surface.

227050  Sir James Flute Tone Hole & Body System  
Basic System Contains: Mandrel, Wood base & block, 2 Sets of balls, 2 of each size, Ball adjusting wrench.

Highly recommended accessories:

227051  Lighted Tone Hole Flatness Gauge  
227052  Facing Stone  
227054  Radial Tone Hole Gauge  
227055  Hole Rounding Cam Tool  
227056  Post Raising Wrench

Jeff Smith  
President
JS diamond flute tonehole finishing files

JS 300, 600 and 1200 grit tone hole finishing files are extremely flat, with diamonds embedded into the metal surface and are designed for applying finishing touches to the toneholes. Screw on a plastic disc to the abrasive side of the larger metal disc in order to locate the rotary tonehole file in a hole.

Use the ball end driver to turn the tonehole file. The ball driver allows the file to tilt a little to find the correct level. Be sure to use a drop of light oil to help keep the abrasive from clogging. Use light pressure when finishing up or you will flex the tonehole and it will not come out flat. Mark the tonehole rim with a black felt pen (sharpie) so you know when to stop as the low spots disappear.

After cutting the toneholes, check their flatness with the bare metal side of the tonehole file (use leak light). If a file loads up with metal, use an ultrasonic cleaner. You can also use a needle (or wire brush) but you should do so while viewing with powerful magnification such as a microscope or a strong Optivisor.

227018 Kit 300 grit 227081 Disk only - 300 grit
227019 Kit 600 grit 227082 Disk only - 600 grit
227020 Kit 1200 grit 227083 Disk only - 1200 grit
227036 “In-between” Flute File Pilots, set of 4

JS diamond flute tonehole chamfer files

JS diamond chamfer files will take off the sharp corners on the inside and the outside of flute toneholes. This process is essential for creating tonehole rims that do not tear into the pad skin. There is no sandpaper to change because the diamonds are embedded directly into the metal. This means less down time and more labor savings. Be sure to place a few drops of light oil on the diamonds to help keep them from clogging. Then place the appropriate size file over the tonehole and turn by hand. Some toneholes are out of round and it may be necessary to push towards one side so that the entire circumference of the tonehole gets de-burred (check under magnification as you go). Be careful not to take off too much metal. If the files need cleaning, use an ultrasonic cleaner (or a needle). 5 grinding surfaces are included. Each of the concave grinders has a protruding outer plastic ring which prevents accidentally scratching the flute body. JS diamond chamfer files are the perfect companions for JS diamond tonehole rotary files.

227039

flute pinning needle system

Our flute pinning needles are ground from high-grade stainless steel. They have a continuous taper that allows for insertion in oversized holes, or in new holes. Our reamers match the pin tapers perfectly and are offered in two sizes. The smaller reamer being for new holes, or cleaning up fresh holes. Use this also when the flute comes with straight non-tapered holes. You want a nice taper to taper fit, so make sure that the hole in the key and shaft matches the pin taper.

The larger reamer is for servicing points where the hole in the keywork has gotten oversized or egg-shaped from repeated use or torque. This reamer can also be used to over-ream the key in order to solder in a brass plug. Silver if you have it. Once the key is plugged, it can be re-drilled with our micro-drill, followed by reaming of course. One may make a tapered metal plug with a file and bench motor (or Sherline lathe). Solder in with Tin/Silver alloy solder.

Customer Jeff Denning reports that we “saved my life” with this new pinning set. He used it to salvage the keywork on an old Haynes piccolo. This kit saved the day—and his customers’ piccolo.

Needles sold in dozens, hundreds and thousands.

168025 Flute Pinning Needles
227024 Flute Pinning Reamer - Small
227025 Flute Pinning Reamer - Large
233043 Micro Drill For Pinning
800018 Flute Repinning Set
含 36 pins, 2 of each size reamer, 1 microdrill.

torque screwdriver

This is a great tool for setting the pad retaining screws on a flute. Just the tool you need when performing the high art of professional flute padding. The screwdriver lets you adjust the torque with an adjustable clutch. You may adjust the clutch before removing a screw, thus ensuring you reset the screw with the same torque.

254011

flute head mandrel-fitting

Flute makers usually use a burnishing method for expanding the head tenon. This tool is used to support the head tenon and is straight at that area. It tapers the rest of the inserted portion. Fits with head cork in place.

242003

1.800.659.6073  www.jlsmithco.com
flute mandrels
Our flute mandrel is 18" in length and available in four diameters. We offer these in several dimensions for a couple reasons. Some techs prefer to work dents up by starting with a small mandrel then working toward the .735". When straightening a bent body the same applies: it may be best not to force the full size mandrel at first.

When straightening bodies, we use a percussion method. Insert a snug mandrel into the bore. Holding the body loosely in one hand, hit the exposed mandrel end with a solid hammer (not metal—a large rawhide will do). The body gets shaken up and the metal memory helps the body once again find home. Work the mandrel sizes up till full bore.

Polished and ground steel. The vise end is marked with a line so you will always use that end in the vise thus avoiding marking the flute bore.

242006 .720" o.d. 242008 .730" o.d. 242009 .735" o.d.

flute grommet (french bushing) plate
Our ingenious Grommet Plate helps you restore the metal grommets on open-hole flutes. Containing holes for all grommets sizes, our plate helps restore the part to round and precise dimensions. Wish I had this tool over the last 30 years—it would have saved me tons of grief.

227075 Flute Grommet Plate

flute bushing straightener
Straightens a distorted bushing so that the top is straight, flat, and perpendicular to the collar.

227014 Flute French Bushing Straightener

instructions at jlsmithco.com

flute pad height gauge
One end sets heights "close," the other end sets more "open." The smallest step is for the left hand C and trill keys, next largest step is for the main line, and the largest step is for the foot keys.

227049 Flute Pad Height Gauge

also available
257020 Alto Sax Pad Height Gauge, pg. 63
257018 Tenor Sax Pad Height Gauge, pg. 63

instructions at jlsmithco.com

flute french bushing (grommet) setter
A big title for a very simple and elegant tool. This tool will set your grommets in straight, and to a predetermined depth. One more way to get consistent results with tricky flute padding. The setter has a depth stop adjustment screw so you can adjust how deep you insert the grommet.

In playing situations where you have to pull a pad to reshim it, preset the stop before removing the pad. Then, when you reset the bushing, you will install it to the same previous depth.

When doing fresh repadding, set all your bushings to the same depth. This makes a more professional looking job, and compressing the pads an equal amount will get more predictable padding results.

233042 Flute French Bushing (Grommet) Setter

double handled burnisher
This tool is primarily for flute headjoint fitting. This can be used with our 242003 mandrel.

With the headjoint mounted on the fitting mandrel, select an area to work, and rotate this to the top and center. With moderate and even downward pressure, push the burnisher towards the vice. After 3 or so moderate strokes, blend the area with surrounding areas by burnishing with a lighter pressure. Then view the tenon from the end to check for roundness. You may also use our plug gauges for this.

When final fit is arrived at, dress the tenon with 600 grit paper, then 3200 grit Micro-Mesh™. This may loosen the fit a little bit, so it is best to burnish until it is snug.

Always be sure the surfaces of both the work piece and the burnisher are free from dirt, oil, and dust. Polish the burnisher to remove any defects. I recommend Micro-Mesh™ for this, but you may also polish with Tripoli. Be careful of heat buildup, the plastic handles can be damaged.

242004 Double Handled Burnisher

flute head mandrel - tapered
Repairman’s mandrel. Straight tapered (not Parabolic). Excellent for dent removal and rounding.

242005

flute french bushing (grommet) setter
A big title for a very simple and elegant tool. This tool will set your grommets in straight, and to a predetermined depth. One more way to get consistent results with tricky flute padding. The setter has a depth stop adjustment screw so you can adjust how deep you insert the grommet.

In playing situations where you have to pull a pad to reshim it, preset the stop before removing the pad. Then, when you reset the bushing, you will install it to the same previous depth.

When doing fresh repadding, set all your bushings to the same depth. This makes a more professional looking job, and compressing the pads an equal amount will get more predictable padding results.

233042 Flute French Bushing (Grommet) Setter
flute french chimney resizer

This tool is designed to re-round and resize the open-hole (French) chimney in flutes. Enlarging the chimney can be a helpful remedy when the open-hole pad retainer (a.k.a. bushing or grommet) is loose at the depth of desirable insertion. This is particularly important when deeper insertion over-compresses and distorts the pad.

Directions: With the pad removed from the key cup, insert the small end of the tool into the chimney with a slight twisting movement and slight pressure into the chimney. This will slightly expand the chimney to allow the grommet to catch. Use only slight pressure please. It is better to work on the chimney more than once rather than to over tighten the fit. The slight chimney expansion will not affect the playing of the flute.

227013 flute french chimney resizer

french open hole pad punch system

The long throw of the pad holding cup in our system allows for perfect centering of the French open holes. Certain flute models that have a larger chimney in the pad cup call for our 9.5mm punch. This punch creates a hole that gives the bushes enough room to move without compressing the pad.

227000 complete set (9mm and 9.5mm punches, pad, 4 cups for thin and medium sizes)
227005 medium pad set (9mm punch, pad, 2 medium size cups)
227004 thin pad set (9mm punch, pad, 2 thin size cups)

227001 9mm punch
227003 9.5mm punch
227002 self healing punch pad
227028 17-17.5mm - thin cup
227032 17-17.5mm - medium cup
227030 18-18.5mm - thin cup
227034 18-18.5mm - medium cup

key pin punch

Our flute pin remover is designed to make an often tricky job more manageable, with a spring loaded ball to hold a punch in place, allowing both hands free to hold the key and hammer. The tool comes with 4 anvils and 2 punches: 1 point and 1 concave. We also include an extra sleeve that guides a needle spring to push the pin completely through for certain instances.

233047 key pin punch

flute pad assembly die

A simple die of Delrin plastic to hold and help form a flute pad for recovering.

227041 16-16.5mm
227042 17-17.5mm
227043 18-18.5mm
227044 19-19.5mm

pad skins

Precut bladder skins for recovering flute pads.

403034 White, package of 20
403035 Yellow, package of 2
Also available as 4”x12” sheets.

403030 White, sheet
403031 Yellow, sheet

We use mucilage for recovering Straubinger pads, and for similar applications.

105072 mucilage

sax tools

JS diamond abrasive rotary tone hole files

These diamond abrasive files are the fastest and smoothest cutting rotary files that you can buy. Diamonds are embedded into one side of each file and the opposite side can be used as a standard for checking flatness of the tone hole (use a leak lite). Leaves no chatter marks. Sharper and longer lasting than steel files. Each set comes with pilots and driver. These tools are a great timesaver for making perfectly flat tone holes.

JS diamond sax tonehole files

For toneholes that you can’t reach with an Allen wrench, use a hex head bolt and closed end wrench to turn the tonehole file while applying pressure to the screw head with a Phillips screwdriver or with the ball end driver provided. You can also use an automotive type ratchet wrench with an extension. The ball end driver allows the file to tilt a little to find the correct level. Use light pressure when finishing up the largest toneholes or you will flex the tonehole and it will not come out flat.
Stop when the low spots disappear (or just before). Toneholes should only be faced once in a lifetime. Judgement is called for.

After cutting toneholes, check their flatness with the bare metal side of the tonehole file (use leak light). Large diameter holes may flex and leave high spots (usually the short sides of the tonehole) and you may need to carefully rub off these remaining high spots with a small jewelers file or bit of folded fine sand paper. Don’t just keep grinding away with the tonehole file. Never shorten the toneholes more than you have to. Beware of toneholes that are already too short from sloppy manufacture, previous filing or other damage (call for repair options).

Dress up the inside & outside burrs of the tonehole with Scotchbrite 113017 or aluminum foil to take off any sharp edges that would cut into (or grab) the pad.

Although the diamonds will not wear out, the backing material can come loose or delaminate over extended time/use. Call for re-skins if this happens. The replaceable diamonds come in discs with an adhesive backing.

**woodwind neck expander**

This professional tool will expand any of the necks that might need it, even those tough bass clarinet necks. The black adjustment knob on top sets the pressure.

- 266001 Woodwind Neck Expander

**sax pad height gauge**

Helps set a consistent key height between the pad and the tonehole on saxophones. Comes with instructions.

- 257020 Alto Sax Pad Height Gauge
- 257018 Tenor Sax Pad Height Gauge

**sax neck shrinking dies**

Used to shrink, re-round, or hold all saxophone necks. The die is clamped in a vise on the slotted side of the die block. The more pressure the more reduction in size. The dies are made out of aircraft aluminum and hard anodized for longer life. Sold as a set of four: .860” to .875”; .940” to .950”; .970” to .980”; 1.090” to 1.140”.

- 257021 Shrinking Dies (4)

**pad tucking tool**

One sharp point for lifting and one spoon shape for tucking at pad edge. Polished steel.

- 227040

**sax neck shrinking dies**

Used to shrink, re-round, or hold all saxophone necks. The die is clamped in a vise on the slotted side of the die block. The more pressure the more reduction in size. The dies are made out of aircraft aluminum and hard anodized for longer life. Sold as a set of four: .860” to .875”; .940” to .950”; .970” to .980”; 1.090” to 1.140”.

- 257021 Shrinking Dies (4)

**selmer saxophone bell brace tool**

The Selmer style bell brace will compress when the bell is pushed in toward the body. To restore the look of the brace and return the bell to its correct position, we must restore the brace to “round.”

After removing the keys as needed, insert the brace tool into the brace (small end first). Wedge the tool in place then tap on the brace with a rawhide mallet until restored.

- 242010 Alto
- 242011 Tenor

**flute pad bushing remover and pad slick combo tool**

This tool works as a pad leveling tool on one end, and a bushing remover on the other. Smooth surface prevents pad damage when removing bushings.

- 227086 bushing remover pad slick combo tool
mandrels and standards

mandrels - general purpose

242001 8” long work area.
Tapers from
1/8” to 1/2”

242002 9” long work area.
Tapers from
3/8” to 7/8”

flute mandrels (page 64)

trumpet & trombone mandrels

242050 Trumpet - 17” long work area.
Tapers from 1” to .48”

242051 Trombone - 20” long work area.
Tapers from 1 1/4” to .67”

plug gauges

Plug gauges are used to determine if tenons and receivers are true. Check by inserting the correct size plug gauge into the receiver. Check concentricity by looking for consistent feel when inserting the gauge. Check roundness by noting gaps between the part and the gauge. Refit and re-round by tapping on the gauge or the exterior of the part. Most helpful with metal joints such as those on flute tenons and saxophone necks, but has many uses throughout the shop.

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plug gauge assortment

800034 Plug Gauge Assortment
12 (all except .7710, .7720, .9630, .9640, .9650)

general bench tools

votaw pad cup heater

This instant heat source is designed to work on all clarinets, piccolos, oboes, flute trill and ‘c’ keys, and the upper stack keys (nickel or silver plated) on saxophones where using a torch around pearls and felts can be difficult. No more having to bring a flame within close contact of the instrument. This means no scorching of pads, corks, or instrument bodies. And the graphite electrodes won’t scratch the key finish. Since this tool uses the metal of the key cup itself to conduct heat, it will not work on keys that have a lacquered finish. Besides being used for pad work, this tool also works great for heating stuck hinge rods, applying key corks and so on.

248013 Votaw Pad Cup Heater
248014 Votaw Replacement Electrodes

Buy an extra set of electrodes when you purchase the cup heater. You’ll want an extra set on hand at all times.

clamp – ring and key

Hold small parts securely and protect fingers with the leather lined jaws of this clamp. Rounded at one end, flat on the other.

201009
**flute headjoint cork tool set**

This set allows for easy removal and installation of flute headjoint corks. Both tools feature a larger side for gripping that helps prevent hand pinching. The shorter tool removes the cork carrier with gentle tapping from a bench hammer. The longer tool’s length can be adjusted to show the original cork location. After removing the cork carrier, the new cork can be installed to its former setting if desired.

**key dusting brush**

Soft sable brush will not damage even the most fragile finish.

**peg clamp**

Holds keys for engraving, sanding and filing.

**automatic centering punch**

Adjust for light or heavy strokes. Pushing down on the tool activates the striking mechanism.

**centering punch**

Non automatic. Must be tapped with riveting hammer 230017.

**fluid dispenser pump**

Compact, convenient 4 oz. (118ml) capacity polyethylene stainless steel pump-action lid. Dispenses just the right amount of flux, alcohol or other liquid. Just pump the lid and the fluid is dispensed in the well of the lid. The one-way pump holds the fluid in the well preventing contamination of the unused fluid in the bottle. For best results and to avoid clogging, the well should be emptied and cleaned between uses.

**combination fluorescent/incandescent lamp**

Provides 22-watt fluorescent and/or 60-watt incandescent light for improved color rendition. Clamps onto any bench or desk. The arm has a 42” (107cm) reach. Convenient outlet in base. Converts to desk lamp using optional weighted base.

**steel spatula**

Ideal for mixing epoxy etc. Has many uses around the shop.

**bench peg**

Mounted in a hole in the face of your bench, this serves as a “third hand” when working on almost any part with a bore: clarinet and oboe bodies, mouthpieces, brass tubing etc. Mounted in lathe chuck, it will hold thick wall joints for turning.

**clarinet bell tenon cup center**

This cup center will hold clarinet lower joints securely and safely. Wedge shaped centers can easily split the thin wall of this joint. The tool can be held in the lathe chuck or used like a bench peg.

**bausch & lomb magna visor**

If you’re not using magnification, you’re missing some things.

- Comes with 3 different focal length lenses - 12”, 8” and 6”
- Lenses are precision made and easy to change
- Great for hands-free viewing
- Soft, padded band allows for comfortable fit
- Excellent for precision detail work.
**votaw saxophone work fixture**

This fixture safely and securely holds an alto, tenor, or baritone saxophone up off the workbench, conveniently putting the instrument at eye level.

257013 Saxophone Work Fixture
257015 Accessory Kit (for holding bass & alto clarinet, straight soprano sax, bassoon.)

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**cork pad “spinner”**

Cheerfully stolen from Tom Wheeler, this tool is designed as a convenient way to bevel or radius the face or the back of a cork pad.

Chuck the tool in your bench motor (small end first). Set the pad in the cup end of the spinner. Spin under power while sanding or filing until you achieve your desired results. The pad then can be pushed out from the other side.

This tool is designed for pads .110” thick. This is the size we carry and is the most common.

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**flexible heat strip**

Our heat strip, once inserted into an instrument bore, can help emboss or seat the pads. Works for flute, clarinet, saxophone.

248015

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**alcohol burner, glass**

Flame can be adjusted by raising or lowering split sleeve. Measures 2.58” (65.5mm) in diameter and holds 3 oz. of fuel.

201033 Burner
201037 Replacement Wick

---

**knipex mini hacksaw**

Great all around bench saw.

201012

---

**razor blades**

Finest single edge blades of surgical carbon steel. 100/box.

127029

---

**coated stainless steel razor blades**

Ultra smooth cut. There is no drag when making your cut. Eric Satterlee calls these our “designer” razor blades. 100/box.

127030

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**tenon cork knife- adjustable**

This knife will pay for itself on your first tenon job. Adjustment range is 1/16” to 3/4”. Simple- just set width, cut cork, glue and go!

201063 Knife kit complete
201064 Extra blades (2)
adjustable dual cutter
Adjustment range 1/8” to 5/8”. Great for cutting narrow cork strips for key work.
201065 Dual Cutter
201066 Blade only

8” bench top buffer
Heavy duty 3/4 HP motor. 115 volt, 6 Amp,3600 RPM, 3/4” Arbor, cast iron base. Left hand side can be used as a grinder, or buff on one side and polish on the other side.
201060 8” Bench top buffer

jewelers’ sawframe
Adjustable Swiss made sawframe. Does not include blades.
233054

jewelers’ saw blades
127031 8-0 (.006“) 127036 1-0 (.011“) 127041 5 (.016“)
127032 6-0 (.007“) 127037 1 (.012“) 127042 6 (.017“)
127033 5-0 (.008“) 127038 2 (.013“) 127043 8 (.020“)
127034 4-0 (.009“) 127039 3 (.014“) 127044 10 (.024“)
127035 2-0 (.010“)

heat gun
630°F to 1000°F Heat range - 110V, 13 Amps. Seat or remove pads without a flame, Dry paint - remove decals - shrink tubing and more.
201062 Dual range gun

bench blocks
Bench blocks are used as anvils for spring peening and as a base for sax pad installing. Use as a standard for rod and cup straightening etc.
201003 2.5” Bench block
201004 4” Bench block

key puck
Okay, it’s really just a hockey puck, but alert technician Brian Russell showed me the beauty and versatility of this simple device. The size and durometer (hardness) make this a great surface to tap against when straightening hinges and steels (arbors to some of you). You can drill holes and route crevasses into it to allow it to hold various parts for drilling tapping etc. Hey, I’ve saved you the trouble of trying to find one among the golf clubs and bowling balls.
233038 Key Puck

lead block
Measures 3 1/4” square. Great for dapping patches. Use for removing pins from posts. Use to hold parts for operations by tapping the part into the lead.
201001 Lead Block

bench filing block
Provides a 3 1/4” (83mm) extension of the work bench. Consists of rubber block, iron frame and chilled steel anvil. Overall length 5” (127mm), width 2 1/4” (57mm).
201002 Bench Filing Block

Jeff Smith
President
burnishers

hammer head burnisher
Great for pressing flanges and ribs into place. Use for burnishing in tight places. Tap down high spots next to tone holes.
212004 Hammer Head Burnishers

burnishers
212001 Curved 2.5”
212002 Slim and Curved 1.75”
212003 Straight 2.5”

double handled burnisher
This tool is primarily for flute headjoint fitting. This can be used with our 242003 mandrel.
With the headjoint mounted on the fitting mandrel, select an area to work, and rotate this to the top and center. With moderate and even downward pressure, push the burnisher towards the vice. After 3 or so moderate strokes, blend the area with surrounding areas by burnishing with a lighter pressure. Then view the tenon from the end to check for roundness. You may also use our plug gauges for this.
When final fit is arrived at, dress the tenon with 600 grit paper, then 3200 grit Micro-Mesh™. This may loosen the fit a little bit, so it is best to burnish until it is snug.
Always be sure the surfaces of both the work piece and the burnisher are free from dirt, oil, and dust. Polish the burnisher to remove any defects. I recommend Micro-Mesh™ for this, but you may also polish with Tripoli. Be careful of heat buildup, the plastic handles can be damaged.
242004 Double Handled Burnisher

scrapers

scraper-machinist
201015 Machinist scraper 2”, 3-SQ

machinist scraper-long
201016 Machinist - long and narrow, 61/2” overall length.

machinist scraper-narrow hollow ground
201014

flat flutemakers scraper
These scrapers were designed to be used for headjoint embouchure cutting. Very useful for removing key corks, etc. Supplied with or without handle.
227022H Scraper w/handle
227022 Scraper only
227047 Handle only

hollow ground economy standard scraper
201042

pocket scriber
Tip can be reversed for safe carrying
201017 Scribe 2 3/8” black x 1/4”

James Bagley
Shipping/Receiving

1.800.659.6073
www.jlsmithco.com
brass tools

mouthpiece collets
Used to hold brass instrument mouthpieces while threading, boring or polishing cup. Will hold the mouthpiece secure and true in lathe chuck.
206001 Trumpet MPC Collet
206002 Trombone MPC Collet

mouthpiece polishing arbors
206003 Cornet and French Horn
206004 Trumpet and Trombone
206005 Sousa and Tuba

valentino brass mouthpiece shank dent tool
Fast and easy! Straightens most brass mouthpiece shanks from trumpet to tuba. 700051

mouthpiece shank truing tool, oval
Removes dents with a twist or if needed a rawhide hammer may be used to tap out the damage. Fits French horn to Tuba. Great Band Directors aid. 206007 Oval tool

washer bearing
Slip our washer bearing between any traditional T-handle or knurled tightening nut to reduce the friction, wear on the tool and stress to your hands. Allows you to apply more pressure with less friction. 1/2” i.d., .925” o.d.
206032 Washer bearing

inspección mirror
This specially angled valve piston and port alignment magnifying inspection mirror is the only way to properly determine if piston and valve casing are aligned in the upstroke and downstroke. 201018 magnifying inspection mirror

precision french horn valve rotor bearing alignment tool system
Designed by Jim Thomas, this tool is the ultimate for helping the technician perform precision horn valve alignment. The heart of the system are the 3 precision ground tapered mandrels that properly represent the long spindle of the horn’s rotor. The tapers match the long spindle bearing, and bearing plates of the different brands.
A mandrel is mounted in the casing and aligned with the pilots. The pilots ensure the mandrel’s center line alignment to the casing. Swedging to these accurate hard steel mandrels will restore the taper, and align the center, restoring concentricity. The technician will need to have a bearing swedging tool, with a proper selection of collets. A fine lapping compound will finish the job to perfection.
206030 Contains: 3 swedging alignment arbors (will fit Holton, Conn, Yamaha, and most others). 2 arbor centering pilots Bearing alignment tool Bearing press

French horn casing facer: (Use with 206030 above) The casing cutter is a diamond-faced precision guided cutter. With little pressure it will remove material gradually to square the casing (using the spindle mandrel as a pilot). Then, the technician can gradually remove more material from the casing, allowing the bearing plate to drop into the casing further. This will take up the end-play, thus stabilizing the rotor between tapers.
206031 French Horn Casing Facer

trumpet & trombone mandrels
242050 Trumpet - 17” long work area. Tapers from 1” to .48”
242051 Trombone - 20” long work area. Tapers from 1 1/4” to .67”

pipe cutter
206056
mouthpiece receiver correction tools

Why are we concerned with the mouthpiece and receiver tapers? When the taper is correct and the mouthpiece fits the receiver, the musician will find the sound more focused and the horn "locks in" quicker. Your customers will send you chocolates on Valentine's day.

The ID Taper is used in two ways. First, for confirming the integrity of the taper of the mouthpiece receiver; secondly, for burnishing the inside of the receiver to "true it up."

To check the taper of the receiver, simply insert the tool and test to see if it fits completely and securely. Note any visual gaps or rocking of the tool.

To "true up" the receiver, gently twist the tool into the receiver, until it is round and concentric. Occasionally, you may need to tap on the receiver to encourage it to form around the taper tool.

The Correction Dies are used to true the mouthpiece shank itself. To use the dies, simply tap die one onto the mouthpiece shank, forcing the mouthpiece to conform to the die's taper. Excellent!

The two part French horn receiver includes an over-sleeve of nickel silver and a brass receiver that solders into the sleeve. The receiver is machined to tight tolerances duplicating the results that may be obtained with the 206035 correction tool. Replace the receiver when you cannot successfully restore it to the correct taper.

The SIDEWINDER is a new design to aid in saxophone body repair. It is ideal for dent removal, tone hole raising and body straightening, and re-rounding.

The SIDEWINDERS have roller-bearings which allow smooth rotation and friction-free side-to-side movement. This allows one to roll out dents in a gentle easy to medium pressure motion. The motion is back and forth, not a raking move.

The Sidewinder's motion is superior to the traditional raking method (using a ball on a rod and running it north and south through the body). A raking motion can make a bore egg-shaped. With the Sidewinder the bore is either maintained, or restored by its action. And certainly one cannot successfully "rake" tone hole areas, or under posts that are popped in.

The support Mandrel is a very hard steel rod that has very little flex. This keeps the Sidewinder on an even centerline when rolling and pushing. The rod has a stop block that allows you to control the location of the tool in the body where you want it accurately; it also allows you to use the minimum of mandrel length down to 6 inches.

2 heavy bodied end plugs for alto and tenor Sax keeps the mandrel from coming into contact with the sax interior and supports the mandrel during rolling. For best results, remove the octave pip.

Another clever Jim Thomas design!

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Another clever Jim Thomas design!

Contains:
- Sidewinder Roller 1, 1” radius, 3” length
- Sidewinder Roller 2, .875” radius, 3” length
- Delrin Split Vise Block
- 2-Sided Sax Socket Stop Positioning Block
- 40” #303 Stainless Steel Threaded Support Mandrel
trombone & trumpet expanding ball tool

Note the upper right photo: it shows how the sides of the tube being worked move in, and the tube under ball moves out and up, overriding the metal memory.

Remove dents without changing the original tubing size. Even pressure moves the metal. The ball end of the tool is coated Teflon coated. The tool comes in two sizes for trombone, three sizes for trumpet.

Our unique “split ball” design is very different from other tools. It gives the user the ability to override the metal memory, without changing the original dimension of the tube being worked. Dents, flat spots and out-of-roundness are easily removed in minutes!

206028 Trombone, tenor 1/2” x 33”
206010 Trombone, bass 9/16” x 33”

Trumpet tuning slide style has 5 1/4” reach and a 6” handle.

206029 Small-ball diameter 7/16”
206008 Medium-ball diameter 1/2”
206009 Large-ball diameter 9/16”

valve casing lap set

Set consists of 11 laps 2 drivers and holding block. Valve lapping tools are used to remove dents, rainbow, taper and out-of-roundness from valve casing by either lapping or by lifting the dent out. Uses our 110045 lapping compound.

Order as complete set or use your old mandrel with new lap. When using as a dent removal tool, vise mount the lap and spin on off & on.

201045 Complete Set

Individual Laps:

201046 #1 - 0.625” to .655”
201047 #2 - .650” to .680”
201048 #3 - .740” to .770”
201049 #4 - .798” to .828”
201050 #5 - .824” to .854”
201051 #6 - .875” to .905”
201052 #7 - .914” to .944”
201053 #8 - .933” to .962”
201054 #9 - .975” to 1.005”
201055 #10 - 1.040” to 1.070”
201056 #11 - 1.220” to 1.250”
201057 Mandrel and Exp. Point (1 to 9)
201058 Mandrel and Exp. Point (10 & 11)

standard trombone slide dent rods

These rods are made of tool steel with polished ends, machined and polished with 1/16” radius for push-pull dent work.

203001 .451 Dia.
203002 .468 Dia.
203003 .500 Dia.
203004 .531 Dia.

cork barrel dent removal tools

257030 Tenor Trombone
257031 Bass Trombone

single handed burnishers

There is NO IMPACTION on the instrument as there is when hammering! Hammering causes the brass to work harden.

Single burnishers are available in 5 sizes:

212011 Set of 5
212016 1” radius
212015 1 1/2” radius
212014 2 3/4” radius
212013 4” radius
212012 8” radius
double handed burnishers

These burnishers are coated with Teflon, allowing dent removal without scratching the finish. Double handed burnishers are offset to work around tubing and braces. Available in 5 sizes:

- 212005: Set of 5
- 212010: 1” radius
- 212009: 1 1/2” radius
- 212008: 2 3/4” radius
- 212007: 4” radius
- 212006: 8” radius

woodwind & small brass dent rod set

Rods are 5/8” diameter stress proof steel and are tapered on both ends with removable stainless steel threaded ends (in case of breakage). Rods are cold bent so as not to lose their temper. Thread is 10/24.

- 206011: Set of 4
- 206012
- 206013
- 206014
- 206015

medium dent rod set (7)

Set consists of seven 3/8” dia. stress proof, cold bent steel rods, with stainless steel replaceable threaded ends. Rod size 30” (before bending). 3/8”-16 thread.

- 206018: Set of 7
- 206019
- 206020
- 206021
- 206022
- 206023
- 206024
- 206025

universal dent ball set

11 Balls. Each ball has two different radii on either end of ball and is threaded through the entire ball so tech may mount ball either way. Ball thread size 3/8”-16.

- 206017: Set of 11
- 206045: 9/16” tapered to 1/2”
- 206046: 3/4” / 1/2” high
- 206047: 3/4”x 9/16” high
- 206048: 7/8” x 3/4” high
- 206049: 1” x 7/8” high

small dent ball set (11)


- 206016: Set of 11

knuckle dent rods- vise mount

Size: 1/4” x approx. 10” long.

- 206027: Set of 5 Rods

knuckle dent rods- hand held

Heat treated tool steel, no balls required. 10/24 thread on end, 3/16” rod approx. 6” long.

- 206026: Set of 6 Rods

speed rollers

A must for every horn shop. Easily roll bell flair creases and dents out to restore. These rollers come in four sizes:

- 239104: Large 12”
- 239105: Medium 8”
- 239106: Small 4”
- 239107: Mini 3”
dent tools

dent tools

the magnetic dent removal system (MDRS)
Modern Dent Removal Technology for the next century of Band Instrument Repair.

The Magnetic Dent Removal System (MDRS) was developed by technicians Eric Satterlee and Wayne Tanabe and uses to its advantage one of the strongest Rare Earth magnets currently available, the N50. The powerful magnets of the MDRS are completely encapsulated in the MDRS Patented handle assembly with “Armor-Plate” end discs. All MDRS tooling utilizes Armor-Plate Tech-Metal end discs which are impervious to cracking, chipping, scratching, etc. and possess a superior lubricity characteristic. A Mylar disc and spray wax are the only substances you need to have between the MDRS disc and the surface of the instrument.

MDRS Tooling is sold exclusively to those involved in the trade of repairing band instruments.

This is truly an investment that pays you back over and over and initially in a short amount of time. Think for a moment about all of the Tubas, Sousaphones, Baritones, Euphoniums, Baritone saxophones, marching baritones that you have always given back to your customers without estimating removal of dents from the bottom of the boot/bow and the first branch and/or body section(s). In the past you could not estimate this work without disassembly, and you could of course not estimate taking apart every instrument with a few dents, nor would you have wanted to do so. The advanced dent removal technology of the MDRS enables you to offer your customers repairs with a wider range of dent removal options and has created a totally new source of income for your repair facility.

the MDRS “RAT” pack

These Radius Axial Tools (RAT) are stronger than the original flat faced tooling due to the full power of the magnet/s being focused on the apex of the Armor-Plate dome. These tools have the power to remove/improve deeper dents, wrinkle dents, crease dents that resist removal with flat faced tooling in which the power of the magnet is equal over the full face of the tool. Includes:
• 1.550" RAT tool
• 2" RAT tool
• MDRS versatile puller with non ferrous hand slide
• Mylar disc
• Spray wax

203010 MDRS “RAT” Pack

"RAT" tooling sold seperately

203011 1.550" RAT tool
203012 2" RAT tool
203013 MDRS versatile puller with non ferrous hand slide

original MDRS flat faced tools sold seperately

203027 1.550" tool
203028 2" tool

System Setups

MDRS “introductory” shop setup

This set up includes:
• 1.550" Original MDRS flat faced tool
• Ball set B (considered the most commonly used balls)
• Mylar disk
• Spray wax
• Special MDRS tool box
(Please note, the MDRS tool contained in the introductory shop set up is not designed to remove deep dents, wrinkle dents, crease dents, ping dents and/or other extreme or unusual denting. This setup is designed for the removal of small to medium cup type dents and/or burnishing operations.

203032 Introductory Setup

MDRS “essential” shop setup

These are the most commonly used tools in the MDRS family. Includes:
• 1.550" Original MDRS flat faced tool
• 2" Original MDRS flat faced tool
• MDRS extension handle (allows for added strength adjustment of tooling)
• Mylar disk
• Spray wax
• Special MDRS tool box (balls are purchased separately)

203026 Essential Setup

MDRS “technicians” shop setup

Same as the “Essential” Shop Setup, plus:
• 2" RAT tool
• MDRS versatile puller
• MDRS Mag-Caddy
(balls are purchased separately)

203029 Technicians Setup
MDRS “ultimate” shop setup
This set up includes all currently available MDRS items. Same as the “Technicians” Shop Setup, plus:

• 1.550” RAT tool (balls are purchased separately)

203031 Ultimate Setup

MDRS ball sets

Ball set A (Small Ball set)
49 solid chrome steel balls ranging between 5/8” and 1 7/16” in custom oak organizer box.
(Note: This ball set is recommended for use with RAT tooling as the principle of MDR requires that the smaller the ball, the stronger the magnet needed to remove dents.)

203014 Ball Set A with box

Ball set B
8 solid chrome steel balls ranging between 1.5” and 2.375”.

203015 Ball Set B, balls only
203015B Ball set B with 203019 box

Ball set C
3 solid chrome steel balls ranging between 2.5” and 2.750”

203016 Ball Set C, balls only
203016B Ball set C with 203019 box

Oak Organizer Box for Ball Sets B and C

203019 B and C Oak Organizer BOX ONLY (holds all 11 B & C balls, not included)

Ball set D
5 hollow steel balls ranging between 3” and 5”.
(Note: Hollow steel balls have less attraction to the magnet enabling superior burnishing work to be performed to instruments with very thin and/or very soft brass such as 5/4 size German tubas. Great for the final finish work and shaping.)

203017 Ball Set D

3” 321 ‘big dawg’ ball
3” chrome steel ball. This ball is made available specially for dent and ferrule repair to the 1st branch side of Yamaha YBB321 tubas without pulling the boot.

203035 3” 321 ‘Big Dawg’ ball

MDRS mag-caddy

203030 Mag Caddy

skyhook dent machine attachment

Includes dent machine attachment, tool, spray wax
(Note: This tool attaches to the spindle of a dent machine and allows two-hands-free magnetic dent removal operation. This tool comes in handy when removing dents from smaller brass instruments, tuba tuning slides, and for those who wish to utilize magnetic dent removal but do not possess right/left arm strength to allow hand tool use. Please specify if you have a Ferree’s or National Band dent machine.)

203033 Skyhook attachment
203034 Skyhook with N50 RAT tooling attachment (shown)

MDRS accessories

203036 Mylar abrasion prevention disks (set of 2)
magnetic tool holder
Permanent magnets hold pliers, screwdrivers and miscellaneous tools in place. Mount on any surface that will accept screws.

260015 12” (305mm) long

white plastic pliers rack
White plastic with edges specially designed for safety. Keeps pliers organized, accessible, protected and easy to identify. Measures 5” x 5 1/2” x 9” (127 x 140 x 229mm)

123009

plastic boxes with compartments
For storing abrasives, small parts and mandrels.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size (in.)</th>
<th>Size (mm)</th>
<th>Size (cmpt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>123002</td>
<td>4 1/2” x 2 3/4” x 1 1/8”</td>
<td>114 x 70 x 29</td>
<td>4</td>
</tr>
<tr>
<td>123003</td>
<td>4 3/8” x 2 5/8” x 1”</td>
<td>111 x 67 x 25.4</td>
<td>6</td>
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<td>123004</td>
<td>8 1/4” x 4 1/4” x 1 1/4”</td>
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<tr>
<td>123005</td>
<td>10 1/4” x 6 3/8” x 1 3/4”</td>
<td>273 x 162 x 45</td>
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<td>123006</td>
<td>8 1/4” x 4 1/8” x 1 1/4”</td>
<td>210 x 105 x 32</td>
<td>18</td>
</tr>
</tbody>
</table>

JLS logo boxes

As used in our assortments.

901011 Adjustable Large Box
901010 18 Compartment Large Box
901013 9 Compartment Med Box
901012 4/6 Adjustable Compartment Small Box

valentino logo box
901014 18 Compartment Large Box

plastic vial with cap
Made of crystal clear plastic which will not cloud. Sold by the dozen.

123008 2 1/8” x 5/16” (54 x 7.9mm)

storage vials
These small vials have many uses when it comes to small parts storage. They are made from a durable polypropylene and close and seal tightly with only 1/2 turn of the cap. We use them for everything from pivot screws to needle springs. They are very economical to use and will stretch the storage capacity of those parts drawers.

123001 Size - 57.5mm high - 16.0mm wide.

Lisa Hansen
Repair Technician

Sara Beck
Repair Technician
valentino synthetic waterkey corks

waterkey cork (.180")

8.0mm        (dozen) 700653 (hundred) 700652
8.5mm        (dozen) 700655 (hundred) 700654
9.0mm        (dozen) 700657 (hundred) 700656
9.5mm        (dozen) 700659 (hundred) 700658
10.0mm       (dozen) 700661 (hundred) 700660
10.5mm       (dozen) 700663 (hundred) 700662
11.0mm       (dozen) 700665 (hundred) 700664
11.5mm       (dozen) 700667 (hundred) 700666
12.0mm       (dozen) 700669 (hundred) 700668

black waterkey cork (.180")

8mm          (dozen) 700701 (hundred) 700700
8.5mm        (dozen) 700703 (hundred) 700702
9mm          (dozen) 700705 (hundred) 700704
9.5mm        (dozen) 700707 (hundred) 700706
10mm         (dozen) 700709 (hundred) 700708
10.5mm       (dozen) 700711 (hundred) 700710
11mm         (dozen) 700713 (hundred) 700712
11.5mm       (dozen) 700715 (hundred) 700714
12mm         (dozen) 700717 (hundred) 700716

waterkey cork thin (.135")

8mm          (dozen) 700671 (hundred) 700670
8.5mm        (dozen) 700673 (hundred) 700672
9mm          (dozen) 700675 (hundred) 700674
9.5mm        (dozen) 700677 (hundred) 700676
10mm         (dozen) 700679 (hundred) 700678
10.5mm       (dozen) 700681 (hundred) 700680
11mm         (dozen) 700683 (hundred) 700682
11.5mm       (dozen) 700685 (hundred) 700684
12mm         (dozen) 700687 (hundred) 700686

black waterkey cork thin (.135")

8mm          (dozen) 700719 (hundred) 700718
8.5mm        (dozen) 700721 (hundred) 700720
9mm          (dozen) 700723 (hundred) 700722
9.5mm        (dozen) 700725 (hundred) 700724
10mm         (dozen) 700727 (hundred) 700726
10.5mm       (dozen) 700729 (hundred) 700728
11mm         (dozen) 700731 (hundred) 700730
11.5mm       (dozen) 700733 (hundred) 700732
12mm         (dozen) 700735 (hundred) 700734

neoprene waterkey corks

For Bundy/Selmer USA trumpet and trombone. Compares to OEM, but costs much less.

700750 Bundy / Selmer USA Trumpet
700751 Bundy / Selmer USA Trombone

blue wipes

Long a favorite with techs on the brass-bench, these lint-free industrial cloths allow one to wipe clean pistons and rotors, etc. Use anywhere that you must wipe down without leaving dust and lint. Woodwind people love them for wiping steels before oiling. Extra absorbent, non-abrasive, great wet or dry.

113006 Blue Wipes (25/pkg.)

french horn string

50 Yards and 50 lb. Test x .035” (1/32”) diam. Available in either yellow or white braided Dacron.

111001 White
111002 Yellow
## valentino valve stem and fingerbutton washers

For Upstroke or Downstroke alignment and silencing

### universal size:

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/64&quot;</td>
<td>Firm Cork Valve Stem Washer</td>
<td>700552</td>
</tr>
<tr>
<td>1/32&quot;</td>
<td>Quiet Black Valve Stem Washer</td>
<td>700570</td>
</tr>
<tr>
<td>3/64&quot;</td>
<td>Firm Black Valve Stem Washer</td>
<td>700576</td>
</tr>
<tr>
<td>1/16&quot;</td>
<td>Quiet Black Valve Stem Washer</td>
<td>700582</td>
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## quiet black washers

Fingerbutton. Fits most makes. A410 Size.

<table>
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<tr>
<th>Size</th>
<th>Description</th>
<th>Reference</th>
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</thead>
<tbody>
<tr>
<td>3/32&quot;</td>
<td>Valve Stem. Fits most makes.</td>
<td>700624</td>
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<tr>
<td>5/32&quot;</td>
<td>Valve Stem &amp; Fingerbutton. Fits other makes. A412 Size.</td>
<td>700602</td>
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<tr>
<td>9/16&quot;</td>
<td>Valve Stem &amp; Fingerbutton. Fits baritone horn. A413 Size.</td>
<td>700604</td>
</tr>
<tr>
<td>17/32&quot;</td>
<td>Valve Stem &amp; Fingerbutton. Fits sousaphone. A415 Size.</td>
<td>700606</td>
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</table>

## quiet black washer

### Trumpet. Fits Bach and others.

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td>1/8&quot;</td>
<td>(dozen) 700501</td>
<td>700502</td>
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</table>

### Trumpet. Fits Holton and Bundy and others. A400 Size.

<table>
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<tr>
<td>3/32&quot;</td>
<td>(dozen) 700608</td>
<td>700609</td>
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### Trumpet. Fits Olds and others. A401 Size.

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<th>Size</th>
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<tr>
<td>5/64&quot;</td>
<td>(dozen) 700610</td>
<td>700611</td>
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### Trumpet. Fits Conn, King, Yamaha and others. A402 Size.

<table>
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<tr>
<th>Size</th>
<th>Description</th>
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<tbody>
<tr>
<td>3/32&quot;</td>
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<td>700613</td>
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### Trumpet. Fits Getzen and others. A403 Size.

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<tr>
<td>1/16&quot;</td>
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<td>700615</td>
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### Baritone Horn. Fits Holton and others. A404 Size.

<table>
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<tr>
<td>1/8&quot;</td>
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### Sousaphone. Fits King and others. A406 Size.

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<tr>
<td>1/16&quot;</td>
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### Sousaphone. Fits Holton and others. A407 Size.

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<th>Size</th>
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<tr>
<td>3/8&quot;</td>
<td>(dozen) 700620</td>
<td>700621</td>
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</table>

### Trumpet. Fits Leblanc, Selmer and others. A416 Size.

<table>
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<th>Size</th>
<th>Description</th>
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<tbody>
<tr>
<td>5/64&quot;</td>
<td>(dozen) 700622</td>
<td>700623</td>
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### Trumpet. Fits Schilke.

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<th>Description</th>
<th>Reference</th>
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<tbody>
<tr>
<td>1/16&quot;</td>
<td>(dozen) 700626</td>
<td>700627</td>
</tr>
</tbody>
</table>
**technician's cork waterkey assortment**
Over 400 Valentino synthetic waterkey "corks" in all sizes to fit all brands. Thin styles included also!
700027

**technician's black waterkey assortment**
Over 400 Valentino synthetic black waterkey "corks" in all sizes to fit all brands. Both thick and thin.
700028

**technician's brasswind washer assortment**
All the necessary sizes for all brands of valves instruments will be found in this assortment of over 400 Valentino synthetic "Quiet Black" washers.
700029

---

**tubing and cord**

**polyurethane tubing**
This tubing is exceptional for octave key pins, connecting pins, etc. It has an excellent grip on the inside and superior slip on the outside. Attractive, quiet and economical. For a tight fit, try this: put a small drop of silicone adhesive in the end of the tubing. Slides onto key part effortlessly. Trim tubing to length after installation.

**Black:**
- 450006 1/16" i.d. x 3' – Black
- 450007 5/64" i.d. x 3' – Black
- 450008 3/32" i.d. x 3' – Black
- 450009 1/8" i.d. x 3' – Black
- 450010 5/32" i.d. x 3' – Black

**Clear:**
- 450011 1/16" i.d. x 3' – Clear
- 450012 5/64" i.d. x 3' – Clear
- 450013 3/32" i.d. x 3' – Clear
- 450014 1/8" i.d. x 3' – Clear
- 450015 5/32" i.d. x 3' – Clear

**polyolefin shrink tubing**
This transparent heat shrink tubing, when applied to key parts, increases the viscosity - which in turn eliminates friction and key binding. It is extremely versatile (shrink ratio of 2 to 1) and has many uses in the instrument repair shop.

Try these suggested applications:
- Clarinet side lever pins: We've all tried fish skin, Teflon tape, and numerous other materials to quiet the action. Try this: Drill out the F#/C# and E/B keys with a #43 (or close to - varies from brand to brand) - then shrink the smallest size tubing over the key pins to quiet and quicken the action. Works great on noisy student-line bass clarinets!
- Bassoons: Use on bridge keys - whisper and pancake. Also works nice over 1/64" cork for fast action.
- Saxes: Some of the many places we have tried with good success include: Side levers - Round nub on G# & C# levers - Octave mechanisms - Great on older style Selmers.

Hint: Use the tightest fit possible. The more you shrink this tubing, the thicker it becomes. In some situations, you may find it beneficial to "open up" the tubing before installing. Sold in 3 ft. lengths. Size is i.d. before shrinking.
- 450022 1/16" i.d. x 3'
- 450023 1/8" i.d. x 3'
- 450024 3/16" i.d. x 3'
- 450025 1/4" i.d. x 3'

**heat shrink tubing assortment**
- 800012 Poly Tubing Assortment- 3' of each color and size in a durable plastic case

---

1.800.659.6073  www.jlsmithco.com
81
neoprene cord

Now available in five sizes. With each of these sizes in your inventory, you should be able to fit neoprene to just about any size rotor stop - from French horn to tuba. Hint: To fit properly, choose a larger size than will fit easily in the rotor stop - stretch neoprene cord until it just pops into your stop plate - then let cord expand to a tight fit - trim top and bottom.

Neoprene Cord is sold in 3 ft. lengths.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>450017</td>
<td>1/8&quot;</td>
</tr>
<tr>
<td>450018</td>
<td>5/32&quot;</td>
</tr>
<tr>
<td>450019</td>
<td>3/16&quot;</td>
</tr>
<tr>
<td>450020</td>
<td>7/32&quot;</td>
</tr>
<tr>
<td>450021</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>800014</td>
<td>neoprene cord assortment - a 3'</td>
</tr>
</tbody>
</table>

silicone cord

Use as you would neoprene. 50 durometer silicone is a softer material than our neoprene. Translucent white color. Sold in 3' lengths.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>450026</td>
<td>1/8&quot;</td>
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<tr>
<td>450027</td>
<td>5/32&quot;</td>
</tr>
<tr>
<td>450028</td>
<td>3/16&quot;</td>
</tr>
<tr>
<td>800015</td>
<td>Silicone cord assortment- a 3' length of each item 450026 - 450028 in a durable plastic case - 7 pieces</td>
</tr>
</tbody>
</table>

garnet silicone cord

Use as you would neoprene. 50 durometer silicone is a softer material than our neoprene. Sold in 3' lengths.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
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</thead>
<tbody>
<tr>
<td>450031</td>
<td>9/32&quot; Garnet</td>
</tr>
<tr>
<td>450032</td>
<td>5/16&quot; Garnet</td>
</tr>
<tr>
<td>800015</td>
<td>Silicone cord assortment- a 3' length of each item 450031 - 450032 in a durable plastic case - 7 pieces</td>
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</tbody>
</table>

teflon tubing

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
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</thead>
<tbody>
<tr>
<td>450001</td>
<td>.063&quot; (1/16&quot;) i.d. x 3'</td>
</tr>
<tr>
<td>450002</td>
<td>.078&quot; (5/64&quot;) i.d. x 3'</td>
</tr>
<tr>
<td>450033</td>
<td>.085&quot; i.d. x 3'</td>
</tr>
<tr>
<td>450034</td>
<td>.095&quot; i.d. x 3'</td>
</tr>
<tr>
<td>450035</td>
<td>.106&quot; i.d. x 3'</td>
</tr>
<tr>
<td>450003</td>
<td>.125&quot; (1/8&quot;) i.d. x 3'</td>
</tr>
<tr>
<td>450036</td>
<td>.133&quot; i.d. x 3'</td>
</tr>
<tr>
<td>450004</td>
<td>.156&quot; (5/32&quot;) i.d. x 3'</td>
</tr>
<tr>
<td>800011</td>
<td>Teflon Tubing Assortment - 3' of each of above</td>
</tr>
</tbody>
</table>

materials

ABS rod stock

ABS is the material most plastic body instruments are made from. It is therefore the most suitable for repairing these instruments. We carry sizes that will cover you from soprano to contrabass clarinets whether a tone hole, tenon or socket repair.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>454014</td>
<td>1/4&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>454038</td>
<td>3/8&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>454012</td>
<td>1/2&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>454058</td>
<td>5/8&quot; diam. x 12&quot;</td>
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<tr>
<td>454034</td>
<td>3/4&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>455014</td>
<td>1/4&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>455038</td>
<td>3/8&quot; diam. x 12&quot;</td>
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<tr>
<td>455012</td>
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</tr>
<tr>
<td>455034</td>
<td>3/4&quot; diam. x 12&quot;</td>
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</tbody>
</table>

delrin rod stock

Great machining characteristics and durability. Make this the choice for tools, etc.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
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</thead>
<tbody>
<tr>
<td>455014</td>
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<tr>
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<td>3/8&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>455012</td>
<td>1/2&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>455058</td>
<td>5/8&quot; diam. x 12&quot;</td>
</tr>
<tr>
<td>455034</td>
<td>3/4&quot; diam. x 12&quot;</td>
</tr>
</tbody>
</table>

grenadilla

Sold in (usually) 6" lengths (based on availability). Priced by the inch. Square or round section.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>456100</td>
<td>1&quot; square</td>
</tr>
<tr>
<td>456114</td>
<td>1 1/4&quot; square</td>
</tr>
<tr>
<td>456112</td>
<td>1 1/2&quot; square</td>
</tr>
<tr>
<td>456100R</td>
<td>1&quot; round</td>
</tr>
<tr>
<td>456114R</td>
<td>1 1/4&quot; round</td>
</tr>
<tr>
<td>456112R</td>
<td>1 1/2&quot; round</td>
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</tbody>
</table>

drill rod

Priced per 3 foot lengths. Shipped as 2 x 18" pieces. 3 foot lengths by request.

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<tr>
<td>452116</td>
<td>1/16&quot; (.0625&quot;)</td>
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<tr>
<td>452052</td>
<td>#52 (.070&quot;)</td>
</tr>
<tr>
<td>452051</td>
<td>#51 (.067&quot;)</td>
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<tr>
<td>452050</td>
<td>#50 (.070&quot;)</td>
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<tr>
<td>452049</td>
<td>#49 (.073&quot;)</td>
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<tr>
<td>452048</td>
<td>#48 (.076&quot;)</td>
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<td>452047</td>
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<td>452564</td>
<td>3/32&quot; (.0938&quot;)</td>
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<tr>
<td>452046</td>
<td>#46 (.081&quot;)</td>
</tr>
<tr>
<td>452001</td>
<td>Drill Rod Assortment</td>
</tr>
<tr>
<td></td>
<td>Contains #33, #34, #35, #36, #37, #38, #39, #40, #41, #42, #43, #44, #45, #47, #48, #49, #50.</td>
</tr>
</tbody>
</table>
key klips II
The newest version of Key Klips has a refreshing design. Still with a light touch, this model does not clamp the keys with a heavy pressure as with some other brands, rather it duplicates the touch of the musician closing the keys. This new versatile design will fit more models than our original key klips. Key Klips help reduce the effects of moisture and temperature on the seating of sax pads. Since the Key Klips keep the pads “trained” to the tone holes, instruments using them stay in better adjustment, have fewer leaks, and have longer lasting pads.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>101023</td>
<td>Curved Soprano</td>
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<tr>
<td>101024</td>
<td>Straight Soprano</td>
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<tr>
<td>101025</td>
<td>Alto</td>
</tr>
<tr>
<td>101026</td>
<td>Tenor</td>
</tr>
<tr>
<td>101027</td>
<td>Bari w/low A</td>
</tr>
</tbody>
</table>

naylor bore oil
Naylor’s Bore Oil is a specific blend of organic vegetable oils and an organic antioxidant. His oil restores and improves the resilience of wood. In turn, that greater resilience yields greater dimensional stability and resistance to cracking. If used regularly, the oil also increases the natural resonance of the instrument, stabilizes its scale, and inhibits saliva damage.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>119001</td>
<td>1 oz.</td>
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<tr>
<td>119002</td>
<td>Pint</td>
</tr>
<tr>
<td>201030</td>
<td>Oiling Rod for Clarinet, Oboe or English Horn</td>
</tr>
</tbody>
</table>

pad juice
- Eliminates sticky pad noise.
- Safely cleans skin and leather pads.
- Note: No silicone or other preservatives; this is a cleaner only!
- Lifts dark ring on pad skin left by silver tone holes.
- Great resale item - (non - toxic).
- Comes with applicator strips.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>113025</td>
<td>1 oz. (with applicator strips)</td>
</tr>
<tr>
<td>113026</td>
<td>4 oz. (without applicator strips)</td>
</tr>
</tbody>
</table>

french open hole flute plug set
Translucent silicone made in our shop. Packaged in sets of 5 plugs. Available in Medium and Large, and in bulk in 100, 500, or 1000 count packs.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>101050</td>
<td>Medium, set of 5</td>
</tr>
<tr>
<td>101051</td>
<td>Large, set of 5</td>
</tr>
<tr>
<td>850002</td>
<td>Medium, in bulk</td>
</tr>
<tr>
<td>850003</td>
<td>Large, in bulk</td>
</tr>
</tbody>
</table>

flute snakes
The flute snake replaces traditional swabs. Slide the flute snake over any standard cleaning rod made for your instrument. Push it straight through the open ended sections of your instrument. There is no need to scrub the bore! To clean your head joint or a conical bore Piccolo, slide the bore, spin, and pull directly out. Assorted colors. Also available for Alto flutes, Piccolos and Clarinets.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>101052</td>
<td>Flute</td>
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<tr>
<td>101053</td>
<td>Alto Flute</td>
</tr>
<tr>
<td>101054</td>
<td>Clarinet</td>
</tr>
<tr>
<td>101056</td>
<td>Piccolo</td>
</tr>
</tbody>
</table>

Larry Morgan
Packaging/Fabrication
oleg products

palm key risers
A new solution to an old problem. For years, players have been building up their side keys to economize hand movement by extending the keys closer to the palm. Oleg Risers are made of brass for a positive, solid feel, unlike other materials that are often too soft and unnatural. Plus, Oleg Risers can be quickly removed if necessary.

101001  Soprano (set of 3)
101002  Soprano (individual)

sky scraper palm
101012  Soprano (set of 3)

high F-key fork extension
Provides a pivot point between the regular range and the altissimo range of the horn, with the added benefit of being able to play a one finger G. Makes all fork-based interval jumps to high F and G smooth and fast, without excessive palm movement. The Oleg key extension can be adjusted to fit the individual’s preference and hand position.

101004  High F-Key Fork Extension – Alto
101005  High F-Key Fork Extension – Tenor

low Bb extension key
Greatly assists execution, especially for fast passages, from low B and C sharp keys to the B flat key. On the baritone, the extension of the low A provides more key “travel” for more solid low A. This is particularly helpful on older horns that required so much travel that it was hard to get a positive action.

101006  Low Bb Extension Key – Alto, Tenor or Baritone

low C extension key
101015  Low C Extension Key

high E stopper
On many older horns it is hard to access the high E key. Addition of the Oleg stopper allows for faster and more sure execution of the high E finger technique, and economizes wrist movement.

101007  Alto, Tenor or Bari

side key riser / extensions
Extends the soprano sax side keys to more closely fit the natural reach. The design provides the double enhancement of building up the keys and extending them lower. This makes them easier to reach and faster to hit.

101008  Side Key Riser/Extensions – Soprano (set of 3)

side key silencer
Retrofits side Bb and C key levers on Selmers. Replaces ball link assemblies.

101013  Side Key Silencer ATB
synthetic cork sheets
Valentino synthetic corks are used worldwide in major instrument factories, repair shops and bandrooms.

700305 1/64" thick w/adhesive
700306 1/32" thick w/adhesive
700307 3/64" thick w/adhesive
700308 1/16" thick w/adhesive

clarinet joint corks
Joint corks strips. Fits all makes. No sanding or gluing required. Just peel and stick.

700321 Fits all makes. Set of five (2 x 1/2", 7/16", 13/32", 5/32")
700326 Bundy/Selmer USA Set. 4 pack.
700322 Size #1. 1/2" wide. Bundy/Selmer USA mouthpiece and barrel. 4 pack.
700323 Size #2. 7/16" wide. Bundy/Selmer USA center joint. 4 pack.
700324 Size #3. 3/8" wide. 4 pack.
700325 Size #4. 13/32" wide. 4 pack.

sax neck corks
Fits all makes. No sanding or gluing required. Just peel, stick and trim.

700341 Alto & Tenor (each)
700342 Alto & Tenor (4)
700343 Alto & Tenor (dozen)

sax key guard bumpers
Adhesive back. Available in White, Black and Red.

700401 Sax Key Guard Bumpers White (dozen)
700402 Sax Key Guard Bumpers White (hundred)
700403 Sax Key Guard Bumpers Quiet Black (dozen)
700404 Sax Key Guard Bumpers Quiet Black (hundred)
700405 Sax Key Guard Bumpers Firm Red (dozen)
700406 Sax Key Guard Bumpers Firm Red (hundred)

valentino headjoint corks
Synthetic Flute Headjoint Cork. Peel and stick to the bottom cork plate and to each other when stacked.

700421 (2 pack)
700422 (dozen)
700423 (hundred)

thumb rest cushions
#1 Universal clarinet thumb rest. Peel and stick. Round, fits most brands. Medium profile comfort.

700442 (2 pack)
700443 (dozen)
700444 (hundred)

#2 Peel and Stick Thumb Rest Cushion. Flattened round, fits most brands. Medium profile comfort.

700446 (2 pack)
700447 (dozen)
700448 (hundred)

#3 peel and stick thumb rest cushion. Artley, Armstrong shape. Medium profile comfort.

700450 (2 pack)
700451 (dozen)
700452 (hundred)

#4 Peel and Stick Thumb Rest Cushion. Vito shape. Medium profile comfort.

700454 (2 pack)
700455 (dozen)
700456 (hundred)
valentino repair kits
Valentino Kits are valued highly by educators, educational reps, musicians, small stores and studios.

valentino deluxe repair kit
Our most popular kit for Band Directors and Educational Reps is the Valentino Deluxe Repair Kit which contains over 600 items. The top section is a Brass Repair Kit, containing stuck slide tools, mouthpiece trueing tool, a mouthpiece puller, and an assortment of water key seals and valve washers to service brass instruments. Open the lower section, and it’s a Teacher Travel Repair Kit, complete with pads, joint corks, key corks, and tools designed to keep your clarinets, flutes, and saxophones “playing every day the Valentino way.”

valentino standard repair kit
An assortment of the most often used pads for flute, clarinet, saxophone, and brass instrument waterkeys. Over 250 pieces.

valentino product sampler kit
A sampling of items taken from the Teacher Travel Repair Kit. Pads and key corks for flute, clarinet, soprano, and waterkey pads for brass instruments, etc. A great way to get started.

teacher travel repair kit
The Teacher Travel Repair Kit has been a staple in band rooms for years. This Directors kit containing over 300 woodwind items, is complete with pads, joint corks, key corks, and common tools designed to keep your clarinets, flutes, and saxophones performing their best.

stuck slide removal kit
Unlike conventional methods, the Valentino Stuck Slide Removal Kit will eliminate bending tuning slides when trying to free them. Grip cloth, paddle and slide pulling hammer.

emergency clarinet care kit
The Emergency Clarinet Kit Contains assorted pads, key silencers and tools to handle most on the spot clarinet repair situations.

directors valve instrument washer assortment
Small assortment of 24 standard upstroke, fingerbutton and top cap washers.

waterkey cork directors assortment
Assorted 24 pieces to fit all makes trumpets and trombones

sax key guard bumpers assortment
Synthetic. 24 assorted sizes to fit the needs of Soprano to Baritone Saxophones. Will not fray or compress like felt. Assorted colors.
Valentino Flute FixKit™

The core of the Valentino Flute FixKit™ is "Servicing the Flute" with J.L. "Jeff" Smith. This book is an invaluable introductory guide to anyone learning to service the flute. Includes sections on disassembly and assembly, dealing with pad leaks, replacing pads, "kickers," adjusting, lost motion and key height, head corks, and oiling. 41 pages and 115 clear illustrations and close-up, step-by-step photographs make following the text easy.

The kit contains all the tools needed to do basic service on flutes. Also included are an assortment of pads, shims, corks, shellac, cement and supplies.

This kit won't make you a professional technician, but could be a major first step.

700010 Flute FixKit™
109022 Servicing the Flute book

Screwdriver

Double sided screwdriver found in musician's instrument service kits.

Economy Butane Torch

Adjustable butane torch found in musician's instrument service kits.

Razor Blades

Finest single edge blades of surgical carbon steel. 100/box.

Coated Stainless Steel Razor Blades

Ultra smooth cut. There is no drag when making your cut. Eric Satterlee calls these our "designer" razor blades. 100/box.

Economy Leak Light

18" leak light as in musician's instrument service kits.

Austin Hill
Valentino Fabrication
valentino key silencers

Synthetic. Just select the proper shape from the swatch and install where needed without removing keys.

shapes pattern 1 key corks 1/64”

Shapes pattern 1 includes clarinet and flute shapes. 1/64” thick.
700361

shapes pattern 1 key corks 1/32”

Shapes pattern 1 includes clarinet and flute shapes. 1/32” thick.
700362

shapes pattern 2 key corks 1/16”

Shapes pattern 2 includes saxophone shapes. 1/16” thick.
700363

valentino tools

valentino brass mouthpiece shank dent tool

Fast and easy! Straightens most brass mouthpiece shanks from trumpet to tuba.
700051

valentino mouthpiece puller

Our mouthpiece puller has become the standard of the industry. Perfect bandroom and professional technician mouthpiece puller. Our quick and easy to use design will not mar the mouthpiece or instrument.
700052

jls spring hook

Push-pull spring hook for larger instruments on one end, smaller instruments on the other. Non-slip grip.
700060
**Pad Leveling Tool and Height Gauge**
Use to gauge the pad height off the clarinet tone hole as well as to insert and float pads (aka Pad Slick).
700055

**Pad Pin**
Use to remove and insert pads.
700056

**Key Chain Knife**
Safety Key Chain Knife for cutting tenon corks.
700057

**Stainless Steel Key Clamp**
Ideal tension, non-marring clamp holds flute and clarinet keys closed to make the impression (“seat”).
700058

**Elastic Key Clamp**
As provided in clarinet padding kits. Helps put the embossed “seat” in Valentino pads. Also helps keep felt pads “trained.” Fits easily in any clarinet case.
700059

**Valentino Key Oils**
Our #4 petroleum based bench oil is a perfect general use key oil. This is perfect as a thin rotor and bearing oil also.
119021 Valentino #4 Thin Bench Oil - shop size
Our #7 petroleum based bench oil is a fine thick key oil. Great as a medium rotor oil. 6 oz.
119022 Valentino #7 Medium Bench Oil - shop size
Our #9 petroleum based bench oil is an excellent choice for saxophone keys. This runs thicker than our #1 and feels very slick to the touch. 6 oz.
119023 Valentino #9 Thick Bench Oil - shop size
Our #21 is a synthetic base available in a 3/4 oz. oiler, a 2 oz. oiler, or a 6 oz shop refill size. Perfect for smaller instruments, or those with tighter clearances.
119013 Valentino #21 Medium key oil - 3/4 oz. needle oiler
119015 Valentino #21 Medium key oil - 2 oz. needle oiler
119017 Valentino #21 Medium key oil - shop size
Our #23 is a synthetic base available in a 3/4 oz. oiler, a 2 oz. oiler, or a 6 oz shop refill size. Great for saxophone & larger instruments.
119012 Valentino #23 Heavy key oil - needle oiler
119014 Valentino #23 Heavy key oil - 2 oz. needle oiler
119016 Valentino #23 Heavy key oil - shop size

**Valentino Valve Oils**
Our #10 petroleum based valve oil is great for new valves, or ones with tight clearances. 6 oz.
119024 Valentino #10 Thin Valve Oil - shop size
Our #11 petroleum based medium valve oil is “just right” for most valves. 6 oz.
119025 Valentino #11 Medium Valve Oil - shop size
Our #12 heavy petroleum based valve oil is great for older horns, or ones with loose tolerances. 6 oz.
119026 Valentino #12 Heavy Valve Oil - shop size

**Valentino Slide Grease**
Based on and old Ed Myers formula, our #13 is a great anti-sticking grease to apply to tuning slides that may not be used daily. 1 lb. jar.
119027 Valentino #13 Slide Grease - shop size
Our #14“Slide Jelly” looks and feels like honey. Holds up well and is very tenacious. Very thick and will stay put. 6 oz.
119028 Valentino #14 Slide Jelly - shop size
Our white slide grease is great for most tuning slide servicing. And this is a great lubricant for burnishing and dent machines.
119029 Valentino #15 White Slide Grease - 1 lb. jar
Our #16 lubricant is a thinned jelly. Medium viscosity, pretty thick and stays put. 6 oz.
119030 Valentino #16 Slide Lube - shop size

**Bore Oil**
An old formula credited to both Hans Moenning and the Buffet company, this all natural bore oil is a must for woodwinds.
119031 Valentino #18 Bore Oil - 6 oz. shop size
order form
please type or print

name: ____________________________________________________________________________________________________

billing address: ___________________________________________________________________________________________

city, state, zip: ____________________________________________________________________________________________

shipping address if different than billing address: ______________________________________________________________

city, state, zip: ____________________________________________________________________________________________

telephone: ____________________  fax: ____________________  email: ____________________________________________________

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method of payment:  
☐ check with order  
☐ credit card  
☐ bill our account

subtotal: ____________________________  shipping and handling: ____________________________  grand total: ____________________________

To establish an account please ask for a New Account Credit Application. All orders will be shipped via UPS Ground service where possible. If you require a different shipping method, please indicate below; additional charges may apply.

☐ I require different shipping with: ____________________________________________________________

credit card information:  

card number: ___________ – ___________ – ___________ – ___________  exp. date: _____/_____  sec. code ______________

name on credit card: ________________________________________________________________________________

billing address: __________________________________________________________  city, state, zip: ______________

signature: ______________________________________________________________________________________
TERMS AND CONDITIONS:

• As our business has grown, so has the number of products we offer. It is most helpful if you use our part numbers when placing your order.
• We require a copy of a valid business license or NAPBIRT membership card in order to be eligible for dealer pricing.
• We welcome any size order, however, orders of less the $25.00 net require a $3.00 handling charge to help defer the cost of handling.
• The minimum international order is $35.00 net U.S.
• We will gladly accept your order via phone, fax or email.
• We gladly sell to school system repair shops with a valid written purchase order.
• All specifications are subject to change.
• When dealing with natural products such as pads and cork, you must accept or reject the entire order. You may not return only the portion which does not meet your specifications.
• All prices are subject to change. Please call for a current price quote.
• We reserve the right to allocate our products as we think appropriate in the event of limited availability.
• Any invoice discrepancies must be brought to our attention within 10 days of receipt.
• We have made every effort to be accurate and complete in our description of products and their application. We regret any errors and appreciate you calling them to our attention. We do not accept any liability for such mistakes.
• We are required by law to charge NC sales and use tax for any items delivered within the state of NC unless we have a valid exemption form on file. Buyer is responsible for any sales and use tax liabilities outside of NC.
• Buyer acknowledges that serious injury including death may occur from the improper use or handling of our products. Buyer accepts all liabilities resulting from the storage, use and disposal of any product purchased and is responsible for complying with all applicable laws. J. L. Smith & Co. nor its employees shall be liable for damages of any kind. MSDS information is available for hazardous materials on request.

BACKORDERS:

We hate backorders too! We do everything we can to eliminate them but sometimes our efforts may not be enough.
• Backorders will be shipped as soon as the product is available.
• If you do not want any product backordered, please let us know at the time the order is placed.
• Backorders less than $20.00 may be cancelled by us.
• Backorders will be cancelled on international orders.
• Backorders over 90 days will be cancelled by us.

PAYMENT TERMS:

• We will ship COD unless you have an established open account with us. Please feel free to request a credit application.
• We gladly accept VISA, MasterCard, American Express and Discover cards.
• First time international orders greater than $150 will require a Bank Wire. After the initial order, we will accept credit cards as listed above. We do not have open accounts for international customers.
• Open account customers agree to pay each invoice within 30 days of the invoice date. Invoices not paid timely will incur a finance charge of 1.5% per month (18% annual) plus any collection fees. Open account customers that abuse this privilege will be restored to COD status without notification.
• The returned check charge is $25.00.

SHIPPING:

• We ship most packages via UPS ground unless instructed otherwise. Canadian and International customers, please instruct us on your preference. Since we are on the East Coast, customers on the West Coast may be best served by UPS 3 day select.
• All pricing is net FOB Charlotte, NC. Shipping, handling and insurance charges will be added to the invoice. It is our policy to ship all packages fully insured.
• Hazardous materials will incur an additional HAZMAT fee which will be added to the shipping costs.

CONTACT INFORMATION:

Shipping & Mailing address: J. L. Smith & Co., Inc., 901 Blairhill Rd., Suite 400, Charlotte, NC  28217
Phone: 800.659.6073 or 704.521.1088
Fax: 704.521.1099
E-Mail: sales@jlsmithco.com
Websites: www.jlsmithco.com  www.valentinopads.com