

*A Passion for Quality...*  
*Fine Precision Tools*

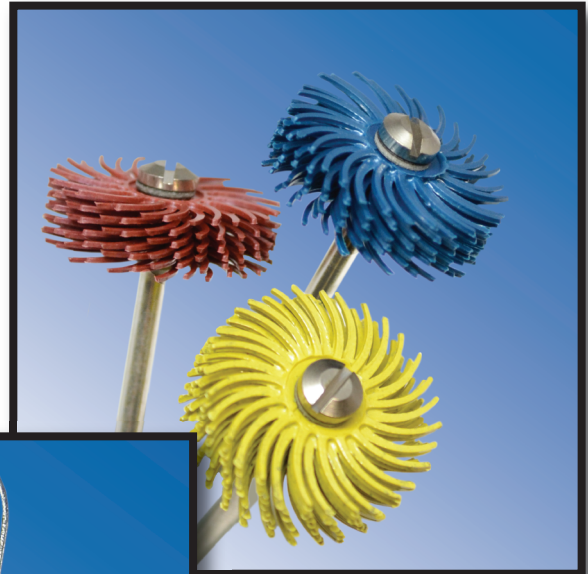




**Thank you for your interest in our company.  
We invite you to enjoy our catalog and its many hidden treasures.**



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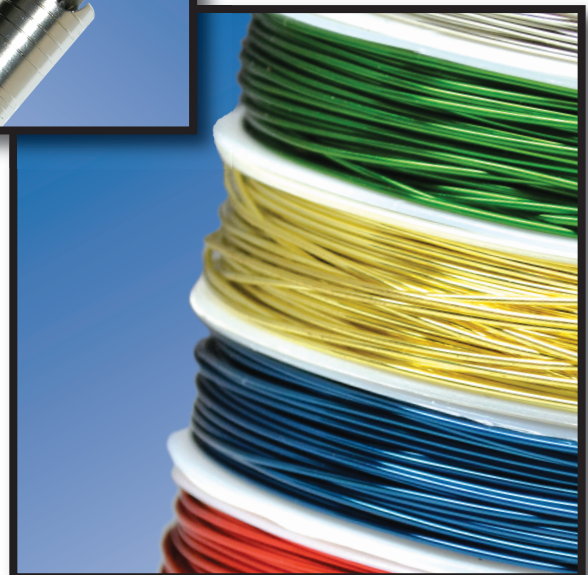
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## Manufacturer of Precision Tools & Equipment

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Grobet File Co of America is known worldwide for excellence in the quality and reliability of our products. Our company's core values are centered on loyalty and service to our customers. Our goal is to supply and make available a complete offering of quality, specialized tools and equipment, while offering value added service and partnering with companies that value dedication and long term commitment.

Grobet USA offers over 21,000 products and several well-known brand names. Our vast product offering includes; files, jewelers' sawblades, jewelers' burs, and a broad range of equipment and supplies for casting, cleaning, engraving, metal working, packaging, plating, polishing, and soldering. Grobet is known to be the largest manufacturer and master distributor to the Jewelry industry worldwide. Grobet distributors are strategically located throughout North America, South America, Europe, Australia and Asia.

Our corporate headquarters and global distribution center is located in Carlstadt, New Jersey, just 10 miles from New York City. Our warehouse holds ample inventory to meet the requirements of our customers and is conveniently located near all major transportation modes; truck, air and sea. We have state-of-the-art factories located in Vallorbe, Switzerland -- Cheyenne, Wyoming -- and Emporia, Kansas.

Our sawblade factory, Scies Miniatures, in Vallorbe, Switzerland is the leading worldwide manufacturer of filed jewelers' sawblades. We produce the straightest, most flexible, and most durable sawblades in the world. Our world class tooling center sets a new standard for unequaled quality manufacturing. This is evident with the introduction in 2015 of our new premium jewelers' sawblade, Super Pike – complementing our existing brands of Scies, Pike, Prior, Panther, Yellow Dagger and Pégas.

Our ISO certified factory in Cheyenne, Wyoming is equipped with advanced CNC and robotic machinery. We manufacture carbide burs, known for their cutting precision and consistency of performance. We also manufacture capital equipment which includes polishing machines, rectifiers, demagnetizers, pickling pots, steam cleaners, wax injectors and vacuum casting machines. This facility also operates the only natural charcoal kiln in the western hemisphere which produces charcoal blocks for soldering and charcoal pencils for artists and hobbyists.

Through a current acquisition, we are now partnered with GRS of Emporia, Kansas, the company that has brought you the highest level of engraving equipment and supplies for 50 years.

We also have a distribution facility in Toronto, Canada to facilitate service to our Canadian customers. Our computer system links the Canadian location with our call center in Carlstadt, New Jersey to facilitate order processing and delivery to locations throughout Canada.

Grobet started over a century ago in New York City and quickly became known as a very successful distributor and manufacturer of high quality European hand tools. Over the years our company has grown through expansion with strategic acquisitions of industry leading companies. At Grobet, ***a passion for quality....fine precision tools.***

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# *Abrasives*





## HARD ARKANSAS STONES

Natural, close-density oilstones with qualities that make them unequalled for sharpening tools such as gravers, knives, etc.

### 1 BENCH STONES

#### Mounted

No.	10.550	10.547	10.552	10.554	10.548
Grit	Extra Fine	Extra Fine	Extra Fine	Extra Fine	Extra Fine
Dimensions	3" x 1" x 1/2"	4" x 1-1/2" x 1/2"	4" x 2" x 1/2"	5" x 2" x 1/2"	6" x 2" x 1/2"

No.	10.551	10.553	10.555	10.557
Grit	Hard (Fine)	Hard (Fine)	Hard (Fine)	Hard (Fine)
Dimensions	4" x 2" x 1/2"	5" x 2" x 1/2"	6" x 2" x 1/2"	8" x 2" x 1/2"



### 2 PENKNIFE PIECES

Translucent (extra fine) unmounted stones in leather pouch.

No.	Dimensions
10.560	3" x 1" x 1/4"
10.561	4" x 1" x 1/4"



### 3 HARD ARKANSAS SLIPS

Available in a variety of shapes and sizes.

No.	Shape	Dimensions
10.574	Beveled	3" x 3/8" x 1/8"
10.578	Pointed	4" x 1/4"
10.580	Square	2-1/2" x 1/8"
10.588	Triangular	2-1/2" x 1/8"



### 4 HARD ARKANSAS WHEELS

Natural, close-density oilstones with qualities that make them unequalled for sharpening tools such as gravers, knives, etc.

No.	Style	Diameter	Thickness	Mandrel Dia.
10.599	Mounted	3/4"	1/4"	3/32"
10.604	Unmounted	2"	1/4"	—

### 5 ARKERAM BENCH STONES

Made from Arkansas stone powder, solidified by fire. Has more cutting action than regular Arkansas stones. Bench stone can be used on both sides with oil. Packed in hardwood box.

No.	Dimensions
10.608	4" x 1" x 1/2"
10.609	5" x 2" x 7/8"
10.610	6" x 2" x 1"



## INDIA STONES

Long recognized for the clean, sharp surfaces they produce on tools, dies, blades, molds and almost any other metal piece requiring sharpening or smoothing.



### 1 COMBINATION and SINGLE GRIT BENCH STONES

Use both sides. Combination stones have fine grit on one side, coarse on the other.

Combination	Dimensions
10.450	4" x 1-3/4" x 5/8"
10.451	6" x 2" x 1"
10.452	8" x 2" x 1"
Fine	
10.456	4" x 1" x 1/2"
10.457	6" x 2" x 1"
10.458	8" x 2" x 1"
Medium	
10.461	4" x 1" x 1/2"
10.462	6" x 2" x 1"
10.463	8" x 2" x 1"



### 2 SLIPS

Available in 6 different shapes, in fine or medium grits.

Shape	Dimensions	Fine	Medium
Flat	4" x 1/2"	—	10.472
Knife	4" x 1"	10.478	10.479
Round	4" x 3/8"	—	10.485
Round Edge	4" x 1"	10.486	—
Square	4" x 1/4"	10.489	10.490
Square	4" x 1/2"	—	10.497

## ALUMINUM OXIDE WHEELS



### 3 WHITE LATHE WHEELS

These coarse, knock-down wheels are designed for fast material removal. They are supplied with 1/4" plastic arbor hole.

No.	Dimensions
10.525	3" x 3/8"
10.526	4" x 3/8"
10.527	4" x 1/2"



### 4 NORTON PIKE OIL

Primarily used as sharpening oil, but also useful as a general purpose machine oil.

No.	Description
42.480	4-1/2 oz.

## FINISHING STONES



### 5 TRU-STONE

Quickly reshapes and resurfaces abrasive stones to like-new condition. A very hard and coarse silicon carbide stone with 4 different sized half-round grooves on one side measuring 1/16", 1/8", 3/16", and 1/4".

No.	Dimensions
10.408	3-1/2" x 1-3/8" x 9/16"

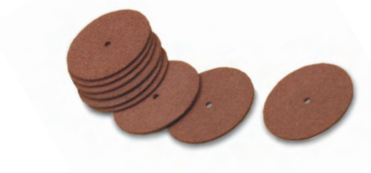


### 6 DRESSER STICK for DIAMOND WHEELS

Premium quality white aluminum oxide for dressing, truing, roughing and finishing diamond wheels.

No.	Dimensions	Grit
10.406	6" x 1/2" x 1/2"	100
10.411	6" x 1/2" x 1/2"	320

## ABRASIVE DISCS



### 1 UNMOUNTED CUT-OFF WHEELS

Made of rubber-bonded aluminum oxide grains. Excellent for sprue removal and other cut-off operations. Mount on mandrels. Sold in box of 100.

No.	Diameter	Thickness	Max Safe Speed (RPM's)	Grit
10.541	7/8"	.010"	30,000	90
10.537	7/8"	.030"	30,000	90
10.538	1"	.030"	30,000	90
10.542	1"	.015"	30,000	90
10.539	1-1/4"	.033"	25,000	90
10.543	1-1/4"	.062"	25,000	90
10.540	1-1/2"	.025"	25,000	90



### 3 CRATEX MX MOUNTED WHEELS

Mounted on 1/8" (3.2 mm) shank. Safe speeds: 3/8" (10 mm) diameter - 17,620 RPM, 1/2" (13 mm) diameter - 12,750 RPM.

No.	Size	Grit
10.9864	3/8" x 3/4"	320-Extra fine
10.9872	1/2" x 3/4"	120-Medium



### 5 SEPARATING DISCS

Extra thin discs for cutting gold and porcelain. Diameter 7/8".

No.	Thickness	Qty.
11.900	.009"	Box of 25
11.901	.009"	Box of 100
11.902	.006"	Box of 25
11.903	.006"	Box of 100



### 2 CRATEX MX SMALL WHEELS

Maximum RPM: 36,000. 1/8" (3.2 mm) holes.

No.	Size		Grit
	(in)	(mm)	
10.9813	1" x 1/16"	25 x 1.6	180-Fine
10.9821	1" x 1/8"	25 x 3.2	80-Coarse
10.9822	1" x 1/8"	25 x 3.2	120-Medium
10.9823	1" x 1/8"	25 x 3.2	180-Fine
10.9824	1" x 1/8"	25 x 3.2	320-Extra Fine



### 4 HIGH-SPEED SEPARATING DISC

Resin-bonded aluminum oxide is fast, cool, odor-free and long-lasting. Cuts all metals smoothly and rapidly. Sold in box of 100.

No.	Size
11.01310	7/8" x .025"



### 6 SILICON CARBIDE SEPARATING DISCS

Thin grinding disks cut on the edge and on one or both sides. Excellent for cutting chrome casting and non-precious metal casting sprues. Available in 3/4", 7/8" and 1" diameters, with pin hole for mandrel mounting. Sold by box of 100.

No.	Diameter	Thickness	Cutting Sides
11.778	3/4"	.022"	Both
11.779	3/4"	.020"	One
11.777	7/8"	.005"	Both
11.776	7/8"	.015"	Both
11.780	7/8"	.022"	Both
11.781	7/8"	.020"	One
11.782	1"	.022"	Both



## EC MOORE ABRASIVE DISCS

Moore's Brass Center Discs have been the industry standard since 1898. They snap on and off quickly and easily, with no screws to drop or lose. Moore's discs can be used with the grit side in or out and won't fall off with the reversal of the handpiece. Moore's Discs are available in paper and MoorPlastic. Sizes: 1/2", 5/8", 3/4" and 7/8".

### 1 MOORE SANDING DISCS MASTER PACK

Adalox, moisture resistant. Buy in bulk and save - 12 boxes of 50 discs per box.

No.	10.01077/B	10.01075/B	10.01076/B
Diameter	1/2"	3/4"	7/8"
Grit	Coarse	Coarse	Coarse

No.	10.01082/B	10.01080/B	10.01081/B
Diameter	1/2"	3/4"	7/8"
Grit	Medium	Medium	Medium

No.	10.01087/B	10.01085/B	10.01086/B
Diameter	1/2"	3/4"	7/8"
Grit	Fine	Fine	Fine

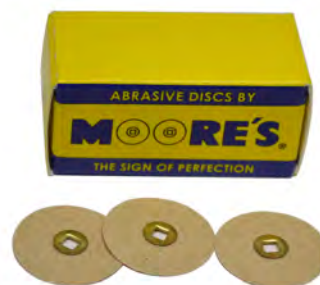


### 2 SAND PAPER DISCS (Box of 12)

No.	10.01031/B	10.01032/B	10.01033/B	10.01034/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	Coarse	Coarse	Coarse	Coarse

No.	10.01035/B	10.01036/B	10.01037/B	10.01038/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	Medium	Medium	Medium	Medium

No.	10.01039/B	10.01040/B	10.01041/B	10.01042/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	Fine	Fine	Fine	Fine



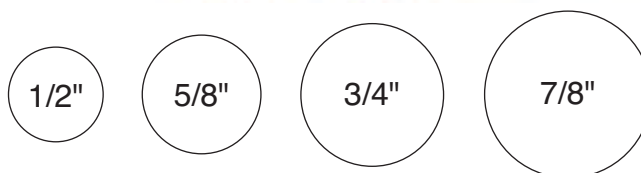
### 3 GARNET MOOREPLASTIC DISCS (Box of 12)

No.	10.01055/B	10.01056/B	10.01057/B	10.01058/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	Coarse	Coarse	Coarse	Coarse

No.	10.01059/B	10.01060/B	10.01061/B	10.01062/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	Medium	Medium	Medium	Medium

No.	10.01063/B	10.01064/B	10.01065/B	10.01066/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	Fine	Fine	Fine	Fine

No.	10.01067/B	10.01068/B	10.01069/B	10.01070/B
Size	7/8"	3/4"	5/8"	1/2"
Grit	X-Fine	X-Fine	X-Fine	X-Fine



Recommended applications for abrasives:

Coarse: Gross reduction and shaping  
Medium: Less reduction, smoother finish  
Fine: Polishing, smoothing surfaces  
X-Fine: High polish, luster

Suggested materials:

Acrylics, gold, amalgams and general purpose

## SANDING DISCS

Yellow abrasive with press-on/flip-off center hole feature. Exclusive grit and backing are designed for jewelry applications and provide exceptionally long life. Aluminum oxide grit in three grades, mounted on thin backing, provides outstanding results in sanding and smoothing operations. The flexible backing allows accessibility to hard-to-reach areas. Available in 3/4" or 7/8" diameter. Used with 3/32" mandrel number 10.740.



### 1 SINGLE GRIT DISCS

Supplied in tubes of 100.

Coarse Grit	Medium Grit	Fine Grit	Dimensions
10.714	10.715	10.716	3/4"
10.718	10.719	10.720	7/8"



### 3 DISC ASSORTMENT

Contains 25 fine, 25 coarse, and 50 medium, 7/8" sanding discs, plus one mandrel, in compartmented plastic box.

No.	Dimensions
10.712	7/8"



### 5 ADALOX® PIN HOLE SANDING DISCS

Aluminum oxide grit mounted on flexible backing allows for easy accessibility into those hard-to-reach places. With pin hole centers for use with reinforced mandrel No. 43.128. Sold by pack of 100 discs.

Coarse	Medium	Fine	Diameter
—	10.01101	10.01102	1-1/2"
10.01103	10.01104	10.01105	7/8"



### 2 PRESS-ON/FLIP-OFF MANDREL

High-quality steel with 3/32" shank.

No.	Dimensions
10.740	11-5/8" length



### 4 ADALOX® ABRASIVE SANDING DISCS

Aluminum oxide grit, mounted on thin backing, provides excellent results in sanding and smoothing operations. The flexible backing allows accessibility to hard-to-reach areas. Use with 3/32" mandrel No. 10.740. Sold by box of 100 with mandrel.

Coarse (Brown)	Medium (White)	Fine (Green)	Diameter
10.01077	10.01082	10.01087	1/2"
10.01075	10.01080	10.01085	3/4"
10.01076	10.01081	10.01086	7/8"



### 6 MAGNUM SANDING DISCS

Aluminum oxide grit mounted on a special reinforced plastic backing. Lasts 2 to 3 times longer than conventional paper-backed discs. Brass centers for use with press-on/flip-off 3/32" mandrel No. 10.740. Sold by pack of 100 discs.

Fine (Green)	Medium (White)	Coarse (Brown)	Diameter
10.01120	10.01123	10.01126	7/8"
10.01121	10.01124	10.01127	3/4"
10.01122	10.01125	10.01128	5/8"



## RUBY® SHARPENING STONES

For sharpening and flattening hard metals, as well as glass, quartz and porcelain.

### 1 RUBY® BENCH STONES

#### Finished Both Sides (Loose)

No.	10.421	10.422
Size	4" x 1" x 3/8"	4" x 1" x 3/8"
Grit	Medium	Fine

#### Finished One Side (Boxed)

No.	10.423	10.425
Size	4" x 1" x 3/8"	4-3/4" x 2" x 3/8"
Grit	Medium	Medium



### 2 RUBY® STONE KIT

Contains one of each of the following:

No. 10.429

Shape	Triangular	Square	Flat	Half Round	Round
Size	4" x 3/8"	4" x 3/8"	4" x 5/16" x 1/4"	4" x 3/8"	4" x 1/4"
Grit	Medium	Medium	Fine	Coarse	Medium



### 3 INDIVIDUAL RUBY® BENCH STONE

No.	Grit	Shape	Dimensions
10.449	Fine	Flat	4" x 5/16" x 1/4"



### 4 RUBY® MIDGET FILES

For high-detail and ultra-precision work. Files may be broken off and cemented onto a holder or used with a pin vise. Fine grit only.



No.	10.431	10.432	10.433	10.434	10.435	10.436	10.437	10.438	10.439	10.441
Shape	Square	Round	Triangular	Square	Round	Round	Flat	Half-Round	Barrette	Triangular
Size	2" x .04"	2" x .04"	2" x .08"	4" x .08"	4" x .08"	4" x .12"	2" x .12" x .001"	2" x .04"	2" x .04"	2" x .04"

### MIDGET FILE KIT

For high detail and ultra-precision work. Kit contains one of each file listed above, plus one double-ended holder with two reversible collets.

No.	Files	Holder
10.445	10 each	Double Ended

## RUBY CRYSTAL POINTS

Fast cutting, tough points and cones for accurate grinding of steel, porcelain and glass, as well as for soft and precious metals.

### 1 INDIVIDUAL MOUNTED POINTS

Shapes are securely mounted on 3/32" mandrels for use on flexible shaft machines. See illustrations for individual shapes. Sold by the dozen. Prices vary.

#### SET of 12 MOUNTED POINTS

Contains one each of the most popular points:

Nos: 11.502, 11.507, 11.508, 11.510, 11.512, 11.513, 11.518, 11.520, 11.524, 11.525, 11.526 and 11.530.

No.										
11.500										



Dia.	.083	.109" to .065"	.095" to .063"	.149" to .058"	.189"	.106" to .065"	.117	.309"	.370"	.145"
Head Length	.278"	.338"	.3"	.245"	.080"	.237"	.259"	.113"	.180"	
No.	11.502	11.503	11.504	11.507	11.508	11.509	11.510	11.512	11.513	11.516



Dia.	.210"	.485"	.000"	.257"	.205"	.130" to .185"	.186"	.250"	.134" to .078"	.250"
Head Length		.187"	.000"	.10"	.090"	.282"	.520"	.500"	.440"	.285"
No.	11.518	11.520	11.521	11.522	11.524	11.525	11.526	11.527	11.528	11.530

## BRIGHTBOY®

For deburring, finishing and polishing. The resilient rubber binder cushions the aluminum oxide abrasive and bridges the gap between grinding and polishing. Recommended for use on stainless steel, chrome and precious metals. All approximately 70 grit.



### 2 BRIGHTBOY® ASSORTMENT

57-piece kit contains wheels, cylinders, points, mandrels and chuck. Ideal for those who want a selection on hand to meet the needs of specific production requirements.

No.	Kit
10.650	57- piece



### 3 BRIGHTBOY® ROD

Cleans in deep cavities otherwise unreachable by hand. Overall Length 5". Diameter 5/16". Plastic holder available separately.

No.	Description
10.656	Rod only
10.657	Plastic holder only

**BRIGHTBOY®****1 BRIGHTBOY® MINIATURE WHEELS**

Use with mandrels on flexible shaft machines. With 1/16" center holes.  
Sold by box of 100.

No.	Diameter	Thickness
10.672	5/8"	1/4"
10.670	5/8"	1/8"
10.678	7/8"	1/8"

**2 BRIGHTBOY® LARGE WHEELS**

For use on standard polishing motors.

No.	Diameter	Thickness	Hole Size
10.690	1-1/2"	3/16"	1/4"
10.693	3"	3/8"	1/4"
10.694	3"	1/2"	1/4"
10.695	4"	1/2"	1/2"
10.698	4"	3/4"	1/2"

**3 BRIGHTBOY® TABLET**

Ideal for removing scratches and rust, as well as general surface cleaning and finishing.

No.	Dimensions
10.658	2-1/4" x 1-1/8" x 3/8"

**4 BRIGHTBOY® WHEEL**

For use on standard polishing motors.

No.	Dimensions
10.980	1-1/4" x 1/8" x 1/8"

**SAFETY TIPS**

Improper use of grinding wheels is dangerous. Comply with American National Standards Institute Safety Code B7.1 and Occupational Safety and Health Act covering: speed, safety guards, flanges, mounting procedures, general operating rules, handling, storage and inspection, and general machine conditions. Maximum RPM for the wheels listed in this section is as follows:

**Miniature Wheels**

Diameter	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"
Maximum RPM	20,350	16,250	13,540	11,600	10,175	10,125

**Standard Wheels**

Diameter	1-1/2"	2"	2-1/2"	3"	4"	5"
Maximum RPM	10,125	7,625	6,100	5,060	3,800	3,050



## CRATEX® ABRASIVES

**Grit Textures:** Each Cratex size and shape is made in four standard grit textures or compositions which differ in accordance with the mesh size of the abrasive grain used: COARSE (Green); MEDIUM (Dark Brown); FINE (Reddish Brown); EXTRA FINE (Grey Green).

**CONES** For use with light pressure at much less than 20,000 RPM maximum safe speed. Use with No. 43.166 steel mandrel. Sold individually.

Style No	Length	Diameter	Coarse	Medium	Fine	Extra Fine	Shape
1350	1"	7/8"	<b>10.790</b>	<b>10.791</b>	<b>10.792</b>	<b>10.793</b>	Cylinder
1357	1-1/4"	7/8"	<b>10.798</b>	<b>10.799</b>	<b>10.800</b>	—	Pt.Cyl.
1340	1"	5/8" to 1/4"	<b>10.780</b>	<b>10.781</b>	<b>10.782</b>	<b>10.783</b>	Tapered
1349	1-1/4"	1" to 1/4"	—	<b>10.785</b>	—	—	Tapered
4707	1-3/4"	7/8"	<b>10.80101</b>	<b>10.80102</b>	<b>10.80103</b>	<b>10.80104</b>	Bullet



**POINTS** For use with light pressure at much less than 25,000 RPM maximum safe speed. 1/16" holes for use with mandrel Nos. 43.124 or 43.154.

Sold by box of 100.

Style No	Length	Diameter	Coarse	Medium	Fine	Extra Fine	Shape
6	7/8"	1/4"	<b>10.804</b>	<b>10.805</b>	<b>10.806</b>	<b>10.807</b>	Cylinder
8	1"	9/32"	<b>10.809</b>	<b>10.810</b>	<b>10.811</b>	<b>10.812</b>	Bullet
10	5/8"	3/8"	<b>10.80801</b>	<b>10.80802</b>	<b>10.80803</b>	<b>10.80804</b>	Bullet
11	1"	3/8"	<b>10.80805</b>	<b>10.80806</b>	<b>10.80807</b>	<b>10.80808</b>	Bullet
15	7/8"	1/2"	<b>10.80817</b>	<b>10.80818</b>	—	—	Bullet



**BLOCKS & STICKS** For manual or mechanical applications. Can be mounted in fixtures, chucks or cradles. Dependable for automated operations. Sold individually.

Style No.	Dimensions	Coarse	Medium	Fine	Extra Fine	Shape
036	6" x 3/16"	—	<b>10.82702</b>	<b>10.82703</b>	<b>10.82704</b>	Round
046	6" x 1/4"	<b>10.818</b>	<b>10.819</b>	<b>10.820</b>	<b>10.821</b>	Round
066	6" x 3/8"	<b>10.823</b>	<b>10.824</b>	<b>10.825</b>	<b>10.826</b>	Round
086	6" x 1/2"	<b>10.828</b>	<b>10.829</b>	<b>10.830</b>	<b>10.831</b>	Round
0126	6" x 3/4"	<b>10.815</b>	<b>10.816</b>	—	—	Round
6404	6" x 1/2" x 1/2"	—	<b>10.757</b>	<b>10.758</b>	<b>10.759</b>	Square
6803	6" x 1" x 3/8"	<b>10.772</b>	<b>10.773</b>	<b>10.774</b>	—	Oblong



**SMALL WHEELS** Available in diameters from 5/8" to 1". Supplied with 1/16" center hole and can be used with mandrels with 3/32" or 1/8" shank in power tools with safe maximum speed of 25,000 RPM. Sold by box of 100.

Style No.	Dia.	Thickness	Edge	Coarse	Medium	Fine	Extra Fine	Pumitex
2	5/8"	3/32"	Tapered	<b>10.837</b>	<b>10.838</b>	<b>10.839</b>	<b>10.840</b>	<b>10.846</b>
5	1"	1/8"	Tapered	<b>10.842</b>	<b>10.843</b>	<b>10.844</b>	<b>10.845</b>	<b>10.841</b>
53	5/8"	3/32"	Square	<b>10.855</b>	<b>10.856</b>	<b>10.857</b>	<b>10.858</b>	<b>10.859</b>
54	5/8"	1/8"	Square	<b>10.860</b>	<b>10.861</b>	<b>10.862</b>	<b>10.863</b>	—
59	5/8"	1/4"	Square	<b>10.849</b>	<b>10.850</b>	<b>10.851</b>	<b>10.852</b>	—
74	7/8"	1/8"	Square	<b>10.865</b>	<b>10.866</b>	<b>10.867</b>	<b>10.868</b>	<b>10.869</b>
80	1"	1/8"	Square	<b>10.875</b>	<b>10.876</b>	<b>10.877</b>	<b>10.878</b>	—
*88-2	1"	1/4"	Square	<b>10.879</b>	<b>10.880</b>	<b>10.881</b>	<b>10.882</b>	—

\*Has 1/8" hole



**LARGE WHEELS** Diameters from 2" to 6". Best performance speed may be well below the maximum safe speed indicated. Sold individually.

Style No.	Dia.	Thickness	Hole	Coarse	Medium	Fine	Extra Fine	Max. Safe
202	2"	1/8"	1/4"	—	<b>10.89202</b>	<b>10.89203</b>	—	10,500
204	2"	1/4"	1/4"	<b>10.894</b>	<b>10.895</b>	<b>10.896</b>	<b>10.897</b>	10,500
208	2"	1/2"	1/4"	—	<b>10.899</b>	<b>10.900</b>	<b>10.901</b>	10,500
256	2-1/2"	3/8"	1/4"	<b>10.904</b>	—	—	—	8,300
302	3"	1/8"	1/4"	<b>10.91201</b>	<b>10.91202</b>	<b>10.91203</b>	<b>10.91204</b>	7,000
304	3"	1/4"	1/4"	<b>10.913</b>	<b>10.914</b>	<b>10.915</b>	<b>10.916</b>	7,000
306	3"	3/8"	1/4"	<b>10.918</b>	<b>10.919</b>	<b>10.920</b>	<b>10.921</b>	7,000
308	3"	1/2"	1/4"	<b>10.923</b>	<b>10.924</b>	<b>10.925</b>	<b>10.926</b>	7,000
404	4"	1/4"	1/2"	<b>10.928</b>	<b>10.929</b>	<b>10.930</b>	—	5,250
408	4"	1/2"	1/2"	<b>10.937</b>	<b>10.938</b>	<b>10.939</b>	<b>10.940</b>	5,250
506	5"	3/8"	1/2"	—	—	—	<b>10.950</b>	4,200
508	5"	1/2"	1/2"	—	<b>10.953</b>	<b>10.954</b>	<b>10.955</b>	4,200
512	5"	3/4"	1/2"	<b>10.956</b>	<b>10.957</b>	—	—	4,200
604	6"	1/4"	1/2"	—	<b>10.962</b>	<b>10.963</b>	<b>10.964</b>	3,500
608	6"	1/2"	1/2"	<b>10.970</b>	<b>10.971</b>	<b>10.972</b>	<b>10.973</b>	3,500
612	6"	3/4"	1/2"	<b>10.975</b>	<b>10.976</b>	<b>10.977</b>	<b>10.978</b>	3,500
616	6"	1"	1/2"	<b>10.97801</b>	<b>10.97802</b>	<b>10.97803</b>	<b>10.97804</b>	3,500



Other sizes and styles available upon request.

## CRATEX® ABRASIVE ASSORTMENTS

Rubberized abrasives for light deburring, smoothing and polishing. Made from a special formula, combining pure silicon carbide granules with a special oil-resistant rubber bond. They deliver cushion-action performance in a variety of applications on a wide range of materials such as metal, plastic, glass and porcelain. Cratex abrasives can be shaped with conventional wheel dressers and do not harden or soften during use or storage.

### 1 26-PIECE INTRODUCTORY KIT

Contains a popular selection of wheels and points, in 5/8", 7/8" and 1" diameters, in various grit textures, plus one point mandrel and one wheel mandrel. Packed in a handy box.

No.	Style #
10.750	773



### 2 796-PIECE PRODUCTION ASSORTMENT

Designed to meet the demands of a production shop. 200 tapered wheels, 300 straight wheels, and 200 points, in various textures. Plus 96 mandrels. Compartmented dispensing tray is a real time-saver. Style #796.

No.	Style #
10.755	796



### 3 44-PIECE SMALL POINT KIT

Contains two points each of the five most popular small points, in each of the four grit textures, plus 4 mandrels. Packed in a convenient plastic case.

No.	Style #
10.751	767



### 4 46-PIECE SMALL WHEEL KIT

Contains two each of the most popular small wheels, 44 pieces, equally assorted in sizes and textures, plus two mandrels. Packed in a convenient plastic case. Style #707.

No.	Style #
10.752	707



### 5 68-PIECE POINT KIT

Contains two each of all eight point shapes, equally assorted in four grit textures, for a total of 64 points, plus four mandrels. Packed in a convenient plastic case.

No.	Style #
10.754	778



### 6 123-PIECE TIME-SAVER KIT

Practical kit contains 120 wheels and points, plus two wheel mandrels and one point mandrel. Packed in a convenient plastic case.

No.	Style #
10.749	776



### 7 49-PIECE SANDING KIT

Contains 45 wheels and points, plus four mandrels, for all of your sanding needs. Packed in a convenient plastic case.

No.	Style #
10.756	779



### 8 80-PIECE ALL PURPOSE KIT

Contains the most popular wheels ranging from 5/8" to 1" in diameter, and points from 5/8" to 1" in length, along with 2 wheel mandrels and 2 point mandrels. Packed in a convenient plastic case.

No.	Style #
10.753	777





**1 ABRASIVES CLASSIC SET**

No. 11.710

**12 compartment box contains:**

Qty.	8x	8x	8x	8x	8x	8x
No.	<b>11.220</b>	<b>11.221</b>	<b>11.222</b>	<b>11.223</b>	<b>11.224</b>	<b>11.225</b>
Style	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap
Size	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"
Grit	Fine	Medium	Coarse	Fine	Medium	Coarse

Qty.	2x	2x	4x	4x	2x	2x
No.	<b>11.204</b>	<b>11.208</b>	<b>17.901</b>	<b>17.902</b>	<b>16.962</b>	<b>16.967</b>
Style	Mandrel for No-Lap	Mandrel for No-Lap	Mtd. Satin Finish Buff	Mtd. Satin Finish Buff	Mtd. Cup Br. 9/16"	Mtd. Cup Br. 9/16"
Size	3/8" x 3/32"	1/2" x 3/32"	3/4"	3/4"	3/32"	3/32"
Grit	Fine	Medium	Coarse	Fine	Medium	Coarse

**2 ABRASIVES PREMIUM SET**

No. 11.7005

**18 compartment box contains:**

Qty.	16x	16x	16x	16x	16x	16x	16x	16x	16x
No.	<b>11.217</b>	<b>11.218</b>	<b>11.219</b>	<b>11.220</b>	<b>11.221</b>	<b>11.222</b>	<b>11.223</b>	<b>11.224</b>	<b>11.225</b>
Style	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap	Bands No-Lap
Size	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"
Grit	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse

Qty.	3x	3x	3x	6x	6x	6x	6x	6x	6x
No.	<b>11.200</b>	<b>11.204</b>	<b>11.208</b>	<b>16.962</b>	<b>16.967</b>	<b>17.901</b>	<b>17.902</b>	<b>17.908</b>	<b>17.909</b>
Style	Mandrel for No-Lap	Mandrel for No-Lap	Mandrel for No-Lap	Mtd Cup Br	Mtd Cup Br	Mtd Satin Finish Buff	Mtd Satin Finish Buff	Mtd Satin Finish Buff	Mtd Satin Finish Buff
Size	1/4" X 3/32"	3/8" X 3/32"	1/2" X 3/32"	3/32"	3/32"	3/4"	3/4"	1	1
Grit	—	—	—	Brass	Steel	Fine	Med	Fine	Med

**WR PUMICE WHEELS**

For cleaning, polishing and finishing. Made from natural rubber with graded pumice grain evenly distributed to assure uniform results. The light action produces a smooth finish on soft metals. All holes are 1/16".

**3 PUMICE 72 WHEEL ASSORTMENT**

Kit includes 12 wheels each of all six styles and 3 mandrels with 1/8" shanks.

No.

11.465

**INDIVIDUAL WHEELS**

Sold by box of 100.

No.	Style	Shape	Diameter	Thickness
<b>11.450</b>	822	Square	5/8"	3/32"
<b>11.453</b>	888	Square	7/8"	1/8"
<b>11.461</b>	999	Taper	5/8"	—
<b>11.463*</b>	999	Taper	5/8"	—

\*White version with more aggressive action.

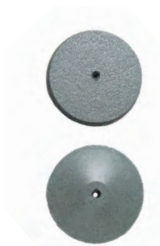


## PACIFIC SILICONE CARBIDE ABRASIVES

A unique system for polishing gold and semi-precious alloys without the use of messy compounds or agents.

### 1 UNMOUNTED WHEELS, CYLINDERS and POINTS

#### Small Wheels



Size	Hole	Edge	Boxed	Extra Fine	Silipum Pumice	Lapidary Touch Ups Coarse	Hi-Shine
7/8" x 1/8"	1/16"	Square	20	11.861	11.851	11.917	11.909
7/8" x 1/8"	1/16"	Square	100	11.862	11.852	11.916	11.908
5/8" x 1/8"	1/16"	Square	20	11.865	11.853	11.919	11.911
5/8" x 1/8"	1/16"	Square	100	11.866	11.854	11.918	11.910
7/8"	1/16"	Knife	20	11.863	11.855	11.913	11.905
7/8"	1/16"	Knife	100	11.864	11.856	11.912	11.904
5/8"	1/16"	Knife	20	11.867	11.857	11.915	11.907
5/8"	1/16"	Knife	100	11.868	11.858	11.914	11.906



Size	Hole	Edge	Boxed	Long Life Coarse Very Hard	Dark Grey for Softer Metals	White for Harder Metals	Pink Hi-Shine
7/8" x 1/8"	1/16"	Square	20	11.841	11.811	11.819	11.827
7/8" x 1/8"	1/16"	Square	100	11.842	11.812	11.820	—
5/8" x 1/8"	1/16"	Square	20	—	11.813	11.821	11.829
5/8" x 1/8"	1/16"	Square	100	—	11.814	11.822	11.830
7/8"	1/16"	Knife	20	—	11.815	11.823	11.831
7/8"	1/16"	Knife	100	—	11.816	11.824	11.832
7/8"	1/16"	Knife	20	—	11.817	11.825	11.833
7/8"	1/16"	Knife	100	—	11.818	11.826	11.834



#### Cylinder

Size	Boxed	Blue Coarse	Grey Fine	Green X-Fine	Pink Hi-Shine
1" x 1/2"	12	11.845	11.846	11.847	11.848



#### Mini-Points

Boxed	Dark Brown	Brown	Green
25	11.835	11.837	11.839
100	11.836	11.838	11.840



#### Mandrels

Size	Item No.
3/32"	1" x 1/2" cylinders. Pk 3 11.898
1/8"	1" x 1/2" cylinders. Pk 10 11.899
3/32"	For mini points 11.894

### 2 KIT

Assorted shapes, sizes and grits plus mandrels.

No.	Description
11.809	70 piece kit
11.810	44 piece kit



## UNMOUNTED & MOUNTED SILICONE POLISHING WHEELS

Premium silicone-carbide wheels, specially formulated to provide the smoothest finish without the use of messy polishing compounds. Mounted wheels are on 3/32" shanks. Available grits: Coarse - 100G, white; Medium - 220G, black; Fine - 800G, blue; and Extra Fine - 1,200G, pink.

**1 WHITE (100G)** Coarse pre-polish wheels and cylinders. For smoothing surfaces. Operating speed range is 5,000 to 12,000 RPM.



Wheel						
No.	10.01368	10.1368/C	10.01369	10.1369/C	10.01370	10.1370/C
Edge	Square	Square	Knife	Knife	Knife	Knife
Size	7/8" x 1/8"	7/8" x 1/8"	5/8"	5/8"	7/8"	7/8"
Grit	100	100	100	100	100	100
	Dz.	(Box of 100)	Dz.	(Box of 100)	Dz.	(Box of 100)



Bullet				Cone - Mounted 3/32" Shank			
	10.01373	10.1373/C		10.01441	10.1441/C		
	-	-		-	-		
	1" x 1/4"	1" x 1/4"		5/8" x 7/32"	5/8" x 7/32"		
	100	100		100	100		
	Dz.	(Box of 100)		Dz.	(Box of 100)		

**2 BLACK (220G)** Medium, soft and flexible. For smoothing surfaces and refining edges. Operating speed range is 5,000 to 12,000 RPM.



Wheel				
No.	10.01375	10.1375/C	10.01377	10.1377/C
Edge	Square	Square	Knife	Knife
Size	7/8" x 1/8"	7/8" x 1/8"	7/8"	7/8"
Grit	220	220	220	220
	Dz.	(Box of 100)		(Box of 100)



Bullet				Cone - Mounted 3/32" Shank			
	10.01379	10.1379/C		10.01445	10.1445/C		
	-	-		-	-		
	1" x 1/4"	1" x 1/4"		5/8" x 7/32"	5/8" x 7/32"		
	220	220		220	220		
	Dz.	(Box of 100)		Dz.	(Box of 100)		

**3 BLUE (800G)** Fine, soft and flexible. For medium lustre or smooth matte finish. Operating speed range is 5,000 to 10,000 rpm.



Wheel					
No.	10.1364/C	10.01365	10.1365/C	10.01367	10.1367/C
Edge	Square	Square	Square	Knife	Knife
Size	7/8" x 1/8"	7/8" x 1/8"	7/8" x 1/8"	7/8"	7/8"
Grit	800	800	800	800	800
	(Box of 100)	Dz.	(Box of 100)	Dz.	(Box of 100)



Bullet				Cone - Mounted 3/32" Shank			
	10.01363	10.1363/C		10.01437	10.1437/C		
	-	-		-	-		
	1" x 1/4"	1" x 1/4"		5/8" x 7/32"	5/8" x 7/32"		
	800	800		800	800		
	Dz.	(Box of 100)		Dz.	(Box of 100)		

**4 PINK (1200G)** Ultra Fine, soft and flexible for a super high lustre; final finish, medium lustre or smooth matte finish. Operating speed range is 5,000 to 10,000 rpm.



Wheel						
No.	10.01380	10.1380/C	10.01381	10.1381/C	10.01383	10.1383/C
Edge	Square	Square	Knife	Knife	Knife	Knife
Size	7/8" x 1/8"	7/8" x 1/8"	5/8"	5/8"	7/8"	7/8"
Grit	100	100	100	100	100	100
	Dz.	(Box of 100)	Dz.	(Box of 100)	Dz.	(Box of 100)



Bullet				Cone - Mounted 3/32" Shank			
	10.01385	10.1385/C		10.01449	10.1449/C		
	-	-		-	-		
	1" x 1/4"	1" x 1/4"		5/8" x 7/32"	5/8" x 7/32"		
	100	100		100	100		
	Dz.	(Box of 100)		Dz.	(Box of 100)		





### 1 AIRFLEX POLISHERS

For aggressive material removal, these wheels are more flexible than standard heatless wheels. Use on all types of metal, including titanium. The "open-pores" distributed throughout these wheels provide for a cool-running wheel. The large wheels operate at 3000 RPM. The small wheels operate between 5,000 - 10,000 RPM. Sold by dozen.

No.	Shape	Description/Thickness	Grit
10.01421	Wheel	4" x 5/8"	Gray-Medium



### 2 SMALL HIGH-PERFORMANCE POLISHING WHEELS

These long-lasting wheels are excellent for use on precious alloys, platinum, titanium and stainless steel. Made from the finest raw material available. All wheel shapes are 7/8". Medium grit is for smoothing platinum and titanium. Mounted wheels on 3/32" shank. Operating speed range is 5,000 - 10,000 RPM.

No.	Shape	Shank	Description/Thickness	Grit
10.01430	Bullet	Yes	3/16" x 5/8"	Gray-Medium

## SILICON CARBIDE

Grinding stones in a variety of shapes for grinding mild steel, soft metals, such as copper, bronze, gold, silver, etc., and some gemstones.



### 3 SILICON CARBIDE WHEELS

Available in fine (180) and medium (150) grits. The rating on these wheels is not to exceed 8500 RPM.

Fine	Medium	Diameter	Thickness	Hole
11.740	11.741	2"	1/4"	1/4"
11.754	11.755	3"	1/2"	3/8"
11.760	11.761	3"	1/2"	1/4"
11.763	11.764	3"	1/2"	1/2"



### 4 SILICON CARBIDE STONES

Specially shaped for dressing, sharpening and truing wheels that have become rounded or chipped.

No.	Description	Dimensions
11.715	Sharpening stone	4" x 1" x 7/16"
11.716	Dressing and truing stone	6" x 1" x 1"

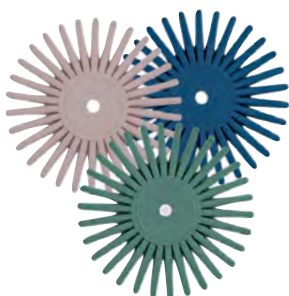
## EVE FLEX TWISTS



### 1 EVE PUMICE TWIST

Each Pumice Twist is imbedded with pumice grain that is evenly distributed to assure uniform results. Pumice Twists are made with the same flexibility as the standard Twists and provide the same high-quality finish.

No.	Description	Pack of 100	
		Size	Color
10.106	Medium	3/4"	Olive
10.107	Fine	3/4"	Grey
10.10601	Medium	5/8"	Olive
10.10701	Fine	5/8"	Grey
10.10602	Medium	1"	Olive
10.10702	Fine	1"	Grey



### 3 EVEFLEX TWISTS BRISTLE BRUSHES

EVE Twists, designed in Germany for polishing precious and non-precious metals, can be used individually or in multiples as a brush or knife-edge. The straight bristles offer versatility – Twists can be used in either direction. The high degree of flexibility and new twist action create the superior finish you are looking for. Pack of 100.

No.	Color	Size	Grit
10.101	Blue	3/4"	100, Extra Coarse
10.102	Grey	3/4"	240, Coarse
10.103	Brown	3/4"	1200, Medium
10.104	Green	3/4"	4500, Fine
10.105	Light Green	3/4"	8000, Ultra Fine
10.10101	Blue	5/8"	100, Extra Coarse
10.10201	Grey	5/8"	240, Coarse
10.10301	Brown	5/8"	1200, Medium
10.10401	Green	5/8"	4500, Fine
10.10501	Light Green	5/8"	8000, Ultra Fine
10.10102	Blue	1"	100, Extra Coarse
10.10202	Grey	1"	240, Coarse
10.10302	Brown	1"	1200, Medium
10.10402	Green	1"	4500, Fine
10.10502	Light Green	1"	8000, Ultra Fine



### 2 EVE DIAMOND TWISTS

EVE Diamond Twists were created specifically for platinum. Each Diamond Twist is imbedded with a diamond formula to insure an even blend. Diamond Twists are made with the same flexibility as the standard Twists and provide the same high-quality finish.

No.	Description	Pack of 10	
		Size	Color
10.108	Medium	3/4"	Green
10.109	Fine	3/4"	Olive
10.110	Extra Fine	3/4"	Grey
10.10801	Medium	5/8"	Green
10.10901	Fine	5/8"	Olive
10.11001	Extra Fine	5/8"	Grey
10.10802	Medium	1"	Green
10.10902	Fine	1"	Olive
10.11002	Extra Fine	1"	Grey



### 4 MOUNTED EVE DIAMOND TWISTS

Available in 14mm & 17mm wheels. Thicker than original twists which give a more evenly polish finish on smooth or rough surfaces. Twists are evenly impregnated with silicone carbide with a Polyethylene binder for extended life and even finishing in 5 different grits. Long lasting, and flexible

5 step grit breakdown: Blue-100, Grey-220-240, Red/Brown-360-400, Green-800, Lt. Green

No.	Color	Size	Grit
10.075	Blue	3/4"	100, Extra Coarse
10.076	Grey	3/4"	240, Coarse
10.077	Brown	3/4"	1200, Medium
10.078	Green	3/4"	4500, Fine
10.079	Light Green	3/4"	8000, Extra Fine
10.085	Blue	5/8"	100, Extra Coarse
10.086	Grey	5/8"	240, Coarse
10.087	Brown	5/8"	1200, Medium
10.088	Green	5/8"	4500, Fine
10.089	Light Green	5/8"	8000, Fine

## NO-LAP ABRASIVE BANDS



### 1 ABRASIVE BANDS

Glue bonded, silicon carbide for fast cutting. Far outlasts lapped bands. All are 1/2" long. Grit textures: COARSE (60); MEDIUM (80); FINE (120).

Grit	Diameter	Box 100	Box of 1000
Fine	1/4"	11.217	11.245
Medium	1/4"	11.218	11.246
Coarse	1/4"	11.219	11.247
Fine	3/8"	11.220	11.248
Medium	3/8"	11.221	11.249
Coarse	3/8"	11.222	11.250
Fine	1/2"	11.223	11.251
Medium	1/2"	11.224	11.252
Coarse	1/2"	11.225	11.253
Fine	3/4"	11.226	11.254
Medium	3/4"	11.227	11.255
Coarse	3/4"	11.228	11.256



### 3 CARTRIDGE ROLLS

Rolled aluminum oxide abrasive material used for polishing and deburring. Use with special mandrels listed below. Sold by pack of 25. Measures 1/2" diameter, 1/8" hole.

Fine	Grit	Medium	Grit	Coarse	Grit	Length
11.01270	180	11.01271	150	11.01272	100	1"
11.01273	180	11.01274	150	11.01275	100	1-1/2"

#### MANDRELS for CARTRIDGE ROLLS

No.	Use with Rolls	Shank Diameter
11.01280	1" long	1/8"
11.01281	1-1/2" long	1/8"
11.01282	1" long	3/32"
11.01283	1-1/2" long	3/32"

### 2 ABRASIVE BAND ARBORS

Rubber heads on 3/32" and 1/8" shanks.

3/32" Shank Diameter	1/8" Shank Diameter	Band Diameter
11.200	11.201	1/4"
11.204	11.205	3/8"
11.208	11.209	1/2"
—	11.211	3/4"

#### ABRASIVE BAND SET

Contains 2 arbors with 1/4" and 3/8" diameter and 3/32" shank and 12 assorted bands.

No.
11.213



### 4 SANGERS® EMERY INSIDE RING SHELLS

The finest made! To smooth and polish the insides of rings. Fits snugly over wood mandrel. Made in both emery paper and longer lasting cloth. Grits from 4/0 (finest) to 3 (coarsest). Packed one dozen per box. Note: Grits are not marked on individual shells.

Grit	Cloth	Paper
4/0	11.310	11.320
3/0	—	11.321
2/0	11.311	11.322
1/0	—	11.323
1	11.312	11.324
2	—	11.325
3	11.313	11.326

#### SANGERS® SHELL ASSORTMENTS

No.	Description
11.317	Cloth, 12 shells in assorted grits
11.330	Paper, 12 shells in assorted grits
11.318	Cloth, 6 assorted shells and wood mandrel
11.331	Paper, 6 assorted shells and wood mandrel





### 1 WOOD MANDREL for INSIDE RING SHELLS

Use with Sangers® emery shells. Drilled to fit on a tapered spindle. Also handy as a holder for polishing rings, chains, etc.

No.	Size
11.333	4-1/4" with 1/8" arbor hole



### 3 SPLIT WOOD MANDREL

Slot holds emery paper so it can be wound around mandrel to desired thickness. Sold by dozen.

No.	Size
11.306	4-1/4" x 1" dia.



### 5 NORTON® METALITE ROLLS

Aluminum oxide, glue-bonded to a cloth backing. Available in 50yd rolls in two convenient widths. Suitable for use in numerous applications: making flaps, regular or tapered cones, and split mandrels. May be used for pre-finishing all materials.

No.	Grit	Size
11.556	120	1" x 50yds
11.557	150	1" x 50yds
11.558	180	1" x 50yds
11.559	220	1" x 50yds
11.560	600	1" x 50yds
11.561	80	1" x 50yds
11.562	120	1 1/2" x 50yds
11.563	150	1 1/2" x 50yds
11.564	180	1 1/2" x 50yds
11.565	220	1 1/2" x 50yds
11.566	80	1 1/2" x 50yds



### 2 WOOD ARBOR

Coat with adhesive and roll in abrasive to form a polishing stick. Has 1/4" arbor hole for tapered spindle mounting. Made of birchwood.

No.	Size
11.266	7"
11.267	6"



### 4 SPLIT MANDRELS for HANDPIECE

Emery paper is wound around mandrel for polishing smaller pieces. With 3/32" shank to fit in handpiece. Sold by dozen.

No.	Size
11.308	Straight 2-1/4" long
11.309	Tapered 2-1/4" long



### 6 ALUMINUM OXIDE FLAP WHEELS

Use these versatile wheels for watch bands or for light de-burring and polishing of non-ferrous metals. They replace hand pads and reduce the need for a finishing operation. Great for satin finishing of steel, and ideal for surface contaminant removal. 4" x 1/2" Sold individually.

No.	Grit
17.865	Extra Fine
17.866	Fine
17.867	Medium
17.868	Coarse

# 1 3M™ 3-RADIAL BRISTLE DISCS

Great for cleaning and maintaining hard to reach areas on platinum, gold, silver, copper, pewter and brass pieces. Embedded mineral abrasive is harder than most metals. Removes oxides without messy compounds. These discs do not generate the same amount of heat as rubber wheels do. Can be used individually, or stacked.

Note: Bristle brushes up to 1" diameter have mandrel hole 1/16" or 1/8". Those of 2" & 3" diameter are to be used with adaptor mount, No. 10.3541.



No.	Grit or Mesh	Diameter	Color	Min
10.3501	80	3/4"	Yellow	48
10.3502	220	3/4"	Red	48
10.3503	400	3/4"	Blue	48
10.3504	Pumice	3/4"	Pink	48
10.3505	6 Micron	3/4"	Peach	48
10.3506	1 Micron	3/4"	Lt. Green	48



No.	Grit or Mesh	Diameter	Color	Min
10.3507	120	9/16"	White	48
10.3508	220	9/16"	Red	48
10.3509	400	9/16"	Blue	48
10.3510	Pumice	9/16"	Pink	48
10.3511	Polish II	9/16"	Peach	48
10.3512	Polish I	9/16"	Lt. Green	48



No.	Grit or Mesh	Diameter	Color	Min
10.3513	36	1"	Brown	24
10.3514	50	1"	Green	24
10.3515	80	1"	Yellow	24
10.3516	120	1"	White	24



No.	Grit or Mesh	Diameter	Color	Min
10.3517	80	2"	Yellow	40
10.3518	120	2"	White	40
10.3519	220	2"	Red	40
10.3520	400	2"	Blue	40
10.3521	Pumice	2"	Pink	40
10.3522	6 Micron	2"	Peach	40
10.3523	1 Micron	2"	Lt. Green	40



No.	Grit or Mesh	Diameter	Color	Min
10.3524	80	3"	Yellow	40
10.3525	120	3"	White	40
10.3526	220	3"	Red	40
10.3527	400	3"	Blue	40
10.3528	Pumice	3"	Pink	40
10.3529	6 Micron	3"	Peach	40
10.3530	1 Micron	3"	Lt. Green	40



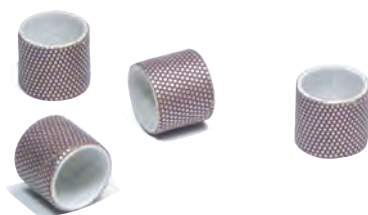
No.	Grit or Mesh	Diameter	Color	Min
10.3531	80	6"	Yellow	1
10.3532	120	6"	White	1
10.3533	220	6"	Red	1
10.3534	400	6"	Blue	1

Package quantity varies.  
See price list or call for details.



### 1 3M™ SPINDLE ADAPTORS

No.	Description
10.3541	3/8" Tapered spindle mount adaptor



### 3 3M™ FLEXIBLE DIAMOND BANDS

Metal-bonded diamond bands cut sanding time in half. Excellent for shaping and carving on metal or stone. Great for quickly removing material on the inside of rings. Use water or coolant with bands to prolong life (try our 19.928 Pro-Cut Lubricant). Diameter on all measures 1/2" x 1/2".

No.	Micron	Grit or Mesh	Color
10.170	250	60	Green
10.171	125	120	Black
10.172	74	200	Red
10.173	40	400	Yellow
10.174	20	800	White



### 5 3M™ VETRAP

Natural latex rubber sticks to itself, not to your skin. It protects skin from burns and abrasions and provides excellent gripping ability for small workpieces. This wrap is light and durable. Individual roll: 2" x 5 yds. Available in 4 colors.

No.	Color
10.3570	Pink
10.3571	Red
10.3572	Green
10.3573	Blue



### 2 3M™ FLEXIBLE DIAMOND HAND FILES

Made of rigid plastic with flex diamond laminated on the filing surface. The best sanding tool on the market and is ideal for hand sanding in small, hard-to-reach areas. Set contains four shapes in Grit 200. 1-1/2" x 3/4" flat, a 1-3/4" x 1/2" flat, a 2-1/2" x 1/4" flat, and a half-round, 1-3/4" x 3/8".

No.	Micron	Grit or Mesh
10.39102	M74	200



### 4 3M™ FLEXIBLE DIAMOND STRIPS

These flexible 3/4" x 7" strips can be wrapped around a dowel or attached to a sanding stick with the pressure sensitive adhesive. Smooths and shapes most materials.

No.	Micron	Grit or Mesh
10.33801	125	120
10.339	74	200
10.340	40	400
10.341	20	800



### 6 3M™ 96 GREEN PAD

New to the Scotchbrite family. Medium grade 3M 96 green pad leaves a smooth, satin finish and no scratches.

No.
10.301

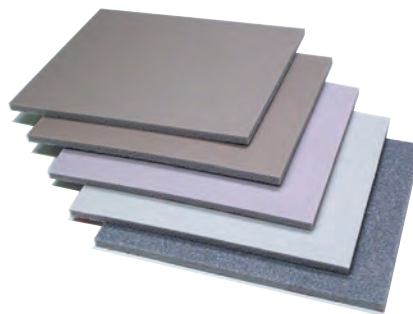




### 1 3M™ SCOTCHBRITE™ HAND PADS

Excellent for hand finishing of metals and composites. Used for wood finishing, paint prep, and general cleaning. Available in four grades as shown. Size is 6" x 9"

No.	Grade	Color
10.302	Super Fine	White
10.303	Medium	Tan
10.304	Very Fine	Maroon
10.305	Ultra Fine	Gray



### 2 3M™ SANDING SPONGES

These closed-cell foam rubber sanding pads are great for working with platinum, and flexible enough to conform to almost any contour or surface. Can be folded or trimmed to fit into small spaces. Can be used wet or dry. Micron-graded aluminum oxide abrasives make them safe for a variety of applications. Size is 4-1/2" x 5-1/2" x 3/16".

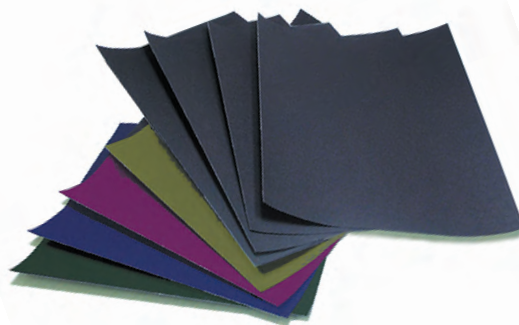
No.	Grade	No.	Grade
10.295	Micro Fine	10.298	Fine
10.296	Ultra Fine	10.299	Medium
10.297	Superfine		

## 3M™ FILM SHEETS AND POLISHING PAPER

### 3 MICROFINISHING FILM SHEETS

Use these 8-1/2" x 12" sheets wet or dry. The micron grading technique produces particles of exactly the same size and shape so that you get consistent finishing every time.

No.	Micron	Grit or Mesh	Color
10.332	9	1200	Lt. Blue



### 4 WET or DRY™ POLISHING PAPER

Get around almost any contoured surface with these 8-1/2" x 11" polishing papers. Soft, cloth-like backing and precise micron grading provide a unique, consistent finish. Can be used wet or dry.

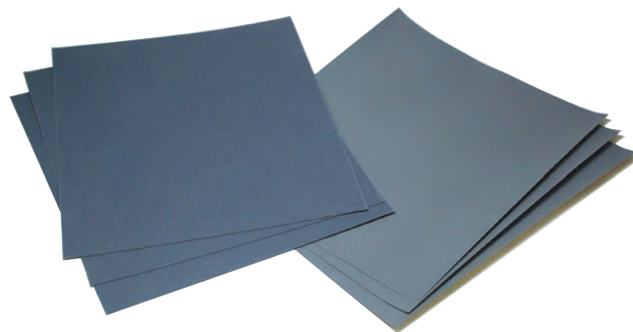
No.	Micron	Grit or Mesh	Color
10.274	30	400	Green
10.275	15	600	Gray
10.276	9	1200	Blue
10.277	3	4000	Pink
10.278	2	6000	Mint
10.279	1	8000	Pale Green



## 1 3M™ IMPERIAL™ WET or DRY ABRASIVE SHEETS

Special resin-over-resin bonding technique resists heat and holds the abrasive particles to give you a more uniform cut. Highly wear-resistant and waterproof. All sheets are silicon carbide and can be used wet or dry. The lowest grit is the coarsest. Sheets are 9" x 11".

No.	Grit	No.	Grit
10.284	180	10.290	1000
10.285	220	10.291	1200
10.286	280	10.292	1500
10.287	320	10.293	2000
10.288	400	10.294	2500
10.289	600		



## 2 3M™ ROLLS

Metalite abrasive roll for use on a sanding drum.

No.	Grit	Size
11.560902	240	1-1/2" x 50yds
11.560903	320	1-1/2" x 50yds
11.560904	600	1-1/2" x 50yds



## 4 3M™ CLEAN and FINISH WHEELS

Aluminum oxide wheels provide a uniform satin finish. Wheels can be stacked to build thickness you need. These wheels work fast to give you the right cut every time. 1/4" thick. Hole size 1/8".

Part No.	Grit or Mesh	Diameter
10.311	Medium	6"
10.312	Fine	6"
10.313	Very Fine	6"

## 3 3M™ SCOTCHBRITE™ DEBURRING and FINISHING WHEELS

Well suited for a wide range of deburring and finishing jobs. Superior performance on stainless steel, titanium and high nickel alloys. The "convolute", or "wrapped", construction is widely used for fine deburring and polishing because of conformability. Wheels will maintain critical tolerances and provide a highly polished finish. Use to debur fine threads, finish prior to buffing or for conditioning a soft metal surface before welding. Maximum RPM - 6,000.

Part No.	Grade	Diameter/Thickness/Hole	Color
10.3562	7S Fine	6" x 1" x 1"	Gray
10.3563	8S Fine/Medium	6" x 1" x 1"	Gray



## 5 3M™ CUT and POLISH UNITIZED WHEELS

Unitized, or "layered" construction provides an excellent starting point where small diameters and narrow widths are needed in heavy duty blending and finishing jobs. Use instead of rubber bonded wheels. Maximum RPM - 18,100.

Part No.	Grade	Diameter/Thickness/Hole	Color
10.3559	5A Fine	3" x 3/4" x 1/4"	Tan

## 3M™ PARTICULATE AND WELDING RESPIRATORS

Innovative respirators from 3M feature patented technologies. The N95 classification means 95% of particles down to 0.3 microns are screened out. Observe manufacturer recommendations regarding usage.

### Features:

**A.) Cool Flow Exhalation Valve:** Patented one-way valve for easy exhalation and cool, dry comfort.

**B.) M-Noseclip:** Adjusts easily for fewer pressure points and greater comfort.

**C.) Electret Media:** Advanced electrostatically charged microfibers help make breathing easier and cooler.

**D.) 3M Welding Web:** Fiber media is flame resistant. Not a substitute for a faceshield.



**1 RESPIRATOR - 3M™ 8511**



**2 WELDING RESPIRATOR - 3M™ 8515**



**3 PARTICULATE RESPIRATOR - 3M™ 9211**  
Flat folding.

No.	Features Included
10.387	A, B, C

No.	Features Included
10.388	A, B, C, D

No.	Features Included
10.389	A, B, C

## 4 MIZZY HEATLESS® WHEELS

Used for deburring and finishing. Hard, square-edged wheels. Loose, coarse construction. Keeps the grinding process cool and suitable for materials such as plastic and metal. Can be used to produce a matte finish. With pin-hole for mounting on mandrel. The wheels may be trued with a file. See price list for details. Regular grit contains Silicon Carbide.



No.	11.426	11.427	11.428	11.429	11.430	11.431	11.432	11.433	11.434	11.435	11.436	11.437	11.438	11.439	11.440
Diameter	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"	7/8"	7/8"	7/8"	1"	1"	1"
Thickness	3/32"	1/8"	3/16"	3/32"	1/8"	3/16"	3/32"	1/8"	3/16"	3/32"	1/8"	3/16"	3/32"	1/8"	3/16"

## 5 MIZZY HEATLESS® WHEELS (WHITE)

White grit contains Aluminum Oxide.



No.	11.427WH	11.430WH	11.434WH	11.436WH	11.438WH	11.439WH
Diameter	1/2"	5/8"	3/4"	7/8"	1"	1"
Thickness	1/8"	1/8"	3/16"	1/8"	3/32"	1/8"



## 1 POLISHING STICK and STRIPS

Plastic handle, 10-1/2" long, holds strips of emery paper or cloth 11" x 1". Strips can easily be replaced. Supplied with 2 strips, grit 120 and 240.



No.	Included
11.350	Stick and strips
11.351	Emery refills in 12 assorted grits

## 2 FLAT EMERY STICKS

Emery paper glued to wood handles, 11" long x 3/4" wide. Grits from 4/0 (finest) to 4 (coarsest). Sold by the dozen.



No.	11.340	11.341	11.342	11.343	11.344	11.345	11.346	11.347
Grit	4/0	3/0	2/0	1/0	1	2	3	4

## 3 GROBET USA™ EMERY PAPER SHEETS

Excellent small particle adhesion provides superior surface finishing. Specially processed micro grains provide additional cutting surfaces for fast material removal. Various grits available. Sold in boxes of 100. Size 9" x 13-3/4"



No.	11.293	11.294	11.295	11.368	11.369	11.370	11.371	11.372	11.373	11.374	11.375	11.377	11.376
FEPA (P-Grade)													
Europe	P500	P280	P240	P1200	P1000	P800	P600	P500	P400	P280	P240	P220	P180

## 4 ALUMINUM OXIDE PAPER

9" x 13-3/4"

No.	Grit
11.274	1500



## NORTON® EMERY CLOTH & PAPER

### 1 METALITE EMERY CLOTH

Cloth sheets 9" x 11" with extra sharp particles for faster cutting. Sold individually.

No.	Grit
11.276	#320
11.277	#240
11.278	#180

### 2 EMERY CLOTH

Cloth sheets 9" x 11" with grits from fine to coarse. Sold individually.

No.	Grit
11.269	Fine
11.270	Medium
11.271	Coarse

### 3 EMERY PAPER

Sheet size 9" x 13-3/4". Grits from 4/0 (finest) to 3 (coarsest). Sold individually or by box of 100.

Grit	Mesh	Individual Sheets	Box of 100
4/0	800	11.0776 4/0	11.368
3/0	600	11.0776 3/0	11.369
2/0	500	11.0776 2/0	11.370
1/0	400	11.0776/0	11.371
1	280	11.0776/1	11.374
2	240	11.0776/2	11.375
3	180	11.0776/3	11.376

## SANTAPER STICKS & BELTS

Fast, easy, economical way to reach detailed, hard-to-reach areas. Plastic stick, tapered at the end, holds a replaceable 1/4" wide sanding belt. The aluminum oxide belt is held in place by a patented spring-loaded mechanism that allows the belt to be rotated 360°. Rotating the belt exposes a new sanding surface and allows the entire belt to be used.



### 4 SANTAPER STICKS

Sold individually.

No.	Color	Grit
11.571	Red	120
11.572	Blue	240
11.573	Green	320
11.574	Yellow	400
11.575	Black	600



### 5 SANTAPER BELTS

Sold by pack of 10.

No.	Grit
11.576	120
11.577	240
11.578	320
11.579	400
11.580	600

### SANTAPER KIT (not shown)

Includes three sticks and fifteen belts, three each of all five grits. No. 11.570

## 1 DIAMOND ROUGHING TOOL

Extremely durable grinding and texturing diamond wheel will endure a long period of high-speed use. Mandrel with 1/8" shank included.

No.	Dimensions
11.142	5/8" x 1/8"

## 2 DIAMOND FLYWHEELS

Create interesting, unusual, and beautiful jewelry designs. Use with a high-speed handpiece up to 35,000 RPM to form faceting cuts, backgrounds, etc. Tool contains finest grade of diamond set in steel. Diameter of diamond is 5/64".

4mm						
No.	11.088	11.090	11.092	11.094	11.096	11.098
Description	90° Angle	120° Angle	130° Angle	150° Angle	Flat	180° Angle

3mm						
No.	11.089	11.091	11.093	11.095	11.097	11.099
Description	90° Angle	120° Angle	130° Angle	150° Angle	Flat	180° Angle



Special shapes available on request. Not returnable.

## 3 DIAMOND POINTS MOUNTED on 3/32" SHANKS

Long-lasting, high-quality industrial grade diamond points. Highly effective for fine detail work: carving ceramics, enlarging holes, and carving of all types. Use with a light touch at 10,000 RPM. 120/140 Grit.

### Round

No.	11.126	11.108	11.109	11.134	11.110
Style	H11	H12	H13	H14	H14B

### Inv. Cone 75°

No.	11.127	11.123	11.124	11.125
Style	H34	H33	H35	H36

### Flat Cylinder

No.	11.114	11.115	11.116	11.128
Style	H20	H21	H22	H23

### Inv. Cone

No.	11.129
Style	H17

### Sq. Wheel

No.	11.121	11.122	11.130
Style	H28	H29	H30

### Flat End Taper

No.	11.131	11.113	11.136	11.119
Style	H27	H18	H19	H26

### Round End Taper

No.	11.120
Style	H27R

### Tapered Cone

No.	11.132	11.118
Style	H32	H34

### Flame

No.	11.133
Style	H25

### Knife

No.	11.137
Style	H31

**IMPORTANT! KEEP SHANKS LUBRICATED TO AVOID OVERHEATING.  
IMPORTANT! TOOLS MUST BE USED WITH HIGH-SPEED HAND PIECE.**

# *Adhesives*





## SUPER GLUE CORP.

- Formulated with the jewelers' needs in mind
- Excellent adhesion
- Chemical and heat resistant
- Improves your processing convenience
- Select the formula tailored to your job

### 2 SUPER GLUE QUICK FIX

Original formula super glue. Use for bonding. Extra-strength adhesion on clean metal surface. Precision applicator and extended tip reach even the smallest and tightest areas. Packed in no-waste, reusable airtight container. May also be used for rubber and plastic applications.

No.

12.176



### 1 SUPER GLUE EPOXY

5-minute quickset epoxy. Exceptional adhesion for metal, glass, ceramic, and plastic. 1200 psi strength.

No.

12.175



### 3 SUPER GLUE GEL ACCUTOOL

Take charge of your gluing application with Super Glue Gel. The same original Super Glue formula is now in gel form. Use this gel for porous surfaces and vertical applications. Save money by using the exact amount of glue you need. With this revolutionary, easy-to-use AccuTool precision applicator with self-piercing cap, you can apply one drop or a continuous stream. No mess – your fingers stay dry and clean.

No.

12.177



### 4 SUPER GLUE ACCUTOOL

Super Glue in the AccuTool applicator with self-piercing cap. Cyanoacrylate bonding made easy with this new, revolutionary easy-to-use applicator. Save money by using the exact amount of glue you need. Apply one drop or a continuous stream. No mess – your fingers stay dry and clean.

No.

12.178

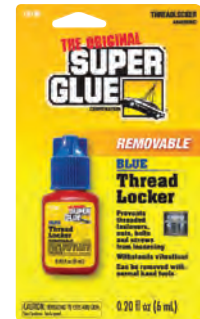


### 5 SUPER GLUE THREAD LOCKER

The glue that withstands vibrations. Use the original Super Glue Blue Thread Locker to prevent threaded fasteners, nuts, bolts and screws from loosening. Use normal hand tools to release the bond.

No.

12.179



### 6 SUPER GLUE FUTURE GLUE GEL

Future Glue Gel takes bonding to a new level. Use this high performance Future Glue Gel for metal bonding and pottery repair without cleaning the item. The same original Super Glue formula in gel form works on multiple surfaces – porous and non-porous – including oily and dirty surfaces. Great for vertical applications too. Bonds instantly – faster than other super glues. Works well on leather and rubber too.

No.

12.181



### 7 SUPER GLUE FUTURE GLUE

Join the next generation. Place High Performance Future Glue on your bench and stop worrying about bonding metals that are oily or dirty. Future Glue bonds instantly and also works on porous and non-porous surfaces – cardboard, corkboard, rubber. The handy self-piercing tube eliminates waste.

No.

12.182



**Important! Cyanoacrylate-based adhesives are eye irritants and will also bond body tissue in seconds. Follow all label information and do not allow adhesive to contact skin or eyes. These adhesives must always be stored in a cool, dry place. Shelf life normally 24 months. Keep out of the reach of children.**

**1 VIGOR® JEWELER'S EPOXY**

For making and repairing jewelry. Will not shrink and is unaffected by water, oil or gasoline. Clear, permanent bond sets in 5 minutes. Withstands temperatures up to 175°F.

No.

12.0451

**VIGOR® SUPER GLUES**

- Strong cyanoacrylate adhesive bonds any combination of metal, plastic, rubber, ceramic, or glass
- Sets and cures rapidly at room temperature
- Requires no surface treatment beyond cleaning
- High resistance to chemicals and low temperatures
- Bond is colorless and transparent with almost no shrinkage
- Low viscosity ensures smooth spreading over entire bonding area using a minimum amount of glue



A.



B.



C.



D.

**45/60 Series — Setting time of 45-60 seconds**

No.	12.215	12.216	12.217	12.218
Size	2-Gram Tube	2-Gram Tubes - 5 Pk.	20-Gram Bottle	2-Gram Pen



E.



F.



G.

**10/20 Series — Setting time of 10-20 seconds**

No.	12.219	12.220	12.221
Size	2-Gram Tube	2-Gram Tubes - 5 Pk.	20-Gram Bottle

**Important! Cyanoacrylate-based adhesives are eye irritants and will also bond body tissue in seconds. Follow all label information and do not allow adhesive to contact skin or eyes. These adhesives must always be stored in a cool, dry place. Shelf life normally 24 months. Keep out of the reach of children.**

## MASCOT® ADHESIVES

Made in USA.



### 1 EPOXY 330

EPOXY 330 is a water clear epoxy system. Good for assembly of stones to metal findings. EPOXY 330 has a fast setting time. Will harden in about 1 hour at room temperature and in about 10 minutes under a heat lamp.

No.

12.210



### 2 MASCOT® INSTANT ADHESIVE

High performance, extended range cyanoacrylate adhesive bonds metals, most plastics, rubber, ceramics and glass. Requires only a clean surface. Bonds colorless and sets in about 30 seconds. Gel, No-drip formula fills gaps and is ideal for use on vertical surfaces. Supplied in 10 oz. tubes. Sold individually.

No.

12.214

## SPECIALTY ADHESIVES



### 3 DIAMOND SETTER'S CEMENT

Melted and applied to a wooden dowel, it securely holds bracelets and rings for setting.

No.

12.208

Dimensions

4" x 4" x 5/16"



### 4 CRYSTAL CEMENT

Provides excellent bond between plastic or glass watch crystal and bezel without flaking or cracking. Convenient tube with pin-point applicator.

No.

12.205



### 5 SUC ROCKET CEMENT

Quality adhesive cement can be used on unbreakable crystal or foil back jobs. Pin point applicator ensures accurate dispensing.

No.

12.206



### 6 3M™ FEATHERING DISC ADHESIVE TYPE 2

Pressure-sensitive adhesive holds firmly and peels away easily for quick interchange of discs.

No.

10.333



### 7 SEALING WAX

Excellent as a setter's cement. Also, seals packages and envelopes securely and efficiently. Melting point 170°. Box contains four 1/4 lb. red sticks.

No.

12.225



### 8 CHASER'S CEMENT

Melts easily and is used to attach items in boxwood slips for engraving. Can be cleaned with alcohol. Sold in bar form. Two 1/2 lb. bars per box.

No.

12.203



### 9 SHELLAC STICKS

Use the opaque stick to set jewels and stones or to hold work temporarily. The transparent stick inconspicuously fills holes, dents, and scratches. Heat to apply. Sticks are 7" long.

No.

12.230

Description

Opaque stick

12.231

Transparent stick

### 10 ORANGE SHELLAC

Orange flake shellac holds objects for chasing, engraving, or setting. Heat to apply.

No.

12.227

Size

6 oz.

12.228

5 lb.



**Important! Cyanoacrylate-based adhesives are eye irritants and will also bond body tissue in seconds. Follow all label information and do not allow adhesive to contact skin or eyes. These adhesives must always be stored in a cool, dry place. Shelf life normally 24 months. Keep out of the reach of children.**



A close-up, vertical stack of several spools of beading thread. The threads are in various colors: white, green, yellow, blue, red, and purple. The spools are made of white plastic. The threads are tightly wound and have a slight sheen. The background is a solid blue gradient.

# *Beading*



## PLIERS

BeadCraft™



### 1 MAGICAL CRIMPING PLIERS

This unique patented tool was created exclusively for use with 2mm sterling silver and gold-filled tubular crimp beads. Just a few easy steps will form a 2mm crimp into a more appealing round bead! Designed exclusively for use with .014-.015" diameter Flex Wire.

No.	Size
46.625	.018 - .019
46.626	.014 - .015
46.627	.018 - .019 Ergo
46.628	.014 - .015 Ergo

### 2 BEAD CRIMPING PLIERS

A revolutionary hand tool that allows you to form smooth, unobtrusive crimps. Eliminates the unsightly sharp-edged crimps that result from traditional methods. Works equally well with either round or tube crimps. Length is 5-1/2" (130 mm).

No.	Size
46.411	2 to 3mm Beads
46.415	3mm and Larger Beads

### 3 BEAD HOLDING PLIERS

Stronger than tweezers!  
Jaws are designed to hold beads securely.

No.	Size
46.416	5"

### 4 BEAD PLIERS 4 in 1

Features a tapered nose for coiling and flat jaw for straightening, flattening, and bending. A side cutter and a groove for closing coils and jump rings.

No.	Size
46.417	5"

### 5 SPLIT RING PLIER

These pliers are perfect for bead stringing and assembly operations. Just insert tooth onto the side of the ring and squeeze gently.

No.	Size
46.140	5-1/4"

### 6 WIRE LOOPING PLIERS

Three tier design for forming three loop sizes. Lower jaw concave and fits over looping jaw to allow for easy bending.

No.	Size
46.070	5-1/2"
46.141	with Spring

## PLIERS

BeadCraft™

### 1 LOOP CLOSING PLIERS

Jaws are shaped and smoothly finished to close loops, jump rings, bracelet links, bows, etc., without distorting or scratching. With box joint and cushion grip handles.

No.	Overall Length
46.0057	4-1/2"



### 2 ROSARY PLIERS

Combination round nose and side cutter. Use for making loops, bends and cutting wire without changing tools. Item 46.190 is a high quality precision plier. Item 46.071 is standard quality.

No.	Overall Length
46.071	5-1/4"
46.190	5-1/4"



### 3 WIRE TWISTING PLIER

One-pull action and auto return twists wire into a strand.

No.	Size
46.375	9"



## FORMING PLIERS

Stainless steel construction. These box-joint pliers are made to top quality standards. Long lasting, dependable for all your bending and forming needs.

### 4 CONCAVE - CONVEX PLIER

Used for shaping intricate wire designs. Also, used to shape earring wire and bend ring shanks.

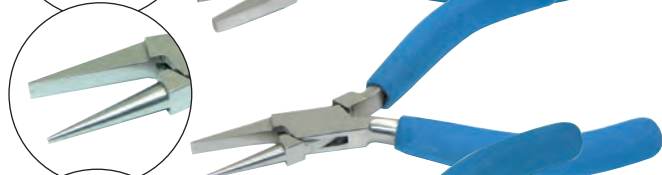
No.	Size
46.135	5-1/4"



### 5 ROUND-FLATNOSE LOOPING PLIER

Used to shape, hold and form wire.

No.	Size
46.136	5-1/2"



### 6 FLAT-HALF ROUND BENDING PLIER

Perfect for bending and shaping flat metal and wire.

No.	Size
46.137	5-1/4"



### 7 ROUND-CONCAVE BENDING PLIER

Designed for jump rings and other small rings. Perfect for loops and bends in wire and flat metal.

No.	Size
46.138	5-1/2"



## NYLON JAW PLIERS

High quality nylon jaw stainless steel pliers are a must when working with delicate wire. Choose from the large selection of nylon jaw pliers. Perfect for all your wire projects!



### 1 NYLON COILING PLIERS

Double nylon jaw pliers are perfect for craftwire. Will not mar or scratch making it perfect for wire projects.

No.	Shape
46.5751P	Round
46.5752P	Round/Flat
46.5753P	Flat

### 2 NYLON STRAIGHTENING PLIERS

Nylon jaws are excellent for holding wire, straightening and wire wrapping.

No.	Shape
46.5762P	Flat - Tapered 9 mm - 5 mm
46.5767P	Wide Flat 10 mm

### 3 NYLON WIRE BENDING PLIERS

Perfect for re-shaping and bending wire. Nylon jaws prevent marring and scratching.

No.	Shape
46.5770P	—
46.5772P	Groove

### 4 NYLON WIRE SHAPING PLIERS

Used for re-shaping and bending wire. Nylon jaws prevent marring and scratching.

No.	Shape
46.5721P	—
46.5720P	Mini

### 5 NYLON BRACING PLIERS

Nylon bracing pliers perfect for holding work in place without marring and scratching.

No.	Shape
46.5722P	Vertical
46.5723P	Horizontal

# CUTTERS

## 1 BEADING SHEERS

This economical shear-action cutter is indispensable for anyone involved with bead stringing. It easily cuts regular bead cord and "Tigertail." Comfortable grip handles.

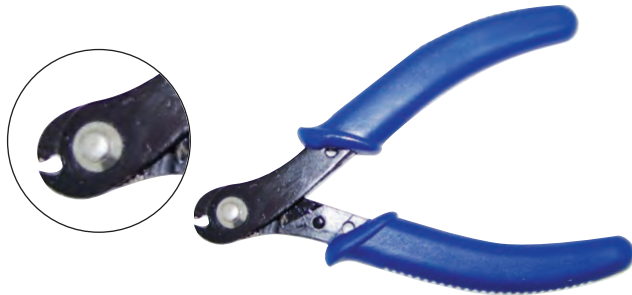
No.	Overall Length
46.573	4-1/2"



## 2 MEMORY WIRE CUTTERS

Quickly and easily make clean cuts in memory wire.

No.	Size
46.572	5"



## 3 FLUSH CUTTERS

This cutter is perfect for cutting soft wire or thread.

No.	Size
46.571	5"



## 4 SEMI FLUSH CUTTER

Great tool for cutting wires used in crafting and jewelry.

No.	Size
46.148	5-1/2"



## 5 MICRO SNIP

The perfect tool for bead stringing and thread snipping. Well-tempered steel with very sharp edges. Unique reflex action makes light work fast and easy.

No.	Size
46.555	4" (102 mm)



## 6 SHARP POINT BEAD STRINGING SCISSORS

For reaching into tight places to snip cord.

No.	Size
53.201	3-1/2" (89 mm)





## KNOTTING TOOLS

BeadCraft™



### 1 KNOTTING TOOL

Creates secure, uniform knots. Useful for stringing pearls and other types of beads. Includes instructions with diagrams.

No.	Size
38.140	5-7/8"



### 2 TRI-CORD™ KNOTTING TOOL

An easy way to increase your bead and pearl stringing creativity.

No.	Size
38.01910	5-1/2"



### 3 BEADING AWL STAINLESS STEEL

Knotting needle for beading.

No.	Size
15.180	5-3/4"



### 4 BEADING AWL STAINLESS STEEL

Knotting needle for beading. Wood handle.

No.	Size
15.175	Length 6"



### 5 MICRO-MINI BEAD KNOT PLIER

Perfect pliers to knot bead cord. For use with heavier bead cord.

No.	Size
46.145	5-1/4"



### 6 KNOTTING TWEEZERS

For holding and tying knots.

No.	Size
57.821	Length 4-1/4" (108 mm)



### 7 PATTERN NO. 5

Similar to pattern No. 4, except but has very narrow needle-like points.

No.	Size
57.0755	Length 4-1/2" (114 mm)



### 8 PATTERN NO. 1

For general use, assembly, inspection, sorting. Tweezers feature tapered shanks with beveled edges, and sharp, plain-finished points.

No.	Size
57.0651	Length 4-3/4" (121 mm)

HOLDERS



1 PEER® PEARL-HOLDING TWEEZERS

Tips are cup-shaped to hold small round objects.

No.	Size
57.641	Length 4-1/2"



3 TWEEZER with SHOVEL

Excellent for handling diamonds, pearls and other precious gemstones.

No.	Size
51.099	Length 6-1/2"



2 PEARL/BEAD TWEEZER

Cup shaped coated tips. Stainless steel.

No.	Size
57.0346	Length 6-1/4"



4 WOOD HOLDER for BEADS

Will not scratch beads. Securely holds beads during cleaning and drilling. Diameter of the 3 outer holes measure: 9.17mm, 5.12mm, and 2.8mm. Diameter of the 3 inner holes measure: 8.92 mm, 6.23mm, and 4.61mm.

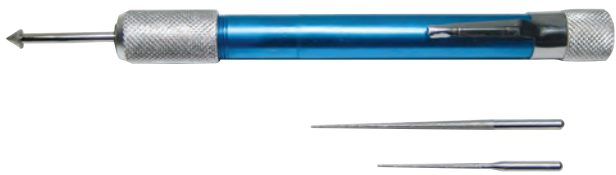
No.	Size
57.9000	Length 7"

5 SHOVELS with HANDLES

Excellent for handling diamonds, pearls and other precious gemstones.

No.	Description
51.095	Nickel-plated with chrome finish
51.0552	Non-reflective black finish





**1 BEAD REAMERS SET**

Diamond bead reamer comes with an aluminum handle and includes three diamond tips. Small, Large, and 45° Edge Reamer.

No.	Size
15.181	5-1/4"



**3 DIAMOND REAMER 45° ANGLE**

Replacement diamond reamer tips, 45° Angle.

No.	Size
15.184	1-3/4"



**2 REPLACEMENT DIAMOND REAMER TIP**

No.	Size
15.182	Small



**4 4 PIECE BEAD REAMER SET**

Diamond tipped reamers are perfect for use on glass, ceramic, and stone beads. Includes long short, round and edge tips.

No.	Size
15.190	2-7/8" handle

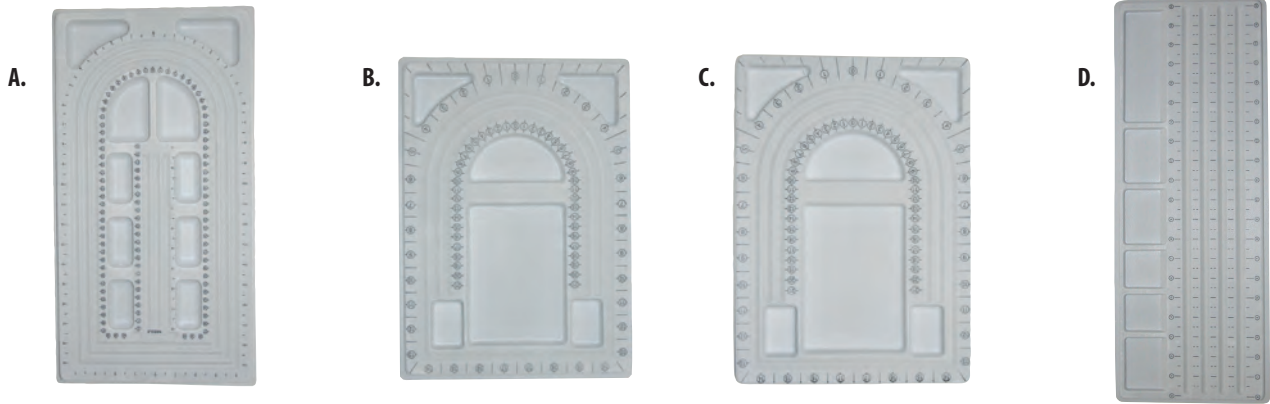


**5 BEAD REAMER with REPLACEMENT TIPS**

Bead reamer includes 4 interchangeable bits. Made with an aluminum handle.

No.	Size
15.191	4-1/2"

# BEAD BOARDS



## 1 BEAD BOARDS

Flocked grey bead boards are perfect for all your bead stringing projects.

	A.	B.	C.	D.
No.	38.120	38.121	38.122	38.124
Size	3-40"	3-28"	3-28"	4-20"
Style	U-Channel	U-Channel	U-Channel with Lid	Straight Channel



## 2 BEAD STRINGING BOARDS

Align beads prior to stringing. Grooves are perfectly spaced for organizing work.

No.	Style	Size
38.100	Wood	14-1/2" x 4"
38.105	Plastic	8-3/4" x 13-1/4"



## 4 STICKY BEAD MAT

Ideal for keeping small beads and parts right where you want them. May be used as a mini bead board to arrange small jewelry pieces before stringing. When the mat starts to gather dust or debris, simply rinse it with water and let it dry. It will refresh and become as sticky as when it was new!

No.	Size
38.131	3-1/4" x 5-1/2"



## 3 BUGEL BEAD TRAY LIQUID SILICON

Perfect for aligning long bugel beads.

No.	Size
38.125	7" x 4" x 1/2"



## 5 WOOD SORTING TRAY

Perfect for aligning beads prior to stringing. Strong wood construction proves to be long lasting.

No.	Style	Size
38.01287	Wood	22" x 4"



## STORAGE



### 1 SORTING TRAYS

These handy trays are useful for sorting, organizing, aligning, stringing beads, pearls, gems, and so much more. Sorting Trays available in Black or White.

No.	61.468	61.469
Style	Grooved Tray	Grooved Tray
Color	Black	White
Dimensions	7-5/8" x 4" x 1/4"	7-5/8" x 4" x 1/4"



No.	61.470	61.471
Style	Tray w/Neck	Tray w/Neck
Color	Black	White
Dimensions	6-3/4" x 3-1/4" x 3/8"	6-3/4" x 3-1/4" x 3/8"



No.	61.472	61.473
Style	Large Tray	Large Tray
Color	Black	White
Dimensions	6-1/4" x 4-1/8" x 1"	6-1/4" x 4-1/8" x 1"



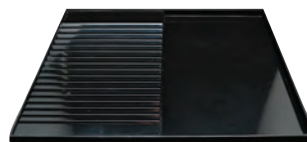
No.	61.474	61.475
Style	Small Tray	Small Tray
Color	Black	White
Dimensions	4" x 2-7/8" x 3/4"	4" x 2-7/8" x 3/4"



No.	61.476	61.477
Style	Triangle Tray	Triangle Tray
Color	Black	White
Dimensions	3" x 3" x 3" x 1/2"	3" x 3" x 3" x 1/2"



No.	61.478	61.479
Style	Table Top Tray	Table Top Tray
Color	Black	White
Dimensions	11" x 9-7/8" x 1/2"	11" x 9-7/8" x 1/2"



No.	38.102	38.103
Style	Tray w/Neck	Tray w/Neck
Color	White	Black
Dimensions	7" x 3-3/4"	7" x 3-3/4"

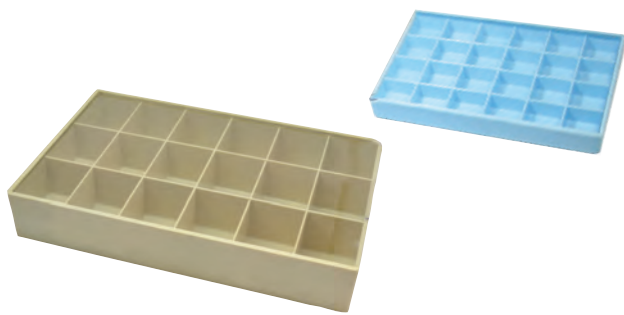


### 2 ROUND PLASTIC TRAYS

Spinning top opens one compartment at a time so parts will not spill or mix.

No.	15.612	15.613
Style	12 Compartments	20 Compartments
Diameter	3-1/2"	7-1/2"





**1 PLASTIC TRAY with SLIDE**

Sliding top opens one compartment at a time so parts will not spill or mix.

No.	Dimensions	Compartments
15.201	10-3/8" x 6-5/8" x 1-5/8"	18
15.202	7-1/2" x 4-7/8" x 7/8"	24



**3 SMALL PLASTIC BOXES**

Great, inexpensive way to store parts safely.

No.	Dimensions
15.128	1-7/8" x 1-7/8" x 3/4"
15.129	1-1/8" x 1-1/8" x 3/4"
15.130	1" x 1" x 3/4"
15.131	1" x 2" x 3/4"
15.132	2" x 2" x 3/4"



**5 PLASTIC BOTTLES with PLASTIC TOPS**

Perfect for storing parts. Sold by the dozen.

No.	Dimensions
15.112	15/32" x 1-7/32"
15.113	5/8" x 1-1/2"



**2 PLASTIC BOXES with COMPARTMENTS**

For storing abrasives, small parts and mandrels.

No.	Dimensions	Compartments
15.136	4-3/8" x 2-5/8" x 1"	6
15.137	8-1/4" x 4-1/4" x 1-1/4"	12
15.139	10-3/4" x 6-3/8" x 1-3/4"	18
15.140	8-1/4" x 4-1/8" x 1-1/4"	18



**4 STACKABLE ROUND TRAY (SET x6)**

Trays have threaded bottoms that securely screw to the tray below allowing access to any tray at any level. Translucent plastic.

No.	Dimensions
15.148	1" H x 2" W



**6 GLASS BOTTLES with SCREW TOP**

Ideal for storing small parts. Sold by the dozen.

No.	Dimensions
15.108	19/32" x 1-13/16"



**1 BLUE MINI TRAVEL BOX**

Great for beads and findings! Create 12-26 compartments with 14 removable dividers. Compact side-by-side design. Removable transparent inner lids prevent items from mixing. Convenient carry strap and sturdy snap-lock closure.

No.	Dimensions
15.164	4-3/4" x 4-1/4" x 1-1/2"



**2 BEAD TRAVELER**

26 compartment travel case features durable plastic click close compartments and handy strap for easy carrying.

No.	Bag Dimensions	Box Dimensions
15.163	13" x 7-1/2" x 11-1/2"	10-3/4" x 7" x 1-3/4"



**3 KEEPER BOX**

Designed with a snug-fit track to keep beads or other small items from spilling from one compartment to another. All compartments feature rounded bottoms.

No.	Size	Dimensions	Compartments
15.160	Small	7-3/8" x 5-1/4" x 1-3/4"	9
15.161	Medium	10-3/4" x 7-1/2" x 1-3/4"	20
15.162	Large	13" x 7-1/2" x 1-3/4"	20

**4 STORAGE CABINET 64 DRAWER**

64 equal compartments, 2-1/4"W x 1-1/2"H x 5-1/4"D each.

No.	Dimensions
15.002	20"W x 15-3/4"H x 6-3/8"D



# ADHESIVES

See our complete line of Adhesives on pages 30-32.



## 1 VIGOR® SUPER GLUE

Strong ethyl adhesive bonds any combination of metal, plastic, rubber, ceramic, or glass.

No.	Description
12.215	2 Gram (.07 fl oz.) tube



## 3 EPOXY 330

EPOXY 330 is a water clear epoxy system. Good for assembly of stones to metal findings. EPOXY 330 has a fast setting time. Will harden in about 1 hour at room temperature and in about 10 minutes under a heat lamp.

No.	Description
12.210	1/2 fl oz. each



## 5 SYNTHETIC BEESWAX

When rubbed on surface, leaves a film on which design can be marked. Also used as a lubricant for sawblades and wire drawing.

No.	Description
26.100	1 oz. (28 g) tube



## 2 CRYSTAL CEMENT

The needle-like applicator tip puts small amounts of cement where it's needed. Prevents bead cord from fraying.

No.	Description
12.205	1 oz. tube



## 4 SUPER GLUE EPOXY

Use when extra positioning time is needed. 30-minute delayed setting time gives you that extra time to position your piece accurately. Exceptional adhesion for metal, glass, ceramic, and plastic.

No.	Description
12.175	1 oz.



## 6 ATTACK GLUE DISSOLVING

Dissolves cured epoxy and polyester resins to allow quick and easy separation of misaligned materials. Also good for cleaning cured resins from metal, stone, glass, wood and many other materials.

No.	Description
38.325	8 fl. oz. can



## BEAD STRINGING



### 1 BEADING NEEDLES

50 needles per pack.



No.	38.0907	38.0908	38.0909
Size	Small	Medium	Large
Color	Brass	Brass	Brass



No.	38.0912	38.0913
Size	Medium	Large
Color	Stainless Steel	Stainless Steel

### 2 FRENCH WIRE

14" per pack.



No.	68.105	68.106	68.107	68.108	68.110
Size (mm)	0.7	0.9	1.0	1.1	1.8
Color	Silver	Silver	Silver	Silver	Silver



No.	68.111	68.112	68.113	68.114
Size (mm)	0.7	0.9	1.0	1.1
Color	Gold	Gold	Gold	Gold



### 3 CLEAR ELASTIC STRETCH CORD

Great for making stretch jewelry. Provides the perfect elasticity without snapping or losing it's form. Available in two lengths.

No.	68.120	68.121	68.122	68.123	68.124	68.125
Size	0.5mm x 25m	0.8mm x 25mm	1.0mm x 25m	0.5mm x 100m	0.8mm x 100m	1.0mm x 100m



### 4 STRING LINE CORD

Stainless steel nylon-coated cord. Can be knotted and tied, but cannot be cut by rough edges of drilled stones. 30' in length on spools.

No.	38.01001	38.01003	38.01005
Size	.012" (.3 mm)	.018" (.5 mm)	.021" (.53 mm)
Gauge	Fine	Medium	Heavy

## BEAD STRINGING

BeadCraft™

### 1 SILK BEAD SPOOL

No.	68.130	68.131	68.132	68.133	68.134	68.135	68.136
Color	White A	White B	White D	White E	White F	White FF	White FFF
Size (Yards)	425	390	260	200	140	115	92

No.	68.138	68.139	68.140	68.141	68.142	68.143	68.144
Color	Black A	Black B	Black D	Black E	Black F	Black FF	Black FFF
Size (Yards)	425	390	260	200	140	115	92

#### Size Chart

Size	Diameter	Size	Diameter
O	0.127mm	E	0.325mm
A	0.178mm	F	0.348mm
B	0.203mm	FF	0.381mm
C	0.274mm	FFF	0.419mm
D	0.305mm		

### 2 SILK CARD

Silk Bead Card 2 meters with 1 Needle

No.	68.150	68.151	68.152	68.153	68.154	68.155	68.157
Color	White	White	White	White	White	White	White
Size	1	2	3	4	5	6	8

No.	68.160	68.161	68.162	68.163	68.164	68.165	68.167
Color	Black	Black	Black	Black	Black	Black	Black
Size	1	2	3	4	5	6	8

No.	68.170	68.171	68.172	68.173	68.174	68.175	68.177
Color	Pale Pink	Pale Pink	Pale Pink	Pale Pink	Pale Pink	Pale Pink	Pale Pink
Size	1	2	3	4	5	6	8

No.	68.180	68.181	68.182	68.183	68.184	68.185	68.187
Color	Gray	Gray	Gray	Gray	Gray	Gray	Gray
Size	1	2	3	4	5	6	8

No.	68.190	68.191	68.192	68.193	68.194	68.195	68.197
Color	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Size	1	2	3	4	5	6	8

#### Thread Size Chart

Number	Diameter	Length	Number	Diameter	Length
1	0.35 mm	2m	5	0.65 mm	2m
2	0.45 mm	2m	6	0.70 mm	2m
3	0.50 mm	2m	8	0.80 mm	2m
4	0.60 mm	2m			



Beading



White



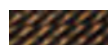
Black



Pale Pink



Gray



Brown



## 1 SILK THREAD ROUND SPOOL

Length 65m

No.	68.203	68.204	68.205	68.207
Color	White	White	White	White
Size	4	5	6	8

No.	68.213	68.214	68.215	68.217
Color	Black	Black	Black	Black
Size	4	5	6	8

No.	68.220	68.221	68.222
Color	Pale Pink	Pale Pink	Pale Pink
Size	4	6	8

No.	68.230	68.231	68.232
Color	Gray	Gray	Gray
Size	4	6	8

No.	68.240	68.241	68.242
Color	Brown	Brown	Brown
Size	4	6	8



## 2 NYLON CARD

Nylon Bead Cord 2 meters and 1 Needle

No.	68.332	68.333	68.342	68.343	68.442	68.443
Color	Pale Pink	Pale Pink	Gray	Gray	Brown	Brown
Size	6	8	6	8	6	8



## 3 HEMP SET

Each set contains 4 colors.

No.	68.475	68.476
Color	Black, White, Brown, Tan	Black, Coffee, Brown, Tan
Size	30 feet per color.	30 feet per color.

## COPPER WIRE SPOOL

Copper wire is designed for wire wrapping, forming and stringing. The wire provides both strength, structure and flexibility for all your beading and craft projects.

No.	68.610	68.611	68.612	68.613
Color	Gold	Gold	Gold	Gold
Gauge	20	24	26	28
Meter	9.1	22	22	22

No.	68.620	68.621	68.622	68.623
Color	Silver	Silver	Silver	Silver
Gauge	20	24	26	28
Meter	9.1	22	22	22

No.	68.630	68.631	68.632	68.633
Color	Red	Red	Red	Red
Gauge	20	24	26	28
Meter	9.1	22	22	22

No.	68.640	68.641	68.642	68.643
Color	Green	Green	Green	Green
Gauge	20	24	26	28
Meter	9.1	22	22	22

No.	68.650	68.651	68.652	68.653
Color	Blue	Blue	Blue	Blue
Gauge	20	24	26	28
Meter	9.1	22	22	22

No.	68.660	68.661	68.662	68.663
Color	Purple	Purple	Purple	Purple
Gauge	20	24	26	28
Meter	9.1	22	22	22





## STRAND WIRE

This strong, economical, and durable wire is great for all your beading projects.

### 49 Strand

No.	68.510	68.511	68.512	68.513
Color	Silver	Silver	Silver	Silver
Thickness (mm)	0.35	0.40	0.45	0.60
Length	32'/10M	32'/10M	32'/10M	32'/10M



### 19 Strand

No.	68.520	68.521	68.522
Color	Silver	Silver	Silver
Thickness (mm)	0.40	0.45	0.60
Length	32'/10M	32'/10M	32'/10M



### 7 Strand

No.	68.530	68.531	68.532	68.533	68.534	68.535
Color	Silver	Silver	Silver	Silver	Silver	Silver
Thickness (mm)	0.35	0.40	0.45	0.60	0.55	.060
Length	32'/10M	32'/10M	32'/10M	32'/10M	32'/10M	32'/10M



### 7 Strand

No.	68.540	68.541	68.542	68.543
Color	Gold	Gold	Gold	Gold
Thickness (mm)	0.30	0.35	0.45	0.50
Length	32'/10M	32'/10M	32'/10M	32'/10M



# *Benches & Accessories*



## GROBET USA® JEWELERS' WORKBENCHES

- Built to the standards demanded by professional jewelers
- Designed with the features of the repair shop bench
- Sturdy, durable construction
- For jewelers, watchmakers, engravers, hobbyists, technicians



### 1 GROBET USA® HEAVY-DUTY JEWELERS' WORKBENCH

Don't settle for imitations...Buy a genuine, solid wood, heavy-duty bench! Solid all-wood bench; no pressboard and no particle board. Solid wood top with all wood legs and full skirt. Three utility drawers assembled. Pull-out tray with two shelves. Two-arm rests and a lined catch drawer. Economically priced. New, heavy-duty packaging. UPS Shippable. Shipping weight 80 lbs in 2 boxes. Full skirt bench

No.	Dimensions
13.071	39" W x 19-1/2" D x 39" H



### 2 GROBET USA® WATCHMAKERS' WORKBENCH

Designed for watchmakers, jewelers, engravers, hobbyists and technicians. Beautifully finished in natural wood on three sides, suitable for storefront use. Safety groove across the front of the hardwood surface and a ledge on three sides prevent parts from rolling. Top surface has three coats of polyurethane. Features eye-level work area, 15 drawers in assorted sizes and a catch-all tray with a heavy canvas covering. Made in USA. Shipping weight 126 lbs.

No.	Dimensions
13.047	39-1/4" W x 21-1/2" D x 37-1/2" H



### 3 PROFESSIONAL JEWELERS' WORKBENCH

Built to the standards demanded by professional jewelers and designed with all the features for the repair shop bench. Sturdy finger-joint construction for durability. 1-1/4" high lip surrounds top on three sides to prevent parts from rolling off. Two sturdy, removable arm rests and extra dowel holes for a more comfortable working position. Three 10" wide side drawers with furniture-finish pulls provide storage space for tools, parts or materials. Tool slide rack to store instruments out of the way when not in use. Lined lap tray to recover precious metals. Easy assembly with only ten screws. Made in USA. Shipping weight 96 lbs.

No.	Dimensions
13.042	37-1/8" W x 18-1/2" D x 36-1/2" H



### 4 GROBET USA® HEAVY DUTY ASSEMBLED JEWELERS' WORKBENCH

Sturdy well-designed bench helps provide comfort and increased productivity. A lip around three sides keeps articles from falling off. Three draws for storage, pull-out tray with two shelves, two arm rests and a plastic laminate lined catch drawer. Full skirt provides privacy. Shipped fully assembled. Solid hardwood top. Made in USA. Shipping weight 95 lbs. Must ship by motor freight only.

No.	Dimensions
13.044	39" W x 19-1/2" D x 39" H



## GROBET USA® JEWELERS' WORKBENCHES

**NOTE: We recommend shipping work benches via motor freight.**



### 5 CUSTOM DELUXE JEWELERS' WORKBENCH

Well-constructed hardwood workbench features a recessed metal plate top. The bench is complemented with three storage drawers and two aluminum catch trays. Includes a slide out work platter and is pre-drilled for mounting mandrels. Supplied with a slot for a bench pin. Made in USA. Shipping weight 130 lbs.



### 6 PREMIUM HARDWOOD JEWELERS' WORKBENCH

This high quality repair shop bench is built to serve the needs of professional jewelers. Sturdy hardwood surface with a recessed metal anvil. 2-1/8" lip surrounding three sides prevents parts from rolling. Adjustable arm rests create comfortable work position. Two side-by-side locking drawers (each 14-1/2" wide) provide secure parts and tool storage. Large metal-lined tool storage draw. Retractable work surface extension between arm rests and thick, metal-lined lap tray secures precious metal recovery. Made from drywood birch. Made in USA. Shipping weight 126 lbs.

No.	Dimensions
13.051	37-1/2" W x 24-1/4" D x 38" H

No.	Dimensions
13.075	37-1/8" W x 24-1/4" D x 39" H



### 7 GROBET USA® SINGLE STATION WORKBENCH

Extra storage space and reduced size make this bench perfect for those with limited space. Comes with 3 tool drawers and a metal-lined lap tray. The plastic laminate top is sturdy and easy to clean. Made in USA. Shipping weight 110 lbs.



### 8 GROBET USA® SINGLE STATION WORKBENCH

Designed to meet the special needs of the jewelry craftsman. Work surface has a 1-1/2" high lip on three sides. Prevents parts from rolling. Sturdy metal legs, two arm rests, bench pin, spacious tool drawer and metal-lined lap tray are ideal for any professional. Shipping weight 68 lbs.



### 9 GROBET USA® DOUBLE-STATION WORKBENCH

Similar to No.13.020 but with 2 workstations. Must ship by motor freight. Shipping weight 104 lbs.

No.	Dimensions
13.049	35-1/2" W x 21-1/2" D x 36" H

No.	Dimensions
13.020	32-1/2" W x 17" D x 34" H

No.	Dimensions
13.021	61-1/2" W x 16-1/2" D x 33-5/8" H



## ACCESSORIES



### 1 WORKBENCH STOOL

Full-size casters provide great mobility at your workbench. Adjustable, large diameter vinyl seat is well-padded for all day comfort. Shipping weight 13 lbs.

No.	Description
13.063	Height adjustable from 18 1/2" to 25"



### 2 BENCH FILING BLOCK

Provides a 3-1/4" extension of the work bench. Consists of rubber block, iron frame and steel anvil. .

No.	Description
13.200	Overall length 5", width 2-1/4"
13.201	Extra rubber block



### 4 BENCH PIN for RING CLAMP

With hole to accommodate ring clamp with lip, No. 48.130.

No.	Description
13.0202	Use with No. 48.130



### 6 BENCH PIN in METAL HOLDER

Easily screws to edge of your work bench. Thumb screw locks in wood bench pin No. 13.300 supplied.

No.	Description
13.320	4" wide



### 3 BENCH PIN FOR RINGS

Shaped to hold rings. Easily screws to the top of your bench. Convenient slot has a channel for sawblades.

No.	Description
13.303	5-1/2" x 1/2" x 3/8".



### 5 WOOD BENCH PINS

Fits into slot in your work bench. Use as support when filing, sawing, setting, etc.

No.	Description
13.300	5-1/4" x 2-1/8"
13.301	6-1/4" x 2-1/2"
13.302	7" x 2-3/4"



### 7 V-SLOT BOARD and CLAMP

Use as support for filing, sawing, and drilling. Clamp fits any work surface up to 2" thick.

No.	Description
13.361	7-1/2" L x 2-1/2" W
13.362	Extra board

## ACCESSORIES



### 1 ENAMELED FIBERBOARD BENCH PLATE

Part-catching groove on all four sides. Will not warp.

No.	Dimensions
13.0183	9" W x 16" L



### 2 COMBINATION BENCH PIN and ANVIL

Use for support to flatten pieces or lay out work. Flat anvil is smoothly finished. Adjustable clamp enables you to use it on benches up to 2" thick. Anvil accepts bracelet mandrel. (No. 43.052 not included).

No.	Dimensions
13.325	1-3/4" W x 4" L
13.327	Extra bench pins

## TOOL HOLDERS



Tools shown for illustration purposes only.

### 3 MAGNETIC TOOL HOLDERS

Permanent magnets hold pliers, screwdrivers and many other tools in place. Mount on any surface that will support screws and weight of tools.

No.	Dimensions
13.380	12" long
13.381	18" long
13.382	24" long



### 4 GROBET USA 12" MAGNETIC TOOL HOLDER

*With Super Holding Power*

All metal tool holding bar is far superior to previous models. Securely supports at least 1-1/2 lb pliers. Hangs with 4 screws (*not included*).

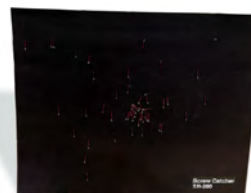
No.	Dimensions
13.412	12" long



### 5 RUBBER BENCH BLOCK

Hard rubber is perfect for filing, detail work, and all jobs requiring a firm, but forgiving surface. Will not slide. A handy accessory for any workbench.

No.	Dimensions
13.500	4" x 4" x 1"

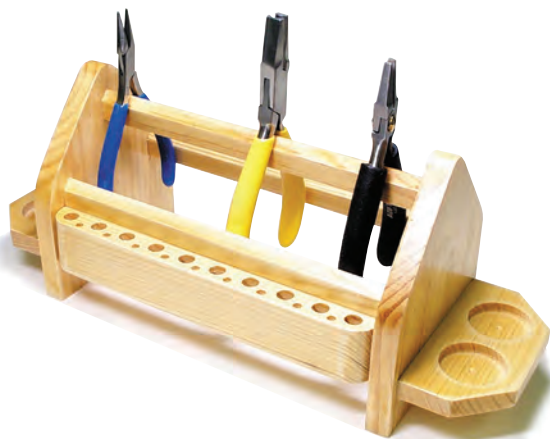


### 6 SCREW CATCHER

Magnetic pad prevents dropped stainless steel or other ferrous screws, nuts, or parts from bouncing and rolling. Will not slip or slide. Does not reflect light.

No.	Dimensions
61.199	10" x 12"

## RACKS FOR PLIERS



### 1 WOODEN PLIERS RACK

This rack features a 7-1/2" bar area for easy accessibility to your favorite pliers. Two "tray extensions", each with two round depressions, for holding small parts or bits of solder. Ten 1" deep openings as wide as a pencil, that hold short solder wires or small jewelers screwdrivers. The additional nine drilled holes hold burs.

No.	Dimensions
13.370	12-1/2" x 4-1/2" x 4-5/16"



### 2 WOODEN PLIERS RACK with DRAWER

Has slots for seven pliers, shelf for miscellaneous small tools and a handy storage drawer. Varnished natural finish.

No.	Dimensions
13.376	6" x 5" x 7-1/2"



### 3 WHITE PLASTIC PLIERS RACK

White plastic with edges specially designed for safety. Keeps pliers organized, accessible, protected and easy to identify.

No.	Dimensions
13.377	5" x 5-1/2" x 9"



### 4 ACRYLIC TOOL HOLDER

Durable, clear acrylic holder is designed to keep all of your tools organized, accessible and protected. Five vertical pockets, a 12-hole shelf, and an angled pliers rack. Stands on bench or hangs from wall.

No.	Dimensions
13.379	12" x 5" x 7-3/4"

BENCH KNIVES



1 HEAVY-DUTY BENCH KNIFE

Blade is firmly set in hardwood handle. Available in two lengths.

No.	Blade Length	Overall Length
39.105	1-3/4"	5-3/4"
39.110	2-5/8"	6-5/8"



2 NO.7 SLOYD BENCH KNIFE

Plaster compound knife with hardwood handle.

No.	Blade	Blade Length	Overall Length
39.112	Carbon steel	1-3/4"	5-1/2"
39.114	Stainless steel	1-3/4"	5-1/2"



3 SLOYD BENCH KNIFE

Heavy-duty bench knife with thick steel blade securely mounted in heavy hardwood handle.

No.	Blade Length	Overall Length
39.0626	1-5/8"	5-1/2"



4 MEDIUM-DUTY BENCH KNIFE

Bench knife has slim blade set firmly in hardwood handle.

No.	Blade Length	Overall Length
39.180	1-3/4"	5"



5 NO.10 GRITMAN PLASTER KNIFE

Knife with blade and blunt pry on opposite end.

No.	Blade Length	Overall Length
39.190	2-1/2"	7"



6 BENCH KNIFE

Handy, all-purpose knife with sharp, well-tempered blade firmly mounted in hardwood handle.

No.	Blade Length	Overall Length
39.104	1-3/4"	5"

Above blades are exceptionally sharp. Use extreme caution.

Benches and Accessories



## BENCH KNIVES



### 1 MOLD CUTTING KNIFE HANDLES

Surgically sharp blades fit into comfortable plastic or metal handles. Widely used for cutting rubber molds.

No.	Description
39.256	Stainless steel handle only
39.257	Plastic handle only

#### Replacement Swann-Morton™ Knife Blades

Carbon steel. Sold by box of 100.

No.	Description
39.261	Straight #11
39.262	Curved #12



### 2 LIGHTWEIGHT KNIFE with THREE BLADES

All-purpose, exceptionally sharp blades excellent for cutting patterns. Includes one #16 and two #11 blades. Packed in plastic display case.

No.	Description
39.250	

#### Replacement Knife Blades

Each style sold by pack of five.

No.	Description
39.253	Style #11
39.254	Style #16



### 3 CRAFTSMEN KNIFE & TOOL SET

28-piece set in handsome wood chest with molded storage trays. Contains lightweight knife, medium-weight knife, heavy-duty knife, awl, miter box, razor saw, sander, screwdriver and 20 assorted blades.

No.	Description
39.268	28-piece set



### 4 CRAFTSMEN KNIFE SET

13-piece set contains three knives plus ten assorted extra blades. Knives are lightweight, medium-weight and heavy-duty. The blades include one each of #'s 16, 19, 24, and 25 and two each of #'s 11, 22, and 23. Packed in plastic display case.

No.	Description
39.267	3-piece set

LAMPS

Suitable for workshop or desktop use. Fluorescent lighting provides ample “daylight” illumination. The “floating arm” design requires only a slight touch to raise, lower or tilt, directing the light source quickly and efficiently onto your work. The lamps are all metal construction and have a universal base for horizontal or vertical mounting.



**1 GROBET USA® BENCH LAMP**  
The innovative design allows the user to raise, lower or tilt, directing the light source quickly and efficiently onto your work. Three fluorescent bulbs. Arm length 31".

No.	Description
13.110	110v
13.110X	220v
13.111	Replacement Bulb



**2 GROBET USA® INSPECTION LAMP**  
Illuminated magnifier provides hands-free viewing. Magnification 1.75x. Convenient clamp is suitable for workbench or desktop. Color: White. Supplied with a 22-watt circline fluorescent bulb (13.140)

No.	Description
13.125	110v
13.140	Replacement Bulb



**3 GROBET USA® LED INSPECTION LAMP**  
Convenient clamp is suitable for workbench or desktop. Bright LED lights, 90 bulbs. Flip-up lens cover. Color: White

No.	Description
13.115	1.75x magnification



**4 GROBET USA® TABLE TOP INSPECTION LAMP**  
11W fluorescent bulb. Flip-up lens cover. Weighted base. Moveable arm. Sturdy construction. Color: White

No.	Description
13.114	1.75x magnification

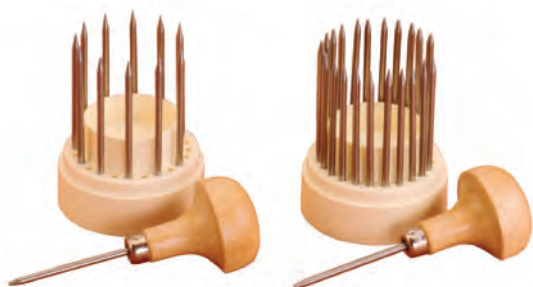


**5 GROBET USA® LED TABLE TOP INSPECTION LAMP**  
Bright LED lights, 72 bulbs. Moveable arm. Flip-up lens cover. Weighted base. Sturdy construction. Color: White

No.	Description
13.116	1.75x magnification.

Benches ans Accessories

## BEADING TOOLS



### 1 GROBET USA™ BEADING TOOLS

Used to form beads that hold diamonds and other stones in settings. Also used for tightening loose stones. Sets come in protective plastic organizer case. Handle included.

No.	Description
77.2931	Set of 23 pieces plus handle
77.2930	Set of 12 pieces plus handle
77.2940	Replacement handle

#### Individual Tools

No.	Size #	No.	Size #	No.	Size #	No.	Size #
77.2900	0	77.2906	6	77.2912	12	77.2918	18
77.2901	1	77.2907	7	77.2913	13	77.2919	19
77.2902	2	77.2908	8	77.2914	14	77.2920	20
77.2903	3	77.2909	9	77.2915	15	77.2921	21
77.2904	4	77.2910	10	77.2916	16	77.2922	22
77.2905	5	77.2911	11	77.2917	17		



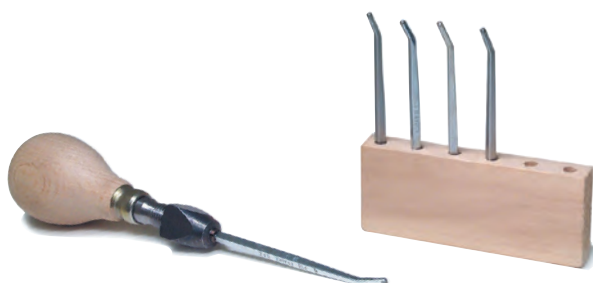
### 2 PEARL DRILL SET

Set of 12 drills in wood stand with cover. For drilling the holes for setting seed pearls and other round or half-round stones. Sizes 1.05 mm to 3.00 mm (.041" to .12"), with 1/8" (3.00 mm) shank. There are 2 of the 3.00mm.

No.	Description
53.120	Set of 12

#### Individual Drills

No.	(in)	Diameter (mm)	No.	(in)	Diameter (mm)
53.121	.041"	1.05	53.127	.081"	2.05
53.122	.047"	1.20	53.128	.089"	2.26
53.124	.057"	1.45	53.129	.094"	2.40
53.125	.065"	1.65	53.132	.118"	3.00
53.126	.073"	1.85			



### 3 MILLGRAIN TOOL SETS

Cup-shaped cutters on wheels used to dress up a setting, ring mounting, or any piece of jewelry, by forming a decorative bead or fine row of cuts along the edge. Sets contain six sizes plus chuck-holding handle.

No.	Description
53.0210	Set of 6 (sizes 2,4,6,8,10,12)
53.100	Set of 6 (sizes 1-6)
37.767	Replacement Handle

#### Individual Tools

No.	Size #	Thick	Pcs of Wheel	No.	Size #	Thick	Pcs of Wheel
53.101	1	0.30	36	53.107	7	0.38	24
53.102	2	0.30	24	53.108	8	0.40	21
53.103	3	0.35	32	53.109	9	0.42	20
53.104	4	0.38	30	53.110	10	0.44	19
53.105	5	0.38	28	53.111	11	0.46	18
53.106	6	0.38	26	53.112	12	0.50	17



### 4 BUSCH PEARL DRILLS

Cup-shaped cutters on wheels used to dress up a setting, ring mounting, or any piece of jewelry, by forming a decorative bead or fine row of cuts along the edge. Sets contain six sizes.

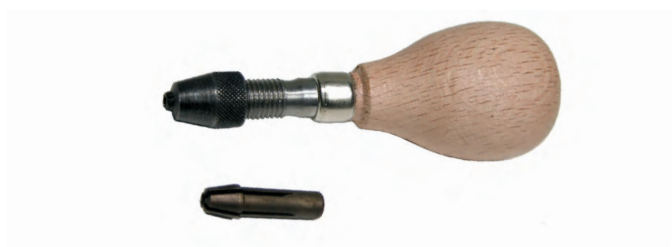
No.	Size #
53.510	0.9
53.511	1.0
53.512	1.2
53.51201	1.4
53.513	1.6
53.514	2.1
53.515	2.3
53.516	2.5



### 1 BEADING TOOL STAND/HOLDER

Small, plastic organizer stand with cover, used to hold up to 24 beading tools.

No.	Description
19.923	Hold up to 24 beading tools



### 3 HANDLES with CHUCKS

Rounded wood handle with chucks that open from 0 to .129" (0 to 3.3 mm). Holds a variety of tools. Ideal for beading and millgrain tools. Overall length 3" (76 mm).

No.	Description
37.764	With two chucks



### 5 SLIM BLADE BURNISHERS

Especially useful for jewel settings. Blade 1-3/4" (44 mm) long.

No.	Description
18.058	Curved blade
18.059	Straight blade



### 2 BEADING BLOCKS

For reshaping ends of beading tool punches. Specially hardened steel blocks, perfectly formed and highly polished.

No.	Description
53.0153	40 holes
53.013	12 holes



### 4 STEEL BURNISHERS

Oval-shaped tool steel burnishers for smoothing of bezels around stones and smoothing other parts of soft metals. Highly polished blades are firmly set in wood handles.

#### Blade Length

Curved Blade	(in)	(mm)	Straight Blade	(in)	(mm)
18.050	1-1/2"	38	18.060	1-1/2"	38
18.052	2"	51	18.062	2"	51
18.053	2-1/2"	64	18.063	2-1/2"	64
18.054	3"	76	18.064	3"	76



### 6 MARGIN ROLLER/BURNISHER

For burnishing scratches from gold, making it possible to salvage many pieces without gold loss. The 3/16" (5 mm) head consists of five steel rollers that act as rotating mallets. 3/32" (2.4 mm) shank for use with handpiece.

No.	Head Size	Shank Size
18.080	3/16" (5 mm)	3/32" (2.4 mm)





## 1 FACETED GEM SETTING OUTFIT

For setting diamonds and other stones. Both sets consist of six gravers, six wood handles and a step-by-step model plate. Set No. 53.070 has gravers: onglette #0 and #1, flat #38 and #40 and round #50 and #52. Set No. 53.0501 has gravers: onglette #2, flat #38, knife #2, oval #65, square #6 and taper square #3.

No.	Description
53.070	Onglette #0, #1, flat #38, #40, round #50, #52
53.0501	Onglette #2, flat #38, knife #2, oval #65, square #6, taper square #3



## 2 TUBE HOLDERS

Seven collets, ranging in size from 1/32" to 1/4" (0.8 to 6 mm) firmly hold tubes for stone setting without collapsing. Collets fit into wood handle with screw chuck.

No.	Qty.	Description
53.150	7	Size from 1/32" to 1/4" (0.8 to 6 mm)



## 3 THE NEW FINAL TOUCH

For quick and secure tightening of both snap-in and hand-set round prong settings. Tightens all four or six prongs with one light tap. Includes urethane base and five different size punches. Base holds 12 studs.

No.	Description
53.192	Five different size punches



## 4 BEZEL PUSHER

Grooved steel tool mounted in wood handle for pushing bezels around stones.

No.	Description
53.140	Wood handle, grooved steel

## 5 PRONG LIFTER

Especially designed to gently and easily pry prongs loose from stones when remounting, resetting or retipping. A real time saver.



No.	Description
53.143	3-7/8" x 7/16"
53.144	4-1/2" x 5/8"



### 1 PRONG PUSHER

Handy tool for pushing prongs or crown points around stones.

No.	Description
53.146	Steel tool mounted in wood handle.



### 2 BEZEL ROLLER

Has a half-round, highly polished, steel head for rolling bezels around stones in rings, pendants, broaches etc.

No.	Description
53.142	



### 3 PEARL DRILLING VISE

Holds all popular size pearls securely in position for drilling. Knurled locknuts provide quick clamping and releasing action.

No.	Description
53.0660	



### 4 BRACELET HOLDER

Saves time when setting stones, while eliminating the need for messy shellac. Suitable for prong, pave or channel settings on bracelets up to 9/32" (7 mm) wide and will not mar or distort. Has space on outer side for clasps. Hex wrench included.

No.	Description
43.060	Aluminum with 3-1/2" (89 mm) diameter



### 5 DIAMOND SELLER GAUGE

Ideal for closing the sale without using expensive stones. Cubic zirconia, mounted on stainless steel arms, folds within a protective cover when not in use. Each arm has the size of the stone in carats and millimeters. Comes in compact leather case.

No.	Description
35.555	Ten sizes ranging from 0.10 to 2 carats



### 6 TEXTURING TOOLS

Produce a sparkling finish. Available with either diamond tip or carbide tip. Tools fit into all popular style hammer handpieces. The tapping action of the handpiece produces small, bright-cut dents, pave style.

No.	Description
53.195	Diamond tip
53.196	Carbide tip



### 1 SWIVEL BENCH VISE

Swivel base permits vise to be positioned in any direction and locked. With twin guide rods to assure parallel operation and rigidity. Smooth jaws will not mar soft metals. With anvil on top. Jaws open to 2-1/2" (64 mm). Fits benches up to 2" (51 mm) thick.

No.	Description
58.104	Jaw width 2-1/2" (64 mm)



### 2 BENCH VISE

Bench vise with twin guide rods to assure parallel closing and rigidity. Jaws are smooth to prevent marring of soft metals. Body is enameled. Jaws open to 2-1/2" (64 mm). Fits benches 2" (51 mm) thick.

No.	Description
58.101	Jaw width 2-1/2" (64 mm)



### 3 BENCH VISE

Well made, strong with rust-proof finish. Jaws open to 1-3/4" (44 mm). Fits benches up to 2" (51 mm) thick.

No.	Description
58.0519	Jaw width 1-3/4" (44 mm)



### 4 UNIVERSAL BALL JOINT SWIVEL VISE with VACU-BASE

Completely portable, attaches instantly to any smooth, non-porous surface. Large 3" (76 mm), V-grooved, iron jaws open to 3" (76 mm) with precision screw action. Universal ball joint rotates vise to any desired working angle. Includes a set of protective rubber jaws.

No.	Description
58.103	Vise with vacu-base

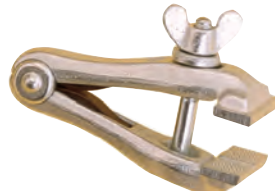
## HANDLE VISES



### 5 WOOD HANDLED HAND VISE

A lightweight vise mounted in a wood handle. Jaws are smooth and open to 1" (25 mm). Overall length 6-1/4" (159 mm).

No.	Description
58.130	Jaw width 1-1/4" (32 mm)



### 6 STEEL HAND VISE

Spring action handle keeps the serrated jaws open. Open to 7/16" (11 mm). The jaws are closed by turning wing screw. Overall length 3-3/4" (95 mm)

No.	Description
58.120	Jaw width 1-1/4" (32 mm)



### 7 WING NUT HAND VISES

Serrated, grooved, spring action jaws open and close with large wing nut. Handles are hollow so that long wire will pass through. Two jaw widths are available. Both open to 1/4" (6 mm). Overall length is 4-1/2" (114 mm).

No.	Description
58.140	Jaw width 1/4" (6 mm)
58.141	Jaw width 5/8" (16 mm)

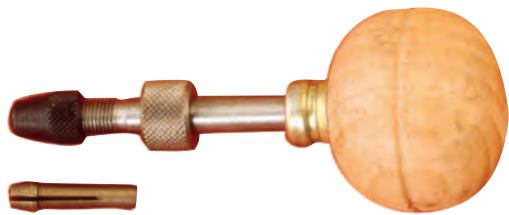
HANDLE VISES



1 LOWELL PATTERN HAND VISE

With hollow handle and grooved corrugated jaws that open and close by turning handle. Design allows you to hold long wire pieces not accessible with regular hand vise. Width of jaws 1/2" (13 mm).

No.	Description
58.0528	Overall length 4-3/4" (121 mm)



2 SWIVEL TOOL HANDLE

Ball-shaped, wood swivel handle fits in the palm of your hand, making it useful for setting, reaming, tapping, etc. Both tools include 2 chucks which open respectively from 0 to .089" (0 to 2.3 mm) and .13 to .239" (3.1 to 6 mm).

No.	Description
37.769	Swivel handle
37.771	Economy swivel handle

PIN VISES

Used to hold a wide variety of items such as small drills, taps, wire, rods, and screws.



3 BABY PIN VISE

Midget-sized hollow handle metal pin vise with screw chuck. Capacity 0 to .020" (0 to .51 mm).

No.	Description
58.200	Overall length 1-7/8" (48 mm)



4 DOUBLE-ENDED PIN VISE

Different size steel collets are mounted in both ends of hollow handle. Capacity 0 to .099" (0 to 2.5 mm).

No.	Description
58.215	Overall length 4-1/4" (108 mm)



5 SWIVEL HEAD PIN VISE

With large free wheeling head, making it suitable for drilling, tapping, or using as a screwdriver. Comes with two double-ended collets, one in screw chuck and the other stored in the handle. Capacity 0 to .125" (0 to 3.2 mm).

No.	Description
58.221	Overall length 3-1/2" (89 mm)



6 ALUMINUM HANDLE PIN VISE

Economical pin vises with aluminum handles and steel chucks.

No.	Description
58.231	Capacity 0 to .047" (0 to 1.19 mm), overall length 4" (102 mm)
58.232	Capacity 0 to .059" (0 to 1.5 mm), overall length 4-1/2" (114 mm)



## PIN VISES



### 1 DOUBLE-ENDED PIN VISE

With reversible steel collets in each end. Hexagonal heads prevent rolling. Hollow handle and heads made of brass. Capacity is 0 to .125" (0 to 3.2 mm).

No.	Description
58.240	Overall length 4-1/8" (105 mm)



### 2 PIN SLIDE

Knurled ring slides forward to close steel jaws, making it easy to operate with one hand. Handle is hollow. Capacity 0 to .051" (0 to 1.3 mm).

No.	Description
58.300	Overall length 4-1/8" (105 mm)

### 3 SQUARE CHUCK PIN VISE

Has two steel chucks with spare chuck held in end of hollow brass handle. Will not roll off bench. Capacity 0 to .079" (0 to 2.0 mm).

No.	Description
58.249	Overall length 3" (76 mm)
58.250	Overall length 3-3/4" (95 mm)
58.252	Overall length 4-1/4" (108 mm)
58.253	Overall length 4-3/4" (121 mm)
58.254	Overall length 5" (127 mm)

### 4 BRASS HANDLE PIN VISE

Steel collet is set into hollow brass handle with screw chuck. Capacity 0 to .028" (0 to .71 mm), .

No.	Description
58.205	Overall length 3-1/8" (79 mm)

### 5 PRECISION PIN VISES

Tool steel collets grip firmly when screw chuck is tightened. Chromium-plated handles are hollow to permit holding of long wires. Body is stepped, with the small portion knurled, so that it can be rotated between fingers. The larger portion is smooth so it can be held

precisely in lathes and drill presses. Set of 4 precision pin vises.

Made in USA.

No. 58.284

#### Individual Pin Vises

No.	Capacity		Length	
	(in)	(mm)	(in)	(mm)
58.280	0 to .040"	0 to 1.02	3"	76
58.281	.025" to .062"	0.6 to 1.60	3-1/4"	83
58.282	.050" to .125"	1.3 to 3.20	3-7/8"	98
58.283	.115" to .188"	2.9 to 4.80	4-1/4"	108

#### Bergeon Brand

64.30021/1	0" to .027"	0 to 0.7	3-1/4"	83
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# *Brushes*



## HAND SCRATCH BRUSHES

### 1 BRASS SCRATCH BRUSH with WOOD HANDLE

Brush has four rows of .003" wire. Brush is 3-1/4" L x 3/4" H.



No.	Overall length
16.310	8-1/4"

### 2 STEEL SCRATCH BRUSH for CLEANING BURS

These uniquely designed brushes provide fast and easy cleaning of burs. Wire is firmly bound in plastic tubing which serves as a handle and can be cut away to expose more wire.



No.	Overall length
16.339	3"

### 3 STEEL SCRATCH BRUSH in HOLDER

Wood handle provides comfortable grip for bur cleaning. Has fine steel wire bound in plastic.



No.	Overall length
16.340	5"

### 4 FIBERGLASS BUR CLEANING/SCRATCH BRUSH

Removes rust and dirt from metal surfaces and polishes. Fine glass bristles are mounted in a plastic case. Bristles can be screw-fed as they wear down. Bristles measure 1/2" x 3/16".



No.
16.332
16.333 Set of 2 refills

### 5 DOUBLE-SIDED BRASS SCRATCH BRUSH

For cleaning work before soldering. Brass wire bristles are approximately 1-3/4" long and bound in metal holder.



No.
16.305

HAND SCRATCH BRUSHES

1 STEEL SCRATCH BRUSH with WOOD HANDLE

Four rows of lightly crimped .003" wire. Brush is 4-1/2" L x 3/4" H.



No.	Overall length
16.350	8-1/4"

2 GLASS BRISTLE SCRATCH BRUSH

Removes rust and dirt from metal surfaces. Fine glass bristles are bound in cord to unwind as bristles wear down.



No.	Length	Diameter
16.334	7"	1/2"

3 BRASS SCRATCH BRUSH with PLASTIC HANDLE

Brush has four rows of .003" wire and is 3-1/4" L x 3/4" H.



No.	Overall length
16.311	7-1/4"

4 PLATER'S BRASS SCRATCH BRUSH

Brush has four rows of .004" wire and is 4-3/4" L x 1" H.



No.	Overall length
16.313	13"



## GROBET USA® BRUSHES

### 1 HAND and FINGERNAIL SCRUB BRUSH

Extra stiff white nylon bristles.



No.	Dimensions
16.076	3-1/2" x 1-1/2"

### 2 WOOD HANDLE WASHOUT BRUSH

Four rows of stiff natural bristles 3-1/2" long, 3/4" wide.



No.	Overall length
16.086	8-1/4"

### 3 BENCH DUSTER

Four rows of soft black bristles set in a wood handle. Suitable for sweeping filings and general purpose work. Brush length 4", brush height 1-3/8".



No.	Overall length
16.051	9-1/2"

### 4 TWISTED WIRE BRUSHES

Designed for tube and handpiece cleaning. Overall length 8-5/8". Extra stiff horsehair bristle is 3" long.



No.	Description
16.080	Tapered 1/2" to 1/4" diameter
16.081	Straight 1/2" diameter

### 5 DUSTING BRUSH

Soft camel hair brush to remove dust from delicate surfaces. Wood handle.



No.	Diameter
16.060	4-1/4"

GROBET USA® BRUSHES

1 PLATER’S BRUSH

Ideal for removing polishing compositions from large pieces and plated work. Brush length 5-3/4", brush height 1". Four rows of extra stiff tampico bristles (may vary in shade).



No.	Overall length
16.069	13"

2 WOOD HANDLE WASHOUT BRUSH

Four rows of stiff bristles 2-1/8" long, 5/8" wide.



No.	Overall length
16.087	8-1/4"

3 SMALL WOOD HANDLE WASHOUT BRUSH

For cleaning inside confined areas. Three rows of extra stiff bristles are 1-7/8" long, 3/8" high.



No.	Overall length
16.088	6"

4 PALATE CLEANING BRUSH

Specially designed with cutout to reach over periphery to-hard-reach interiors. Brush length tapers from 3/4" to 5/8". Clear handle.



No.	Overall length
16.093	7-1/4"

5 PLASTIC HANDLE WASHOUT BRUSHES

Available with natural or stiff nylon bristles. Bristles measure 3" long and 1/2" wide. Overall length 7-1/2"



No.	Description
16.095	4 rows of natural bristles
16.097	3 rows of natural bristles
16.098	4 rows of nylon bristles

## GENERAL CLEANING BRUSHES

### 1 BENT PLASTIC HANDLE WASHOUT BRUSH

Four rows of nylon bristles 1-3/4" long, 1/2" wide. Angled lucite handle.



No.	Overall length
16.099	6-3/4"

### 2 WOOD HANDLE MULTI PURPOSE BRUSH

Multi-purpose cleaning and dusting brush has 4 rows of medium-hard bristles 4-1/2" in length.



No.	Overall length
16.0562	10-1/2"

### 3 CLOCK and INSTRUMENT CLEANING BRUSHES

Bristles are available in varying degrees of hardness for cleaning and dusting clocks, instruments and parts. Bristles measure 4-1/2" long, 5/8" deep. Overall length 10-1/4".



No.	Description
16.110	Hard for extra heavy grit
16.111	1/2-hard for general cleaning
16.112	1/2-soft for more delicate parts
16.113	Soft for removing dust



### 4 MUCILAGE and ACID BRUSHES

Stock up on these versatile extra stiff black horsehair brushes. Tin handle fosters use with solder and acid. Sold by dozen.

No.	Measurements
16.250	3-1/4" long x 1/4" diameter
16.251	5-3/4" long x 3/8" diameter
16.252	5-3/4" long x 1/2" diameter



### 5 FLUX BRUSH with TIN FERRULE

Economical, disposable brush for applying fluxes and other liquids. Sold by dozen.

No.	Overall length
16.225	1-1/2"



### 6 CAMEL HAIR BRUSH

For all-purpose use. 7-1/2" long with wood handle. Sold individually.

No.	Overall length
16.200	7-1/2"








### 7 GROBET USA® MICRO BRUSHES







Flexible applicators bend to any angle. Unique synthetic fibers hold material in suspension until applied. Ultra brush non absorbent bristle fibers are great for solvents, adhesives and enamels. Sold in box of 100.

No.	16.100	16.101	16.102	16.103
Color	White	Yellow	Green	Black
Style	Super Fine	Fine	Regular	Ultra

## 1 DIXCEL® SYNTHETIC RED SABLE BRUSHES



A new addition to the Dixcel® family of quality brushes. These synthetic red sable tips are hand cupped to shape and with needle sharp points, hold a generous amount of color. Securely mounted in seamless aluminum ferrules, they are attached to strong varnished wood handles. Now you can enjoy the feeling of a reliable, comfortable work companion at a reasonable price. Sold individually.

							
Brush #	000	00	0	1	2	3	4
No.	16.270	16.271	16.272	16.273	16.274	16.275	16.276

						
Brush #	5	6	7	Flat #2	Flat #4	Flat #6
No.	16.277	16.278	16.279	16.297	16.298	16.299






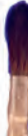



## 2 ANGLED SYNTHETIC RED SABLE BRUSH

Reduce hand fatigue. Rest your hand on your bench while working with these synthetic sable brushes with 45° angled tips. Also good for reaching otherwise inaccessible areas. Sold individually.

		
Brush #	Angled #3/0	Angled #2/0
No.	16.295	16.296







## 3 FLUX BRUSHES with QUILL HANDLES

Inexpensive, disposable brushes made of camel hair, mounted in hollow quill handles. For applying fluxes and other liquids. Select by item number. Sold by dozen.

									
Brush #	9	8	7	6	5	4	3	2	1
No.	16.219	16.218	16.217	16.216	16.215	16.214	16.213	16.212	16.211
Length	1-1/2"	1-5/8"	1-3/4"	2"	2-1/4"	2-1/2"	3"	3-1/2"	3-3/4"

## 4 FLUX BRUSHES with WOOD HANDLES

Well-constructed camel hair brushes are noted for durability. Select by item number. Sold by dozen.

						
Brush #	1	2	3	4	5	6
No.	16.231	16.232	16.233	16.234	16.235	16.236
Length	7"	7"	7"	7-1/4"	7-1/2"	7-1/2"



## GROBET USA® WHEEL BRUSHES

Clean, polish, and produce special finishes. Wood hubs are bored to fit on tapered spindles of polishing motors.

### 1 GROBET USA® WOOD HUB WHEEL BRUSHES

Chungking bristles mounted into hardwood hubs with 1/4" arbor holes for use on the tapered spindles of polishing motors. Sold individually.

- Genuine Chungking bristles insure longer life & superior polishing action piece after piece
- Wood hubs of seasoned, oil-treated hardwood prevent splitting and guarantee long-lasting service
- Bristle tufts are "staple-set" into hubs to remain securely fastened until completely worn down
- A wide assortment for all your applications



Item No.	Style #	U/C/T	Rows	Hub Diameter	Trim Length	Overall Diameter
16.398	1A	U	1	1-7/8"	5/8"	3-1/8"
16.404	1B	U	1	1-7/8"	1/2"	2-7/8"
16.399	1C	U	1	1-7/8"	3/8"	2-5/8"
16.396	2A	C	2	1-7/8"	5/8"	3-1/8"
16.403	2B	C	2	1-7/8"	1/2"	2-7/8"
16.397	2C	C	2	1-7/8"	3/8"	2-5/8"
16.372	5A	U	1	1-1/4"	5/8"	2-1/2"
16.371	5C	U	1	1-1/4"	3/8"	2"
16.383	6A	C,T	2	1-1/4"	5/8"	2-1/2"
16.381	6B	C,T	2	1-1/4"	1/2"	2-1/4"
16.380	6C	C,T	2	1-1/4"	3/8"	2"
16.384	7A	C,T	3	1-3/8"	5/8"	2-5/8"
16.389	7B	C,T	3	1-3/8"	1/2"	2-3/8"
16.387	7C	C,T	3	1-3/8"	3/8"	2-1/8"
16.405	8A	C,T	4	1-1/4"	5/8"	2-1/2"
16.407	8C	C,T	4	1-1/4"	3/8"	2"
16.408	—	U	1	7/8"	1/2"	1-1/8"
16.376	—	C	2	7/8"	7/16"	1-3/4"
16.378	—	C	2	7/8"	1/2"	1-7/8"
16.410	—	C	2	7/8"	9/16"	2"
16.386	—	C	2	1-5/8"	11/16"	3"
16.388	—	C	2	2-1/8"	5/8"	3-3/8"
16.412	—	C	3	1-3/8"	11/16"	2-3/4"
16.390	—	C	3	1-5/8"	11/16"	3"
16.391	—	C	3	1-7/8"	13/16"	3-1/2"
16.393	—	C	4	1-1/2"	3/4"	3"
16.394	—	U	4	1-5/8"	11/16"	3"
16.395	—	C	4	1-7/8"	13/16"	3-1/2"

U = Upright C = Converging T = Tapered Hole



Converging

Upright

Note: The stiffness of each brush is determined by the number of rows (the more, the stiffer), bristle length (the shorter, the stiffer), and style ("converging" will be stiffer than "upright").

## WHEEL SCRATCH BRUSHES

Clean and finish a variety of metal surfaces. Wire bristles are mounted on seasoned hardwood hubs. All brushes have a 1/4" arbor hole.



### 1 STRAIGHT BRASS WIRE BRUSHES

Clean and surface-finish brass and other soft metals. Straight wire produces a coarser finish. Strands are .003".

No.	Rows	Diameter
16.425	1	3"
16.426	2	3"
16.427	2	4"
16.429	3	3"
16.430	3	4"
16.431	4	3"
16.432	4	4"
16.433	4	6"



### 2 CRIMPED BRASS WIRE BRUSHES

Surface finish yellow metals. Brush produces a softer, satin or matte finish. Strands are .004".

No.	Rows	Diameter
16.440	2	3"
16.441	2	4"
16.443	3	3"
16.444	3	4"
16.445	4	3"
16.446	4	4"
16.447	4	6"



### 3 STRAIGHT STEEL WIRE BRUSHES

Clean, debur and surface finish silver, aluminum and other white metals. Produces pronounced surface effects. Strands are .003".

No.	Rows	Diameter
16.455	1	3"
16.456	2	3"
16.457	2	4"
16.458	2	6"
16.459	3	3"
16.460	3	4"
16.461	4	3"
16.462	4	4"
16.463	4	6"



### 1 WHITE BRISTLE WHEEL BRUSH on STEEL HUB

No.	Dimensions
16.370	2" diameter, 1/4" arbor hole



### 2 WHITE BRISTLE WHEEL BRUSH on WOOD HUBS

Four rows of soft bristles. Mounted on hardwood hub with 1/4" straight hole.

No.	Dimensions
16.420	3" diameter, 1/4" straight hole



### 3 BLACK BRISTLE WHEEL BRUSHES on STEEL HUBS

Medium stiff bristles mounted on steel hub. Center of hub is nylon.

No.	Dimensions
16.400	1-3/4" diameter, 3/16" hole
16.401	2-1/2" diameter, 1/4" hole



### 4 HEAVY DUTY CRIMPED STEEL WIRE BRUSH

Removes rust, scale, grease, etc. from metal surfaces. .008" wire mounted on steel hub with flanges to provide extra strength.

No.	Dimensions
16.470	6" diameter, 1/2" arbor hole



### 5 LIGHTLY CRIMPED STRAIGHT STEEL SATIN FINISH BRUSH

Produces a frosted finish when run at high speeds. One row of .0055" steel wire bristles mounted on wood hub with reinforced metal center.

No.	Dimensions
16.472	Diameter 5"



### 6 STEEL BUR and FILE CLEANING BRUSH

Easily removes particles of metal clogged between teeth of files and burs. Also strips insulation from small electric wires. Two rows of lightly crimped .003" steel wire mounted on wood hub.

No.	Dimensions
16.475	Diameter 1-5/8"

## GROBET USA® MINIATURE BRISTLE BRUSHES

Excellent quality precision brushes. Clean and polish in hard-to-reach places.

### 1 END BRUSHES on MANDRELS

Sold by dozen.

Diameter	Brush Length	Mandrel Diameter	Soft	Stiff
3/16"	1/4"	3/32"	16.700	16.701
3/16"	3/8"	3/32"	16.707	16.708
3/16"	1/2"	3/32"	16.710	16.711
3/16"	5/8"	3/32"	—	16.713
1/4"	3/8"	3/32"	16.718	—

### 2 UNMOUNTED 1/8" ARBOR HOLE BRUSHES

30% additional fill gives more body for the right feel and longer brush life. Metal hubs with thinner profiles are assembled on specially designed production equipment. The result is a perfect brush. Bristles won't split and washers won't spin. Available in 4 grades to perfectly match every production requirement. Sold by dozen or by bulk pack of 144.

Brush Diameter	X-Soft Bulk	Extra Soft	Soft Bulk	Soft	Medium Bulk	Medium	Stiff Bulk	Stiff
5/8"	—	—	—	16.647	—	16.648	—	16.649
3/4"	16.680	16.662	16.690	16.650	16.681	16.663	16.682	16.664
1"	16.683	16.671	16.691	16.651	16.684	16.672	16.685	16.673
1-1/4"	16.677	—	—	16.652	—	16.678	—	16.679

For use on tapered spindles of polishing motors, use mandrels 47.258 or 47.259. For use on flexible shafts, use mandrels 43.160 or 43.162.

### 3 UNMOUNTED 3/32" ARBOR HOLE BRUSHES

Use stiff bristles for cleaning and soft bristles for polishing. Mount on mandrels.

Sold by dozen.

Brush Diameter	Soft	Stiff
9/16"	16.657	16.658
3/4"	16.660	16.661
1"	16.669	16.670

### 4 CUP BRUSHES on MANDRELS

Sold by dozen.

Diameter at Flared End	Mandrel Diameter	Soft	Stiff
1/2"	3/32"	16.750	16.751
9/16"	3/32"	16.753	16.755

### 5 MOUNTED PORTE POLISHING BRUSHES

Rubber washer prevents polishing materials from entering the handpiece. Bristles are extra stiff with 3/32" shank. Sold by dozen.

No.	Mandrel Diameter
16.582	3/32"

### 6 MINI BRUSHES on MANDRELS

Available in single section or heavy-duty double section style. Sold by dozen.

Section Type	Brush Diameter	Mandrel Diameter	Extra Soft	Soft	Stiff
Single	9/16"	3/32"	16.601	16.603	16.602
Single	3/4"	3/32"	16.608	16.607	16.609
Double	3/4"	3/32"	16.612	16.611	16.613
Single	3/4"	1/8"	—	16.616	16.615
Double	3/4"	1/8"	—	16.618	16.617
Single	1"	3/32"	16.619	16.620	16.621
Double	1"	3/32"	—	16.624	16.623



## GROBET USA® MINIATURE WIRE BRUSHES

Clean, polish and produce special finishes. Use brass on yellow metals such as: copper and brass; use steel on white metals such as: white gold, silver, and platinum. Use straight or lightly crimped wire to produce a more pronounced finish and is used for cleaning, deburring, and surface finishing. Use crimped wire to achieve a softer or matte finish. Precision made, excellent quality.

### 1 BRASS BRUSHES on MANDRELS

Double section type is for heavy-duty use. Sold by dozen.



Section Type	Diameter	Mandrel Diameter	Straight Dia. .0035"	Crimped .005"
Single	3/4"	3/32"	<b>16.805</b>	<b>16.806</b>
Double	3/4"	3/32"	—	<b>16.807</b>
Single	3/4"	1/8"	—	<b>16.810</b>
Single	1"	3/32"	<b>16.813</b>	<b>16.814</b>

### 2 STEEL BRUSHES on MANDRELS

Double section type is for heavy duty use. Sold by dozen.



Section Type	Diameter	Mandrel Diameter	Straight Dia. .0035"	Crimped .005"
Single	3/4"	3/32"	<b>16.840</b>	<b>16.841</b>
Double	3/4"	3/32"	—	<b>16.842</b>
Single	3/4"	1/8"	<b>16.844</b>	<b>16.845</b>
Double	3/4"	1/8"	—	<b>16.846</b>
Single	1"	3/32"	<b>16.848</b>	<b>16.849</b>
Double	1"	3/32"	—	<b>16.850</b>
Single	1"	1/8"	<b>16.852</b>	<b>16.853</b>
Double	1"	1/8"	—	<b>16.854</b>

### 3 UNMOUNTED 3/32" ARBOR HOLE WIRE BRUSHES

Available in single section only. Bristles are set in metal hubs for use on mandrels. Sold by dozen.



Metal	Dia.	Straight .0035"	Light Crimped .003"	Crimped .005"
Brass	3/4"	<b>16.880</b>	—	<b>16.881</b>
Brass	1"	<b>16.883</b>	—	<b>16.884</b>
Steel	3/4"	—	<b>16.886</b>	<b>16.887</b>
Steel	1"	—	<b>16.889</b>	<b>16.890</b>

### 4 CUP-SHAPE WIRE BRUSHES on MANDRELS

Sold by dozen.



Metal	Diameter at Flare	Mandrel Diameter.	Straight .0035"	Light Crimped .003"	Crimped .005"
Brass	1/2"	3/32"	<b>16.960</b>	—	—
Brass	9/16"	3/32"	—	—	<b>16.962</b>
Steel	1/2"	3/32"	—	<b>16.965</b>	—
Steel	9/16"	3/32"	—	—	<b>16.967</b>

### 5 END-TYPE WIRE BRUSHES on MANDRELS

Sold by dozen.



Metal	Dia.	Brush Length	Mandrel Dia.	Straight .0035"	Light Crimped .003"	Crimped .005"
Brass	3/16"	1/4"	3/32"	<b>16.926</b>	—	<b>16.927</b>
Brass	3/16"	1/4"	1/8"	—	—	<b>16.930</b>
Steel	3/16"	1/4"	3/32"	—	<b>16.940</b>	<b>16.941</b>
Steel	3/16"	1/4"	1/8"	—	<b>16.943</b>	<b>16.944</b>

## ECONOMY MINIATURE BRUSHES

Fine quality mounted and unmounted brushes in a variety of sizes, textures and materials for any polishing or finishing job. Mounted brushes have 3/4" diameter shanks. Soft bristle for fine polishing. Stiff bristle for cleaning. Brass wire for gold, copper, brass. Steel wire for white metals such as silver, white gold, platinum and aluminum. Straight wire for a stronger cleaning, deburring, and surface finishing. Crimped wire for a softer or matte finish. Sold by dozen

### 1 BRISTLE BRUSHES on MANDRELS

Sold by dozen.



No.	Color	Diameter	Style
16.0695	Black	3/4"	Stiff
16.0696	Brown	3/4"	Medium
16.0697	White	3/4"	Soft

### 2 STEEL BRUSHES on MANDRELS

Sold by dozen.



No.	Diameter	Style
16.0687	3/4"	Straight
16.0698	1"	Straight

### 3 BRASS BRUSH on MANDRELS

Sold by dozen.



No.	Diameter	Style
16.0689	3/4"	Crimped

### 4 BRASS END BRUSH on 3/32" MANDREL

Sold by dozen.



No.	Diameter	Style
16.0927	1/4"	Crimped

### 5 STEEL END BRUSH on 3/32" MANDRELS

Sold by dozen.



No.	Diameter	Style
16.0926	1/4"	Straight

### 6 BRISTLE END BRUSHES on 3/32" MANDRELS

Sold by dozen.



Trim Length	Style	3/16" Ferrule	1/4" Ferrule
1/4"	Stiff	16.06842	16.06830
1/4"	Soft	16.06843	—
3/8"	Stiff	16.06844	—
3/8"	Soft	16.06845	—
1/2"	Stiff	16.06846	—

### 7 BRISTLE BRUSHES UNMOUNTED

Sold by dozen.



No.	Color	Brush Diameter	Hole Diameter	Style
16.0808	Black	3/4"	1/8"	Stiff
16.0810	Brown	3/4"	1/8"	Medium
16.0813	White	3/4"	1/8"	Soft
16.0801	Black	1"	1/8"	Stiff
16.0811	Brown	1"	1/8"	Medium
16.0814	White	1"	1/8"	Soft

## MANDRELS

### 1 MANDRELS

Sold by dozen.

This is just a partial listing. See pages xxx-xxx for our complete line of mandrels.

No.	Description	Shank Diameter
A. 43.120	Tapered screw 3/16" screw length	3/32"
43.122	Tapered screw 3/8" screw length	3/32"
B. 43.124	Use with rubberized abrasives	3/32"
C. 43.128	Reinforced shoulder	3/32"
D. 43.130	Use with wheels 1/16" arbor holes	3/32"
43.132	Use with wheels 1/16" arbor holes	3/32"
43.134	Use with wheels 1/16" arbor holes	3/32"
E. 43.156	Reinforced screw	1/8"



### 2 MANDREL FOR 1" WHEELS

Use with wheel sizes up to 1" diameter and up to 1/4" thickness with 1/16" arbor holes.

No.	Shank Diameter
43.158	1/8"



### 3 MANDREL FOR GRINDING WHEELS

Use with grinding wheel with 1/8" arbor holes. Sold by dozen.

No.	Shank Diameter
43.160	1/8"



### 4 WOOD MANDRELS with METAL THREADED ENDS

Fit on tapered spindles of polishing motors. Convenient way to mount and change smaller brushes.

No.	Description
47.258	Right
47.259	Left



# *Buffs*





## GROBET USA® FELT BUFFS

With a reputation established as the finest made, these buffs continue to be produced to exacting specifications. Selection of Grobet USA® assures you of uniformity in thickness, balance, concentricity, and outstanding performance. They remain the standard of quality for professional polishers of metal.

### RING BUFFS

#### 1 FELT INSIDE RING BUFFS

Made of the highest grade wool felt, mounted to tapered wood mandrel for use on tapered spindle. Select smallest size for children's rings. See price list for bulk pricing.



No.	17.315	17.316	17.320	17.321	17.323	17.324	17.326	17.327	17.329
Finish	Regular	Extra Hard	Regular	Extra Hard	Regular	Extra Hard	Regular	Extra Hard	Regular
Regular Bulk	FEJB	FEJB	FER3B	FER3B	FER4B	FER4B	FER5B	FER5B	FER6B
Diameter	5/16" - 9/16"	5/16" - 9/16"	9/16" - 3/4"	9/16" - 3/4"	5/8" - 7/8"	5/8" - 7/8"	11/16" - 1"	11/16" - 1"	3/4" - 11/16"
Length	3"	3"	3"	3"	4"	4"	5"	5"	6"

#### 2 FELT COMBINATION BUFFS

Polish outside and inside rings without changing buff. Wheel buff and inside ring buff are mounted on wood mandrel, drilled to fit tapered spindle. Sold individually.



No.	17.340	17.341	17.342	17.343
Wheel Edge	Square	Square	Knife	Knife
Wheel	2" x 1/2"	2" x 9/16"	2"	2"
Ring	3" x 9/16" - 3/4"	4" x 5/8" - 7/8"	3" x 9/16" - 3/4"	4" x 5/8" - 7/8"

#### 3 SOLID FELT RING BUFFS

Unmounted solid felt is used directly on tapered spindle.



No.	17.332	17.333	17.335	17.336
Finish	Regular	Extra Hard	Regular	Extra Hard
Diameter	9/16"	9/16"	5/8"	5/8"
Length	3"	3"	4"	4"

#### 4 LARGE FELT CONES

Round cones are perfect for polishing objects with rounded surface while pointed cones are perfect for concave surfaces. Solid felt with pinhole center. Use with tapered mandrel. Sold individually.



No.	17.276	17.277	17.278	17.280	17.281	17.282
Type	Pointed	Pointed	Pointed	Round	Round	Round
Diameter	1/2"	3/4"	1"	1/2"	3/4"	1"
Length	1"	1-1/2"	2"	1"	1-1/2"	2"

##### \* TAPERED MANDRELS

##### 3/32" shank

No.	Screw Length
43.120	3/16"
43.122	3/8"

##### 1/8" shank

No.	Screw Length
43.150	3/16"
43.152	3/8"



## 1 MINIATURE POINTED FELT CONES

Ideal for polishing concave surfaces on small objects. Made of solid felt with hard density. Use with tapered mandrel.

No.	17.266	17.267	17.271	17.272
Qty.	Box of 24	Box of 100	Box of 24	Box of 100
Diameter	1/4"	1/4"	1/4"	1/4"
Length	3/8"	3/8"	1/2"	1/2"



## 2 MINIATURE KNIFE EDGE SOLID FELT BUFFS

Hard solid felt, with tapered edges for polishing joints and crevices. Use with mandrels listed below. \*\*

No.	17.478	17.479	17.483	17.484	17.476	17.477
Qty.	Box of 24	Box of 100	Box of 24	Box of 100	Box of 24	Box of 100
Diameter	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"

## 3 MINIATURE SQUARE EDGE FELT WHEELS

Solid felt for use with mandrels listed below. Sold by box of 24 or 100.

### 1/8" HARD

No.	17.351	17.352	17.359	17.360	17.365	17.366	17.371	17.372
Qty.	Box of 24	Box of 100	Box of 24	Box of 100	Box of 24	Box of 100	Box of 24	Box of 100
Diameter	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"	1"	1"

### 1/8" SOFT

No.	17.355	17.356	17.363	17.364	17.367	17.368	17.376	17.377
Qty.	Box of 24	Box of 100	Box of 24	Box of 100	Box of 24	Box of 100	Box of 24	Box of 100
Diameter	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"	1"	1"

### 1/4" SOFT

No.	17.357	17.358	17.380	17.381
Qty.	Box of 24	Box of 100	Box of 24	Box of 100
Diameter	1/2"	5/8"	1"	1"



## 4 MINIATURE FELT WHEEL ASSORTMENT

Solid felt for use with mandrel. Includes 1/2", 5/8", and 3/4" diameter wheels in the soft grade. Sold by box of 24 or 100.

No.	Qty.
17.345	Box of 24
17.346	Box of 100



## 5 FELT WHEEL and CONE ASSORTMENT

Includes 6 each Nos. 17.266 and 17.271 cones; plus 4 each Nos. 17.351, 17.359, and 17.365 wheels.

No.	Qty.
17.347	Box of 24

### \*\* WHEEL MANDRELS

#### 3/32" shank

No.	Description
43.130	Steel wheels, 1/16" arbor holes.
43.132	NP steel wheels, 1/16" arbor holes.
43.134	SS steel wheels, 1/16" arbor holes.
43.128	Mandrel with reinforced screw.

#### 1/8" shank

No.	Description
43.158	NP steel wheels, 1/16" arbor holes.
43.162	NP steel wheels, 1/8" arbor holes.
43.156	Mandrel with reinforced screw.

## FELT BOBS

100% wool, ideal for precision deburring, polishing and finishing. Can be charged with compounds. Specifically designed for use with flex-shafts and similar tools. The unmounted versions have a pinhole for mandrel mounting. See tapered mandrels listed below.

### 1 CYLINDER SHAPE

Type	Hard	Medium	Diameter	Face	Mandrel
MP-1	17.220	17.221	1/4"	1/4"	1/8"
MP-2	17.222	17.223	1/4"	3/8"	1/8"
MP-3	17.224	17.225	3/8"	3/8"	1/8"
MP-4	17.226	17.227	3/8"	1/2"	1/8"
MP-5	17.228	17.229	1/2"	1/2"	1/8"
MP-6	—	17.230	1/2"	3/4"	1/8"
MP-7	—	17.231	1/2"	1"	1/8"
MP-8	17.232	17.233	3/4"	3/4"	1/8"
MP-9	—	17.234	3/4"	1"	1/8"
MP-11	—	17.235	1"	1"	1/4"



MP/P

* Tapered mandrels 3/32" shank				1/8" shank	
No.	Screw Length		No.	Screw Length	
43.120	3/16"		43.150	3/16"	
43.122	3/8"		43.152	3/8"	

### 2 MISCELLANEOUS SHAPES

Type	Hard	Medium	Diameter	Face	Mandrel
MS-1	—	17.245	3/8"	1/2"	1/8"
MS-1	—	17.246	1/2"	1"	1/8"
MS-3	—	17.250	3/8"	1/2"	1/8"
MS-3	17.251	17.252	1/2"	1"	1/8"
MS-4	17.253	17.254	1/2"	3/4"	1/8"
MS-5	—	17.255	3/8"	1/2"	1/8"
MS-5	—	17.256	1/2"	3/4"	1/8"
MS-6	—	17.257	1/2"	1/2"	1/8"



MS-1



MS-3



MS-4



MS-5



MS-6

### 3 MOUNTED MIDGET FELT BUFFS & BOBS

All have 3/32" shanks. Sold by dozen.



No.	17.115	17.120	17.121	17.122	17.123	17.124
Style	Solid Felt	Cone	Cylinder	Round	Bud	Pointed
Diameter	1"	—	—	—	—	—
Thickness	1/8"	5/16" x 5/8"	3/8" x 5/8"	11/32"	13/32" x 1/2"	1/4" x 5/8"



No.	17.12401	17.12402	17.12403	17.12404	17.12405	17.12406
Style	Inverted	Inverted	Knife	Knife	Square	Square
Diameter	11/15"	13/15"	11/16"	13/15"	11/16"	13/16"
Thickness	1/4"	1/4"	1/8"	1/8"	3/16"	3/16"

## FULL-SIZE FELT BUFFS

### 1 SPANISH FELT WHEEL BUFFS

Suitable for all-purpose polishing and buffing. Pin hole centers.

#### EXTRA HARD

No.	17.450	17.455	17.460	17.465
Diameter	3"	4"	5"	6"
Thickness	1/2"	1/2"	1/2"	1/2"

#### MEDIUM

No.	17.452	17.457	17.462	17.467
Diameter	3"	4"	5"	6"
Thickness	1/2"	1/2"	1/2"	1/2"

#### HARD

No.	17.451	17.456	17.461	17.466	17.470
Diameter	3"	4"	5"	6"	6"
Thickness	1/2"	1/2"	1/2"	1/2"	1"

#### SOFT

No.	17.453	17.458	17.463	17.468
Diameter	3"	4"	5"	6"
Thickness	1/2"	1/2"	1/2"	1/2"



### 2 DIAMOND HARD FELT LAPS

Exceptionally dense, chemically treated felt. Suitable for forming smooth, flat surfaces with sharp corners.

No.	Diameter	Thickness	Hole
17.291	6"	1/4"	1/4"
17.292	6"	1/4"	1/2"



### 3 SOLID FELT WHEEL BUFFS

Tightly compressed wool felt creates a medium wheel for all-purpose polishing and buffing. Pin hole centers.

No.	17.410	17.412	17.415	17.416	17.417	17.419	17.420	17.421	17.425	17.429	17.431	17.435	17.436	17.437	17.438	17.439
Diameter	1"	1-1/4"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"	3"	3"	4"	4"	4"	5"	6"
Thickness	1/4"	1/4"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	1/2"	1/2"	1"	1/2"	3/4"	1"	2"	1"



### 4 KNIFE EDGE FELT WHEELS

Use with mandrel in handpiece or on tapered spindle of bench motor for polishing joints and crevices. Pin hole centers.

#### ROCK HARD

No.	17.491	17.493	17.495	17.497	17.499	17.500
Diameter	1"	1-1/2"	5"	6"	6"	4"

#### HARD

No.	17.490	17.492	17.494	17.496	17.498
Diameter	1"	1-1/2"	2"	2-1/2"	3"



**Safety Tip:** Always wear proper eye protection when polishing.



## FINEX MUSLIN BUFFS

Superior quality soft-textured buffs perfect for use with rouge to produce a high finish.

### 1 LOOSE TYPE with LEATHER CENTERS

One row of stitching. Sold individually.



No.	17.771	17.773	17.774	17.779	17.781	17.775	17.782	17.783	17.776	17.784	17.777
Diameter	3"	4"	4"	4"	4"	5"	5"	5"	6"	6"	8"
Ply	35	30	40	50	60	45	50	54	50	54	55

### 2 STITCH TYPE with LEATHER CENTERS

Available in 3 or 4 rows of stitching. Sold individually.



No.	17.751	17.75203	17.75204	17.753	17.754	17.757	17.758	17.75802	17.75803
Diameter	3"	3"	3"	4"	4"	4"	4"	5"	5"
Ply	35	30	40	30	40	50	60	20	30
Stitching	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows

No.	17.75804	17.755	17.759	17.75901	17.760	17.756	17.75902	17.761
Diameter	5"	5"	5"	5"	6"	6"	6"	6"
Ply	40	45	50	60	40	50	30	60
Stitching	3 rows	3 rows	3 rows	3 rows	4 rows	4 rows	4 rows	4 rows

### 3 FINEX MUSLIN BUFFS with SHELLAC CENTERS

With combed edges for use with rouge. Sold individually.



No.	17.621	17.622	17.623	17.629	17.624	17.630	17.631	17.632	17.625	17.633	17.626	17.627	17.628
Diameter	2-1/2"	3"	4"	4"	4"	4"	5"	5"	5"	6"	6"	6"	8"
Ply	30	35	30	40	50	60	45	50	55	50	60	70	70
Stitching	2 rows	3 rows	4 rows	3 rows	4 rows	3 rows	3 rows	3 rows	5 rows	4 rows	6 rows	6 rows	7 rows

### 4 KNIFE EDGE with LEATHER CENTERS

Use for buffing in crevices. Sold individually.



No.	17.643	17.644	17.645	17.646
Diameter	3"	4"	5"	6"
Ply	9	12	12	12
Stitching	3 rows	5 rows	7 rows	9 rows

**Safety Tip:** Always wear proper eye protection when polishing.

FINEX MUSLIN BUFFS

**1 FINEX MUSLIN BUFFS with PLASTIC CENTERS**  
Unstitched and used with rouge to produce a high finish.  
Sold individually.



No.	17.716	17.717	17.718	17.719	17.720	17.721	17.722	17.723	17.724
Diameter	3"	3"	4"	4"	4"	5"	6"	6"	8"
Ply	36	54	28	36	54	54	54	63	54

**2 REGULAR MUSLIN BUFFS with SHELLAC CENTERS**  
Use with abrasive compounds such as tripoli to remove scratches.  
Sold individually.



No.	17.571	17.573	17.575	17.576	17.577	17.579	17.580	17.581	17.583	17.584	17.586	17.588	17.589
Diameter	2"	2-1/2"	3"	3"	3"	4"	4"	4"	5"	5"	6"	6"	8"
Ply	30	30	24	30	35	24	30	42	30	45	30	50	55
Stitching	2 rows	2 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	4 rows	4 rows	4 rows

**3 DIXCEL® COTTON FLANNEL BUFFS**  
Use with rouge for final polishing. Made of soft cotton flannel, stitched with shellac centers. Sold individually.



No.	17.200	17.201	17.203	17.205	17.206	17.207	17.208
Diameter	2"	2-1/2"	3"	4"	5"	6"	8"
Ply	25	25	30	30	30	30	30
Stitching	2 rows	2 rows	3 rows	3 rows	3 rows	4 rows	4 rows

Safety Tip: Always wear proper eye protection when polishing.



## 1 SUPER BUFFS

Made of 100% cotton. Patented process removes impurities and makes the cloth finer and nearly lint-free. With ordinary abrasive elements removed, Super Buffs last up to 50% longer with minimal fraying and better compound retention. Achieve a smooth, uniform finish with superior coloring quality every time.

**Shellac Center** - Sold individually

No.	17.704	17.705	17.706
Diameter	4"	5"	6"
Ply	50	55	60
Stitching	4 rows	4 rows	4 rows

**Plastic Center** - Sold individually

No.	17.707	17.708	17.709
Diameter	4"	5"	6"
Ply	36	54	54
Stitching	-	-	-

**Midget** - Sold by the dozen

No.	17.700	17.701	17.702	17.703
Diameter	7/8"	1-1/4"	1-1/2"	2"
Ply	16	16	16	16
Stitching	1 row	2 rows	3 rows	4 rows

## 2 MINIATURE FINEX MUSLIN BUFFS

Designed for polishing small and difficult to reach areas.

Use with mandrels listed below.\*\* Sold by dozen.



No.	17.615	17.616	17.61601	17.617	17.618	17.619
Diameter	7/8"	1"	1"	1-1/4"	1-1/2"	2"
Ply	16	16	16	16	16	16
Stitching	1 row	1 row	2 rows	3 rows	3 rows	4 rows

## 3 MINI-MUSLIN BUFFS

All have 1" diameter. Mounted buffs have a 3/32" shank.

For unmounted buffs use mandrels listed below.\*\* Sold by dozen.



No.	17.910	17.911	17.912	17.913
Style	Unmounted Chemkote	Unmounted Muslin	Mounted Chemkote	Mounted Muslin
Hole Diameter	3/32"	3/32"	—	—
Ply	8	12	8	12

### \*\* WHEEL MANDRELS

3/32" shank

No.	Description
43.130	Steel wheels, 1/16" arbor holes.
43.132	NP steel wheels, 1/16" arbor holes.
43.134	SS steel wheels, 1/16" arbor holes.
43.128	Mandrel with reinforced screw.

1/8" shank

No.	Description
43.158	NP steel wheels, 1/16" arbor holes.
43.162	NP steel wheels, 1/8" arbor holes.
43.156	Mandrel with reinforced screw.

## CHEMKOTE BUFFS

More aggressive, treated muslin helps remove surface scratches from work. Excellent for use with tripoli and abrasive compounds. Sold individually.

### 1 CHEMKOTE YELLOW BUFFS with SHELLAC CENTER



No.	17.550	17.551	17.55101	17.552	17.553	17.540	17.54001	17.54002	17.54003
Diameter	1"	3"	3"	4"	4"	4"	4"	5"	5"
Ply	16	30	40	30	40	50	60	20	30
Stitching	1 row	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows

No.	17.54004	17.554	17.541	17.542	17.543	17.544	17.555	17.545
Diameter	5"	5"	5"	5"	6"	6"	6"	6"
Ply	40	45	50	60	30	40	50	60
Stitching	3 rows	3 rows	3 rows	3 rows	4 rows	4 rows	4 rows	4 rows

### 2 CHEMKOTE YELLOW BUFFS with LEATHER CENTER



No.	17.55102	17.55103	17.55201	17.55301	17.55401	17.55402	17.55404	17.55405
Diameter	4"	4"	4"	4"	4"	4"	5"	5"
Ply	20	20	30	40	50	60	30	40
Stitching	1 row	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows	3 rows

No.	17.556	17.55601	17.55602	17.55603	17.557	17.558	17.559
Diameter	5"	5"	6"	6"	6"	6"	7"
Ply	50	60	30	40	50	60	50
Stitching	4 rows	4 rows	4 rows	4 rows	4 rows	4 rows	rows

### 3 CHEMKOTE KNIFE EDGE BUFFS

Chemkote knife-edge muslin buffs great for buffing in crevices. Leather center. Razor edge.



No.	17.562	17.560	17.563	17.561
Diameter	3"	4"	5"	6"
Ply	9	12	12	12
Stitching	2 rows	5 rows	7 rows	8 rows

**Safety Tip:** Always wear proper eye protection when polishing.



## SPECIALTY BUFFS

### 1 BERRY BUFFS

Use the best buff available for final polishing of platinum. Stiff, chemically treated muslin with good cutting action and high compound retention. Provides high lustre. Reduce polishing time. Durable and long lasting. Sold individually.



No.	17.530	17.531	17.532	17.53101	17.53102	17.566	17.567
Diameter	6"	4"	5"	5"	6"	4" Knife Edge	6" Knife Edge
Ply	30	40	50	40	50	12	12
Stitching	4 rows	3 rows		3 rows	4 rows	7 rows	10 rows

Hint: Use our uniquely colored Berry Buffs exclusively for your platinum work to avoid cross contamination from other metals.

### 2 ORANGE BUFFS

Durable, treated muslin. Ideal for use with aggressive compounds to remove scratches from gold. Excellent compound retention. Provides robust polishing for a high lustre on all hard metals. Sold individually.



No.	17.524	17.525	17.526	17.52601	17.527	17.528	17.529	17.52901
Diameter	3"	4"	4"	5"	5"	5"	6"	6"
Ply	50	40	50	50	40	60	50	60
Stitching	3 rows	3 rows	3 rows	4 rows	3 rows	5 rows	4 rows	5 rows

### 3 BLUE BUFFS

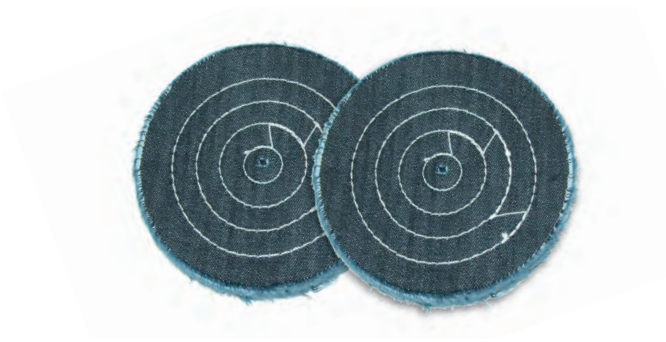
More aggressive and longer wearing than yellow and berry buffs. Chemically treated to be stiffer and more durable. Ideal for cutting and polishing platinum. Leather center.



No.	17.510	17.511	17.512	17.520
Diameter	4"	5"	6"	6" Knife Edge
Ply	50	50	50	12

**Safety Tip:** Always wear proper eye protection when polishing.

SPECIALTY BUFFS



1 DENIM BUFF

This new denim buff is perfect for all polishing jobs. Long lasting and durable, with excellent compound retention. Shellac Center. Stitching: 4 rows

No.	17.595	17.596
Diameter	4"	6"
Ply	40	40



2 GREEN BUFF

This new green buff is perfect for all polishing jobs. Long lasting and durable, with excellent compound retention. Shellac center. Stitching: 4 rows

No.	17.597	17.598
Diameter	4" x 1/2"	6" x 1/2"
Ply	40	40



3 CHAMOIS BUFFS

Use with rouge to produce the highest finish on gold. Stitched with leather patch on center for firm grip on tapered spindle. Sold individually.

No.	17.135	17.136	17.137	17.138	17.139	17.140	17.141
Diameter	1"	2"	2-1/2"	3"	4"	5"	6"
Ply	5	12	12	12	18	18	18
Stitching	1 row	2 rows	2 rows	3 rows	3 rows	3 rows	4 rows

Safety Tip: Always wear proper eye protection when polishing.

## SPECIALTY BUFFS

### 1 DIXCEL® MINIATURE CHAMOIS BUFFS

Get the best possible finish on hard-to-reach places. Three-ply wheels.  
Use with No. 43.128 mandrel.



No.	Description	Qty.
17.129	Assorted buffs	Box of 25

No.	Diameter	Qty.
17.132	5/8"	Box of 12
17.134	3/4"	Box of 12

### 2 MOUNTED CHAMOIS BUFF



No.	Diameter
17.116	1"

### 3 SPECIAL SHAPE MUSLIN BUFFS

Well suited for polishing interior and broad surfaces. Sold individually.



No.	17.610	17.831	17.832	17.833	17.834	17.852	17.853
Shape	Cylinder	Goblet	Goblet	Goblet	Goblet	Tapered	Tapered
Diameter	2"	2"	2-1/2"	3"	4"	3/4"-2"	1"-2-1/2"
Length	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-3/4"	2-1/4"

### 4 SECTION MUSLIN BUFFS

These buffs have spiral sewing 3/8" apart. They may be grouped to obtain the thickness desired. With pin hole center. Sold individually.



No.	Diameter	Thickness
17.841	6"	1/4"

SPECIALTY BUFFS

1 BUFFS for VIGOR MULTI-GRINDER (No. 47.0215)

Sold individually.



No.	Dimensions	Style
17.01220	3"	Extra fine muslin
17.01221	3"	Cotton flannel
17.01222	3" x 1/2" x 3/8"	Felt



2 MINIATURE BUFF ASSORTMENT

Contains two 3/32" mandrels (which can be used on flexshafts) and six of our most popular polishing items: 1 chamois buff, 1 muslin wheel, 1 felt cone and 3 felt wheels. Packaged in a handy plastic box. Sold individually.

No.
17.126



4 ALUMINUM OXIDE FLAP WHEELS

Use these versatile wheels for watch bands or for light de-burring and polishing of non-ferrous metals. They replace hand pads and reduce the need for a finishing operation. Great for satin finishing of steel, and ideal for surface contaminant removal. Sold individually. 4" diameter, 1" thick, 1/4" arbor hole.

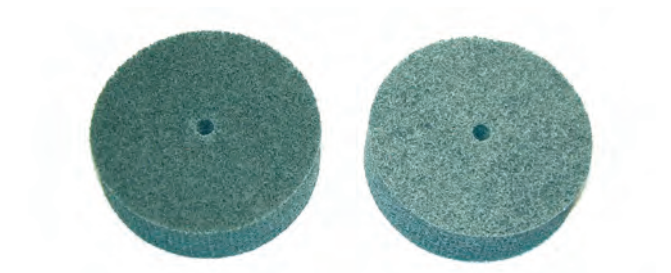
No.	Grade
17.861	Fine
17.862	Coarse
17.863	Extra Fine
17.864	Medium

3 MINIATURE SATIN FINISH BUFFS

Mounted buffs on 3/32" mandrels. Great for texturing small pieces. Sold by the dozen.

No.	Grade	Diameter
17.901	Fine	3/4"
17.902	Medium	3/4"
17.908	Fine	1"
17.909	Medium	1"

Maximum 30,000 RPM recommended.

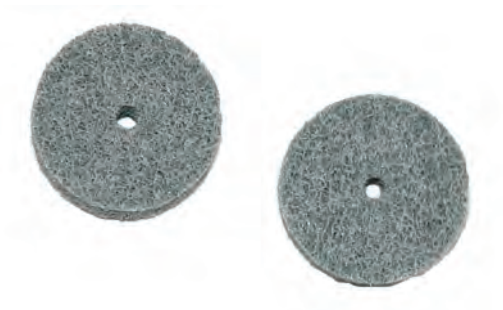


5 MATTE FINISH WHEELS

Use to obtain matte finishes on metal, wood and plastic. Nylon fibers impregnated with abrasive granules. 3" diameter, 3/4" thick, 1/4" arbor hole. Sold individually.

No.	Grade
17.870	Fine
17.871	Medium





### 1 MINIATURE MATTE WHEELS

1" diameter, 1/4" thick, 1/8" arbor hole. Use with No. 43.162 mandrel. Sold individually.

No.	Grade
17.875	Fine
17.876	Medium



### 2 BERGEON CIRCULAR ABRASIVE BRUSH

Fine satin metal finish, shining. The brush can be used for retouching of old objects, cleaning, de-oxidation, stripping. To be used without polishing products or paste. Ø: 100 mm. Thickness: 20 mm. Hole: Ø 6 mm. Suggested rotation speed: 2800 r/min. Maximum rotation speed: 5500 r/min.

No.	Grade
60850	Fine



### 3 SATIN FINISH BUFFS

Use dry to produce a satin finish on gold, silver and other metals. Synthetic fiber buffs are 2 or 3 ply. Plastic center provides firm grip on tapered spindle. Sold individually.

No.	17.899	17.897	17.898	17.893	17.891	17.892	17.896	17.894	17.895
Diameter	3"	3"	3"	4"	4"	4"	4"	4"	4"
Ply	3	3	3	2	2	2	3	3	3
Grade	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse



### 4 FELT HAND BUFFS

Use for cleaning, polishing and finishing metals and stones. Made of hard felt, mounted on wood handle. Sold by dozen.

No.	Dimensions
17.100	11" L x 7/8" W



### 5 CHAMOIS HAND BUFFS

Use for cleaning, polishing and finishing metals and stones. Strips of chamois glued to wood sticks. Sold by dozen.

No.	Dimensions
17.094	11" L x 7/8" W

## 1 GROBET USA® HEAVY-DUTY SPLIT LAP MACHINE

Built for professional use in a variety of tough applications. 3450 RPM, 1/2 HP ball-bearing motor. Features rugged steel base, on/off switch, 3" inlet for connection to dust collector, heavy-duty steel hood, adjustable light socket, and tapered spindle. One-year warranty. Shipping weight 46 lbs.

No.	Model
17.945	110V
17.945X	220V



## 2 PARAMOUNT™ FELT SPLIT LAPS

The standard of excellence in split lap performance. Each wheel is balanced, with holes in the precise center to ensure smooth operation. Perfectly concentric slits provide outstanding visibility of the item being polished. 1/2" thick with beveled edges. Each lap is packaged inside plastic to eliminate discoloration and provide resistance to breakage during shipping. Sold individually.

No.	Description	Size
17.956	Medium	6"
17.957	Hard	6"
17.958	Rock Hard	6"



## 3 MX SPLIT LAP

Multi-laminated, flexible, cotton split-laps are impregnated with aluminum oxide abrasive grains. The smooth, controlled, cool grinding action produces a consistent finish on most metals. Maximum rating is 6050 RPM. Sold individually.

No.	Dimensions
17.975	6" x 1/4", with 3/8" arbor hole

**Safety Tip:** Always wear proper eye protection when polishing.

## POLISHING CLOTHS



### 1 FABULUSTRE® POLISHING CLOTHS

Keep hands clean when polishing with rouge! Double cloth—one side impregnated with jeweler's rouge and the other side is a final polish cloth. Individually packed in plastic pouches. Sold by box of 12.

No.	Dimensions
17.076	9" x 11"



### 2 SHINO CLOTHS

Double cloth, impregnated with jeweler's rouge. Packed individually in plastic pouch.

No.	Dimensions
17.090	12" x 14"



### 3 GROBET LINTLESS CLOTH

The Grobet lintless cloth is made from an untreated micro fiber that will not snag or shred. The texture and softness of the light blue colored cloth is perfect for cleaning precious stones and diamonds. Sold individually.

No.	Dimensions
17.075	9" x 10" (230 x 260mm)



### 4 SELVYT™ CLOTHS

High-quality polishing cloth. Soft, velvety, no-lint texture polishes surfaces without scratching. Use on jewelry, silverware, eyeglasses, records, etc. It will retain its softness and suppleness even after repeated washings. Sold individually.

No.	Dimensions	Letter
17.080R	5" x 5"	O
17.081R	10" x 10"	A
17.082R	14" x 14"	B
17.083R	17" x 14"	C

### 5 ULTRA-SOFT CONNOISSEURS® POLISHING CLOTH

A rougeless, dual-cloth buffing system. Ultra-Soft for Jewelry cleans and buffs gold and silver jewelry. Ultra-Soft for silver lifts tarnish from sterling silver, silver plate, flatware and holloware, while leaving a protective, anti-tarnish coating. Sold individually.

No.	Dimensions	Use
17.0270	11" x 14"	For Gold
17.0271	11" x 14"	For Silver



# *Burs*

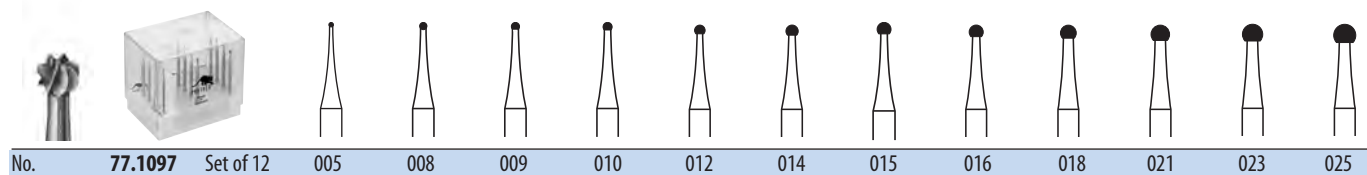




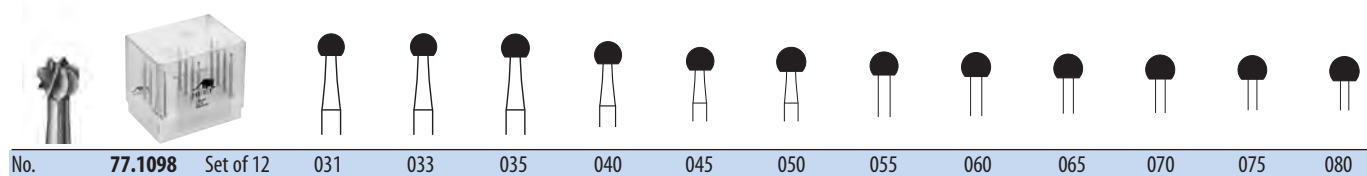


Panther has earned a reputation for the highest standards in precision tool production in the world. Our burs and tools are manufactured on the most technically advanced computer assisted machinery in existence. Only the finest quality hardened tool steel is used. Each tool is individually hand inspected before leaving the factory. Our highly trained technicians take pride in producing the most exceptional, durable precision burs available anywhere. Once you experience the performance of a Panther bur, you will never accept a substitute.

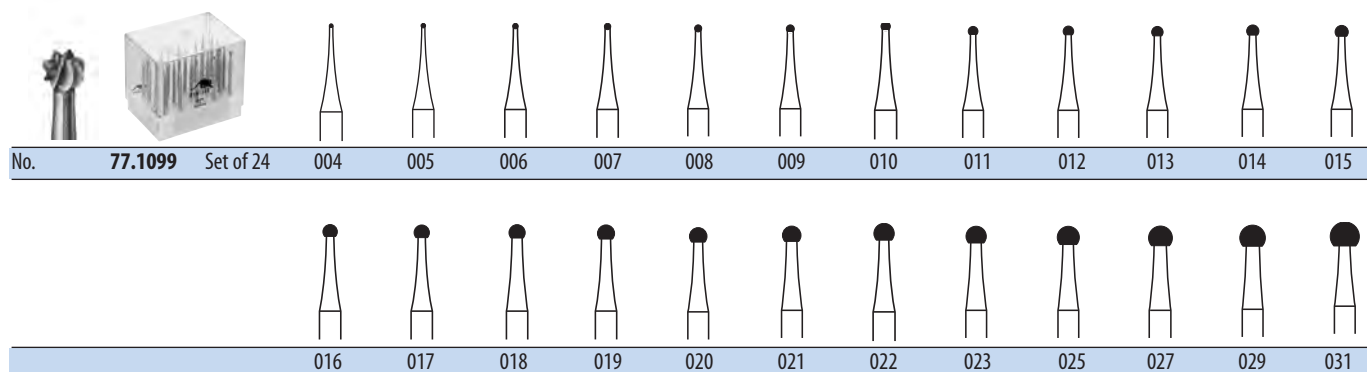
### ROUND #1 - SET



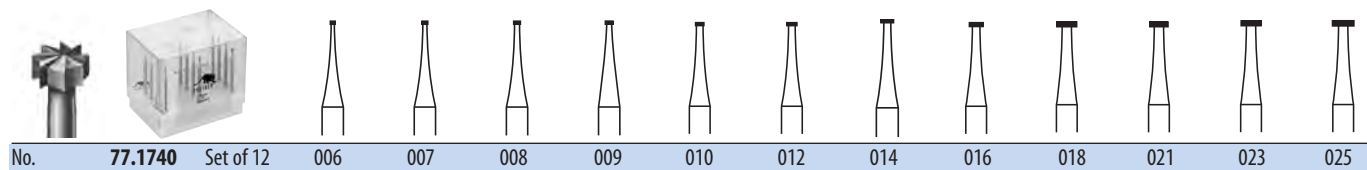
### ROUND #1 - SET



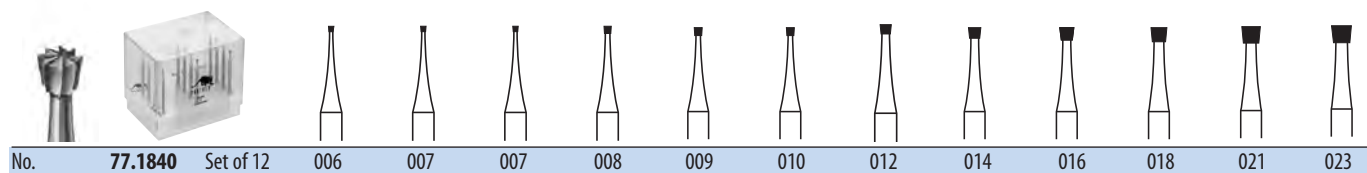
### ROUND #1 - SET



### WHEEL #2 - SET





### INVERTED CONE #3 - SET



PANTHER BUR SETS





CONE #5 - SET





No.	77.1640	Set of 12	009	010	012	014	016	018	021	023	025	027	029	031
-----	---------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

BUD #6 - SET





No.	77.1560	Set of 12	009	010	012	014	016	018	021	023	025	027	029	03
-----	---------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----

CYLINDER CROSS CUT #21 - SET





No.	77.2140	Set of 12	006	007	008	009	010	012	014	016	018	021	023	025
-----	---------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

CONE SQ. CROSS CUT #23 - SET





No.	77.2240	Set of 12	006	007	008	009	010	011	012	013	014	016	018	021
-----	---------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

TWIST DRILL #77 - SET



No.	77.2699	Set of 12	005	006	007	008	009	010	011	012	013	014	015	016
-----	---------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

KNIFE EDGE CUT #249 - SET




No.	77.1398	Set of 12	009	010	011	012	013	015	020	030	050	070	090	100
-----	---------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Burs


## PANTHER BUR SETS




### HART #446 - SET

														
No.	77.1299	Set of 12	010	011	012	014	015	016	017	018	019	021	023	025


### HART #156C- SET

														
No.	77.1197	Set of 12	009	010	012	014	016	018	020	021	023	029	031	035


### HART #156C- SET

														
No.	77.1198	Set of 12	027	029	030	031	033	035	037	040	042	045	047	050

### HART #156C- SET

														
No.	77.1199	Set of 24	009	010	011	012	013	014	015	016	017	018	019	020
No.			021	023	025	027	029	030	031	033	035	037	040	045















### STONE SETTING #413 - SET

														
No.	77.1497	Set of 12	010	012	015	016	018	020	021	025	030	033	035	040



























## PANTHER BUR SETS
















### STONE SETTING #413 - SET

 																										
No.	77.1498	Set of 12	030	033	035	037	040	042	045	047	050	060	070	080												





















### STONE SETTING #413 - SET

															
No.	77.1499	Set of 24		010	012	013	015	016	017	018	019	020	021	022	023
															
No.				025	027	030	033	035	037	040	042	045	047	050	060

### CUP #77B - SET

														
No.	77.2898	Set of 12												
			010	011	012	014	016	018	019	021	023	025	027	029

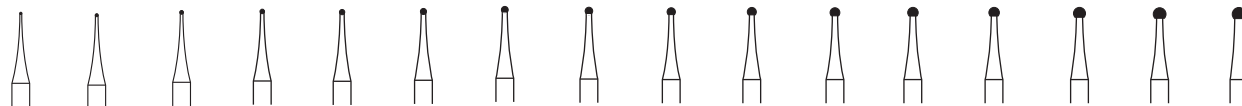
### CUP #77B - SET

																				
No.	77.2899	Set of 18	008	009	010	011	012	012	013	014	015	016	017	018	019	021	023	025	027	029

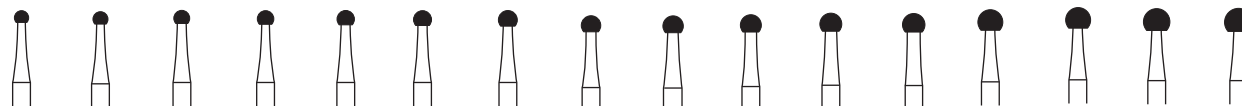




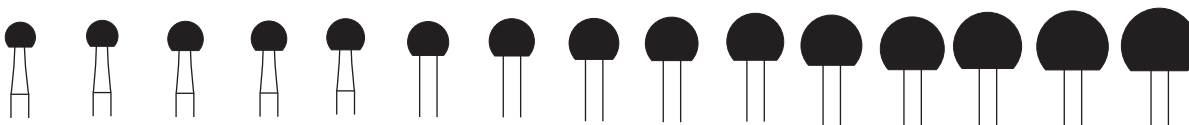
## ROUND - Figure 1



Size	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018
No.	77.1003	77.1004	77.1005	77.1006	77.1007	77.1008	77.1009	77.1010	77.1011	77.1012	77.1013	77.1014	77.1015	77.1016	77.1017	77.1018

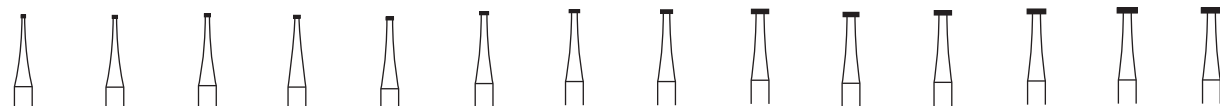


Size	019	020	021	022	023	024	025	026	027	028	029	030	031	033	035	037
No.	77.1019	77.1020	77.1021	77.1022	77.1023	77.1024	77.1025	77.1026	77.1027	77.1028	77.1029	77.1030	77.1031	77.1033	77.1035	77.1037



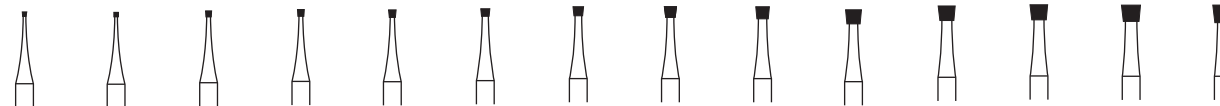
Size	040	042	045	047	050	055	060	065	070	075	080	085	090	095	100
No.	77.1040	77.1042	77.1045	77.1047	77.1050	77.1055	77.1060	77.1065	77.1070	77.1075	77.1080	77.1085	77.1090	77.1095	77.1096

## WHEEL - Figure 2



Size	006	007	008	009	010	012	014	016	018	021	023	025	027	029
No.	77.1706	77.1707	77.1708	77.1709	77.1710	77.1712	77.1714	77.1716	77.1718	77.1721	77.1723	77.1725	77.1727	77.1728





































## INVERTED CONE - Figure 3




























Size	006	007	008	009	010	012	014	016	018	021	023	025	027	029
No.	77.1806	77.1807	77.1808	77.1809	77.1810	77.1812	77.1814	77.1816	77.1818	77.1821	77.1823	77.1825	77.1827	77.1829



## HART 90° - Figure 156C













											
Size	005	006	007	008	009	010	011	012	013	014	015
No.	77.1105	77.1106	77.1107	77.1108	77.1109	77.1110	77.1111	77.1112	77.1113	77.1114	77.1115
											
Size	016	017	018	019	020	021	022	023	024	025	027
No.	77.1116	77.1117	77.1118	77.1119	77.1120	77.1121	77.1122	77.1123	77.1124	77.1125	77.1127
											
Size	029	030	031	033	035	037	040	042	045	047	050
No.	77.1129	77.1130	77.1131	77.1133	77.1135	77.1137	77.1140	77.1142	77.1145	77.1147	77.1150

## HART 70°/ THIN - Figure 446












												
Size	009	010	011	012	013	014	015	016	017	018	019	020
No.	77.1209	77.1210	77.1211	77.1212	77.1213	77.1214	77.1215	77.1216	77.1217	77.1218	77.1219	77.1220
												
Size	021	022	023	025	027	029	031	033	035	037	047	
No.	77.1221	77.1222	77.1223	77.1225	77.1227	77.1229	77.1231	77.1233	77.1235	77.1237	77.1247	














## SETTING BUR - Figure 413

											
Size	009	010	012	013	014	015	016	017	018	019	020
No.	77.1409	77.1410	77.1412	77.1413	77.1414	77.1415	77.1416	77.1417	77.1418	77.1419	77.1420













  












										
Size	021	022	023	024	025	027	029	030	031	033
No.	77.1421	77.1422	77.1423	77.1424	77.1425	77.1427	77.1429	77.1430	77.1431	77.1433













										
Size	035	037	040	042	045	047	050	060	070	080
No.	77.1435	77.1437	77.1440	77.1442	77.1445	77.1447	77.1450	77.1460	77.1470	77.1480

## BUD - Figure 6

												
Size	006	007	008	009	010	012	014	016	018	021	023	025
No.	77.1506	77.1507	77.1508	77.1509	77.1510	77.1512	77.1514	77.1516	77.1518	77.1521	77.1523	77.1525















											
Size	027	029	031	033	035	037	040	042	045	047	050
No.	77.1527	77.1529	77.1531	77.1533	77.1535	77.1537	77.1540	77.1542	77.1545	77.1547	77.1550

## CONE - Figure 5












																
Size	008	009	010	012	014	016	018	020	021	022	023	025	027	029	030	031
No.	77.1608	77.1609	77.1610	77.1612	77.1614	77.1616	77.1618	77.1620	77.1621	77.1622	77.1623	77.1625	77.1627	77.1629	77.1630	77.1631




**CYLINDER, CROSS CUT #21**

													
Size	006	007	008	009	010	012	014	016	018	021	023	025	027
No.	77.2106	77.2107	77.2108	77.2109	77.2110	77.2112	77.2114	77.2116	77.2118	77.2121	77.2123	77.2125	77.2127












**CYLINDER SQUARE PLAIN #15**

										
Size	007	008	009	010	012	014	016	018	021	027
No.	77.3507	77.3508	77.3509	77.3510	77.3512	77.3514	77.3516	77.3518	77.3521	77.3527















**CONE SQUARE, CROSS CUT #23**

															
Size	006	007	008	009	010	011	012	013	014	015	016	018	021	023	025
No.	77.2206	77.2207	77.2208	77.2209	77.2210	77.2211	77.2212	77.2213	77.2214	77.2215	77.2216	77.2218	77.2221	77.2223	77.2225

**CONE SQUARE PLAIN #17**

										
Size	007	008	009	010	012	014	016	018	021	025
No.	77.3707	77.3708	77.3709	77.3710	77.3712	77.3714	77.3716	77.3718	77.3721	77.3725








**CUP - Figure 256A**

													
Size	008	009	010	011	012	013	014	015	016	017	018	021	023
No.	77.3108	77.3109	77.3110	77.3111	77.3112	77.3113	77.3114	77.3115	77.3116	77.3117	77.3118	77.3121	77.3123
























## CUP - Figure 256S

						
Size	008	010	012	014	016	018
No.	77.3008	77.3010	77.3012	77.3014	77.3016	77.3018













## CONE WAVE CUT

					
Size	006	007	008	009	010
No.	77.3806	77.3807	77.3808	77.3809	77.3810
















## CUP - Figure 77B

												
Size	008	009	010	011	012	013	014	015	016	017	018	019
No.	77.2808	77.2809	77.2810	77.2811	77.2812	77.2813	77.2814	77.2815	77.2816	77.2817	77.2818	77.2819
















  

											
Size	020	021	023	025	027	029	030	035	040	045	050
No.	77.2820	77.2821	77.2823	77.2825	77.2827	77.2829	77.2830	77.2835	77.2840	77.2845	77.2850

## KNIFE EDGE CUTTER - Figure 249

														
Size	009	010	011	012	013	014	015	016	017	018	019	020	022	023
No.	77.1309	77.1310	77.1311	77.1312	77.1313	77.1314	77.1315	77.1316	77.1317	77.1318	77.1319	77.1320	77.1322	77.1323

														
Size	025	027	030	031	033	035	037	040	045	050	070	080	090	100
No.	77.1325	77.1327	77.1330	77.1331	77.1333	77.1335	77.1337	77.1340	77.1345	77.1350	77.1370	77.1380	77.1390	77.1396



**BUD - Figure 75**



Size	040	050	060	070	080
No.	77.3240	77.3250	77.3260	77.3270	77.3280

**BUD - Conical - Figure 79**



Size	040	050
No.	77.3340	77.3350

**KRAUSE - Figure 256**



Size	010	012
No.	77.2310	77.2312

**CIRCULAR - Figure 231S**



Size	023	029	035	040
No.	77.2023	77.2029	77.2035	77.2040

**WHEEL - Figure 431**



Size	015	020
No.	77.1915	77.1920

**TWIST DRILL - Figure 77**



Size	005	006	007	008	009	010	011	012	013
No.	77.2605	77.2606	77.2607	77.2608	77.2609	77.2610	77.2611	77.2612	77.2613



Size	014	015	016	017	018	020	021	022	023
No.	77.2614	77.2615	77.2616	77.2617	77.2618	77.2620	77.2621	77.2622	77.2623

**DIAMOND TWIST DRILL - Figure 77D**



Size	008	009	010	012	014
No.	77.2508	77.2509	77.2510	77.2512	77.2514

**UNMOUNTED SAW - Figure 189**



Size	125	160	190	220
mm	.12	.12	.12	.12
No.	77.9125	77.9160	77.9190	77.9220

## PANTHER BEADING TOOLS



### BEADING TOOLS

Size	025	030	035	040	045	050	055	060	065	070	075	080
	0	1	2	3	4	5	6	7	8	9	10	11
No.	77.2900	77.2901	77.2902	77.2903	77.2904	77.2905	77.2906	77.2907	77.2908	77.2909	77.2910	77.2911

Size	085	090	095	100	105	110	115	120	125	130	135
	12	13	14	15	16	17	18	19	20	21	22
No.	77.2912	77.2913	77.2914	77.2915	77.2916	77.2917	77.2918	77.2919	77.2920	77.2921	77.2922



SET of 12 with HANDLE

No.	
77.2930	



SET of 23 with HANDLE

No.	
77.2931	















HANDLE

No.	
77.2940	

## PANTHER TUNGSTEN CARBIDE JEWELERS' BURS






### TC ROUND - Figure H71

											
Size	003	004	005	006	007	008	009	010	011	012	013
No.	77.5103	77.5104	77.5105	77.5106	77.5107	77.5108	77.5109	77.5110	77.5111	77.5112	77.5113





Size	014	015	016	017	018	019	020	021	022	023
No.	77.5114	77.5115	77.5116	77.5117	77.5118	77.5119	77.5120	77.5121	77.5122	77.5123







**TC INVERTED CONE - Figure H30**

				
Size	006	008	014	016
No.	77.6306	77.6308	77.6314	77.6316




**TC CONE ROUND - Figure H23A**

			
Size	010	012	016
No.	77.6810	77.6812	77.6816




**TC TAPERED ROUND END - Figure H23RS**

			
Size	008	009	010
No.	77.5308	77.5309	77.5310




**TC CONE ROUND CROSS CUT - Figure H23RSE**

		
Size	009	010
No.	77.6909	77.6910








**TC CONE ROUND CROSS CUT FINE - Figure H33**

		
Size	010	016
No.	77.5810	77.5816





**TC CONE ROUND CROSS CUT EXTRA FINE - Figure H23L**

		
Size	009	010
No.	77.5709	77.5710







**TC CONE SQUARE CROSS CUT - Figure H33L**

						
Size	009	010	012	014	016	021
No.	77.5409	77.5410	77.5412	77.5414	77.5416	77.5421

**TC CONE SQUARE - Figure H23L**

			
Size	010	012	016
No.	77.5510	77.5512	77.5516

**TC CONE SQUARE CROSS CUT LONG - Figure 33L**












					
Size	009	010	012	016	021
No.	77.6509	77.6510	77.6512	77.6516	77.6521












# PANTHER TUNGSTEN CARBIDE JEWELERS' BURS







## TC TWIST DRILL - Figure 203







										
Size	005	006	007	008	009	010	011	012	013	014
No.	77.6205	77.6206	77.6207	77.6208	77.6209	77.6210	77.6211	77.6212	77.6213	77.6214

									
Size	015	016	017	018	019	020	021	022	023
No.	77.6215	77.6216	77.6217	77.6218	77.6219	77.6220	77.6221	77.6222	77.6223









## TC CYLINDER LONG - Figure H21L

			
Size	009	012	014
No.	77.6709	77.6712	77.6714

## TC CYLINDER PLAIN - Figure H21

					
Size	008	010	014	016	018
No.	77.5908	77.5910	77.5914	77.5916	77.5918

## TC CYLINDER CROSS CUT - Figure H31

							
Size	008	009	010	012	014	016	018
No.	77.6108	77.6109	77.6110	77.6112	77.6114	77.6116	77.6118

## PANTHER WAX CARVING BURS

Figure 52










			
Size	012	016	023
No.	77.4312	77.4316	77.4323

Figure 171C

				
Size	018	023	031	050
No.	77.4118	77.4123	77.4131	77.4151

No. 77.4110 Set of 6 wax burs

Set includes: 77.4316 77.4323 77.4118 77.4123 77.4131 77.4151





## PANTHER SHORT BURS



Made in Germany. Panther has earned a reputation for the highest standards in precision tool production in the world. Our burs and tools are manufactured on the most technically advanced computer assisted machinery in existence. Only the finest quality hardened tool steel is used. Each tool is individually hand inspected before leaving the factory. Our highly trained technicians take pride in producing the most exceptional, durable precision burs available anywhere. Once you experience the performance of a Panther bur, you will never accept a substitute.

### SHORT ROUND BURS



Size	005	006	007	008	009	010	011	012	013	014
No.	77.1005S	77.1006S	77.1007S	77.1008S	77.1009S	77.1010S	77.1011S	77.1012S	77.1013S	77.1014S

### SHORT 90° HART BURS



Size	005	006	007	008	009	010	011	012
No.	77.1109S	77.1110S	77.1111S	77.1112S	77.1113S	77.1114S	77.1115S	77.1116S

### SHORT 70° HART BURS



Size	005	006	007	008	009	010	011	012
No.	77.1209S	77.1210S	77.1211S	77.1212S	77.1213S	77.1214S	77.1215S	77.1216S

## JEWELERS' BURS

Made of tungsten vanadium steel. 3/32" (2.4 mm) diameter shanks. 1-3/4" (44 mm) long. Can be used with flex shaft machines or micromotors.



### 1 SINGLE SHAPE BUR ASSORTMENTS

Sets of single shape burs in assorted sizes. Packaged in a handy, hardwood box.

No.	Qty.	Shape
18.150	15	Ball
18.151	15	Bud
18.153	13	Cup
18.154	15	Hart

### 2 MULTIPLE SHAPE BUR ASSORTMENTS

#### Small Sizes

Set of various shaped burs in wood box. Contains 12 burs; three each: ball, bud, cone and inverted cone, in sizes 1, 5, and 8.

No.
18.157

#### Large Sizes

Set of various shapes in wood stand. Contains 12 burs; three each: ball, bud, cone and hart in sizes 6, 10, and 14.

No.
18.158

## BUSCH® BRAND BURS

Made in Germany with a reputation for consistent and exacting quality. For many years, Busch burs have been the standard for jewelers everywhere.

### 3 BUR SET - 156C

Hart burs

No.	Qty.
18.161	12
18.164	6



### 4 BUR SET - 413

Stone Setting burs

No.	Qty.
18.162	16



### 5 DRILL SET

No.	Qty.
18.163	12

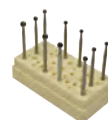


## BUSCH BRAND JEWELERS' BURS



### 1 BUSCH TOOL SET - 1

HP Steel



No.	18.130	18.131	18.132	18.133
Sizes	003-014	015-026	027-042	045-085

### 2 BUSCH TOOL SET - 203

HP Steel



No.	18.134	18.135
Sizes	005-016	006-023

### 3 BUSCH TOOL SET - 411CCC

HP Steel



No.	18.136
Sizes	010-023

### 4 BUSCH TOOL SET - 411

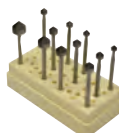
HP Steel



No.	18.137	18.138	18.139
Sizes	008-019	020-031	035-100

### 5 BUSCH TOOL SET 413

HP Steel



No.	18.140	18.141
Sizes	1.00-3.25	3.50-8.00

### 6 BUSCH TOOL SET 414

HP Steel



No.	18.142	18.143	18.144
Sizes	007-018	019-030	031-070

### 7 BUSCH TOOL SET - 411CT






















































HP Steel
























No.	18.146
Sizes	008-020



## BALL BURS

													
Size	0025	003	0035	004	005	006	007	008	009	010	011	012	013
Fig. #1	18.172	18.173	18.174	18.175	18.176	18.177	18.178	18.179	18.180	18.182	18.183	18.184	18.185
													
Size	014	015	016	017	018	019	020	021	022	023	024	025	026
Fig. #1	18.186	18.188	18.190	18.191	18.192	18.193	18.171	18.194	18.195	18.196	18.197	18.198	18.199
													
Size	027	028	029	030	031	033	035	037	040	042	045	047	050
Fig. #1	18.200	18.20001	18.201	18.20101	18.202	18.203	18.204	18.205	18.206	18.207	18.208	18.209	18.210
													
Size	055	060	065	070	075	080	085	090	095	100			
Fig. #1	18.212	18.214	18.216	18.218	18.220	18.222	18.224	18.22401	18.22402	18.22403			

















## CONE BURS

										
Size	009	010	012	014	016	018	021	023	025	
Fig. #5	18.290	18.291	18.292	18.293	18.295	18.296	18.297	18.298	18.299	
										
Size	027	029	031	033	035	037	040	045	050	
Fig. #5	18.300	18.301	18.302	18.303	18.304	18.305	18.306	18.308	18.310	











# BUSCH BRAND JEWELERS' BURS












## WHEEL BURS










															
Size	006	007	008	009	010	012	014	016	018	021	023	025	027	029	050
Fig. #2	18.211	18.213	18.215	18.217	18.219	18.221	18.223	18.225	18.226	18.227	18.228	18.229	18.230	18.231	18.236

## CONE SQUARE CROSS CUT BURS













									
Size	006	007	008	009	010	011	012	013	014
Fig. #23	18.337	18.338	18.339	18.340	18.341	18.34101	18.342	18.34201	18.343

									
Size	015	016	018	021	023	025	027	029	031
Fig. #23	18.345	18.346	18.348	18.350	18.351	18.354	18.356	18.357	18.358

## CONE SQUARE PLAIN BURS

								
Size	007	008	009	010	012	014	016	018
Fig. #17	18.368	18.369	18.370	18.371	18.372	18.373	18.374	18.375

## CYLINDER SQUARE PLAIN BURS

											
Size	007	008	009	010	012	014	016	018	021	023	031
Fig. #15	18.468	18.469	18.470	18.472	18.474	18.476	18.480	18.482	18.484	18.486	18.492

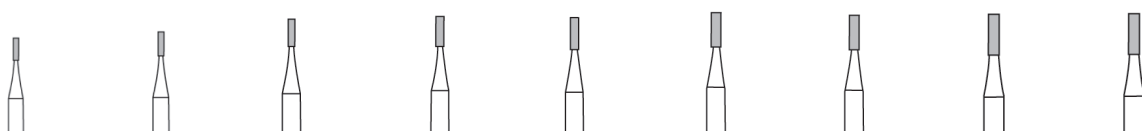




## CYLINDER SQUARE CROSS CUT BURS



Size	006	007	008	009	010	011	012	013	014
Fig. #21	18.427	18.428	18.429	18.430	18.431	18.43101	18.432	18.43201	18.433



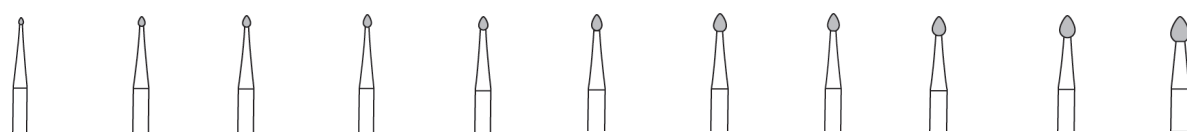
Size	016	018	021	023	025	027	029	031
Fig. #21	18.437	18.439	18.441	18.443	18.444	18.445	18.446	18.449



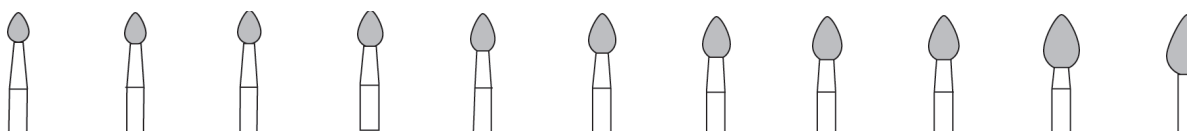
## BUD BURS



Size	006	007	008	009	010	012	014	015	016	018	021
Fig. #6	18.237	18.238	18.239	18.240	18.241	18.242	18.243	18.244	18.245	18.246	18.247



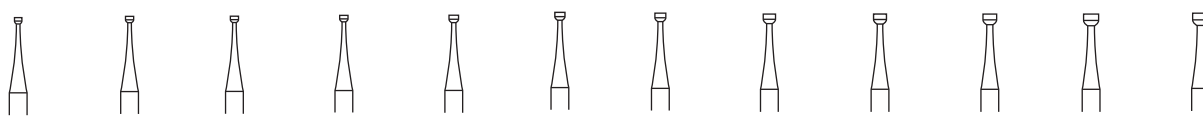
Size	023	025	027	029	031	033	035	037	040	045	050
Fig. #6	18.248	18.249	18.250	18.251	18.252	18.253	18.254	18.255	18.256	18.258	18.260



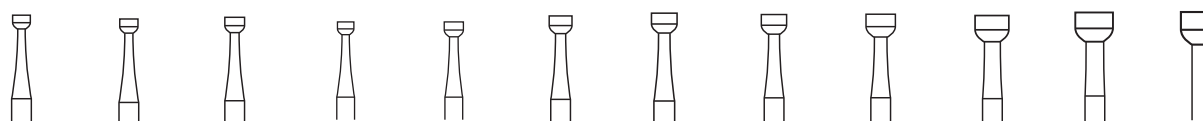
## CUP BURS



Size	008	009	010	011	012	013	014	015	016	017	018	019
Fig. #77B	18.399	18.400	18.401	18.40101	18.402	18.40201	18.403	18.404	18.405	18.40501	18.406	18.40601


















Size	020	021	022	023	025	027	029	031	035	040	045	050
Fig. #77B	18.40602	18.407	18.40701	18.408	18.409	18.410	18.411	18.412	18.41201	18.41202	18.41203	18.41204































## FAST-CUT CUP BURS

														
Size	010	011	012	014	015	016	017	018	019	021	023	025	027	029
Fig. #411C	18.413	18.424	18.414	18.415	18.416	18.417	18.425	18.418	18.426	18.419	18.420	18.421	18.422	18.423










## CLEAN-CUT CUP BURS









										
Size	010	011	012	013	014	015	016	018	021	023
Fig. #411CCC	18.619	18.620	18.621	18.622	18.623	18.624	18.625	18.626	18.627	18.628

## TWINCUT BURS

														
Size	008	009	010	011	012	013	014	015	016	017	018	019	020	021
Fig. #411T	18.751	18.752	18.753	18.754	18.755	18.756	18.757	18.758	18.759	18.760	18.761	18.762	18.763	18.764

## CUTTER

								
Size	008	009	010	011	012	013	014	015
Fig. #411CT	18.770	18.771	18.772	18.773	18.774	18.775	18.776	18.777

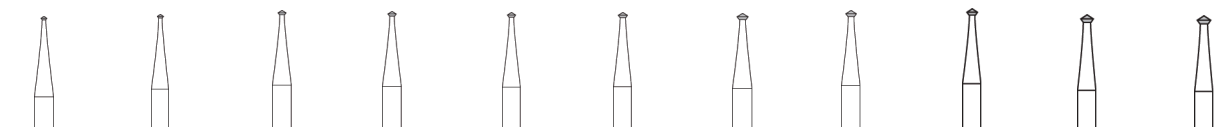
								
Size	016	017	018	019	020	021	022	023
Fig. #411CT	18.778	18.779	18.780	18.781	18.782	18.78201	18.78202	18.78203

## INVERTED CONE BURS

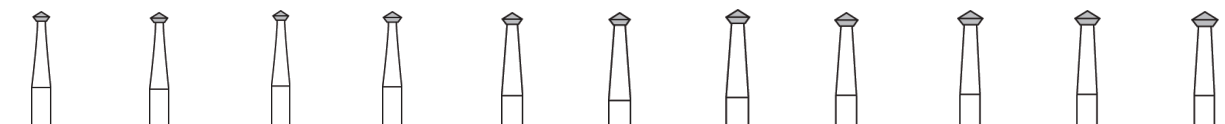


Size	006	007	008	009	010	012	014	016	018	021	023	025	027	029
Fig. #3	18.537	18.538	18.539	18.540	18.541	18.542	18.543	18.545	18.546	18.547	18.548	18.549	18.534	18.535

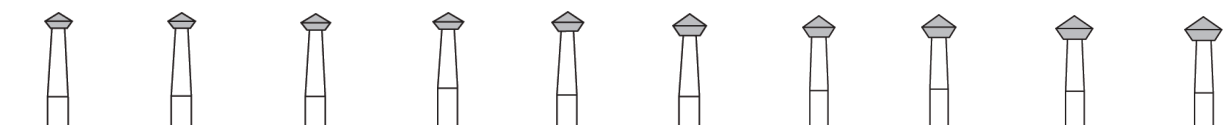
## HART 90° BURS (Bearing Cutters)



Size	007	008	009	010	011	012	013	014	015	016	017
Fig. #156C	18.498	18.499	18.500	18.501	18.522	18.502	18.523	18.503	18.504	18.505	18.526



Size	018	020	021	022	023	024	025	026	027	028	029
Fig. #156C	18.506	18.533	18.507	18.528	18.508	18.529	18.509	18.530	18.510	18.531	18.511



Size	030	031	033	035	037	040	042	045	047	050
Fig. #156C	18.51101	18.512	18.513	18.514	18.515	18.516	18.517	18.518	18.519	18.520

## HART 70° BURS (Shallow Bearing Cutters)



Size	009	010	011	012	013	014	015	016	017	018	019	020	021	022
Fig. #446	18.599	18.600	18.60001	18.601	18.60101	18.602	18.60201	18.603	18.60301	18.604	18.60401	18.60402	18.605	18.60501



Size	023	025	027	029	031	033	035	037	040	042	045	047	050
Fig. #446	18.606	18.607	18.608	18.609	18.610	18.611	18.612	18.613	18.614	18.615	18.616	18.617	18.618

## BUSCH BRAND JEWELERS' BURS



### LENS CUT



Size	010	011	012	013	014	015	016	017	018	019	020	021
Fig. #249	18.836	18.837	18.838	18.839	18.840	18.841	18.842	18.843	18.844	18.845	18.846	18.847



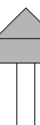
Size	022	023	024	025	026	027	028	029	030	031	033	035
Fig. #249	18.848	18.849	18.850	18.851	18.852	18.853	18.854	18.855	18.856	18.857	18.858	18.859

### STONE SETTING BURS

All burs have 3/32" shank (2.4 mm).



Size	010	0125	015	0175	020	0225	025	0275	030	0325	035	0375	040
Head Dia. (mm)	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
Fig. #413	18.701	18.70101	18.705	18.70701	18.710	18.71201	18.715	18.71601	18.718	18.719	18.720	18.72201	18.723



Size	0425	045	0475	050	0525	055	0575	060	065	070	075	080
Head Dia. (mm)	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.50	7.00	7.50	8.00
Fig. #413	18.724	18.725	18.72601	18.727	18.72703	18.72701	18.72702	18.728	18.72801	18.729	18.72901	18.730

### KRAUSE BURS



Head Dia. (mm)	1.00	1.20
Fig. #256	18.571	18.572

### WAX CARVING BURS



Size	018	023	031	050
Fig. #260A	18.576	18.578	18.582	18.590

### BUSCH BURS



Size	018	023
Fig. 115A	18.783	18.785

## BUSCH BRAND JEWELERS' BURS



### ROUND FINISHING BURS



Size	008	010	012	014	016	018	021	023	031	035	040
Fig. #145	18.550	18.552	18.553	18.554	18.555	18.556	18.557	18.558	18.560	18.561	18.562

### WHEEL BURS with SAW EDGE



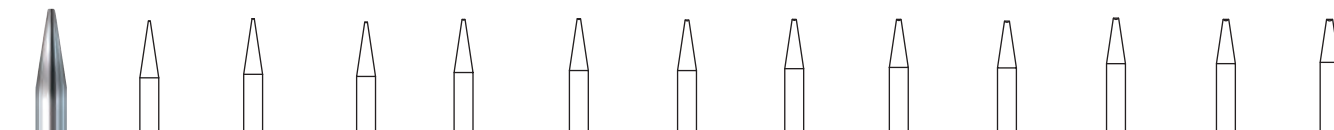
Size	2.3	4.0	5.0	6.0	10.0
Fig. #231S	18.676	18.679	18.675	18.677	18.680

### WHEEL BURS with KNIFE EDGE

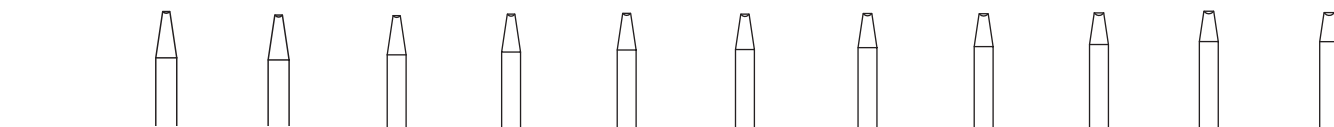


Size	060	070	080	100	140
Fig. #161KE	18.646	18.647	18.648	18.650	18.654

### BEADING TOOL



Size	0	1	2	3	4	5	6	7	8	9	10	11
Dia.	.25mm	.30mm	.35mm	.40mm	.45mm	.50mm	.55mm	.60mm	.65mm	.70mm	.75mm	.80mm
No.	53.525	53.526	53.527	53.528	53.529	53.530	53.531	53.532	53.533	53.534	53.535	53.536



Size	12	13	14	15	16	17	18	19	20	21	22
Dia.	.85mm	.90mm	.95mm	1.00mm	1.05mm	1.10mm	1.15mm	1.20mm	1.25mm	1.30mm	1.35mm
No.	53.537	53.538	53.539	53.540	53.541	53.542	53.543	53.544	53.545	53.546	53.547
























## BUSCH CARBIDE BURS

Carbide burs were especially developed for application on hard alloys, such as white gold, platinum and steel.








### CARBIDE PAVE ROUND BURS







										
Size	004	005	006	007	008	009	010	011	012	013
Fig. 1AU	18.315	18.316	18.317	18.318	18.319	18.320	18.321	18.322	18.323	18.324

										
Size	014	015	016	017	018	019	020	021	022	023
Fig. 1AU	18.325	18.326	18.327	18.328	18.329	18.330	18.331	18.332	18.333	18.334

















### CARBIDE PAVE SAW EDGE

				
Size	023 x 002	023 x 003	023 x 004	023 x 008
Fig. 231F	18.630	18.631	18.632	18.633

















### CARBIDE CONE BURS

					
Size	006	007	008	009	010
Fig. 38AU	18.801	18.802	18.803	18.804	18.805

### CARBIDE CONE BURS

															
Size	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023
Fig. 414AU	18.806	18.807	18.808	18.809	18.810	18.811	18.812	18.813	18.814	18.815	18.816	18.817	18.818	18.819	18.820

### CARBIDE CONE BURS

															
Size	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023
Fig. 446AU	18.821	18.822	18.823	18.824	18.825	18.826	18.827	18.828	18.829	18.830	18.831	18.832	18.833	18.834	18.835



## CARBIDE POLISHERS

Brilliant polished finish for gold and platinum. Sold individually. Use high speed.



No.	18.940	18.941	18.942	18.943
#	552	550	554	553
Head Diameter	2.30 x .0906	6.00 x .2358	6.00 x .2358	2.30 x .0906

## CARBIDE RAM ROLLERS



Style	Medium	Fine
Fig. RR 426	18.640	18.641

## PAVE SET



### FOUR - PIECE CARBIDE POLISHER SET

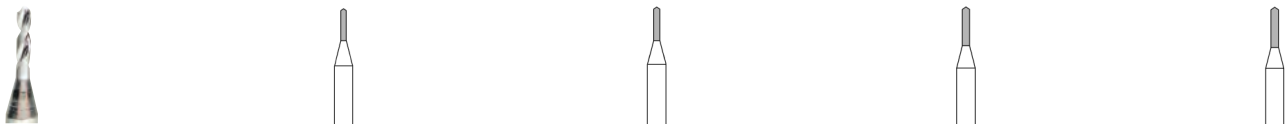
Set includes Nos. 18.940, 18.941, 18.942, and 18.943.

No.
18.944



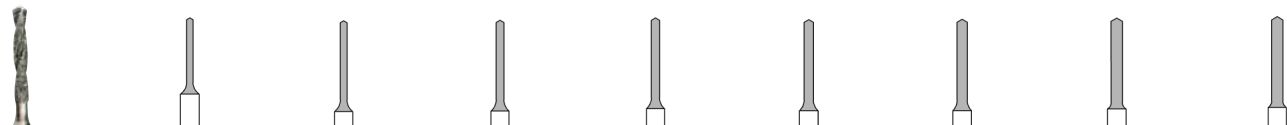
No.
18.635

## CARBIDE PAVE DRILLS



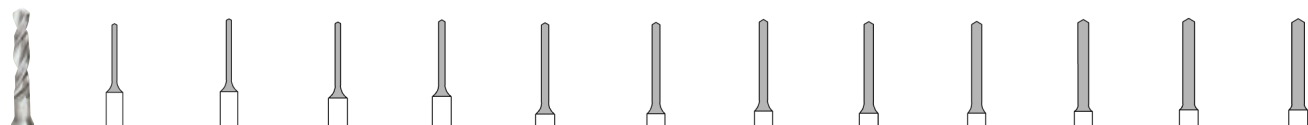
Size	007	008	009	010
Fig. 4205S	28.525	28.526	28.527	28.528

## DIAMOND TWIST DRILLS



Size	008	009	010	011	012	013	014	015
Fig. #8203	28.515	28.516	28.517	28.518	28.519	28.520	28.521	28.522





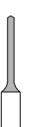
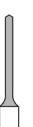





## CARBIDE TWIST DRILLS

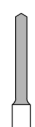
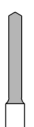
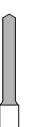
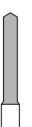







Size	005	006	007	008	009	010	011	012	013	014	015	016
Fig. #4203S	28.597	28.598	28.602	28.603	28.604	28.605	28.606	28.607	28.608	28.609	28.610	28.611








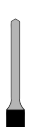







## TWIST DRILLS

										
Size	005	006	007	008	009	010	011	012	013	014
Fig. #77	28.584	28.584	28.586	28.587	28.588	28.589	28.58901	28.590	28.59001	28.591



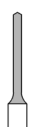
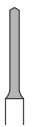
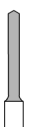
									
Size	015	016	017	018	019	020	021	022	023
Fig. #77	25.592	28.593	28.59301	28.594	28.59401	28.59402	28.595	28.59501	28.596

## HSS TWIST DRILLS

													Set of 12
Size	005	006	007	008	009	010	011	012	013	014	015	016	Set of 12
Fig. 203HSS	28.620	28.621	28.622	28.623	28.624	28.625	28.626	28.627	28.628	28.629	28.630	28.631	28.632






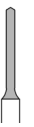





## 1 BUSCH PEARL DRILLS

Cup-shaped cutters on wheels used to dress up a setting, ring mounting, or any piece of jewelry, by forming a decorative bead or fine row of cuts along the edge. Sets contain six sizes plus chuck-holding handle.

				
Size	009	010	012	014
Fig. #77A	53.510	53.511	53.512	53.51201

## 2 BUSCH CARBIDE PEARL DRILLS

Sold in packages of 2. 3/32" shank.

										
Size	007	008	009	010	011	012	013	014	015	016
Fig. 4203	28.635	28.636	28.637	28.638	28.639	28.640	28.641	28.642	28.643	28.644

HSS JEWELERS' BURS

HIGH SPEED STEEL BURS

Made in the USA, these hand-cut, high speed steel burs last longer than standard jeweler's burs. They offer exceptional cutting efficiency and are available in a wide variety of shapes and sizes for cutting most metals. All have 3/32" (2.4 mm) shanks and will fit most flexible shaft handpieces.

BUR ASSORTMENTS & SETS



BUR ASSORTMENT

Contains 24 various shapes and sizes of the most popular burs for practically every requirement. Wood case included.

No.

19.310



1 BUR SETS

Contain the most popular sizes in specific shapes.

No.	19.333 (not shown)	19.334	19.336
Shape	Stone Setting	Stone Setting	Stone Setting
Bur Nos.	1 to 30	1 to 34	**1 to 26
Qty.	29	33	25

\*Assorted \*\*Excluding #21

## HSS JEWELERS' BURS

### BALL BUR



Size	1	2	3	4	5	6	7	8	9	10	11
Dia. (mm)	.90	1.10	1.30	1.50	1.70	1.90	2.10	2.30	2.50	2.70	2.90
No.	19.341	19.342	19.343	19.344	19.345	19.346	19.347	19.348	19.349	19.350	19.351



Size	12	13	14	15	16	17	18	19	20	22	23
Dia. (mm)	3.10	3.30	3.50	3.80	4.00	4.30	4.50	4.70	5.00	5.20	5.40
No.	19.352	19.353	19.354	19.355	19.356	19.357	19.358	19.359	19.360	19.362	19.363



Size	24	25	26	27	28	29	30	31	32	33	34
Dia. (mm)	5.60	5.90	6.30	6.70	7.20	7.60	8.00	8.90	9.60	10.40	11.10
No.	19.364	19.365	19.366	19.367	19.368	19.369	19.370	19.371	19.372	19.373	19.374

### BEARING 45° BUR



Size	2	3	4	5	6	7	8	9	10	11	12	13	14
Dia. (mm)	1.10	1.30	1.50	1.70	1.90	2.10	2.30	2.50	2.70	2.90	3.10	3.30	3.50
No.	19.382	19.383	19.384	19.385	19.386	19.387	19.388	19.389	19.390	19.391	19.392	19.393	19.394



Size	15	16	17	18	19	20	22	24	26	28	30	34
Dia. (mm)	3.80	4.00	4.30	4.50	4.70	5.00	5.20	5.60	6.30	7.20	8.00	11.10
No.	18.395	19.396	19.397	19.398	19.399	19.400	19.402	19.404	19.406	19.408	19.410	19.414



## HSS JEWELERS' BURS

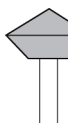
### BEARING 70° BUR



Size	1	2	3	4	5	6	7	8	9	10	11
Dia. (mm)	.90	1.10	1.30	1.50	1.70	1.90	2.10	2.30	2.50	2.70	2.90
No.	19.201	19.202	19.203	19.204	19.205	19.206	19.207	19.208	19.209	19.210	19.211



Size	12	13	14	15	16	17	18	19	20	22	23
Dia. (mm)	3.10	3.30	3.50	3.80	4.00	4.30	4.50	4.70	5.00	5.20	5.40
No.	19.212	19.213	18.214	19.215	19.216	19.217	19.218	19.219	19.220	19.222	19.223



Size	24	25	26	27	28	29	30	31	32	33	34
Dia. (mm)	5.60	5.90	6.30	6.70	7.20	7.60	8.00	8.90	9.60	10.40	11.10
No.	19.224	19.225	19.226	19.227	19.228	19.229	19.230	19.231	19.232	19.233	19.234

### BEARING 90° BUR



Size	1	2	3	4	5	6	7	8	9	10	11
Dia. (mm)	.90	1.10	1.30	1.50	1.70	1.90	2.10	2.30	2.50	2.70	2.90
No.	19.421	19.422	19.423	19.424	19.425	19.426	19.427	19.428	19.429	19.430	19.431



Size	12	13	14	15	16	17	18	19	20	22	23
Dia. (mm)	3.10	3.30	3.50	3.80	4.00	4.30	4.50	4.70	5.00	5.20	5.40
No.	19.432	19.433	18.434	19.435	19.436	19.437	19.438	19.439	19.440	19.442	19.443



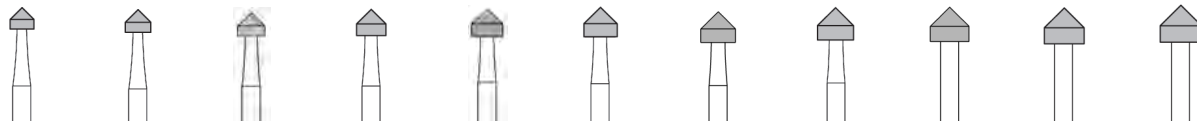
Size	24	25	26	27	28	29	30	31	32	33	34
Dia. (mm)	5.60	5.90	6.30	6.70	7.20	7.60	8.00	8.90	9.60	10.40	11.10
No.	19.444	19.445	19.446	19.447	19.448	19.449	19.450	19.451	19.452	19.453	19.454

## HSS JEWELERS' BURS

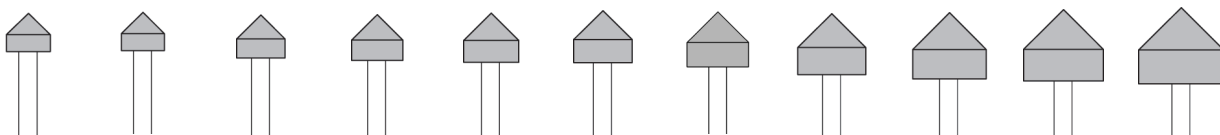
### SETTING BURS



Size	1	2	3	4	5	6	7	8	9	10	11
Head Dia. (mm)	.90	1.10	1.30	1.50	1.70	1.90	2.10	2.30	2.50	2.70	2.90
No.	19.671	19.672	19.673	19.674	19.675	19.676	19.677	19.678	19.679	19.680	19.681



Size	12	13	14	15	16	17	18	19	20	22	23
Head Dia. (mm)	3.10	3.30	3.50	3.80	4.00	4.30	4.50	4.70	5.00	5.20	5.40
No.	19.682	19.683	19.684	19.685	19.686	19.687	19.688	19.689	19.690	19.692	19.693



Size	24	25	26	27	28	29	30	31	32	33	34
Head Dia. (mm)	5.60	5.90	6.30	6.70	7.20	7.60	8.00	8.90	9.60	10.40	11.10
No.	19.694	19.695	19.696	19.697	19.698	19.699	19.700	19.701	19.702	19.703	19.704

### SLIM REAMER BUR



Size	13	19
Dia. (mm)	3.30	4.70
No.	19.713	19.719

### WHEEL BUR



Size	5	13	16	26	30	34
Dia. (mm)	1.70	3.30	4.00	6.30	8.00	11.10
No.	19.745	19.753	19.756	19.766	19.770	19.774

### CYLINDER BUR



Size	5	8	13	16	19	26	30	34
Dia. (mm)	1.70	2.30	3.30	4.00	4.70	6.30	8.00	11.10
No.	19.565	19.568	19.573	19.576	19.579	19.586	19.590	19.594

## JEWELERS' SETTING BURS

### 1 BUSER-STYLE STONE SETTING BUR SET

Set of 22 sizes for cutting stone seats. Only tops are cut with side lip regulating the depth of cut. For stones 1/16" to 2 carats. All have 1/8" (3.2 mm) shanks. Packaged in plastic stand with cover.

No.	Description
19.820	

### 2 PERFECTION STONE SETTING BUR SET

Set of 30 sizes for cutting stone seats. All have 1/8" (3.2 mm) shanks. Packaged in plastic stand with cover.

No.	Description
19.850	



### Individual Perfection Stone Setting Burs

No.	19.851	19.852	19.853	19.854	19.855	19.856	19.857	19.858	19.859	19.860
Bur No.	1	2	3	4	5	6	7	8	9	10
(mm)	1.0	1.4	1.6	1.8	2.0	2.3	2.5	2.8	3.0	3.4

No.	19.861	19.862	19.863	19.864	19.865	19.866	19.867	19.868	19.869	19.870
Bur No.	11	12	13	14	15	16	17	18	19	20
(mm)	1.0	1.4	1.6	1.8	2.0	2.3	2.5	2.8	3.0	3.4

No.	19.871	19.872	19.873	19.874	19.875	19.876	19.877	19.879	19.880
Bur No.	21	22	23	24	25	26	27	29	30
(mm)	6.0	6.4	6.7	7.0	7.5	8.0	8.5	9.5	10.0

### 3 JEWELRY CARBIDE BURS

Once you try these you'll never use old fashioned steel burs again! Long-lasting carbide combined with a new technique of alternate diamond cutting on most burs provides benefits never before possible. With 3/32" (2.4 mm) shanks. See illustration below for stock numbers.

#### Benefits:

- Fast material removal with minimal clogging
- Reduced vibration
- Long tool life
- Smooth cutting action
- Minimum heat build-up
- Maximum tool control

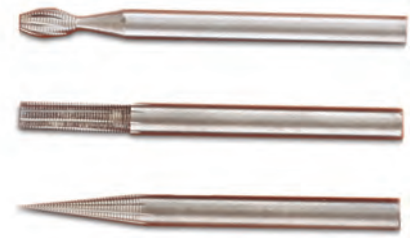


No.	20.205	20.208	20.211	20.214	20.217	20.221	20.224	20.227	20.230	20.233	20.236	20.239	20.242	20.245	20.248	20.251
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## SOLID CARBIDE FLORENTINE BURS

1/8" (3.2 mm) diameter shank, with head sizes as noted. Sold individually.

No.	Shape	Head Diameter (mm)	Head Length	
			(mm)	(in)
<b>18.950</b>	Barrel	4.0	4.0	.1575
<b>18.951</b>	Cylinder	3.2	12.7	.5000
<b>18.952</b>	Pointed	3.2	12.7	.1575



## GROBET USA® INSIDE RING BURS

Made of high speed steel. Cylinder shape for multi-purpose applications, especially for inside of rings. Sold individually.



No.	<b>33.629</b>	<b>33.630</b>	<b>33.631</b>	<b>33.632</b>	<b>33.635</b>	<b>33.636</b>
Head Dia.	1/2" (13 mm)	1/2" (13 mm)	1/2" (13 mm)	1/2" (13 mm)	1/2" (13 mm)	1/2" (13 mm)
Length of Cut	1" (25 mm)	1" (25 mm)	1-1/2" (38 mm)	1-1/2" (38 mm)	1" (25 mm)	1" (25 mm)
Shank Dia.	3/32" (2.4 mm)	3/32" (2.4 mm)	3/32" (2.4 mm)	3/32" (2.4 mm)	1/8" (3.2 mm)	1/8" (3.2 mm)
Cut	Standard	Fine	Standard	Fine	Standard	Fine

## 4 GROBET USA® INSIDE RING BURS

Size, shape and cut are designed for fast deburring, smoothing and finishing of inside ring surfaces. Made of carbide steel for extra long life.



No.	<b>20.290</b>	<b>20.291</b>	<b>20.292</b>	<b>20.293</b>	<b>20.01401</b>
Head Dia.	1/2" (13 mm)	1/2" (13 mm)	3/8" (10 mm)	1/4" (6 mm)	1/4" (6 mm)
Head Length	1" (25 mm)	1" (25 mm)	3/4" (19 mm)	5/8" (16 mm)	1/2" (13 mm)
Shank Dia.	1/4" (6 mm)	1/4" (6 mm)	1/8" (3.2 mm)	1/8" (3.2 mm)	3/32" (2.4 mm)
Finish	Extra fine	Fine	Fine	Fine	Fine



No.	<b>20.01402</b>	<b>20.01403</b>	<b>20.01404</b>	<b>20.01405</b>	<b>20.01406</b>
Head Dia.	1/4" (6 mm)	1/4" (6 mm)	3/8" (10 mm)	3/8" (10 mm)	3/8" (10 mm)
Head Length	1/2" (13 mm)	1/2" (13 mm)	3/4" (19 mm)	3/4" (19 mm)	3/4" (19 mm)
Shank Dia.	3/32" (2.4 mm)	3/32" (2.4 mm)	1/8" (3.2 mm)	1/8" (3.2 mm)	1/8" (3.2 mm)
Finish	Extra fine	Extra Coarse	Fine	Extra Fine	Extra Coarse

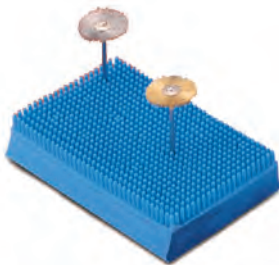
BUR ACCESSORIES



1 WOOD BOX BUR HOLDER

Wood box holds 36 burs with hinged lid and clasped closure.

No.
15.0375



2 FLAT BUR STAND

Handy 5" W x 3" D x 1" H (127 x 76 x 25 mm) plastic bur holder helps keep 3/32" (2.4 mm) shank burs in place, safe from loss or damage.

No.
19.925



3 BUR ORGANIZER

Keeps your work area clean, while protecting your tools. Handy 156 - hole carousel holds burs as well as brushes, drills, etc. Holes measure 3/32" (2.4 mm). Rotates 360°.

No.	Description
19.927	Standard model
19.926	Bottom tier has 1/8" holes



4 WOODEN BUR BOX

Makes finding the right size bur easy. This box slips into your center bench drawer. Made of hardwood with removable dividers. .

No.	Description
18.100	8" x 5-7/8" x 1-1/2"



5 GROBET USA® BUR GAUGE

Precision gauge is made of lightweight metal and measures bur diameters in ISO sizes from 005 to 045. On the reverse side is a handy ruler for measuring up to 50 mm in 1 mm increments.

No.
35.465



6 BUR and BLADE LUBRICANT

Keeps burs, drills, sawblades, gravers plus many other cutting and abrading tools working smoother and longer. Reduces heat build-up and friction to speed the cut. Easy and convenient to use. Leave it right on the bench and just dip or run the tool through the lubricant at regular intervals while working. Handy 2 oz. (56.7 g) push-up container.

No.
19.928



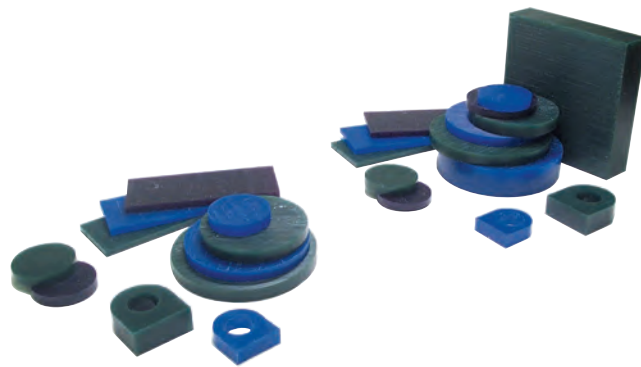
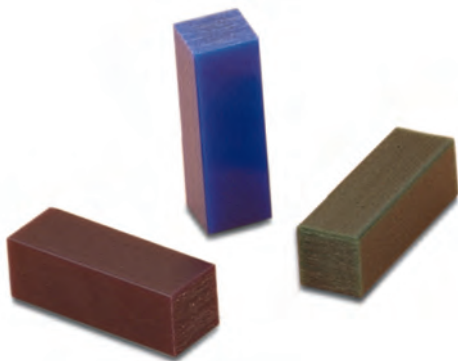
# *Casting*



## FERRIS™ FILE-A-WAX CARVING WAXES

Used for making models to be reproduced by the lost wax casting process. They can be sawed, filed or carved. Will stand rough handling and will not soften in your hands. Available in three degrees of hardness, designated by color, and in a variety of shapes.

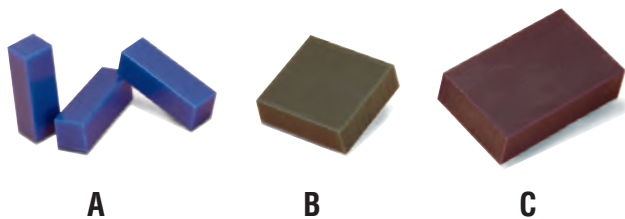
Color	Characteristics	Approx. Melting Point
Green	Cannot be flexed	240°F (116°C)
Purple	Some flexibility	240°F (116°C)
Blue	Will bend 90° in 1/8" thickness	240°F (116°C)



### 1 FILE-A-WAX ASSORTMENT BARS

Introductory kit contains three bars, one of each color/hardness. Bars weigh approximately 1/6 lb. each.

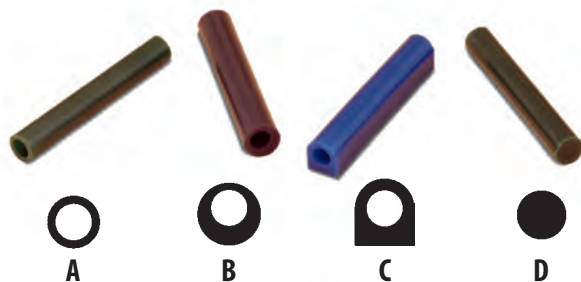
No.	Description
21.290	3-1/2" x 1-1/2" x 1-1/4"



### 2 FILE-A-WAX ASSORTMENTS

Various shapes and colors for trial use. Also handy for having around in case an odd piece is needed.

No.	Description
21.291	Junior 11 pcs assorted
21.292	Professional approx 1lb.



### 3 FILE-A-WAX BARS

All three types in three different size bars.

#### A. 1/6 lb. Bars - Packs of 3

No.	21.300	21.301	21.302
Dimensions	3-3/4" x 1-1/8" x 1-1/8"	3-3/4" x 1-1/8" x 1-1/8"	3-3/4" x 1-1/8" x 1-1/8"
Color	Blue	Green	Purple

#### B. 1/2 lb. Bars - Individual Packs

No.	21.305	21.306	21.307
Dimensions	3-1/2" x 3-1/2" x 1-3/8"	3-1/2" x 3-1/2" x 1-3/8"	3-1/2" x 3-1/2" x 1-3/8"
Color	Blue	Green	Purple

#### C. 1 lb. Bars - Individual Packs

No.	21.310	21.311	21.312
Dimensions	5-3/4" x 3-1/2" x 1-3/8"	5-3/4" x 3-1/2" x 1-3/8"	5-3/4" x 3-1/2" x 1-3/8"
Color	Blue	Green	Purple

### 4 FILE-A-WAX RING TUBES

Easy-to-cut ring tubes for designing your own rings. Many rings can be made from each 6" long tube. Pre-drilled holes are 5/8" in diameter.

Shape	MFR Style #	Measurements	Green	Purple	Blue
A	T-875	7/8" OD	21.362	21.358	21.360
A	T-1062	1-1/16" OD	21.363	21.359	21.361
B	E-1062	1-1/16" OD	21.366	21.364	21.365
C	T-100	1-1/8" H x 1-5/8" W	21.372	21.374	21.370
C	T-150	1" H x 1" W	21.371	21.392	21.391
C	T-200	1-5/16" H x 1-3/16" W	21.369	21.367	21.368
C	T-250	1-1/8" H x 1-1/8" W	21.373	21.394	21.393
D	B-875	7/8" OD	21.377	21.379	21.375
D	B-1062	1-1/16" OD	21.378	21.399	21.376

## FERRIS DESIGNED SHAPE WAXES

Designer shapes provide a selection of basic shapes that are perfect for large, custom design work. These shapes afford the ability to respond quickly to design assignments or to creative inspirations. Available in blue (regular), green (hard), and purple (medium). Specify color when ordering.

### 1 FILE-A-WAX SLABS

Assortments of five 3-5/8" square slabs in the following thickness; 1-7/8", 11-1/16", 1-3/8" and two 3/16". Sold individually.

No.	21.380	21.381	21.382
Color	Blue	Green	Purple



### 2 FILE-A-WAX SLICES

Assortment of slices measuring 3-5/8" x 1-1/2" in varying thicknesses. Half-pound assortment thickness from 3/32" to 1/4"; 1 pound assortment from 3/16" to 1".



#### 1/2 lb. Box

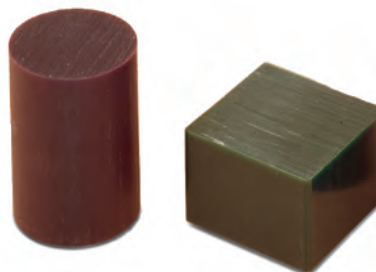
No.	21.384	21.385	21.386
Color	Blue	Green	Purple

#### 1 lb. Box

No.	21.388	21.389	21.390
Color	Blue	Green	Purple

### 3 FILE-A-WAX BARS in ASSORTED SIZES

Saw off a slice to carve coin holders, pendants, earrings, medallions, buckles, bangles and bracelets. Ideal for lathe turning to make carved napkin rings, chessmen, salt and pepper shakers, etc.



No.	21.0706	21.0710	21.0715	21.0720	21.0725	21.0730
Dimensions	3-9/16" x 2-3/8"	3-1/16" x 4-1/16"	2-3/8" x 5-1/2"	2-1/4" x 7-1/2"	1-3/4" x 12-1/8"	1-5/16" x 11-1/4"
Color	Green	Green	Green	Green	Green	Green
Shape	Square	Round	Round	Round	Round	Round

No.	21.0707	21.0711	21.0716	21.0721	21.0726	21.0731
Dimensions	3-9/16" x 2-3/8"	3-1/16" x 4-1/16"	2-3/8" x 5-1/2"	2-1/4" x 7-1/2"	1-3/4" x 12-1/8"	1-5/16" x 11-1/4"
Color	Purple	Purple	Purple	Purple	Purple	Purple
Shape	Square	Round	Round	Round	Round	Round

No.	21.0708	21.0712	21.0717	21.0722	21.0727	21.0732
Dimensions	3-9/16" x 2-3/8"	3-1/16" x 4-1/16"	2-3/8" x 5-1/2"	2-1/4" x 7-1/2"	1-3/4" x 12-1/8"	1-5/16" x 11-1/4"
Color	Blue	Blue	Blue	Blue	Blue	Blue
Shape	Square	Round	Round	Round	Round	Round

## WOLF™ WAX BY FERRIS®

Inspired by renowned master modelmaker and educator, Kate Wolf, fills a void in wax products. This wax is slightly flexible with medium hardness and can be carved or machined with the finest details. It can also be fully polished and will withstand considerable handling.

### 1 WOLF™ WAX RING TUBES & RODS

New carving wax melts at approximately 2400 F and is available in many sizes. The wax can be carved into fine detail and polished.

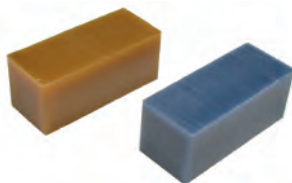
No.	Description	Color	Shape
21.0410	Solid Ring Tube	Gold	A
21.0412	T-100 Flat Side Tube	Gold	B
21.0414	Ring Tube w/Ctr Hole	Gold	C
21.0416	Ring Tube w/Off Ctr Hole	Gold	D
21.0421	T-200 Flat Side Tube	Gold	B
21.0425	Solid Ring Tube, Ex Hd	B1062 Gold	A
21.0431	Ring Tube w/Off Ctr Hole, Ex Hd	T1062E Gold	D
21.0433	T-200 Flat Side Tube, Ex Hd	T200 Gold	E



### 2 WOLF™ WAX SLICE ASSORTMENT

Wolf wax slice assortment contains five assorted slices per box.

No.	Description	Color
21.0406	1/8" to 1" in thickness	Gold



### 4 WOLF™ WAX BUILD-UP and REPAIR WAX

This durable repair wax makes it easy to blend built-up and repaired sections. To ensure thorough bond, melt model where repair wax is to be added.

No.	Description	Color
21.0400	1-3/16" x 3-9/16"	Gold
21.0401	1-3/16" x 3-9/16"	Silver



### 6 WOLF™ TOUCH-UP WAX

Ideal for final touch-up of wax imperfections. Can be easily scraped off for a smooth finish. Flows at 163° F.

No.
21.0420

### 3 WOLF™ WAX SPACE BLOCKS

1lb. block.

No.	Description	Color
21.0404	3-9/16" x 3-9/16" x 2-3/8"	Gold



### 5 WOLF™ WICKED STICKY WAX

Ideal for securing stones. Flows at 173° F. Sold in 3 ounce box.

No.	Description	Color
21.0408	3/16" square x 5" long	Red



### 7 WOLF™ RELIEF WAX

Ideal for creating raised detail on carving waxes. Apply molten relief wax on the surface of the wax model. Sold in 2 ounce tins.

No.
21.0409



## 1 OVAL BRACELET BARS

Used for making models to be reproduced by the lost wax casting process. They can be sawed, filed or carved. Will stand rough handling and will not soften in your hands. Available in three degrees of hardness, designated by color, and in a variety of shapes.



No.	21.320	21.426	21.427	21.321	21.429	21.430
Dimensions	3-1/8" x 2-5/8" x 4-5/8"	3-1/8" x 2-5/8" x 4-5/8"	3-1/8" x 2-5/8" x 4-5/8"	3-5/8" x 2-3/4" x 3-5/8"	3-5/8" x 2-3/4" x 3-5/8"	3-5/8" x 2-3/4" x 3-5/8"
Color	Blue	Green	Purple	Blue	Green	Purple



## 2 GROBET WAX WIRE ASSORTMENT

Pliable blue wax wires can be twisted or bent to desired patterns. The assortment contains gauges 6, 8, 12, and 14 half-round; gauges 10, 14, and 18 round; and gauge 6 half-pear shapes. All pieces are approximately.

No.	Length
21.530	4"



## 3 GROBET ROUND WAX WIRE ASSORTMENT

Contains pliable, round, blue wax wire. Assortment consists of gauges 6, 8, 10, 12, 14, 16, 18, and 20.

No.	
21.532	

## 4 ROUND WAX WIRE



No.	Size	GA	2 oz.
21.421	5"	14	
21.422	5"	16	
21.423	5"	18	
21.424	5"	20	



## 1 WAX WIRE ASSORTMENTS

Our wire waxes are flexible yet tough, easily twisted or bent into any shape. The assortment packs ensure you have a convenient selection of wire waxes when you need them. Each box contains eight different gauges of Stuller Select wire waxes cut in 4" lengths. Sold in 30z. boxes.



### No.3 Wire Assortment:

No.	Rectangle	Square
21.405	2, 4, 6, 8, 10 and 12 gauge	12 and 14 gauge

### No.4 Wire Assortment:

No.	Uncut Bezel	Bezel
21.406	2, 4, 6, 8 and 10 gauge	6, 8 and 10 gauge

### No.5 Wire Assortment:

No.	Round	Half-Round
21.407	8, 12, 14 and 18 gauge	6, 8, 12 and 14 gauge

### No.6 Wire Assortment:

No.	Triangle	3-Prong	4-Prong	6-Prong
21.408	8, 10 and 12 gauge	14 and 16 gauge	16 and 18 gauge	16 gauge



## 2 GROBET WAX WIRES in BOXES

Contains pliable, blue wax wire approximately 4" long.

Gauge	Half-Round	Round	Square	Triangle
3	21.539	—	—	—
6	21.540	21.560	—	—
8	21.542	21.562	—	—
10	21.544	21.564	—	—
12	21.546	21.566	21.616	21.0656/12
14	21.548	21.568	21.618	—
16	—	21.570	21.620	—
18	—	21.572	—	—
20	—	21.574	—	—

## 3 GROBET WAX WIRE on SPOOLS

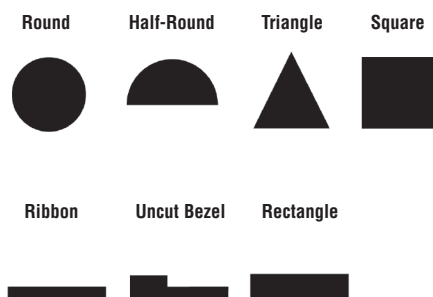
Pliable, blue wax wire wound on spools. Spools have center hole that can be placed on a round dowel and wax is unwound as needed. Round 1/2 lb.

Gauge	No.
6	21.590
8	21.591
10	21.592
12	21.593
14	21.594
16	21.595
18	21.596
20	21.597

## 1 BLUE WAX WIRE

Blue wire wax is a time tested high quality, pliable wax that can be used whenever a wire shape is required. Perfect for producing unique jewelry items as well as links, prongs, bezels and sprues. Although extremely flexible, wire wax is strong enough to be twisted or bent to conform to any configuration or angle without cracking or breaking. Sold in approximately 2oz. boxes.

Order No.	Shape	Gauge
21.57401	Round	24
21.57402	Half-Round	3
21.549	Triangle	8
21.550	Triangle	10
21.551	Triangle	12
21.552	Triangle	14
21.553	Square	6
21.554	Square	8
21.555	Square	10
21.556	Square	12
21.575	Ribbon	1
21.576	Ribbon	2
21.577	Ribbon	4
21.578	Ribbon	6
21.580	Uncut Bezel	2
21.581	Uncut Bezel	3
21.582	Uncut Bezel	4
21.583	Uncut Bezel	6
21.584	Uncut Bezel	8
21.598	Rectangular	2
21.599	Rectangular	4
21.600	Rectangular	6
21.601	Rectangular	8
21.602	Rectangular	10



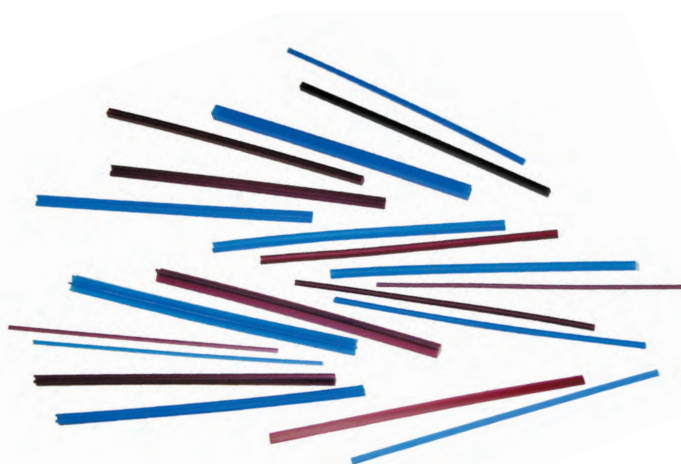
### WAX WIRE GAUGE CHART

Gauge	(in)	(mm)	Gauge	(in)	(mm)
6	.162"	4.1	20	.032"	0.8
8	.129"	3.3	22	.025"	0.6
10	.102"	2.6	24	.020"	0.5
12	.081"	2.1	26	.016"	0.4
14	.064"	1.6	28	.013"	0.3
16	.051"	1.3	30	.010"	0.3
18	.040"	1.0			

# 1 ferris Cowdery Profiles Waxes

## The Ultimate Jewelry Design-Time Saver

Designer Collection waxes created to make the task of designing and manufacturing fine jewelry better, faster and easier. These precision-formed waxes can be used individually or in combinations. Cowdery Profiles are available in purple or blue wax formulas. They are sold in pre-cut lengths of 5" (127 mm). Six pieces of one size and shape per package.



### Solid Round

Blue	Purple	Size
21.901	21.950	1 mm
21.902	21.951	1.5 mm
21.903	21.952	2 mm
21.904	21.953	2.5 mm
21.900	21.954	3 mm
21.906	21.955	3.5 mm
21.907	21.956	4 mm

### Square Rod

Blue	Purple	Size
21.908	21.957	1 mm
21.909	21.958	1 mm
21.910	21.959	2 mm
21.911	21.960	2.5 mm
21.912	21.961	3 mm
21.913	21.962	3.5 mm
21.914	21.963	4 mm

### Round Tube

Blue	Purple	Size
21.915	21.964	2 mm
21.916	21.965	2.5 mm
21.917	21.966	3 mm
21.918	21.967	3.5 mm
21.919	21.968	4 mm
21.920	21.969	4.5 mm
21.921	21.970	5 mm
21.922	21.971	5.5 mm
21.923	21.972	6 mm

### Square Tube

Blue	Purple	Size
21.924	21.973	2 mm
21.925	21.974	2.5 mm
21.926	21.975	3 mm
21.927	21.976	3.5 mm
21.928	21.977	4 mm
21.929	21.978	4.5 mm
21.930	21.979	5 mm
21.931	21.980	5.5 mm
21.932	21.981	6 mm

### Flat Ribbon

Blue	Purple	Size
21.933	21.982	2 mm
21.934	21.983	3 mm
21.935	21.984	4 mm
21.936	21.985	5 mm

### Prong

Blue	Purple	Prong	Size
21.937	21.986	3	8 mm
21.938	21.987	4	8 mm
21.939	21.988	6	8 mm

### Corner

Blue	Purple	Degree	Size
21.940	21.989	90°	1.5 mm
21.941	21.990	60°	1.5 mm

### Hinge Tube

Blue	Purple	Size
21.942	21.991	2 mm
21.943	21.992	2.5 mm
21.944	21.993	3 mm

### Channel

Blue	Purple	Size
21.945	21.994	1 mm
21.946	21.995	1.5 mm
21.947	21.996	2 mm
21.948	21.997	2.5 mm

### Catch

Blue	Purple
21.949	21.998

### Ball & Socket

Blue	Purple
21.94901	21.999

## THE MATT LINE

This complete collection of unique, high quality waxes and wax-working tools has become a necessity for designers, model makers and manufacturers. Matt products mean consistent quality, continuous innovation, use of the finest materials and advanced technology. The Matt advantages have made the Matt name synonymous with excellence. Made in the USA.

### 1 MATT MINI-LATHE with GAUGE

A versatile hand-held lathe, powered by a flexible shaft motor, designed to turn rods of carving wax. Includes precision gauge for measuring exact dimensions and thickness of work. Easily produce bands, bezels, settings, coin holders, chess pieces, etc. Set includes a cutting tool, 2 extra cutting tool blanks, 3 collets to hold wax, sample wax instruction book, and a 3-pc. stainless steel double-ended blade set. The six different ends create a cut-off tool, a channel cutter, a half-round band hollower, a frame shaper, and a cup former. Blades are .025" thick, 1/4" wide, and 4" long, and can be beveled to increase the number of designs.

No.	Description
21.02803	Complete Lathe Set
21.02804	Gauge only (to retrofit older lathes)
21.02801	Replacement 3-pc. Blade Set

Replacement Accessories for Matt Mini-Lathe:

No.	Description
21.02830	Wax-holding collet
21.02845	Cutting tool square end
21.02850	Cutting tool blank
21.02885	Rotary file



### Wax Rods for Matt Mini-Lathe

Four pieces of a single diameter and color per box, all 1-1/2" long.

Part No.	21.02810	21.02811	21.02812	21.02815	21.02816	21.02817	21.02820	21.02821	21.02822
Color	Blue	Green	Purple	Blue	Green	Purple	Blue	Green	Purple
Diameter	1-5/16"	1-5/16"	1-5/16"	1-3/32"	1-3/32"	1-3/32"	7/8"	7/8"	7/8"

### 2 MATT SHAPER

Designed for precision filing of large pieces. Made of cast aluminum with a steel support bracket, powered by a flexible shaft. The table provides ideal support when cutting large pieces such as bracelets and adjusts to allow cutting at different angles. The removable fence regulates the depth of cut ensuring precise and safe operation. Includes bracelet template, rotary file, 2 bracelet wax blanks and instructions. Handpiece and cable not included.



No.	Description
21.02895	Shaper set
21.02885	Replacement rotary file only

### 1 MATT TRIMMER

Enables you to precisely file shapes and flat or curved surfaces, at different angles. Powered by a flexible shaft and designed to simplify this procedure while improving uniformity. Ideal for creating channels. Comes with rotary file (No. 21.02885), ring template, 3 different color waxes and instructions. Handpiece and cable not included.



No.

21.02880

### 2 MATT WAX ROD CENTERING TOOL

Allows exact alignment of the Mini-Lathe's wax holding collet in the wax rod. Accommodates and precisely centers all three rod diameters listed in the chart.



No.

21.02802

### 3 MATT RING TUBE SIZER

Enlarge the finger size of your wax models quickly and accurately. Hardwood mandrel is specially machined to incorporate a cutting steel blade that extends from the handle to the tip on the tapered section. Slide this tool through the hole of wax ring or ring tube and gently rotate clockwise. As the blade turns it scrapes inner wall, enlarging the ring to the size that is marked along the mandrel, leaving a smooth and even finish on the ring.



No.

21.02890

### 4 MATT MITER BOX

Slice bars, rods and wax ring tubes into tablets with perfectly straight and parallel walls or tapered sides. The ring tube is held firmly in position inside the box so there is no strain on your hand. With stop/lock feature for cutting several tablets of the same thickness. The fine steel sawblade allows you to cut through the tube with no effort, leaving a smooth finish that does not require any filing. Set includes extruded aluminum 6" x 2" miter box, steel hand saw and stop/lock.



No.

21.02920

Description

Miter box

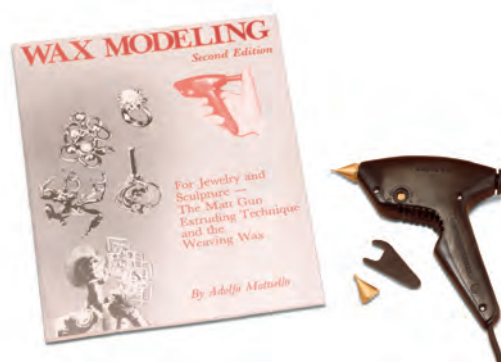
21.0750

Replacement saw



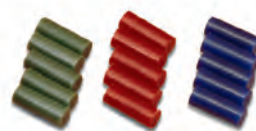
## 1 MATT GUN KIT

Provides you with a versatile extrusion technique for creating jewelry models. The gun enables you to control the temperature and pressure of the extrusion process, thus creating wire shapes of various characteristics. Three methods of design are possible: on objects, free-form and on water for abstract effects. Kit contains Matt Gun with 2 brass tips, 3 styles of wax and an illustrated 113 page book "Wax Modeling for Jewelry and Sculpture" by Adolfo Mattiello, with complete instructions.



No.	Description
21.0955	110 volt kit
21.0955/220	220 volt kit
21.01249	Book
21.0951/3	Small replacement tip
21.0951/4	Large replacement tip

## 2 REPLACEMENT WAX PELLETS for MATT GUN



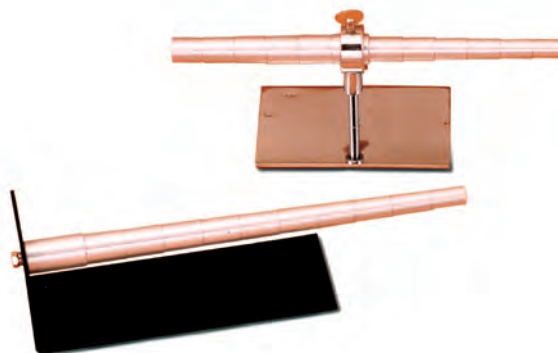
Description	Pk of 20 Pellets	Price	Pk of 130 Pellets
Blue-for mandrel work	21.0951/1	\$11.75	21.0951/6
Green-for use on water	21.0951/2	11.75	21.0951/7
Red-for weaving	21.0951/5	11.75	21.0951/8



## 3 MATT SUPPLY BOX

An important complement to the Matt Gun Kit. Contains 40 each: red, blue, and green wax pellets; a 4 oz. alcohol lamp; wire strips; and a tapered, sanded and polished, rotating hardwood mandrel on a sturdy steel base. (Excellent for designing wax models, especially with the Matt gun kit)

No.	Description
21.0956	Complete supply box
21.0897	Replacement wood mandrel only



## 4 STEPPED MOUNTED RING MANDRELS

These stepped mandrels allow precise sizing of a ring as it is being created. The mounted mandrel can be rotated or removed from its stand and held by hand.

No.	Description
21.0900	Deluxe mandrel, sizes 4-14, center mount
21.0890	Regular mandrel, sizes 4-13, end mount

## MATT WAXES

Sold individually. Matt waxes are available in three grades of hardness:

### 1 MATT WAX RING TUBES



A



B



C



D

#### A. Flat Side with Hole

No.	21.02690	21.02691	21.02692	21.02693	21.02694	21.02695	21.02696	21.02697	21.02698
Color	Blue	Purple	Green	Blue	Purple	Green	Blue	Purple	Green
Diameter	—	—	—	—	—	—	—	—	—
Width	1"	1"	1"	1-1/8"	1-1/8"	1-1/8"	1-1/4"	1-1/4"	1-1/4"
Height Size	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/4"	1-1/4"	1-1/4"

#### B. Round Off-Center Hole

No.	21.02699	21.02700	21.02701
Color	Blue	Purple	Green
Diameter	1-1/16"	1-1/16"	1-1/16"
Width	—	—	—
Height Size	—	—	—

#### C. Solid Round Bar

No.	21.02702	21.02703	21.02704	21.02705	21.02706	21.02707	21.02708	21.02709	21.02710
Color	Blue	Purple	Green	Blue	Purple	Green	Blue	Purple	Green
Diameter	7/8"	7/8"	7/8"	1-1/16"	1-1/16"	1-1/16"	1-5/16"	1-5/16"	1-5/16"
Width	—	—	—	—	—	—	—	—	—
Height Size	—	—	—	—	—	—	—	—	—

#### D. Round Bar with Centered Hole

No.	21.02711	21.02712	21.02713	21.02714	21.02715	21.02716	21.02717	21.02718	21.02719
Color	Blue	Purple	Green	Blue	Purple	Green	Blue	Purple	Green
Diameter	7/8"	7/8"	7/8"	1-1/16"	1-1/16"	1-1/16"	1-5/16"	1-5/16"	1-5/16"
Width	—	—	—	—	—	—	—	—	—
Height Size	—	—	—	—	—	—	—	—	—

**Green** - Hard with very little flexibility. Ideal for filing and delicate engraving. Softening temperature 230°F (110°C).

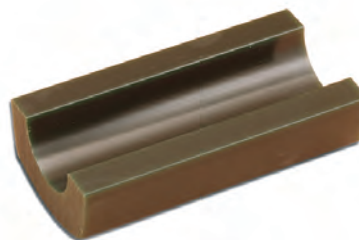
**Purple** - Medium hard with medium flexibility. All-purpose wax is ideal for models with extensive piercing, baguettes and air line openings. Softening temperature 225°F (107°C).

**Blue** - Softer and highly flexible, this wax will take a 90° bend without breaking. Ideal for models with extensive piercing or thin exposed sections. Softening temperature 220°F (104°C).

**Styles A, B, and D have a hole size of 5/8".**

## 1 MATT BRACELET WAX BLANKS

6" long arch-shaped block of carving wax is designed to simplify the construction of bracelets. From one blank style you can create round, oval or square bracelets in a variety of sizes. Simply cut two slices of the desired thickness to form the bracelet, then trim using the Matt Shaper (No. 21.02895 shown on page 104).



No.	Description
21.02897	Green
21.02898	Purple
21.02899	Blue

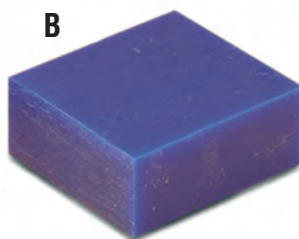
## 2 MATT CARVING WAX BARS

A special wax used in making models to be cast in metal. Can be carved, sawed, filed, machined or turned on a lathe, or melted to build up shapes through layering.

A



B



C



### A. 1/6 lb. bars

No.	21.02750	21.02751	21.02752	21.02753
Dimensions	1-7/16" x 1-1/8" x 3-1/8"	1-7/16" x 1-1/8" x 3-1/8"	1-7/16" x 1-1/8" x 3-1/8"	1-7/16" x 1-1/8" x 3-1/8"
Color	Green, Purple, Blue	Green	Purple	Blue

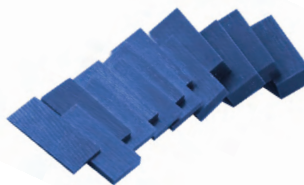
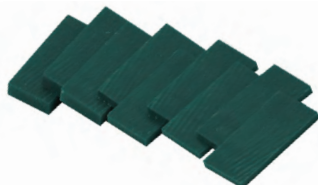
### B. 1/2 lb. bars

No.	—	21.02755	21.02756	21.02757
Dimensions	—	1-7/16" x 3-3/8" x 3-1/8"	1-7/16" x 3-3/8" x 3-1/8"	1-7/16" x 3-3/8" x 3-1/8"
Color	—	Green	Purple	Blue

### C. 1 lb. bars

No.	—	21.02760	21.02761	21.02762
Dimensions	—	1-7/16" x 3-1/8" x 6-1/2"	1-7/16" x 3-1/8" x 6-1/2"	1-7/16" x 3-1/8" x 6-1/2"
Color	—	Green	Purple	Blue

## 3 MATT CARVING WAX SLICES



### BOX of 9

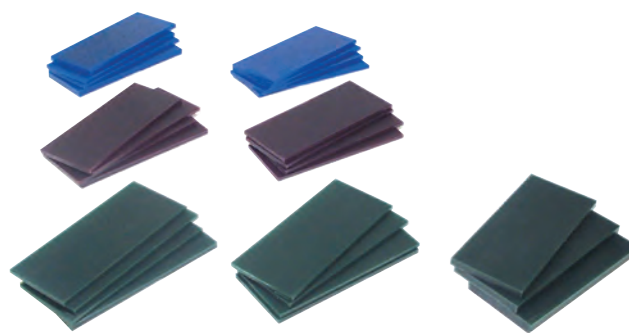
Part No.	21.02765	21.02766	21.02767
Dimensions	3-1/8" L x 1-7/16" W	3-1/8" L x 1-7/16" W	3-1/8" L x 1-7/16" W
Color	Green	Purple	Blue
Thickness	Assorted from 1/8" to 1"	Assorted from 1/8" to 1"	Assorted from 1/8" to 1"
Weight	1/2 lb.	1/2 lb.	1/2 lb.

### BOX of 12

Part No.	21.02770	21.02771	21.02772
Dimensions	3-1/8" L x 1-7/16" W	3-1/8" L x 1-7/16" W	3-1/8" L x 1-7/16" W
Color	Green	Purple	Blue
Thickness	Assorted from 1/8" to 1"	Assorted from 1/8" to 1"	Assorted from 1/8" to 1"
Weight	1 lb.	1 lb.	1 lb.

## 1 MATT CARVING WAXES

These tablets provide jewelry designers and model makers with a large, 6" x 2-5/8", flat, very smooth surface for designing jewelry directly onto carving wax. Available in four thicknesses, 4.5 mm, 6 mm, 8 mm and 10.5 mm. Set A contains 3 pcs, 4.5 mm, 1 pc, 6 mm, 1 pc, 8 mm and 1 pc, 10.5 mm. Set B contains 4 pcs, 4.5 mm and 3 pcs 6 mm. Set C contains 2 pcs, 8 mm and 2 pcs 10.5 mm.



Set A

Set B

Set C

	Set A			Set B			Set C
No.	21.02773	21.02774	21.02775	21.02776	21.02777	21.02778	21.02781
Color	Blue	Purple	Green	Blue	Purple	Green	Green

## 2 MATT GOLD COLLECTOR

Traps gold and other precious metals for easy retrieval. Protects eyes, skin and clothes from dust, flying particles and wire from brushes while providing a healthier work environment and less clean-up time. Optically clear plexiglass shield to see workpiece without glare and easily removes for cleaning and scrap collection. Side openings provide comfortable hand support for reduced fatigue. Can be attached easily to bench or table. Completely portable. Lightweight, yet strong, made of high impact extruded plastic for long life.



No.	Dimensions
21.03200	7" x 7" x 9"

## 3 MATT REAMER

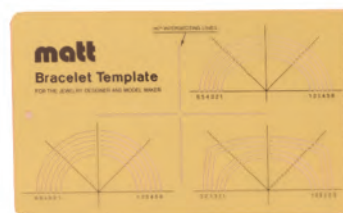
The MATT reamer allows you to cut a perfectly flat and true ring size in your wax model.



No.
21.03201

## 4 MATT BRACELET TEMPLATE

Made of durable plastic with precisely milled shapes for tracing round, oval and square bracelets from very small to large sizes. Includes instructions.



No.
21.02896

**1 SET of JEWELRY DESIGN TEMPLATES**

Set of seven heavy gauge plastic templates for custom jewelry design. Includes round, oval, baguette, emerald, marquise and pear stone shapes, as well as templates for ring and setting designs. Stone templates show metric sizes and carat weights.



No.

35.570

**2 MATT "TECHNIQUES of JEWELRY ILLUSTRATION and COLOR RENDERING" KIT**

Features full instruction on jewelry illustration, with step-by-step guidelines and clear photographs. Hard cover with 152 pages and hundreds of full color photographs and illustrations. Also included in the kit are five 8-1/4" x 5" design templates.



No.

Description

62.495

Complete kit

62.49501

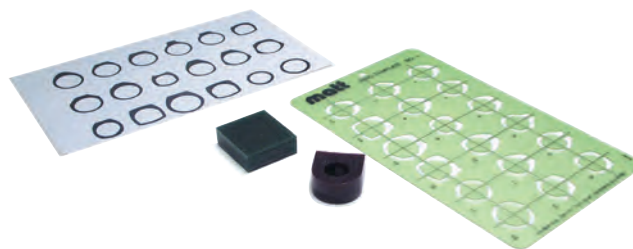
Book only

62.49502

Set of five different templates only

**3 MATT RING TEMPLATE**

Eliminates drawing ring outlines with rulers and dividers. Avoids the irregular contour of a shank made free-hand. Has 18 different cut-out ring shapes. Made of durable plastic with precision milled shapes. Includes instructions and two samples of carving wax tablets.



No.

21.02855

**4 MATT CREATIVE SETTINGS KIT**

Includes "How To Create Settings In Metal Wire And Wax" by world famous designer Adolfo Mattiello, along with two templates. Shows step-by-step how to make many different settings with drawn metal wire. It also shows how to join settings. The wax working section shows how to make settings with carving wax, prong settings and settings turned on your Matt Mini-Lathe.



No.

Description

21.02852

Complete kit

21.02851

Replacement book

21.02853

Replacement template for round settings

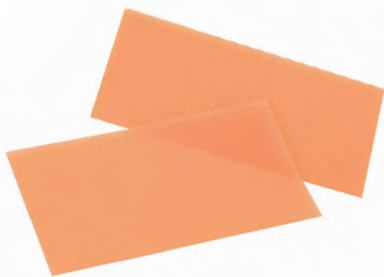
21.02854

Replacement template for oval, pear and marquise settings



## MODELING WAXES

A selection of waxes used for making models for the lost wax casting process. The waxes can be manipulated easily and worked with a heated spatula. Different wax types can be joined together to build a model. Measurements are by B & S gauge.



### 1 GROBET USA® COOL SETTING WAX

Very pliable when heated. Shapes easily, unusually tough, and will withstand bending without cracking. When cool, it will hold its shape and is easily carved.

No.	Description
21.450	6" x 3" x 1/20"



### 3 MOLD-A-WAX

While red is soft at room temperature of 70°F (21°C), the black version can be made more pliable by immersing in warm water. May be used as adhesive for other waxes. Blocks are 3-1/2" x 2-3/8". Especially good for mini sculptures, leaves, figures, etc. Can be rolled, twisted, or injected.

No.	Description
21.462	Red-soft at room temperature
21.463	Black-brittle at room temperature

### 5 REPAIR WAXES

Repair waxes were developed to offer jewelers an easy, reliable means for wax pattern repair and build-up. Repair thin sections, fill pin holes and cover flow lines. Available in two formulations. Sold in 4 oz. tins.

**Red (extra soft):** Paste-like wax is ideal for filling small imperfections. Easily applied at room temperature by hand or wax tools.

**Green (soft):** This formulation is typically used for filling larger if imperfections.

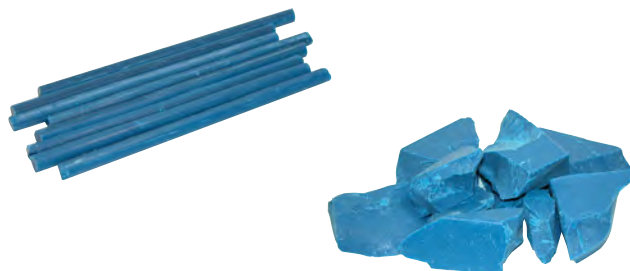
Part No.	Description
21.409	Red, 4 oz.
21.410	Green, 4 oz.



### 2 GROBET USA® INLAY WAX

A special wax for building up wax patterns. It can be carved without chipping or flaking and can be softened over a flame, in hot water or with a heated tool. Comes in two grades of hardness, in boxes of approximately 24 sticks.

No.	Description
21.458	Hard, 4" x 1/4"
21.459	Regular, 4" x 1/4"



### 4 BLUE INLAY WAX

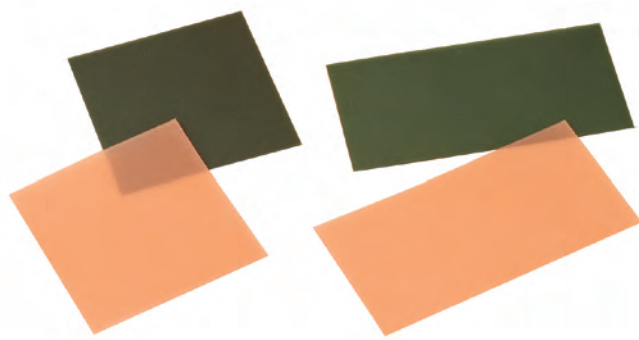
A superior build-up wax, carves without Chipping or flaking. Can be softened over a flame, in hot water or with a heated carving tool. Melting temperature 156°F. Sold in boxes.

No.	Description
21.404	12 Sticks
21.403	1lb. Hard Chunk



## 1 GROBET USA® SHEET WAX

Wax sheets in varying thickness, either firm or soft. Designs can be traced directly on sheet and cut with scissors or carving tool.



### 4" Square Sheets

Gauge	Assorted	14	16	18	20	22	24	26
No.	<b>21.470</b>	<b>21.0625/14</b>	<b>21.480</b>	<b>21.481</b>	<b>21.482</b>	<b>21.483</b>	<b>21.484</b>	<b>21.0625/26</b>
Color	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)

No.	<b>21.471</b>	<b>21.0627/14</b>	<b>21.489</b>	<b>21.491</b>	<b>21.493</b>	<b>21.495</b>	<b>21.497</b>	<b>21.0627/26</b>
Color	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)

### 3" x 6" Sheets

Gauge	16	18	20	22	24	26
No.	<b>21.0615/16</b>	<b>21.0615/18</b>	<b>21.0615/20</b>	<b>21.0615/22</b>	<b>21.0615/24</b>	<b>21.0615/26</b>
Color	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)	Green (Firm)

No.	<b>21.0617/16</b>	<b>21.0617/18</b>	<b>21.0617/20</b>	<b>21.0617/22</b>	<b>21.0617/24</b>	—
Color	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)	Pink (Soft)	—

## 2 CASTING WAX SHEETS

High-grade, translucent, flexible casting wax sheets are used by jewelry designers for a wide variety of applications and are always pliable at room temperature. They can be formed into any shape and are easily cut with a knife or scissors. Drawings or tracings can be made directly on the sheets. Clean burn-outs are guaranteed. Each clear sheet measures 4" square. Available in 32 sheet packs.



No.	<b>21.411</b>	<b>21.412</b>	<b>21.413</b>	<b>21.414</b>	<b>21.415</b>	<b>21.416</b>	<b>21.417</b>	<b>21.418</b>	<b>21.419</b>	<b>21.472</b>
Gauge	14 (1.6mm)	16 (1.3mm)	18 (1mm)	20 (.8mm)	22 (.6mm)	24 (.5mm)	26 (.4mm)	28 (.3mm)	30 (.25mm)	Assorted

### Casting Wax Assortment

Includes 32 Clear Sheets: 4-14 gauge, 4-18 gauge, 6-20 gauge, 6-22 gauge, 6-24 gauge, 6-26 gauge.

## 3 WAX SPRUE RODS

The ideal wax for central sprues. Fully refined to eliminate impurities. The rods burn out quickly without expansion or residue. Perfect for building even the most demanding sprue systems. Sold in 1lb. pks.



**Light Green:** A medium hard spruce rod which is tough and rigid. Perfect for general-purpose casting.

No.	<b>21.648</b>	<b>21.646</b>	<b>21.649</b>	<b>21.647</b>	<b>21.650</b>	<b>21.651</b>
Dimensions	1/4" x 10"	3/8" x 10"	3/8" x 10"	1/2" x 10"	3/8" x 10"	3/8" x 6"
Lbs. per Pack	1 lb.	1 lb.	1 lb.	1 lb.	25 lb.	25 lb.

**1 GROBET USA® EXTRUDED SPRUE WAX**

Supplied in the most popular diameters for jewelry work. Wax burns out cleanly and rapidly, eliminating pressure in the pattern. Red sticks, 24" long. Sold in pound boxes.



No.	Diameter	Weight
21.525	1/2"	1 lb.
21.526	1/4"	2 lbs.
21.527	3/8"	2 lbs.

**2 SPRUE WAX**

Combines flexibility and sufficient rigidity for sprueing and mounting wax patterns. Melts at lower temperature (125°F.), burns out clean. Sold in 20 oz. boxes.



No.	Gauge	Overall length
21.436	6	4"
21.437	8	4"
21.438	10	4"
21.439	12	4"

**3 GROBET USA® SPRUE WAX**

Ample flexibility and sufficient rigidity make this wax particularly suited for making sprues. Melts at lower temperatures, permitting pattern waxes to be more easily eliminated during burn-out. Comes in boxes of 6" sticks.



No.	Gauge
21.510	8
21.511	10

**4 GROBET USA® UTILITY WAX**

Soft, easily shaped red wax adheres to practically any surface. Used for building in and filling in marred surfaces. Often used to fill sprue bases. Available in sticks 5" x 3/16" or sheets 3" x 6" x 1/8".



No.	Description
21.517	Box of sticks
21.518	Box of sheets

**1 UTILITY WAX**

Easily-shaped waxes that are specially suited for fill-ins and wax repair. Utility waxes can be used to easily correct mistakes or apply sprues to sprue bases. Pliable at room temperature.



No.	Description	Dimensions
21.514	1/2 lb. Regular	3/16" x 3" x 6"

**2 SQUARE SLAB WAX**

Purple, 5 piece.



No.
21.605

**3 GROBET USA® WATER-SOLUBLE WAXES**

Dissolves and washes away in water, making it perfect for use as cores for beads and other hollow items. Other insoluble waxes are worked over these waxes and when immersed in water, a shell remains. Supplied in irregular chunks of 1 lb.



No.	Description
21.520	Softer white for melting and pouring

**4 GROBET USA® STICKY WAX and MODEL ADHESIVE**

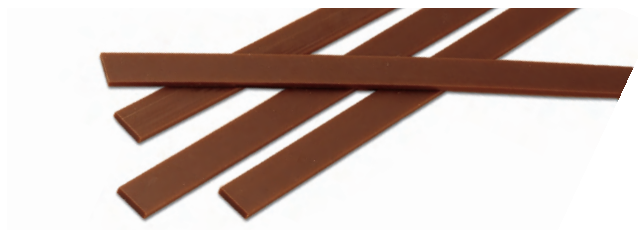
Used like an adhesive to weld waxes together. 3oz. box, Sold by weight.



No.	Dimensions
21.515	3-1/2" in length

**1 GROBET USA® SCULPTURE WAX STRIPS**

Soft, very pliable wax that is easily formed and shaped by hand without the use of heat. Perfect for forming large models. Supplied in 2 lb. boxes.



No.	Dimensions
21.655	1/4" x 1 1/4" x 24"

**2 BLUE INJECTION WAX**

Excellent flow and high flexibility. This tough wax yields bright surfaces and will not become brittle in storage. Contains a built-in release agent. Turquoise beads, same durability as aqua, but the darker color increases pattern readability. 50 lbs package



No.
21.460

**3 FERRIS INJECTION WAXES**

Excellent flow and high flexibility. This tough wax yields bright surfaces and will not become brittle in storage. Contains a built-in release agent. Turquoise beads, same durability as aqua, but the darker color increases pattern readability. Sold in 1lb. containers.



No.	Description
21.456F	Pink Magna-Ject Wax Beads
21.454F	Aqua-Ject Wax Beads
21.453F	Turquoise-Ject Wax Beads



## FREEMAN INJECTION FLAKES

Specialty Waxes for the Jewelry Industry

For nearly 40 years, Freeman injection wax has been the industry standard for quality and consistency. Freeman's formulations are renowned for their high pattern detail, rapid wax solidification, minimal shrinkage, excellent flow, and low ash content (.003%) enabling the cleanest burnouts and most accurate reproductions possible. All are designed for platinum, gold, and silver.

### 1 AQUA FLAKES

Injection Temp: 65°C / 150°F

An all-purpose injection wax, The most popular formulation, as it provides the ideal balance of characteristics demanded by most designers and casters. Also recommended for stone-in-place casting.



No.	Color
21.473	Aqua

### 2 TURQUOISE FLAKES

Injection Temp: 65°C / 150°F

Similar to Aqua Flakes, except for the turquoise color. Many designers and casters prefer the darker color for easier visual verification of fine detail.

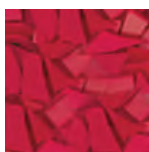


No.	Color
21.474	Turquoise

### 3 RUBY RED FLAKES

Injection Temp: 65°C / 150°F

Similar to Aqua Flakes, except for the deep red color. Many designers and casters prefer the darker color for easier visual verification of fine detail.

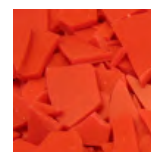


No.	Color
21.475	Ruby Red

### 4 FILIGREE PINK FLAKES

Injection Temp: 68°C / 155°F

Formerly sold as NYC Pink Flakes. This wax combines the flexibility of Tuf Guy Green (aka Tuffy Green) with the excellent flow characteristics of Aqua flakes., Produces very high detail while enabling easy pattern removal without breakage. Recommended for stone-in-place casting.

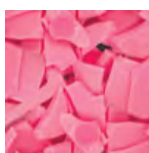


No.	Color
21.476	Filigree Pink

### 5 SUPER PINK FLAKES

Injection Temp: 65°C / 150°F

Features the quickest solidification. This wax will not give, making it ideal for clasps, claws, and bezel settings. Also, the opacity makes this wax superior in readability.

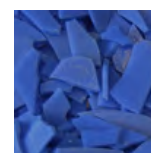


No.	Color
21.477	Super Pink

### 6 FLEXIBLE BLUE FLAKES

Injection Temp: 68°C / 155°F

Formerly sold as Flex-Plast Flakes. Features the longest shelf life and highest flexibility of the Freeman Flakes line. This unique mixture of wax and plastic is especially well-suited for metal molds and stone-in-place casting.

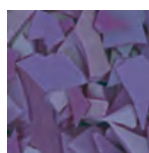


No.	Color
21.478	Flexible Blue

### 7 CARVABLE PURPLE FLAKES

Injection Temp: 77°C / 170°F

Developed for designers and casters who often rework wax patterns. This wax offers superior carvability with minimal filling or clogging of tools. Also, with the highest injection temperatures of the Freeman Flakes line, it will not break under stress and enables easier handling.

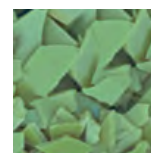


No.	Color
21.479	Carvable Purple

### 8 TUF GUY GREEN FLAKES

Injection Temp: 73°C / 165°F

Formerly sold as Tuffy Green Flakes. This is the toughest wax of the Freeman Flakes line. Its accuracy and durable, yet flexible characteristics make it ideal for large pieces.



No.	Color
21.47901	Tuf Guy Green

**1 GROBET USA® VULCANIZER**

Heavy-duty cast-iron and aluminum construction. Stainless steel heating platens. Large handle and sturdy 1" diameter pressure screw. Two large diameter guide rods keep platens in alignment. Thermostat with dial for accurate temperature control up to 500°F/260°C. Equipped with power and thermostat pilot lights and on/off switch. Predrilled holes in base for easy mounting.



No.	Dimension (W X D X H)	Electrical	Max. Opening	Ship Weight
22.552	15-1/2" x 9-1/2" x 21"	110v, 6a	4"	53 lbs.
22.552X	15-1/2" x 9-1/2" x 21"	220v, 3a	4"	53 lbs.
22.554	14" x 9-1/2" x 19-1/2"	110v, 6a	4"	96 lbs.
22.554X	14" x 9-1/2" x 19-1/2"	220v, 3a	4"	96 lbs.

**CASTALDO RUBBER****2 CASTALDO MOLD RUBBER in ROLLS**

Economical way to buy mold rubber. Rolls measure 18" wide x 1/8" thick. The 5 lb. roll is 3-1/2' long and the 50 lb. roll is 35' long.

No.	
22.595	5 lbs. White Label®

**3 CASTALDO® MOLD RUBBER in STRIPS**

Strips measure 2-7/8" x 18"x 1/8"

No.	
22.599	5 lbs. Econosil® silicone 3/8" thick

**MOLD FRAMES AND ACCESSORIES****4 MOLD FRAMES for SEE-THROUGH COMPOUND**

Mold frame sets consist of U-shaped frame, two pieces of sheet glass and two clamps.



No.	Thickness	Width	Height
22.625	5/8"	2"	3"
22.626	3/4"	2"	3"
22.627	1"	2"	3"
22.628	1-1/4"	2"	3"
22.629	1-1/2"	2"	3-1/2"
22.630	2"	2"	3-1/2"

## 1 MOLD FRAMES

Used to hold uncured rubber and model when vulcanizing. Made of aluminum alloy for best heat conduction.



No.	22.556	22.557	22.559	22.560	22.564	22.565
Thickness	3/4"	1"	1"	1-1/4"	3/4"	1"
Opening	1-7/8" x 2-7/8"	1-7/8" x 2-7/8"	2-1/2" x 3-3/4"	3-1/2" x 4-3/4"	1-7/8" x 2-7/8"	1-7/8" x 2-7/8"
Style	Single	Single	Single	Single	Double	Double

## 2 MOLD FRAME PLATES

Rigid, metal plates for placing over mold frame openings when vulcanizing uncured rubber. Provides a more uniformly shaped and solidly packed mold. Set of two pieces.



No.	22.570	22.0886	22.571	22.0887
Dimensions	5" x 7-1/8" x 1/8"	4" x 6" x 1/8"	3-1/2" x 5" x 1/8"	2-1/2" x 3-1/2" x 1/8"



## 3 PRO-CRAFT® MOLD PARTING POWDER

Provides clean mold separation.

No.	Description
22.645	1 lb.



## 4 SPRUE FORMER

Attaches to the model in the mold frame to form the opening in the mold through which the wax is injected. Assures a proper fit on the nozzle of the wax injector.

No.
22.580

## 5 MOLD CUTTING KNIFE HANDLES and BLADES

Surgically sharp, stainless steel blades fit into comfortable plastic or metal handles. Widely used for cutting rubber molds.

No.	Description
39.256	Stainless steel handle only
39.257	Plastic handle only
39.261	100/pk straight blades
39.262	100/pk curved blades



## WAX WORKING TOOLS & SUPPLIES

### 1 WAX INJECTOR

Thermostatically controlled, with one pint capacity. Keeps wax at proper temperature. Hand-operated pump injects wax into mold. Made in USA.



No.	Description
22.715	115 volt model

### 2 GROBET WAX INJECTORS

Rugged construction and precision engineering make this wax injector practically maintenance free. Both hands are free for holding mold while injecting wax. Requires 5 to 8 lbs. of pressure which can be supplied by compressor. Made in USA

#### Features:

- Capacity 2-3/4" qt. or 5 lbs. max of wax (No. 22.747)
- Capacity 4 qt. or 8 lbs. max of wax (No. 22.748)
- Heated nozzle to eliminate wax freezing
- Nozzle has positive seal and drip guard
- Accurate thermostat
- Sensitive air pressure regulator and gauge
- Large wing nuts for easy cover removal and wax loading
- On-off pilot light
- Safety valve for air release-20 lbs.
- Measures 9" diameter x 16" high (No. 22.747)
- Measures 10-1/2" diameter x 21" high (No. 22.748)



No.	Description
22.747	2-3/4 qt. capacity
22.747X	220V, 2-3/4 qt. capacity
22.748	4 qt. capacity (not shown)



### 3 PRO-CRAFT® WAX POT

US made, thermostatically controlled electric pot keeps wax at proper temperature for patching and model making. May also be used as wax and resin dip pot for refractory models.

No.	Description
21.288	1 pint capacity



### 4 3-WELL WAX TRAY with LID

This easy-to-clean, 3-well wax tray is digitally controlled, with an attached swing-back lid. The larger well measures 3" L x 2" W and is 3/4" deep. The two smaller wells measure 1-3/4" L x 1-3/8" W x 3/4" D.

No.	Dimensions
21.273	6-3/8" L x 4-7/8" W x 2" H

## 1 SIMPLICITY BURNERS

Flame can be adjusted by raising or lowering split sleeve. Faceted bowl measures 3-3/16" in diameter and holds 4 oz. of fuel. (Uses Griffith Alcohols, page 000.)



No.	Description
14.285	1/2" diameter wick
14.286	1/4" diameter wick
14.287	Screw adjusting 3/16" wick

## 2 SKIP-A-TOOTH SAW BLADES

Designed for wax cutting. Every other tooth is eliminated to provide smooth cutting and non-loading action. One dozen size #1 blades to a package. Sold by dozen.



No.
49.320

## 3 SPEEDY ALL-PURPOSE WAX PEN

Battery-operated. Instant heat with fingertip pressure control. Design or repair wax models with specially shaped interchangeable micro-tips. Cover protects tip and power switch. Includes AA-1.5V alkaline battery and one micro-tip.



No.	Description
21.260	Wax pen
21.261	Set of 3 differently shaped micro-tips

## 4 ECONOMY WAX WELDER

Easy to use. Quick warm-up. Adjustable temperature control. Convenient on/off switch. Power on indicator light. 110 volt only



No.
22.275





### 1 CERAMIC RING STAND

Holds rings, leaving both hands free for wax modeling. Mounted on base with swivel to provide the exact position or angle desired. The 6" ceramic rod is easily released for replacement. Base accommodates either ceramic or carbon soldering rod (No. 54.130 shown in soldering section).

No.	Description
54.131	Ring stand
54.132	Replacement ceramic rod



### 3 THERMOMETER

For testing wax temperature during the melting process. All metal with an 8" long stem and 2" diameter dial. Readings in both Centigrade and Fahrenheit. Capacity 50° to 400°F and 10° to 200°C.

No.
22.01455



### 5 GIFFITH WAXOLVENT

A quality solvent and polish for wax and plastic models.

No.	Description
21.792	4 oz.



### 2 ELECTRIC WAX PEN

Has five tips, variable heat control and on-off indicator light.

No.	Description
21.269	110 volt model
21.268	Replacement pen w/cord
21.271	Set of 5 tips for 21.269



### 4 ONE-HOUR TIMER

Graduated by minutes.

No.
21.791



### 6 PRO-CRAFT® VAC-U-COAT

Reduces surface tension on model so that investment will adhere. Eliminates bubbles. Flask may be vacuumed.

No.	Description
21.795	8 oz. bottle with spray pump

## 1 GROBET USA® PRO-CAST VACUUM MACHINE for INVESTING and CASTING

Three-in-one unit invests under vacuum, casts perforated flasks under vacuum and casts regular flasks under vacuum. The Pro-Cast Vacuum machine measures 23" W x 11" D x 13-1/2" H. Investing is performed on a 10-1/2" square platform which can be vibrated to eliminate air and bubbles. Unit accommodates perforated flasks up to 5" in diameter and 7" high. Pressure created by the powerful vacuum unit pulls molten metal into the most intricate patterns. Vacuum assist casting can also be done on this unit with regular solid wall flasks. Unit comes complete as shown. Shipping weight 69 lbs.



No.	Description
21.800G	110 volt model
21.800GX	220 volt model

### Replacement Accessories:

21.705	Perforated flask 3-3/8" x 4"
21.706	Perforated flask 4" x 6"
21.801	Adapter plate for vacuum assist casting
21.802	Adapter plate for 3-3/8" flask
21.803	Adapter plate for 4" flask
21.806	Oil vacuum pump oil-pint
21.808	Vacuum pump oil-quart
21.811	Vacuum pump oil-gallon
21.809	Red silicon pad for 21.805 5-1/2"
21.810	Black rubber pad for investing
21.812	Red silicon pad for 21.800G 7"
21.813	Flask seal for 3-3/8" flask
21.814	Flask seal for 4" flask
21.817	Flask seal for 5" flask and adapter plates
21.818	Bell jar 9" diameter x 8" high
22.791	Melting dish with handle
22.793	Melting dish only
57.068	Flask tongs
57.069	Perforated flask tongs with pins

## 2 GROBET USA® STANDARD VACUUM-ASSIST MACHINE for INVESTING and CASTING

When casting, the machine creates a vacuum at one end of the flask, which pulls the air and gases from the mold so that the molten metal flows quickly to every opening. Larger flasks can be cast with vacuum casting than with the centrifugal machine (although it is not possible to specify exact sizes, as the amount of metal to be cast, the shape of the cavity, etc., will all affect the size). This machine is capable of creating a negative mercury pressure equal to 27"-29" at sea level. The vacuum table measures 10-1/2" x 10-1/2" and rests on jiggle springs. Unit comes complete as shown. Shipping weight 50 lbs. Table without pump 18 lbs. Pump (and oil) 29lbs.



No.	Description
21.805G	110 volt model
21.805GX	220 volt model
21.806G	Table only without pump
21.819	Pump and oil only

**1 INVESTMENT**

Formulation contains a de-foamer blended right into the material. Gives you low rise when vacuuming, a wider water usage range for greater yield and flexibility, easier removal of air bubbles on wax pattern surfaces and a more free-flowing mix. Molds will have extra strength. Exacting details can be reproduced and break-out accomplished more easily. Complete technical information and specifications are included.

No.	Description
21.0843/50	50 lb. box

**2 INVESTMENT SCALE with 20 lb. CAPACITY**

Shipping weight 5 lbs.

No.
21.775

**4 INVESTMENT SCOOP**

Plastic scoop for handling dry investment.

No.	Dimensions
21.731	4-3/4" x 8-1/2" x 3"

**3 PRO-CRAFT® INVESTMENT SCALE with 10 lb. CAPACITY**

Accurate, yet economical, scale weighs in 2 oz. increments. Easy to read red and black numerals on 4" dial indicate weight, as well as water/investment ratios. Includes scoop.

No.	Description
21.773	Scale
21.772	Replacement scoop

**5 DISPATULA**

Disposable, flexible plastic spatula has the feel of metal but is much more economical. Supplied in boxes of 100.

No.	Length
21.185	7-1/4"



## 1 PLASTIC MEASURING CYLINDERS

For measuring the correct amount of water to mix with investment and determining the amount of metal to be cast by the displacement method.

No.	Capacity
21.740	250 ml
21.74010	1000 ml
21.74011	3000 ml



## 2 RUBBER MIXING BOWLS

No.	Diameter x Height	Capacity
21.760	2" x 2-3/4"	1/4 pt
21.761	2-3/4" x 4-1/4"	3/4 pt
21.762	3" x 5"	1 pt
21.763	5-3/4" x 6-1/4"	1-1/2 qt
21.764	6-1/2" x 8-1/2"	1 gal



## 4 PRO-CRAFT® VIBRATOR

Three-speed vibrator with greater weight and lower center of gravity prevents unit from dancing at higher speeds. Quieter operation, with greater surface area on platform. Has extra long cord and three-prong grounded plug.

No.	Description
21.815	120 volt, 40W, 60 Hz



## 3 PLASTIC MIXING BOWLS

No.	Diameter	Height	Capacity
21.756	4"	2-1/4"	3/4 pt



## 5 WAX KLEEN™

A preparation that removes scratches, smooths and cleans wax patterns prior to casting. Produces cleaner castings requiring less finishing work. Acid-free, water-soluble and 100% organic. Fast working. Rub on with cloth and let air dry. Ideal for keeping wax injectors clean.

No.	Description
21.0806	4 oz.
21.0807	8 oz.

## CASTING FLASKS & SPRUE BASES

Check chart below to help you match the sprue base type you need with the proper casting flask. All casting flasks are stainless steel and very durable. The matching sprue bases assure a leak-proof seal.



**Button Sprue Base** - Fill the cup in the center with wax or clay to form the base for the sprue.



**Tree Sprue Base** - Perfect for high production operations.

### 1 CASTING FLASKS

No.	21.687	21.68701	21.689	21.690	21.691	21.693	21.694	21.695	21.696	21.698	21.699	21.69901	21.701
Dia.	1-3/4"	2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	3"	3-1/2"	3-1/2"	3-1/2"	4"	4"
Height	1-3/4"	2-1/2"	2-1/2"	3"	4"	2-1/2"	3"	4"	2-1/2"	4"	5"	4"	5"

### RECOMMENDED SPRUE BASES

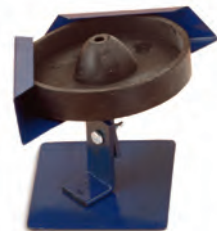
Button	21.778	21.779	21.781	21.781	21.781	21.782	21.782	21.782	21.782	21.783	21.783	21.783	21.783	21.784
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Tree	21.825	21.824	21.826	21.826	21.826	21.827	21.827	21.827	21.827	21.828	21.828	21.828	21.828	21.829
------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

### 2 PERFORATED FLASKS for VACUUM CASTING

Stainless steel heavy-duty flasks, with machined perforations, help assure a perfect cast since metal is being forced into cavities evenly from all directions.

Flask	Diameter	Height
21.705	3-3/8"	4"
21.706	4"	5-3/4"



### 3 SPRUE BASE for PERFORATED FLASK

Used with perforated flasks listed above.

No.	Flask
21.882	For No. 21.705
21.829	For No. 21.706

### 4 UNIVERSAL SPRUE BASES

One size fits all 2-1/2", 3", and 3-1/2" flasks.

No.	Description
21.780	

### 5 SPRUE BASE HOLDER

Heavy base for stability and adjustable top for varied working angles.

No.	Description
21.890	For 3" to 5" sprue bases





### 1 PLASTELINA MODELING CLAY

Pliable, gray-green in color. Used to fill cups in sprue bases.

No.	Description
21.774	1 lb. blocks



### 2 CASTING FLASK EXTENDERS

Slip the rubber extender over the flask prior to filling, to enable you to fill casting flasks to the top with investment. Prevents spilling of investment during vacuuming.

No.	Flask Diameter
21.797	2-1/2"
21.798	3"
21.799	3-1/2"



### 3 RUBBER SLEEVES for PERFORATED FLASKS

No more messy masking tape! These latex rubber sleeves are placed over the flask to contain the investment while pouring and also form a collar so that no spilling occurs. Dimensions listed are for the flask that each sleeve will fit. Sleeve must be removed prior to burnout. **Warning: DO NOT USE if you are NRL latex sensitive.**

Flask	Diameter	Height
21.708	3-3/8"	4"
21.709	4"	5-3/4"
21.711	4"	7"



### 4 PLATINUM FLASK LINER SHEET

A handy item to have when doing any type of work with a flame. Asbestos-free and specifically made for lining flasks for firing.

No.	Dimensions
21.0860	8" x 31" x 1/16"



### 5 FLASK TONGS

For lifting small and large flasks to and from oven.

No.	Length
57.068	15" (381 mm)



### 6 PERFORATED FLASK TONGS with PINS

Stainless steel, specifically designed with pins to engage the holes in perforated casting flasks for safe, secure handling. Not for use with non-perforated flasks.

No.	Length
57.069	14-7/8" (378 mm)

## FIBER BURNOUT FURNACES

Insulated with space-age ceramic fiber for fast heating and cooling at low electrical cost. The firing chamber is 13" W x 13" D x 9" H (33 x 33 x 23 cm), large enough for volume jewelry making. These kilns fire to 1700° F (967° C), so you can also use them for low-fire ceramics, enameling on metal, china painting or glass fusing. A heavy steel case protects the firing chamber for long life and the chamber is supported by a double-layer steel bottom. The base lifts the furnace off the work surface. The door peephole and top vent-hole are sealed with metal covers when not in use. The door remains tightly sealed, even at high temperature, with the spring-loaded latch. Reaches 1000° F (538° C) in 30 minutes.

### 1 DIGITAL CONTROL FURNACES

The digital control models use the DTC-800 controller, eliminating the need for a pyrometer. With this feature-packed temperature controller, you can program up to eight ramps (raising or lowering the temperature at the rate you specify) and eight dwells (holding the temperature constant for the length of time you specify). The digital models use a type-K thermocouple, long proven for its reliability. The controller will shut off automatically should the thermocouple fail and the controller stores up to six programs even if the power shuts off. The furnace has a one year warranty. The controller has a two year warranty. Can be shipped UPS. Shipping weight 108 lbs.



No.	Description
22.110	120 volt furnace and digital controller (requires 20 Amp dedicated line)
22.112	240 volt furnace and digital controller (requires 10 Amp dedicated line)
22.113	Replacement heating element for 120 or 240 volt

### 2 MANUAL CONTROL FURNACES

The manual control models use an infinite control switch with pilot light. A pyrometer hole is drilled in the back of the firing chamber. (Pyrometer not included, sold below). The furnace comes with a one-year warranty. A digital controller may be purchased separately and is recommended for burnout in place of the pyrometer. Can be shipped UPS. Shipping weight 108 lbs.



No.	Description
22.114	120 volt manual control furnace (requires 20 Amp dedicated line)
22.116	240 volt manual control furnace (requires 10 Amp dedicated line)
22.113	Replacement heating element for 120 or 240 volt

### 3 GROBET BRICK BURNOUT FURNACES

Features an infinite control switch and maximum operating temperature of 2000° F (1093° C). Includes a pre-drilled hole in the back of the chamber for insertion of a thermocouple. Use with a digital or analog pyrometer or digital controller. Elements are exposed in recessed grooves and the swing-style door opens wide for easy flask handling. Base keeps firing chamber off the work surface, so no stand is needed. A peep hole in the door and vent hole on top have metal covers. Firing chamber dimensions 8-1/2" W x 8-3/4" H x 9" D. Outside dimensions 17-1/4" W x 17-3/4" H x 18" D. Shipping weight 83lbs.



No.	Description
22.07600	
22.07601	Replacement Heating element

### 1 ANALOG (NEEDLE) PYROMETERS

Used to measure temperature in burnout ovens. Measure within 98% accuracy, from 0° to 2500° F (0 to 1371° C). Have 5" lead and sheathed 1/8" thermocouple. Can be wall mounted.



No.

22.160

### 2 "METAL-MELT" FURNACES from GROBET USA®

Specially designed and constructed for melting metals for casting and alloying. Featuring 2,012° F (1120° C) operating range, heavy duty graphite crucible, precise temperature control, LED on/off indicator light, 1kg and 2kg capacity, easy-to-read digital display, 110V-50/60 cycle power.



No.

Description

22.211	1 kilo digital furnace
22.211X	1 kilo digital furnace, 220V
22.213	2 kilo digital furnace
22.213X	2 kilo digital furnace, 220V
22.214	Replacement heating element for 1 kilo furnace
22.214X	Replacement heating element for 1 kilo furnace, 220V
22.215	Replacement heating element for 2 kilo furnace
22.216	Replacement crucible for 1 kilo furnace
22.217	Replacement crucible for 2 kilo furnace

### 3 WAX DRIP TRAYS

Trays protect the floor of your burnout oven, while providing proper support for your flasks. They increase the life of your heating element, and are a must when using plasticized wax. Stainless steel.



No.

Description

22.119	12" x 12" x 3/4"
22.11901	7" x 7" x 3/4"

## CRUCIBLES

### 1 MORGAN BRAND CRUCIBLES (WESGO)

Suitable for high temperature melting of platinum, chromium, gold alloys, etc.



No.	Type	Capacity in Platinum	
		(oz)	(g)
22.470	Small A	11	128
22.471	Large A	13	185
22.472	Slotted A for large machines	13	185
22.473	Large D with key*	10	283
22.474	Large D with large orifice	11	312

\*Key or slant side bottom for holding in machine for large melts on non-gold alloys.

### 2 FUSED SILICA CRUCIBLES

Made of clay bonded fused silica for melting temperatures up to 2800°F (1538°C). Excellent for melting gold and silver. Available in a variety of sizes or as a set of four.



No.	Diameter	Depth	Capacity	
			(dwt)	(g)
22.780	1-3/4"	5/8"	16	25
22.781	2-1/4"	3/4"	19	30
22.782	3"	1"	25	39
22.783	4"	1-3/8"	35	54

No.

22.784 Set contains all four sizes listed above.

### HIGH TEMPERATURE CRUCIBLE

No.	Type	Capacity in Platinum	
		(oz)	(g)
22.47101	Large A	13	185

### 3 CENTRIFUGAL CASTING MACHINE CRUCIBLES

Crucibles for use with the centrifugal casting machines. Made of fused silica with a clay bond, which will last through many meltings. Best choice for metal melting up to 2500°F (1371°C).



No.	Troy (oz)	Capacity	
		(g)	(dwt)
22.450	2-1/2	77	50
22.779	2-1/2	77	50
22.452	12	373	240
22.453	20	622	400
22.455	22-1/2	622	400
22.454*	9	279	180

\*With slot to fit Pro-craft® casting machines on page 129.

## 1 MELTING DISH

Particular style of these crucibles makes it easier to melt metals with a torch. Made of fused silica with clay bond and suited to high melting temperatures. Handle No. 22.798 can be added to make pouring easier.



No.	Type	Capacity	
		(oz)	(g)
22.793	Straight side	7-1/2	213
22.765	Straight side	18	510
22.795	High back	20	567
22.764	Straight side	40	1134

## 2 MORGAN MELTING DISH (WESGO)

Designed for high temperature melting, including metals such as platinum.



No.	Type	Capacity	
		(oz)	(g)
22.815	Straight side	8	227
22.816	High back	10	283
22.817	High back	20	567

## 3 BURNO STYLE CRUCIBLES

Their protective heat-holding covers make them efficient for melting with a torch. Handy pouring openings. Made of fused silica with clay bond, for melting temperatures up to 2500° F (1371° C). Best choice for gold, silver, bronze, etc. Use with tong No. 57.060 on page xxx.



No.	Capacity
22.755	25 dwt.
22.756	50 dwt.
22.757	100 dwt.

## 4 MELTING CRUCIBLES

Made of fused silica with clay bond, for melting temperatures up to 2500°F (1371°C). Best choice for gold, silver, bronze, etc. Outside dimensions below do not include 3/8" pouring spout.



No.	Diameter	Height
22.760	2-3/8"	2-7/8"
22.763	2-1/2"	2-1/2"
22.761	3-1/2"	3-1/2"
22.762	4"	4-1/2"
22.759	5"	5-1/4"

**Safety Tip:** Always wear proper eye protection when melting.



## 1 GRAPHITE CRUCIBLES

These heat resistant crucibles, often called black lead, withstand temperatures up to 3000°F (1649°C) and will tolerate thermal shock.



No.	22.766	22.767	22.768	22.769	22.770	22.771	22.772	22.773
Size	4/0	1	2	3	4	6	8	10
Height	3-1/8"	3-5/8"	4-9/16"	5-1/4"	5-1/2"	6-5/8"	7"	8-1/16"
Top O.D.	2-3/8"	3-1/2"	3-7/8"	4-1/4"	4-3/4"	5-3/8"	5-7/8"	6-1/16"
Bottom O.D.	1-3/4"	2-1/4"	2-3/4"	3"	3-1/8"	4"	4-3/8"	4-15/16"

## 2 GRAPHITE MELTING CRUCIBLES

For use with the metal melt furnaces 22.211 & 22.213. Made of quality graphite.



No.	Description
22.216	1 kilo
22.217	2 kilo

## 3 TONGS FOR CRUCIBLES

For picking up crucibles.



No.
22.790

## 4 ALUMINUM HOT PLATE

Heavy aluminum.



No.	Description
22.960	4-1/2" W x 5" L

## INGOT MOLDS

Used to convert scrap into suitable shape for rolling. The metal is melted in a crucible and poured into the mold.

### 1 ADJUSTABLE INGOT MOLDS

Each mold can be made smaller by adjusting the sides in a horizontal direction. The C-clamp holds and releases the plates. The table below shows the maximum capacity.



No.	Depth		Length		Width		Capacity	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(dwt)	(g)
22.851	2-5/8"	66	1-5/8"	41	5/8"	3.2	115	178
22.0505	2-3/4"	70	1-3/4"	45	3/16"	5	150	233
22.854	3-15/16"	100	1-3/4"	45	3/16"	5	200	310
22.0507	5-5/16"	135	2-3/4"	70	7/32"	6	500	775



### 2 REVERSIBLE INGOT MOLD

Gives you two ingot molds in one. Make wire sizes 3, 4, 5, and 6 mm in diameter or 130 dwt. (221 g) capacity flat plates. C-clamp holds and releases the plates.

No.
22.877



### 3 OPEN INGOT MOLDS

Forms ingots or bullion of various sizes as shown below. Cast iron.

No.	Depth (mm)	Length (mm)	Width (mm)	Capacity	
				(dwt)	(g)
22.870	35	90	35	50	78
22.871	30	120	45	80	124
22.872	40	155	65	200	310

### 4 INGOT MOLDS for WIRE

Each mold can make three sizes of wire. Cast iron.

Regular Sizes:

3/4" x 5/16" x 6-11/16"

3/8" x 3/8" x 6-11/16"

9/32" x 5/16" x 6-11/16"

No.
22.0510

Extra Long Sizes:

5/16" x 1/4" x 9-5/8"

1/4" x 1/4" x 9-5/8"

7/32" x 1/4" x 9-5/8"

No.
22.0501



**1 ASBESTOS-FREE SAFETY GLOVES and MITTENS**

A must for working with burnout ovens and vulcanizers, and whenever melting gold. Do not use tongs to lift flasks and crucibles into or out of the furnace without protecting your hands. Durable, yet comfortable, these full length gloves cover your wrists. One size fits all. Always use on both hands. Sold by the pair.



No.	Description
22.753	Gloves-pair
22.754	Mittens-pair

**2 MELTING DISH with HANDLE**

Melting dish with removable handle makes it easy to melt and pour metals. Wooden handle resists heat and fused silica dish with clay bond is suitable for melting metals with high melting points, including platinum. Overall length is 14".



No.	Description
22.791	Dish with handle
22.793	Dish only
22.798	Handle only

**3 MELTING LADLE**

Made of steel and designed for left or right pouring.



No.	Description
22.890	Bowl diameter is 3" and handle length is 11-1/2"

**4 MELTING LADLE with WOOD HANDLE**

Cast iron bowl, dipped in nickel and fitted with wood handle.



No.	Description
22.895	Bowl diameter is 2" and handle length is 6"

**1 BENT CRUCIBLE TONGS**

For holding crucibles as well as picking up hot objects.



No.	Description
57.066	19" (483 mm) length

**2 CRUCIBLE and FLASK TONGS**

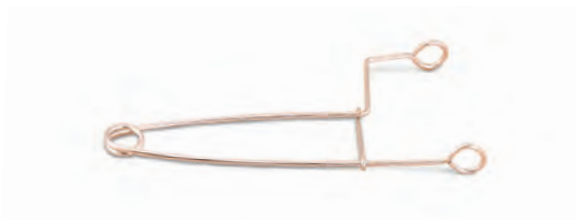
For picking up crucibles and 1-1/2" (38 mm) diameter flasks.



No.	Description
57.080	19" (483 mm) length

**3 BURNO CRUCIBLE TONGS**

Shaped for holding Burno style crucibles.



No.	Length
57.060	10-1/2" (267 mm)

**4 COPPER TONGS with CURVED TIPS**

Suitable for pickling and acid solutions.



No.	Description
57.052	9" (229 mm)

**CRUCIBLE AND FLASK TONGS**

All-purpose laboratory and industrial tongs for holding, manipulating and pouring, as well as for picking up hot objects.

**5 TONG with LONG NECK**

Stainless steel with long neck. With serrated tips.



No.	Description
57.085	9" (229 mm) length



### 1 QUARTZ STIRRING RODS

Superior quality clear quartz rods are annealed and fire polished to eliminate flaking. This material is GE214 semiconductor grade fused quartz. Ideal for stirring molten metal. Melting point 3183° F (1750° C).

No.	Description
21.905	Overall length 12" x 3/8" diameter.



### 3 GRIFFITH BORIC ACID POWDER

Use as an anti-oxidizer during soldering or in making flux.

No.	Description
54.522	7 oz.
54.523	16 oz.



### 5 GRIFFITH BORIC ACID GRANULES

Used as an anti-oxidizer during soldering or in making flux.

No.	Description
54.520	7 oz.
54.521	16 oz.



### 2 CARBON STIRRING RODS

For stirring gold in crucible while melting.

No.	Description
22.901	9" length with 1/4" diameter
22.902	12" length with 1/2" diameter



### 4 GRIFFITH BORAX POWDER

Used for making soldering and casting fluxes.

No.	Description
22.821	7 oz.
22.822	16 oz.



### 6 PRO-CRAFT® BORAX FLUX

Controls oxidation during the melting process.

No.	Description
22.820	8 oz.



## CASTING METALS

These non-precious alloys resemble gold and silver, and are used as inexpensive casting metals. They can be oxidized or antiqued, as well as plated. The metals are tarnish resistant and will not discolor when heated. They will come out of investment bright and shiny, reducing the need for stripping or pickling. Can be electroplated and soldered with gold or silver solder.



### 1 COLUMBIAN GOLD

Yellow bronze metal is a bit softer in color than rich gold. Melts and flows just like real gold at about 1800° F (982° C).

No.	Description
43.01303/1	1 lb. (454 g)



### 2 SILVER MINE

White copper-based alloy is very close to the color of sterling, but has the advantage of being considerably harder. Retains a high polish and melts at about 1550°F (843°C).

No.	Description
43.01307	2 oz. (57 g)
43.01307/1	1 lb. (454 g)



### 3 PEWTER

Lead-free and melts at about 450° F (232° C). An excellent metal for small sculptures.

No.	Description
43.01317	1 lb. (454 g)



### 4 FUSIBLE METAL

Melts in boiling water.

No.	Description
54.812	2 oz. ingots



### 5 RE-CAST-IT

Add Re-Cast-It when casting old or scrap gold to achieve a bright yellow, porosity-free casting. Increases the fluidity of old metal, while eliminating reddish surface discoloration. One jar is enough for casting approximately 800 dwt. of gold.

No.	Description
22.607	

### 6 POROSITY KILLER

Use with Flexshaft to burnish and fill minor porosity holes in gold, silver, platinum, etc. Eliminates the need for extra filing and filling of holes with solder.

No.	Description
21.05600	3/32" shank



## PRO-CRAFT® CENTRIFUGAL CASTING MACHINES

The heavy-duty spring in the base swings the arm so that the molten metal is forced into the flask. The broken arm construction assures that the metal will flow in a straight line, producing dense castings. NOTE: For safety reasons, casting machine springs must be replaced at the factory.

### 1 LONG ARM CENTRIFUGAL MACHINE

Takes flasks up to 3-1/2" in diameter and 5" high. The long 22-3/8" arm provides the extra force needed for heavier casts. Comes with balance weights and cradle for 2-1/2" diameter flasks. The recommended crucible is the 9 oz. size, No. 22.454. Shipping weight 20 lbs.



No.

22.365G

### LONG ARM CENTRIFUGAL MACHINE with ACCESSORIES

Set contains No. 22.365G described above, along with the following additional items: 9 oz. crucible, universal sprue base, rubber mixing bowl, spatula, 3-1/2" diameter x 5" long flask (no cradle needed), flask tongs and a 50 lb. box of investment. Shipping weight 29 lbs.

No.

22.366G

### 2 DRUM for CENTRIFUGAL MACHINES

Helps protect the operator against accidental metal spilling from the whirling crucible. For use with either short or long arm machines. Made of steel with baked enamel finish. Base is drilled for attachment to bench. Base measures 24" x 24", with the drum 23-3/4"W x 11-1/2"H. Comes with instructions for assembly. Optional cover provides extra protection. (Machine not included.) Shipping weights as follows: drum 16 lb. 6 oz., cover 6 lbs. 8 oz. and drum and cover 23 lbs.



No.

22.390

Description

Drum only

22.391

Cover only

22.392

Complete unit

**1 SHORT ARM CASTING MACHINE SET**

Accommodates flasks from 1-1/4" diameter up to 3-1/2" diameter and 2-3/4" high.

The set includes balance weights, crucible No. 22.454, two steel flasks, two flask cradles, two sprue bases, and flask tongs. Shipping weight 27 lbs.



No.

**22.361G****2 LONG ARM ACCESSORY**

Can be used on the short arm machine to convert it to the long arm type. Comes complete with balance weights and cradle for flask.



No.

**22.367G****3 PRO-CRAFT® SAND CASTING SET**

For casting simple metal articles such as jewelry and small sculpture in sand. Preparation of the sand mold is simple and quick and the original pattern or article can be used over and over. The set contains all necessary items (except a melting torch); parting powder, 5 lb. can of sand, crucible, crucible tongs, borax, asbestos-free pad, casting flask (horizontal or vertical fill) measuring 4-3/4" H x 3" W x 2" D and manganese bronze casting metal.

Shipping weight 10 lbs.



No.

**22.949****22.952****22.957**

Description

Sand casting set

Replacement casting flask

Sand only - 5 lb.

**1 CUTTLEFISH BONE**

For casting small objects. Press model directly between two pieces of cuttlefish. The soft shell makes a smooth walled mold. Sprues, gates and vents are cut into the wall with a sharp knife. The two halves are held together with binding wire and the molten metal is poured into the cavity. Package contains six pieces.



No.

22.930

**2 END CUTTER/SPRUE CUTTERS**

Multi-leverage with return spring in handles. Cuts up to 3/16" rods. End type cuts close to work.



No.

46.574

Description

Overall length is 7", cutting edge 13/16"

**3 HEAVY-DUTY SPRUE CUTTING PLIERS**

The unique linkage design multiplies the pressure exerted to enable you to make a clean cut every time. With hardened steel cutting jaws. Locking system holds pliers closed when not in use to protect cutting edges. Side cutter with jaws opening from 5/32" to 9/32".



No.

64.6599

Description

Overall length is 10", cutting edge is 7/8"

**4 SIDE CUTTERS/SPRUE CUTTERS**

Multi-leverage with return springs in handles. Heavy-duty type cuts up to 1/4" rods.



No.

46.582

Description

Overall length is 8", cutting edge 3/4"



## 1 CASTING KIT

Starter sets for the individual or shop.



### Complete set contains:

• Pro-Cast vacuum caster with accessories • Deluxe burnout oven • Centrifugal casting unit • Pyrometer • Mixing bowl • Timer • Graduated cylinder • Investment scale • Dwt. scale • Non-asbestos gloves • 25 lbs. investment • Four 2-1/2" x 3" flasks • Two 3-1/2" x 4" flasks • Sprue bases • Borax flux • Vac-U-Cast • Casting book and jewelry cleaner

No.	Description
38.552	Complete set - Shipping weight 222 lbs.



## 2 JEWELRY MAKING SET

Practically everything needed for your jewelry-making projects. All first-quality tools for sawing, drilling, twisting, hammering, filing, polishing, etc.

### Set contains:

• V-slot board and bench clamp • Sawframe • Sawblades • Dividers • Rule-combination mm & inch • Center punch & scriber combination • Chinese white • Hand drill • Twist drills-6 assorted • Pin vise • 3 pliers: round nose, flat nose, chain nose • Snips • Ball peen hammer • Mallet • Wood dapping block & punches • Steel ring mandrel • Ring clamp • Setting burnisher • Prong pusher • 6" flat file w/handle • 6" half-round file w/handle • 3 assorted needle files • India stone • Emery paper-4 assorted • Felt hand buff for tripoli • Tripoli compound • Chamois hand buff for rouge • Red rouge • Quick-setting adhesive • Soldering torch • Asbestos-free pad • Charcoal soldering block • Binding wire • Hard soldering flux • Flux brush • Silver solder • Pickling compound • Plain tweezers • Soldering clamp tweezers • Copper tongs for pickle • "The Jeweler's Bench Reference" Manual

All of the above items come in a plastic tool box.

No.	Description
38.550	Set



## SCRAPERS

Scrapers are ideal for cleaning, smoothing and deburring metals and plastics. Use to prepare surfaces for soldering, remove excess solders, open bezels, and more. Sharp from handle to tip and can be resharpened on a bench stone. All are securely mounted in hardwood handles.

### 1 THREE-SQUARE MACHINIST'S SCRAPERS



No.	Overall Length	Blade Length	Thickness
52.170	5-1/2"	2"	3/16"
52.171	6-1/2"	3"	3/16"
52.172	6-1/2"	3-1/4"	1/4"
52.173	8"	4"	5/16"

### 2 THREE-SQUARE MACHINIST'S SCRAPER

1-1/4" long sharpened point.



No.	Overall Length	Blade Length
52.180	6-1/2"	4"

### 3 HOLLOW THREE-SQUARE SCRAPERS

High quality, chrome alloy steel.



No.	Blade Length
52.100	2"
52.103	3"

### 4 ECONOMY SCRAPER

Hollow straight blade.



No.	Blade Length
52.101	2-1/2"

### 5 HOLLOW CURVED SCRAPER



No.	Blade Length
52.140	2-1/2"

### 6 SOLID SCRAPER



No.	Blade Length
52.200	3"

## BURNISHERS

### 1 STEEL BURNISHERS

Oval-shaped steel burnishers for smoothing of bezels around stones and smoothing other parts of soft metals. Highly polished blades are firmly set in wood handles.



No.	18.050	18.052	18.053	18.054	18.060	18.062	18.063	18.064
Blade Shape	Curved	Curved	Curved	Curved	Straight	Straight	Straight	Straight
Blade Length	1-1/2"	2"	2-1/2"	3"	1-1/2"	2"	2-1/2"	3"

### 2 MARGIN ROLLER/BURNISHER

Burnishes scratches from gold, making it possible to salvage many pieces without gold loss. The 3/16" head consists of five steel rollers that act as rotating mallets. 3/32" shank for use with handpiece.



No.

18.080

### 3 SLIM BLADE BURNISHERS

Especially useful for jewel settings.



No.	Blade Shape	Blade Length
18.058	Curved	1-3/4"
18.059	Straight	1-3/4"

### 4 TUNGSTEN CARBIDE BURNISHER

These super-hard burnishers shape and smooth all metals, including dense metals (platinum).



Part No.	Tip	Tip Diameter	Overall Length
18.045	1"	5 mm	9"
18.046	1"	3 mm	6-3/4"

## WAX TOOLS



### 1 WAX TOOL No. 1

No.	Overall Length
21.250	6-1/4"



### 2 WAX TOOL No. 6

No.	Overall Length
21.251	5-1/2"



### 3 WAX TOOL No. 17

No.	Overall Length
21.252	5-5/8"

## WAX TOOLS SET

Set of three tools consists of 21.250, 21.251 and 21.252

No.
21.254



### 4 DISPATULAS

Disposable spatulas. Made of flexible plastic with the feel of metal, yet are less expensive.

No.	Qty.
21.185	Box of 100

## WAX TOOLS



### 2 SET of DOUBLE-ENDED WAX CARVERS/SPATULAS

Seven pieces in a handy wood stand, with built-in sharpening stone. Organizes and protects tools.

No.

21.0828



### 3 SET of SIX POPULAR CARVERS, SPATULA, and PROBES

Consists of Nos. 21.114, 21.115, 21.116, 21.141, 21.251 and 21.252.

No.

21.100



### 4 WAX CARVER SETS

New designs. Loop ends are sharpened for smooth wax removal.

No.

21.101 With rubber handles

Overall Length

7"

### 5 DOUBLE ENDED CARVERS

4 shapes with different sizes on each end. Can be used at room temperature or heated.

No. 21.105 Set of four

No.

21.106

21.107

21.108

21.109

Shape

Square

Round

Triangle

Spade

## STAINLESS STEEL DOUBLE-ENDED CARVERS & SPATULAS



### 2 WAX CARVER/SPATULA

No.	Overall Length
21.0825/7	6-3/4"



### 4 WAX CARVER/SPATULA

No.	Overall Length
21.0825/18	6-1/2"



### 6 WARD No. 2

No.	Overall Length
21.111	6-1/2"



### 8 HOLLENBACK No. 3

No.	Overall Length
21.114	6-1/2"



### 1 WAX CARVER/SPATULA

No.	Overall Length
21.0825/4	6-3/4"



### 3 WAX CARVER/SPATULA

No.	Overall Length
21.0825/16	6-1/2"



### 5 WARD No. 1

No.	Overall Length
21.110	6-1/2"



### 7 HOLLENBACK No. 1/2

No.	Overall Length
21.113	6-1/2"



### 9 LeCRON No. 5

No.	Overall Length
21.115	6-1/2"



## STAINLESS STEEL DOUBLE-ENDED CARVERS & SPATULAS



### 2 NORUSTAIN CEMENT VEHE No. 50

No.	Overall Length
21.117	6-1/2"



### 4 NORUSTAIN WAX No. 10

No.	Overall Length
21.142	6-3/4"



### 1 ROACH No. 6

No.	Overall Length
21.116	6-1/2"



### 3 NORUSTAIN WAX No. 7

No.	Overall Length
21.141	6-3/4"



### 5 NORUSTAIN WAX No. 45

No.	Overall Length
21.143	6-3/4"



### 6 NORUSTAIN CEMENT No. 1

No.	Overall Length
21.150	6-1/2"



### 8 NORUSTAIN CEMENT No. 3

No.	Overall Length
21.152	6-1/2"

## STAINLESS STEEL SPATULAS



### 7 NORUSTAIN CEMENT No. 2

No.	Overall Length
21.151	6-1/2"

## STAINLESS STEEL WOOD-HANDLE SPATULAS



**1 WAX SPATULA**

No.	Overall Length
21.0827/1	7-3/4"



**2 LONG WAX SPATULA**

No.	Overall Length
21.0827/2	8-3/4"



**3 SPATULA No. 11R**

No.	Overall Length
21.175	7-5/8"



**4 SPATULA with 4" BLADE**

No.	Overall Length
21.176	8"

## ASSORTED SPATULAS



**5 NORUSTAIN WAX No. 31**

No.	Overall Length
21.160	7-1/4"



**6 SPATULA No. 35**

No.	Overall Length
21.161	7-1/4"



**7 SPATULA No. 4**

No.	Overall Length
21.162	7"



**8 NORUSTAIN WAX No. 5**

No.	Overall Length
21.163	8"

# *Cleaners*



# STEAM CLEANERS

## 1 GROBET USA® STEAM CLEANER

A new generation of steam cleaning performance, quality and durability offered only by Grobet USA®. Built to full ASME specifications. Compact design. Warranty - 1 year parts and labor (under normal use). Ship weight 75 lbs.

### Features:

- External sight glass and protective cover, with ball check valves
- Water intake valve with back up flow prevention
- Stainless steel heating element for reduced sediment in vessel
- Adjustable thermostat
- Insulated nozzle assembly
- Low water cutoff
- Quick recovery
- Easy to plumb to meet local standards



No.	Volts	Capacity	Size	Steam Pressure	Watts
24.900P	110V	2.3 gal	10-1/2" D x 14-1/2" W x 14" H	70-80 PSI	1500
24.900PX	220V	2.3 gal	10-1/2" D x 14-1/2" W x 14" H	70-80 PSI	1500



## 2 GROBET USA® THE STEAM DRAGON™

The atmospheric steam cleaning machine

The Steam Dragon is an advanced, state-of-the-art atmospheric cleaning machine. These compact, sturdy machines instantly deliver 125 PSI of dry steam. The Steam Dragon produces continuous steam and is safe to operate in malls, stores and offices. *Note: Steam Dragon cleaners perform best using distilled water.*

No.	Model	Volts
24.960	Deluxe	110V
24.960X	Deluxe	220V
24.961	with Wand	110V
24.970	Silver	110V
24.970X	Silver	220V





### 1 GROBET USA® COATED STEAM TWEEZERS

Plastic coating on tips provides chemical resistance. Use with steam cleaners and ultrasonic cleaners for non scratch retrieving.

No.	Metal	Length
57.921	Nickel Plated Steel	8"
57.922	Nickel Plated Steel	10"



### 2 GROBET USA® ECONOMICAL STEAM TWEEZERS

Ideal when using ultrasonic cleaners or steamers. Insulates and provides resistance to heat and chemicals. Extra-long, sturdy, chrome-plated steel tweezers keep you a safe distance from the steam and provides a sure grip and non-scratch retrieving. Economical tweezers.

No.	Metal	Length
57.0956	Stainless Steel	8"
57.0957	Stainless Steel	12"

No. 46.0139/1 Pair of plastic-coated tips



### 3 GROBET USA® SPRING GRIP STEAM TWEEZERS

Use to hold item while steam cleaning.

No.	Metal	Length
57.01400	Brass	9-1/2"
57.01401	Brass	6"

### 4 STEAM CLEANER DETERGENT

Keeps your steam cleaner operating at peak efficiency.  
Goes directly into water while filling and cleans while you work to save time.

No.	Size
23.0877	4 oz.





## 1 GROBET USA® HEMOSTATS

Used to hold item while steam cleaning.



No.	Size	Tips
46.450	3-1/2"	Straight
46.452	3-1/2"	Curved



## 2 GROBET USA® SERRATED HEMOSTATS

These versatile, stainless steel pliers can be used as a clamp, heat sink or third hand while steam cleaning. Handles have a two-position locking device and are insulated with vinyl plastisol. Box joint prevents looseness and wobble in the serrated jaws. The serrations are not sharp and will not cut into soft materials.

No.	Size	Tips
46.454	5-3/4"	Straight
46.456	5-3/4"	Curved



## 3 GROBET USA® HEMOSTATS

Used to hold item while steam cleaning.

No.	Size	Tips
46.464	18"	Straight
46.466	18"	Curved

## 4 PARTS CLEANING BASKET

Holds small parts during cleaning. Reverse spring action handles prevent accidental loss of contents. Measures 6" x 2" x 2".

No.	Size	Diameter
23.620	Small	1-1/2"
23.621	Large	2-1/8"



## 5 NO-LINT WATCH and JEWELERS' TISSUE

Lint-free, anti-tarnish tissues for wrapping and cleaning watch parts, jewelry, etc. Box contains 1000 sheets.

No.	Brand	Size
23.555	Grobet	4-1/4" square
61.0144	Vigor®	4" square



## ULTRASONIC CLEANERS

Ultrasonic cleaning occurs when ultra-high frequency sound waves (Hz) are passed through a cleaning solution creating cavitation, microscopic bubbles collapsing into themselves. This creates a high energy, vacuum effect which safely pulls debris, foreign particles and other contaminants from the surfaces being cleaned. With ultrasonic cleaning, both the exterior and the interior surfaces, including crevices, are thoroughly cleaned. Ultrasonic cleaning has been proven to be sixteen times more effective than manual methods.



### 1 FABULUSTRE® ULTRASONIC CLEANER

Fabulustre Ultrasonics feature stainless steel tanks. All units have a heater with a timer which allow you to pre-set the temperature and time for maximum cleaning results. Cleaning frequency on all units is 40khz.

No.	Capacity	Cleaning		Volts	Length	Tank Dimensions		Heat	Price	Basket #
		Power				Width	Depth			
23.640	1.5 pint	50w		110V	6"	3-1/2"	2-3/4"	Yes	\$169.00	23.64001
23.640X	1.5 pint	50w		220V	6"	3-1/2"	2-3/4"	Yes	169.00	23.64001
23.641	2 qt.	50w		110V	9-1/4"	5-1/4"	2-3/4"	Yes	239.00	23.64101
23.641X	2 qt.	50w		220V	9-1/4"	5-1/4"	2-3/4"	Yes	239.00	23.64101
23.642	3 qt.	100w		110V	9-1/2"	5-1/2"	4"	Yes	379.00	23.64201
23.642X	3 qt.	100w		220V	9-1/2"	5-1/2"	4"	Yes	379.00	23.64201
23.643	4 qt.	150w		110V	11-7/8"	6"	4"	Yes	579.00	23.64301
23.643X	4 qt.	150w		220V	11-7/8"	6"	4"	Yes	579.00	23.64301

### 2 GROBET USA® ULTRASONIC CLEANERS

Standard features include a stainless steel tank and cover, automatic tuning and a pilot light. A 30 minute/hold timer enables you to pre-set the cleaning cycle duration or select continuous cleaning. Cleaning power on all units is 35 KHz. The 3-1/2 quart models have a stainless steel, multi-position drain for convenient solution disposal. Each unit is warranted for defects in materials and workmanship for 2-1/2 years. The housing is warranted for 5 years and the tank-to-transducer bonding is covered for 10 years.



No.	Capacity	Volts	Shipping Weight	Tank Dimensions		
				Length	Width	Depth
23.586	2 qt.	117V	8 lbs.	6"	5-3/8"	4"
23.587	3-1/2 qt.	117V	10 lbs.	9-1/4"	5-1/4"	4"

### ACCESSORIES for GROBET USA® CLEANERS

Basket	Cover	For Use With
23.593	—	23.587 (3-1/2 qt)

\* POSITIONING COVERS - These stainless steel covers suspend beakers in solution to create a mini-cleaning tank for specialized ultrasonic cleaning procedures.

All units have earned world wide approvals-CSA, LA, FTZ, GS Mark and conform to CE requirements and meet FCC requirements.



## ULTRASONIC CLEANERS

### 1 GROBET USA® ULTRASONIC MINI CLEANER

A table top model for small to medium volume ultrasonic cleaning. Ideal for retail stores or home use. Efficient solid state circuitry with a three minute auto off timer. Includes plastic basket and cover. Output power: 35W. Timer setting: 3 minutes.



No.	Capacity	Volts	Shipping Weight	Length	Tank Dimensions		Depth
					Width		
23.598	2 qt.	110V	1 lbs. 12 oz.	8"	5"		5-1/2"
23.598X	2 qt.	220V	1 lbs. 12 oz.	8"	5"		5-1/2"

### 2 GROBET USA® ULTRASONIC CLEANER

New & improved one pint stainless steel ultrasonic cleaner. Full cleaning power. Bottom protective rack. Storage cover. Timer & auto shut off



No.	Capacity	Volts	Hz	Watts	Tank Dimensions		Depth
					Length	Width	
23.585	1 pint.	110V	60	50	7"	4-1/4"	5"
23.585X	pint	220V	50	50	7"	4-1/4"	5"

## SPEED BRITE IONIC CLEANERS

The Speed Brite systems quickly and thoroughly clean gold and silver, as well as soft stones such as emerald, opal, turquoise and pearl, without the vibration of ultrasonic waves or the harshness of ammonia.

### 3 ROUND COUNTER MODEL KIT (200SB)

7" diameter tank with 12 oz. (355 ml) capacity, lid, stainless ring bar, screen. Includes 16 oz. of Gem Sparkle concentrate solution.

No.	Model
23.650	110V
23.650X	220V



### 4 RECTANGULAR SHOP MODEL KIT (309SB)

9" x 5" tank with 36 oz. capacity, lid, stainless ring bar, screen. Includes 32 oz. of Gem Sparkle concentrate solution.

No.	Model
23.653	110V
23.653X	220V



## ACCESSORIES



### 1 IONIC CLEANER ADAPTER

Attaches to any standard ultrasonic cleaner. Combines all the features of ultrasonic cleaning with the special cleaning properties of an ionic cleaner. (Ultrasonic cleaner sold separately. See pages 146-152.)

No.	Model
23.656	110V



### 2 CLEANING MACHINE BASKET

Holds small parts in a cleaning machine. Screw-type basket is 5/8" (16 mm) in diameter and is made of fine mesh to prevent loss of parts while in solution.

No.
23.0500



### 3 ULTRASONIC STRAINERS

Used to hold parts in an ultrasonic cleaner.

No.	Sizes
23.615	2-1/4"
23.616	4-1/4"

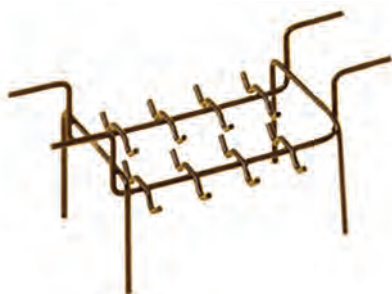


### 4 ULTRASONIC HOOK and BAR RACKS

Plastic coated, rust-resistant hook and bar racks increase ultrasonic cleaning efficiency and will not mar objects.

No.	Hooks	Length
23.630	24	14-3/4"
23.631	16	12"

No. 23.632 Extra hooks. Package of 5



### 5 CLEANING RACKS

Plastic coated racks will fit 1, 2, & 3 quart ultrasonic cleaners.

No.	Ring Holders	Height	Overall length		Basket Floor Measurement	
			Length	Width	Length	Width
23.624	16	4"	7"	4-1/2"	4"	4-1/2"
23.625	16	1"	8-1/4"	5-1/8"	5-1/2"	3-1/2"
23.627	32	4"	8"	4-1/2"	4"	4-1/2"

## ACCESSORIES



### 1 PYREX BEAKERS

Beakers can withstand 446° F (230° C).

No.	Size
45.646	250 ml
45.640	600 ml
45.641	1000 ml



### 2 GROBET USA® GLASS BEAKERS

Low-expansion borosilicate 3.3 glass. Designed to be heat-resistant and non-conductive. Heavy and uniform wall thickness. Easy pour spouts. White printed graduation and marking area for heating solutions during plating

No.	Size
45.64601	30 ml
45.647	250 ml
45.648	600 ml
45.649	1000 ml
45.64901	1200 ml



### 3 BEAKER COVERS

Protect against spills or contamination of beaker contents. Easy on and off, snug-fit. Covers fit the two popular sized beakers.

No.	Size
45.644	Small for 600 ml beakers
45.645	Large for 1000 ml beakers

## SOLUTIONS



### 4 GRIFFITH INSTA-CLEAN

Wipe-on tarnish remover and cleaner for gold, silver, copper, and brass.

No.	Size
23.030	4 oz
23.031	8 oz
23.032	16 oz
23.033	32 oz
23.034	1 Gallon



## Cleaners

Cleans rapidly, effectively, and safely. Protects as it cleans. Removes grease, oil, lubricants, wax, adhesives, ink, flux and many other contaminants from a wide variety of products, including watches and watch parts. Cleaning action is thorough and gentle. Use as a dip or a spray, wipe or brush on, in an ultrasonic cleaner, or as a soak. Sold by dozen.

**DIP-AWAY DEGREASER**  
**HARSPRO® CLEANER & RINSE**  
**NON INFLAMMABLE**

**USE**  
 DISRUPTS AND SOFTENS  
 MINERAL OILS AND PAINTS / STAINS  
 • Grease / Oils  
 • Grease / Grease  
 • Grease / Grease  
 • Grease / Grease

**42.0506 - 1 Pint**

**THE HARSPRO DEGREASER**  
 Harpro Degreaser is a powerful, fast-acting, non-flammable, non-toxic, and non-corrosive degreaser. It is designed to remove oil, grease, and dirt from metal surfaces. It is safe for use on all types of metal, including aluminum, steel, and stainless steel. It is also safe for use on painted surfaces. It is a powerful degreaser that is safe for use on all types of metal, including aluminum, steel, and stainless steel. It is also safe for use on painted surfaces.

**HAZARDOUS**



A liquid concentrate for general ultrasonic cleaning.

Formulated to meet OSHA requirements. Non-ionic, multi-purpose solution is safe for all ultrasonic cleaning needs. Contains no acids. When mixed with water, makes up to 10.25 gallons of solution.

No.	Size
23.2050	1 quart



One ounce of concentrated granules is mixed with one gallon of water to form a fast-acting solution. Biodegradable, with no ammonia. Ideal for gold and silver because it attacks and removes rouge and tripoli instantly. Long-lasting, with no evaporation. Saves on shipping costs.

No.	Size
22.608	8 oz. jar makes 8 gallons of solution
22.616	16 oz. jar makes 16 gallons of solution
22.655	32 oz. jar makes 32 gallons of solution
22.656	10 lb. tub makes 160 gallons of solution

## SOLUTIONS



### 1 GEM SPARKLE® SOLUTION CONCENTRATE

Concentrated, odorless and environmentally safe, this cleaning solution is an effective, fast-acting degreaser that also removes oxidation and brightens metal to a like-new finish.

No.	Size
23.661	32 oz. solution
23.662	1 gallon solution
23.663	5 gallon solution



### 3 CRYSTAL CLEAR GLASS WIPES

Clean glass without extra equipment and hassle. Ammonia-free, non-flammable formula cleans dirt and grime from glass surfaces, leaving no residue — just a sparkling shine.

No.
23.0351



### 5 MULTI-METAL POLISHING WIPES

Clean brass, silver, copper, and other sensitive metal surfaces and keep them looking brand new. Powerful proprietary formula removes deposits, oxidation and corrosion quickly and easily, yet gentle enough to polish and protect metal surfaces against further damage.

No.
23.0353



### 2 MAGIC LUSTER ULTRASONIC CLEANING SOLUTION CONCENTRATE

One gallon super concentrate makes 40 gallons of cleaning solution. Ideal for heavy, continuous ultrasonic use.

No.
22.668



### 4 HAND SANITIZING WIPES

Immediately eliminate harmful microorganisms from skin. A single pre-moistened towel kills 99.9% of disease-causing microbes in only a few seconds. No messy, runny gel — just tear, wipe, and throw away. Plus, the special formula conditions skin as it sanitizes.

No.
23.0352



### 6 STAINLESS STEEL CLEANER WIPES

Shine and protect stainless steel surfaces in one step. Pre-moistened with a powerful citrus-based solution, these wipes effectively remove heavy soils, grease, grime, residue, fingerprints and smudges, leaving a clear protective coating that shines and preserves surface from unsightly water marks and harmful corrosion.

No.
23.0354

CONNOISSEURS® PROFESSIONAL JEWELRY CARE AT HOME



1 SILVER JEWELRY CLEANERS

Removes tarnish and dirt instantly. Silver tone, pleasantly scented, easy application. Dipping tray included. 12 to a case.

No.	Size
23.01880	7 oz. jars



2 JEWELRY CLEANER

Includes handy dipping tray and touch-up brush. Case of 12. Regular formula - for gold, diamonds and other precious stones and stubborn soil

No.	Size
23.01885	7 oz. jars



3 CONNOISSEURS JEWELRY CLEANERS

A new “Revitalizing” colorless formula with pleasant fragrance adds striking brilliance to diamonds and gold. Improved jar dynamics allows users to dip jewelry without getting fingers wet

No.	Description
23.01887	Striking Brilliance
23.01888	Dazzling Shine
23.01889	Radiant Luster



4 CONNOISSEURS SONIC JEWELRY BATH

Cordless, battery operated sonic cleaner for quick cleaning of small pieces (up to 4 rings). This state-of-the-art cleaner combines sonic technology with a contemporary look. It has a clear tank for viewing the cleaning action. Use the carousal for rings and the “S” shaped hook for a larger piece. Batteries (AA) not included.

No.
23.01849

5 LA SONIC III

Twin tank design has three separate cycles: Regular for gold, diamonds, other precious stones and stubborn soil, Delicate for pearls, other semi-precious stones and light soil and Finish/Rinse for like-new sparkle. 110-volt unit includes convenient jewelry tray, touch-up brush, dust cover, and jewelry care guide. Two-year warranty.

No.
23.01854





### 1 CONNOISSEURS JEWELRY WIPES™

A safe, easy way to polish and clean jewelry on the go. In a convenient, easy-to-open compact. Wipes leave an anti-tarnish shield to maintain luster and shine. Dry. Disposable. Non-toxic. 25 Wipes.

No.	Size
23.01850	2.875" x 3.625"



### 3 CONNOISSEURS ULTRA-SOFT POLISHING CLOTHS

Ultra-Soft for Jewelry cleans and buffs gold and silver jewelry. Ultra-Soft for Silver lifts tarnish from sterling silver, silver plate, flatware and hollowware, while leaving a protective, anti-tarnish coating. Measures 11" x 14".

No.	Size
17.0270	For gold
17.0271	For silver

### 5 JEWELRY CLEANER CONCENTRATES

**Delicate formula** - for pearls and other semi-precious stones and light soil.

**Regular formula** - for gold, diamonds and other precious stones and stubborn soil.

Item	Formula	Size	Case Qty
23.01857	Regular	8 oz.*	12/case
23.01910	Regular	1 gal.	4/case

\*8 oz. concentrate makes 1/2 gallon



### 2 CONNOISSEURS JEWELRY SOAP

The convenient pump dispenser makes this gel non-messy. Safe for jewelry. Gentle to the skin. A special jewelry cleaning brush snaps into place on the back of the dispenser.

No.	Size
23.01852	



### 4 DIAMOND DAZZLE STIK®

A sleek pen-like dispenser makes cleaning underneath diamonds and precious stones a breeze. Cleaning gel contains micro-fine cleansers and polishing agents designed to bring radiance and luster to diamonds. A polymer in the formula fills tiny scratches in jewelry settings. Not for use on pearls.

No.	Size
23.01892	



## ZENITH WATCH SOLUTIONS

Long-time favorite of watchmakers, clockmakers and jewelers.



### 1 DRIZEBRITE FINAL RINSE

Drizebrite is designed to leave watch and clock parts spotless without any oily film when dried at room temperature or in a heating chamber. Drizebrite restores delicate movements to their original luster after being cleaned with Zeniths Formula 67 or any solvent based cleaner. As an added feature, Drizebrite is odorless. Drizebrite can be used in old or modern cleaning machines including ultrasonic machines and watch cleaning machines.

No.	Size
23.0101	1 gallon



### 3 FORMULA 67 WATERLESS CLEANING FLUID

#### Non-ammoniated 206

Non-ammoniated waterless cleaning fluid No. 206 is designed for watchmakers and clockmakers. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0206	1 gallon



### 5 CLOCK and INSTRUMENT CLEANING FLUID

#### Ammoniated 220

Ammoniated waterless cleaning fluid No. 220 is designed for clockmakers. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0220	1 gallon



### 2 ULTRASONIC CLEANING FLUID

#### Ammoniated 202

Ammoniated waterless cleaning fluid No. 202 is designed for watchmakers. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0202	1 gallon



### 4 SUPERSONIC WATCH CLEANER

#### Ammoniated 210

Ammoniated waterless cleaning fluid No. 210 is designed for watchmakers and clockmakers. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0210	1 gallon



### 6 ULTRASONIC RINSING FLUID

#### Waterless 224

Ultrasonic rinsing fluid No. 224 is designed for watchmakers. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0224	1 gallon





### 1 NO. 3 RINSING SOLUTION

#### Waterless 231

No. 3 rinsing solution is designed for clockmakers. It will not dissolve shellac, varnish or lacquer. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0231	1 gallon



### 2 CLOCK and INSTRUMENT RINSING SOLUTION

#### Waterless 235

Clock and instrument rinsing solutions No. 235 is designed for clockmakers. It can be used in an ultrasonic cleaner or in a mechanical cleaning machine.

No.	Size
23.0235	1 gallon



### 3 JEWELRY CLEANER CONCENTRATE

#### Ammoniated 249

Can be used in an ultrasonic cleaner or for cleaning by hand.

No.	Size
23.0249G	1 gallon



### 4 WATCH & CLOCK CONCENTRATE

This economical concentrated water based ammoniated cleaner is formulated for ultrasonic machines, mechanical and manual cleaning. Ideal for antique pocket watches and clocks that have protective coatings on its parts.

No.	Size
23.0251	Pint
23.0251G	Gallon



### 5 Z-88 CONCENTRATE

#### Non-Ammoniated 253

Can be used in an ultrasonic or to clean by hand. Works well on buffing compounds, waxes, oils, finger prints and any water soluble soil.

No.	Size
23.0253G	1 gallon



### 6 DIP-IT

#### Silver and Coin Cleaner 292

To remove tarnish, apply Dip-It with a soft brush or cloth. Rinse immediately and dry. Do not use on antique finishes or stainless steel.

No.	Size
23.0292G	1 gallon

## BEAD BLASTERS

### 1 GLASS BEAD BLASTER

Produces a stream of micro-sized glass beads for removing stubborn investment particles, oxidation and heat scale from metal. Leaves article with smooth finish. Made in USA.

#### Features:

- Large viewing window with hinged door for easy clean-out
- Illuminated interior (40-watt bulb maximum)
- Neoprene glove sealed to opening for holding article
- Easily controlled instant action gun
- Gun is attached to 3-1/2' air line hose with fittings
- Connects to compressor (sold separately), capable of producing 30 to 60 PSI pressure with at least a 5 gallon tank
- Portable-Weighs only 10 lbs. when filled with 5 lbs. of glass bead.
- Supplied with 5 lbs. waterproof micro-sized glass beads
- Compact. Measures only 9" x 9" x 9"



No.	Description
23.050	110 volt model
23.050X	220 volt model
23.051	Replacement beads 5 lb.
23.052	Filter
23.053	Gloves

### 2 VIGOR® GLASS BEAD BLASTER

Uses fine glass abrasive beads (23.0180/1). Tapered hopper for bead recycling. Interior lighting with maximum 25 watt tube lamp (not included). Thick wall plastic construction with plexiglass lid with mylar shield. Ceramic tip, .060", with approximate 1/8" spray pattern. Two attached rubber gloves and built-in parts shelf. Connects to air source of 1 1/2 CFM at 80-90 PSI (not included). Overall dimensions 18" H x 16" W x 12" D. Inside working height 9". Lid opening 12" x 8"



No.	Description
23.04000	110 volt model
23.01801/1	5 lb. bag of beads

### 3 AIR ERASER KIT/PORTABLE SAND BLASTER

The AEX Air Eraser works like magic to erase defects in jewelry castings, clean fine instrument parts, remove dust, tarnish and other corroded accumulations on a wide variety of delicate objects. Kit is complete with AEC Air Eraser; 4' air hose with moisture trap, dust respirator, 6 oz. jar of aluminum oxide compound and A-34 hanger.

No.
23.060



### 1 IMPORTED ORANGEWOOD

Orangewood may be used for cleaning pivot holes and making port polisher points. Approximately 18-24 sticks per bundle.



No.	Diameter	Stick Length
23.300	.08"	5-3/4"
23.303	.16"	5-3/4"



### 2 PORCELAIN PICKLE PAN

Used for boiling pickling solutions containing metal pieces to be cleaned and brightened. Made of laboratory quality porcelain. Wood handle 4 oz. capacity.

No.
45.200



### 4 BUTTON PITHWOOD

This button pithwood is ideal for cleaning small parts and the tips of oilers. Box of assorted pieces.

No.
CM 23334

### 3 DUST CHASER PLUS™

High pressure spray reaches the most inaccessible areas to remove dust instantly without residue. Ideal for watchmakers, jewelers, craftsmen and technicians. Non-corrosive and safe with all materials.



No.	Description
23.0970B	*8 oz. spray can w/nozzle

*\*Subject to DOT Federal Regulations. Cannot be shipped by air.*



### 5 SAWDUST

Fine quality, guaranteed free from foreign substances. 1 lb. box.

No.
23.0530

## DEMAGNETIZER



### 1 LARGE DEMAGNETIZER

Demagnetizes or magnetizes parts, tools and meters. To demagnetize, hold object in the center of the opening with button depressed for 3 or 4 seconds. Slowly withdraw object in a straight line and release button. To magnetize, hold the part or tool against the inside of the opening and press the button for 4 or 5 seconds and release. Opening is even large enough to accommodate cassette tapes for quick erasure. Opening measures 3" x 1-1/2".

No.

26.704

### 3 COMPASS

Extremely sensitive, 20 mm diameter, compass used for detecting the presence of magnetic fields in watches, instruments, and other components. Sold by dozen.

No.

26.720

## ALCOHOL CUPS

For alcohol, benzene or other solutions. Edges of covers and cups are ground to form a tight seal, keeping dust from entering and protecting solutions from evaporation.

### 4 ALCOHOL CUPS

Crystal clear, plain cup. No. 23.163 has knob.

No.	Diameter	Height	Capacity
23.159	2-3/4"	2"	3 oz.
23.161	4"	2-3/4"	8 oz.
23.163	4-1/4"	2-3/4"	12 oz.



### 5 ALCOHOL CUP with KNOB

Clear glass with knob.

No.	Outside Diameter	Height	Capacity
23.157	3-1/4"	2-3/8"	3-1/2 oz.



### 2 DEMAGNETIZER with DEMAGNETIZING TUNNEL

Demagnetizing tools such as tweezers, screwdrivers and steel rulers can be instantaneously and completely demagnetized over the entire length by simply placing them in the 3/4" diameter tunnel and pressing the button. Stronger than conventional demagnetizers. Current can be left on continuously with no damaging effects. Has no moving parts to wear out and will not overheat or burn out.

No.

26.0415A



### 6 ALCOHOL CUP

Cut glass.

No.	Outside Diameter	Height	Capacity
23.155	2-7/8"	1-7/8"	1-1/2 oz.

## 1 DENIM APRON

Blue denim apron with breast and waist pocket.

No.	Size
47.306	28" x 36"



## 2 PURE WHITE COTTON GLOVES

Protects jewelry and silverware from fingerprints, spotting, and tarnishing. Used extensively in jewelry stores and manufacturing facilities. Sold by dozen.



## 3 DISPOSABLE LATEX GLOVES

Protect your fingers and hands when polishing, finishing, or using solutions. Will fit either hand. Sold by box of 100. WARNING: DO NOT USE if you are NRL-latex sensitive.



## 4 GROBET USA® WHITE COTTON INSPECTION GLOVES

These high quality cotton and spandex gloves are perfect for use in jewelry stores and manufacturing facilities. Excellent for protecting jewelry and silverware from fingerprints, spotting and tarnishing. Long Lasting. Sold by the Dozen

No.	Description
17.101	Small Heavyweight style
17.102	Large Heavyweight style
17.103	Lightweight style

No.	Description
17.105	Small size
17.106	Medium size
17.107	Large size

No.	Description
17.110	Small
17.111	Medium
17.112	Large
17.113	Extra Large



## 5 RUBBER FINGER COTS

Made of soft molded red rubber to provide comfortable protection from oil, dirt and grime. Sold by dozen.

No.	Description
23.225	Small
23.226	Medium
23.227	Large
23.228	Extra large



## 6 PR88 HAND PROTECTION CREME

A water soluble skin protection cream, which is applied before work begins. Provides a non-greasy, non-sticky barrier against alcohol and carbon based substances like gasoline, diesel, oils, hydraulic fluids, creosote, fats, paint thinners, tar, dyes resins, non-polar organic solvents, fiberglass, superglues, ink, graphite, epoxies, etc.

No.	Size
23.040	3.5 ounce
23.041	1.5 ounce
23.042	1 liter



# *Drills*



## ENGLISH PATTERN BROACHES

Cutting, cleaning and finishing broaches made of high quality steel and uniformly tempered for long life. The lengths vary from approximately 1-3/4" to over 7", with diameters gauged slightly below largest portion of the cutting edges.

### 1 FIVE-SIDED CUTTING BROACHES

No.	Stubs	Diameter
15.301	1	.227"
15.305	5	.204"
15.310	10	.194"
15.315	15	.180"
15.320	20	.161"
15.325	25	.148"
15.330	30	.127"
15.335	35	.108"
15.340	40	.097"
15.345	45	.081"
15.348	48	.075"
15.350	50	.069"
15.351	51	.067"



No.	Stubs	Diameter
15.352	52	.063"
15.354	54	.055"
15.355	55	.050"
15.358	58	.042"
15.360	60	.039"
15.362	62	.038"
15.365	65	.033"
15.368	68	.031"
15.370	70	.027"
15.372	72	.024"
15.375	75	.020"
15.380	80	.013"



### 2 ASSORTMENTS of CUTTING BROACHES

For general purpose work. Each contains 12 of the most used sizes within the stub range indicated. Packed in convenient tubes.

No.	Style	Stub Range
15.500	Cutting	15-70
15.501	Cutting	30-70



### 3 ASSORTMENTS of CUTTING BROACHES with BROACH HOLDER

For general purpose work. Each contains 12 of the most used sizes within the stub range indicated. Packed in tubes with broach holder.

No.	Style	Stub Range
15.505	Cutting	15-70
15.506	Cutting	30-70



### 4 ASSORTMENTS of ROUND BROACHES

For general purpose work. Each contains 12 of the most used sizes within the stub range indicated. Packed in convenient tubes.

No.	Style	Stub Range
15.513	Round	15-70
15.514	Round	30-70
15.0506*	Round	55-80

\* Contains a broach holder.

### 5 SET of CUTTING BROACHES with KNURLED HANDLES

Contains six assorted sizes.

No.	Style	Stub Range
15.510	Cutting	43-72

## 1 MASCOT PIVOT BROACHES

Superior quality, perfectly tapered and true to size for precision work. All have round handles and are 1-3/4" long. Sold by the dozen.

No.	Style	Diameters
A. 15.520	Cutting	.003" to .013"
15.521	Cutting	.005" to .015"
15.522	Cutting	.008" to .018"

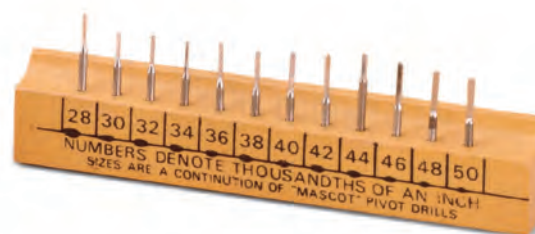
No.	Style	Diameters
B. 15.525	Round	.003" to .013"
15.526	Round	.005" to .015"



## 2 MASCOT® FLAT PIVOT DRILLS

Carbon steel for drilling brass, mild steel, aluminum, etc. Right hand with rake angle of zero degrees. Shank diameter for sizes .004" to .026" is 1 mm, and for sizes .028" to .050" shank is 1.5 mm. Individual sizes, sold by the dozen.

No.	Size	No.	Size
28.364	.004"	28.388	.028"
28.366	.006"	28.390	.030"
28.368	.008"	28.392	.032"
28.370	.010"	28.394	.034"
28.372	.012"	28.396	.036"
28.374	.014"	28.398	.038"
28.376	.016"	28.400	.040"
28.378	.018"	28.402	.042"
28.380	.020"	28.404	.044"
28.382	.022"	28.406	.046"
28.384	.024"	28.408	.048"
28.386	.026"	28.410	.050"



## MASCOT® FLAT PIVOT DRILL ASSORTMENTS

Contains one dozen carbon steel drills in even numbers only. Includes wood block, marked with sizes, with clear plastic protective cover. (not shown).

No.	Size
28.350	Sizes .004" to .010" (three of each)
28.351	Sizes .004" to .026" (one of each)
28.352	Sizes .028" to .050" (one of each)



## 3 HAND DRILLS

Smooth operating drill with adjustable chuck. Sturdy tool for all-around use.

No.	Capacity	Length
28.233	3/16"	11"



## 5 SPIRAL DRILL

Push center chuck to rotate drill.

No.	Capacity	Length
28.230	0" to 1/32"	4"

## 4 SPIRAL DRILL

Pushing down on handle rotates drill.

No.	Capacity	Length
28.231	1/16"	7-3/4"



## 6 ADAPTOR CHUCKS

Handy for holding small drills in larger chucks or flexshaft handpieces. With 3/32" shanks.

No.	Capacity	Collets
28.215	0" to .045"	1
28.216	0" to .097"	2

## 1 PEARL DRILL SET

Set of 12 drills in wood stand with cover. For drilling the holes for setting seed pearls and other round or half-round stones. Sizes 1.05 mm to 3.00 mm (.041" to .12"), with 1/8" (3.00 mm) shank. There are two of the 3.00 mm.

No. 53.120



No.	Diameter	
	(in)	(mm)
53.121	.041"	1.05
53.122	.047"	1.20
53.124	.057"	1.45
53.125	.065"	1.65
53.126	.073"	1.85
53.127	.081"	2.05

No.	Diameter	
	(in)	(mm)
53.128	.089"	2.26
53.129	.094"	2.40
53.132	.118"	3.00



## 2 BUSCH PEARL DRILLS

Cup-shaped cutters on wheels used to dress up a setting, ring mounting, or any piece of jewelry, by forming a decorative bead or fine row of cuts along the edge.

Sets contain six sizes plus chuck-holding handle.

No.	Size #	No.	Size #
53.510	0.9	53.513	1.6
53.511	1.0	53.514	2.1
53.512	1.2	53.515	2.3
53.51201	1.4	53.516*	2.5



## 3 BUSCH CARBIDE PEARL DRILLS

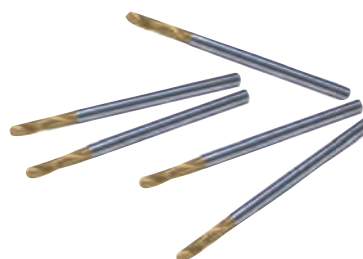
Sold in Packages of 2. 3/32" shank.

ISO	Carbide	ISO	Carbide
007	28.635	014	28.642
008	28.636	015	28.643
009	28.637	016	28.644
010	28.638	018	28.645
011	28.639	021	28.646
012	28.640	023	28.647
013	28.641		

## PREMIUM GOLD COBALT TWIST DRILLS

Grobet is proud to present this line of cobalt steel twist drills. Ideal for platinum, stainless, silicon-chrome and chrome-nickel. These drills will last 30 times longer than standard drills. Sold by pack of 10. It's highly recommended that you use water or coolant when working with these drills. Also, try our Pro-Cut lubricant - No. 19.928.

No.	Drill Size	Size
28.950	50	.0700"
28.951	51	.0670"
28.952	52	.0635"
28.953	53	.0595"
28.954	54	.0550"
28.955	55	.0520"
28.956	56	.0465"
28.957	57	.0430"
28.958	58	.0420"
28.959	59	.0410"
28.960	60	.0400"
28.961	61	.0390"
28.962	62	.0380"
28.963	63	.0370"
28.964	64	.0360"



No.	Drill Size	Size
28.965	65	.0350"
28.966	66	.0330"
28.967	67	.0320"
28.968	68	.0310"
28.969	69	.0292"
28.970	70	.0280"



## CARBIDE & VANADIUM STEEL TWIST DRILLS

Sold individually with a minimum order of six pieces per size. Shank size 3/32".



### 1 PANTHER TUNGSTEN VANADIUM STEEL TWIST DRILLS

ISO No.	Size	Panther
005	.0197"	77.2605
006	.0236"	77.2606
007	.0276"	77.2607
008	.0315"	77.2608
009	.0354"	77.2609
010	.0393"	77.2610
011	.0441"	77.2611
012	.0472"	77.2612
013	.0500"	77.2613
014	.0512"	77.2614
015	.0591"	77.2615
016	.0630"	77.2616
017	.0689"	77.2617
018	.0709"	77.2618
020	.0787"	77.2620
021	.0827"	77.2621
022	.0866"	77.2622
023	.0906"	77.2623

### 2 PANTHER CARBIDE TWIST DRILLS

ISO No.	Size	Panther
005	.0197"	77.6205
006	.0236"	77.6206
007	.0276"	77.6207
008	.0315"	77.6208
009	.0354"	77.6209
010	.0393"	77.6210
011	.0441"	77.6211
012	.0472"	77.6212
013	.0500"	77.6213
014	.0512"	77.6214
015	.0591"	77.6215
016	.0630"	77.6216
017	.0689"	77.6217
018	.0709"	77.6218
019	.0748"	77.6219
020	.0787"	77.6220
021	.0827"	77.6221
022	.0866"	77.6222
023	.0906"	77.6223



### 3 BUSCH TUNGSTEN VANADIUM STEEL TWIST DRILLS

ISO No.	Size	Busch
005	.0197"	28.584
006	.0236"	28.585
007	.0276"	28.586
008	.0315"	28.587
009	.0354"	28.588
010	.0393"	28.589
011	.0441"	28.58901
012	.0472"	28.590
014	.0512"	28.591
015	.0591"	28.592
016	.0630"	28.593
018	.0709"	28.594
019	.0748"	28.59401
021	.0827"	28.595
023	.0906"	28.596

### 4 BUSCH CARBIDE TWIST DRILLS

ISO No.	Size	Busch
005	.0197"	28.602
006	.0236"	28.603
007	.0276"	28.604
008	.0315"	28.605
009	.0354"	28.606
010	.0393"	28.607
012	.0472"	28.608
014	.0512"	28.609
015	.0591"	28.610
016	.0630"	28.611

**Safety Tip:** Always wear proper eye protection when drilling.



## 1 HIGH SPEED STEEL TWIST DRILLS

Individual sizes, sold by pack of 10.



No.	Drill Size	Size
28.468	50	.0700"
28.469	51	.0670"
28.470	52	.0635"
28.471	53	.0595"
28.472	54	.0550"
28.473	55	.0520"
28.474	56	.0465"
28.475	57	.0430"
28.476	58	.0420"
28.477	59	.0410"
28.478	60	.0400"
28.479	61	.0390"
28.480	62	.0380"
28.481	63	.0370"
28.482	64	.0360"
28.483	65	.0350"

No.	Drill Size	Size
28.484	66	.0330"
28.485	67	.0320"
28.486	68	.0310"
28.487	69	.0293"
28.488	70	.0280"
28.489	71	.0260"
28.490	72	.0250"
28.491	73	.0240"
28.492	74	.0225"
28.493	75	.0210"
28.494	76	.0200"
28.495	77	.0180"
28.496	78	.0160"
28.497	79	.0145"
28.498	80	.0135"

## 2 MASCOT® HIGH SPEED STEEL TWIST DRILLS

Individual sizes, sold by pack of 10.



No.	Drill Size	Size
28.530/10	30	.1285"
28.533/10	33	.1130"
28.534/10	34	.1110"
28.536/10	36	.1065"
28.538/10	38	.1015"
28.540/10	40	.0980"
28.541/10	41	.0960"
28.542/10	42	.0935"
28.543/10	43	.0890"
28.544/10	44	.0860"
28.545/10	45	.0820"
28.546/10	46	.0810"
28.547/10	47	.0785"
28.548/10	48	.0760"
28.550/10	50	.0700"
28.551/10	51	.0670"
28.552/10	52	.0635"
28.553/10	53	.0595"
28.554/10	54	.0550"
28.555/10	55	.0520"
28.556/10	56	.0465"
28.557/10	57	.0430"
28.558/10	58	.0420"

No.	Drill Size	Size
28.559/10	59	.0410"
28.560/10	60	.0400"
28.561/10	61	.0390"
28.562/10	62	.0380"
28.563/10	63	.0370"
28.564/10	64	.0360"
28.565/10	65	.0350"
28.566/10	66	.0330"
28.567/10	67	.0320"
28.568/10	68	.0310"
28.569/10	69	.0292"
28.570/10	70	.0280"
28.571/10	71	.0260"
28.572/10	72	.0250"
28.573/10	73	.0240"
28.574/10	74	.0225"
28.575/10	75	.0210"
28.576/10	76	.0200"
28.577/10	77	.0180"
28.578/10	78	.0160"
28.579/10	79	.0145"
28.580/10	80	.0135"

## 1 COBALT TWIST DRILLS, 3/32" SHANK

Made of the highest quality cobalt. 10-to-1 lifetime over High Speed Steel twist drills. More heat resistant than HSS and less brittle than carbide. Work great on rough & uneven surfaces.

No.	Description
<b>28.598SET</b>	Set of 10

Set includes: .50mm, .70mm, .90mm, 1.10mm, 1.20mm, 1.40mm, 1.60mm, 1.80mm, 2.00mm and 2.20mm



Packs of 5 Drills.

No.	Size
<b>28.598/0.5</b>	.50 mm
<b>28.598/0.6</b>	.60 mm
<b>28.598/0.7</b>	.70 mm
<b>28.598/0.8</b>	.80 mm
<b>28.598/0.9</b>	.90 mm
<b>28.598/1.0</b>	1.00 mm
<b>28.598/1.1</b>	1.10 mm
<b>28.598/1.2</b>	1.20 mm
<b>28.598/1.3</b>	1.30 mm
<b>28.598/1.4</b>	1.40 mm

No.	Size
<b>28.598/1.5</b>	1.50 mm
<b>28.598/1.6</b>	1.60 mm
<b>28.598/1.7</b>	1.70 mm
<b>28.598/1.8</b>	1.80 mm
<b>28.598/1.9</b>	1.90 mm
<b>28.598/2.0</b>	2.00 mm
<b>28.598/2.1</b>	2.10 mm
<b>28.598/2.2</b>	2.20 mm
<b>28.598/2.3</b>	2.30 mm

## 2 TITANIUM COATED COBALT DRILLS

Made of the highest quality cobalt and coated with titanium for longer life. All drills have straight shanks and are finished to drill quickly and cleanly. 15-to-1 lifetime over High Speed Steel twist drills. 5-to-1 lifetime over standard cobalt twist drills. More heat resistant than HSS and less brittle than carbide. Work great on rough & uneven surfaces.

No.	Description
<b>28.0531</b>	Drill Set, 10 Tubes of 5 ea

Set includes: #50, #53, #56, #57, #60, #64, #67, #70, #72 and #76



Packs of 5 Drills.

No.	Size
<b>28.0531/50</b>	#50
<b>28.0531/53</b>	#53
<b>28.0531/56</b>	#56
<b>28.0531/57</b>	#57
<b>28.0531/60</b>	#60
<b>28.0531/63</b>	#63

No.	Size
<b>28.0531/64</b>	#64
<b>28.0531/67</b>	#67
<b>28.0531/69</b>	#69
<b>28.0531/70</b>	#70
<b>28.0531/72</b>	#72
<b>28.0531/73</b>	#73
<b>28.0531/76</b>	#76

## DIAMOND COATED DRILLS

Use to drill stones, glass, pearls and ceramics. Diamond is evenly plated on High Speed Steel blanks for maximum life. Medium/Fine grit. For longer drill life and faster cutting, always use a small amount of water or coolant when drilling

### 1 DIAMOND COATED JOBBER DRILLS

No.	Description
<b>28.0530</b>	Drill Set, 10 Tubes of 5 ea

Set includes: #36, #40, #45, #47, #50, #52, #54, #56, #61 and #65

Packs of 5 Drills.

No.	Size
<b>28.0530/36</b>	# 36
<b>28.0530/40</b>	# 40
<b>28.0530/45</b>	# 45
<b>28.0530/47</b>	# 47
<b>28.0530/50</b>	# 50
<b>28.0530/51</b>	# 51



No.	Size
<b>28.0530/52</b>	# 52
<b>28.0530/53</b>	# 53
<b>28.0530/54</b>	# 54
<b>28.0530/56</b>	# 56
<b>28.0530/61</b>	# 61
<b>28.0530/65</b>	# 65

### 2 DIAMOND COATED DRILLS -3/32" SHANK

Sold Individually

No.	Description
<b>28.597SET</b>	Set of 6



No.	Size
<b>28.597/1.0</b>	1.00 mm
<b>28.597/1.3</b>	1.30 mm
<b>28.597/1.4</b>	1.40 mm

No.	Size
<b>28.597/1.6</b>	1.60 mm
<b>28.597/1.8</b>	1.80 mm
<b>28.597/2.1</b>	2.10 mm



## 1 DORMER HIGH SPEED TWIST DRILLS

Made of the highest quality steel, carefully tempered and accurately ground to size. All drills have straight shanks and are perfectly finished to assure quick, smooth and clean drilling. Individual sizes, Sold in packs of 10.



No.	Size
28.0536/50	.0700"
28.0536/51	.0670"
28.0536/52	.0635"
28.0536/54	.0550"
28.0536/55	.0520"
28.0536/57	.0430"
28.0536/58	.0420"
28.0536/59	.0410"
28.0536/60	.0400"
28.0536/61	.0390"
28.0536/62	.0380"
28.0536/63	.0370"
28.0536/64	.0360"
28.0536/65	.0350"
28.0536/66	.0330"

No.	Size
28.0536/67	.0320"
28.0536/68	.0310"
28.0536/69	.0293"
28.0536/70	.0280"
28.0536/71	.0260"
28.0536/72	.0250"
28.0536/73	.0240"
28.0536/74	.0225"
28.0536/75	.0210"
28.0536/76	.0200"
28.0536/77	.0180"
28.0536/78	.0160"
28.0536/79	.0145"
28.0536/80	.0135"

### SET of 20

Contains sizes 61 to 80. Comes in a selector case with slide cover, to access only the size you need. Sizes are noted right on the case. Drills can be easily replaced, so the set is always in order and protected.

No. 28.0540



## 2 DORMER HIGH SPEED TWIST DRILL ASSORTMENTS

Set of 6 contains sizes 55, 56, 59, 60, 64, and 67 in a handy plastic tube. Excellent for sample jewelry making and general workshop use.

No.
28.0545

## 3 MASCOT® HIGH SPEED STEEL TWIST DRILL ASSORTMENTS

Set of 6 assorted sizes between 30 to 52 in a plastic tube.

No.
28.500



## 4 SET of 36 HIGH SPEED TWIST DRILLS

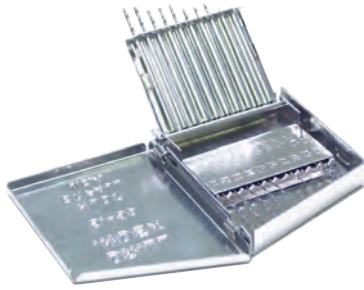
Contains sizes 33 to 80 in wood stand with cardboard cover.

No.
28.504

## 5 SET of 12 HIGH SPEED TWIST DRILLS

Contains sizes 50 to 61 in rectangular wood block.

No.
28.503



### 1 SET of 20 HIGH SPEED TWIST DRILLS in METAL CASE

Made of high quality steel, carefully tempered and accurately ground to size. All drills have straight shanks and are perfectly finished to assure quick, smooth and clean drilling.

No.	Size
28.501	61 to 80

### METAL CASE for DRILLS, 61 to 80

Metal case for drills. Layers flip-out for easy access. Size 61 to 80.

No.	Size
28.510	61 to 80

### 3 HAND DRILL

Handy for close drilling of small work at the bench. Will hold drills or taps.

No.
28.234

### 4 BENCH TOP DRILL PRESS

Perfect for smaller work shops! This mini drill press offers excellent control and infinitely variable speeds in three ranges: low (0-5000 rpm), medium (0-6500 rpm) and high (0-8500 rpm). The Jacobs chuck spindle accommodates drill shanks up to 6.5 mm. Work surfaces is die-cast for durability. Platform measures only 6-3/4" x 6-3/4". UL/CE certified. ISO-900. Speed: up to 8500 RPM. Replacement belt included. One year warranty

#### Specifications:

Rated voltage: 110-120v  
 Rated power: 100W  
 Rated frequency: 60Hz  
 Rated current: 1.1A  
 Drilling diameter (MAX): metal 1/8", non-metallic 1/4"  
 Drilling stroke: 1"  
 Distance between main axle end to worktable (MAX): 8"  
 Shipping Weight: 10 lbs.

No.
28.618



### 2 SET of 20 HIGH SPEED TWIST DRILLS in PLASTIC STAND

Made of high quality steel, carefully tempered and accurately ground to size. All drills have straight shanks and are perfectly finished to assure quick, smooth and clean drilling.

No.	Size
28.502	61 to 80



**Safety Tip: Always wear proper eye protection when drilling.**



# *Engraving*



## GROBET HIGH SPEED YELLOW TANG GRAVERS

Suitable for use with all types of metals, wood, bone, ivory, onyx. Used by engravers, stone setters, die sinkers, jewelers, and watchmakers.

Note: High-speed steel gravers have yellow tangs.



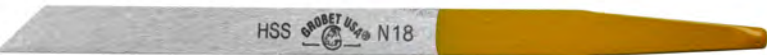
### 1 ONGLETTE

Graver #	5/0	4/0	3/0	2/0	0	1	2	3	4	5	6	7	8
Thickness MM	1.16	1.24	1.35	1.45	1.58	1.78	1.94	2.16	2.54	2.74	2.94	3.14	3.36
Grobet #	<b>36.259</b>	<b>36.261</b>	<b>36.263</b>	<b>36.265</b>	<b>36.267</b>	<b>36.269</b>	<b>36.270</b>	<b>36.271</b>	<b>36.272</b>	<b>36.273</b>	<b>36.274</b>	<b>36.275</b>	<b>36.276</b>



### 2 FLAT

Graver #	36	37	38	39	40	41	42	44	45	47
Europe #	2	4	6	8	10	12	14	18	20	24
Thickness MM	.2	.4	.6	.8	1.0	1.2	1.4	1.8	2.0	2.4
Grobet #	<b>36.277</b>	<b>36.278</b>	<b>36.279</b>	<b>36.27901</b>	<b>36.280</b>	<b>36.281</b>	<b>36.282</b>	<b>36.283</b>	<b>36.284</b>	<b>36.285</b>



### 3 KNIFE

Graver #	0	1	2	3	4	5
Europe #	18	20	22	24	26	28
Thickness MM	1.8	2.0	2.2	2.4	2.6	2.8
Grobet #	<b>36.300</b>	<b>36.301</b>	<b>36.302</b>	<b>36.303</b>	<b>36.304</b>	<b>36.305</b>



### 4 ROUND

Graver #	50	51	52	53	54	55	57
Europe #	2	4	6	8	10	12	16
Thickness MM	.2	.4	.6	.8	1.0	1.2	1.6
Grobet #	<b>36.289</b>	<b>36.290</b>	<b>36.291</b>	<b>36.29101</b>	<b>36.292</b>	<b>36.293</b>	<b>36.294</b>

## PRE-SHAPED GRAVERS

Genuine Grobet Yellow Tang Pre-Shaped GRAVERS! The World's Standard

### 1 FLAT EDGE



Graver #	36	37	38	39	40	41	42	43	44	45	47
Europe #	2	4	6	8	10	12	14	16	18	20	24
Thickness MM	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.40
Grobet #	<b>36.308</b>	<b>36.309</b>	<b>36.310</b>	<b>36.311</b>	<b>36.312</b>	<b>36.313</b>	<b>36.314</b>	<b>36.315</b>	<b>36.316</b>	<b>36.317</b>	<b>36.318</b>

### 2 ROUND EDGE



Graver #	50	51	52	53	54
Europe #	2	4	6	8	10
Thickness MM	0.20	0.40	0.60	0.80	1.00
Grobet #	<b>36.319</b>	<b>36.320</b>	<b>36.321</b>	<b>36.322</b>	<b>36.323</b>

### 3 ONGLETTE



Graver #	5/0	4/0	3/0	2/0	0	1	2	3	4
Thickness MM	1.16	1.24	1.35	1.45	1.58	1.78	1.94	2.16	2.54
Grobet #	<b>36.327</b>	<b>36.328</b>	<b>36.329</b>	<b>36.330</b>	<b>36.331</b>	<b>36.332</b>	<b>36.333</b>	<b>36.334</b>	<b>36.335</b>

### 4 KNIFE



Graver #	0	1	2	4
Europe #	18	20	22	26
Thickness MM	1.8	2.0	2.2	2.6
Grobet #	<b>36.340</b>	<b>36.341</b>	<b>36.342</b>	<b>36.34301</b>

## GRAVER HANDLES



Gourd



Half Head



Mushroom



Oval



Pear



Round



Vase

No.	Style	Diameter x Length	
		(in)	(mm)
37.856	Gourd	1-5/16" x 2-1/2"	33.3 x 63.5
37.857	Half Head	1-3/8" x 2"	34.9 x 50.8
37.858	Half Head	1-3/8" x 1-3/8"	34.9 x 34.9
37.859	Half Head	1-3/8" x 1-3/4"	34.9 x 44.5
37.860	Half Head	1-1/4" x 2-1/4"	31.8 x 57.2
37.885	Half Head	1-3/8" x 2-1/4"	34.9 x 57.2

No.	Style	Diameter x Length	
		(in)	(mm)
37.865	Mushroom	1-1/4" x 2"	31.8 x 50.8
37.867	Mushroom	1-1/4" x 1-3/4"	31.8 x 44.5
37.868	Mushroom	1-1/4" x 2-1/4"	31.8 x 57.2

No.	Style	Diameter x Length	
		(in)	(mm)
37.870	Oval	1-5/16" x 1"	33.3 x 25.4

No.	Style	Diameter x Length	
		(in)	(mm)
37.872	Pear	1-5/8" x 1-7/8"	41.3 x 47.6

No.	Style	Diameter x Length	
		(in)	(mm)
37.874	Round	1-3/8" x 1-5/8"	34.9 x 41.3

No.	Style	Diameter x Length	
		(in)	(mm)
37.877	Vase	1-3/8" x 3"	34.9 x 76.2



### 1 E.F.B. GRAVER HANDLES

Made of finely finished hardwood. Graver slips into groove of handle and is held securely by metal sleeve. Especially for E.F.B. style gravers.

No.	Description
37.850	For double end gravers
37.851	For single end gravers



### 1 SET of E.F.B. GRAVERS

Set of six shapes, with handles, in hardwood case. Made of the best tool steel, sharpened and ready for use. Famous for their pattern and special shape, designed to fit into E.F.B. handles. Made in USA.

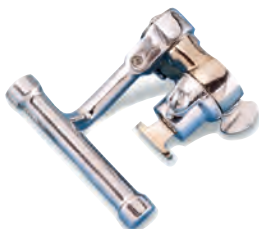
No.	Size
36.100	3-7/8" (98mm)



### 3 SET of TURNING GRAVERS

For turning or pivoting items on small lathes. Available in a set of six different shapes. Made of tool steel with finished ground points.

No.	Description
36.804	Set of 6



### 5 CROCKER PATTERN GRAVER SHARPENER

Graver can be set to any angle and sharpened by setting index. Holds graver edge in position while honing on oilstone (not supplied).

No.	Dimensions
36.880	2-1/8" x 1-3/8" (54 x 35 mm)



### 2 OHIO TURNING GRAVERS SET

For turning or pivoting items on small lathes. Available in set of ten different shapes, fitted with wood handles. Made of tool steel with finished ground points

No.	Description
36.800	Set of ten



### 4 VIBRO-GRAVER

This rugged industrial quality engraving tool makes permanent markings on the hardest steel, glass, plastic, stone, wood, or almost any surface. Used extensively by jewelers to make background effects on jewelry. Features a durable, tungsten carbide engraving tip, positive on-off switch, and spark-free motor that vibrates at 7200 strokes per minute. The adjustment dial changes length of stroke and depth of mark.

No.	Description
36.861	110 volt model
36.861X	220 volt model
36.865	Replacement Tip



### 6 GRAVER SHARPENER

Graver is placed in either of two angled openings and rolled over flat oilstone to sharpen (oilstone not supplied).

No.	Dimensions
36.884	2-1/8" x 1-3/8" (54 x 35 mm)



## 1 FLAT ENGRAVING MACHINE

### Features:

- Includes type
- Adjustable type slide accommodates both small 1-1/4" and large 2-3/4" type.
- 15 different pantograph ratios from 2-1/2" : 1 to 6 : 1.
- Height adjustment for objects up to 2-1/2".
- "Quick Slide" female vise accommodates jewelry, discs up to 4" diameter, or 3-1/2" wide rectangular objects.
- Overall size: 11" H x 14" W x 14-1/2" D.
- Diamond stylus for engraving.
- Vise rotates full 360°
- Shipping weight 27 lbs.

No.

26.815

### Accessories for Flat Engraving Machine:

No.	Description
26.81501	Diamond tip
26.81502	Standard jig
26.81503	Type



## 2 NEW HERMES BASIC ENGRAVOGRAPH

Will engrave on flat-work up to 3-1/2" high. Supplied with a fixed vise with a 3" opening and an 18" double-grooved copy holding slide.

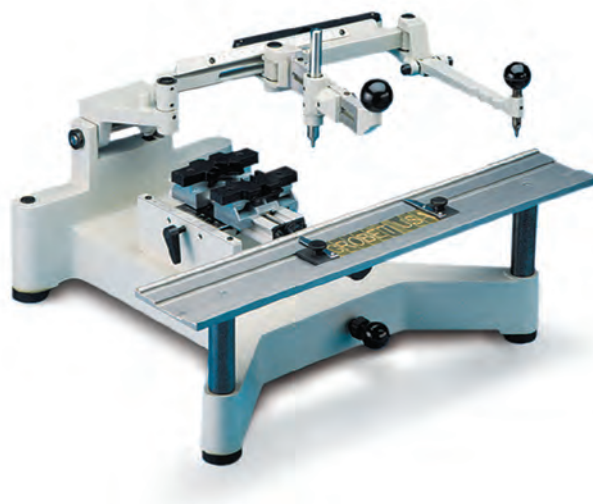
### Specifications:

- 25 engraving ratios from 2:1 to 7:1
- Pivoting pantograph arm
- Approximate dimensions 16" x 22" x 15"
- Ship weight 25 lbs.

No.	Description
26.368	Basic Engravograph

### Accessories for Engravographs:

No.	Description
26.379	Double grooved copy slide 26" long
26.380	Replacement jewelry and nameplate jig
26.381	Watch and lighter jig
26.385	1/8" diamond insert
26.386	1/8" diamond insert for wide engraving





## 1 INSIDE RING ENGRAVER

The Inside Ring Engraving Machine is manufactured to the highest standard, is compact and user-friendly. Includes a type dial, a diamond tip and 5 brass sample rings. Ship weight 14 lbs.

### Features:

- Easy type installation
- One single dial produces letters with heights of 1 mm and 2mm
- Wide ring-holding capacity of ring sizes from 19 to 30mm
- Adjustable letter spacing

No.	Description
26.850	Engraver
26.851	Diamond tip



## 2 PRESIDIUM INSIDE RING ENGRAVING MACHINE

The Inside Ring Engraving Machine is manufactured to the highest standard, is compact and user-friendly. Includes a type dial, a diamond tip and 5 brass sample rings.

### Features:

- Easy type installation
- One single dial produces letters with heights of 1 mm and 2mm
- Wide ring-holding capacity of ring sizes from 19 to 30mm
- Adjustable letter spacing

No.
26.840



## 1 NEW HERMES INSIDE RING ENGRAVER

Automatically centers ring in clamping jigs. Engraving and spacing is synchronized and easy. The diamond insert produces a hand engraved effect. Includes extended gothic and tilted block copy dial. Ship weight 15 lbs. (6.8 kg).

No.

**26.390** Inside ring engraver

\***26.391** Connecting script dial

**26.389** Diamond insert for No. 26.390

\*Diameter 7-15/16", Centerhole 1/2", Letter Height 5/16"



## 2 MAGNA-GRAVER LINING AND STRAIGHT GRAVERS

For easy, one-handed engraving with your flexible shaft machine. For craftsmen who engrave by hand, engravers on automatic or semi-automatic production lines, carvers, etc.

No.

**36.02900**

**1 WALLER SCRIBER**

Carbide tipped scriber with reversible ends. Covered point may be covered while being carried.



No.
52.950

**2 CARBIDE TIPPED SCRIBER**

Can be used on hard metals, glass, jewels, etc. Slim line design is comfortable to use. Hexagonal aluminum handle prevents rolling on bench.



No.	Size
52.952	Length 5-1/4"

**3 DIAMOND TIPPED SCRIBER**

Can be used on hard jewels, metals, etc. Hexagonal aluminum handle prevents rolling on bench.



No.	Size
52.954	Length 5-1/4"

**4 VICTOR STYLE ENGRAVING BLOCK by GROBET USA®**

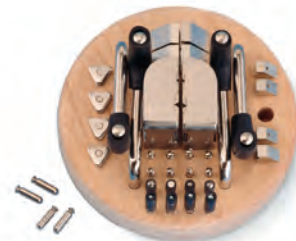
Recognized as the finest block among engravers throughout the world. Turntable revolves on precision bearing, eliminating side shake, yet is responsive to the slightest touch. Deep-throated jaws close and open on smooth operating center screw. Block is 5" diameter and is supplied with a plastic base.

No.	Description
26.200	Engraving block w/base and attachments
26.202	Engraving block w/base
26.20201	Replacement key
26.20202	Replacement jaws
26.20203	Plastic base pad

**SET OF ATTACHMENTS**

Complete set of accessories for Victor engraving block, mounted on wood base.

No.	Description
26.215	Complete set

**5 RING PADS**

Leather covered pad used as a base for engraving bowls or as a base for an engraving block.

No.	Description
26.365	Leather Solid, Diameter 6"
26.366	Diameter 5"





### 1 CHINESE WHITE

Dabbed or brushed onto surface when melted so that a pencil mark may leave an impression.

No.	Description
26.160	Small cake



### 3 PEG CLAMP

Holds small odd-shaped articles for engraving and other delicate work. Round jaws, 2" (51 mm) diameter, open and close on twin guides by turning the threaded screw. The eight pegs supplied can be positioned in any of the holes in the jaws to secure many different shapes of work. Detachable handle to allow the jaw section to be mounted in vise. Overall length 5-3/8".

No.	Description
26.500	Peg clamp w/wood handle



### 5 LIGHT ENGRAVING CEMENT

Items not easily placed in engraving blocks can be attached to boxwood slips with this cement. Ideal for holding semi-precious stones while polishing or cutting. Melts easily.

No.	Description
12.203	Pack contains two 1/2 lb. bars



### 2 SYNTHETIC BEESWAX

Leaves a surface film on which design can be marked. Can also be used as a lubricant for sawblades, burs, and drills.

No.	Description
26.100	1 oz. tube
26.103	1 lb. cake



### 4 PRACTICE MATERIAL for ENGRAVING

#### Copper Rings

Pack of 25.

No.
26.540

#### Brass Sheets

Pack of 12.

No.	Dimensions
36.01556	2-7/8" x 9/16"



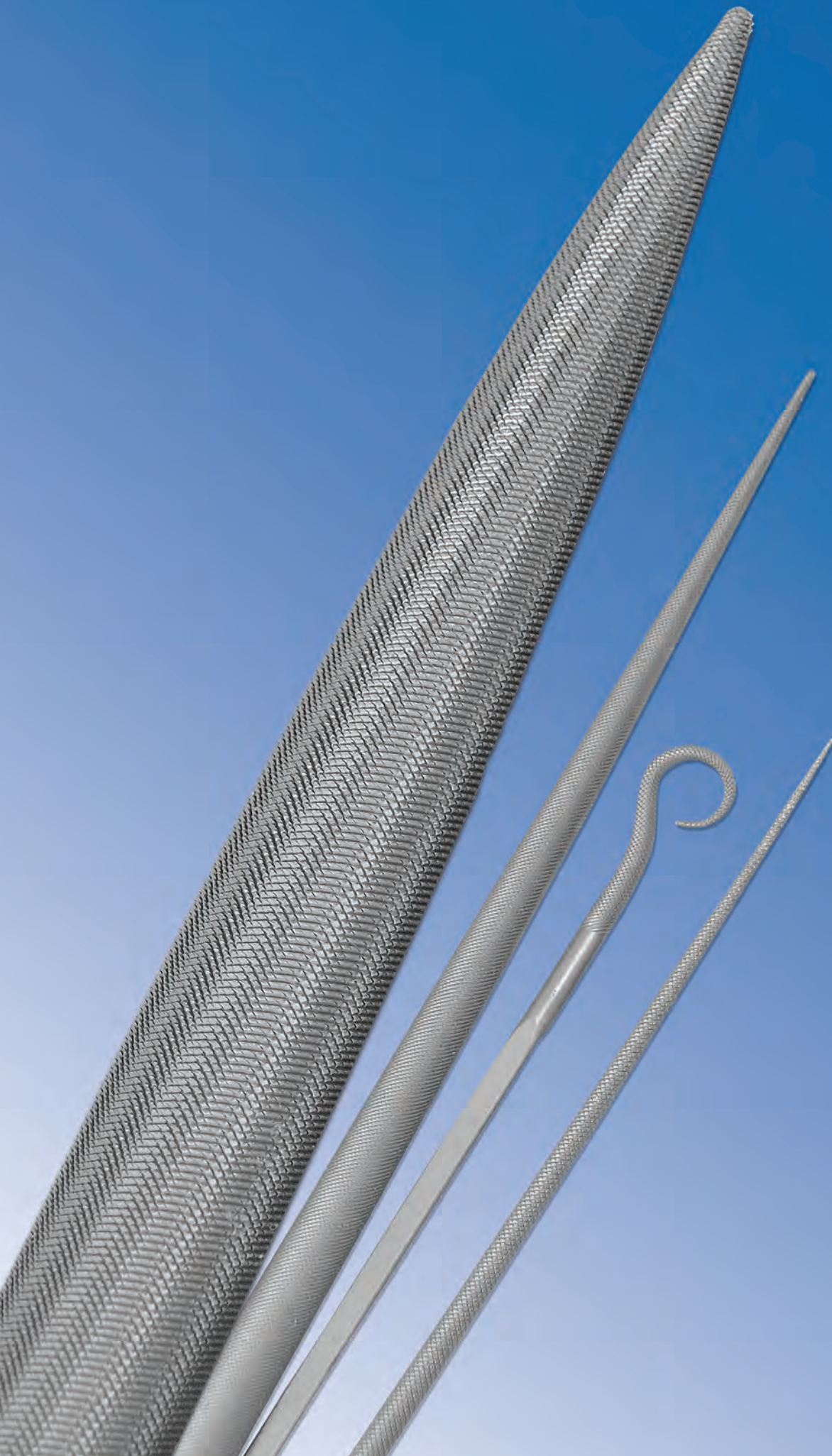
### 6 ASPHALTUM VARNISH

Slow drying varnish for etching resistance on large surfaces.

No.	Description
26.600	1 pint can



# *Files*



## Types of Grobet Precision Files

**Chain Saw Files** - Use for sharpening all sizes of chain saw teeth. This file maintains the proper tooth shape throughout extensive use. The user will experience a fast, smooth cutting action creating an excellent finish.

**Diamond Files** – Manufactured by electro-plating diamond grains on blanks. They are used for finishing or sharpening hardened steel over 60 HRC or tungsten carbide. A variety of types, shapes and sizes.

**Ergo Grip Files** - Versatile files for working on larger surfaces with higher pressure, but with the same precision of needle files. Use for mold making or working with precious metals. The square built-in handle is easy to hold and gives improved control without needing an additional handle.

**Escapement Files** - Also called Square Handled Needle Files with a length of cut varying from 3/4" to 2-1/2" and long, square handles.

**Inox Files** – Compared to standard precision files, the Inox coating creates a greater surface hardness, longer service life and a surface corrosion free layer. They have a Rockwell Hardness of 70-72 and can file hardened tempered steel up to 60 HRC.

**Needle Files** - Made to exacting tolerances, these high-quality files are ideal for making ultra-fine modifications to metal parts. The knurled round handle gives the file a non-slip grip for precision filing.

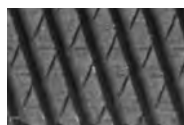
**Rasps** – Various file types with raised individual cutting teeth suitable for use on wood, fiberglass, plastics and other soft metals.

**Rifflers** - Originally used and hand forged by die sinkers, die makers, silversmiths, etc., in shapes and cross-sections appropriate to their work. Good for hard-to-reach surfaces and for detail finishing on molds, castings and engravings. Teeth are cut in small areas on each end and can have a variety of shapes. A long middle portion serves as the handle.

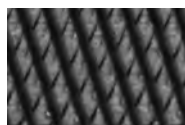
**Scrapers** - Scrapers are ideal for cleaning, smoothing and deburring metals and plastics. Use to prepare surfaces for soldering, remove excess solders, open bezels, etc. Grobet scrapers are high performance tools with extremely sharp edges. They can be resharpened on a bench stone. All are securely mounted in hardwood handles.

**Swiss Pattern Precision Files** - Compared to American Pattern files (engineers' files) Swiss Pattern files have marked tapering and smaller tips, sharp edges, strict dimensional and flatness tolerances and a higher and uniform hardness.

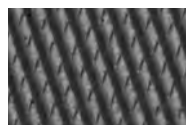
Cut 00



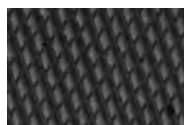
Cut 0



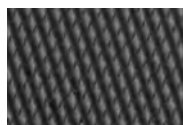
Cut 1



Cut 2



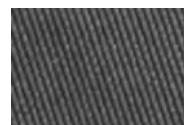
Cut 3



Cut 4



Cut 6



## Scale of Cuts

Teeth per CM	12	16	20	25	31	38	46	56	68	84	116
Teeth per inch	30	41	51	64	79	97	117	142	173	213	295
Escapement Files	-	-	-	0	-	2	-	4	5	6	8
Ergo Grip	-	00	-	1	-	-	-	-	-	-	-
Needle	-	-	00	0	1	2	3	4	-	6	-
Swiss Pattern 4" to 8" / 100mm-200mm	-	00	0	1	2	3	4	-	6	-	-
Swiss Pattern 10" to 12" / 250mm-300mm	00	0	1	2	3	4	-	6	-	-	-
Rifflers, Die Sinkers	-	-	-	0	-	2	-	4	-	-	-
Rifflers, Silversmiths	-	0	-	2	-	-	-	-	-	-	-
Rifflers, Tool Makers	0	-	2	-	-	-	-	-	-	-	-

## HOW TO USE PRECISION FILES

Hand filing is one of man's oldest ways of working metal and requires a high degree of manual skill. The skill of a craftsman is recognized by his ability to use a file correctly and efficiently. The touch of a file in the proper place can make all the difference when performing precision work. The skill or "feel" that a craftsman acquires is the result of long and patient practice.

### Choosing the Right File for the Job

This is done based on the type of metal to be filed, the amount of material to be removed, and the size and contour of the piece to be worked.

### Basic Principles for Filing

- The workpiece must be supported properly and at the correct working height.
- The file must be held correctly with the cutting stroke properly guided.
- Proper pressure must be applied during the cutting stroke.
- A common cause of defective filing is the tendency to rock the file with a seesaw motion in trying to remove too much material too quickly, resulting in a convex rather than flat, level surface; a lighter, more even pressure on the file usually corrects this.

### How to Hold the Workpiece

- A workpiece is generally held in a bench vise. For average precision filing, the top of the workpiece is usually level with the worker's elbow when the arm is bent.
- To keep the workpiece from being marred, the jaws of the vise should be covered with pieces of soft metal, wood, plastic, or leather.
- When rapid removal of material or rough, heavy filing is to be done, the workpiece is usually set at a lower level and a courser cut file is used.
- When the workpiece is small and delicate and the filing is done by the motion of the hand or the hand and arm alone, the workpiece is held at a level that permits closer scrutiny and enables a fine cut file or riffler to be guided more accurately.

### Basic Filing Operations

There are four basic types of filing operations: straight filing, draw filing, lathe filing, and precision filing.

- In straight filing, the file is pushed straight across the workpiece.
- In draw filing, the file is held at each end and, under even pressure, it is guided back and forth over the workpiece. The file is held perpendicular to the direction of motion.
- In straight- and draw-filing, the operator should stand comfortably with feet well apart, to obtain a free swing from the shoulders, avoiding any separate wrist or elbow movement.
- Lathe filing will not be discussed, as it is an application for American pattern or long-angle lathe files and do not require precision files.
- Precision filing operation is discussed below in "Finishing Techniques."

### Finishing Techniques

Finishing and smoothing of metal in various narrow grooves and depressions of tools, dies, molds, jigs, and fixtures calls for precision filing at its best. With the large range of shapes, sizes, and cuts available in Grobet precision files and rifflers, logic and experience will suggest the contour and profile most suited for the job.

- In precision filing, "feel" (attained by constant practice) will vary with the metal being worked. Too little pressure on the cutting stroke, especially when working with tool and chrome alloy steels, will quickly dull the teeth of the file.
- Too much pressure will result in excess metal being removed and causing the teeth of the file to become pinned.
- Small rifflers are held in much the same manner as a pen or pencil. When using larger sizes, the riffler is held in the hand with the index finger on the safe side to exert the proper cutting pressure. When necessary on very fine and delicate work, the other hand is used to control the direction and in some cases, the stroke of the riffler.

### Proper Care

Just as proper use prolongs the life of a precision file, so too does proper care. Don't just toss them into a drawer or in a pile on the back of a bench. If you do, you will damage their fine, keen-cutting teeth.

- Always keep files clean.
- A wire brush can be used to remove oil or grease from a file.
- Proper cleaning of files with a file card and wire brush helps keep the finish of the workpiece smooth, free of scratches, and prevents chips from building up in the teeth of the file.
- Mount your files on a rack or with their tangs placed in a row of holes drilled into a block of wood.
- Store your files in a dry atmosphere to avoid the possibility of rust. A rusty file causes the teeth to crumble away into a fine dust.

## SPECIFIC FILING TECHNIQUES


















- For working on thin material, keep as many teeth as possible in contact with the workpiece.
- For draw filing, the file is alternately pulled and pushed over the workpiece.
- For normal filing, the hands are placed on the file for maximum pressure and average stock removal.
- Heavy stock removal requires a very firm grasp.
- For precision filing, the tip is held by the thumb and index finger of the other hand for maximum control.
- To preserve the sharpness of the teeth and to increase life, the file should be raised on the return stroke.

No file should be used without a handle. Handles must be mounted properly on the tangs. After the right size handle is selected, slip it over the tang and gently force the file into the handle as far as possible. Then either tap the handle on the bench or while holding the handle, tap it with a mallet until the file is firmly secured. Never hammer or pound the point of a file to seat the tang in a handle.

## GUIDE TO SELECTING GROBET PRECISION FILES

As shown in the File Finder chart, each application calls for a different type of file. There is more to file selection than shape alone. The cut selected is equally important. Determination of cut depends on the type and form of material to be worked, the amount of material to be removed, and the finish desired. For example, rapid removal of stock often indicates a No. 00 cut, while working on narrow surfaces would suggest a No. 2 cut and final finishing operations might take a fine cut such as No. 4. In the final analysis, file selection cannot be reduced to a formula or table but will be based to a great degree on experience and common sense.

### File Finder

Basic Application	Type of File Recommended
Corners - holes - edges	Three-Square 
Corners - holes	Square 
Corners - slots	Equalling 
Corners - slots	Slitting 
Curved surfaces - corners-holes	Half-Round 
Curved surfaces - junctures of curved and flat surfaces - corners - holes	Crossing 
Edges, joints	Joint 
Flat surfaces	Hand 
Flat surfaces - corners - keyways - dovetail ways - gear teeth - deburring	Barrette 
Flat surfaces - slots	Pillar 
Roughening surfaces for hand grips	Checkering 
Rounded corners - slots - flat surfaces - junctures between curved and flat surfaces	Crochet 
Rounded corners - holes - "V" slots	Pippin 
Rounded inside corners - holes	Round 
Slots	Screwhead 
Slots	Warding 
Slots - wedge-shaped openings	Knife 



## FILE TERMINOLOGY

**BACK** In a half round, barrette, cant or a file of similar cross section this is the convex side.

**BARRETTE FILE** Tapered in width and thickness. Cuts on wide flat face and safe on sides and back.

**BLANK** A steel forging from which a file is made. The basic shape of a file before teeth are cut or etched.

**CHECKERING FILE** Rectangular in cross section and parallel in width and thickness. Teeth cut at 90° angle with edge. Safe on edges.

**CHISEL CUT** A method of cutting teeth into the surface of an annealed file blank by striking it with a series of repeated blows as the blank is moved beneath a chisel at a uniform speed. In the cutting operation, the chisel is placed obliquely to the length and is inclined to the surface of the file. This is done either by hand or machine. Generally used to produce files of No. 2 cut and coarser.

**CROCHET FILE** Rectangular in cross section with rounded edges. Cut on both faces and edges. Tapered in length and slightly tapered in thickness.

**CROSSING FILE** Oval cross section with same radius as half-round files on one side and other side curved to a larger radius. Cut on both sides. Tapered in width and thickness.

**CUT** The number of teeth per inch, the degree of coarseness of a file's teeth, from No. 00 to No. 8 in Swiss precision files. Also used to describe the type of file such as single cut or double cut, etc.

**DIE MAKERS' RIFFLERS** Various cross sectional shapes. Teeth cut on a small area of each end leaving a long middle portion as a handle. The cut ends are of various designs. Length is overall. Originally designed and hand forged by die makers for their specific purposes now a generic term for this particular group of rifflers.

**DIE SINKERS' RIFFLERS** See Die Makers' Rifflers. This group of rifflers has smaller cross sectional shapes.

**DOUBLE CUT** The arrangement of file teeth formed by two series of cuts. The first is the overcut which is followed by the upcut at an angle to the overcut.

**EDGE** The narrow cross section or side of a file.

**EQUALLING FILE** Thin rectangular cross section, parallel in width and thickness and cut on both faces and edges.

**ESCAPEMENT FILE** Also called Square Handled Files. A group of files of various cross sectioned shapes with a length of cut varying from 3/4 to 2-1/2" and long square handles. Widely used by jewelers, watch makers, die makers, and fine mechanics.

**ETCHED CUT** A method of cutting teeth into the surface of a file blank by drawing an etching tool, under sustained pressure, obliquely across an annealed file blank in a series of cuts. This may be done either by hand or machine. This method of cutting is used where it is necessary to retain the true cross section of a file. Generally used to manufacture files finer than a No. 2 cut.

**FACE** The working surface of a file upon which teeth are cut.

**FILING BLOCK** A block of wood, soft metal or other material used to protect the material being filed from damage from the jaws of a vise or other holding device. It may contain a series of grooves to hold work securely.

**FLAT FILE** Also called a Warding File. A form of escapement or square handled needle file. Parallel in thickness. Cut on four sides, tapered in width.

**HAND FILE** A general purpose file used primarily for working on flat surfaces. Parallel in width and tapered in thickness.

**HANDLE** A wood or plastic piece that is placed over that tang of a file to protect the hand of the user.

**HALF ROUND FILE** A cross section that is flat on one side and has a radius (not half circle) on the other side. Cut on both sides. Width and thickness taper.

**HALF ROUND SLIM FILE** Also called Ring Files. Same as half round except thinner in width.

**HEEL** The end of the file at a location where the body ends and the taper leading into the tang begins. Also called the shoulder.

**KNIFE FILE** Knife shaped, cross section that is tapered in width and thickness. Edge has same thickness from point to shoulder.

**LENGTH OF CUT** The length of a file measured between the shoulder or heel and the point.

**NEEDLE FILE, SQUARE HANDLED** Also called an Escapement File. A group of files of various cross sectional shapes with a length of cut varying between 3/4 and 2-1/2" and long square handle.

**NEEDLE FILE, ROUND HANDLED** A group of files of various cross sections with a knurled round handle. Knurling gives the file a positive, non-slip grip for precision filing.

**OVAL FILE** An oval cross section tapering in width and thickness.

**OVERCUT** The first of a series of cuts in a double cut file. Its function is to act as a chip breaker. The second or upcut is made over this cut.

**PARALLEL ROUND FILE** A round cross section parallel in width.

**PILLAR FILE** A rectangular cross section with thickness greater relative to width, than in other types. Cut on face or flat sides only. Parallel in width, tapered in thickness. Also demi-narrow, narrow and extra narrow widths.

**PIN OR PINNING** The tendency of small particles of materials to file or clog the gullets between the teeth of a file. When the teeth become clogged the file causes scratches on the work. When this occurs, the file is pinned.

**PIPPIN FILE** A section that combines the cross section of a round file with that of an equalling file. Tapered in thickness and width.

**POINT** The front end of a file as contrasted with the tang end.

**POINTED BACK BARRETTE FILE** A triangular cross section with one side wider than the other two sides but on wide or face side only tapered in width and length.

**RASP CUT** A cut used on wood rifflers that is made by a punch raising a series of individual cutting teeth.

**RIFFLERS** From the German riefeln, to channel, chauffer, flute or groove. Originally used and hand forged by die sinkers, die makers, silversmiths and other skilled artisans in shapes and cross sections appropriate to their work. Teeth are cut on small areas on each end that can be shaped like everything from trowels to button hooks. A long middle portion serves as a handle.

**RING FILE** Also called a Half Round Slim File.

**ROUND FILE** Round in cross section tapered in width.

**ROUNDING OFF FILE** An escapement or square handle needle file half round in cross section. Cut on flat side. Parallel in width.

**SAFE** The side or edge of a file that has no teeth cut in it so as not to mar a work surface that does not require filing.

**SCREW HEAD FILE** A narrow diamond shaped section with short bevels to form sharp edges. Cut on beveled edges, safe on flat sides. Parallel in width and thickness.

**SECTION** The cross section or end view of a file if it were cut squarely at the place of greatest width and thickness from the tang.

**SILVERSMITH'S RIFFLERS** A group of various cross sectioned shapes originally designed for use by silversmiths. Teeth are cut on small areas of each and leaving a long middle portion as a handle. The cut ends are of varied designs.

**SINGLE CUT** The tooth formed on a file by a single series of cuts.

**SLITTING FILE** A flat diamond shaped cross section. Cut on all sides. Parallel in width and thickness.

**SQUARE FILE** Square in cross section. Cut on all sides. Tapered.

**TANG** The part of the file that tapers from the shoulder that is intended to be fitted with a handle.

**THREE SQUARE FILES** Equilaterally triangular in cross section. Cut on all sides with sharp corners. Tapered.

**TOOL MAKERS' RIFFLERS** Various cross sectional shapes with teeth cut on a small area at each end leaving a long middle portion as a handle. The cut ends are of various designs to meet the needs of tool makers.

**UPCUT** The second series of teeth cut in double cut files made over the first series of cuts called the overcut. This cut is made of an angle to the overcut.

**WARDING FILE** A rectangular cross section with teeth cut on all sides up to 4" in length and on 3 sides with one safe edge on files 6" and longer. Tapered width, parallel in thickness.



## GROBET USA SWISS PATTERN PRECISION FILES

Swiss Pattern files are designed for detail work, delicate finishing, and precise metal removal. Compared to American Pattern files (Engineers' files) Swiss Pattern Precision files have strict manufacturing tolerances, are uniform in taper, points, sharp edges, dimensions and flatness. Grobet files are made of the finest heat-tempered, chrome alloy steel. They are available in a variety of styles, shapes, sizes and cuts. The files are measured in length from the point where the teeth begin to the end of the file. The handle section (tang) is not included in the file length.



### BARRETTE

Tapered in width and thickness, coming to a point. Only flat side is cut, providing safe edge and top. **Double cut.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	15/32"	12.0	3/32"	2.5	<b>31.022</b>	—	—	<b>31.025</b>	—	—	—
6"	150	5/8"	16.0	5/32"	4.0	<b>31.027</b>	<b>31.028</b>	<b>31.029</b>	<b>31.030</b>	—	<b>31.031</b>	—
8"	200	53/64"	21.0	13/64"	5.0	—	<b>31.032</b>	—	<b>31.033</b>	—	—	—



### BARRETTE-HOT DIE

Same as regular Barrette files except with ground backs, widely used in making and repairing extrusion dies. **Double cut.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	15/32"	12.0	3/32"	2.5	<b>31.018</b>	—	—	—	—	—	—

### CHECKERING

Parallel in width and gently tapered in thickness. Overcut is parallel to file edges and upcut is 90° to overcut. Useful for putting serrations on knife edges and to obtain a checkered design. **Double cut top and bottom – Both edges are safe.**



### Hand Checkering

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6"	150	45/64"	18.0	5/32"	4.0	<b>31.035</b>	<b>31.036</b>	<b>31.037</b>	<b>31.038</b>	—	—	—
Lines per inch/cm						20/8	30/12	40/16	50/20			



### Pillar Checkering

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6"	150	1/2"	13.0	5/32"	4.0	<b>31.040</b>	<b>31.041</b>	<b>31.042</b>	<b>31.043</b>	—	<b>31.045</b>	—
Lines per inch/cm						20/8	30/12	40/16	50/20		75/30	
6"	150	1/2"	13.0	5/32"	4.0	<b>31.040-25</b>	—	—	—	—	—	—
Lines per inch/cm						25/10						

## GROBET USA SWISS PATTERN PRECISION FILES



### CROCHET

Tapered in width and gradually tapered in thickness. Used in filing junctions between a flat and curved surface. Useful in developing slots with rounded edges. **Double cut top and bottom – Both edges are single cut.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	9/32"	7.3	5/64"	2.0	—	31.047	—	31.048	—	—	—
6"	150	25/64"	10.0	1/8"	3.0	—	31.050	—	31.051	—	—	—
8"	200	31/64"	12.3	5/32"	4.2	—	31.053	—	31.054	—	—	—



### CROSSING

Half-round on two sides, with one side having a larger radius than the other. Tapered in width and thickness. Cut and usable to the point. Used primarily for filing interior curved surfaces. The double radius makes possible the filing at the junction of two curved surfaces or a straight and a curved surface. **Double cut on both sides.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6"	150	5/8"	16.0	11/64"	4.5	—	31.059	—	31.060	—	—	—



### EQUALLING

Parallel in width and thickness. Used primarily for filing slots and corners. **Double cut top and bottom – Both edges are single cut.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	25/64"	10.0	5/64"	2.0	—	31.065	—	31.066	—	31.067	—
6"	150	1/2"	13.0	3/32"	2.5	31.068	31.069	—	31.070	—	31.071	—
8"	200	1/2"	13.0	3/32"	2.5	31.072	31.073	—	31.074	—	—	—



### HALF-ROUND

A cross section that is flat on one side and has a radius (not half circle) on the other side. Width and thickness tapered to a point. **Double cut on both sides.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	15/32"	12.0	9/64"	3.5	31.102	31.103	—	31.104	—	31.107	—
6"	150	5/8"	16.0	11/64"	4.5	31.111	31.112	31.113	31.114	31.115	31.116	31.117
8"	200	53/64"	21.0	15/64"	6.0	31.118	31.119	31.120	31.121	—	—	—
10"	250	1"	25.0	9/32"	7.0	31.123	31.124	—	—	—	—	—



### HALF-ROUND RING

Width and thickness tapered to a point. Narrower than regular half-round and, therefore, useful for filing inside of rings. **Double cut on both sides.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6"	150	15/32"	12.0	9/64"	3.5	31.127	31.128	31.129	31.130	31.131	31.132	—

## GROBET USA SWISS PATTERN PRECISION FILES



### HAND

A general purpose file used primarily for working on flat surfaces. Parallel in width and tapered in thickness.  
**Double cut top and bottom – One edge single cut – One edge is safe.**

Length (in) (mm)	Width (in) (mm)	Thickness (in) (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4" 100	1/2" 13.0	1/8" 3.0	—	31.140	—	31.141	—	31.142	—
6" 150	45/64" 18.0	5/32" 4.0	31.143	31.144	31.145	31.146	31.147	31.148	31.149
8" 200	7/8" 22.0	1/5" 5.0	31.150	31.151	31.152	31.153	—	31.154	—
10" 250	31/32" 24.5	7/32" 5.5	31.155	31.156	—	31.157	—	—	—



### KNIFE

Tapered in width and thickness. The knife edge has the same thickness from point to shoulder. The included angle of the sharp edge is approximately 10°. Generally used to file in a slot or wedge shaped opening. Curved knife edge allows for easily filing in restricted areas.  
**Double cut on both sides – Top edge is safe – Knife edge is single cut.**

Length (in) (mm)	Width (in) (mm)	Thickness (in) (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4" 100	15/32" 12.0	1/8" 3.0	—	—	—	31.177	—	—	—
6" 150	45/64" 18.0	5/32" 4.0	—	31.180	—	31.182	—	—	—
8" 200	7/8" 22.0	1/5" 5.0	—	31.185	—	31.187	—	—	—

### PILLAR FILES

These files are parallel in width and tapered in thickness to make possible perfectly flat filing. **Double cut top and bottom – Both edges are safe.**



#### Regular Pillar

Length (in) (mm)	Width (in) (mm)	Thickness (in) (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4" 100	3/8" 9.5	3/32" 2.5	31.237	31.238	—	31.240	—	31.241	—
6" 150	33/64" 13.0	5/32" 4.0	31.243	31.244	31.245	31.246	—	31.248	31.249
8" 200	19/32" 15.0	13/64" 5.0	31.251	31.252	31.253	31.254	—	31.256	—



#### Demi-Narrow Pillar

Length (in) (mm)	Width (in) (mm)	Thickness (in) (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6" 150	25/64" 10.0	11/64" 4.5	—	31.192	31.193	31.194	—	—	—



#### Narrow Pillar

Length (in) (mm)	Width (in) (mm)	Thickness (in) (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4" 100	11/64" 4.5	3/32" 2.2	—	31.220	—	31.222	—	31.223	—
6" 150	5/16" 8.0	9/64" 3.5	31.224	31.225	31.226	31.227	—	31.228	31.229
8" 200	25/64" 10.0	11/64" 4.5	31.230	31.231	31.232	31.233	—	—	—
10" 250	15/32" 12.0	13/64" 5.0	—	31.235	—	—	—	—	—



#### Extra Narrow Pillar

Length (in) (mm)	Width (in) (mm)	Thickness (in) (mm)	Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4" 100	9/64" 3.5	1/16" 1.7	31.201	31.202	—	31.204	—	31.205	—
6" 150	15/64" 6.0	1/8" 3.0	31.206	31.207	31.208	31.209	—	31.210	31.211
8" 200	5/16" 8.0	9/64" 3.5	31.212	31.213	31.214	31.215	—	31.216	—
10" 250	21/64" 8.3	5/32" 3.7	31.217	—	—	—	—	—	—

## GROBET USA SWISS PATTERN PRECISION FILES



### PIPPIN

Tapered in width and thickness. Combines the cross-sections of the round file, with the crossing file, along with the edge of a knife file. For finishing the junction of two different curved surfaces and for opening slots when a "V" shape is required.

**Double cut on both sides – Top and bottom edge are single cut.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6"	150	3/8"	9.7	11/64"	4.5	—	—	—	31.268	—	31.269	—



### ROUND

Gradually tapered, cut and workable to the point. Used where it is necessary to enlarge a hole or round off a radius. **Double cut.**

Length (in) (mm)		Diameter (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	5/32"	4.0	—	31.280	—	31.282	—	31.283	—
6"	150	15/64"	6.0	—	31.288	31.289	31.290	—	31.292	—
8"	200	5/16"	8.0	—	31.295	31.296	31.297	—	31.298	—



### ROUND PARALLEL

Cut over the entire surface (does not taper to point). **Double cut.**

Length (in) (mm)		Diameter (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
4"	100	1/16"	1.6	—	31.304	—	31.305	—	—	—
4"	100	7/64"	2.8	—	31.307	—	—	—	—	—
6"	150	3/32"	2.3	—	31.311	—	31.312	—	—	—
6"	150	1/8"	3.0	—	31.315	—	31.316	—	—	—
6"	150	11/64"	4.4	—	31.322	—	31.323	—	—	—



### SCREWHEAD with TANG

A narrow diamond shaped section with short bevels to form sharp edges. Used for filing slots in small screws.

**Single cut on both edges – Both sides are safe.**

Length (in) (mm)		Width (in) (mm)		Thickness 2 (.028") (.70 mm)		Thickness 4 (.022") (.55 mm)		Thickness 6 (.018") (.45 mm)		Thickness 8 (.014") (.35 mm)	
3"	75	23/64"	9.0	31.332		31.334		31.335		31.336	



### SLITTING

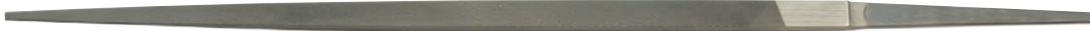
Parallel in width with identical contour on top and bottom. Thinner than knife files and used for filing slots.

**Double cut top and bottom – Both edges are single cut.**

Length (in) (mm)		Width (in) (mm)		Thickness (in) (mm)		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
6"	150	19/32"	15.0	1/8"	3.3	—	31.342	—	31.343	—	—	—



## GROBET USA SWISS PATTERN PRECISION FILES



### SQUARE

A general purpose file, cut and usable to the point. Gradually tapered. **Double cut on all four sides.**

Length		Width		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)							
4"	100	5/32"	4.0	—	—	—	31.348	—	—	—
6"	150	13/64"	5.0	—	31.350	31.351	31.352	—	—	—
8"	200	9/32"	7.0	—	—	—	31.356	—	—	—



### THREE-SQUARE

Gradually tapered, cut and workable to the point. **Double cut on all three sides.**

Length		Width		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)							
4"	100	15/64"	6.0	—	31.367	—	31.369	—	—	—
6"	150	23/64"	9.0	—	31.372	31.373	31.374	—	31.375	—
8"	200	33/64"	13.0	—	31.377	31.378	31.379	—	—	—



### THREE-SQUARE SLIM

Same as three-square, except thinner, for working in smaller areas. **Double cut on all three sides.**

Length		Width		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)							
6"	150	19/64"	7.5	—	—	—	31.382	—	—	—

Use plastic file handles: size 4.



### VUL-CRYLIC

Double-end vulcanite file with open, coarse teeth. One end is coarser than the other. For filing plastics, waxes and soft materials. **Double cut on both sides of coarse end. One side single cut and one side double cut on other end.**

Length		Width		Thickness		No.
(in)	(mm)	(in)	(mm)	(in)	(mm)	
7"	175	1/2"	12.6	9/64	3.6	31.385
8"	200	17/32"	13.5	5/32	4.0	31.384



### WARDING

Parallel in thickness and tapered in width. Useful for removal of burs. **Double cut top and bottom – Both edges are single cut.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)							
3"	75	23/64"	9.0	1/32"	0.5	—	—	—	31.388	—	—	—
4"	100	31/64"	12.5	3/64"	1.0	31.389	31.390	—	31.391	—	31.392	—
6"	150	5/8"	16.0	5/64"	2.0	31.393	31.394	—	31.395	—	31.396	—



## GROBET USA INOX SWISS PATTERN PRECISION FILES

### *The File with the Yellow Tang*

With Rockwell hardness 72HRC – the hardest surface known - these files have a longer life than standard files. Highly resistant to corrosion. Little or no clogging - a simple knock removes the chips. High performance files for platinum, stainless steel, exotic plastics, and other hard to file materials.



#### BARRETTE

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	5/8"	16.0	5/32"	4.0	—	30.201V	30.202V



#### HALF ROUND

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	5/8"	16.0	11/64"	4.5	—	30.231V	30.232V
8"	200	53/64"	21.0	15/64"	6.0	—	—	30.235V



#### HALF ROUND SLIM

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	15/32"	12.0	9/64"	3.5	—	30.241V	30.242V



#### HAND

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	45/64"	18.0	5/32"	4.0	30.210V	30.211V	30.212V
8"	200	55/64"	22.0	13/64"	5.0	30.213V	30.214V	30.215V



#### PILLAR

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	33/64"	13.0	5/32"	4.0	—	30.221V	—



#### ROUND

Overall Length		Diameter		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)			
8"	200	5/16"	8.0	—	30.254V	30.255V



#### THREE-SQUARE

Overall Length		Width		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)			
8"	200	33/64"	13.0	—	30.264V	30.265V

## GROBET USA NEEDLE FILES *WITH ROUNDED KNURLED HANDLES*

Precision files for exacting work. Made with high quality steel. Strict tolerances for size, uniform cut, and hardness. Round knurled handles aid gripping. Used by mold makers, goldsmiths, gunsmiths, and musical instrument manufacturers for precise finishing on small surfaces.

- Length 4" (100 mm) has cut portion of 1-3/4" (44 mm)
- Length 5-1/2" (140 mm) has cut portion of 2-1/2" (64 mm)
- Length 6-1/4" (160 mm) has cut portion of 3" (76 mm)
- Length 7-3/4" (200 mm) has cut portion of 4-1/8" (105 mm)



### BARRETTE

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
4"	100	5/32"	3.7	1/16	1.4	—	31.450	31.451	—	—
5-1/2"	140	3/16"	5.0	5/64	2.1	—	31.453	31.454	31.456	—
6-1/4"	160	7/32"	5.3	5/64	2.1	31.458	31.459	31.461	31.463	31.464
7"	180	7/32"	5.4	3/32	2.3	—	31.46401	—	—	—
7-3/4"	200	15/64"	5.9	3/32	2.2	31.465	31.466	31.468	31.470	—



### CROCHET

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
5-1/2"	140	7/32"	5.6	3/64"	1.3	—	—	31.478	—	—
6-1/4"	160	15/64"	6.0	1/16"	1.4	—	—	31.481	—	—



### CROSSING

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
5-1/2"	140	11/64"	4.5	5/64"	2.1	—	31.487	31.488	31.489	—
6-1/4"	160	13/64"	5.0	3/32"	2.3	—	31.490	31.491	31.492	31.493
7"	180	7/32"	5.5	3/32"	2.4	—	31.49301	—	—	—
7-3/4"	200	1/4"	6.2	3/32"	2.4	—	31.494	31.495	31.496	—



### EQUALLING

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
4"	100	9/64"	3.5	1/32"	0.9	—	31.498	31.499	31.500	—
5-1/2"	140	13/64"	5.1	3/64"	1.3	—	31.501	31.502	31.503	—
6-1/4"	160	7/32"	5.5	1/16"	1.4	31.505	31.506	31.508	31.510	31.511
7"	180	15/64"	6.0	1/16"	1.5	31.51101	31.51102	31.51103	—	—
7-1/4"	200	1/4"	6.4	1/16"	1.6	—	31.512	31.513	31.514	—

## GROBET USA NEEDLE FILES *WITH ROUNDED KNURLED HANDLES*



### HALF-ROUND

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
4"	100	9/64"	3.6	3/64"	1.1	—	31.516	31.517	31.518	—
5-1/2"	140	13/64"	5.0	1/16"	1.7	—	31.519	31.520	31.522	—
6-1/4"	160	7/32"	5.6	5/64"	1.8	31.524	31.525	31.527	31.529	31.530
7"	180	15/64"	6.0	5/64"	2.0	31.53001	31.53002	31.53003	—	—
7-3/4"	200	1/4"	6.5	5/64"	2.0	31.53101	31.531	31.533	31.535	—



### JOINT ROUND EDGE

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
5-1/2"	140	7/32"	5.6	3/64"	1.3	—	31.540	31.541	31.542	—
6-1/4"	160	15/64"	6.0	1/16"	1.4	—	31.543	31.544	31.545	—



### KNIFE

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
4"	100	5/32"	4.0	3/64"	1.1	—	31.551	31.552	31.553	—
5-1/2"	140	7/32"	5.5	1/16"	1.5	—	31.554	31.555	31.556	—
6-1/4"	160	15/64"	5.8	1/16"	1.7	—	31.558	31.559	31.561	31.562
7"	180	1/4"	6.2	5/64"	1.8	—	31.56201	—	—	—
7-3/4"	200	1/4"	6.5	3/32"	2.2	—	31.563	31.564	—	—



### MARKING

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
5-1/2"	140	13/64"	5.0	1/16"	1.7	—	31.570	31.571	31.572	—
6-1/4"	160	7/32"	5.6	5/64"	1.8	—	31.573	31.574	31.575	—



### OVAL

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
6-1/4"	160	5/32"	4.1	7/64"	2.6	—	—	31.579	31.580	—
7"	180	11/64"	4.4	7/64"	2.9	—	31.581	—	—	—



### ROUND

Overall Length		Diameter		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)					
4"	100	3/32"	2.2	—	31.582	31.583	31.584	—
5-1/2"	140	1/8"	3.0	—	31.585	31.586	31.588	—
6-1/4"	160	9/64"	3.25	31.590	31.591	31.593	31.595	31.596
7"	180	9/64"	3.5	31.59601	31.59602	31.59603	—	—
7-3/4"	200	5/32"	3.75	31.59701	31.597	31.598	31.599	—

## GROBET USA NEEDLE FILES *WITH ROUNDED KNURLED HANDLES*



### SLITTING

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
5-1/2"	140	3/16"	4.9	3/32"	2.3	—	31.604	31.605	31.606	—
6-1/4"	160	13/64"	5.3	7/64"	2.6	—	31.607	31.608	31.609	31.610



### SQUARE

Overall Length		Width		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)					
4"	100	1/16"	1.7	—	31.612	31.613	31.614	—
5-1/2"	140	3/32"	2.4	—	31.615	31.616	31.617	—
6-1/4"	160	3/32"	2.5	31.619	31.620	31.622	31.624	31.625
7"	180	7/64"	2.7	31.62501	31.62502	31.62503	—	—
7-3/4"	200	1/8"	3.0	—	31.626	31.627	31.628	—



### THREE SQUARE

Overall Length		Width		Cut 00	Cut 0	Cut 2	Price	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)						
4"	100	7/64"	2.8	—	31.630	31.631		31.632	—
5-1/2"	140	9/64"	3.5	—	31.633	31.634		31.636	—
6-1/4"	160	9/64"	3.7	31.637	31.638	31.640		31.642	31.643
7"	180	5/32"	4.1	31.64301	31.64302	31.64303		—	—
7-3/4"	200	11/64"	4.4	31.644	31.645	31.647		31.649	31.650



### WARDING

Overall Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)					
4"	100	9/64"	3.5	1/32"	0.9	—	31.656	31.657	—	—
5-1/2"	140	13/64"	5.1	3/64"	1.3	—	31.659	31.660	31.661	—
6-1/4"	160	7/32"	5.5	1/16"	1.4	—	31.663	31.664	31.666	31.667
7"	180	15/64"	6.0	1/16"	1.5	—	31.66701	31.66702	—	—
7-3/4"	200	1/4"	6.4	1/16"	1.6	—	31.668	—	—	—



### SETS of 12 and 6 ASSORTED GROBET USA NEEDLE FILES *with Rounded Knurled Handles*

All 12 and 6 piece sets contain popular shapes from above, in the cut indicated.

Overall Length		Set Qty	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6
(in)	(mm)						
5-1/2"	140	12	—	31.675	31.676	31.677	—
6-1/4"	160	12	—	31.679	31.680	31.681	31.682
7-3/4"	200	12	—	—	31.684	—	—
5-1/2"	140	6	—	—	31.67601	31.67701	—
6-1/4"	160	6	—	—	31.68001	31.68101	—
7-3/4"	200	6	—	—	31.68301	31.68401	—

## GROBET USA INOX NEEDLE FILES

### *The File with the Yellow Tang*

With Rockwell hardness 72HRC – the hardest surface known - these files have a longer life than standard files. Highly resistant to corrosion. Little or no clogging - a simple knock removes the chips. High performance files for platinum, stainless steel, exotic plastics, and other hard to file materials. Overall length is 7" (180 mm).



#### BARRETTE



Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)			
7/32"	5.4	3/32"	2.3	—	30.101V	30.102V



#### EQUALLING



Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)			
15/64"	6.0	1/16"	1.5	—	30.104V	30.105V



#### HALF-ROUND



Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)			
15/64"	6.0	5/64"	2.0	—	30.107V	30.108V



#### ROUND



Width		Cut 00	Cut 0	Cut 2
(in)	(mm)			
	9/64"	3.5	30.119V	30.120V



#### SQUARE



Width		Cut 00	Cut 0	Cut 2
(in)	(mm)			
	7/64"	2.7	30.116V	30.117V



#### THREE-SQUARE



Width		Cut 00	Cut 0	Cut 2
(in)	(mm)			
	5/32"	4.1	30.113V	30.114V

### SET of SIX GROBET USA INOX NEEDLE FILES

Cut	Set No.
0	30.122V
2	30.123V





## TEBORG NEEDLE FILES

Well made, yet economical. These needle files are made of chrome alloy steel. Overall length is 5-1/2" (140 mm) with the cut portion 3" (76.2 mm). Sold by the dozen.



### BARRETTE



Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.880	33.881



### CROSSING



Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.882	33.883



### EQUALLING



Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.884	33.885



### HALF-ROUND



Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.886	33.887



### KNIFE



Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.890	33.891

# TEBORG NEEDLE FILES



## SQUARE

Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.898	—



## ROUND

Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.894	33.895



## THREE-SQUARE

Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.900	33.901



## WARDING

Overall Length			
(in)	(mm)	Medium	Fine
5-1/2"	140	33.902	33.903

**TEBORG NEEDLE FILE SETS**  
 Assorted shapes in a vinyl pouch.

Cut	Set of 6	Set of 12
Medium	33.906	33.908
Fine	33.907	33.909



MASCOT® NEEDLE FILES

Single-cut files do not clog as easily as double-cut files. Overall length 5-1/2" (140 mm). Smooth cut only. Sold individually.



EQUALLING

Overall Length		Single-Cut
(in)	(mm)	
5-1/2"	140	33.860



WARDING

Overall Length		Single-Cut
(in)	(mm)	
5-1/2"	140	33.861



HALF-ROUND

Overall Length		Single-Cut
(in)	(mm)	
5-1/2"	140	33.862



ROUND

Overall Length		Single-Cut
(in)	(mm)	
5-1/2"	140	33.863



SQUARE

Overall Length		Single-Cut
(in)	(mm)	
5-1/2"	140	33.864



THREE-SQUARE

Overall Length		Single-Cut
(in)	(mm)	
5-1/2"	140	33.865

MASCOT® NEEDLE FILE SET

Set of six different styles: equalling, flat, half-round, round, square, and three-square styles in a vinyl pouch.

No. 33.867



## GROBET USA ESCAPEMENT FILES

Also known as square handled needle files. These precision files are available in most of the needle file shapes. Overall length is 5-1/2" (140 mm), with length of cut 2-1/8" (55 mm).



### BARRETTE

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
9/64	3.7	3/64	1.3	31.700	31.701	31.703	31.704	31.705



### BARRETTE, PARALLEL

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
5/32	4.0	3/64	1.3	—	31.708	31.709	31.710	—



### CROSSING

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
9/64	3.7	1/16	1.6	—	31.714	31.715	31.716	—



### EQUALLING

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
13/64	5.0	3/64	1.2	—	31.737	—	—	—



### HALF-ROUND

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
9/64	3.7	3/64	1.3	—	31.725	31.727	31.728	31.729



### KNIFE

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
11/64	4.3	3/64	1.3	—	31.731	31.732	31.733	—



### PILLAR

Width (in) (mm)		Thickness (in) (mm)		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
9/64	3.5	3/64	1.0	—	31.720	31.721	31.722	—

## GROBET USA ESCAPEMENT FILES



### ROUND

Diameter		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
(in)	(mm)					
5/64"	1.8	31.742	31.743	31.745	31.746	31.747



### SQUARE

Width		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
(in)	(mm)					
5/64"	2.0	—	31.755	31.756	31.757	31.758



### THREE-SQUARE

Width		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
(in)	(mm)					
1/8"	3.0	—	31.761	31.762	31.763	—



### THREE-SQUARE SLIM

Width		Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
(in)	(mm)					
9/64"	2.5	—	—	31.767	31.768	—

### GROBET USA ESCAPEMENT FILE SETS

Each set contains 12 assorted files in a vinyl pouch.

Cut	Set No.
2	31.770
4	31.771
6	31.772





## ERGO GRIP FILES

These files offer the craftsman something different. Ergo grip files are precision files designed for those “in-between” jobs that are too big for needle files and that require finer control than a larger, heavier file can deliver. They are shaped for easy handling and balanced for efficient cutting. The distinctive design includes a built-in handle. There is no separate handle to buy. These files are strong, durable, and offer versatility. Length of cut is 4" (100 mm) and the overall length is 8-1/2" (215 mm). Sold individually or in sets of five.



### HAND



Width		Thickness		Cut 00	Cut 1
(in)	(mm)	(in)	(mm)		
25/64"	10	3/32"	2.5	33.820	33.821



### HALF-ROUND



Width		Thickness		Cut 00	Cut 1
(in)	(mm)	(in)	(mm)		
15/32"	12.0	9/64"	3.5	33.822	33.823



### ROUND



Width		Cut 00	Cut 1
(in)	(mm)		
1/4"	6.5	33.824	33.825



### SQUARE



Width		Cut 00	Cut 1
(in)	(mm)		
13/64"	5.0	33.826	33.827



### THREE-SQUARE



Width		Cut 00	Cut 1
(in)	(mm)		
3/8"	9.5	33.828	33.829

### SET of ERGO GRIP FILES

Each set contains five files, one of each shape.

Cut	Set No.
00	33.831
1	33.832



## GROBET USA DIE SINKERS' RIFFLERS *(See style number cross reference chart on page 246)*

A comprehensive selection of precision rifflers. All are double-ended and measure 6" (150 mm) long.



Style No.	Cut 0	Cut 2	Cut 4
502	31.838	31.839	—



Style No.	Cut 0	Cut 2	Cut 4
503	31.846	31.847	—



Style No.	Cut 0	Cut 2	Cut 4
505	31.850	31.851	—



Style No.	Cut 0	Cut 2	Cut 4
506	31.854	31.855	—



Style No.	Cut 0	Cut 2	Cut 4
507	31.858	31.859	—



Style No.	Cut 0	Cut 2	Cut 4
508	31.862	31.863	—



Style No.	Cut 0	Cut 2	Cut 4
509	31.865	31.866	—



Style No.	Cut 0	Cut 2	Cut 4
511	31.869	31.870	—

## GROBET USA DIE SINKERS' RIFFLERS *(See style number cross reference chart on page 246)*



Style No.	Cut 0	Cut 2	Cut 4
512	—	31.873	—



Style No.	Cut 0	Cut 2	Cut 4
515	31.882	—	—



Style No.	Cut 0	Cut 2	Cut 4
517	—	31.889	—



Style No.	Cut 0	Cut 2	Cut 4
a518	—	31.893	—



Style No.	Cut 0	Cut 2	Cut 4
519	31.896	31.897	—



Style No.	Cut 0	Cut 2	Cut 4
522	31.903	31.904	—



Style No.	Cut 0	Cut 2	Cut 4
523	31.906	31.907	—



Style No.	Cut 0	Cut 2	Cut 4
525	31.917	31.918	—

# GROBET USA DIE SINKERS' RIFFLERS *(See style number cross reference chart on page 246)*



Style No.	Cut 0	Cut 2	Cut 4
526	31.921	31.922	—



Style No.	Cut 0	Cut 2	Cut 4
527	31.925	31.926	—



Style No.	Cut 0	Cut 2	Cut 4
529	31.932	31.933	—



Style No.	Cut 0	Cut 2	Cut 4
531	31.939	31.940	—



Style No.	Cut 0	Cut 2	Cut 4
532	31.943	31.944	—



Style No.	Cut 0	Cut 2	Cut 4
533	31.946	31.947	—



















Style No.	Cut 0	Cut 2	Cut 4
534	—	31.951	31.952



Style No.	Cut 0	Cut 2	Cut 4
536	31.957	31.958	31.959

## GROBET USA DIE SINKERS' RIFFLERS *(See style number cross reference chart on page 246)*

			
Style No.	Cut 0	Cut 2	Cut 4
537	31.961	31.962	—
			
Style No.	Cut 0	Cut 2	Cut 4
538	—	31.966	—
			
Style No.	Cut 0	Cut 2	Cut 4
539	31.969	31.970	—
			
Style No.	Cut 0	Cut 2	Cut 4
541	31.972	31.973	31.974
			
Style No.	Cut 0	Cut 2	Cut 4
542	31.976	31.977	—
			
Style No.	Cut 0	Cut 2	Cut 4
543	31.979	31.980	—
			
Style No.	Cut 0	Cut 2	Cut 4
544	31.983	31.984	—
			
Style No.	Cut 0	Cut 2	Cut 4
545	31.986	31.987	—



# GROBET USA DIE SINKERS' RIFFLERS (See style number cross reference chart below)



Style No.	Cut 0	Cut 2	Cut 4
546	31.990	31.991	—

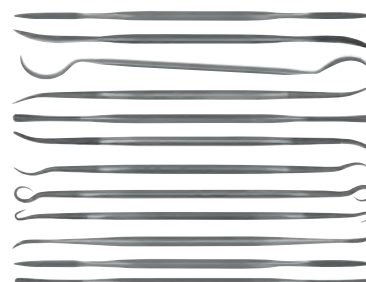


Style No.	Cut 0	Cut 2	Cut 4
552	—	—	32.012

## DIE SINKERS' RIFFLER SETS

Each set contains the most widely used shapes described in pages 25 through 29.

Pieces In Set	Cut 0	Cut 2	Cut 4
12	32.020	32.021	32.022
18	—	32.025	32.026
24	—	32.029	—



## New Style Number Cross Reference Chart

Item No.	New Description	Old Style No.	New Style No.	Item No.	New Description	Old Style No.	New Style No.	Item No.	New Description	Old Style No.	New Style No.
31.794	Riffler-Diemaker #604 7 Cut 0	711	604	31.850	Riffler-Diesinker #505 6 Cut 0	911	505	31.943	Riffler-Diesinker #532 6 Cut 0	964	532
31.795	Riffler-Diemaker #604 7 Cut 2	711	604	31.851	Riffler-Diesinker #505 6 Cut 2	911	505	31.944	Riffler-Diesinker #532 6 Cut 2	964	532
31.796	Riffler-Diemaker #605 7 Cut 0	712	605	31.854	Riffler-Diesinker #506 6 Cut 0	912	506	31.946	Riffler-Diesinker #533 6 Cut 0	965	533
31.797	Riffler-Diemaker #605 7 Cut 2	712	605	31.855	Riffler-Diesinker #506 6 Cut 2	912	506	31.947	Riffler-Diesinker #533 6 Cut 2	965	533
31.798	Riffler-Diemaker #606 7 Cut 0	713	606	31.858	Riffler-Diesinker #507 6 Cut 0	913	507	31.951	Riffler-Diesinker #534 6 Cut 2	970	534
31.799	Riffler-Diemaker #606 7 Cut 2	713	606	31.859	Riffler-Diesinker #507 6 Cut 2	913	507	31.952	Riffler-Diesinker #534 6 Cut 4	970	534
31.800	Riffler-Diemaker #607 7 Cut 0	731	607	31.862	Riffler-Diesinker #508 6 Cut 0	914	508	31.957	Riffler-Diesinker #536 6 Cut 0	972	536
31.801	Riffler-Diemaker #607 7 Cut 2	731	607	31.863	Riffler-Diesinker #508 6 Cut 2	914	508	31.958	Riffler-Diesinker #536 6 Cut 2	972	536
31.802	Riffler-Diemaker #608 7 Cut 0	732	608	31.865	Riffler-Diesinker #509 6 Cut 0	915	509	31.959	Riffler-Diesinker #536 6 Cut 4	972	536
31.803	Riffler-Diemaker #608 7 Cut 2	732	608	31.866	Riffler-Diesinker #509 6 Cut 2	915	509	31.961	Riffler-Diesinker #537 6 Cut 0	973	537
31.804	Riffler-Diemaker #609 7 Cut 0	741	609	31.869	Riffler-Diesinker #511 6 Cut 0	917	511	31.962	Riffler-Diesinker #537 6 Cut 2	973	537
31.805	Riffler-Diemaker #609 7 Cut 2	741	609	31.870	Riffler-Diesinker #511 6 Cut 2	917	511	31.966	Riffler-Diesinker #538 6 Cut 2	974	538
31.806	Riffler-Diemaker #610 7 Cut 0	750	610	31.873	Riffler-Diesinker #512 6 Cut 2	918	512	31.969	Riffler-Diesinker #539 6 Cut 0	975	539
31.807	Riffler-Diemaker #610 7 Cut 2	750	610	31.882	Riffler-Diesinker #515 6 Cut 0	930	515	31.970	Riffler-Diesinker #539 6 Cut 2	975	539
31.808	Riffler-Diemaker #611 7 Cut 0	761	611	31.889	Riffler-Diesinker #517 6 Cut 2	940	517	31.972	Riffler-Diesinker #541 6 Cut 0	981	541
31.809	Riffler-Diemaker #611 7 Cut 2	761	611	31.893	Riffler-Diesinker #518 6 Cut 2	941	518	31.973	Riffler-Diesinker #541 6 Cut 2	981	541
31.810	Riffler-Diemaker #612 7 Cut 0	762	612	31.896	Riffler-Diesinker #519 6 Cut 0	942	519	31.974	Riffler-Diesinker #541 6 Cut 4	981	541
31.811	Riffler-Diemaker #612 7 Cut 2	762	612	31.897	Riffler-Diesinker #519 6 Cut 2	942	519	31.976	Riffler-Diesinker #542 6 Cut 0	982	542
31.812	Riffler-Diemaker #613 7 Cut 0	763	613	31.903	Riffler-Diesinker #522 6 Cut 0	951	522	31.977	Riffler-Diesinker #542 6 Cut 2	982	542
31.813	Riffler-Diemaker #613 7 Cut 2	763	613	31.904	Riffler-Diesinker #522 6 Cut 2	951	522	31.979	Riffler-Diesinker #543 6 Cut 0	983	543
31.816	Riffler-Diemaker #615 7 Cut 0	771	615	31.906	Riffler-Diesinker #523 6 Cut 0	952	523	31.980	Riffler-Diesinker #543 6 Cut 2	983	543
31.817	Riffler-Diemaker #615 7 Cut 2	771	615	31.907	Riffler-Diesinker #523 6 Cut 2	952	523	31.983	Riffler-Diesinker #544 6 Cut 0	984	544
31.818	Riffler-Diemaker #616 7 Cut 0	781	616	31.917	Riffler-Diesinker #525 6 Cut 0	955	525	31.984	Riffler-Diesinker #544 6 Cut 2	984	544
31.819	Riffler-Diemaker #616 7 Cut 2	781	616	31.918	Riffler-Diesinker #525 6 Cut 2	955	525	31.986	Riffler-Diesinker #545 6 Cut 0	985	545
31.826	Riffler-Diemaker #620 7 Cut 0	795	620	31.921	Riffler-Diesinker #526 6 Cut 0	956	526	31.987	Riffler-Diesinker #545 6 Cut 2	985	545
31.827	Riffler-Diemaker #620 7 Cut 2	795	620	31.922	Riffler-Diesinker #526 6 Cut 2	956	526	31.990	Riffler-Diesinker #546 6 Cut 0	986	546
31.830	Riffler-Diemaker #603 7 Cut 0	710	603	31.925	Riffler-Diesinker #527 6 Cut 0	957	527	31.991	Riffler-Diesinker #546 6 Cut 2	986	546
31.834	Riffler-Diemaker #603 7 Cut 2	710	603	31.926	Riffler-Diesinker #527 6 Cut 2	957	527	32.012	Riffler-Diesinker #552 6 Cut 4	996	552
31.838	Riffler-Diesinker #502 6 Cut 0	901	502	31.932	Riffler-Diesinker #529 6 Cut 0	961	529	32.075	Riffler-Toolmaker #652 12 Cut 0	410	652
31.839	Riffler-Diesinker #502 6 Cut 2	901	502	31.933	Riffler-Diesinker #529 6 Cut 2	961	529	32.077	Riffler-Toolmaker #659 12 Cut 0	411	659
31.846	Riffler-Diesinker #503 6 Cut 0	905	503	31.939	Riffler-Diesinker #531 6 Cut 0	963	531				
31.847	Riffler-Diesinker #503 6 Cut 2	905	503	31.940	Riffler-Diesinker #531 6 Cut 2	963	531				

## GROBET USA SILVERSMITHS' RIFFLERS *(See style number cross reference chart on page 246)*

For removing metal and smoothing in tight places. All are double-ended and 7" (180 mm) long.



Style No.	Cut 0	Cut 2
603	31.830	31.834



Style No.	Cut 0	Cut 2
604	31.794	31.795



Style No.	Cut 0	Cut 2
605	31.796	31.797



Style No.	Cut 0	Cut 2
606	31.798	31.799



Style No.	Cut 0	Cut 2
607	31.800	31.801



Style No.	Cut 0	Cut 2
608	31.802	31.803



Style No.	Cut 0	Cut 2
609	31.804	31.805



Style No.	Cut 0	Cut 2
610	31.806	31.807

GROBET USA SILVERSMITHS' RIFFLERS (See style number cross reference chart on page 246)



Style No.	Cut 0	Cut 2
611	31.808	31.809



Style No.	Cut 0	Cut 2
612	31.810	31.811



Style No.	Cut 0	Cut 2
613	31.812	31.813



Style No.	Cut 0	Cut 2
615	31.816	31.817



Style No.	Cut 0	Cut 2
616	31.818	31.819



Style No.	Cut 0	Cut 2
620	31.826	31.827

**ASSORTED SILVERSMITHS' RIFFLER SETS**  
Contains 12 popular riffler shapes from above, in the cut indicated.

Cut	Set No.
0	31.831
2	31.832



# GROBET USA WAX RASP FILES

Designed for shaping waxes. Excellent for other materials; such as wood and plastic. Wide-tooth style does not clog as easily as conventional files. Overall length 5-1/2" (140 mm).



## EQUALLING

Overall Length		Rasp
(in)	(mm)	
5-1/2"	140	33.915



## FLAT

Overall Length		Rasp
(in)	(mm)	
5-1/2"	140	33.916



## HALF-ROUND

Overall Length		Rasp
(in)	(mm)	
5-1/2"	140	33.917



## ROUND

Overall Length		Rasp
(in)	(mm)	
5-1/2"	140	33.918



## SQUARE

Overall Length		Rasp
(in)	(mm)	
5-1/2"	140	33.919



## THREE-SQUARE

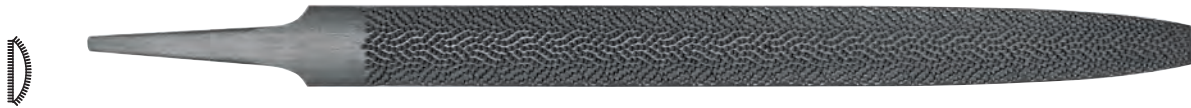
Overall Length		Rasp
(in)	(mm)	
5-1/2"	140	33.920

## WAX RASP FILE SET

All six shapes listed above in a handy vinyl pouch.  
No. 33.922



GROBET USA RASP FILES WITH TANG



SWISS HALF ROUND SLIM THIN RASP

Overall Length		Cut 6	Cut 7
(in)	(mm)		
10"	250	30.965	30.966

ERGO GRIP RASPS

The comfortable-to-use, conveniently-sized Ergo Grip style is available in five shapes. The built-in handle and balanced feel will help you work faster, with better control. For cutting wood, fiberglass, plastics or soft metals. Offered individually in the most popular shapes or as a set of all five.



HAND

Overall Length		Rasp
(in)	(mm)	
10"	250	33.834



HALF-ROUND

Overall Length		Rasp
(in)	(mm)	
10"	250	33.835



ROUND

Overall Length		Rasp
(in)	(mm)	
10"	250	33.836



Square

Overall Length		Rasp
(in)	(mm)	
10"	250	33.837



Three-Square

Overall Length		Rasp
(in)	(mm)	
10"	250	33.838

ERGO GRIP RASP SET

Set contains five ergo grip rasps as described above in a vinyl pouch.  
No. 33.840





## DIAMOND NEEDLE FILES

These Diamond Needle Files offer excellent material removal as a result of the unique process that bonds the 2-1/2" (64mm) long diamond surface. Engineered to deliver performance on ultra-hard materials unequaled by any other file. Carbide, hardened steel, exotic metals, ceramics, and glass are no match for these precision files. Available in fine grit, medium grit, and coarse grit. Overall length is 5-1/2" (140 mm). Sold individually or in sets, as listed on Page 252.



### BARRETTE

Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.958	33.980	34.004



### CROSSING

Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.959	33.984	—



### EQUALLING

Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.961	33.971	34.005



### Half-Round

Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.962	33.972	34.006



### ROUND

Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.963	33.973	34.007

## DIAMOND NEEDLE FILES



### SQUARE



Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.964	33.974	34.008



### THREE-SQUARE



Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.965	33.975	34.009



### CROCHET



Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.966	33.976	—



### WARDING



Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.967	33.977	—



### KNIFE



Overall Length		Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit (80/100)
(in)	(mm)			
5-1/2"	140	33.968	33.978	—

### DIAMOND NEEDLE FILE SETS

Contains one each of equalling, half-round, round, square, and three-square.

Grit	Set No.
Fine	33.960
Medium	33.970



ECONO DIAMOND NEEDLE FILES

Unique process that bonds the 2-1/2" long diamond surface – at an affordable price. Provides excellent material removal for ultra-hard materials – metals, ceramics, and glass. Available in medium grit (120/140). Overall length is 5-1/2" (140 mm). Sold individually or in a set as listed below.



BARRETTE

Overall Length		Medium Grit (120/140)
(in)	(mm)	
5-1/2"	140	34.011



EQUALLING

Overall Length		Medium Grit (120/140)
(in)	(mm)	
5-1/2"	140	34.012



HALF-ROUND

Overall Length		Medium Grit (120/140)
(in)	(mm)	
5-1/2"	140	34.013



ROUND

Overall Length		Medium Grit (120/140)
(in)	(mm)	
5-1/2"	140	34.014



SQUARE

Overall Length		Medium Grit (120/140)
(in)	(mm)	
5-1/2"	140	34.015

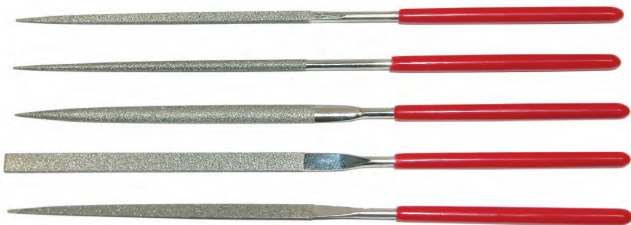


THREE-SQUARE

Overall Length		Medium Grit (120/140)
(in)	(mm)	
5-1/2"	140	34.016

ECONO DIAMOND NEEDLE FILE SET

Contains 5 assorted files from the list above in a handy vinyl pouch.  
No. 34.020



Files

## GROBET USA TAPERED DIAMOND FILES

These tapered files are used in filing inside slots and grooves, where access with straight files is impossible. They were specially designed for use in the aluminum extruders industry and in the plastic mold industry. Overall length 6-5/8" (170 mm). Sold individually.



No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.940	126	5/32"	4.0	5/64"	2.0



No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.941	91	5/32"	4.0	5/64"	2.0



No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.942	91	5/32"	4.0	5/64"	2.0



No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.943	54	5/32"	4.0	5/64"	2.0



No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.944	91	1/4"	6.4	3/32"	2.4



No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.945	91	5/16"	7.9	5/64"	2.0

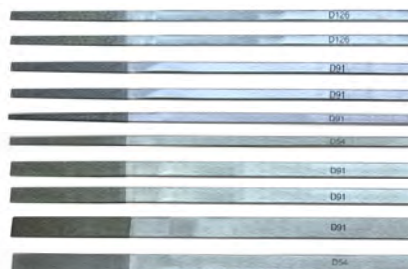


No.	Grit	(in)	Width (mm)	(in)	Taper (mm)
33.946	54	5/16"	7.9	5/64"	2.0

### SET of TEN

Contains pairs of Nos. 33.940, 33.941, & 33.944 and one each of Nos. 33.942, 33.943, 33.945, & 33.946.

No. 33.947



DIAMOND ESCAPEMENT FILES

These square handle files have a diamond surface of 1-9/16" to 2-9/16" (40 to 65 mm) according to shape. Available in 126 grit. Used in fine watchmaking, in finishing fine castings and other delicate work. Sold individually or in a set as listed below.

HALF-ROUND



Overall Length		126 Grit
(in)	(mm)	
5-1/2"	140	33.951

CROSSING



Overall Length		126 Grit
(in)	(mm)	
5-1/2"	140	33.952

THREE-SQUARE



Overall Length		126 Grit
(in)	(mm)	
5-1/2"	140	33.953

EQUALLING



Overall Length		126 Grit
(in)	(mm)	
5-1/2"	140	33.954

SQUARE



Overall Length		126 Grit
(in)	(mm)	
5-1/2"	140	33.955

ROUND



Overall Length		126 Grit
(in)	(mm)	
5-1/2"	140	33.956

DIAMOND ESCAPEMENT FILE SET

Contains one of each 6 files listed above.  
No. 33.957





## ERGO GRIP DIAMOND FILES

Excellent for filing large areas of different materials as well as hard plastics, fiberglass, graphite, and epoxy. Can also be used for marble shaping applications. In spite of the heavy-duty applications, these diamond files have a very high resistance to wear. Overall length is 8-1/2" (220 mm), and diamond surface is 4" (100 mm). 126 grit. Sold individually or in a kit as listed below.



### THREE-SQUARE



Overall Length		126 Grit
(in)	(mm)	
8-1/2"	220	33.873



### SQUARE



Overall Length		126 Grit
(in)	(mm)	
8-1/2"	220	33.874



### ROUND



Overall Length		126 Grit
(in)	(mm)	
8-1/2"	220	33.875



### HALF-ROUND



Overall Length		126 Grit
(in)	(mm)	
8-1/2"	220	33.876



### HAND



Overall Length		126 Grit
(in)	(mm)	
8-1/2"	220	33.877

### ERGO GRIP DIAMOND FILE SET

Contains one of each 5 files listed above in a vinyl pouch.

No. 33.852



## GROBET USA® DIAMOND FLEXI-FILES

The unique composite blank makes these files flexible, yet extremely strong and lightweight. The special "Dots" plating system allows for easy removal of the filed material, resulting in a superior finish. Reliable Performance. Easy to Clean. Long Lasting. Available in 3 Grits, Fine, Medium and Coarse  
Specifications: 6-3/4" (170mm) length x 9/16" (14.3mm) wide x 1/16" (1.6mm) thick, Plated length 3-1/2"



Overall Length		Width		Thickness		Fine Grit	Medium Grit	Coarse Grit
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6-3/4"	170	9/16"	14.3	1/16"	1.6	<b>33.99701</b>	<b>33.99702</b>	<b>33.99703</b>



Kits:

No. **33.1002** Includes one each handle No. 33.1005, wrench 33.1006 and file Nos. 33.985, 33.986, 33.989 and 33.990

No. **33.1003** Includes one each handle No. 33.1005, wrench 33.1006 and file Nos. 33.987, 33.988, 33.1000 and 33.1001

No. **33.1004** Includes one each handle No. 33.1005, wrench 33.1006 and file Nos. 33.989, 33.990, 33.1000 and 33.1001

### 1 GROBET USA® "WIDE-BODY" DIAMOND FILE KITS with HANDLE

These very wide, extra thin files were manufactured to make full contact between the file surface and the workpiece. These unique files are widely used in the plastic molds and in the aluminum extruders industries. The two different file sizes are available in four grits, and thicknesses range between 1/64" (0.4 mm) with grit D30, to 3/64" (1.2 mm) with grit D126. Files are available individually and in three separate kits, as shown below. All files fit into the specially designed handle.

No. **33.1005**.

No.	Grit Area		Grit	Thickness
	(in)	(mm)		
<b>33.985</b>	5/8" x 5/8"	16 x 16	D30	0.4 mm
<b>33.986</b>	5/8" x 5/8"	16 x 16	D54	0.5 mm
<b>33.987</b>	5/8" x 5/8"	16 x 16	D91	1.0 mm
<b>33.988</b>	5/8" x 5/8"	16 x 16	D126	1.2 mm
<b>33.989</b>	1" x 1"	25 x 25	D30	0.4 mm
<b>33.990</b>	1" x 1"	25 x 25	D54	0.5 mm
<b>33.1000</b>	1" x 1"	25 x 25	D91	1.0 mm

## FILE HANDLE SIZE RECOMMENDED

FOR SWISS PATTERN PRECISION FILES

File Length:	4"	6"	8"	10"	12"	14"
Type/Shape						
Barrette	3	4	5	—	—	—
Checkering	—	4	—	—	—	—
Crochet	3	4	5	—	—	—
Crossing	2	4	5	—	—	—
Equalling	2	3	4	—	—	—
Half-Round	3	4	5	6	—	—
Hand	3	4	5	6	7	—
Knife	3	4	5	6	7	7
Pillar	3	4	4	6	6	—
Pippin	3	4	5	—	—	—



### 2 BLUE PLASTIC FILE HANDLES/METAL GRIPPING INSERT

Unbreakable plastic, with textured surface for a non-slip grip. Hole at top permits convenient hang-up storage. Tang-gripping insert is tempered metal, with two threaded sections of different diameters. Handle can be reused; simply unscrew the file in use and insert a new one.

No.	Handle Size	No.	Handle Size	No.	Handle Size
<b>37.781</b>	1	<b>37.784</b>	4	<b>37.787</b>	7
<b>37.782</b>	2	<b>37.785</b>	5	<b>37.788</b>	8
<b>37.783</b>	3	<b>37.786</b>	6		

File Length:	4"	6"	8"	10"	12"	14"
Type/Shape						
Round	1	3	4	5	—	—
Round Parallel: 3/16" (4.8 mm)	—	2	3	—	—	—
Round Parallel: 1/4" (6.4 mm)	—	2	3	—	—	—
Round Parallel: 1/8" (3.2 mm)	1	1	—	—	—	—
Round Parallel: 5/32" (4.0 mm)	1	1	—	—	—	—
Round Parallel: 3/8" (9.5 mm)	—	—	4	—	—	—
Slitting	2	4	—	—	—	—
Square	2	3	4	5	6	—
Three-Square	2	4	4	5	6	—
Warding	2	4	5	6	7	—



### 3 WOOD FILE HANDLES

With natural finish. Wound wire ferrule provides extra strength to prevent splitting. Select handle to fit files 2" to 20" (51 to 510 mm).

No. **37.791** 2"-4" (50-100 mm)

No. **37.792** 4"-6" (100-150 mm)

No. **37.793** 6"-10" (150-250 mm)

No. **37.794** 10"-14" (250-350 mm)

No. **37.795** 14"-16" (350-400 mm)

No. **37.796** 16"-20" (400-500 mm)



### 1 LUTZ WOOD FILE HANDLES

Sturdy, force-fit type of handle.

No. **37.801** 3"-6" (75-150 mm)

No. **37.802** 6"-8" (150-200 mm)

No. **37.803** 8"-12" (200-300 mm)

No. **37.804** 14"-16" (350-400 mm)



### 2 SKROO-ZON WOOD FILE HANDLE

Steel die inside wood handle cuts its own thread on file tang.

No. **37.820**

For 6" (150 mm) files only.



### 3 FILE and BURNISHER HANDLE

Hardwood handle with metal ferrule. Overall length 3-3/4" (95.3 mm), 1/2" (12.7 mm) diameter.

No. **37.822**



### 4 NEEDLE FILE HANDLE

Precision chuck in smooth wooden handle holds 5-1/2" (140 mm) and 6-1/4" (160 mm) needle files securely.

No. **37.830**



### 5 PLASTIC NEEDLE FILE HANDLES

Plastic handle for needle files.

Sold individually

**37.810** 3-1/4"



### 6 PLASTIC NEEDLE FILE HANDLES

plastic handles for needle files.

Sold individually

No. **37.811** 2-3mm

No. **37.812** 3-4mm



### 7 WOOD FILE HANDLES

Hardwood handles with metal ferrules suitable for small files, gravers, etc. Sold individually

No.	Length		Diameter	
	(in)	(mm)	(in)	(mm)
<b>37.832</b>	3"	76	7/16"	11
<b>37.833</b>	4"	102	3/8"	10
<b>37.834</b>	4"	102	1/2"	13
<b>37.836</b>	4"	102	5/8"	16
<b>37.837</b>	4"	102	3/4"	19



8

### 8 FILE CLEANER with BRUSH

Handy bristles mounted on wood handle with steel wire brush on reverse side. Overall length 10" (250 mm).

No. **33.979**



9

### 9 FILE CLEANER

Steel wire bristles mounted on wood handle, for removing particles clogging teeth of file. Overall length 10" (250 mm).

No. **33.981**

### 10 NEEDLE FILE STAND

Attractive metal stand conveniently holds and displays up to 12 needle files in 4" (100 mm), 5-1/2" (140 mm), or 6-1/4" (160 mm) lengths. Free-standing on workbench, hanging on a peg, or snapped closed for carrying, this stand keeps your frequently used files visible and handy at all times. (Files not included.)

No. **31.685**





# *Flexible Shafts*



## GROBET USA® FLEXIBLE SHAFTS

Breakthrough technology in a flexible shaft. Economical workhorse, ideal for precision work. Ball-bearing motor runs smoothly, requires no lubrication. Available in both 110V and 220V models. Full 1-year warranty.

### Kit Includes:

- Motor
- Foot pedal (34.368)
- Handpiece )
- Shaft and Sheath



**1 C-300 w/ No. 30 Handpiece 34.367**

No.	Volt	HP	RPM
34.300	110V	1/10	18,000
34.300X	220V	1/10	18,000



**2 S-300 w/ No. 30 Handpiece 34.367**

No.	Volt	HP	RPM
34.600	110V	1/8	20,000
34.600X	220V	1/8	20,000



**3 C-300 w/ No. 30 Handpiece 34.36701 with European Connection**

No.	Volt	HP	RPM
34.300XEuro	220V	1/10	18,000



**4 C-300 w/ No. 34.26201 Quick Change Handpiece with European Connection**

No.	Volt	HP	RPM
34.301XEuro	220V	1/10	18,000



GROBET USA® FLEXIBLE SHAFTS



1 S-300 w/ 3/32" Quick Change Handpiece 34.262

No.	Volt	HP	RPM
34.625	110V	1/8	20,000
34.625CE	110V	1/8	20,000



2 S-300 w/ 1/4" Handpiece 34.235

No.	Volt	HP	RPM
34.635	110V	1/8	20,000

MICROMOTORS



3 GROBET USA® MICROMOTOR with ON/OFF PEDAL 110/220  
With on/off foot pedal. Speed controlled by dial on control box. Control box actual size: 5" L x 3" H x 4" W (127 x 76 x 102 mm).

No.
34.555

No.	Description
34.55501	Replacement control box
34.5552	Replacement handpiece



4 GROBET USA® MICROMOTOR with VARIABLE PEDAL 110/220  
With on/off switch and a heavy-duty, variable speed foot pedal. Speed controlled by either dial on control box or foot pedal. Control box actual size: 6" L x 3-1/2" H x 4-1/2" W (152 x 89 x 114 mm).

No.
34.556

No.	Description
34.5561	Replacement control box

## HANDPIECES



### 1 GROBET USA® JEWELERS HANDPIECE

A popular handpiece for all-around use. Adjustable chuck accommodates shank sizes from 0 to 5/32". Includes chuck key.

No.

34.367

34.36701 European Connection



### 2 HANDPIECES Y4

Opens up to 1/4" to accommodate accessories. Popular with wood working tools and other popular handheld motors.

No.

34.235



### 3 SLIM HANDPIECE

Thin body with a protective guard sleeve that slides back for changing tools easily. Supplied with 3/32" (2.4 mm) collet and collet wrench.

No.

34.233

34.234 With duplex spring connection



### 4 COLLET HANDPIECE

Collet version of our general purpose handpiece. Supplied with 3/32" (2.4 mm) collet. Collet wrench included.

No.

34.243

34.24307 Handpiece for heavy duty use. 1/8" & 1/4" collets included. (not shown)



### 5 QUICK CHANGE HANDPIECE

Quick release lever allows rapid changing of all burs & accessories with 3/32" (2.4 mm) shanks. Slim body for precise control.

No.

34.263

34.26301 Euro Connection

## HANDPIECES

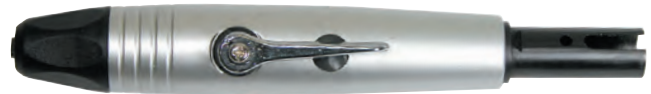


### 1 QUICK CHANGE HANDPIECE

Ergonomic design provides improved control and extra comfort. Quick change collet-release lever for use with 3/32" (2.4 mm) shanks.

No.

34.246



### 2 QUICK CHANGE HANDPIECE

Quick change collet-release lever for use with 3/32" (2.4 mm) shanks.

No.

34.262 (Black)

34.26201 Euro



### 3 QUICK CHANGE HANDPIECE

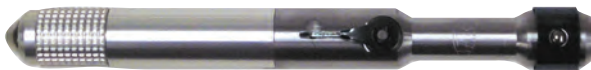
Ergonomic design provides improved control and extra comfort. Quick change collet-release lever for use with 3/32" (2.4 mm) shanks.

No.

34.260

34.261 With duplex spring connection

34.24601 Collet only for 34.246, 2.35 MM



### 4 FARO QUICK RELEASE HANDPIECE

Quick release lever allows rapid changing of all burs & accessories with 3/32" (2.4 mm) shanks. Slim body for precise control. Highest quality Italian construction.

No.

34.0252

34.0251 With duplex spring connection



### 5 HAMMER HANDPIECE

Specially designed to hit hard, under control, without excessive heat build-up. Adjustable striking force. Hammer tip (1.5 mm round) included. Other hammer tips also available.

No.

34.241

34.245 With duplex spring connection

## GROBET USA® SPEED CONTROLS

For use on all Grobet USA® and other standard flexible shaft motors.



### 1 ELECTRONIC FOOT/BENCH SPEED CONTROL

Solid state control. Use as a foot pedal or use the flip-up lever for manual bench control. Unit can be set for maximum speed. Plastic housing.

No.	Description
34.330	110 volt model



### 2 ELECTRONIC FOOT PEDAL

Solid state control. Plastic housing.

No.	Description
34.368	110 volt model
34.369	220 volt model



### 3 DUAL FOOT SWITCH

No.	Description
34.33401	

## ACCESSORIES



### 4 REPLACEMENT OUTER SHEATH for FLEXSHAFT MOTOR

For all Grobet flexshaft motors including series 595, 695, 795, and 995.

No.
34.350



### 5 REPLACEMENT INNER SHAFT for FLEXSHAFT MOTOR

For all Grobet flexshaft motors including series 595, 695, 795, and 995.

No.
34.352



### 6 REPLACEMENT INNER SHAFT for FLEXSHAFT MOTOR

For 34.300/600 Grobet flexshaft motors.

No.	Description
34.365	
34.365EURO	for Euro Flexshaft



### 7 REPLACEMENT OUTER SHEATH for FLEXSHAFT MOTOR

For 34.300/600 Grobet flexshaft motors.

No.	Description
34.366	
34.366EURO	for Euro Flexshaft

## ACCESSORIES

### 1 DRILL PRESS

Rugged stand will convert a Grobet flex shaft to a drill press. Throat opening is 2" and adjustable with a wrench. Adjustable stroke 0 - 1-1/4". Adjustable table slides up and down or can be rotated out of the work area. 13-5/8" x 6-1/2" x 4" with table size of 5-1/2" square.

No.

34.068



### 2 ADJUSTABLE FLEX SHAFT HOLDER

Attaches to bench and adjusts from 26" to 41" (63 to 104 cm). Swivels for easy flex shaft use.

No.

34.611



### 3 DOUBLE HOOK FLEX MOTOR HANGER

Hang two of Grobet's Flex Motors to your bench or work space. Easily attaches to work bench. Swivels for easy flex shaft use. Adjustable from 27-1/2" to 41".

No.

34.613



### 4 GROBET USA™ JIFFY JIG

A convenient way to hold jewelers handpieces in place while performing cutting, grinding or polishing operations. The holder is placed in a vise and the handpiece is pulled through. The vise is then tightened and you're ready to go, leaving both hands free. Tools on the handpiece can be changed easily. Holds jewelers handpieces similar to No. 34.367.

No.

34.290



### 5 MAINTENANCE KIT

Includes tube of flexible shaft lubricant (grease) and a set of replacement motor brushes.

No.

34.344

34.377 Brush Only





## ACCESSORIES



### 1 FLEX SHAFT ACCESSORY KITS

Mounted accessories are on 3/32" (2.4 mm) arbors.

No.	Description
34.590	13 piece starter set
34.602	26 piece assortment



### 2 PIN CHUCK SET WITH 3 COLLETS

All steel construction. Blackened body.

3 Collets: 1mm, 2mm, 3mm

No.	Shaft Diameter
58.325	6.4 mm



### 3 MAGNA-GRAVER LINING AND STRAIGHT GRAVERS

For easy, one-handed engraving with your flexible shaft machine. For craftsmen who engrave by hand, engravers on automatic or semi-automatic production lines, carvers, etc.

No.
36.02900



### 4 CHUCK KEY IN HANDLE

No.	Description
28.212	
28.211	Replacement key



### 5 HANDPIECE OIL

Recommended for all our flexible shaft hand pieces.

No.
34.345

# *Gauges*



### 1 DIVIDER with ROUND LEGS

For measuring and scribing. Special, high-quality construction and finishing.  
With solid nut. 3" (76 mm) legs.



No.	(in)	Legs	(mm)
35.084	3"		176

### 2 DIVIDERS

For measuring distances between points and scribing circles or arcs. Spring action.



No.	Max. Opening		Legs		
	(in)	(mm)	(in)		(mm)
35.080	3-1/4"	183	3"		176
35.086	3-3/8"	186	4"		102
35.092	6-3/4"	171	6"		152

### 3 COMBINATION DEGREE GAUGE

Adjustable point for close tolerance work. 3/4" (19 mm) jaw.



No.	Adjustable	Graduations	Capacity
35.014	Yes	1/12 lings, 1/10 mm	72 lings, 120 mm

### 4 DEGREE GAUGES

Lightweight, sensitive gauges made of polished steel with easy-to-read brass indexes.



No.	Adjustable	Graduations	Capacity
35.012	No	1/10 mm	150 mm
35.018	Yes	1/10 mm	150 mm

## 1 STAINLESS STEEL FLEXIBLE RULE

Graduated in millimeters across the top and 1/32" increments across the lower half. All graduations are deeply etched.



No.	Length		Width	
	(in)	(mm)	(in)	(mm)
35.510	6"	150	1/2"	12.7

## 2 OPAQUE WHITE PLASTIC RULE

Graduated in millimeters across the top and 1/16" increments across the lower half.



No.	Length		Width	
	(in)	(mm)	(in)	(mm)
35.500	6"	150	1/2"	12.7
35.502	7"	180	9/16"	14.3



## 3 FLEXIBLE STAINLESS INCH RULE

Chromed, non-glare finish. Capacity 6", graduated by 1/10ths and 1/100ths on one side and 1/32nds and 1/64ths on the other side.

No.	Length		Width	
	(in)	(mm)	(in)	(mm)
35.512	6"	150	1/2"	12.7

## SLIDING GAUGES



## 4 BRASS SLIDING GAUGE

Combination inch and millimeter gauge. Capacity 4" (100 mm).

No.
35.0204A



## 5 BRASS SLIDING GAUGE DELUXE

No.
35.150



## 6 BRASS POCKET SLIDING GAUGE

Combination inch and millimeter gauge. Capacity 2-1/4" (60 mm). Graduations by 1/4 ths and 1.0 mm.

No.
35.152



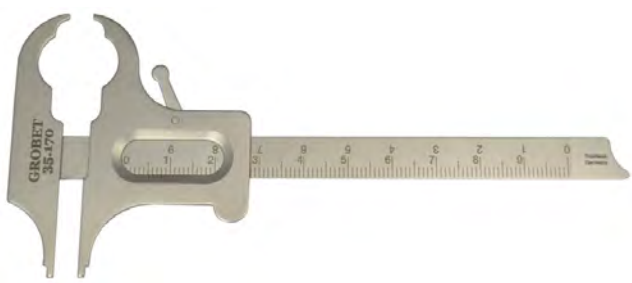
## 7 POCKET SLIDING GAUGES

Combination inch and millimeter gauges. Capacity 3" (80 mm). Graduations by 1/16 ths and 1.0 mm.

No.	
35.154	Brass and aluminum
35.156	Brass



CALIPERS



1 BOLEY STYLE SLIDING GAUGES with LOCKING LEVER

Stainless steel, millimeter gauges with capacity of 100 mm and vernier reading to 0.1 mm. Cut out jaws for measuring different shapes.

No.
35.170



2 COLUMBUS STYLE VERNIER CALIPER

Economical quality gauge measures in metric and inch. Capacity 5" (125 mm). Vernier reads to 1/128" and 1/10 mm. Has thumb roller and locking screw. Jaws measure inside and outside and there is a depth gauge in the end.

No.
35.174



3 INSTANT READOUT PRECISION DIGITAL CALIPER

Made of stainless steel. Measures inside and outside in inches and millimeters. Capacity 0-6" with .001" resolution, or 0-150 mm with 0.01 mm resolution. Includes zero set button and depth measuring rod. Protective carrying case and battery included.

No.
35.180



4 HIGH-IMPACT PLASTIC DIAL CALIPERS

Easy to read graduations from large 1-1/2" (38 mm) diameter dial. Jaws measure inside and outside and there is a depth gauge in the end. Available in metric or inch models. Economical and lightweight.

No.	Size
35.182	6" capacity x 0.010"
35.184	152 mm capacity x 0.1 mm





### 1 PROTRACTOR AND GAUGE

This versatile tool can be used as a protractor, a square, a center finder, a circle divider, a drill point gauge and a ruler! The ruler and gauge tool features a riveted movable arm, permanently etched graduations and tap drill sizes. Made of polished stainless steel for long lasting durability. Permanently etched graduations (64ths inch and mm). Bevel protractor - for measuring and laying out angles. Center finder - locates center of shafts or circles. Circle divider - divides up to nine equal parts. Tap drill sizes included for added convenience

No.

35.131



### 3 HOLE DIAMETER SIZER

A useful gauge for quick, accurate measurement of inside diameters (ID) of drilled holes or nuts. The pin wheel gauge features 10 spokes from 1.0 mm to 2.2 mm diameter.

No.

35.175

## DIAL GAUGES



### 5 GEM GAUGE

This handy gauge is excellent for all kinds of stones. It is accurate and easy to use. It zeros out when closed, and opens automatically. Excellent for soft stones or pearls where gentle force is required. Accurate to 0.1mm. Maximum opening 20mm.

No.

35.095



### 2 PRECISION STEEL SQUARE

Tool steel, hardened and precision ground edges, lapped beams and blades. Beams and blades are hardened, ground, and lapped to insure parallelism and straightness. 90° angles inside and out, for close tolerance measurements and precise work. Body and Tongue are 3/4" Wide

No.

35.141

Size

1"

35.142

2"

35.143

3"



### 4 IWANSON METAL GAUGE

Precision made, stainless steel. Shipping weight 2 oz. For metal.

No.

35.186



### 6 PRESIDIUM DIAL GAUGE

Incorporates the latest technology. Measurements are precise from 0.0 - 23.0 mm with 0.1 mm accuracy. Direct carat-weight reading on dial. Accuracy maintained with wear-resistant, hardened anvils. Reduces hand fatigue. Comes with polishing cloth, weight estimation table, instructions and accessory booklet.

No.

56.727

## GROBET USA® POCKET DIGITAL GAUGES

Measures Diamonds and Gemstones within 0.01mm accuracy When you travel with one of these handy, battery-operated precision instruments, you will travel with confidence. No more guessing about stone size at trade shows or on buying trips. Now you can rely on your pocket-sized gauge.

### Specifications:

- Measuring range: 0-25 mm
- Resolution: 0.01 mm/0.001"
- Power: One Silver Oxide Battery SR44, 1.55V
- Working temperature: 0°C to 40°C
- Should be used at a relative humidity of less than 80%
- Storage temperature: -10°C to +60°C

### Features:

- Zero setting in any position
- Metric/inch interchange
- Low-battery indicator
- Gem weight estimating book
- Carrying case



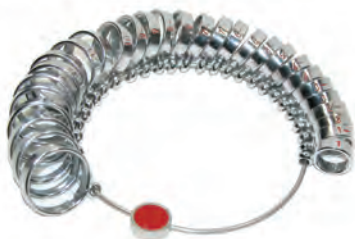
### 1 CIRCULAR GAUGE

Easy-to-read, large display numbers 1/4" high.

No.  
35.192

## FINGER GAUGES

Graduated in half sizes by US standards. Bright nickel-plated with easy-to-read numerals.



### 2 WIDE RING SIZER

Wide width, flat, sizes 1-15

No.  
35.0187

Sizes  
1-15



### 3 FLAT RING & FINGER SIZER

Regular width, flat, economy model w/matte finish, sizes 1-15 Use with ringstick 35.0193.

No.  
35.260

Sizes  
1-15



### 4 RING GAUGE

Graduated in full sizes from 4 -13 by US standards.

No.  
35.261

Sizes  
4-13



### 5 WEDDING BAND SIZER

Wedding band sizer, sizes 1 to 15.

No.  
35.263

Sizes  
1-15



### 1 METAL FINGER GAUGES

Graduated in half sizes by US standards. Bright nickel-plated with easy-to-read numerals.

No.	Sizes
35.0186	3mm Half Round Ring Sizes 1-15



### 2 COMFORT-FIT RING SIZER

Bright nickel-plated with colored numbers. Inside of rings is beveled to slip on easily.

No.	Sizes
35.265	1-15



### 3 7mm COMFORT-FIT RING SIZER

Bright nickel plated wider rings with colored numbers. Inside of rings is beveled to slip on easily.

No.	Sizes
35.267	1-15



### 4 GROBET USA™ BANGLE SIZER

Bangle bracelet gauge to enhance sales of bracelets and bangles. Made of heavy gauge base steel, nickel coated. 1.55" to 3.15"

No.	Sizes
35.270	1-27



### 5 PLASTIC FINGER GAUGE

An ideal "give-away" for potential customers to take home to determine the correct finger size of recipient who cannot be present to be measured. A sure way to clinch the sale. Sold by the dozen.

No.	Sizes
35.255	1-15



### 6 PLASTIC FINGER GAUGE FORM

An inexpensive way for the jeweler to get correct ring sizes. Remove "size" from the form for an exact template to send to the manufacturer. Eliminates re-sizing problems caused by inaccurate ring sticks. Contains 23 sizes, from 2-1/2 to 14, graduated in half sizes by US standards. Sold by the dozen.

No.	Sizes
35.0895	2-1/2 - 14

### 1 MARK-A-SIZE

Enables you to accurately scribe cutting lines when reducing ring sizes. The 12 sizes are graduated in quarter ring sizes from  $\frac{1}{4}$  to 3. Mark and cut the correct size every time. Hardened steel with sharp edges. Fan folds when not in use to protect edges.



No.	Sizes
35.0705	12 from 1/4 - 3

### 2 DELUXE RING SIZING SET

Creates an enjoyable ring sizing experience for your customers. Includes 25 individual finger gauges and a metal ring stick in an impressive gold finish. Finger gauges and ring stick are perfectly matched in graduated full and half sizes (U.S. standard sizes 1-13) to ensure an accurate and comfortable fit every time. Each ring has the finger size clearly marked on it and the ring stick features a knurled handle for an easy and comfortable grip. Presentation case included.



No.	Size
35.301	1-13



### 3 ALUMINUM RING STICK

No.	Style
35.271	Plain
35.272	Grooved



### 4 METAL RING STICK

No.	Style
35.273	Plain
35.274	Grooved



### 5 HOLLOW METAL STICKS

For measuring rings 1 to 15 in quarter sizes by US standards. Has gauge to show length of material needed to make specific sizes of rings. Nickel-plated with wood handles. These lightweight, well-made sticks are available plain or with grooves for stone set rings.

No.	Style
35.284	Grooved style
35.286	Plain style



## 1 ALUMINUM RING STICKS

Made of solid aluminum, graduated in quarter sizes from 0 to 13 by US standards.



No.	Style
35.0192	with groove
35.0193	without groove

## 2 WOODEN RING STICK

Hardwood with easy-to-read sizes. Sizes 3 to 15 in half sizes by US standards.



No.	Style
35.291	

## 3 UNIVERSAL ALUMINUM RING STICK

Measures by US and European ring sizes and shows diameter and circumference in millimeters. US sizes 2 to 15, graduated in quarter sizes. 10" (254 mm) long.



No.	Style
35.0174	without groove

## 4 DELUXE PLASTIC RING STICK

For measuring rings 1 to 15 in quarter sizes by US standards. Has gauge to show length of material needed to make specific sizes of rings. High quality and grooved to accept stone set rings.



No.	Style
35.290	with groove

## 5 PLASTIC RING STICK

Graduated in quarter sizes from 0 to 15 by US standards. Economical, rigid plastic with groove for stone set rings.



No.	Style
35.0194A	with groove

## 6 MELEEMEETER™ MICROGAUGE SYSTEM

Essential for gauging inaccessible mounted diamond melee. Eliminates measuring and computing of melee weights. Consists of 10 business card sized gauges, for use with magnification, with over 590 melee shapes and sizes placed around the edges for maximum accessibility. Contains gauge for Trillion diamonds, including weight formula. Comes in handsome solid brass card case.

No.
35.0450





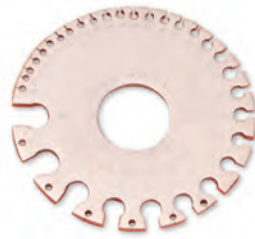


### 1 JO-DI DIAMOND WEIGHT GAUGE

Computes weight of diamond without removing stone from mounting. Width and depth are measured with caliper and compared with measurements in table. For round and fancy shapes.

No.

35.551

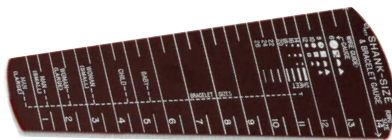


### 2 B & S GAUGE WIRE and DRILL GAUGE

American standard for ordering wire and sheet sizes from 0 to 36. Decimal equivalents on the back. Imported, economical quality.

No.

35.568



### 3 SHANK SIZE and BRACELET GAUGE

All-purpose gauge for measuring flat stock for proper size ring and bracelet shanks. Ring sizes from 1 to 14; bracelets from baby's to large men's sizes. Wire gauge from size 6 to 26 in all shapes.

No.

35.0425



### 4 STONE and MOUNTING GAUGE

The holes in the gauge are used to measure stones, while the extensions are used to measure mountings. One side shows millimeters, the other side shows the corresponding carat measurements.

No.

35.558



### 5 ACCURATE DIAMOND GAUGE

Folds to the size of a half-dollar. Measures round and baguette stones from 1/100 to 2 carats. Made of aluminum for long, durable service.

No.

35.560



### 6 K & B DIAMOND and STONE GAUGE

Aluminum pocket gauge for measuring loose stones and settings ranging from .03 to 4 carats. A birthstone chart is embossed on the reverse side.

No.

35.562



### 7 UNIVERSAL DIAMOND GAUGE

Contains 7 blades for measuring the most popular diamond shapes: round, baguette, square, pear and marquise stones. Stainless steel, high-quality finished blades fold together within protective stainless steel case.

No.

35.561



### 8 BUR GAUGE

Swiss-made precision gauge of lightweight metal measures bur diameters in ISO sizes 005 to 045. Ruler on reverse side measures up to 50 mm, in 1 mm increments.

No.

35.465

# *Hammers & Mallets*



## FORMING BLOCKS



### 1 MICRO SPICULUM FORMING BLOCK

The Micro Spiculum Block is used with the Micro Spiculum Hammer (37.601) and Micro Closing Hammer (37.604) to make small to micro sized spiculums from 24 gauge to 30 gauge metal.

Made of hard Purple Heart wood, the troughs cut into the sides are designed to help you produce tiny spiculums of all shapes!

No.	Size
37.612	7/8" Thick X 2" W X 2-1/2" H



### 2 MACRO SPICULUM FORMING BLOCK

The Macro Spiculum Block is used with the Macro Spiculum Hammer (37.602) and Micro Closing Hammer (37.604) to make small to small spiculums from 24 gauge to 30 gauge metal.

Made of hard Purple Heart wood, the grooves cut into the sides are designed to help you produce small spiculums of all shapes!

No.	Size
37.613	7/8" Thick X 2" W X 2-1/2" H



### 3 BRACELET BLOCK, PURPLE HEART

The Purple Heart Bracelet Block is ideal for forming and fabrication of micro sized anticlastic bracelets. It is intended for long term use with the C (37.607), Mini C (37.606), K (37.605) and Macro Spiculum (37.602) Hammers.

Use the NC Black Bracelet Block Holder to securely hold the block in your vise without annoying slippage as you work! (Bracelet Block Holder (37.621) sold separately.)

No.	Description
37.615	5" L X 9/16" Thick X 15/16" H



### 4 BB SPICULUM FORMING BLOCK

The Large Spiculum Block is used with the Bad Betty Spiculum Hammer (37.603) and Large Closing Hammer (37.657) to make larger spiculums from 20 gauge to 24 gauge metal.

Made of hard Maple, the grooves cut into the sides are designed to help you produce spiculums of all shapes!

No.	Description
37.616	1-1/2" Thick X 3-1/2" W X 5" H



### 5 LARGE NECK COLLAR BLOCK

The Purple Heart Necklace Block is ideal for forming and fabrication of anticlastic neck forms.

Use the NC Black Necklace Block Holder (37.660) to securely hold the block in your vise without annoying slippage as you work! (Necklace Block Holder (37.660) sold separately.)

No.	Description
37.659	7" L X 7/8" W X 1-1/2" H



**MADE IN USA**



## SILVERSMITHS, PLANISHING, EMBOSSING & RAISING HAMMERS

Precision ground and hardened, each hand-forged steel head has highly polished tips and is mounted on a hickory handle. Each hammer is well balanced and offers efficiency and precision. The finest hammers available!



37.301



37.303



37.302



37.304



37.336



37.350

### 1 SILVERSMITHS' HAMMERS

Premium quality hammers are ideal for all types of metal work. Suitable for a wide range of applications.

No.	Weight (oz) (g)		Length	Small End	Large End
37.301	7	199	4-1/2"	9/16"	11/16"
37.302	10	284	5"	13/16"	7/8"
37.303	14	397	4-5/8"	1-1/4" x 5/8"	1-1/4" x 7/8"
37.304	17	482	5-3/4"	13/16"	1"



37.329



37.333



37.330



37.334



37.331



37.335



37.332

### 3 PLANISHING HAMMERS

Ideal for flattening, shaping, smoothing or finishing surfaces. Can also be used for forming faceted and glittered effects on metal.

No.	Weight (oz) (g)		Length	Small End	Large End
37.329	13	369	4-3/4"	1-1/8"	1-1/4" x 5/16"
37.330	14	397	4"	1"	1-1/8"
37.331	14	397	3-3/4"	7/8"	15/16"
37.332	12	341	4-1/8"	1"	1-1/16"
37.333	7	199	3"	15/16"	1"
37.334	13	369	5-1/2"	7/8" x 3/4"	1" x 7/8"

No.	Weight (oz) (g)		Length	Square	Round
37.335	13	369	4-1/8"	1" x 1"	1" Dia

### 2 EMBOSSING HAMMERS

Elevates position of the surface when driven against the inner walls of raised work. Can also be used for planishing.

No.	Weight (oz) (g)		Length	Small End	Large End
37.336	14	397	5-3/4"	13/16"	1"
37.350	7	199	3"	15/16"	1"



37.417



37.421



37.418



37.422



37.419



37.423



37.420

### 4 RAISING HAMMERS

Used for forming the basic shapes of items in the early stages.

No.	Weight (oz) (g)		Length	Small End	Large End
37.417	8	227	4-3/4"	3/4" x 3/16"	7/8" x 1/4"

No.	Weight (oz) (g)		Length	Both Ends
37.418	18	511	4-3/4"	1-1/16" x 1/4"

No.	Weight (oz) (g)		Length	Small End	Large End
37.419	8	227	4-3/8"	13/16" x 3/8"	7/8" x 3/8"
37.420	8	227	4-3/8"	1-1/8" x 1/4"	1-1/4" x 3/8"
37.421	8	227	4-1/2"	1-3/16" x 3/16"	1-1/4" x 1/4"
37.422	7	199	3-5/8"	3/4" x 3/4"	7/8" x 7/8"
37.423	9	255	5-5/8"	9/16" x 3/16"	7/8" x 9/16"



### 1 ECONOMICAL QUALITY BALL PEIN HAMMERS

Hammers with one flat end and one round end are used for flattening, shaping or removing dents. Hardwood handles are comfortable for extended use. Overall length 10".

No.	Head Length		Head Weight	
	(in)	(mm)	(oz)	(g)
37.110	1-7/8"	48	1	28
37.112	2"	51	2	57
37.114	2-5/8"	67	4	113
37.118	3-1/4"	83	8	227



### 2 MASTER QUALITY BALL PEIN HAMMERS

High quality carbon steel, ball pein hammer provide extra strength for driving chisels and punches. Overall length 10".

No.	Head Length		Head Weight	
	(in)	(mm)	(oz)	(g)
37.122	2"	51	2	57
37.124	2-3/4"	70	4	113



### 3 MASTER QUALITY CHASER'S HAMMERS

Master quality hammers have one large smooth face for striking chasing tools or planishing metal, and one round end for riveting or peining. Forged steel heads are mounted on round or pistol-type hardwood handles.

Face Diameter (in)	(mm)	Round Handles	Pistol Handles
1"	25	37.174	37.184
1-1/8"	29	37.176	37.186
1-1/4"	32	37.178	37.188



### 4 HANDLES FOR MASTER QUALITY CHASER'S HAMMERS

Hardwood handles are lightweight and comfortable.

No.	Description
37.891	Pistol for 1"-1-1/4" face diameter
37.892	Round for 1"-1-1/4" face diameter



### 5 CHASER'S HAMMERS

Economical quality hammers designed for silversmiths and ideal for craftsmen. Flat head is used to flatten, shape, and form objects or to strike chasing tools. Round end is for forming decorative patterns and designs. Complete with hardwood handles.

No.	Description
37.0365	1" (25 mm)
37.0366	1-1/8" (29 mm)
37.0367	1-1/4" (32 mm)



### 6 HANDLES for CHASER'S HAMMERS

Choose from a variety of handles to fit your comfort level.

No.	Description
37.0410	Pistol
37.0411	Round
37.0412	Oval





### 1 RIVETING HAMMERS

Riveting hammer, with a flat end and chisel end for forming and riveting. Drop forged, polished head is mounted on select hardwood handle.

No.	Face Diameter		Head Stamped	Head Length		Head Weight	
	(in)	(mm)		(in)	(mm)	(oz)	(g)
37.212*	5/16"	8	-	3"	76	2	57
37.216	1/2"	13	0	3-5/8"	92	4	113
37.218	1/2"	13	1	4"	102	5	142
37.220	5/8"	16	2	4-1/4"	108	7	199

\*Economical quality



### 2 RIVETING HAMMER

General utility hammer with chisel formed end for spreading rivet heads. Supplied with a metal handle. Overall length 9", head length 2-13/16".

No.	Head Length	
	(in)	(mm)
37.0362	2-13/16"	72



### 3 GOLDSMITHS' HAMMER

Sturdy hardwood-handle hammers feature a round flat end and chisel-shaped end. Perfect for riveting and shaping.

No.	Face Diameter		Head Length		Head Weight	
	(in)	(mm)	(in)	(mm)	(oz)	(g)
37.0409	5/8"	16	3-1/2"	89	4	113



### 4 WATCH-MAKING HAMMERS

Hardwood hammers with steel heads have a chisel shaped end for riveting and a flat end for light duty work.

No.	Head Length	
	(in)	(mm)
37.240	2-1/4"	57
37.242	2-1/2"	64
37.244	2-3/4"	70
37.246	3"	76



### 5 BRASS HEAD MALLET

Well balanced handle is lightweight for just the right amount of spring.

No.	Face Diameter		Head Length		Head Weight	
	(in)	(mm)	(in)	(mm)	(oz)	(g)
37.530	1/2"	13	2"	51	2	57



### 6 BRASS and FIBER MALLET

Mallet is supplied with one flat brass head and one fiber head.

No.	Head Length	
	(in)	(mm)
37.0181	2"	51



## 1 MALLETS with DETACHABLE FACES

Versatile hammer with interchangeable faces to provide any combination desired. Supplied with two different faces and wrench to tighten or remove collars.

No.	Faces	Face Diameter (in) (mm)		Head Length (in) (mm)		Head Weight (oz) (g)	
37.534	Brass/Fiber	9/16"	14	2"	51	2-1/2"	71
37.536	Brass/Nylon	9/16"	14	2"	51	2-1/2"	71
37.582	Brass/Fiber	5/8"	16	2-5/8"	67	5	142
37.584	Brass/Nylon	5/8"	16	2-5/8"	67	5	142

### Replacement Faces

Type	For 2-1/2 oz. (71 g) Head	Price	For 5 oz. (142 g) Head
Brass	37.550	\$2.10	37.590
Fiber	37.551	2.10	37.591
Nylon	37.552	2.00	37.592



## 3 PLASTIC MALLETS

Great for those delicate jobs. Will not scratch or mar and reduces shock on impact. The plastic head can be refaced by filing and sanding. Great value!

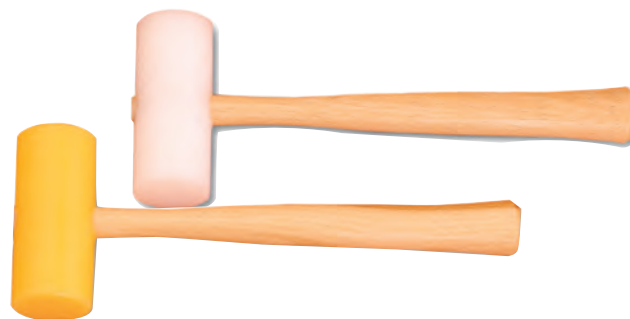
No.	Head Size
37.730	1" x 2"
37.731	1-1/4" x 3"
37.732	1-1/2" x 3-1/2"



## 5 BOXWOOD MALLET

Made of the finest quality boxwood, one of the hardest woods available. These mallets are excellent for removing dents and straightening and flattening metals. Mounted on seasoned wood handle.

No.	Face Diameter (in) (mm)	Head Length (in) (mm)	Head Weight (oz) (g)
37.0183	1" 25	2-3/4" 70	— —



## 2 PLASTIC MALLETS

These durable non-porous mallets are great for those delicate jobs - will not scratch or mar and reduces shock on impact. The plastic head can be refaced by filing and sanding.

No.	Face Diameter (in) (mm)		Head Length (in) (mm)		Head Weight (oz) (g)	
37.646	1-3/8"	35	3-1/2"	89	—	—
37.707	1-1/4"	32	3"	76	4	113
37.708	1-1/2"	38	3-1/2"	89	6	170



## 4 RAWHIDE MALLETS

Heads are made of the finest quality rawhide embedded in shellac for added durability. Mounted on hardwood handle. Will not mar or scratch. Great value!

No.	Head Size
37.720	1" x 2"
37.721	1-1/4" x 2-1/2"
37.722	1-1/2" x 3"
37.725	1-3/4" x 3-1/4"
37.726	2" x 3-1/2"
37.727	2-1/2" x 4"



## 6 RAWHIDE MALLETS

Heads are made of the finest quality rawhide embedded in shellac for added durability. Mounted on hardwood handle. Will not mar or scratch.

No.	Style No.	Face Diameter (in) (mm)		Length (in) (mm)		Head Weight (oz) (g)	
37.700	0	1"	25	2-1/8"	54	2	57
37.701	1	1-1/4"	32	2-3/4"	70	4	113
37.702	2	1-1/2"	38	3"	76	6	170
37.703	3	1-3/4"	44	3-1/8"	79	9	255
37.704	4	2"	51	3-1/4"	83	11	312

## NC BLACK HAMMERS & MALLETS



Form and finish your pieces with reliable tools suited specifically for the job. These hammers and mallets are made of high-grade tool steel using traditional engineering, cutting and shaping methods. These fine micro[tools] include handmade and hand finished wooden handles for comfort and long life.



### 1 MICRO SPICULUM HAMMER

Use the Micro Spiculum Hammer to make small to micro sized spiculums from 24-gauge to 30-gauge metal. Machined from Billet Steel with hand turned Purple Heart handles.

Use with the Purple Heart Wood Micro Spiculum Block (37.612, see page 278) to produce tiny spiculums of all shapes.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.601	9"	3-1/8"	5/16"	1/8"	5/16"	3/32"	1.2 oz.



### 2 MACRO SPICULUM HAMMER

Use the Macro Spiculum Hammer to make small to medium sized spiculums from 24-gauge to 30-gauge metal.

Use with the Purple Heart Macro Spiculum Block (37.613, see page 278) and Closing Hammer (37.656) to produce small spiculums of all shapes.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.602	9"	4-1/8"	1/2"	9/64"	1/2"	5/64"	2 oz.



### 3 BAD BETTY SPICULUM HAMMER

Named for Betty Helen Longhi, the Bad Betty Spiculum Hammer is the perfect hammer for all your large spiculum-making needs. The elongated curved shape of the hammer head allows you to work at the perfect angle for forming your metal into spiculums of all shapes.

Use with the Bad Betty Spiculum Block (37.616, see page 278) and the Large Closing Hammer (37.657).

Machined from Billet Steel with traditional Hickory handles

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.603	12"	5-3/8"	1"	3/16"	1"	7/64"	8 oz.



### 4 SUPER CINDY SPICULUM HAMMER

The Super Cindy Spiculum Hammer is the perfect hammer for all your medium to large spiculum-making needs. The elongated curved shape of the hammer head allows you to work at the perfect angle for forming your metal into spiculums of all shapes.

Use with the Bad Betty Spiculum Block (37.616, see page 278) and the Large Closing Hammer (37.657).

Machined from Billet Steel with traditional Hickory handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.650	12"	4-3/4"	3/4"	9/64"	3/4"	5/64"	4 oz.



### 5 "K" HAMMER

NC BLACK developed the K Hammer as the superlative Micro Synclastic and Micro Shell Forming hammer. It has ideal proportion and weight distribution for Micro Shell Forming 24-gauge to 30-gauge metals. Use the K Hammer to maneuver thin metal and create a wide assortment of traditional shell forms.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.605	9"	1-7/8"	3/8"	5/16"	3/8"	1/4"	8 oz.



### 6 C HAMMER

The C Hammer has excellent breadth and mass for moving metal that is 20-gauge to 24-gauge. It is an ideal hammer for pushing metal, using Micro Synclastic forming techniques.

Machined from Billet Steel with traditional Hickory handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.607	10"	2-3/4"	3/4"	1/2"	3/4"	5/16"	3 oz.



### 1 MINI C HAMMER

The Mini C Hammer is the middle sized hammer, between the K Hammer (37.605) and C Hammer (37.607), for Micro Synclastic Raising. This hammer is ideal for shaping metal that is 22-gauge to 28-gauge, using traditional techniques on the micro scale.

Machined from Billet Steel with traditional Hickory handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.606	10"	2-5/16"	5/8"	3/8"	5/8"	1/4"	1.5 oz.



### 3 "J" HAMMER

NC BLACK developed the J Hammer as an even smaller version of the K Hammer (37.605). It has ideal proportion and weight distribution for Micro Shell Forming 26-gauge to 30-gauge metals. Use the J Hammer to maneuver thin metal and create a wide assortment of traditional shell forms.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.655	9"	1-7/8"	1/4"	1/4"	1/4"	3/16"	.7 oz.



### 5 LONG CLOSING HAMMER

Perfectly sized and balanced to easily close spiculums of various sizes without deforming them.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

No.	Handle Length	Head Length	Faces Diameter	Head Weight
37.656	9"	4"	3/8"	1.8 oz.



### 2 REGGIE HAMMER

The Reggie Hammer is the perfect hammer for using Micro Shell Forming techniques on 24-gauge to 30-gauge metal.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.622	9"	2"	1/2"	1/4"	1/2"	1/4"	.8 oz.



### 4 CLOSING HAMMER

Perfectly sized and balanced to easily close medium to large sized spiculums without deforming them. The Micro Closing Hammer is for closing micro sized spiculums without deforming them.

This hammer also makes an excellent planishing hammer for micro sized voluminous pieces.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

Large Closing Hammer				
No.	Handle Length	Head Length	Faces Diameter	Head Weight
37.657	9"	4"	1/2"	3.35 oz.
Micro Closing Hammer				
37.604	9"	3"	3/8"	1.35 oz.



### 6 LITTLE ANNIE FORMING HAMMER

This hammer is perfect for all types of small shell forming. The elongated head allows for a long reach into a piece while maintaining excellent weight and balance. The faces for this hammer are very curved.

Machined from Billet Steel with traditional Hickory handle.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.651	12"	5-1/2"	5/8"	1/4"	5/8"	5/32"	3.75 oz.





## 1 LITTLE ANNIE RAISING HAMMER

While working with the Little Annie Forming Hammer one day, we decided that with a little face altering, it would be quite a sweet micro raising hammer... thus the Annie Raising Hammer was born!

With excellent weight and balance, this hammer features faces with a little less curvature than its shell forming counterpart, making it ideal for raising tiny vessels of all shapes. The faces on this hammer are only slightly curved compared to the Little Annie Forming Hammer.

Machined from Billet Steel with traditional Hickory handle.

For use with NC Black Micro Raising Stakes

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.652	12"	5-1/2"	5/8"	1/4"	5/8"	5/32"	3.75 oz.



## 3 LITTLE ALICE HAMMER

Little Alice is a very versatile hammer. It is the perfect size and weight for various micro shell-forming projects.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.654	9"	3"	1/2"	1/4"	1/2"	3/16"	2 oz.



## 5 ANGELINA HAMMER

The Angelina Hammer - Long, Lean Sophistication! Angelina is perfect when you need a longer reach than Little Alice can provide.

Made for shell forming.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.667	12"	5"	1/2"	1/4"	1/2"	3/16"	3.5 oz.



MADE IN USA



## 2 PADRE HAMMER

This bordering hammer features excellent weight and balance. The faces are slightly curved.

Machined from Billet Steel with traditional Hickory handle.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.653	12"	4-3/8"	7/8"	5/16"	7/8"	1/4"	9 oz.



## 4 NANO SPICULUM HAMMER

The Nano Spiculum Hammer is used to make smaller spiculum than the Micro Spiculum Hammer. Can be used with 26-gauge to 30-gauge metal.

Head is the same length as Micro Spiculum but half as wide.

Machined from Billet Steel with hand turned Purple Heart handles.

Use with the Purple Heart Micro Spiculum Block and Micro Closing Hammer to produce the tiniest spiculum of all shapes.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.666	9"	3-1/8"	1/4"	3/32"	1/4"	1/16"	1.2 oz.



## 6 MONTY HAMMER

Used to make Synclastic forms very quickly while texturing the inside of the form.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.668	9"	2"	1/2"	1/4"	1/2"	1/8"	.8 oz.





## 1 ENGRAVING HAMMERS

These hammers are perfectly balanced for hand and hammer engraving. The larger size is perfect for hammer engravers that have a light touch, while the mini size is perfect for a heavier touch.

Machined from Billet Steel with hand turned Purple Heart Wood handles.

Large Engraving Hammer				
No.	Handle Length	Head Length	Faces Diameter	Head Weight
37.617	9"	2"	1", 1/2"	.8 oz.

Mini Engraving Hammer				
No.	Handle Length	Head Length	Faces Diameter	Head Weight
37.618	9"	1-1/2"	3/4", 1/2"	1.5 oz.

## NYLON MALLET

Made of 6/6 nylon, which is preferred over Delrin, as it allows just enough "bounc" to each blow. This enables better hammer lift for the user in all synclastic and anticlastic techniques.



## 3 1.5 INCH NYLON MALLET

The Mega Mallet is an optimum weight for medium to large work. In addition to its superb balance, nylon makes this a versatile mallet.

Traditional Hickory handle.

No.	Handle Length	Head Length	Width	Faces Height	Width Dia.	Head Weight
37.608	12-1/4"	5-3/4"	1-1/2"	3/16"	1-1/2"	10.6 oz.



## 5 MICRO NYLON MALLET

The Micro Nylon Mallet is specially designed for use with the Micro Sinusoidal Stake (37.614, see page 278) in anticlastic raising. Its size and weight dispersion are ideal for micro shell forming and micro anticlastic raising.

Traditional Hickory handle.

No.	Handle Length	Head Length	Width	Faces Height	Width Dia.	Head Weight
37.610	10"	5-1/2"	3/4"	5/64"	3/4"	3.5 oz.



## 2 GREEN MICARTA RAISING HAMMER

This is an excellent Raising Mallet for beginners as well as experienced metalsmiths who want to raise on the micro scale.

Micarta is a resin-based material known for its durability, which is what enables it to be such a fantastic tool for raising metal.

The Micarta Raising Mallet is the ideal size and weight for raising thinner gauge metal, such as 20-gauge to 22-gauge. The thinner end of the mallet is used for raising, while the fatter end is ideal for bouging.

Machined from Micarta laminate with traditional Hickory handle.

No.	Handle Length	Head Length	Width	Height	Faces Width	Height	Head Weight
37.658	12"	4"	1"	1/2"	1"	3/8"	4 oz.



## 4 SMALL NYLON MALLET

The Small Nylon Mallet is an optimum weight for small work.

Traditional Hickory handle.

No.	Handle Length	Head Length	Width	Faces Height	Width Dia.	Head Weight
37.609	12-1/4"	5-3/4"	1"	5/64"	1"	7 oz.



## 6 NANO NYLON MALLET

The Nano Nylon Mallet is the smallest nylon mallet available. It is designed to reach the tightest and tiniest areas in any piece. It can be used with the Micro Sinusoidal Stake (37.614, see page 278) in anticlastic raising.

No.	Handle Length	Head Length	Width	Faces Height	Width Dia.	Head Weight
37.611	9-1/4"	5-3/4"	1/2"	3/64"	1/2"	1.7 oz.

# *Magnifiers & Glasses*





### 1 GROBET USA® LARGE HEXAGON 10X LOUPES

A single lens magnifier, with good, distortion-free definition of the object being viewed. High-quality diamond cut loupes provide clarity.

No.	Color
29.591	Black
29.592	Silver
29.593	Gold



### 3 B & L POCKET CODDINGTONS

Single lens magnifier, it's specially constructed, with a grooved diaphragm around its circumference, gives a good, distortion-free definition of the object being viewed.

No.	Working Distance	Power
29.242	1"	10X
29.243	3/4"	14X
29.244	1/2"	20X



### 5 PRECISION LOUPES

These are high-quality chrome Triplet loupes with rubber grips. Hastings 10X give unmatched clarity. Further enhanced by black, outer lens edges eliminate color distortion.

#### Oval Triplet (10X) with Rubber Grips

No.	Size	Color
29.601	18 mm	White Pearl
29.602	18 mm	Blue Lapis
29.603	18 mm	Black Marble

#### Hexagon Triplet (10X) with Rubber Grips

No.	Size	Color
29.604	21 mm	White Pearl
29.605	21 mm	Blue Lapis
29.606	21 mm	Black Marble



### 2 GROBET USA® 10X LOUPES

A single lens magnifier, the special construction with a grooved diaphragm around its circumference, for good, distortion-free definition of the object being viewed.

No.	Size
29.665	Chrome
29.666	Black Satin
29.667	Gold



### 4 B & L POCKET HASTINGS

A triplet lens system for correcting spherical and chromatic aberrations. Eliminates color degradation and puts every part of the wide field of view in sharp focus. One of the most highly corrected magnifiers available.

No.	Working Distance	Power
29.260	1-1/2"	7X
29.261	1"	10X
29.262	3/4"	14X
29.263	1/2"	20X



### 6 VIGOR® 20.5MM-10X TRIPLET DIAMOND LOUPE

Provides sharp, clear images with greatly expanded viewing field. Color corrected, aplanatic and achromatic. Chrome with edges of lens and housing blackened to eliminate glare.

No.	Color
No. 29.0960	Chrome



### 7 DIAMOND CUT LOUPES

High-quality diamond cut loupes provide clarity and eliminate distortion. Sold individually. Supplied with a leather carrying case.

No.	Size	Color
29.588	21.5mm	Black
29.589	21.5mm	Silver
29.590	21.5mm	Gold





### 1 PEER® 20.5MM-10X TRIPLET LOUPE

With extra large field of view. Optically corrected for distortion-free viewing from edge to edge. Lens is color corrected. Black frame reduces glare. Supplied with leather carrying case.

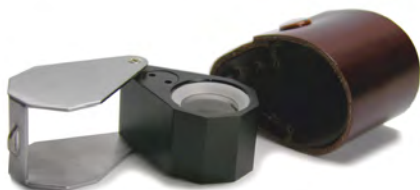
No.	Color
29.677	Black



### 2 PEER® 10X TRIPLET MAGNIFIERS

A triplet lens system for correcting spherical and chromatic aberrations. Eliminates color degradation and puts every part of the wide field of view in sharp focus. One of the most highly corrected magnifiers available.

No.	Size
29.670	Black satin
29.672	Gold
29.674	Chrome



### 3 GROBET USA® 10X ILLUMINATED JEWELERS' LOUPE

This innovative jewelers' loupe is ideal for inspecting diamonds, gemstones and watches.

- Built-in band of six LED lights
- Emits a cool bright light
- Direct illumination eliminates shadows
- Leather storage case included



No.	Description
29.610	with LED light

### 4 GROBET USA® 10X ILLUMINATED JEWELERS' LOUPE WITH LED AND UV LIGHT

This innovative jewelers' loupe is ideal for inspecting diamonds, gemstones and watches.

- Built-in band of six LED lights
- Emits a cool bright light
- Direct illumination eliminates shadows
- Leather storage case included • Ultraviolet light
- Essential for identifying fluorescent



No.	Description
29.615	with light and UV



### 5 GROBET USA® 14X ILLUMINATED LOUPE WITH ULTRAVIOLET LIGHTING

- Ultraviolet light, essential for identifying fluorescence
- Four LED lights • Emits a cool bright light
- 12.5mm lenses • Leather storage case included
- Direct illumination eliminates shadows

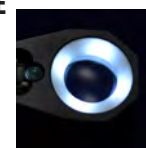


No.	Description
29.617	14X Illuminated Loupe with Ultraviolet lighting



### 6 GROBET USA® UV and LED ALL-IN-ONE LOUPE

Featuring 10X, 14X and 20X for maximum magnification. Supplied with leather carrying case.



No.	Description
29.618	UV and LED All-In-One Loupe



### 1 GROBET USA® GEMOLOGICAL MICROSCOPE

- Great value at an affordable price
- View set and unset stones
- Versatile stone holder
- Features built-in light and darkfield illumination

No.	Description
No. <b>29.875</b>	20X/40X, 110v
No. <b>29.875X</b>	20X/40X, 220v



### 2 GROBET USA® LCD DIGITAL MICROSCOPE

Portable, digital microscope is perfect for jewelers and appraisers. Captures images and videos and allows inspection of stones, girdle inscriptions, hearts and arrows and more.

- Rechargeable 3.7V lithium battery for portability
- 10x to 500x magnification with zoom
- High quality microscopic lens
- 3.5" LCD display
- 5 Megapixel Image
- 8-LED Light source
- Supports Micro SD card slot for still and video imaging (SD Card not included)
- TV Output • Adapter included
- Measures 5.9" x 4.1" x 9" high.
- USB Connection

No.	Description
<b>29.900</b>	LCD Digital Microscope



### 3 DIAMOND VIEW WITH LIGHT

Portable darkfield is used to identify the characteristics of diamond freely. Features a mini-darkfield. Sold with leatherette pouch.

No.	Power
<b>29.619</b>	10X



### 4 B & L SINGLE LENS LOUPES

Feather-light frames with soft black interior surfaces. Lenses are carefully ground and polished from the best optical glass.

No.	Working Distance	Power
<b>29.130</b>	1"	10X
<b>29.131</b>	1-1/2"	7X
<b>29.132</b>	2"	5X
<b>29.133</b>	2-1/2"	4X



### 5 PEER® SINGLE LENS LOUPES

Economical, imported loupes with ground and polished lenses set in lightweight black plastic frames.

No.	Working Distance	Power
<b>29.620</b>	1-1/2"	7X
<b>29.621</b>	2"	5X
<b>29.622</b>	2-1/2"	4X
<b>29.623</b>	3"	3-1/3X
<b>29.624</b>	3-1/2"	3X
<b>29.625</b>	4"	2-1/2X





### 1 B & L TRIPLE APLANATIC

Lens has received the best possible optical correction to make viewing free of distortion and color blurring. Recommended for critical inspection.

No.	Working Distance	Power
29.075	1"	10X



### 2 B & L ENGRAVERS' MAGNIFIER

With a distortion-free, flat field view necessary for tool and die making, engraving, biological work, etc. Semi-achromatic lens is mounted in plastic frame. Lens diameter 1-5/8".

No.	Working Distance	Power
29.205	3"	3-1/2"X



### 3 PEER® DOUBLE LENS LOUPE

Provides two magnifications. Front lens screws off when not needed. Power .

No.	Power
29.580	5X and 12X



### 4 OPTIVISORS

Features a dial adjustment headband to fit any head size. Well-made magnifier is lightweight and durable, and fits over eyeglasses. Adjustable pivot assembly on visor can be set to desired tension, so it will stay in place when tilted.

Optivisor Complete	Plate Only	Style	Working Distance	Power
29.470	29.485	DA2	20"	1-1/2X
29.471	29.486	DA3	14"	1-3/4X
29.472	29.487	DA4	10"	2X
29.473	29.488	DA5	8"	2-1/2X
29.474	29.489	DA7	6"	2-3/4X
29.475	29.490	DA10	4"	3-1/2X



### 5 BAUSCH & LOMB MAGNA VISOR

Now supplied with 3 different focal length lenses – 12" (305 mm), 8" (203 mm) and 6" (152 mm). The 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, crafts and hobbies.

No.	Description
29.523	Visor with 3 lenses
29.525	Replacement lens 12" (305 mm), 1.9X
29.526	Replacement lens 8" (203 mm), 2.5X

### 6 OptiVISOR PROFESSIONAL SERIES SET

Hands-Free, Precision Binocular / Magnifier, complete with 6 Interchangeable Optical Glass Prismatic Lenses, OptiLOUPE

Attachment for Close Up Inspections, and Laser Spot Xenon Lamp VisorLIGHT



No.	Description
29.477	OptiVISOR Professional Series Set
29.480	Optiloupe, adds 2-1/2X
29.495	Add-on light, 4" cord



### 7 2 LED ILLUMINATING HEADBAND MAGNIFIERS

- Detachable LED light source • 11 different magnifications
- Single-plate lens: 1.0X, 1.5X, 2.0X, 2.5X, 3.5X.
- Bi-plate lens: 3.0X, 4.0X, 4.5X, 5.0X, 5.5X, 6.0X.
- Magnifications are marked in the middle of lens. • Handy storage box

No.	Description
29.568	
29.569	2-way adjustable Headband



### 1 GROBET USA® SIGHT BOOSTER DELUXE HEADBAND MAGNIFIER

Lighter-than-air construction makes this comfortable magnifier perfect for long wear

- Supplied with three easy-to-change lenses; 1.75x, 2.25x and 2.75x
- Coated lenses are made in USA of optical grade acrylic with precise optics
- Increased light transmission creates a brighter image
- Ratchet knob strap adjustment • Padded comfort headband

No.	Description
29.830	Sight Booster with 3 Lenses
29.831	Replacement lens 1.75X
29.832	Replacement lens 2.25X
29.833	Replacement lens 2.75X



### 3 THE BUILT-FOR-COMFORT BINOCULAR MAGNIFIER

Lighter-than-air construction makes this the perfectly comfortable magnifier for uninterrupted use. No more struggling with the headband to complete your work. The band quickly adjusts to comfortably fit most head sizes. The visor tilts up when not in use and can be worn over eyeglasses. The wide, clear lens plates permit clear magnification.

No.	Working Distance	Power
29.544	8"	2-1/2X



### 2 MAGNI-FOCUSER® with AUXILIARY LENS

High quality magnifier has single lens design without annoying center post. Interchangeable lens plates snap in and out for quick change of magnification. With optical quality acrylic lenses, and adjustable headband with self-locking dial. Lightweight, washable, and fits over regular or safety glasses.

Magnifier	Working Distance	Power
29.766	4" & 14"	4-1/4X & 1-3/4X
29.767	3" & 8"	4-3/4X, 2-1/2X
29.768	2" & 6"	5-1/4X, 2-3/4X

Magnifier	Working Distance	Power
29.430	Auxiliary lens	adds 3-1/2X



### 4 OptiSIGHT™ MAGNIFYING VISOR

Easy to use and loaded with features! Lightweight, durable, impact-resistant materials.

- Visor can be worn over prescription or safety glasses
- Brings work closer into focus, reducing eye strain or fatigue
- Hands-free magnification for more accurate and efficient viewing
- Visor tilts up for normal viewing or down for magnification
- 3 Precision optical grade acrylic lenses included
- Visor design shields out unwanted glare

No.	Description
29.510	OptiSIGHT™ Magnifying Visor

### 5 LED MAGNIFIER WITH 5 LENSES

*Versatile magnification glasses for professional jewelers and watchmakers*

- Perfect for fine detail work, diamond setting or watch repair
- Adjustable LED Light, 2-Bulbs • Five interchangeable lenses
- Features 1.0X, 1.5X, 2.0X, 2.5X and 3.0X magnification
- Polished, high-density acrylic lenses for excellent clarity
- Surface hardened lenses help prevent scratches
- Lightweight construction • Includes protective storage case
- Comfortable eyeglass frames for quick lens removal
- Elastic headband included for a more secure fit
- Lenses snap into holder that can be flipped out of the way when not in use

No.	Description
29.559	LED Magnifier with 5 lenses



### 1 EDROY BINOCULAR LOUPE

Deluxe quality loupe with individual lenses provides the ultimate in comfortable magnified viewing. Can be worn over eyeglasses, and each lens can be adjusted individually. Contoured headband with foam padding is lightweight and easily adjusted. Magnification is at a working distance of , and the field of view is 2".

No.	Working Distance	Power
29.390	14"	2-1/2X



### 3 FULL FRAME TELESIGHT MAGNIFIERS

Optically ground prismatic lenses designed for normal convergence to prevent eye strain. Front lenses flip up when not in use. Your own prescription lenses can be used in full frame.

No.	Style	Working Distance	Power
29.752	33	14"	1-3/4X
29.753	34	11"	2X
29.754	35	9"	2-1/4X
29.75401	36	7"	2-1/2X
29.75402	38	5"	3X



### 5 CLIP-ON OPTICAID MAGNIFIERS

Clips on to most eyeglass frame to leave hands free. Optically designed plastic lenses enable you to see tiny details, without distortion, using both eyes. Lightweight, comfortable and adjustable. Comes with carrying pouch.

No.	Working Distance	Power
29.774	20"	1-1/2X
29.770	14"	1-3/4X
29.77001	10"	2X
29.771	8"	2-1/4X
29.772	6"	2-3/4X
29.773	4"	3-1/2X



### 2 MULTIPLE MAGNIFICATION HEADBAND MAGNIFIERS

Four magnifications built in. No additional lenses to buy. Glare proof design. With the use of a flip down inner lens and the auxiliary loupe, a range of magnifications from 1-3/4X to 4-3/4X is possible, 10" to 3" working distance.

No.	Description
29.561	With lights on both sides. Each side light requires 2 AAA batteries (not included)
29.560	Standard model



### 4 HALF FRAME TELESIGHT MAGNIFIERS

For those who do not wear glasses. High quality prismatic lenses in lightweight frames attached to half-eyeglass frames. Front lenses flip up when not in use.

No.	Style	Working Distance	Power
29.76001	42	20"	1-1/2X
29.760	43	14"	1-3/4X
29.761	44	11"	2X
29.762	45	9"	2-1/4X
29.763	46	7"	2-1/2X
29.764	48	5"	3X



### 6 SPRING CLIP OPTICAID

New clip-on design will fit most metal and plastic eyeglass frames. Ophthalmic quality, hard-coated magnifying loupe. Comes with carrying pouch.

No.	Working Distance	Power
29.790	20"	1-1/2X
29.791	14"	1-3/4X
29.792	8"	2-1/4X
29.793	6"	3-3/4X
29.794	4"	3-1/2X



### 1 PEER® MAGNIFIERS for EYEGLASS WEARERS

Clip-on lens attaches to metal or plastic frames. Scratch-proof lens folds up or down easily.

No.	Working Distance	Power
29.730	10"	2X
29.731	7"	2-1/2X
29.732	6"	3X



### 2 MAGNI-SPECS

For those who do not wear glasses. Same high quality lenses as the Opticaid, but mounted on a comfortable, lightweight frame. Supplied with a hard carrying case.

No.	Working Distance	Power
29.795	20"	1-1/2X
29.796	14"	1-3/4X
29.797	8"	2-1/4X
29.798	6"	3-3/4X
29.799	4"	3-1/2X



### 3 PEER® DOUBLE LENS LOUPE

Economical spaced doublet lenses that provide distortion-free viewing.

No.	Working Distance	Power
29.662	1" and 3/4"	10X and 15X



### 4 PEER® DOUBLET LOUPE

Economical spaced doublet lenses that provide distortion-free viewing. Comes in leather case. Working distance.

No.	Working Distance	Power
29.660	1"	10X



### 5 B & L ILLUMINATED POCKET CODDINGTON

A standard Coddington mounted on a handle which houses two penlite batteries (not included). Light shines through lens to illuminate object being viewed.

No.	Working Distance	Power
29.268	1"	10X



### 6 STAINLESS STEEL INSPECTION MIRRORS with CHROME-PLATED HANDLE

High quality, well-finished magnifying mirrors with 7" long chrome-plated handles.

No.	Description
29.385	Diameter 3/4"
29.386	Diameter 1/2"





## 1 COUNTER MIRRORS

- 8" diameter
- Flips from plano to 3X magnification
- Rugged metal construction
- Plated either gold or nickel silver
- Features a low 13" profile
- Heavy 8-3/4" base to impede tipping.

No.	Description
13.350	Nickel Silver
13.350G	Gold



## 2 PENLIGHT

Rugged, clear-coat, aluminum-shelled flashlight is designed for years of dependable service. Comes with two AAA batteries and a storage tube.

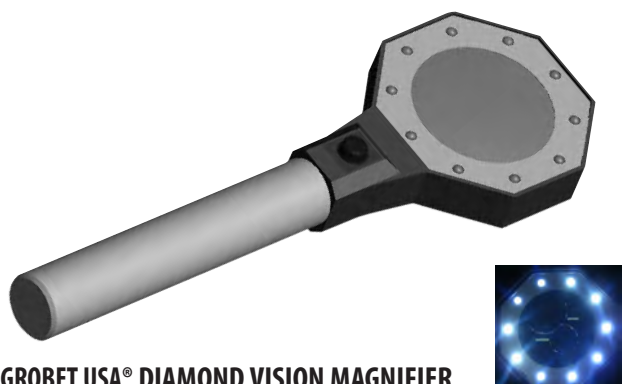
No.	Description
13.166	Penlight



## 3 ASPHERIC MAGNIFIER

Made of lightweight ABS plastic. The aspheric lens is distortion-free. Magnifier is designed so that when it is placed on a surface, the surface is perfectly in focus. The body of the magnifier has special light gathering qualities for easier viewing. Can also be hand held.

No.	Working Distance	Power
29.573	2"	5X



## 4 GROBET USA® DIAMOND VISION MAGNIFIER

Easy to use ... and loaded with features

The Diamond Vision Magnifier is ideal for inspecting diamonds, gemstones and watches. This professional quality gemological device has a stainless steel frame with a large, 10X magnification field. The large glass lens provides sharp clear images through a large viewing field. The magnification field features clear, distortion-free glass lens surrounded by LED lights for optimum viewing.

- Built in band of 10 LED lights • LED lights emit a cool bright light
- Direct illumination eliminates shadows • Leather storage case included

No.	Description
29.925	Diamond Vision Magnifier



## 5 PEER® MEASURING MAGNIFIER with FLASH LIGHT

Spaced doublet lens gives good definition of object being viewed. Removable inch and millimeter scales are viewed through lens for making accurate measurements. Light shines through lens to illuminate object. Operates on standard C-cell batteries (not included). Lens diameter 1-1/4". Overall length 6-3/4".

No.	Working Distance	Power
29.650	1-1/2"	7X





### 1 B & L MEASURING MAGNIFIER

A must for technical craftsmen who require precise measurements. Has 7X Hastings lens that can be adjusted for exact focusing. Maximum available light is admitted through the clear plastic body. Magnifier is supplied with durable storage case.

No.	Description
29.208	B & L Measuring Magnifier



### 2 PEER® LINEN TESTER

Although deriving its name from the textile industry, it can be used anywhere. 9/16" (14 mm) lens diameter and 1/2" (13 mm) square field. Folds flat when not in use.

No.	Working Distance	Power
29.570	1" (25 mm)	10X



### 3 B & L MAGNA-BAR™ and MAGNA – RULE® MAGNIFIERS

These bar magnifiers double the height of letters, lie directly on the page and require no focusing. Magnifies two lines of type at a time. 2x power. Blister packed.

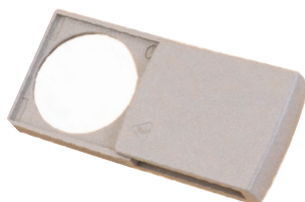
Part Number	Description	Length
29.365	Magna-Rule	12"
29.366	Magna-Bar	5.25"



### 4 B & L RECTANGULAR READER

Scientifically designed, lightweight, 2X aspheric lens assures edge-to-edge clarity. The 2" x 4" lens is mounted in the ergonomically designed handle which conforms to the shape of the hand.

No.	Description
29.300	Acrylic lens



### 5 B & L PACKETTE MAGNIFIER

The hard plastic cover snaps open, clicks shut and acts as the handle. Just slightly larger than a pack of matches.

No.	Description
29.360	2", 5X power aspheric lens for clarity



### 6 B & L ASPHERIC ROUND READERS

Molded black plastic handle. 2x power lenses have 8 diopters and a 5" focus. Assures edge to edge clarity.

No.	Description
29.341	3.25"
29.343	5"



### 1 MAGNIFYING GLASS on STAND

Heavy base prevents movement and multi-position swivel clamp permits adjustment for best viewing, leaving both hands free for more effective working.

No.	Description
29.71010	Magnifying glass on stand



### 2 FLEX-A-MAG

Handy and flexible; ideal for workbench, desktop, or table. With a 5X power magnifying lens on a flexible-neck sturdy plastic base for hands-free viewing of work. Great for inspection, assembly or repairs.

No.	Power
29.712	5X



### 3 PEER® DOUBLE LENS FOLDING POCKET MAGNIFIERS

Two lenses are mounted in plastic frames which fold into attached case. Lenses can be used individually or in combination to obtain different magnifications. Working distances from 1-1/2" to 3", depending on magnification.

No.	Description
29.681	3X, 3X (6X)



### 4 PEER® POCKET MAGNIFIER with ATTACHED LEATHER CASE

Economically priced magnifier. , diameter 1-3/4".

No.	Working Distance	Power
29.684	3-1/2"	3X

## BAUSCH & LOMB MAGNIFIERS

### 5 B & L POCKET MAGNIFIERS in PLASTIC CASE

Two or three lenses can be used singly or in combination. Lenses are mounted in durable lightweight black plastic frames which fold into attached case. Working distances from 1/2" to 3 1/2", depending on magnification.

No.	Lenses	Power
29.281	3	5X, 7X, 9X (20X)
29.284	1	4X
29.286	2	4X, 5X (9X)





### 1 MAGNIFIER WITH LED LIGHT PULL TYPE

This pocket size magnifier features a 21mm lens offering 20X magnification with single LED light that automatically comes on when pulled open and shuts off when closed. Measures 2" x 1-1/2" closed, 3-1/4" x 1-1/2" open. 3 LR113 batteries included

No.	Description
29.911	Magnifier with LED light Pull Type



### 2 MAGNIFIER WITH LED AND UV LIGHT PULL TYPE

This pocket size magnifier features 2 lenses, a main 21mm lens offering 30X magnification and secondary 12mm lens with 60X magnification. Also features an LED light as well as a UV light for currency detection or fluorescents in stones. LED light comes on automatically when open. Measures 2-1/2" x 1-1/2" closed, 4" x 1-1/2" open. 3 LR113 batteries included

No.	Description
29.915	Magnifier with LED and UV light Pull Type



### 3 MAGNIFIER WITH LED AND UV LIGHT

This magnifier measures only 4" long and features a 30mm 30X magnification lens. It also features a toggle switch to go between LED and UV light, and an on/off switch for illuminating. 2 CR2016 batteries included. Comes with small protective pouch.

No.	Description
29.910	Magnifier with LED and UV light



### 4 B & L COMPACT LIGHTED MAGNIFIER

Illuminated 2X power magnification in a convenient size, perfect for pocket, briefcase, purse. Take it anywhere. Stores in its own protective case. Push the button once to release the large 2" lens, then push it again to turn on the lamp. Includes two AAA batteries.

No.	Description
29.362	B & L Compact Lighted Magnifier

### 5 B & L MAGNA-THIN® AND MAGNA-PAGE™ MAGNIFIERS

Specially designed fresnel lenses are molded into acrylic to provide optimum image quality.

Part Number	Description	Len Size	Power
29.358	Magna-Page™	8.25" x 10.75"	2x



6

## SAFETY GLASSES & PRODUCTS



### 1 ASPEN-STYLE

With clear glass. Will fit over most standard frames.

No.	Description
29.009	Aspen-Style



### 3 MAG-SAFE™ BIFOCAL and FULL LENS GLASSES

Avoid the high cost of prescription safety glasses.

Save money over prescription safety glasses. Safety glasses and corrective lenses combined into one, for close-up work. Both Bifocal and Full Lens are available in diopters 1.00 through 3.00 in .25 increments. These glasses compare to drug store "readers" while conforming to ANSI Z87.1 2003 specifications for high impact protection. Check with your Eye Doctor for the best diopter model for you.

Bifocal Part Number	Diopter	Full Lens Part Number	Diopter
29.801	1.00	29.810	1.00
29.803	1.50	29.812	1.50
29.804	1.75	29.813	1.75
29.805	2.00	29.814	2.00
29.806	2.25	29.815	2.25
29.807	2.50	29.816	2.50
29.809	3.00	29.818	3.00



### 5 SAFETY GLASSES

Help protect eyes while buffing, grinding or doing other jobs with potential eye hazards. There are two versions of these glasses; one with ventilated frame and the other, a solid frame with four specialized ventilation "ports" to protect against the intrusion of liquids from splashes.

No.	Description
29.371	
29.372	With ports



### 2 CLEAR SAFETY GLASSES

Lightweight nylon black frame with soft PVC nosepiece. Molded-in side protection offers increased coverage for side impact. Adjustable temples lock into place. Impact resistant polycarbonate lenses provide 99.9% UV protection.

No.	Description
29.011	Meets ANSI Z87.1 specifications



### 4 CLEAR ULTRASPEC 2000 SAFETY GLASSES

Made with 100% polycarbonate 4-C coating on both sides of lenses, providing anti-fog, anti-static, anti-scratch properties and anti-UV up to 385 nm. Clear lenses.

No.	Description
29.367	OSHA approved and meets CSA Z 94.3 standards.



### 6 FACE SHIELD

Lightweight plastic provides full face coverage. Pin and hole adjustment bands with cushioned vinyl sweat band.

No.	Description
29.376	Face shield complete
29.377	Face shield only



### 1 INFRA-DURA 9162 WELDING GLASSES

Made of propionate material. Fits over virtually all prescription and plano safety glasses. Adjustable fit through inclination mechanism on temple.

No.	Description
29.369	Shade is 5.0 green



### 2 CRICKET 9180 WELDING GLASSES

Adjustable ratchet hinge frame with green lenses. Frame uses Infra-Dura 3.0 lenses with universal nose bridge.

No.	Description
29.368	Meets ANSI Z 87.1 and CSA Z 94.3 standards



### 3 WELDING and IMPACT GOGGLES

With green polycarbonate lens and adjustable perforated venting holes. Shade is 3.0.

No.	Description
29.373	Meets ANSI Z 87.1 and CSA Z 94.3 standards.



### 4 WIDE VISION SAFETY WELDING GOGGLES

Available with stationary front or flip-up lenses. Comes with soft vinyl frame, complete with 2" x 4-1/4" shade # 5 lens. Optional shade #10 lens for platinum is available. Six ventilation ports provide maximum ventilation. Standard with elastic adjustable headband. Meets ANSI Z87.1 specifications.

No.	Description
29.387	Stationary front
29.388	Flip-up front



### 5 B & L SIGHT SAVERS CLEANING TISSUES

Anti-fog, anti-static, individually-packaged tissues clean all glass and plastic lenses. Also excellent for computer screens and more. Treated with special surfactants to clean the most soiled lenses. One hundred 5" x 8" folded pre-moistened tissues in each dispenser. Easy and convenient to use. Perfect for light industrial, office or lab settings.

No.	Description
29.062	Dispenser with 100 tissues



# *Mandrels*



## MINIATURE MANDRELS

Designed for use with flexible shaft units. Small felt cones, felt cylinders, rubberized abrasives and grinding wheels are but a few of the many types of accessories that can be mounted on these mandrels. All are nickel-plated steel unless noted. Mandrels and mounted accessories used improperly are dangerous. Comply with American National Standards Institute Safety Code B7.1 and Occupational Safety and Health Act covering: speed, safety guards, flanges, mounting procedures, general operating rules, handling, storage and inspection. The correct usage speed depends on the accessory being used.

### MANDRELS WITH 3/32"

#### 1 MANDRELS for WHEELS

For use with wheels having 1/16" arbor holes. Sold by dozen.

No.	Washer	Material
43.132	Yes	Nickel-plated steel
43.134	Yes	Stainless steel



#### 2 MANDREL with REINFORCED SCREW

No.	Description
43.128	Sold by dozen



#### 3 SANDING DISK MANDREL

For use with brass center abrasive disks.

No.	Description
10.740	Sold individually.



#### 4 BLACK THREADED MANDREL

With brass collar. Used with rubber points.

No.	Description
43.126	Sold by dozen.



#### 5 THREADED MANDREL

Popular for use with rubberized abrasives.

No.	Description
43.124	Sold by dozen.



#### 6 TAPERED THREAD MANDREL

No.	Description
43.120	3/16" screw length, Sold by dozen
43.122	3/8" screw length, Sold by dozen



#### 7 GENERAL MANDREL

No.	Description
43.140	Adapt to most accessories having a 1/8" shank



#### 8 CONTRA ANGLE MANDREL

No.	Description
43.136	Screw type with washer



### MANDRELS WITH 1/8" SHANKS

#### 1 MANDRELS for GRINDING WHEELS

1/8" shank with washers. Sold by dozen.

No.	Description
43.160	For 1/8" arbor holes, ideal for rubberized abrasives
43.164	For 1/4" arbor holes



#### 2 MANDRELS for WHEELS

Will fit wheel sizes up to those listed. No. 43.158 is ideal for use with rubberized abrasives. Sold by dozen.

No.	Wheel Diameter	Wheel Thickness	Hole Size
43.158	1"	1/4"	1/16"
43.162	1"	1/4"	1/8"



#### 5 TAPERED THREAD MANDRELS

No.	Description
43.150	3/16" screw length, Sold by dozen
43.152	3/8" screw length, Sold by dozen



#### 3 MANDREL with REINFORCED SCREW

No.	Description
43.156	Fits 1/16" hole, Sold by dozen



#### 4 THREADED MANDREL

Popular for use with Cratex rubberized abrasives.

No.	Description
43.154	Sold by dozen



### MANDRELS WITH 1/4" SHANKS

#### 6 THREADED MANDREL

Popular for use with rubberized abrasive cones.

No.	Description
43.166	Sold individually



#### 7 MANDREL for GRINDING WHEELS

Fits wheels with 1/4" hole size, up to 3" in dia. and 1/2" thick. Popular for use with rubberized abrasives.

No.	Description
43.168	Sold individually

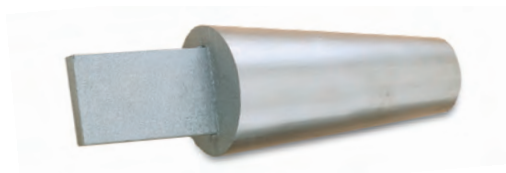




# *Metal Forming*



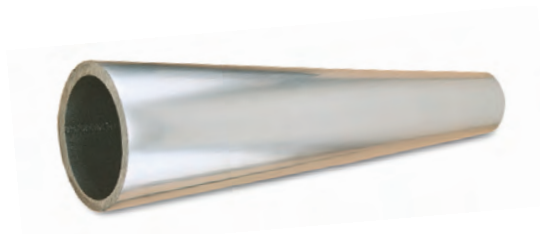
## MANDRELS



### 1 OVAL BRACELET MANDREL with TANG

For shaping, stretching and forming bracelets and other oval items. Tang fits into anvil Nos. **13.325** and **12.0130**. Made of cast steel, polished to a smooth finish. Measures 6" long plus 3" tang.

No.	Shape	Small End	Large End
<b>43.052</b>	Oval	1-1/2" x 1-1/4"	2-3/8" x 2-3/4"



### 2 TAPERED BRACELET MANDRELS

For shaping, stretching and forming bracelets and other items. Case hardened. Measures 12".

No.	Shape	Small End	Large End
<b>43.050</b>	Oval	1-3/8" x 1-7/8"	3" x 3-1/2"
<b>43.054</b>	Round	1-3/4"	3-1/2"



### 4 NECKLACE BUST

An essential tool for shaping necklaces easily and accurately. Beautifully constructed of polished cast iron. Use to work metals or to form wax. Guarantees that your necklaces will be of the proper length and fit every time. The bust can be used in a bench vise for support.

No.	Size
<b>43.055</b>	8-1/2" x 7-3/4" x 7"



### 5 BEZEL MANDREL

Primarily used to form bezels, this mandrel is also used to shape decorative ornaments, make chain links, etc. Made of hardened and tempered steel. 11" overall length with the mandrel portion 8" long.

No.	Shape	Small End	Large End
<b>43.036</b>	Round	1/8"	3/8"

### 3 RING MANDRELS, HARDENED STEEL

Used for shaping, straightening and enlarging rings. Also for gauging and holding rings while stone setting. Made of hardened tool steel.



No.	Description
<b>43.080</b>	Plain



No.	Description
<b>43.077</b>	Grooved for stone set rings and graduated w/ring sizes from 1 to 15



No.	Description
<b>43.076</b>	Graduated with ring sizes from 1 to 15

## MANDREL REST AND ANVIL SET



### 1 MANDREL REST

Holding a ring mandrel while working is not a problem. This rest provides the solution by giving support at both ends. Made of cast iron. Also used to hold bracelet mandrels that do not have tangs. Can be secured to bench top.

No.	Description
43.070	Mandrel Rest

Combination mandrel and rest  
Set contains No. 43.076 ring mandrel and No. 43.070 rest.

No.	Description
43.071	Combination



### 2 MANDREL and ANVIL SET

Set contains anvil with bench clamp (No. 12.0130), oval bracelet mandrel (No. 43.052), bench pin (No. 13.300), grooved ring mandrel with sizes 1 to 7 (No. 43.0252) and grooved ring mandrel with sizes 7 to 15 (No. 43.0254).

No.	Description
43.0250	Mandrel and anvil set complete
12.0130	Replacement anvil w/bench clamp
43.052	Replacement oval bracelet mandrel w/tang
43.0252	Replacement mandrel, 1 to 7
43.0254	Replacement mandrel, 7 to 15
13.300	Replacement small bench pin

## DAPPING BLOCKS, DIES, PUNCHES & CUTTERS

Dapping tools are used to shape soft metals and waxes. The punches and blocks are matched so that perfect hemispheres and domes can be formed in specified sizes.

### 3 DAPPING DIE and DESIGN BLOCK

Has 14 hemispherical depressions from 1/8" to 7/8" by 1/8", plus 1". Depressions match punches and have a satin smooth finish. The edges of this high grade steel hardened block have various sized semi-circles for shaping rings, stone settings, bezels, etc.

No.	Size
25.064	3-3/4" x 2-1/2" x 1/8"



3



### 4 DAPPING BLOCK

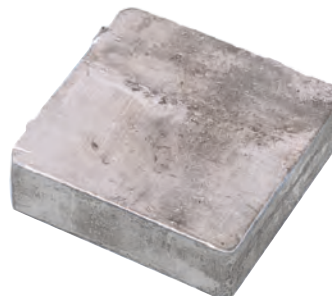
27 depressions on one side. Sizes increases as follows: 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 13/32", 5/8", 1/16", 3/4", 13/16", 7/8", 15/16" and 1".

No.	Size
25.055	5-1/8" L x 2-1/2" W x 3/4" D

### 5 LEAD DAPPING BLOCK

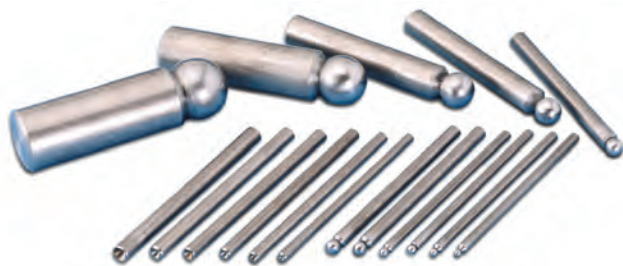
Used as base when chasing, cutting, and stamping.

No.	Size
25.061	3-1/4" x 3-1/4" x 1"





## DAPPING PUNCHES & BLOCKS



### 1 DAPPING PUNCHES and CUTTERS

A variety of sets for general use. The cutters are used to make circles in wax and other soft materials. The punches are very finely finished for forming shells, balls, etc.

No.	Description
25.113	12 punches and 12 cutters
25.115	18 punches and 18 cutters



### 2 FLAT DAPPING BLOCK SET

Set includes high-grade, hardened steel block with 14 hemi spheric depressions in two rows, graded by 1/16", from 1/8" to 1" along with 11 matching punches. Block measures 5-1/8" x 2-1/2" x 3/4".

No.	Description
25.106	Dapping Block Set
25.089	Eleven replacement punches

## DIES & BLOCKS



### 3 DAPPING DIE

Has 17 hemispheric depressions from 1/8" to 1-3/8" in 1/8" increments. Depressions match punches and have a satin smooth finish. Die is made of high-grade, properly hardened steel.

No.	Size
25.067	2" square



### 4 DAPPING DIE

Six working surfaces with 17 various sized depressions up to 1-3/4" for shaping and working metal. Hardened steel.

No.	Size
25.072	2-1/2" square



### 5 DAPPING DIE

Use with punches to make hemispheres. Six working surfaces with 21 various sized depressions up to 1-3/4". Made of hardened steel.

No.	Size
25.073	2-1/2" square



### 6 FORMING BLOCK

Versatile block with a variety of curved and "V" shaped grooves for forming, creasing, grooving and shaping. Case hardened steel. Made in Italy.

No.	Size
25.074	2-1/2" x 2-1/2" x 2"

## DISC CUTTING SETS



### 1 CHASING TOOL SETS

(See illustration and list of individual punches.)

No.	Description
No. 25.261	Set of 20
No. 25.260	Set of 12



### 3 SET CHASING TOOLS

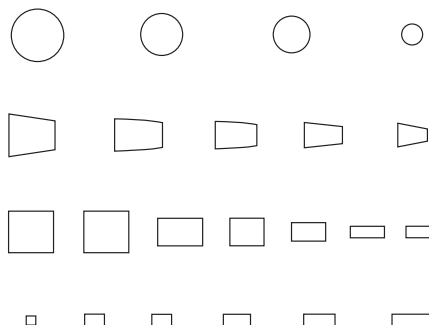
Small chasing tools selected for fine jewelry work.

No.	Description
25.181	Set of 22

### 2 INDIVIDUAL PUNCHES

Included in set 25.261.

No. 25.0261/1A		No. 25.0261/11L	
No. 25.0261/2B		No. 25.0261/12M	
No. 25.0261/3C		No. 25.0261/13N	
No. 25.0261/4D		No. 25.0261/14O	
No. 25.0261/5E		No. 25.0261/15P	
No. 25.0261/6F		No. 25.0261/16Q	
No. 25.0261/7G		No. 25.0261/17R	
No. 25.0261/8H		No. 25.0261/18S	
No. 25.0261/9I		No. 25.0261/19T	
No. 25.0261/10K		No. 25.0261/20U	



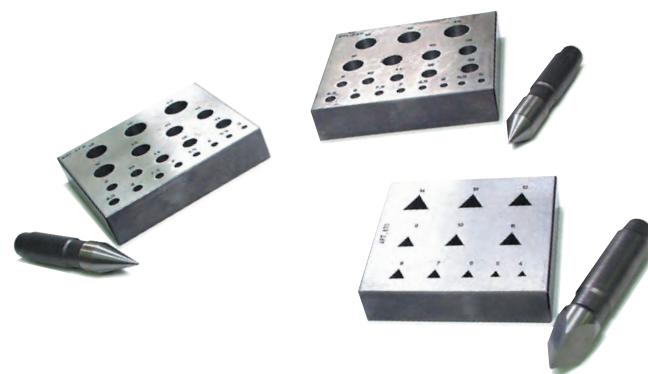
## BEZEL BLOCKS & PUNCHES



### 4 SET of FOURTEEN-LARGE and SMALL SIZES

Contains sizes 3, 4.5, 5, 6, 7, 7.5, 8, 8.5, 10, 11, 12, 13, 14 and 16 mm.

No.	Description
25.143	Set of 14



### 5 BEZEL BLOCKS and PUNCHES

Polished, hardened steel punch is used to punch and form bezels from flat stock. A single punch fits all depressions. The block is case hardened and has highly polished, tapered holes.

No.	Shape	Description
25.151	Round, 17	20 Holes, 5-20mm
25.152	Round, 28	20 Holes, 5-20mm
25.154	Triangle	11 Holes, 4-14mm



## 1 WOOD DAPPING BLOCK and PUNCHES

Hardwood block and two punches for shaping lockets, cases, and removing dents. Shallow depressions of different sizes on each face.

No.	Size
25.135	2-1/4" Square

## FORMING BLOCKS



### 2 MICRO SPICULUM FORMING BLOCK

The Micro Spiculum Block is used with the Micro Spiculum Hammer (37.601) and Micro Closing Hammer (37.604) to make small to micro sized spiculums from 24-gauge to 30-gauge metal.

Made of hard Purple Heart wood, the troughs cut into the sides are designed to help you produce tiny spiculums of all shapes!

No.	Size
37.612	7/8" Thick X 2" W X 2-1/2" H



### 4 BRACELET BLOCK, PURPLE HEART

The Purple Heart Bracelet Block is ideal for forming and fabrication of micro sized anticlastic bracelets. It is intended for long term use with the C (37.607), Mini C (37.606), K (37.605) and Macro Spiculum (37.602) Hammers.

Use the NC Black Bracelet Block Holder to securely hold the block in your vise without annoying slippage as you work! (Bracelet Block Holder (37.621) sold separately.)

No.	Size
37.615	5" L X 9/16" Thick X 15/16" H



### 3 MACRO SPICULUM FORMING BLOCK

The Macro Spiculum Block is used with the Macro Spiculum Hammer (37.602) and Micro Closing Hammer (37.604) to make small to micro sized spiculums from 24-gauge to 30-gauge metal.

Made of hard Purple Heart wood, the grooves cut into the sides are designed to help you produce small spiculums of all shapes!

No.	Size
37.613	7/8" Thick X 2" W X 2-1/2" H



### 5 BB SPICULUM FORMING BLOCK

The Large Spiculum Block is used with the Bad Betty Spiculum Hammer (37.603) and Large Closing Hammer (37.657) to make larger spiculums from 20-gauge to 24-gauge metal.

Made of hard Maple, the grooves cut into the sides are designed to help you produce spiculums of all shapes!

No.	Size
37.616	1-1/2" Thick X 3-1/2" W X 5" H

### 6 LARGE NECK COLLAR BLOCK

The Purple Heart Necklace Block is ideal for forming and fabrication of anticlastic neck forms.

Use the NC Black Necklace Block Holder (37.660) to securely hold the block in your vise without annoying slippage as you work! (Necklace Block Holder (37.660) sold separately.)

No.	Size
37.659	7" L X 7/8" W X 1-1/2" H



**MADE IN USA**

## FORMING & RAISING STAKES

Raising is the technique of forming metal with hammers and stakes into the basic shape of the object being created.



### 1 DOME HEAD #1

For shaping small rounded objects such as ladles.

No.	Size
12.501	Head diameter 2"



### 2 SPOON or LADLE HEAD #2

Primarily used for making spoons and ladles. Tapering from 2-3/8" width to blunt, rounded point.

No.	Size
12.502	Head 2-3/4" long



### 3 COMBINATION #3

Anvil shaped, with one cylindrical arm 3-1/4" long, 1-3/8" diameter, and the other arm 4" long and 1-1/2" wide. Flat top measures 2-1/4" x 1-1/2".

No.	Size
12.503	10" long



### 4 ROUNDED TOP with ANGULAR FACE #4

No.	Size
12.504	Head diameter 2-1/2"



### 5 CURVED ENDS #5

Working faces 1-3/8" wide.

No.	Size
12.505	Overall length 7-1/4"



### 6 SLIGHT ROUND - INVERTED ROCKER #9

Center width 1-1/2" tapering to 1-1/4" at tips.

No.	Size
12.509	11-3/4" long

## FORMING &amp; RAISING STAKES

**1 SLIGHT ROUND - UNDERCUT END AND ROLLED END #10**

Center width 1-1/2" tapering to 1-1/4" at tips.

No.	Size
12.510	11-3/4" long

**3 KNOB ENDS #13**

No.	Size
12.513	End widths are 1-1/8" and 7/8"

**5 STAKE #90**

Used by makers of fine tableware. All working surfaces are highly polished. High dome for cups and ladles.

No.	Size
12.690	2-1/2" diameter x 2" deep

**2 ANVIL SHAPE #12**

For small conical and rectangular work. Flat top 1-1/4" wide at center. Arms taper to 3/8".

No.	Size
12.512	Length 12"

**4 DEPRESSED #14**

Horn shape, ideal for working depressed surfaces.

No.	Size
12.514	10" long x 1-1/4" wide

**For holder suitable for mounting these stakes, see No. 12.788 on page 313.**



## PLANISHING STAKES

Planishing occurs after completion of the forming stage. Choose the stakes below that conform to the desired shape of the finished work. Using a lightweight hammer and starting at the middle, strike the piece with a steady pattern and work towards the edge. Each of these stakes has a highly polished, specially shaped working surface.



### 1 #25 CURVED TOP

For planishing curved surfaces. Width tapers from 1-3/8" to 1-1/4".

No.	Size
12.425	2-1/4" long



### 2 #41 WEDGE SHAPED

For rolled-over edges.

No.	Size
12.441	1-1/2"H x 1-1/2"L x 1-5/8"W

## SPOON STAKES



### 3 INDIVIDUAL SPOON STAKES

For use in bench vise. Working surfaces are highly polished.

No.	Description
12.584	#83A coffee spoon
12.585	#83B tablespoon
12.586	#83C teaspoon



### 4 STAKE #116

For forming cylinders, such as cups and jiggers, as small as 1" diameter.

No.	Size
12.716	14" long

## HEAVY ROUNDED PLANISHING STAKES



### 5 STAKE #112

No.	Use	Diameter	Surface Radius
12.712	Small bowls	4"	3"



### 6 STAKE #113

No.	Use	Diameter	Surface Radius
12.713	Large bowls	5-1/2"	5"

Use holder No. 12.717 listed on page 313

## STAKES



### 1 MICRO SINUSOIDAL STAKE

The Micro Sinusoidal Stake is unrivaled when it comes to fabricating micro sized anticlastic forms. The mathematical proportion of the bays are geometrically correct in the order of ascension. This assists in proper anticlastic forming for the artist. Hand Made from Billet Steel.



### 2 1/2" RAISING STAKE

NC Black designed these Raising Stakes specifically for metalsmiths who want to raise thinner gauge material on a micro scale. The faces feature a slightly flattened top and a rounded nose for ease in raising. Machined from AAA Grade Billet Tool Steel.



### 3 5/8" RAISING STAKE

NC Black designed these Raising Stakes specifically for metalsmiths who want to raise thinner gauge material on a micro scale. The faces feature a slightly flattened top and a rounded nose for ease in raising. Machined from AAA Grade Billet Tool Steel.

No.	Description
<b>37.614</b>	Micro Sinusoidal Stake

*Recommended for use with NC Black's Small Stake Holder (37.619) sold separately.*

No.	Description
<b>37.663</b>	1/2" Raising Stake

*Recommended for use with the NC Black Raising Stake Holder (37.661).*

No.	Description
<b>37.664</b>	5/8" Raising Stake

*Recommended for use with the NC Black Raising Stake Holder (37.661).*

These Micro Forming Stakes are recommended for use only with NC Black Co.'s Micro Forming Mallets! Other manufacturers' tools may not operate properly with these items, as they were specifically designed and manufactured to work with NC Black Co.'s Hammers.

### 4 END HOOK STAKES

NC Black End Hook Stakes are the perfect tools for Anticlastic Forming and Raising. Can't take the plunge of buying Sinusoidal Stakes right now? The bays of the End Hook Stakes replicate the bays of traditional Sinusoidal Stakes from small to micro scale. Recommended for use with NC Black Nylon Mallets and NC Black Stake Holders. Sold separately.

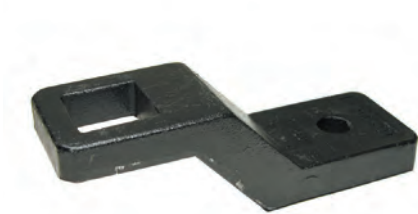


No.	37.628	37.629	37.630	37.631	37.632	37.635
Size	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"

No.	37.636	37.637	37.638	37.639	37.640
Size	1/2"	9/16"	5/8"	11/16"	3/4"

No.	Description
<b>37.623</b>	Set of 6 Small End Hook Stakes 1/8" - 7/16"
<b>37.624</b>	Set of 5 Large End Hook Stakes 1/2" - 3/4"

## STAKE HOLDERS



### 1 HOLDER for HEAVY ROUNDED PLANISHING STAKES #117

This is the only holder that takes stakes type #112 or #113 on page 311.

No.	Description
12.717	#117



### 2 HOLDER for MOUNTING all STAKES and ANVIL HEADS

Holds all except the heavy rounded planishing stakes (Nos. 12.712 to 12.714) and the spoon stakes (Nos. 12.583 to 12.586). With holes in the base for permanent mounting.

No.	Size
12.788	7-3/4"L x 4"W



### 3 HOLDER ADAPTER

Fits into No. 12.788 holder for mounting small stakes and anvil heads.

No.	Size
12.790	6" high

## STAKE HOLDERS

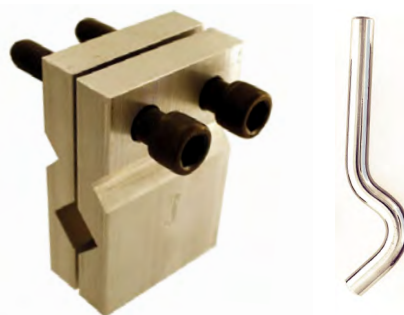
These stake holders prevent annoying slippage as you hammer. They are designed for use with NC Black stakes and blocks. Simply clamp your stake in place in the vise. The screws rest on top of your vise jaws, while the clamping action keeps the sides in place. Fabricated from aluminum with steel screws.



### 4 SMALL STAKE HOLDER

Jaws can be reversed to adjust for varying stake sizes. This holder works for stakes 1/8" to 3/8" in diameter.

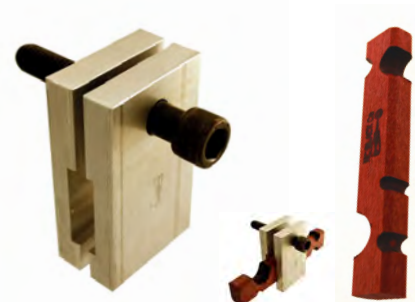
No.	Use with
37.619	1/8" to 3/8" in dia.



### 5 Large Stake Holder

Jaws can be turned to adjust for varying stake sizes. This holder works for stakes 7/16" to 3/4" in diameter.

No.	Use with
37.620	7/16" to 3/4" in dia.



### 6 Bracelet Block Holder

The bracelet block holder is designed specifically for securely holding the NC Black Co. Purple Heart Bracelet Block. (37.615)

No.	Use with
37.621	37.615



### 7 NECK COLLAR BLOCK

Use the Necklace Block Holder to securely hold your necklace block (37.659).

The block holder is designed specifically for holding the NC Black Co. Purple Heart Necklace Block. (37.615)

No.	Use with
37.660	37.615



### 8 RAISING STAKE HOLDER

This stake holder is designed to clamp Raising Stakes in place. The stake slot is at a 45° angle, making it an ideal holder for NC Black Micro Raising Stakes (37.663 and 37.664) sold separately.

These Micro Raising Stake Holders are recommended for use ONLY with NC BLACK Co.'s Micro Raising Stakes!

No.	Use with
37.661	37.663, 37.664

## SILVERSMITHING

Silversmithing is the ancient art of shaping or raising metal from sheet form. For over 100 years, our silversmithing tools have had the reputation as the finest made, and their quality matches their reputation. Designed by silversmiths for silversmiths, as well as for students, these tools will provide a lifetime of service.



### 1 STEEL BENCH BLOCK

Supports work for flattening and laying out designs. Case-hardened. Ground flat and smooth.

No.	Dimensions
12.317	2-1/2" sq. x 1"
12.319	4" sq. x 3/4"



### 3 SLOT ANVIL

These anvils have a flat smooth case hardened surface and can be used as a base for staking, riveting and drilling small parts. V-slot is handy for removing pinions and similar items. Has 9 graduated holes, with one size for stumps, and 5 milled slots.

No.	Dimensions
12.315	1-3/4" long, 1-1/4" wide and 1/2" thick



### 5 HORN ANVIL ON BASE

Used for flattening and shaping. Polished round and flat horns.

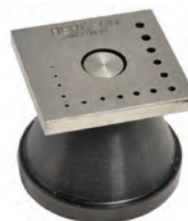
No.	Dimensions
12.301	3-7/8" tip to tip, 2-5/8" H.



### 2 HEXAGON ANVIL

Has 16 holes, graduated from 3/64" to 1/4", and 5 milled slots.

No.	Dimensions
12.312	1-5/8" across the flat sides and 3/4" thick



### 4 ANVIL SQUARE TOP

Rivetting stake for watchmaker.

No.	Dimensions
30206	



### 6 HORN ANVIL

Polished round and flat horns with hole in the top for riveting. Used for flattening and shaping.

No.	Dimensions
12.305	4-1/2" tip to tip, 13/16" W, 1-5/8" H
12.306	4-1/4" tip to tip, 1" W, 3-1/2" H
12.307	8" tip to tip, 1-3/4" W, 5" H

# PITCH & PITCH BOWLS



## 1 BLACK PITCH

Softens readily when heated. Embedded objects are held firmly when the pitch cools. Useful for chasing and engraving.

No.	Description
25.390	8 oz.
25.392	32 oz.



## 2 SHALLOW PITCH BOWL SET

Suitable for most work. Can be tipped at an angle. Complete set consists of pitch, bowl and rubber pads.

No.	Description
25.470	Set
25.400	Replacement pitch bowl
25.455	Replacement rubber pad



## 3 DEEP PITCH BOWL SET 5" DIAMETER

Can be tipped to an extreme angle. Complete set consists of pitch, bowl and rubber pads.

No.	Description
25.471	Set
25.401	Replacement pitch bowl
25.456	Replacement rubber pad



## 4 DEEP PITCH BOWL SET 8" DIAMETER

For all-purpose work. Can be tipped to an extreme angle. Complete set consists of pitch, bowl and rubber pads.

No.	Description
25.473	Set
25.403	Replacement pitch bowl
25.457	Replacement rubber pad



## 5 LUBRICANT for DRAWING

Apply a small amount of lubricant to the wire and the opening. The reduced friction makes drawing much easier and faster. Push-up container.

No.	Size
19.928	1 oz.



## 6 SAND BAG

Sturdy canvas bag, loosely filled with sand so that it will conform to the contour or shape of article being engraved, formed or stamped.

No.	Size
25.480	10-1/2" L x 6-1/2" W x 2-1/2" D



## DRAW PLATES



### 1 TOOL STEEL DRAW PLATES

Reduce and shape thickness of brass, copper, gold, silver, platinum or soft steel wire. Made of thick, high-grade tool steel, carefully stamped with style identifying letter and hole sizes. The holes are progressively smaller, in proper increments, so that wire drawn from a preceding hole will go through the next hole easily. Occasional annealing will keep wire soft, and bees wax can be used as a lubricant.

No.	Plate Letter	No. of Holes	Largest Hole (in) (mm)		Smallest Hole (in) (mm)	
Round						
28.0440	D	30	.116"	2.9	.022"	.56
28.0445	F	40	.136"	3.5	.018"	.46
28.0450	J	60	.250"	6	.022"	.56
Half-Round						
28.0460	K	30	3/16" x 3/32"		3/64" x 1/64"	
			4.8 x 2.4 mm		1.2 x .40 mm	
28.0463	M	40	1/4" x 1/8"		1/16" x 1/32"	
			6.4 x 3.2 mm		1.6 x .80 mm	
Square						
28.0469	OX	20	1/8"	3.2	1/64"	.40
28.0472	QQ	20	5/32"	4.0	Filigree	
28.0473	R	30	3/16"	4.8	3/32"	2.4
Oval						
28.0488	5 mm	30	.197"	5.0	.032"	.81

## PUNCHES



### 4 AUTOMATIC PUNCH

Adjustable tension. Heavy-duty metal. 5-1/2" long with knock out point. Knurled handle for easy grip. Useful for centering in metal or plastic.

No.	Description
47.216	5-1/2" long
47.216P	Replacement Points



### 6 AUTOMATIC CENTER PUNCH

Knurled screw cap can be adjusted for either light or heavy strokes. Pushing down on body releases striking mechanism.

No.	Description
47.850	Pointed punch



### 2 TOOL TUNGSTEN CARBIDE DRAW PLATES

Reduce and shape thickness of brass, copper, gold, silver, platinum or soft steel wire. Made of tungsten carbide steel. The holes are progressively smaller, in proper increments, so that wire drawn from a preceding hole will go through the next hole easily. Occasional annealing will keep wire soft, and bees wax can be used as a lubricant.

No.	No. of Holes	Round Largest Hole (in) (mm)		Smallest Hole (in) (mm)	
28.0425	24	.040"	1.0	.010"	.26
28.0426	24	.250"	6.0	.091"	2.3
28.0427	39	.110"	2.8	.010"	.26



### 3 DRAW TONGS

For pulling wire through draw plates. Jaws are serrated for strong grip on wire. One handle is formed to aid in pulling. Made of forged steel.

No.	Overall Length	Jaws
57.056	8"	1" x 3/4"
57.058	10"	1-1/4" x 7/8"



### 5 AUTOMATIC CENTER PUNCH

Slim design for better visibility. Pushing down on body releases striking mechanism, which can be adjusted for light or heavy strokes. Removable centering point can be interchanged with cup-shaped riveting point. Pocket clip included.

No.	Description
47.860	Tool with centering point only
47.866	Replacement centering point



### 7 CENTER PUNCH

Used to make a small dent as starting point for drill. Punch is tapped with small hammer. Knurled handle for firm gripping surface. Can also be used as a scribe.

No.	Description
47.900	Slim design made of steel

## PIN PUNCHES

### 1 SET of 20 PIN PUNCHES

Set contains two each of 10 different size hardened steel punches. Flat tips range from .020" to .050" in diameter and are easily ground to make other sizes. Punches are 1-5/8" long, with a 3/32" shank. Used to drive out pins, broken screws, riveting, etc. Adjustable brass holder, 3-1/4" long, prevents damage from hammer.

No.	Description
47.890	Set of 20



### 2 JEWELRY MARKING MACHINE

For perfect impressions and identification markings on rings, charms, discs or any flat pieces. Set consists of spring-action lever machine (automatically returns to upright position), six punches (three bent and three straight in 10K, 14K and 18K) and three nylon anvils to prevent scratch marks. Anvils can be shaped to support specific pieces. Wood base provides storage space for parts.

No.	Description
55.0280	Jewelry Marking Machine

Replacement Parts:

No.	Description	No.	Description
55.0281/1	Nylon anvil	55.0281/11	14K bent punch
55.0281/5	10K straight punch	55.0281/12	18K bent punch
55.0281/6	14K straight punch	55.0281/15	Sterling straight punch
55.0281/7	18K straight punch	55.0281/17	Sterling bent punch
55.0281/10	10K bent punch	55.0281/18	Blank bent punch



### 3 STAINLESS STEEL JEWELRY MARKING PLIERS

Can be used on curved or flat surfaces to stamp inside rings as small as size 4. Requires no set-up or hammering. Little pressure is needed to stamp precious metals including white gold. Made of durable stainless steel with adjustable screw to lock stamp in place. Overall length 5-1/2". Punches not included, see below.

No. 46.02405

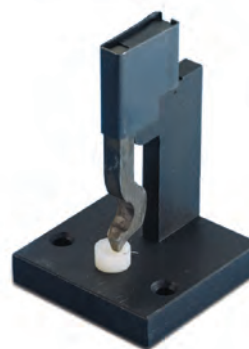
Punches for No. 46.02405

No.	Description
55.02401/1	10K
55.02401/2	14K
55.02401/3	18K
55.02401/7	Ster. (Sterling Silver)

### 4 RING STAMPING DEVICE

Accommodates standard stamps with approximately 5/16" square bodies. Eliminates the need to hold ring and stamp in one hand. Simply position ring over mar-proof plastic anvil (55.201) and tap stamp with mallet. Easy and accurate time-saver. Eliminates slipping of ring. Also ideal for flat stamping. The sleeve can be reversed or the stamp body can be touched up with a file if stamp is not 5/16" square. Stamps must be ordered separately (see hand stamps on next page).

No.	Description
55.200	Ring Stamping Device
55.201	Plastic Anvil



## HAND STAMPS

Made of hand-cut steel to stamp impressions on metal surfaces. The sizes noted are for the height of the impression. 5/16" square



### 1 PRECIOUS METAL STAMPS

STAMP MARK	BENT			STRAIGHT		
	Size #1 1/24"	Size #2 1/32"	Size #3 1/45"	Size #1 1/24"	Size #2 1/32"	Size #3 1/45"
10K	55.251	55.252	55.253	55.282	—	—
14K	55.261	55.262	55.263	—	55.292	55.293
18K	55.271	55.272	55.273	—	—	—
STER	—	55.302	55.303	—	55.312	55.313
PLAT	—	—	55.323	—	—	—
©	55.326	55.327	55.328	55.329	55.330	55.331
925	—	55.0306	—	—	55.0307	—



### 2 SET of STEEL STAMPS

Packed in hardwood case with cover.

#### Letter Stamps

Set of 27 contains each letter of the alphabet and a period.

No.	Description
55.404	1/16" high. Made in USA
55.405	1/16" high. Imported
55.408	1/8" high. Made in USA
55.409	1/8" high. Imported

#### Numeral Stamps

Set of nine numeral stamps 0 through 8, with the 6 being used upside down to make the 9. Makes impressions 1/16" high. Packed in hardwood case with cover.

No.	Description
55.400	Made in USA
55.401	Imported

Customized stamps are available. 4 to 6 weeks delivery.

To ensure accuracy all orders must be faxed or mailed, call for price.

## SCRIBERS, CHISELS & BURNISHERS

### 1 COMBINATION SCRIBER and CHISEL

Made of steel with one sharp point for scribing and a sharpened chisel end.

No.	Description
52.928	Length 6-1/2"



### 2 DOUBLE-ENDED ECONOMY STEEL SCRIBER

Knurled center, straight end and 90° angled end.

No.	Description
52.925	Length 7-1/2"



### 4 DIAMOND TIPPED SCRIBER

Can be used on hardest jewels, metals, etc. Hexagonal aluminum handle prevents rolling on bench.

No.	Description
52.954	Length 5-1/4"



### 6 CARBIDE TIPPED SCRIBER

Can be used on hardest metals, glass, jewels, etc. Slim-line design and comfortable to use. Hexagonal aluminum handle prevents rolling on bench.

No.	Description
52.952	Length 5-1/4"



### 8 SCRIBER with KNURLED CHUCK

Knurled chuck holds the point in either the scribing position or reversed within the steel body so that it can be carried safely in a pocket. Hexagonal head prevents rolling on bench and knurled body provides secure gripping. Nickel-plated.

No.	Handle Diameter	Blade Length
52.958	1/4"	2-3/8"
52.959	1/4"	2-3/8"
52.960	3/8"	2-7/8"

No. 52.958 is an economy version of No. 52.959.



### 3 SINGLE POINT SCRIBER

Knurled chuck holds the point in either the scribing position or reversed within the steel body, so that it can be carried safely in a pocket. Hexagonal head prevents rolling on bench and knurled body provides secure gripping.

No.	Description
52.927	Nickel-plated. Length 5"



### 5 WALLER SCRIBER

With carbide tip. End is reversible so that point is protected while carrying.

No.	Description
52.950	Waller scriber
52.951	Replacement tip



### 7 COMBINATION SCRIBER and BURNISHER

Made of steel with one sharp point for scribing and a curved, rounded end for burnishing. .

No.	Description
52.956	Length 7"



### 9 DOUBLE-ENDED STEEL TRACER

No.	Description
52.964	Knurled center, Length 4-1/2"
52.966	Twisted center, Length 6-1/2"



### 10 ETCHING and SCRIBING NEEDLE

High grade steel, double-ended needle is inserted through a sturdy cork handle.

No.	Description
52.970	Length 7"



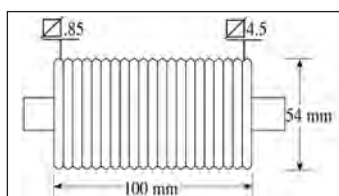
## GROBET USA® ROLLING MILLS

A line of rolling mills custom made for Grobet in Italy. Engineered with modern equipment using old world technology. Years of research and design have gone into making this line of rolling mills the finest rolling mills available anywhere. Top quality components, precision-machined to close tolerances, combined with expert manufacturing practices, assure you of years of productive and reliable service.

### 1 120 MM BENCH TOP ROLLING MILLS

Ship weight 55 lbs. (25 kg).

No. 28.186 100 mm wire



No. 28.186

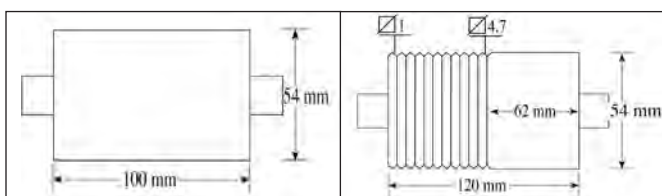
### 2 100 MM and 120 MM BENCH TOP ROLLING MILLS

with REDUCTION

Ship weight 74 lbs. (34 kg)

No. 28.194 100 mm flat with reduction

No. 28.199 120 mm combination with reduction



No. 28.194

No. 28.199

### 3 ELECTRIC BENCH TOP SINGLE ROLLING MILLS

100 mm Size

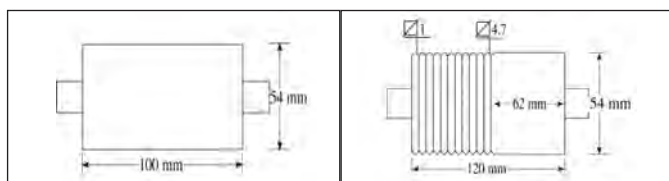
Roll dia.	Wire Thickness	Maximum Plate Opening	Roll Speed	Overall Size	Motor	Ship Weight
54 mm	1 to 3.9 mm	7 mm	3.95 m/min	16" x 17" x 19" (406 x 432 x 483mm)	1 hp	121 lbs.

120 mm Size

54 mm	1 to 4.7 mm	7 mm	3.95 m/min	17" x 17" x 20" (432 x 432 x 508 mm)	1 hp	132 lbs.
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No. 28.205 100 mm flat (plate)

No. 28.207 120 mm combination flat and wire



No. 28.205

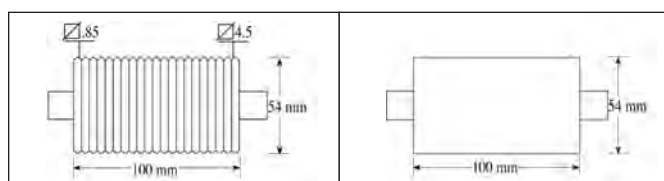
No. 28.207

### 4 ELECTRIC BENCH TOP DOUBLE ROLLING MILLS

100 mm Size

Roll dia.	Wire Thickness	Maximum Plate Opening	Roll Speed	Overall Size	Motor	Ship Weight
54 mm	.85 to 4.5 mm	7 mm	3.95 m/min	23" x 17" x 18" (584 x 432 x 457mm)	1 hp	220 lbs.

No. 28.201 100 mm flat plate and 100 mm wire



No. 28.201

### 5 ROLLING MILL STANDS

No. 28.192 Double

No. 28.193



All units are 110 volt, and are shipped without plugs.

A dedicated 20 amp line is required.

220 volt-models are available.

Larger Floor Models Available Upon Request.



# *Metals & Refining*



## CASTING METALS AND WIRES

These non-precious alloys resemble gold and silver and are used as inexpensive casting metals. They can be oxidized or antiqued, as well as plated. The metals are tarnish resistant and will not discolor when heated. They will come out of investment bright and shiny, reducing the need for stripping or pickling. Can be electroplated and soldered with gold or silver solder.



### 1 SILVER MINE

White copper-based alloy is very close to the color of sterling, but has the advantage of being considerably harder. Retains a high polish and melts at about 1550°F (843°C).

No.	Description
43.01307	2 oz. package
43.01307/1	1 lb. package



### 2 COLUMBIAN GOLD

Yellow bronze metal is a bit softer in color than rich gold. Melts and flows just like real gold at about 1800°F (982°C). Density: .296 lbs per cu. in.

No.	Description
43.01303/1	1 lb. package



### 3 PEWTER

Lead-free and melts at about 450° F (232° C). An excellent metal for small sculptures.

No.	Description
43.01317	1 lb. package



### 4 ASSORTED BRASS WIRE

6" lengths in assorted sizes from 20 to 70 by drill gauge.

No.	Description
43.500	Packed in plastic tubes.



### 5 BRASS RIVET WIRE

6" lengths in assorted sizes from 14 to 21 by B & S gauge. Used to make pins, rivets, hinges, etc.

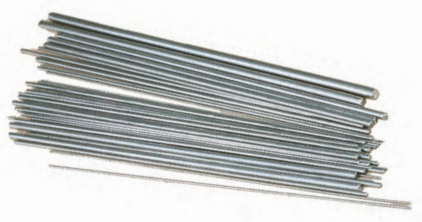
No.	Description
43.501	1 oz. package



### 6 ALL-PURPOSE WIRE MIXTURE

6" lengths in assorted sizes from 20 to 70 by drill gauge.

No.	Description
43.0609	Nickel silver



### 7 ASSORTED STEEL WIRES

6" lengths in assorted sizes from 20 to 70 by drill gauge.

No.	Description
43.700	Packed in plastic tubes.



### 8 SOFT COPPER BINDING WIRE

4 oz. spools.

No.	B & S Gauge	Roll Length (approx)
43.559	14	20'
43.560	16	32.5'
43.561	18	51'
43.562	20	80'



### 9 IRON BINDING WIRE

8 oz. spools.

No.	B & S Gauge	No.	B & S Gauge
43.638	24	43.644	30
43.639	25	43.645	31
43.640	26	43.646	32
43.641	27	43.647	33
43.642	28	43.648	34
43.643	29		



## WIRES, STEEL AND SOFT METALS



### 1 BINDING WIRE

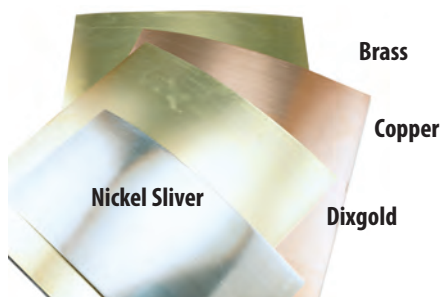
No.	Metal	B & S Gauge	Amount
43.509	Brass	14	4 oz.
43.510	Brass	16	4 oz.
43.511	Brass	18	4 oz.
43.512	Brass	20	4 oz.
43.523	Brass	22	1 oz.
43.524	Brass	24	1 oz.
43.527	Brass	30	1 oz.
43.563	Copper	21	1 oz.



### 3 SUSPENSION STEEL

Sheets 6" x 1-1/2".

No.	Thickness (in)
CM 78602	.002"
CM 78604	.004"
CM 78605	.005"
CM 78606	.006"



### 5 SOFT METAL in SQUARES

All are 12" x 12" except nickel silver, which is 6" x 12". Dixgold is popular because it resembles gold in color, and copper in workability. Rolls of metal are available by special order.

No.	B & S Gauge	Metal	No.	B & S Gauge	Metal
43.420	16	Copper	43.400	16	Brass
43.421	18	Copper	43.401	18	Brass
43.422	20	Copper	43.402	20	Brass
43.423	22	Copper	43.403	22	Brass
43.424	24	Copper	43.460	16	Nickel Silver
43.425	26	Copper	43.461	18	Nickel Silver
43.441	18	Dixgold	43.462	20	Nickel Silver
43.442	20	Dixgold			



### 2 BRASS SPRING WIRE

No.	Metal	B & S Gauge	Amount
43.543	Brass	22	1 oz.
43.544	Brass	24	1 oz.
43.545	Brass	26	1 oz.



### 4 PEERLESS ROUND SPRING STEEL WIRE

For making watch parts, loupe springs and many other items requiring spring steel. Tempered and ready for use. Comes in 36" coils, in B & S gauge sizes as noted.

No.	B & S Gauge	No.	B & S Gauge
43.715	15	43.725	25
43.716	16	43.726	26
43.717	17	43.727	27
43.718	18	43.728	28
43.719	19	43.729	29
43.720	20	43.730	30
43.721	21	43.731	31
43.722	22	43.723	23
43.724	24		



### 6 COPPER FOIL

Very popular for craft use. Easily tooled or embossed. Sold by rolls.

No.	Metal	B & S Gauge	Size
43.320	Copper	#36	12" x 10'



#### Replacement Supplies:

No.	Description
63.502	Catalyst, single pack (4 batches)
63.503	Catalyst, 10 pack (40 batches)
63.504	Precipitant, single pack, 1 lb (.5 kg)
63.505	Precipitant, 10 pack, 10 lbs. (4.5 kg)

## 1 SIMPLICITY GOLD AND PLATINUM REFINING SYSTEM

Sending gold and platinum out to be refined can be a very costly experience. Now you can refine all your scrap gold and platinum (bench sweeps, ingots, polishing sweeps, gold filled, rings etc.) in your own shop. The process is safe to operate and costs about one or two dollars per ounce (31 g) of gold. Stones will even dismount from rings without damage. No acids, cyanides or toxic chemicals are used and the process is odorless. Comes with a lifetime warranty and free technical support is available 7 days a week. The system is compact, only about 1 cubic foot (28,000 cc) in size. Detailed written instructions as well as an instructional DVD (No. 63.510) and interactive computer disks (for Windows 95 only) are included. Comes complete as shown including: catalyst (No. 63.502), precipitant (No. 63.504), GC salt (No. 63.504) and precious metal detection liquid (No. 63.508). DC power source not supplied.

#### Specifications

Capacity	1000 grams
Purity	999.5+% (999.9% if refined twice)
Speed	Approximately 1 hour for every ounce (31 g) of metal being refined
Minimum karat	No minimum and no maximum, karats can be mixed
DC Power	Requires 25 amp rectifier or a battery charger, 10 amp w/50 amp boost
ship weight	20 lbs. (9 kg)
No. 63.500	Complete unit

No.	Description
63.506	GC Salt, 5 lbs. (2.5 kg)
63.507	GC Salt, 50 lbs. (23 kg)
63.508	Precious metal detection liquid

## 2 SUBZERO GOLD REFINING KIT

The Subzero Gold Refining System is ideally suited for refining of electronic scrap as well as jeweler's polishing and bench sweeps. This system will also refine nuggets, dust and all other forms of gold. The Subzero Gold Refining System is very affordable, yet one of the most advanced and safest aqua regia type gold refining systems in the world.

#### Features:

- 100% gold recovery
- 99.95 +% purity
- Easy to use
- Quick Results
- Completely self-contained
- No nitric acid is employed
- Virtually no acid fumes exhausted
- QUADRATIC odor free Precipitant is included
- Includes a basket with perforated bottom
- Attractive PVC base

In a world where refining companies often pay only 10-15% of the gold content in electronic scrap, do-it-yourself refining is a must. This system generally pays for itself several times over in just the first batch.

No.	Description
63.550	Starter Kit
63.551	Storm Precipitant 1lb.
63.552	Storm Precipitant 10lb.
63.508	Precious Metal Detection Liquid
63.557	SubZero 10 lb.





# Packaging



## BOTTLES

1



### 1 ROUND ACID BOTTLE

Frosted edges of the bottle match the cover, making it suitable for storage, as well as application.

No.	Capacity
15.102	1-1/2 oz.

2



### 2 ACID BOTTLE

Clear glass with glass stopper/applicator.

No.	Capacity
15.100	1/2 oz.



### 3 GROBET USA® FLUID DISPENSER PUMP

Compact, convenient 4 oz. capacity polyethylene bottle with stainless steel pump-action lid. Dispenses just the right amount of flux or other liquid. Just pump the lid with a brush 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.

No.	Capacity
54.415	4 oz.



### 4 STACKABLE ROUND TRAY SET

Trays have threaded bottoms that securely screw to the tray below allowing access to any tray at any level. Translucent plastic. Set of 6.

No.	Dimensions
15.148	1" x 2" dia.



### 5 PLASTIC BOTTLES with PLASTIC TOPS

Perfect for storing parts. Sold by the dozen.

No.	Dimensions
15.112	15/32" x 17/32"
15.113	5/8" x 1-1/2"



### 6 GLASS BOTTLES with SCREW TOP

Ideal for storing small parts. Sold by the dozen.

No.	Dimensions
15.108	19/32" x 1-13/16"

## STORAGE TRAYS



### 7 SHOP TRAYS

An easy way to organize your work. Self-nesting for uniform stacking. Includes removable partition. Measures 6" x 9" x 1-1/2". Sold in case of 24.

No.	No.	No.
15Purple	15Red	15Black
15Burgundy	15Green	15White
15Yellow	15Blue	15Brown
15Ivory	15Grey	

No. 15.609 Tray tags (pk/100) with pen



### 8 64-DRAWER STORAGE CABINET

64 equal compartments, 2-1/8"w x 1-1/2"h x 5-1/4"d each, total storage cabinet size, 20"w x 15-3/4"h x 6-3/8"d

No.	Description
15.002	64-Drawer

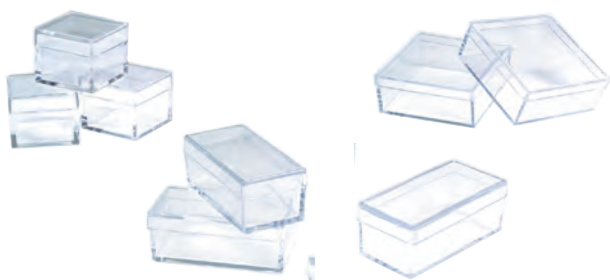
## STORAGE BOXES & TRAYS



### 1 ROUND METAL BOXES

Made of tin. Perfect for storing small stones and findings. Sold in pack of 72.

No.	Dimensions
15.119	2" x 3/4"



### 3 SMALL PLASTIC BOXES

Great, inexpensive way to store parts safely.

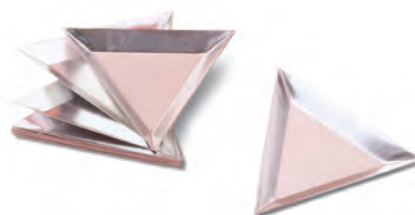
No.	Dimensions
15.128	1-7/8" x 1-7/8" x 3/4"
15.129	1-1/8" x 11-1/8" x 3/4"
15.130	1" x 1" x 3/4"
15.131	1" x 2" x 3/4"
15.132	2" x 2" x 3/4"



### 5 PLASTIC BOXES with SLIDE TOP

For storing abrasives, small parts and mandrels.

No.	Dimensions	Compartments
15.201	7-5/8" x 5" x 7/8"	18
15.202	10-1/2" x 6-3/4" x 1-3/4"	24



### 2 ALUMINUM SMALL PARTS TRAY

Helps you organize small parts, accessories, stones and findings. Ideal for separating jobs to avoid confusion. Sturdy 3" triangular trays are self-nesting for easy storage. Sold by the dozen.

No.	Dimensions
38.0167	3" x 3" x 3"



### 4 PLASTIC BOXES with COMPARTMENTS

For storing abrasives, small parts and mandrels.

No.	Dimensions	Compartments
15.135	1/2" x 2-11/16" x 1"	4
15.136	4-3/8" x 2-5/8" x 1"	6
15.137	8-1/4" x 4-1/4" x 1-1/4"	12
15.138	8-7/16" x 4-1/4" x 1-3/16"	12
15.139	10-3/4" x 6-3/8" x 1-3/4"	18
15.140	8-1/4" x 4-1/8" x 1-1/4"	18



### 6 24 PC. ROUND CANISTER SET & STORAGE BOX

Aluminum storage box. Individual canisters, with clear tops.

No.	Storage Box Dimensions	Individual canister
15.165	7-3/4" x 5-1/4"	1-1/4" dia x 3/4"



## 1 PLASTIC 18 COMPARTMENT TRAY

Slide clear top.

No.	Storage Box	Dimensions	
		Individual Compartment	
No. 15.203	7-5/8" x 3-3/4" x 7/8"	1-1/4" x 1"	



## 2 BASIC BLACK VELVET TRAYS and CASES

The high contrast and sophistication of black gets results in sales in this popular line. The vibrant black velvet of the trays and cases proves that impressive and effective displays need not be expensive. The eight items in this popular line include trays and cases for 12, 24, 36, and 72 rings. Cases are wood, covered in textured black vinyl, with simply designed metal latches. Slotted black foam under the velvet inserts holds rings firmly in place. Covers are lined in black satin. Trays have decorative gold tooling around the edges.

No.	Description	No.	Description
61.502	12-Ring tray	61.512	12-Ring case
61.504	24-Ring tray	61.514	24-Ring case
61.506	36-Ring tray	61.516	36-Ring case
61.508	72-Ring tray	61.518	72-Ring case

## 4 GEM JAR TRAYS

*Unbreakable Gem Jar Trays - the most efficient way to display, protect, and store loose gemstones.*

Unbreakable, clear (see-through) jar tops keep you from guessing what's inside. Positive locking secures the gems in the jars ... no taping required. Trays and jars are constructed to open smoothly. Soft black foam lining is strategically placed below the Bottom wall to hold gems when the jar is open, offering good spring action to accommodate larger gems without wrinkling. Gem trays available in Black or White.



No.	# of Boxes	Color
61.460	25	Black
61.461	25	White
61.462	12	Black
61.463	12	White



## 3 JEWELRY DISPLAY TRAY

Bring out the best in your merchandise. These solid trays are black, and velvet pads are available. Tray measures 14-3/4" x 8-1/4" x 1".

No.	Description
61.537	Tray only - no pad
61.538	Black velvet pad
61.539	Gray velvet pad



No.	# of Boxes	Color
61.464	6	Black
61.465	6	White
61.466	3	Black
61.467	3	White

## STORAGE BOXES, TRAYS & PINS



### 1 WOOD BOX

Protects burs and keeps them handy at all times.

No.	Dimensions
15.0375	5"L x 3"W x 2-5/8"H



### 2 SMALL PARTS WHEELS

Divided into 10 useful compartments. When closed, lid fits securely to avoid spills. Spin to open.

No.	Description
15.612	95mm diameter x 12mm deep.
15.613	115mm diameter x 20mm deep.



### 3 GENUINE LEATHER PARCEL PAPER BOX with ZIPPER

Gives maximum protection to stones. Fully felt-lined with elastic band to keep papers in proper order.

No.	Dimensions
61.0760	7" L x 3-3/4" W x 2" D



### 4 DELUXE DIAMOND WALLET

Made of fine, Moroccan Leather designed to fit inside your pocket. With reinforced metal ring, for use with wallet chain for security purposes. Complete with elastic bands to keep wallet closed and flat.

No.	Dimensions
61.0625	4" x 7" (102 x 178 mm)



### 5 TOOL BOX

A lightweight plastic tool box with Removable top tool tray. Colors vary.

No.	Dimensions
No. 38.551	16"L x 7"D x 6"H



### 6 JEWELRY PINS

White or yellow jewelry pins have long sharp points for pinning all types of jewelry to pads, trays, easels, etc. Sold by boxes of 100 or 1000.

No.	Description
61.560	Box of 1000 white
61.561	Box of 100 white
61.563	Box of 1000 yellow
61.564	Box of 100 yellow



## ENVELOPES



### 1 TRIPLE DUTY KRAFT REPAIR ENVELOPES

Each numbered envelope has two numbered detachable stubs; one for the customer and the other for filing. Available with or without lay-away schedule on back. Envelope measures 5-3/4" x 3-1/8" and is packed 1,000 to a box.

Series Numbers	With Lay-away	Without Lay-away
Series 1 to 1000	61.151	61.15101
Series 1001 to 2000	61.152	61.15201
Series 2001 to 3000	61.153	61.15301
Series 3001 to 4000	61.154	61.15401
Series 4001 to 5000	61.155	61.15501
Series 5001 to 6000	61.156	61.15601
Series 6001 to 7000	61.157	61.15701
Series 7001 to 8000	61.158	61.15801
Series 8001 to 9000	61.159	61.15901
Series 9001 to 10000	61.160	61.16001

Also available with custom 3-line imprint. Minimum 5,000. Call for details.



### 3 BLANK JOB ENVELOPES

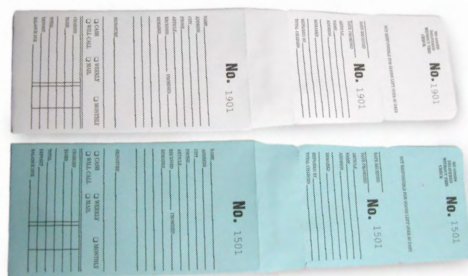
Very handy and can be rubber stamped with your name and address. Identifies your work when you send samples or orders to your supplier and helps prevent misdirected orders. With gummed flaps.

No.	Size	Description	Box
61.110	1-1/2" x 1"	White woven	1000
61.112	2-3/4" x 1-3/4"	#00 white, coin	1000
61.113	4-1/4" x 2-1/2"	#3 kraft, coin	500
61.0131	4-1/2" x 3"	#4 kraft, coin	500
61.114	5-1/2" x 3-1/8"	#5 1/2 kraft, coin	500
61.115	6" x 3-1/2"	#6 kraft, coin	500

### 5 ACRYLIC JOB ENVELOPE HOLDER

Slim line acrylic job envelope holder comes with three dividers to keep your job orders separate.

No.	Description
61.500	3-1/2" x 11"



### 2 REPAIR ENVELOPES

Lay-away schedule on back.

Envelope measures 5-5/8" x 3 1/8" and is packed 1,000 to a box. Box weight 3 lbs.

Series Numbers	White No.	Blue No.
Series 1 to 1000	61.351	61.651
Series 1001 to 2000	61.352	61.652
Series 2001 to 3000	61.353	61.653
Series 3001 to 4000	61.354	61.654
Series 4001 to 5000	61.355	61.655
Series 5001 to 6000	61.356	61.656
Series 6001 to 7000	61.357	61.657
Series 7001 to 8000	61.358	61.658
Series 8001 to 9000	61.359	61.659
Series 9001 to 10000	61.360	61.660



### 4 STOCK CONTROL ENVELOPES

Heavy-duty, brown kraft envelopes, with long flap, on both sides. 500 per box.

No.	Description
EV 610140	3" x 4-1/2" (76 x 114mm)





## BAGS & TISSUE PAPER



### 1 "MINI-GRIP" ZIPPAK BAGS

Perfect for customer orders, stones, parts, findings, displays, etc. Each 2 mil thick bag has unique locking feature to provide tight seal. Bags are available completely clear or with white label block for marker use. Sold in boxes of 1000.

Size	Clear	With White Label Block
2" x 2"	61.120	—
2" x 3"	61.121	61.131
3" x 4"	61.122	61.132
3" x 5"	61.123	61.133
4" x 4"	61.124	—
4" x 6"	61.125	61.134
5" x 7"	61.130	—



### 2 ECONOMY BAGS

2 mil thick bags lock to provide tight seal. Bags are available completely clear or with white label block. Sold in boxes of 1000.

Size	Clear	With White Label Block
2" x 2"	61.12001	—
2" x 3"	61.12101	61.13101
3" x 4"	61.12201	61.13201
3" x 5"	61.12301	61.13301
4" x 4"	61.12401	—
4" x 6"	61.12501	61.13401
5" x 7"	61.13001	—
6" x 9"	61.13501	—
12" x 15"	61.13701	—



### 3 "GIFTS of DISTINCTION" GIFT BAGS

Printed with "Gifts of Distinction" rose design. Available in silver and gold. Sold in packs of 1000.

Silver	Gold	Size
61.173	61.174	4" x 6"
61.177	61.178	5" x 7"
61.179	61.180	6" x 9"
61.181	61.182	8-1/2" x 11"



### 4 ANTI-TARNISH TISSUE

For wrapping silverware, jewelry and other gifts. Made of the finest quality white bleached tissue, which will not tarnish the merchandise. Comes in rolls or flat reams.

No.	Paper Size
61.051	7-3/8" x 1100" roll
61.052	20" x 720" roll
61.053	20" x 30" 480 sheets



### 5 ANTI-TARNISH PAPER SQUARES

Fine quality tissue, free of all lint. Sold in boxes of 1000 sheets.

No.	Brand	Paper Size
61.0144		4" square
23.555	Grobet	4-1/4" square



### 6 TRIPLE LAYER FOLDED DIAMOND PAPERS

Both super strong and extra soft. Used to wrap and protect other precious stones. Box of 25 sheets.

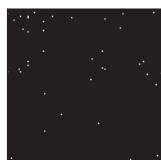
No.	Use For	Paper Size
61.085	Stones	3" x 1-11/16"
61.086	Stones	3-3/4" x 2"

### 7 VIGOR PARCEL PAPERS

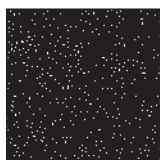
The brand world renowned for quality. Protects stones, shows them off at their best and keeps stock in order. Three-ply paper measures 7" x 5-3/4". Sold in boxes of 100.

No.	Use For	Outside Paper	Inside Paper
61.0570	Diamonds	White	Blue
61.0575	Diamonds	White	White

## FOIL GIFT WRAP AND HOLDERS



No. **61.054**  
Gold Nugget



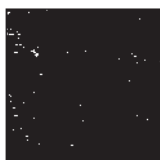
No. **61.055**  
Silver Mosaic



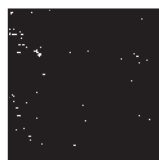
No. **61.058**  
Bright Gold



No. **61.059**  
Matte Silver



No. **61.067**  
Blue Gyro



No. **61.068**  
Silver Gyro



No. **61.069**  
Floral Gold



No. **61.070**  
Floral Silver



No. **61.071**  
Ribbed Gold



No. **61.072**  
Blue Taffeta



No. **61.073**  
Gold Taffeta



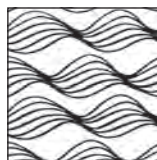
No. **61.074**  
Red Linen



No. **61.075**  
Silver and  
White Stripe



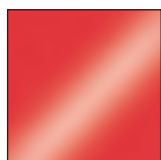
No. **61.076**  
Red and  
Silver Stripe



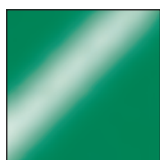
No. **61.078**  
Red Green  
Gold Swirl



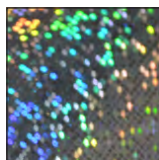
No. **61.079**  
Bright Silver



No. **61.081**  
Red



No. **61.082**  
Dark Green



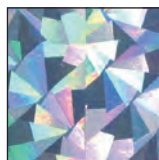
No. **61.098**  
Holographic  
City Light



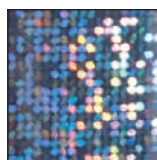
No. **61.08303**  
Gold Emery



No. **61.08304**  
Red & Silver  
Stripe



No. **61.095**  
Holographic  
Cracked



No. **61.096**  
Holographic  
City Lights

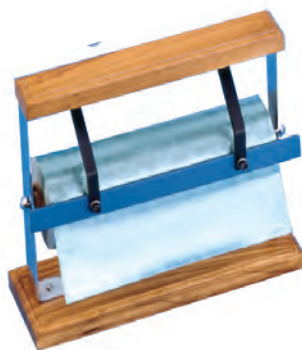


No. **61.097**  
Holographic  
Rainbow

### 1 FOIL GIFT WRAP

Measures 7-1/2" x 150'

2



### 2 TISSUE and GIFT WRAP CUTTERS

Has sturdy frame that can be screwed to table.

No.	Description
<b>61.092</b>	Wood frame for 7-1/2" rolls

## DIAMOND ACCESSORIES

### 3 SORTING PADS

Fine quality white paper with heavy cardboard backing. Bound on three sides, blotter-style, to prevent curling or lifting. Sold in pads of 50 sheets.

No.	Pad Size
<b>61.0585</b>	8" x 10"
<b>61.0586</b>	10" x 12"

### 4 DIAMOND PAPER WEIGHT

Holds folded diamond paper in open position. Neatly folds up when not in use. Made of stainless steel.

No.	Description
<b>61.080</b>	Length 6-1/2"





## 1 OFFICIAL JEWELRY APPRAISAL FORMS

Three-part appraisal form.

No.	Description
61.171	Package of 50



## 2 PRONG SETTING DISPLAYS for DIAMONDS

Show off the beauty of a diamond inexpensively in these silver and gold prong setting displays. Your choice of short and long prong settings. Sold in packs of 12.

No.	Description
35.100	Silver, short prong
35.101	Gold, short prong
35.102	Silver, long prong
35.103	Gold, long prong



## 3 SHOVELS with HANDLES

Excellent for handling diamonds, pearls and other precious gemstones.

No.	Finish
51.095	Nickel-plated with chrome
51.0552	Non-reflective black



## 4 DIAMOND WASH CUP

Ideal for washing loose diamonds and colored stones with alcohol. Glass jar has metal screw-on lid with perforated cup suspended inside.

No.	Description
51.098	2-1/2" H x 2-1/4" dia.



## 5 DIAMOND SELLER

Ideal for closing the sale without using expensive stones. Cubic Zirconia mounted on stainless steel arm folds within a protective cover when not in use. Each arm has size of the stone in carats and millimeters.

No.	Description
35.555	10 sizes ranging from 0.10 to 2 carats



## 6 DIAMOND SIEVES

Hand-made sieves to sort rough and polished diamonds. Complete set supplied in zippered carrying case. Chart shows plate size of stones per carat; weight and size in millimeters. Each with 21 plates, 0-20.

No.	Description
51.0560	1-7/8" diameter
51.0565	2-5/8" diameter

## SEIKO INSTRUMENTS SMART LABEL PRINTERS

Printing labels from your PC or Mac is frustrating. Sure, you can buy sheets of labels for your laser or inkjet printer, but what if you need only one label? What if you don't have the time to fuss with confusing template files, trying to get labels to look right? What if address labels aren't enough? Smart Label Printers are designed to print labels, and they do it incredibly well. Need a single label? Print. Need twenty labels? Print. Need different types of labels? Print, swap, and print again. Need it fast? Print. It's that simple.

No special sheets of labels. No awkward templates. No need for ink, toner, or ribbons. Smart Label Printers give you fast, straightforward and predictable label printing time, after time, after time. Dimensions 5.83"(H) x 4.48"(W) x 6.77"(D) For Windows and Mac (USB connection, 110/220 univ. power supply; Supports multiple label sizes up to 2-1/8" wide. 3-year warranty

### SLP620 SMART LABEL PRINTER

An affordable, entry-level desktop USB model, featuring Seiko Instruments' ultra-reliable direct thermal printer technology. Perfect for everyday label printing needs. (2.76 inches/second) Fast print speed, less than 2 sec. per label. 200 dpi. No. **60.210**

### SLP650 SMART LABEL PRINTER

More speed. Higher resolution. A USB direct thermal printer producing 300 DPI labels at close to 4 inches per second. (3.94 inches/second) Dimensions 5.83"(H) x 4.48"(W) x 6.77"(D) For Windows and Mac (USB connection, 110/220 univ. power supply; Supports multiple label sizes up to 2-1/8" wide. Ultra Fast print speed, less than 1 sec. per label. 300 dpi. No. **60.200**



#### LABELS FOR PRINTER

No.	Description
<b>60.217</b>	Address Labels, 1-1/8" x 3-1/2", Box of 260
<b>60.219</b>	Address Labels, 1-1/8" x 3-1/2", Box of 520
<b>60.229</b>	Folder Labels, 9/16" x 3-7/16", Box of 260
<b>60.230</b>	Jewelry Labels, 7/16" x 2-1/32", Box of 1,050

No.	Description
<b>60.231</b>	Multi-Purpose Labels, 1-1/8" x 2", Box of 440
<b>60.250</b>	Multi-Purpose Labels, 7/16" x 1-1/2", Box of 300
<b>60.254</b>	Shipping Labels, 2-1/8" x 4", Box of 220

No. **60.217** (2 rolls x 130 labels)

**Address Labels** (white)

**28mm x 89 mm**  
**1-1/8" x 3-1/2"**

No. **60.219** (2 rolls x 260 labels)

**Address Labels** (big roll, white)

**28 mm x 89 mm**  
**1-1/8" x 3-1/2"**

No. **60.229** (2 rolls x 130 labels)

**File Folder Labels** (white)  
**14 mm x 87 mm, 9/16" x 3-7/16"**

No. **60.230** (1 roll x 525 labels x 2 = 1,050 labels)  
Labels for use on jewelry or cables

**11 x 51.5 mm**

(white)

**7/16" x 2-1/32"**

No. **60.231** (2 rolls x 220 labels)

**Multi Purpose Labels**  
(white)

**28 mm x 51 mm**  
**1-1/8" x 2"**

No. **60.254** (1 roll x 220 labels)

**Shipping Labels**  
(white)

**54 mm x 101 mm**  
**2-1/8" x 4"**

No. **60.250** (1 roll x 300 labels)

**35mm Slide Labels**  
(white)  
**11 mm x 38 mm**

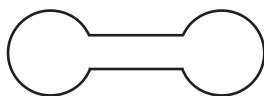
**(7/16" x 1-1/2")**

## JEWELRY REPAIR LABELS

### SHARK-SKIN® JEWELRY REPAIR and IDENTIFICATION TAGS

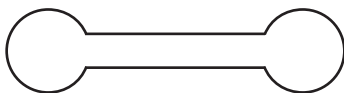
The Original Shark Skin Tag. Accept no substitutes!

- Self-stick, needs no moistening
- Retains shape and color in ultrasonics, ionic cleaners or under steam pressure
- Adhesive free center bar
- Rings can be tried on without removing tag
- Free marking pen included (No. 60.700)



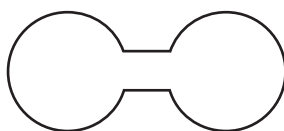
#### 1 Package of 1,000

No.	Color
60.701	White
60.702	Blue
60.703	Yellow
60.704	Silver
60.708	Gold



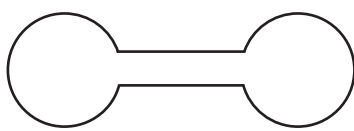
#### 2 Package of 500

No.	Color
60.705	White
60.707	Yellow



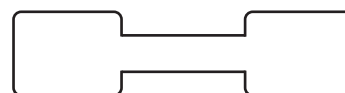
#### 3 Package of 1,000

No.	Color
60.710	White
60.712	Yellow



#### 4 Package of 500

No.	Color
60.715	White
60.716	Blue
60.717	Yellow



#### 5 Package of 500

No.	Color
60.720	White
60.722	Yellow
No. 60.700 Special marking pen	

## TAGS FOR COMPUTER USE



### 6 SHARK-SKIN™ TAGS for DOT MATRIX PRINTERS

Mounted three across on flat, pin-feed, fan-folded sheets. Waterproof and safe for ultrasonics, with adhesive-free center section. Free marking pen (No. 60.700) in each package.

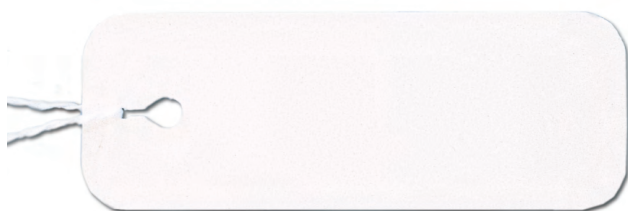
Color	Package of 1,000	Package of 10,000
White	61.720	61.725
Blue	61.730	61.735
Gold	61.750	61.755
Silver	61.760	61.765
No. 60.700 Special marking pen		

### 7 MYLAR TAGS

Stronger and smoother for a clean print. Mounted three across on flat, pin-feed, fan-folded sheets. Waterproof and safe for ultrasonics.

Color	Package of 1,000	Package of 10,000
White	61.820	61.825
Blue	61.830	—
Yellow	61.840	—
Gold	61.850	61.855
Silver	61.860	61.865

## JEWELRY TAGS



### 8 PLAIN WHITE TAGS

Available with round corners, no imprinting available. Sold by box of 1000.

No.	Size	Corners
61.193	2-3/4" x 7/8"	Round



## JEWELRY TAGS

A staple item of any jewelry business. All of these tags are durable and can be written upon without smearing or smudging. Strong with quality cord.



### 1 JEWELRY STRING TAGS

Made of strong white cardboard with red strings, no imprinting available. Sold by box of 1000.

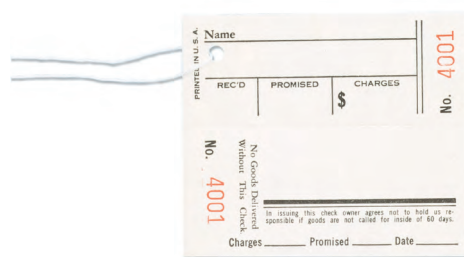
#### Premium

No.	Length	Width
60.060D	5/8"	1/4"
60.065D	9/16"	3/8"
60.075D	5/8"	1/2"

#### Economy

No.	Length	Width
60.060	5/8"	1/4"
60.065	9/16"	5/16"
60.075	3/8"	5/8"

## TAGS & LABELS



### 2 PRINTED TAGS

Available in white only, no imprinting available. Measures. Sold by box of 1000.

No.	Size
61.300	2-3/4" x 1"

### 3 PRINTED TAGS WITH CLAIM CHECKS

Tear-off claim checks, which can be imprinted with your name and address. Both parts are numbered clearly. Sold by box of 1000. Call for imprinting charges. Minimum imprint quantity is 5000. Allow 4 to 6 weeks for delivery. Size: 2-7/8" x 2-3/8".

No.	Claim No.
61.251	1 to 1000
61.252	1001 to 2000
61.253	2001 to 3000
61.254	3001 to 4000
61.255	4001 to 5000
61.256	5001 to 6000
61.257	6001 to 7000
61.258	7001 to 8000
61.259	8001 to 9000
61.260	9001 to 10000

### 4 KUM KLEEN LABELS

Ideal for price marking or labeling. Kum Kleen labels will stick to most surfaces metal, wood, plastic, etc. Easily peel off without damaging merchandise. Square and rectangular labels have rounded corners. Use with pen No. 60.718 (waterproof) or No. 60.700 marking pen.

*Stick On,  
Peel-Off!*



No.	Style	Qty.	Size
61.412	S-508	1000	5/16" x 1 1/2"
61.414	S-610	1000	3/8" x 5/8"
61.418	S-812	1000	1/2" x 3/4"

# Plating Equipment

**E-CRAFT**  
**ELECTRO-PLATER**



CAUTION: DO NOT ALLOW 2  
ELECTRODES TO TOUCH  
EACH OTHER AS CAN CAUSE  
DAMAGE TO COMPONENTS

(+)  
POSITIVE  
(ANODE)

(-)  
NEGATIVE  
(WORK)



PRODUCT OF **GROBET USA**

CARLSTADT, NJ 07072

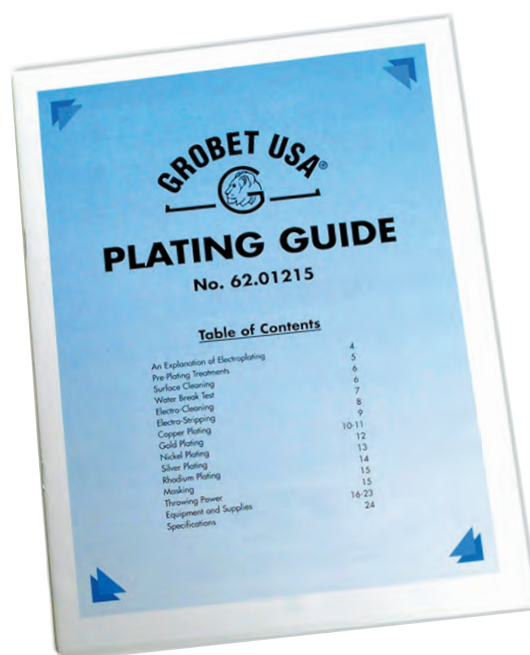


Grobet's Plating Guide is an excellent resource on the subject of plating precious metals. It explains the processes and materials required in a concise 12 page soft cover booklet.

### 1 GROBET USA® PLATING GUIDE

A complete booklet on the subject of plating precious metals.

No.	Description
62.01215	Soft cover, 12 pages.



## PLATING SOLUTIONS SUMMARY

Description	Anode	Tank	Bath Temperature	Tank Voltage
Copper Plating	Copper	Pyrex® Beaker or Stainless Steel	75° to 100°F	6
Electro-Stripping	Stainless Steel	Pyrex® Beaker or Stainless Steel	180°	6 for gold 10 to 12 fire scale
Electro-Cleaning	Stainless Steel	Pyrex® Beaker or Stainless Steel	180° to 200°F	10 to 12
Gold Plating	Pure Gold or Stainless Steel	Pyrex® Beaker or Stainless Steel	120° to 160°F	2 to 3
Nickel Plating	Pure Nickel	Pyrex® Beaker, Stainless Steel Rubber or Plastic	Room Temperature	2 or less
Rhodium Plating	Platinum or Platinized Titanium	Pyrex® Beaker	100°F	4
Silver Plating	Pure Silver	Pyrex® Beaker or Stainless Steel	Room Temperature	2
Silver Strike	Stainless Steel	Pyrex® Beaker or Stainless Steel	Room Temperature	5 to 6



RECTIFIERS BY GROBET USA®

Precision-built in the USA, continuous-duty, solid-state electronic units with a range of power to handle all plating needs. Works by means of the powerstat control, to produce desired voltage. All units have pilot lights and both DC ampmeter and voltmeter for measuring current under load. All units come with a set of lead wires with alligator clamps and terminal lugs. 10 amp rectifiers are available with an accessory kit which includes: a pair of 600 ml beakers, copper plating wire, electro-cleaning compound and a stainless steel anode.

1 10 AMP RECTIFIER

- Specifications:
- 0 to 10 amps output, continuous duty
  - 0 to 10 volts DC output
  - Runs plating baths up to 1 gallon except for rhodium which is a 2 quarts maximum.
  - Steel cabinet measures 13" W x 8" H x 8-1/2" D.
  - Ship weight of rectifier 17 lbs. (25 lbs. with accessories).

No.	Description
45.504	110 volt rectifier with accessories
45.506G	110 volt rectifier only
45.506GX	220 volt rectifier only
45.666	Lead wires, set of 2



Accessory kit not shown

Plating Equipment

PLATING SYSTEMS



2 GROBET RHODIUM PEN PLATING SYSTEM

Precision voltage gives high quality and production. 3 different color-coded cups give plenty of space for all solutions. Cabinet holds 3 cups and 4 pens. Fiber tips may be shaped for different patterns and designs. UL approved to meet or exceed all safety requirements.

No.	Description
45.404	Deluxe 110v
45.404X	Deluxe 220v
45.406	Red Lead
45.407	Black Lead



3 GROBET SINGLE PEN PLATING SYSTEM

Precision voltage adjusting gives high quality and production. 1 color-coded cup gives plenty of space for all solutions. Cabinet holds 1 cup and 1 pen. Fiber tips may be shaped for different patterns and designs. UL approved to meet or exceed all safety requirements.

No.	Description
45.439	Deluxe 110v
45.439X	Deluxe 220v
45.406	Red Lead
45.407	Black Lead

## PEN PLATERS



### 1 THE WIZARD® PRO LCD PEN PLATER

The most innovative pen plater on the market.

Wire-Free plating at your fingertips

- Ergonomically designed with sleek stainless body
- 12 volt, self-contained rechargeable pen plater
- Once charged, you are cordless - no wires or plugs to get in your way
- Pen also works while being charged
- Voltage adjustable from 3 to 12 volts in .1 increments for precision plating
- LCD display shows power level and voltage
- Rechargeable 250 times
- Tips can be easily replaced
- Great for touch ups and portable repair work

Includes: Charger, wall clip for mounting, and storage case

No.	Description
45.411	LCD Pen Plater



### 2 THE WIZARD® DISPOSABLE PEN PLATER

The next generation disposable pen plater is here.

- New sleek ergonomic stainless steel body
- Battery operated for up to 1 hour of continuous plating
- 6-volt capacity with no knobs to adjust
- Tips can be easily replaced
- Great for touch ups and portable repair work

No.	Description
45.413	Disposable Pen Plater



### 3 TIPS for PEN PLATER

No.	Description
45.405	regular tip, set of 5
45.409	fine tip

## PLATING SOLUTIONS



### 4 GROBET USA® CLEAN EARTH™ DECORATIVE GOLD PEN PLATING SOLUTION

Clean Earth™ is a resilient gold plating solution which deposits a flash plate of gold over nickel, sterling silver, gold, rhodium, and most other similar metals. Cyanide Free! 1 fluid oz.

No.	Description
45.250	14K
45.251	18K
45.252	24K
45.253	24K Rose Gold



HAZARDOUS

### 5 GROBET RHODIUM SOLUTIONS

Specially formulated, state-of-the-art pen plating solutions designed to provide quality results. One oz. (29.6 ml) nalgene jar.

No.	Description
45.415	Black Rhodium, 12.5ml (.42oz)



## PLATING ACCESSORIES

Anodes are used to introduce electrical current and to replenish metal ions in the plating bath. Stems can be bent to hang on the edge of the beakers.



### 1 VIGOR® ANODES

No.	Description
45.0315	Copper 1" x 6"
45.0316	Stainless steel 1" x 6"
45.0318	Nickel 1" x 6"
45.606	Fine silver 999 6" x 1"



### 2 PRO-CRAFT® ANODES

No.	Description
45.592	Copper
45.597	24K gold
45.598	Nickel
45.602	Silver
45.604	Stainless steel



### 3 VIGOR® PLATINIZED TITANIUM

Insoluble for rhodium.

No.	Description
45.0320	10-1/4" x 1/4"

### 4 PLATINIZED TITANIUM MESH

No.	Description
45.601	2" x 3"
45.601A	1" x 4"



### 5 STAINLESS STEEL BEAKERS

Can be used as the anode needed for electro-stripping and gold plating. Just attach your lead wire to the lip of the beaker.

No.	Description
45.642	600 ml
45.643	1200 ml



### 6 BEAKER COVERS

Easy-on, easy-off, snug-fit covers protect against spills or contamination of beaker contents.

No.	Description
45.644	Fits 600 ml beakers
45.645	Fits 1000 ml beakers

## PLATING ACCESSORIES



### 1 PYREX BEAKERS

Can withstand 446°F (230°C)

No.	Description
45.640	For 600 ml/pint baths
45.646	For 250 ml
45.641	For 1000 ml/quart baths



### 3 PRO-CRAFT® IMMERSION THERMOMETER

For determining solution temperature.

No.	Description
45.696	Temperature range 0-230 F



### 2 GROBET USA® GLASS BEAKERS

Low-expansion borosilicate 3.3 glass. Designed to be heat-resistant and non-conductive. Heavy and uniform wall thickness. Easy pour spouts. White printed graduation and marking area for heating solutions during plating

No.	Description
45.64601	30 ml
45.647	250 ml
45.648	600 ml
45.649	1000 ml
45.64901	1200 ml



### 4 ELECTRIC HOT PLATES

Three ring burners, tubular elements and infinite control switches. With chrome top and white trim. 120 volt AC, 50/60 Hz, with three-prong grounded cord. UL listed.

No.	Burner	Size	Amps	Watts	Ship Weight
45.710	Single	8-1/2" x 8-1/2" x 3-1/4"	6	700	4 lbs.
45.712	Double	17" x 8-1/2" x 3-1/4"	13	1400	6 lbs.

## VIGOR® ACIDS AND CLEANERS



HAZARDOUS

### 5 VIGOR® RHODIUM

Acid base containing no cyanide. Use with platinum anode or platinized titanium anode. Pint contains one gram of rhodium.

No.	Description
45.0301	Pint



HAZARDOUS

### 6 VIGOR® NICKEL

Acid base containing no cyanide. Use with nickel anode.

No.	Description
45.0311	One quart



HAZARDOUS

### 7 VIGOR® ELECTRO-CLEANER

Removes film and invisible oils from the metal to be plated to improve bond. Use with stainless steel anode.

No.	Description
45.0312	One quart

## ANTIQUE BACKGROUND



HAZARDOUS

### 1 VIGOR® BLACK GROUND

Produces black oxide background in one minute on brass or copper base metals. Can be immersed or painted with brush or swab. 4 oz. bottle. Hazardous shipping.

No.	Description
45.0550	4 oz., ORM B

## LACQUERS



HAZARDOUS

### 3 PRO-CRAFT® LACQUER

A high-grade lacquer that can be brushed on articles to provide a tough, smooth, even surface to protect them from tarnish and to eliminate metal deposits from plating solutions. One pint bottle. Hazardous – Flammable Liquid UN 1263.

No.	Description
No. 45.650	16 oz., flammable liquid

## OXIDIZERS



HAZARDOUS

### 5 PRO-CRAFT® SILVER OXIDIZER

Non-corrosive solution can be used to blacken silver or copper when used at full strength. When diluted with water, the action is slowed down so that color can be controlled for all shades of gray. No heating is required, since it works at room temperature. Biodegradable. Corrosive UN 1760.

No.	Description
45.681	8 oz., Corrosive
45.682	16 oz., Corrosive



HAZARDOUS

### 2 BACKGROUND ANTIQUE for JEWELRY

For highlighting or subtle dark background effects. Gives a dark, dull antique finish to class rings, or any other jewelry. Adheres to any metal, dries in minutes. The solution is resistant to wear and needs no lacquer. 2 oz. Hazardous shipping.

Solution No.	Description
45.0130	Black, ORM D
45.0132	Brown, ORM D

### AUL Solvent

Removes background color from high spot surfaces.

No.	Description
45.0135	2 oz., ORM D

Solution with AUL Solvent No.	Description
45.0230	Black, ORM D
45.0232	Brown, ORM D



HAZARDOUS

### 4 PRO-CRAFT® LACQUER STRIPPER

Used for removing and thinning lacquer.

Hazardous – Flammable Liquid UN 1263.

No.	Description
45.651	16 oz., flammable liquid



HAZARDOUS

### 6 VIGOR® OXIDIZER

Use on both gold and silver to produce all shades from French gray to black. Hazardous Oxidizer.

No.	Description
45.0329	4 oz., Corrosive
45.0331	8 oz., Corrosive

## GRIFFITH SOLUTIONS



HAZARDOUS

### 1 GRIFFITH ACETONE

A quick drying solvent for dissolving most lacquers and cements.  
Hazardous – Flammable Liquid UN 1090.

No.	Description
23.212	8 oz., flammable liquid



HAZARDOUS

### 3 GRIFFITH SILVER BLACK

An acid based oxidizer which produces an instantaneous deep black patina on silver, gold, copper or bronze. Corrosive UN 1789.

No.	Description
No. 45.040	1 oz., Corrosive
No. 45.041	4 oz., Corrosive
No. 45.043	16 oz., Corrosive

## LIVER OF SULPHUR



### 5 PRO-CRAFT® LIVER of SULPHUR

Contains 8 oz. (227 g) in lump form. When dissolved in hot water, can be used to oxidize most metals.

No.	Description
45.690	8 oz.



HAZARDOUS

### 2 GRIFFITH DENATURED ALCOHOL

For use in alcohol lamps, making anti-oxidizers, and as a quick-drying dip to prevent spotting of plated pieces.  
Hazardous – Flammable Liquid UN 1987.

No.	Description
23.201	8 oz., flammable liquid
23.202	16 oz., flammable liquid
23.203	32 oz., flammable liquid
23.204	Gallon, flammable liquid



### 4 GRIFFITH LIVER of SULPHUR

Use dissolved in hot water as an oxidizer for most metals.

No.	Description
No. 45.688	1 oz. (29.5 ml)
No. 45.689	4 oz. (118 ml)
No. 45.69001	8 oz. (237 ml)
No. 45.69101	32 oz. (917 ml)



(WARNING: CONTENTS WILL BE HOT!)

### 6 GROBET® LIVER of SULPHUR XL GEL

- Liver of Sulphur XL Gel is formulated for extended shelf life, versatility & convenience • XL Gel is used to patina metals such as silver, copper & bronze.
- XL Gel is non-flammable • Newly designed squeeze bottle for easy dispensing
- XL Gel's shelf life is many times that of dry liver of sulphur • Shake XL Gel before use for consistent results. May be microwaved for no longer than 15 seconds.

No.	Description
45.686	2 oz.
45.687	4 oz.

## JAX® MASTER METAL FINISHING SOLUTIONS

All JAX metal finishing and polishing solutions are easy to use, produce authentic, consistent results, require no heat or electricity, are water based, contain no sulfur, are non-flammable and react within seconds. Larger sizes of any JAX solution are also available. shipweight for all JAX solutions: one pint - 1 lb., one quart - 2 lbs. and one gallon - 8 lbs.



### COLORANTS

#### JAX® GREEN PATINA

Produces a permanent, authentic, antique green finish on copper, brass and bronze.

No.	Description
45.90001	2 oz
45.900	Pint
45.920	Quart
45.940	Gallon

#### JAX® GOLD FINISH

Produces a simulated 24 K Hamilton finish on brass.

No.	Description
45.90101	2 oz
45.901	Pint
45.941	Gallon

#### JAX® ANTIQUE RUST

Produces an antique rust finish on iron and steel.

No.	Description
45.96101	2 oz
45.960	Pint
45.961	Quart
45.962	Gallon

### DARKENERS

#### JAX® BROWN

Produces an antique brown finish on brass, bronze and copper.

No.	Description
45.90201	2 oz
45.902	Pint
45.942	Gallon

#### JAX® BROWN/BLACK

Produces an antique brown/black finish on brass, bronze and copper.

No.	Description
45.90301	2 oz
45.903	Pint
45.963	Gallon

#### JAX® BLACK

Produces an antique black finish on brass, bronze and copper.

No.	Description
45.90401	2 oz
45.904	Pint
45.944	Gallon

HAZARDOUS



#### JAX® FLEMISH GRAY/BLACK

Produces an antique Flemish, gray-black finish on brass, bronze and copper.

No.	Description
45.90501	2 oz
45.905	Pint
45.965	Gallon



## MASTER METAL FINISHING SOLUTIONS

HAZARDOUS



### BLACKENERS

#### JAX® SILVER BLACKENER

Produces a dark, black antique finish on silver and gold.

No.	Description
45.90601	2 oz
45.906	Pint
45.946	Gallon

#### JAX® PEWTER BLACKENER

Produces a dark, black antique finish on pewter, lead, brass, bronze, copper, nickel, tin-lead alloys and solders.

No.	Description
45.90701	2 oz
45.907	Pint
45.947	Gallon

#### JAX® IRON, STEEL and NICKEL BLACKENER

Produces an antique, metallic black finish in seconds on iron, steel, cast iron and nickel.

No.	Description
45.90801	2 oz
45.908	Pint
45.966	Gallon

#### JAX® ALUMINUM BLACKENER

Produces an antique black finish on aluminum.

No.	Description
45.96701	2 oz
45.967	Pint
45.968	Gallon

#### JAX® DICHROIC FX BLACK

Produces a dichroic black effect on brass without heat or electricity.

No.	Description
45.97901	2 oz.
45.979	Pint

## MASTER METAL POLISHING SOLUTIONS

#### JAX® SILVER CLEANER and POLISH

Chemically cleans and polishes the blackest silver in one application. Does not strip surface to a raw, dull finish. Incorporates a special polish that will not harm or streak the most delicate surfaces.

No.	Description
45.91801	2 oz
45.918	Pint

#### JAX® METAL CLEANER POLISH

Chemically cleans and polishes tarnished brass, bronze, copper, pewter, nickel and steel. Removes oxidation, surface dirt, oil and fingerprints.

No.	Description
45.91901	2 oz
45.919	Pint



## MASTER METAL CLEANING SOLUTIONS

### JAX® RUST REMOVER

A rust remover and an effective pre-paint primer for iron and steel.

No.	Description
45.91101	2 oz
45.911	Pint
45.970	Gallon

### JAX® RUST PREVENTER

Prevents rust on clean iron and steel.

No.	Description
45.91201	2 oz
45.912	Pint
45.971	Gallon

### JAX® LACQUER REMOVER

Removes lacquer and paint from metal surfaces. Contains no solvents.

No.	Description
45.97201	2 oz
45.972	Pint
45.973	Gallon

### JAX® TARNISH PREVENTER

Prevents tarnish on clean brass, bronze and copper.

No.	Description
45.91301	2 oz
45.913	Pint

### JAX® INSTANT SILVER CLEANER

A heavy-duty cleaner that removes tarnish and oxidation from the blackest silver.

No.	Description
45.91401	2 oz
45.914	Pint
45.954	Gallon

### JAX® INSTANT BRASS and COPPER CLEANER

A heavy-duty cleaner that removes tarnish and oxidation from the blackest copper, brass and bronze.

No.	Description
45.91501	2 oz
45.915	Pint
45.955	Gallon



### JAX® BRASS, COPPER and GOLD CLEANER

A light-duty cleaner for delicate metals. Removes tarnish and surface contamination from fine gold finishes, bronzes, lamps, lighting fixtures, jewelry and antiques. Contains no abrasives. Leaves no residue.

No.	Description
45.91601	2 oz
45.916	Pint
45.974	Gallon

### JAX® BRASS, COPPER, GOLD and MARBLE CLEANER

A heavy-duty cleaner that removes tarnish, surface dirt, old lacquer and grease from brass, bronze and copper, yet is safe for use on gold and marble.

No.	Description
45.91701	2 oz
45.917	Pint
45.975	Quart
45.976	Gallon

### JAX® ALUMINUM CLEANER

Produces a bright clean finish on all aluminum surfaces.

No.	Description
45.97701	2 oz
45.977	Pint
45.978	Gallon

## MASTER METAL PLATING SOLUTIONS

### JAX® SILVER PLATING SOLUTION

Plates pure silver onto copper, brass, bronze and silver.

No.	Description
45.90901	2 oz
45.909	4 oz

### JAX® COPPER PLATING SOLUTION

Instantly plates copper onto iron, steel, brass and solder.

No.	Description
45.91001	2 oz
45.910	Pint
45.969	Gallon

## CLEAN EARTH™ PLATING SOLUTIONS

All Clean Earth™ plating solutions are cyanide free. They are ecologically safer than standard plating solutions yet plate uniformly and produce a hard, durable finish. The solutions are easy to use and produce rich colors.



### 1 CLEAN EARTH™ GOLD PLATING SOLUTIONS

Produces a uniform gold color. Use with a stainless steel or pure gold anode. Plate with the solution heated to 140° F (60° C) at 3 to 4 volts for 30 to 45 seconds. Changing the plating time or solution temperature will affect color.

No.	Description
45.212	1 quart 14K
45.213	1 gallon 14K
45.214	1 quart 18K
45.215	1 gallon 18K
45.216	1 quart 24K
45.217	1 gallon 24K



### 3 CLEAN EARTH™ SILVER

Produces a uniform silver plate. Use with a stainless steel only. Plate with solution at room temperature at 1.4 to 1.8 volts for 15 to 90 seconds. The finish will reflect the surface of the underplate; shiny silver over shiny metals and matte silver over a dull surface.

No.	Description
45.220	1 quart
45.221	1 gallon



### 5 CLEAN EARTH™ NICKEL MIRROR

Adds a decorative brilliance and a white mirror shine to dull finishes. Best if used over Copper Mirror, Nos. 45.208 or 45.209. An excellent base for rhodium, gold or silver plating. Use with a pure nickel anode. Plate with solution at 140° F (60° C) at 2 to 4 volts for 2 to 10 minutes.

No.	Description
45.210	1 quart
45.211	1 gallon



### 2 CLEAN EARTH™ NICKEL FREE

A nickel free alloy similar in color to nickel. Best if used over Copper Mirror, Nos. 45.208 or 45.209. An excellent base for gold and silver plating. Use with a nickel anode. Plate with solution at 140° F (60° C) at 2 to 4 volts for 30 to 90 seconds.

No.	Description
45.222	1 quart



### 4 CLEAN EARTH™ COPPER PRIMER

Used as a pre-plate to cover difficult to plate metals such as tin, lead, and zinc die-casted metals. An excellent base for nickel plating. Use with a pure copper anode. Plate with solution at 130° F (54° C) at 1 to 2 volt for 2 to 5 minutes.

No.	Description
45.206	1 quart



### 6 CLEAN EARTH™ COPPER MIRROR

Produces a bright copper finish. Air bubble agitation produces superior uniformity and shine. Use with a pure copper anode. Plate with solution at room temperature at 2 to 3 volts for 2 to 10 minutes. Electroform at 1 to 1.3 volts for 30 minutes to 5 hours.

No.	Description
45.208	1 quart
45.209	1 gallon

CLEAN EARTH™ PLATING SOLUTIONS

CYANIDE-FREE



**1 CLEAN EARTH™ BLACK FREE**  
Use to achieve an antique finish. After article is plated with Black Free, highlights are relieved by polishing. Use with a stainless steel anode. Plate with solution at 120° F (50° C) at 3 to 6 volts for 30 to 90 seconds.



**2 CLEAN EARTH™ TIN**  
Adds a conductive coat for high quality electroforming. For better results when using MetalForm® paint or any other copper based conductive coating, dip parts in solution for 60 seconds. Use solution at room temperature. Hazardous, Corrosive. This solution is not used with a rectifier.



**3 CLEAN EARTH™ ACID ACTIVATOR SS**  
Activator - SS is a powerful activator that provides excellent oxide removal and etching properties to help metals plate onto stainless steel. Activator - SS offers a low cost, easily maintainable and ecological alternative to hazardous and noxious acids. Activator - SS is designed to activate stainless steel for gold plating with Clean Earth Gold Plating Solution, for complete cyanide free process.

No.	Description
45.226	1 quart

No.	Description
45.229	1 gallon

No.	Description
45.244	1 quart



**4 CLEAN EARTH™ ELECTROCLEANER**  
A quick and effective method of cleaning objects prior to plating. The cleaning process uses an electrolytic bath, similar to plating operations. The 2 lb. size makes 8 gallons - 5 lb. size makes 20 gallons. Use with a stainless steel anode. Clean with the solution heated from 120° to 160° F (50° to 71° C) at 2 to 6 volts for 15 to 30 seconds.

No.	Description
45.202	2 lb.
45.203	5 lb.



**5 CLEAN EARTH™ STRIP-FREE**  
Used to strip gold plating. Use with a stainless steel anode. Reverse plate with the solution heated to 120° to 150° F (50° to 65° C) at 3 to 6 volts for 30 to 90 seconds.

No.	Description
45.218	1 quart
45.219	1 gallon



**6 CLEAN EARTH™ ACTIVATOR**  
This powdered acid is mixed with water to produce a mild solution for etching, brightening and cleaning. Use to clean and activate parts to assure strong metallic bonding throughout the subsequent plating process. The 2 lb. size makes 8 gallons - 5 lb. size makes 20 gallons. Use at room temperature for 30 to 60 seconds. This solution is not used with a rectifier.

No.	Description
45.204	2 lb.
45.205	5 lb.



**7 CLEAN EARTH™ ULTRASONIC CLEANER**  
Degreases and cleans. It is biodegradable, non-ammoniated and phosphate free. The 1 quart size makes 3 gallons and the 1 gallon size makes 12 gallons.

No.	Description
45.234	1 gallon



HAZARDOUS



## CERAMIT®

Low temperature curing, hard enamel. Requires only 200° F (93° C) for one hour and the result is a ceramic-like surface. A two-part, liquid system, in which the catalyst and the color are mixed in a 2-to-1 proportion. Can be brushed on, sprayed on or applied with a spatula or squeeze bottle. Apply in a single coat or can be built up in successive layers. Has a hardness of 60-75 on the Sward scale, as compared to kiln-fired enamel 65-80, which requires 1500° F (816° C) to cure.

### 1 CERAMIT™ CERAMIC ENAMEL SET

Thirty vibrant colors are available which can be mixed. Adheres to metals, wood, plastics, ceramics, etc. and can be stoned and polished. Complete set includes sufficient catalyst along with the following 14 colors in 1/2 oz. bottles: opaque colors; red, orange, yellow, jade green, turquoise, black, super white and transparent colors; red, orange, yellow, green, blue, brown and clear. Hazardous – Flammable Liquid UN 1866.

No.	Description
45.800	CERAMIT™ Ceramic Enamel Set



### 2 CERAMIT™ CATALYST REFILLS

No.	Description
No. 45.880	8 oz.
No. 45.881	1 pint
No. 45.882	1 quart

### 4 REPLACEMENT COLORS

Individual 2 oz. bottles can be ordered by product numbers listed with colors

#### Replacement Colors:

##### Opaque Colors

Black 45.801 \$10.20	Pearl 45.802 \$10.10	Super White 45.803 \$10.10	Iridescent Pink 45.805 \$10.10	Chinese Red 45.807 \$10.10
Red 45.809 \$10.20	Violet 45.810 \$10.10	Brown 45.811 \$10.10	Cocoa 45.812 \$10.10	Orange 45.813 \$10.20
Yellow 45.816 \$10.20	Butterfly 45.817 \$10.10	Olive Green 45.818 \$10.10	Jade Green 45.819 \$10.10	Green 45.821 \$10.10
Sky Blue 45.823 \$10.10	Turquoise 45.824 \$10.20	Israeli Blue 45.825 \$10.10	Blue 45.826 \$10.20	

##### Fluorescent Colors

Red 45.861 \$10.10	Green 45.864 \$10.10	Blue 45.866 \$10.10

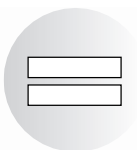
##### Transparent Colors

Red 45.841 \$10.10	Violet 45.842 \$10.10	Brown 45.843 \$10.10	Orange 45.844 \$10.10
Yellow 45.845 \$10.10	Green 45.846 \$10.20	Blue 45.847 \$10.10	Clear 45.848 \$10.10

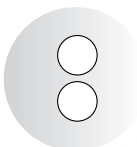


# *Pliers & Cutters*

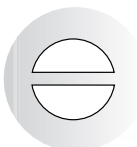




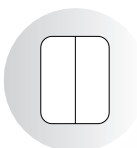
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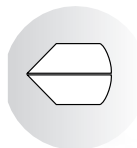
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## SLIMLINE BOX JOINT PLIERS & NIPPERS

Made in Germany

The Slimline series is lightweight and sized for small to miniature work. These are precision pliers and nippers with box joints to eliminate side play and maintain alignment of jaws even under stress. The heads are brightly finished and the handles have vinyl cushion grips, and fitted with leaf springs which make them suited for repetitive work.

### 1 FLAT NOSE PLIERS

Smooth jaws taper to 1/8" at tips. For holding and manipulating flat pieces. Overall length 5", length of jaws 7/8".

No.	Overall Length	Length of Jaws	Jaws
46.052	5"	7/8"	Smooth

### 2 ROUND NOSE PLIERS

Smooth jaws taper to 1/32" at tips. Used for making loops, bends, coils and similar operations. Overall length 5", length of jaws 7/8".

No.	Overall Length	Length of Jaws	Jaws
46.054	5"	7/8"	Smooth

### 3 CHAIN NOSE PLIERS

Smooth jaws taper to 1/32" at tips and jaw edges are beveled to prevent marring of soft wire. Used to make bends and for gripping and manipulating wire. Overall length 4-3/4", length of jaws 7/8".

No.	Overall Length	Length of Jaws	Jaws
46.056	4-3/4"	7/8"	Smooth

### 4 END CUTTERS

Flush cutting edges are for precision cutting of soft wire. Jaws are set at right angles for getting close to work. Overall length 4-1/4", length of cut 9/16".

No.	Overall Length	Length of Cut	Description
46.058	4-1/4"	9/16"	Flush

### 5 OBLIQUE CUTTERS

Head is angled with pointed tip for getting into tight places. Semi-flush cutting edges are for precision wire cutting of soft wires. Overall length 4-1/4", length of cut 9/16".

No.	Overall Length	Length of Cut	Description
46.062	4-1/4"	9/16"	Semi-flush

## SLIMLINE BOX JOINT PLIERS & NIPPERS

### 1 DIAGONAL CUTTERS with POINTED END

Also known as side cutters, they have semi-flush cutting edges for precision cutting of soft wires. Overall length 4-1/4", length of cut 1/2".

No.	Overall Length	Length of Cut	Description
46.059	4-1/4"	1/2"	semi-flush

### 2 DIAGONAL CUTTERS with ROUNDED END

Also known as side cutters, they have semi-flush cutting edges for precision wire cutting of soft wires. Overall length 4-1/4", length of cut 1/2".

No.	Overall Length	Length of Cut	Description
46.066	4-1/4"	1/2"	semi-flush



**Buy in Kit and Save!**

#### KIT

Contains three pliers (Nos. 46.052, 46.054, and 46.056) plus two nippers (Nos. 46.062 and 46.066) in deluxe vinyl pouch. Priced lower than when tools are purchased separately – and a free pouch is included!

No. 46.068

## JEWELERS' SERIES BOX JOINT PLIERS & CUTTERS

*Made in Germany*

This series is standard weight and size for medium to small work. These are precision pliers and nippers with box joints to eliminate side play and maintain alignment of jaws even under stress. The heads are brightly polished and the handles have vinyl cushion grips.

### 3 ROUND NOSE PLIERS

Smooth jaws taper to 1/32" at tips. Used for making loops, bends, coils and similar operations. Overall length 5-1/4", length of jaws 1".

No.	Overall Length	Length of Jaws	Jaws
46.104	5-1/4"	1"	Smooth

### 4 FLAT NOSE PLIERS

Smooth jaws taper to 3/16" at tip for holding and manipulating flat pieces. Overall length 5-1/4", length of jaws 1".

No.	Overall Length	Length of Jaws	Jaws
46.102	5-1/4"	1"	Smooth

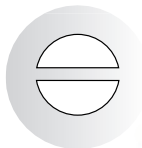
### 5 HALF-ROUND and FLAT NOSE PLIERS

One smooth jaw is half-round and the other is flat. Overall length 5-1/4", width of jaw 1/4".

No.	Overall Length	Width of Jaws	Jaws
46.114	5-1/4"	1/4"	Smooth







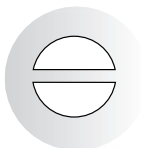
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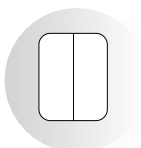
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## JEWELERS' SERIES BOX JOINT PLIERS & CUTTERS

### 1 CHAIN NOSE PLIERS

Jaws taper to 1/32" at tips and jaw edges are beveled to prevent marring of soft wire. Used to make bends and for gripping and manipulating wires. Overall length 5-1/4", length of jaws 1".

No.	Description
46.106	Smooth jaws
46.108	Serrated jaws

### 2 DIAGONAL CUTTERS

Also known as side cutters. Regular edges for cutting soft to medium hard wires. Length of cut 5/8".

No.	Overall Length
46.124	5"
46.126	5-1/4"

### 3 LONG CHAIN NOSE PLIERS

Jaws taper to 1-32" at tips and can be used to make bends and for gripping and manipulating wires. Overall length 6", length of jaws 1-1/2"

No.	Description
46.110	Smooth jaws
46.112	Serrated jaws

### 4 END CUTTERS

Regular edges for cutting soft to medium hard wires. Jaws are set at right angles for getting close to work. Length of cut 3/4".

No.	Overall Length
46.118	4-1/2"
46.120	5-1/4"

#### Buy in Kit and Save!

#### KIT

Full kit contains three pliers (Nos. 46.102, 46.104 and 46.106) and two cutters (Nos. 46.118 and 46.124) in deluxe vinyl pouch. Priced lower than when tools are purchased separately — and the pouch is free!

No. 46.132

PRO-LINE SERIES BOX  
JOINT PLIERS & CUTTERS

Made in Germany

Standard weight pliers and nippers with box joints, highly polished finish and plastic covered handles. Pliers and nippers in the most popular shapes for precision work.

1 ROUND NOSE PLIERS

Smooth jaws taper to 1/32" at tips. Used for making loops, bends, coils and similar operations.

No.	Overall Length	Length of Jaws
46.164	4-1/2"	1"
46.166	5-1/4"	1-1/8"



2 CHAIN NOSE PLIERS

Jaws taper to 1/32" at tips and jaw edges are beveled to prevent marring of soft wire. Used to make bends and for gripping and manipulating wires.

No.	Overall Length	Length of Jaws	Jaws
46.170	4-1/2"	1"	Smooth
46.172	5-1/4"	1-1/4"	Smooth
46.174	5-1/4"	1-1/4"	Serrated



3 LONG NOSE PLIERS

Available in the two most popular types: flat and round. Provide greater accessibility. Overall length is 5-1/4", smooth jaws 1-5/8".

No.	Description
46.176	Flat nose
46.178	Round nose
46.180	Chain nose



Pliers/Cutters





1

## 1 SLIM LINE PRECISION PLIERS

*Made in Germany*

Small lightweight pliers, designed for delicate work. All have box joints to assure perfect alignment with smooth jaws and cushion grips. Overall length is 4-1/2".

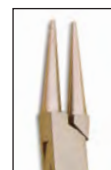
No.	Description	Length of Jaws
46.0281	Flat nose	7/8"
46.0286	Chain nose	7/8"
46.0291	Round nose	3/4"



46.0281  
Flat nose



46.0286  
Chain nose



46.0291  
Round nose



2

## 2 LIGHTWEIGHT PRECISION PLIERS with LEAF SPRINGS

*Made in Germany*

A fine series for light production and assembly work. All have box joints, radius edges, cushion grips and leaf springs. Overall length is 4-3/4".

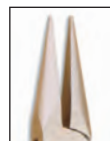
No.	Description	Length of Jaws
46.0296	Diagonal cutter	9/16"
46.01005	Flat nose	7/8"
46.01105	Chain nose	15/16"
46.01205	Round nose	15/16"
46.01305	Curved tip chain nose	15/16"



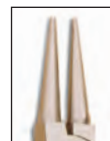
46.0296  
Diagonal  
cutter



46.01005  
Flat nose



46.01105  
Chain nose



46.01205  
Round nose



46.01305  
Curved tip  
chain nose



3

## 3 PRIDELINE® BOX JOINT PLIERS

Lightweight stainless steel work pliers have smooth jaws and are completely rust proof. Polished heads prevent marking soft metals. Cushion grip handles. Overall length is 5".

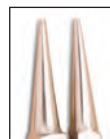
No.	Description
46.0160	Flat nose
46.0162	Chain nose
46.0164	Round nose
46.0166	Side cutter



46.0160  
Flat nose



46.0162  
Chain nose



46.0164  
Round nose



46.0166  
Side cutter



46.0168  
Brass Lined  
Flat

### KIT IN VINYL POUCH

Kit contains three pliers (Nos. 46.0160, 46.0162 and 46.0164) and one cutter (No. 46.0166) in vinyl pouch. Priced lower than when tools are purchased separately. No. 46.0040

## 1 PRIDELINE® LAP JOINT PLIERS

Good quality carbon steel work pliers have smooth jaws. Polished heads to prevent marking on soft metals and cushion grip handles. Overall length is 4-1/2".

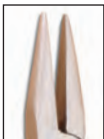
No.	Description
46.0170	Flat nose
46.0174	Long chain nose
46.0175	Chain nose
46.0180	Round nose
46.0185	Side cutter
46.0190	End cutter



No. 46.0170  
Flat nose



No. 46.0174  
Long chain nose



No. 46.0175  
Chain nose



No. 46.0180  
Round nose



No. 46.0185  
Side cutter



No. 46.0190  
End cutter

### KIT in VINYL POUCH

Kit contains three pliers (Nos. 46.0170, 46.0175 and 46.0180) and two cutters (Nos. 46.0185 and 46.0190) in vinyl pouch. Priced lower than when tools are purchased separately.

No. 46.0035

## 2 GROBET USA® FOAM GRIP BOX JOINT PLIERS

Top quality box joint construction - smooth, non-mar jaws. Brushed satin finish and double leaf spring return. Foam grip comfort handles. Overall length is 4-3/4".

No.	Description
46.080	Chain nose
46.081	Round nose
46.082	Flat nose
46.083	Bent chain nose
46.084	Side cutter



No. 46.080  
Chain nose



No. 46.081  
Round nose



No. 46.082  
Flat nose



No. 46.083  
Bent chain nose



No. 46.084  
Side cutter

### FIVE PLIER KIT

Kit contains four pliers (Nos. 46.080, 46.081, 46.082 and 46.083) and one cutter (No. 46.084) in vinyl pouch. Priced lower than when tools are purchased separately.

No. 46.085

## 3 GROBET USA® ECONOMY SLIMLINE PLIERS

Box joint construction. Polished heads with double leaf spring return. Plastic grip handles. Overall length is 4-1/2".

No.	Description
46.421	Chain nose
46.422	Round nose
46.423	Flat nose
46.424	Side cutter
46.425	End cutter



No. 46.421  
Chain nose



No. 46.422  
Round nose



No. 46.423  
Flat nose



No. 46.424  
Side cutter



No. 46.425  
End cutter



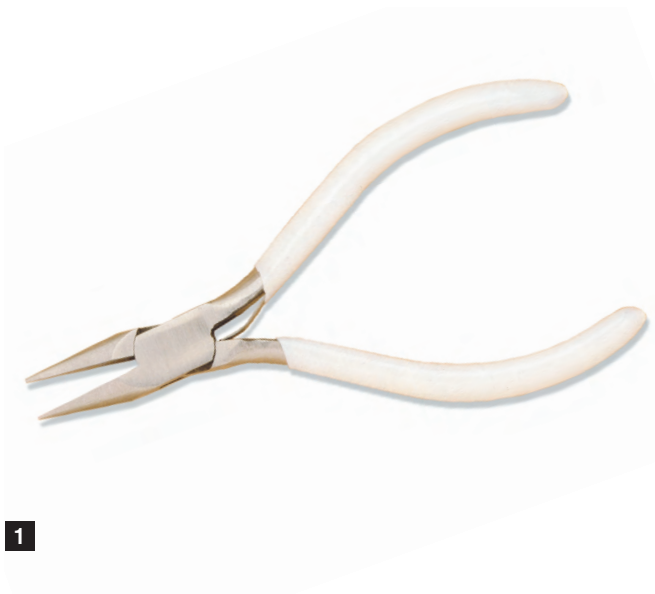
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2



3



1

## 1 FULL SIZE PLIERS

Made in Germany

Sturdy full size pliers have box joint for smooth operation. Have leaf spring and cushion grips for comfort. Overall length is 5-1/4".

No.	Description	Length of Jaws
46.0257	Flat nose	1-3/8"
46.0258	Round nose	1-1/16"
46.0259	Chain nose	1-1/4"
46.0260	Curved chain nose	1"
46.0261	End cutter	29/32"
46.0262	Side cutter	3/4"



46.0257  
Flat nose



46.0258  
Round nose



46.0259  
Chain nose



46.0260  
Curved chain nose



46.0261  
End cutter



46.0262  
Side cutter



2

## 2 GROBET USA® ADJUSTABLE PRECISION SCREW JOINT PLIERS and CUTTERS

These drop forged steel pliers and cutters with tungsten steel cutting edges are 100% rust protected and acid resistant. The pliers are ergonomically developed with an adjustable screw joint, with foam padded handles for fatigue free working conditions. Cutting edges have a Rockwell hardness of 66-68 HRC.

No.	Description	Length of Jaws
46.250	Flat nose - plain jaw	5-1/8"
46.251	Round nose - plain jaw	5-1/8"
46.252	Cutter - diagonal/semi-flush	4-3/4"
46.253	Cutter - diagonal/flush	4-7/8"
46.254	Bent chain nose	5-1/8"
46.255	Chain nose - plain jaws	5-1/8"



46.250  
Flat nose - plain jaw



46.251  
Round nose - plain jaw



46.252  
Cutter - diagonal/semi-flush



46.253  
Cutter - diagonal/flush



46.254  
Bent chain nose



46.255  
Chain nose - plain jaws



3

## 3 PRECISION PLIERS and CUTTERS

The pliers are ergonomically developed, with padded handles for fatigue free working conditions. Has double leaf spring return.

No.	Description	Length of Jaws	Overall Length
46.360	Chain nose	1-1/8"	5"
46.361	Flat nose	1-1/8"	5"
46.362	Round nose	1"	5"
46.363	Side cutter	1/2"	4-1/2"
46.364	End cutter	1/2"	4-1/4"
46.365	Bent chain nose	1-1/8"	5"



46.360  
Chain nose



46.361  
Flat nose



46.362  
Rnd nose



46.363  
Side cutter



46.364  
End cutter



46.365  
Bent chain nose

ESCA PLIERS & CUTTERS

1 ESCA JEWELERS' PLIERS and CUTTERS

Box joint construction outlasts and out performs other types.  
Vinyl cushion grips provide comfort and retains precise alignment.

No.	Description	Overall Length
46.260	Chain nose	5-1/8"
46.261	Round nose	5-1/8"
46.262	Flat nose	5-1/8"
46.263	Half Round/Flat	5-1/8"
46.264	End cutter	4-3/4"
46.265	Diagonal cutter	5-1/8"



46.260 Chain nose    46.261 Round nose    46.262 Flat nose    46.263 Round/Flat nose    46.264 End cutter    46.265 Diagonal cutter

SIX PLIER KIT

Kit contains all six pliers listed above (Nos. 46.260, 46.261, 46.262, 46.263, 46.264 and 46.265).  
No. 46.269

2 ESCA SLIMLINE PLIERS and CUTTERS

The slimline series is lightweight and sized for small to miniature work. Box joint construction provides quality and durability that out lasts other types.

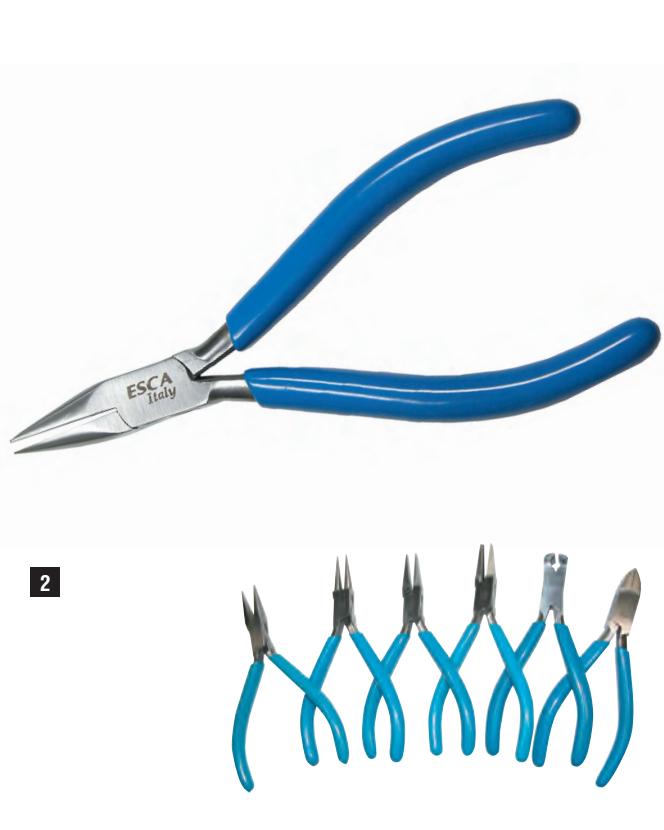
No.	Description	Overall Length
46.270	Chain nose	4-3/4"
46.271	Round nose	4-3/4"
46.272	Flat nose	4-3/4"
46.273	Half Round/Flat	4-3/4"
46.274	End cutter	4-1/2"
46.275	Diagonal cutter	4-3/4"



46.270 Chain nose    46.271 Round nose    46.272 Flat nose    46.273 Round/Flat nose    46.274 End cutter    46.275 Diagonal cutter

SIX PLIER KIT

Kit contains all six pliers listed above (Nos. 46.270, 46.271, 46.272, 46.273, 46.274 and 46.275).  
No. 46.279



Pliers/Cutters



## LINDSTROM PLIERS

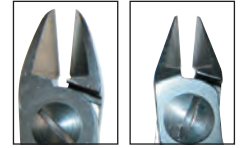
Made in Sweden.

1



### 1 80 SERIES (Yellow Handles)

Advanced diagonal cutting nippers, unsurpassed in cutting capacity. Manufactured with screw-type precision lap joint for optimum strength, exact movement and maximum accessibility. Dual spring-loaded handles and oval jaw design.



Micro-bevel Flush cut

No.	Description	Lindstrom Number	Overall Length	Length of Jaws
46.207	Micro-bevel	8140	4-5/16"	3/8"
46.209	Flush cut	8141	4-5/16"	3/8"
46.210	Micro-bevel	8150	4-13/32"	1/2"
46.211	Micro-bevel	8160	4-15/16"	5/8"
46.213	Flush cut	8144	4-5/16"	3/8"

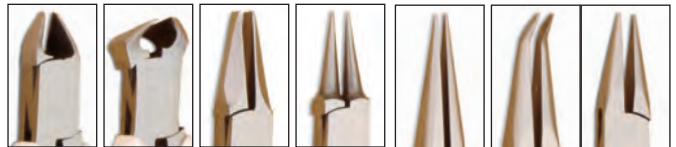
2



### 2 SUPREME SERIES (White Handles)

High quality, extremely precise and accurate pliers. Specially forged box joint with extra long contact surfaces. Joint moves smoothly for extra precision even at the tip. Box joint allows for smaller overall dimensions, improving accessibility in confined areas. With dual spring-loaded handles and comfortable cushion grips, marked with information on pliers' capacity.

No.	Description	Lindstrom Number	Overall Length	Length of Jaws
46.200	Side cutter	7190	4-5/16"	11/32"
46.201	End cutter flush cut	7291	4-1/4"	19/32"
46.202	Flat nose	7490	4-3/4"	25/32"
46.203	Round nose	7590	4-3/4"	25/32"
46.204	Long chain nose	7890	5-3/16"	1-1/4"
46.205	Curved tip chain nose	7892	5-1/16"	1-1/8"
46.206	Chain nose	7893	4-3/4"	25/32"



46.200 Side cutter 46.201 End cutter flush cut 46.202 Flat nose 46.203 Round nose 46.204 Long chain nose 46.205 Curved tip chain nose 46.206 Chain nose

### 3 RX SERIES

The cutter edges are precision-ground for exceptional long life. All are finely finished for a high degree of symmetry, even under magnification. The return spring automatically opens the tool, so fingers are always in place. The long, wide handles distribute and minimize pressure points. Unique spring design reduces fatigue over time.

No.	Description	Lindstrom Number	Length of Jaws
46.20201	Smooth, flat nose	RX7490	25/32"
46.20301	Smooth, round nose	RX7590	25/32"
46.20401	Smooth, snipe nose	RX7890	11/4"
46.20501	Smooth, snipe nose w/bent tip	RX7892	11/8"
46.20701	Micro-bevel cutter, small	RX8140	7/16"
46.21001	Micro-bevel cutter, medium	RX8150	1/2"
46.21101	Micro-bevel cutter	RX8160	5/8"



46.20201 Flat nose 46.20301 Round nose 46.20401 Snipe nose 46.20501 Snipe nose w/bent tip 46.20701 Micro-bevel cutter

3



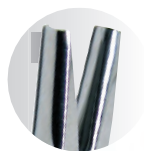


## SPECIAL FEATURE PLIERS & CUTTERS

### 1 RING BENDING PLIERS

For straightening and bending rings, wires, rods and strips. With smooth box joint. Overall length is 6-1/4", width of jaws 1-1/4".

No.	Overall Length	Width of Jaws	Jaws
46.0062	6-1/4"	1-1/4"	Smooth



1



### 2 LOOP CLOSING PLIERS

Jaws are shaped and smoothly finished to close loops, jump rings, bracelet links, bows, etc., without distorting or scratching. With box joint and cushion grip handles. Overall length is 4-1/2".

No.	Overall Length
46.0057	4-1/2"



2



### 3 SOLDER CUTTER

Solder sheets can be easily cut in clipped pieces. Sheets are placed on bottom jaw and snipped. Pieces drop out cleanly. These can also be used to cut wire solder by inserting the wire into the side hole. 1.5 mm.

No.	Overall Length
53.812	5"



3



### 4 RING HOLDING PLIERS

Large, grooved, semi-circular jaws hold rings during filing or polishing. With box joint. Overall length is 5-1/2".

No.	Overall Length
46.038	5-1/2"



4



### 5 BOW CLOSING PLIERS

Heavy-duty pliers for closing bows and loops. Rugged enough for bending ring shanks. Overall length is 6-1/2".

No.	Overall Length
46.306	6-1/2"



5



### 6 LONG NOSE CHAIN PLIERS

Long nose jaws have beveled edges to prevent nicking of wires. Dowel pin keeps jaws in alignment when twisting wires. Lightweight design. Overall length is 5-3/4", length of jaws 1-3/4". Return spring in handles and plastic grips.

No.	Overall Length	Length of Jaws	Jaws
46.326	5-3/4"	1-3/4"	Serrated jaws



6





1

**1 CHAIN NOSE SETTING PLIERS**

Curved tips taper to 1/16" for setting small stones. Box joint for alignment with built-in spring. Overall length is 4-1/2".

No.	Overall Length
46.329	4-3/4"



2

**2 STAINLESS STEEL CROWN STYLE PLIER, #110**

Stainless steel pliers for bending pins or posts when mounting tooth crowns. Overall length is 5-1/2".

No.	Overall Length
46.670	5-1/2"



3

**3 STONE SETTING PLIERS**

For setting or tightening the prongs on stone set rings. Jaws have been shaped so that they fit over the prongs on a setting. Overall length is 5". Economical value.

No.	Overall Length
46.346	5"



4

**4 STONE SETTING PLIERS**

Used to tighten loose prongs or for initial setting of stones. Overall length is 5".

No.	Overall Length
46.348	5"



5

**5 BOW OPENING PLIERS**

Jaws open when handles are compressed. For opening bows, links and rings. Spring in handle keeps pliers closed. These are special-joint, heavy-duty pliers. Overall length 5-3/4".

No.	Overall Length
46.303	5-3/4"



6

**6 PENDANT BOW CLOSING PLIERS**

For closing and adjusting pendant bows and bending rings. With box joint. Overall length is 6". Economical value.

No.	Overall Length
46.037J	6"

## 1 PERFECT SET PLIERS

A unique design used for closing prongs. the angled jaw allows for properly bending the prong. Great for tennis bracelet.

No.	Overall Length
46.139	5-3/8"



1



## 2 STONE REMOVAL PLIERS

Easily removes stones from settings while preventing damage. Can be used on all prong settings, bead settings, clusters, channels, fishtails and baguettes. Thin, narrow tips fit into tight recessed areas and very small settings. With box joint for perfect alignment of jaws and cushion grip handles for comfort. Overall length is 4-3/4".

No.	Overall Length
46.0059	4-3/4"



2



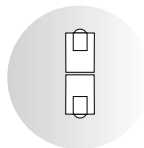
## NYLON JAW PLIERS

### 3 FLAT NOSE NYLON PLIERS

Two nylon jaws are excellent for holding wire because they will not scratch. The jaws taper from 9 mm to 5 mm and are great for straightening wire and for wire wrapping. Overall length 5-1/2".

No.	Overall Length
46.5762P	5-1/2"

46.5762PJ Replacement jaws



3

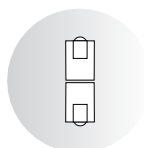


### 4 FLAT, CLAMPING PLIERS

Nylon jaws are 10 mm wide and will not scratch or mar. Great for forming wire or stock and to straighten kinks. Overall length 5-1/2".

No.	Overall Length
46.5767P	5-1/2"

46.5767J Replacement jaws



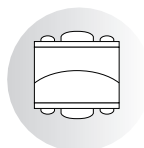
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### 5 BRACELET FORMING PLIER

Reshaping bracelets is easy with these gently arched nylon jaws. The nylon jaws mean this plier will not scratch the bracelet. Overall length 5-1/2".

No.	Overall Length
46.769P	5-1/2"



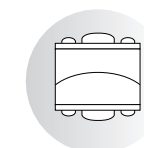
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### 6 RING FORMING PLIER

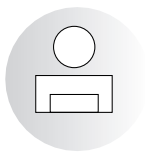
For bending rings, sizes 6-1/2" and larger, these pliers save the work from scratches and unsightly marring. Overall length 5-1/2".

No.	Overall Length
46.5720P	5-1/2"



6





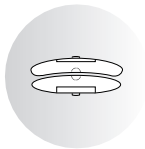
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## 1 FLAT/ROUND NOSE PLIERS

The flat jaw is nylon, so you won't scratch or mar the surface. The metal jaw is round, making these ideal for bending ring shanks and shaping earring wires. Use on sheet and wire to form intricate designs. Overall length 5-1/2".

No.	Overall Length
46.5764P	5-1/2"
46.5764PJ	Replacement jaw



2



## 2 BENDING PLIER/WIRE and RING

These flat nose pliers with two nylon jaws will not mar or scratch, and they provide a firm, secure grip on the work. One jaw is grooved for easily gripping rings or wire shanks. Overall length 5-1/2".

No.	Overall Length
46.5710P	5-1/2"



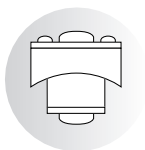
3



## 3 CONCAVE/FLAT FORMING PLIERS

With one steel jaw and one nylon jaw, these pliers are great for forming metal without scratching the surface of the work. 11 mm nylon flat jaw and 6 mm "V" metal jaw. Overall length 5-1/2".

No.	Overall Length
46.736P	5-1/2"



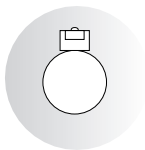
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## 4 RING BENDING PLIERS

Form wire or flat stock into a smooth, uniform curve without scratching or marring the surface of the work. Overall length 5-1/2".

No.	Overall Length
46.5770P	5-1/2"



5



## 5 JEWELERS COLD BEND PLIERS

These heavy duty pliers consistently and repeatedly form stock and wire without pinching or binding. The nylon roller makes it quicker and easier to form rings, from size 4 up to bangle bracelets without marring or scratching the surface. Overall length 5-1/2".

No.	Overall Length
46.045P	5-1/2"



6



## 6 LOOP CLOSING PLIERS

The jaws on these pliers are hollowed and ground allowing the flat parts to be parallel. For easy and quick closing of jump rings, bows and charm links. Overall length 5".

No.	Overall Length
46.5065P	5"

## 1 CASE CLOSING PLIERS

Parallel closing jaws with circular, rubber padded, hinged discs provide dependable case closing. Overall length is 7-1/2".

No.	Overall Length
46.805	7-1/2"
46.804	Set of replacement pads



## 2 ROSARY PLIERS

Combination round nose/side cutter. Loops and bends can be made and wire cut without changing tools. Overall length is 5-1/4".

No.	Overall Length
46.190	5-1/4"



## 3 BRASS LINED FLAT NOSE PLIERS

Jaws are brass lined and smooth to prevent marring of finishes and damage to delicate parts. Overall length is 4-1/2", length of jaws 7/8".

No.	Overall Length	Length of Jaws
46.316	4-1/2"	7/8"



## 4 BENT NOSE CHAIN PLIERS

Tips are angled 60° for picking up and manipulating precision wires. Lightweight design. Overall length is 5", length of jaws 1". Return spring in handles and plastic grips.

No.	Overall Length	Length of Jaws
46.328	5"	1"



## 5 PRONG OPENING PLIERS

Features a thinner claw to get behind the prongs. The angle and length to bottom jaw provides leverage to minimize stone damage. Lower jaw is grooved to prevent sideways slipping.

No.	Overall Length
46.142	



## 6 PRONG OPENING PLIERS

Opens prongs without fracturing stones. The top jaw is a claw that grips the prong and the lower jaw is grooved to hold the prong.

No.	Overall Length
46.143	







1



### 1 STAINLESS STEEL CURVED NOSE

Plier with bend nose to allow better visibility and to reach into tight places. Overall length 4-1/2".

No.	Overall Length
46.072	4-1/2"

2



### 2 PLASTER NIPPERS

Polished steel pincer jaws with tapered serrated edge, assists technician to easily remove plaster, stone or investment surrounding master mold, without damage to patterns. Shipping weight is 6 ounces and overall length of 8".

No.	Overall Length
53.852	8"

3



### 3 STAINLESS STEEL JEWELRY MARKING PLIERS

Little pressure is needed to stamp precious metals, including white gold. Can be used on curved or flat surfaces and stamps inside rings as small as size 4. Easy to use, requires no set-up and no hammering. Made of durable stainless steel with adjustable screw to lock stamp in place. Overall length is 5-1/2". Punches not included, order below.

No.	Description
46.02405	Marking Plier
55.02401/1	10K punch
55.02401/2	14K punch
55.02401/3	18K punch
55.02401/7	STER (sterling silver)
46.02401/4	Replacement nylon anvil

4



### 4 BEAD CRIMPING PLIERS

A revolutionary hand tool which forms a smooth, unobtrusive crimp. It can be hidden in a clam-type bead tip or slipped into a large-hole bead. Works well with round or tube crimps. Comes complete with instructions. Overall length 5-1/8".

No.	Overall Length
46.411 2 to 3mm Beads	5-1/8"
46.415 3mm and Larger Beads	5-1/8"

5



### 5 FLUSH CUTTING NIPPERS

Handmade from tool steel with long wearing, honed cutting edges that far outlast the ordinary nipper. For special or difficult wire cutting problems. These miniature oblique nippers will cut spring steel wire up to B & S #28, as well as soft wires up to B & S #18. Snap cut right to the tips. Width of jaws is 3/4". Overall length length is 5".

No.	Overall Length	Width of Jaws
46.563	5"	3/4"

## MINIATURE NIPPERS

MINIATURE NIPPERS

1 SHEAR CUTTERS

This economical shear-action cutter is indispensable for anyone involved with bead stringing. It easily cuts regular bead cord and "Tigertail." Comfortable grip handles. Overall length is 4-1/2".

No.	Overall Length
46.573	4-1/2"



2 SLIM-LINE MIDGET NIPPERS

For flush cutting wire less than .025". Nickel-plated with box joint and on-off leaf spring. Will snap cut along cutting edge as well as at tips. Overall length is 4", width of jaws 7/32".

No.	Overall Length	Width of Jaws
46.0222	4"	7/32"



PARALLEL ACTION PLIERS & CUTTERS

Jaws open and close parallel along entire length. Handles and jaws are nickel-plated.

3 PARALLEL ACTION PLIERS

Provides a square vise-like grip.

No.	Description	Jaws	Slot	Overall Length	Max Opening
46.506	Heavy, flat nose	Serrated	"V"	5-1/2"	3/8"
46.510	Light, flat nose	Serrated	"V"	5"	3/8"
46.512	Light, flat nose	Smooth	"V"	5"	3/8"
46.514	Flat nose/Cutter	Serrated	"V"	5"	1/2"
46.516	Flat nose/Cutter	Serrated	"V"	5-1/2"	1/2"
46.520	Chain nose	Smooth	Cross	5"	3/8"
46.285	1/2 rnd/flat nose	Smooth	"V"	5-1/2"	3/8"



46.506 Heavy, flat nose    46.510/512 Light, flat nose    46.514/516 Flat nose/Cutter    46.520 Chain nose    46.285 1/2 Rnd/Flat nose

4 PARALLEL ACTION DIAGONAL CUTTERS

Has spring action handle. Cuts soft wire 5/32", half hard wire 1/8" 3/4 hard wire 5/64" and piano wire 1/16". Overall length is 5-1/2" with maximum jaw opening of 1/4".

No.	Overall Length
46.532	5-1/2"



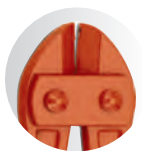
Pliers/Cutters



1



2



3



4



5

## HEAVY DUTY CUTTERS

For larger wire, rod, sprues and piano wire.

### 1 BERGEON HEAVY DUTY DIAGONAL CUTTING PLIERS

Ideal for sprue cutting. Consistently makes clean cuts with one closing action. The unique linkage design multiplies the pressure exerted. With hardened steel cutting jaws for years of perfect cuts. Locking system holds pliers closed when not in use to protect cutting edges.

Overall length is 10", cutting edge 7/8", jaws open from 5/32" - 9/32".

No.	Overall Length	Cutting Edge
64.6599	10"	7/8"

### 2 END CUTTERS/SPRUE CUTTERS

Multi-leverage with return spring in handles. Cuts up to 13/16" rods. End type cuts close to work and cutters are great for close precision cuts. Overall length is 7", cutting edge 13/16".

No.	Overall Length	Cutting Edge
46.574	7"	13/16"

### 3 SIDE CUTTERS/SPRUE CUTTERS

Multi-leverage with return spring in handles. Heavy-duty type cuts up to 1/4" rods. Overall length is 8", cutting edge 3/4".

No.	Overall Length	Cutting Edge
46.582	8"	3/4"

### 4 FLUSH SPRUE CUTTERS

Strong action with a thick cutting blade. Lock holds pliers closed when not in use. Overall length is 10", cutting edge 7/8".

No.	Overall Length	Cutting Edge
46.583	10"	7/8"

### 5 COMPOUND SPRUE/MEMORY WIRE CUTTER

The jaws are made of hardened tool steel. The cutters are able to cut memory wire up to 16 gauge and sprues up to 1/8". The Grobet Compound cutter has an overall length is 8-1/2" and a jaw length of 5/8".

No.	Overall Length	Jaw Length
46.420	8-1/2"	5/8"

## GROBET USA® SCISSORS & SHEARS

In keeping with a tradition of excellence in metal forming and finishing, these scissors and shears are made of drop forged steel, expertly tempered and hardened. The edges are hand ground to retain a keen cut after long use. Although the line is limited by number, the uses and application areas are extremely varied. For shop, office, hobby, craft and precision use.



### 1 SHORT STRAIGHT BLADE SCISSORS

Stainless steel, near razor-sharp blades cut fine wire, filament threads, nickel ribbon, etc. Widely used in precision applications. Length of cut is 1/2" (13 mm).

No.	Overall Length
53.201	3-1/2" (89 mm)



### 2 SHORT CURVED BLADE SCISSORS

Stainless steel, near razor-sharp blades cut fine wire, filament threads, nickel ribbon, etc. Widely used in precision applications. Length of cut is 1/2" (13 mm).

No.	Overall Length
53.205	3-1/2" (89 mm)



### 3 STRAIGHT MEDIUM BLADE SCISSORS

Stainless steel straight blade is near razor-sharp to cut fine wire, filament threads, nickel ribbon, etc. Widely used in precision applications. Length of cut is 3/4" (19 mm). Design of points is well suited for providing access to hard-to-reach areas. Made in Germany.

No.	Overall Length
53.220	4-1/4" (108 mm)



### 4 CROWN SCISSORS

For hard wire or sheet up to B & S #27 and soft wire up to B & S #16. With short, stubby blades 9/16" (14 mm) long and 1/4" (6 mm) wide. No. 53.630 with serrated blades is recommended for cutting wires. Overall length is 4-1/8" (105 mm) with large loop handles. Made in Germany.

No.	Description
53.620	Straight blades
53.630	Straight serrated blades
53.640	Curved blades



### 5 JEWELERS' SHEARS with LEAF SPRINGS

Long handle permits greater flexibility in cutting. Excellent for clipping chains, solder and thin metal. Jaws are polished. Overall length is 7" (178 mm).

No.	Description
53.0917	Straight blade
53.0927	Curved blade



### 5 THREAD SNIPS

These economical snips easily cut cord and snip apart knotted strands before restringing.

No.	Overall Length
53.01400	4-1/2" (114 mm)



### 6 COMPOUND ACTION SHEARS

Suited for straight or shallow arc cutting. Cuts copper up to B & S #16 with half the effort of ordinary shears. Serrated blades prevent slippage. Length of cut is 1-1/2" (38 mm). Made in U.S.A.

No.	Overall Length
53.836	10" (254 mm)



### 7 ALL-PURPOSE STANDARD SHEARS

Excellent medium to heavy-duty shears for leather, cardboard, etc., and up to 22 B & S gauge copper. Double-plated chrome over nickel, with black handles, for complete rust protection and long life. Tension can be adjusted easily with screwdriver. Length of cut is 2-7/8" (73 mm).

No.	Overall Length
53.350	8" (203 mm)





### 1 LIGHTWEIGHT METAL SHEARS

For cutting templates and patterns from medium hard metal sheet up to B & S #20 or soft sheet to B & S #16. Plain handles. Overall length is 7" (178 mm) with a 1-1/2" (38 mm) length of cut. Made in Germany.

No.	Description
53.804	Straight blade
53.806*	Straight blade
53.808	Curved blade
53.810*	Curved blade

\*Have return springs in handle.



### 3 STRAIGHT SHEARS

Similar to No. 53.350 except the handles are longer and the blade is shorter for greater leverage. Will cut copper up to B & S #20. length of cut is 1-1/2" (38 mm)

No.	Description
53.820	Length 7-1/4" (184 mm)

### 5 BENCH SHEARS

Lightweight, yet powerful shears for cutting sheets, rods or flat bars. The handle provides leverage to cut with ease. Replaceable blades are made of hardened tool steel and are held in the open position by a strong spring to help prevent accidental closing.

No.	Description
53.920	With 5" Blade
53.921	With 6-1/2" Blade
53.922	With 7-3/4" Blade
53.933	With 12" Blade



### 2 SOLDER CUTTER

Solder sheets can be easily cut in clipped pieces. Sheets are placed on bottom jaw and snipped. Pieces dropout cleanly. These can also be used to cut wire solder by inserting the wire into the side hole.

No.	Description
53.812	1.5 mm size



### 4 LIGHTWEIGHT METAL SHEARS

For cutting templates and patterns from medium hard metal sheet up to B & S #20 or soft sheet to B & S #16. Available with straight or curved blades (for cutting circular shapes). Regular scissors handles. Overall length is 7" (178 mm) with a 1-1/2" (38 mm) length of cut. Made in Germany.

No.	Description
53.800	Straight blade
53.802	Curved blade





# *Polishing*



## POLISHING COMPOUNDS

### 1 FABULUSTRE®

Provides a high-luster finish on all types of precious and decorative metals. Special formulation removes light scratches and produces a fast, mirror-bright, final finish without discoloration. Greaseless, dry but not dusty, which means fast and easy cleanup with little or no residue.



No.	Description
47.312	1/4 lb. tube
47.313	1 lb. tube

### 2 ZAM® BUFFING COMPOUND

Formulated especially for silver and turquoise jewelry. Will not scratch soft stones such as turquoise. Time-saving to use, since stones do not have to be removed before buffing a new piece. Leaves a high luster without residue. Fast clean-up, does not cling to or penetrate surface of stones. Versatile, many goldsmiths prefer ZAM to rouge as a final finish.



No.	Description
47.502	1/4 lb. tube
47.503	1 lb. tube

### 3 DIALUX POLISHING COMPOUNDS

Premium polishing compounds. Made from select abrasive grades, uniformly blended and manufactured under the strictest quality controls. Adheres exceptionally well to buffs, brushes and felts. Very little is needed, which helps reduce cleanup and saves time. Individually packaged in color-coded cardboard boxes for cleaner handling. Each bar measures 3-5/8" L x 1-1/8" W x 1" H and weighs approximately 4 ounces.



No.	Box Color	Application
47.390	Rouge/Red	The brightest shine for yellow gold. Also produces a brilliant shine on silver.



No.	Box Color	Application
47.392	Blanc/White	Bright polishing of silver.



No.	Box Color	Application
47.394	Jaune/Yellow	Bright high polish of soft metals; such as brass, bronze, and copper.



No.	Box Color	Application
47.396	Vornex/Orange	Pre-polish cutting compound for all ferrous metals.



No.	Box Color	Application
47.391	Vert/Green	Bright polishing of hard alloys; such as platinum, white gold, chrome, chrome cobalt, and stainless steel.



No.	Box Color	Application
47.393	Bleu/Blue	All-purpose compound for all types of metal.



No.	Box Color	Application
47.395	Gris/Gray	Fine polishing of stainless steel.



No.	Box Color	Application
47.397	Noir/Black	For final polishing of silver



## GROBET USA® ROUGE and TRIPOLI in PUSH-UP TUBES

Eliminates the mess and does away with broken bars. Push-up cardboard tube exposes only the amount needed. Approx. Weight 3.25 oz.

Available in the following compositions:



No.	Application
47.376	<b>White rouge</b> - A quick polishing compound for hard metals such as stainless steel, chrome or platinum.



No.	Application
47.381	<b>Plastic compound</b> - For polishing hard plastics (not for soft or low melting plastics such as polyethylene).



No.	Application
47.377	<b>Green rouge</b> - Imparts a high luster on hard metals such as chrome, stainless steel or platinum.



No.	Application
47.382	<b>Tripoli</b> - A fine cutting abrasive for use on all metals where rouge will be used for final finish. Leaves metals scratch-free, but dull in appearance.



No.	Application
47.378	<b>Red rouge</b> - For producing the final high color and luster on gold, silver and other soft metals.



No.	Application
47.383	<b>One Step</b> - The final touch for finishing metals and plastics. Removes scratches and leaves a high finish. Clean and greaseless with no discoloration.



No.	Application
47.379	<b>Yellow rouge</b> - For hard metals such as platinum, chrome and stainless steel. Leaves little residue on work.



No.	Application
47.384	<b>Emery</b> - Used on iron, steel and hard metals for coarse buffing and removing scratches, rust, corrosion, burs, etc. Not for gold, silver or plated articles.



No.	Application
47.380	<b>Black rouge</b> - For producing a rich, dark luster on white gold, platinum, or silver.



No.	Application
47.385	<b>EZ Clean Red</b> - Water soluble red rouge - Special formulation



## 1 PRO-CRAFT® ROUGE and TRIPOLI in PEEL-BACK TUBES

Eliminates the mess and does away with broken bars. Peel-back cardboard tube exposes only the amount needed. Available in the following compositions:

No.	Application
47.320	<b>Black rouge</b> - For producing a rich, dark luster on white gold, platinum, or silver. 5 oz.
47.321	<b>Green rouge</b> - Imparts a high luster on hard metals such as chrome, stainless steel or platinum. 6 oz.
47.322	<b>Plastic compound</b> - For polishing hard plastics (not for soft or low melting plastics such as polyethylene). 5 oz.
47.323	<b>Red rouge</b> - For producing the final high color and luster on gold, silver and other soft metals. 7 oz.
47.324	<b>Water soluble red rouge</b> - Special formulation makes easy clean up. 7 oz.
47.325	<b>Tripoli</b> - A fine cutting abrasive for use on all metals where rouge will be used for final finish. Leaves metals scratch-free, but dull in appearance. 4 oz.
47.326	<b>White rouge</b> - A quick polishing compound for hard metals such as stainless steel, chrome or platinum. 7 oz.
47.327	<b>Yellow rouge</b> - For hard metals such as platinum, chrome and stainless steel. Leaves little residue on work. 6 oz.
47.331	<b>Emery</b> - For iron, steel and hard metals for coarse buffing and removing scratches, rust, corrosion, burs, etc. Not for gold, silver or plated articles. 5 oz.
47.328	<b>Wonder bar</b> - The final touch for finishing metals and plastics. Removes scratches and leaves a high finish. Clean and greaseless with no discoloration. 5 oz.

## SET of 5 PEEL-BACK COMPOUNDS

Contains the five most used compounds: red rouge, yellow rouge, brown tripoli, plastic rouge and emery. All in peel-back cardboard tubes. No. 47.330



## 2 FLITZ METAL POLISH

Cleans, polishes and protects.

Acid-free, non-toxic, non-abrasive paste rubs on and wipes off. Protects up to 6 months. Concentrated so a little goes a long way. Use on gold, silver, brass, platinum, chrome, copper and marble. Safe for heavy plated work.

No.	Description
No. 47.457	50-gram tube
No. 47.458	150-gram tube



## 3 C-CLEAR® PLASTIC RENEWER

Every watch repair can have a crystal that looks brand new. Easy to use; wheel is charged with compound and crystal is then gently buffed.

No.	Description
No. 47.310	1/4 lb. bar

## BOBBING, CROCUS & TRIPOLI COMPOUNDS

For cutting or abrasive action. Leaves metal scratch-free, but dull in appearance.



### 1 GRAYSTAR - 69

Polishing compound for cutting, smoothing rough edges and removing scratches.

No.	Type	Approx. Wt. of Bar
47.0349	GrayStar	1 lb.



### 2 BOBBING COMPOUND (Tan)

For brush or lap work, as it will adhere to these surfaces.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.431	Original Formula	1 lb.	47.430
47.477	Grobet	12 oz	47.477B



### 3 BLUE PLATINUM

Removes light scratches and prepares for final polishing of platinum

No.	Type	Approx. Wt. of Bar
47.42001	Grobet	6 oz



### 4 PUMPKIN PLATINUM ROUGE

Specially formulated for the final polishing of platinum.

No.	Type	Approx. Wt. of Bar
47.420	Grobet	6 oz.



### 5 WHITE DIAMOND TRIPOLI - XXX TYPE

For use with brass, copper, aluminum, bronze, nickel, silver and softer metals.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
—	Original Formula	1 lbs.	47.450
47.454	Original Formula	2 lbs.	47.453



### 6 WHITE DIAMOND TRIPOLI - XXXX TYPE

Excellent for gold, silver and platinum.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.448	Original Formula	1 lb.	47.447
47.489	Grobet	1 lb.	47.489B



### 7 BROWN TRIPOLI

Standard, fast-cutting tripoli, used when rouge will be used for final finish.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.437	Original Formula	4 oz	47.436
47.440	Original Formula	1 lb.	47.439
47.443	Original Formula	2 lbs.	47.442
47.479	Grobet	4 oz	47.479B
47.480	Grobet	1 lb.	47.480B
47.481	Grobet	2 lbs.	47.481B



### 8 GRAY OR PLATINUM TRIPOLI

Very popular for use with split laps. Great for platinum and hard metals.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.446	Original Formula	1 lb.	47.445
47.484	Grobet	2 lbs.	47.484B



## ROUGE STICKS

First quality rouges for various polishing needs. Available in the following compositions:



### 1 BLUE

Use on platinum for the highest possible finish.

No.	Type	Approx. Wt. of Bar
47.351	Original Formula	12 oz.



### 2 ROYAL VELVET RED - XXG TYPE

No finer composition exists for producing the final, wondrous color and luster on gold and silver.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.413	Original Formula	2 oz.	47.412
47.416	Original Formula	4 oz.	47.415
47.419	Original Formula	6 oz.	47.419
47.422	Original Formula	1 lb.	47.421
47.461	Grobet	7 oz.	47.461B



### 3 GREEN

Use on white gold, platinum, chrome and stainless steel.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.407	Original Formula	4 oz.	47.406
47.467	Grobet	4 oz.	47.467B



### 4 WHITE

Use on platinum, chrome and stainless steel.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.410	Original Formula	4 oz.	47.409
47.470	Grobet	4 oz.	47.470B



### 5 DEEP RED

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.401	Original Formula	4 oz.	47.400
47.462	Grobet	1.5 lbs.	47.462B



### 6 GOLDEN GLO

Adds high luster and color to gold.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.404	Original Formula	6.5 oz.	47.403
47.473	Grobet	4 oz.	47.473B



### 7 YELLOW

Very dry, low-residue compound imparts a brilliant finish on gold, platinum and other hard metals.

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.425	Original Formula	4 oz.	47.424
47.494	Grobet	4 oz.	47.494B
47.496	Grobet	2 lbs.	47.496B



### 8 GRAY STEEL

No.	Type	Approx. Wt. of Bar	Bulk 12 Pack
47.493	Grobet	2 lbs. 8 oz	47.493B

# GROBET USA® DELUXE DUST COLLECTORS

More features and more value than any other units on the market today.

**Specifications:**

- Air intake engineered for max suction power
- Squirrel-cage suction unit provides strong air current
- Unique rear off-set design allows for air escapement
- Filter is placed ahead of blowers, protecting them from dust and dirt
- On/off switch for motor and lights
- Dual lights placed to highlight work
- Convenient outlet for polishing motor
- Mounted on rubber feet to reduce noise and prevent slipping
- Can hold accessories up to 6" in diameter
- Overall dimensions 33-1/2" W x 11" H x 22" D
- Made in USA



**1 DUST COLLECTOR ONLY**

Ship weight 50 lbs.

No.	Description
47.031	110 volt
47.031X	220 volt

**Replacement Accessories:**

47.177	Filter - measures 10" x 32" x 2"
47.03001	Shield only



**2 GROBET USA® DUST COLLECTOR with BALDOR 1/4 HP SEALED MOTOR**

Ship weight 92 lbs.

No.	Description
47.142	Dust collector with motor
47.114	Baldor motor only



**3 GROBET USA® DUST COLLECTOR with 1/2 HP MOTOR**

Capacitor start. 1/2" straight shaft, with a shaft height of 5". Tapered spindles are included. Cabinet measures 13"H x 22-1/2" W x 19" D.

No.	Description
47.2026	110 volt
47.2026X	220 volt
47.053	1/2 HP Motor
47.2026/1	Plexiglass Shield
47.191	Filter 11-3/4"H x 22-3/8"W x 2"D



**4 PRO-CRAFT® DUST COLLECTOR with SINGLE SIDE POLISHING MOTOR**

Comes with 1/3 HP, 3450 RPM motor with a 1/2" shaft and tapered spindle. Shaft height is 5" so that large buffs can be used. Dust collector has single axial fan blower, replaceable fiberglass filter and light under hood. Cabinet measures 10-1/4"W x 10" H x 17-1/4" D. No. 47.171 Replacement filter measures 10" x 10" x 2". Ship weight, No. 47.064 - 18 lbs.

No.	Description
47.064	Dust collector only
<b>Replacement Spindles:</b>	
47.276	1/2" - Right
47.277	1/2" - Left

## POLISHING MACHINES



### 1 JUNIOR POLISHING SET

Designed to meet the needs of the keen craftsman. Motor speed can be varied for use with various grinding, polishing, and buffing wheels. Hood catches polishing debris, keeping area clean.

#### Features:

- 1/15 HP, 5000 RPM motor
- Operates on 120 volt AC
- Has four holes for mounting
- Rubber feet to prevent creeping
- Electronic variable-speed control
- Attractive hammertone finish
- Measures 14" W x 6" D x 7" H
- Ship weight 8 lbs.

Includes the Following Accessories:

- 2-1/2" dia. muslin buff for tripoli
  - 2-1/2" dia. cotton flannel buff for rouge
  - Tripoli compound - No. 47.479
  - Two black bristle wheel brushes
  - One wood mandrel for ring shells
  - Two 1/4" tapered spindles for motor
  - Red rouge
  - Two felt cones
  - Two emery ring shells
- No. 47.100

### 3 GROBET USA® HEAVY-DUTY SPLIT LAP MACHINE

Built for professional use in a variety of tough applications. 3450 RPM, 1/2 HP ball-bearing motor. Features rugged steel base, on/off switch, 3" inlet for connection to dust collector, heavy-duty steel hood, adjustable light socket, and tapered spindle. One-year warranty. Shipping weight 46 lbs.



No.	Description
17.945	110V model
17.945X	220V model

#### PARAMOUNT™ FELT SPLIT LAPS

No.	Description	Size
17.956	Medium	6" x 1/2"
17.957	Hard	6" x 1/2"
17.958	Rock Hard	6" x 1/2"

#### MX MULTI-LAMINATED, FLEXIBLE, COTTON SPLIT LAP

No.	Description	Size
17.975	3/8" arbor hole	6" x 1/4"



### 2 MULTI-GRINDER

Multi-purpose 1/8 HP machine, with variable speeds from 0 to 10,000 RPM.

- Can be used as a carver, grinder, sander, polisher, buffer, etc.
- Includes, 31" long flexible shaft and handpiece which fits comfortably in your hand.
- The handpiece accepts a large variety of accessories with 1/8" shaft.
- Supplied with two 3/4" x 3" wheels, one grinding and one polishing.
- Measures: 8" W x 4-3/4" D x 6-1/2" H.

No.	Description
47.0215	Grinder
Accessories:	
17.01220	Extra fine muslin buff
17.01222	Felt buff
47.0807	Replacement polishing wheel
47.0216	Replacement grinding wheel



### 4 SINGLE SPINDLE DUST COLLECTOR

- Polishing/Grinding Motor is 1/3 HP, 3450 RPM, 6.3 Amps
- Use with 4" diameter buffs
- Separate suction motor and light for better vision
- With 1/2" spindle and 9-3/4" x 12-3/4" x 2" filter
- Measures 16" W x 17" D x 10" H

No.	Description
47.1050/0	110 Volt AC - Ship wt. 39 lbs.

#### Replacement Parts

47.176	Filter
47.276	Spindle
47.1051	Polishing Motor
47.1052/1	Switch
47.1052/2	Plexiglass Shield



Made in USA



### 1 BALDOR SEALED POLISHING LATHE MOTORS

Powerful, totally enclosed, dust proof motors, will not overheat. With special ball-bearings and tapered shafts. All Baldor motors are 14-1/2" L x 7-3/4" W x 8-1/2" H.

No.	Description
47.114	110 volt with 1/4 HP 2 speed
47.119	110 volt with 1/2 HP 1 speed

Replacement Spindles (shown on page 383):

47.234	Right
47.235	Left

### 2 POLISHING MOTOR

300 - 4,000 RPM Speed Range

The quick-change chuck is easily mounted on right side. The standard dental taper shafts with chuck removers will accommodate all types of chucks. The industrial grade, sealed ball bearings never need lubrication. It is UL recognized and CSA certified for electrical safety. Of rugged construction and modern design. The Base may be bench mounted.

#### Specifications:

Overall length (spindle tip to spindle tip) 13-3/4"  
Base dimensions 6-3/4" X 7-1/2" deep  
Height to center of motor shaft 5-1/4"  
1/3 HP, 115 volt 60 hz standard  
1/3 HP, 230 volt 50/60 hz optional for export  
Ship weight 31 lbs

No.	Description
47.115	Motor

### 3 BALDOR HEAVY DUTY 3/4 HP MOTOR

Use with Grobet USA® Heavy Duty Split Lap Machine

#### Features:

- 3450 RPM
- Shafts are tapered and threaded, no set screws needed
- Very strong for buffs up to 8" diameter
- Shaft heights 8"
- Motor Height 11-5/8"
- Available with right hand shaft
- Spindle size 5/8" tapered

No.	Description
47.120	Motor
47.278	Spindle

### 4 GROBET USA® DELUXE FLOOR MODEL DUST COLLECTOR

This deluxe dust collector offers a dust-free polishing environment, with the addition of a single plexiglass enclosure surrounding the polishing area. The hands and work are placed inside the enclosures, while the 960 cfm, 1/4 HP suction motor collects compounds and debris. Two flexible-neck lamps are affixed to the cabinet for concentrated lighting. Heavy-gauge metal cabinet is supplied with a Baldor polishing motor and tapered spindles. Suitable for wet or dry polishing. Made in USA. Ship weight 272 lbs.

#### Dimensions:

- Overall height (excluding lamps) 53"
- Floor-to-bench top height 40"
- Width of unit 44"
- Depth of unit 18"

No.	Description
47.087	110V deluxe dust collector, 2 speed polishing motor
47.087X	220V deluxe dust collector, 2 speed polishing motor
47.088	110V deluxe dust collector, w/variable speed motor
47.190	Replacement pleated filter

### 5 GROBET USA® REPLACEMENT PLEATED FILTER

Used in both dust collectors described above, this filter measures only 12" x 24" x 4"; yet, because of its pleated construction, you get nearly five times the surface collection area than you would in a regular flat filter of the same size! Shipping weight 4 lbs.

No.	Dimensions
47.190	12" x 24" x 4"







## 1 REPLACEMENT FILTERS

No.	Dimensions
47.171	10" x 10" x 2"
47.176	9-3/4" x 12-3/4" x 2"
47.177	10" x 32" x 2"
47.178	10-1/4" x 23-1/4" x 1"
47.179	12" x 20" x 2"
47.180	12" x 25" x 2"
47.181	10" x 10" x 1"
47.182	12" x 32" x 2"
47.183	10" x 20" x 1"
47.184	8" x 16" x 1"
47.185	12" x 25" x 1"
47.186	12" x 27" x 1"
47.187	9-3/4" x 12-3/4" x 1"
47.188	10" x 20" x 2"
47.189	9-3/4" x 32" x 1"
47.190	12" x 24" x 4"
47.191	11-3/4" x 22-3/8" x 2"



## 3 POLISHING/BUFFING KIT for LARGE MOTORS

Larger buffs and brushes for 1/6 to 1/2 HP motors with 3450 RPM.

- 4" diameter muslin buff for tripoli – No. 17.582
  - 4" diameter cotton flannel buff for rouge – No. 17.205
  - 2-1/2" diameter black bristle wheel for tripoli – No. 16.372
  - 2-1/2" diameter black bristle wheel for rouge – No. 16.372
  - Two felt crevice buffs – No. 17.490
  - Two felt ring buffs – No. 17.320
  - One wood mandrel – No. 11.331
  - Six emery ring shells – No. 11.331
  - 1/8 lb. bar of red rouge – No. 47.479
  - 1/4 lb. bar of tripoli – No. 47.461
- No. 47.027



## 2 POLISHING/BUFFING KIT for SMALL MOTORS

Just right for 1/15 HP motors with variable speeds.

### Kit contains:

- 2-1/2" diameter muslin buff for tripoli – No. 17.201
- 2-1/2" diameter cotton flannel buff for rouge – No. 17.573
- 2-1/2" diameter black bristle wheel for tripoli – No. 16.372
- 2-1/2" diameter black bristle wheel for rouge – No. 16.372
- 1/4 lb. bar of tripoli – No. 47.479
- 1/8 lb. bar of red rouge – No. 47.461
- Wood mandrel – No. 11.333
- Two emery ring shells – 2/0, No. 11.322 and 3, No. 11.326
- Two felt bobs – No. 17.278

No. 47.026



## 4 LATHE SPLASHER

Made of fine grade aluminum, highly polished and rust resistant. Has moveable, leakproof tray. Offers protection to bench and area around it when brushes, buffs or grinding wheels are rotating at high speeds. Measures 12" H x 6-1/2" W x 10-1/4" D. No. 47.300

## 5 POLISH IT!

This unique item makes polishing bracelets and chains fast, easy and safe.

No. 48.075







### 1 WHITE COTTON INSPECTION GLOVES

These high quality gloves are perfect for use in jewelry stores and manufacturing facilities. Excellent for protecting jewelry and silverware from fingerprints, spotting and tarnishing.

- High Quality Cotton and Spandex blend provide the perfect fit
- Long Lasting
- Each pair is individually packaged
- Available in Four Sizes
- Sold by the Dozen

No.	Description
17.110	Small
17.111	Medium
17.112	Large
17.113	Extra Large



### 2 WHITE COTTON GLOVES

Protect jewelry, silverware, etc., from fingerprints, spotting, and tarnishing. One size fits most hands, with the lighter version slightly smaller than the heavier version. Sold by the dozen.

No.	Description
17.101	Small Heavyweight
17.102	Heavyweight
17.103	Lightweight
17.109	Extra Large Heavyweight



### 3 DISPOSABLE LATEX GLOVES

Protect your fingers and hands when polishing, finishing, or using solutions. Medium size will fit either hand. Sold by box of 100.

WARNING: DO NOT USE if you are NRL-latex sensitive.

No.	Description
17.104	Small size, Economy
17.105	Small size
17.106	Medium size
17.107	Large size



4



### 4 SAFETY TAPE

Lightweight but strong. Will protect your skin from cuts and burns. Open mesh allows skin to breath. Just wrap around twice for full protection. 3/4" x 90 ft.

No.	Description
47.532	Sold in package of 16 rolls

### 5 DENIM APRON

Blue denim apron, with breast and waist pockets.



No.	Description
47.306	28" x 36"



### 6 RUBBER FINGER COTS

Made of soft, molded rubber to provide comfortable protection from oil, dirt and grime. Sold by the dozen.

No.	Description
23.225	Small
23.226	Medium
23.227	Large
23.228	Extra large

### 7 LEATHER FINGER GUARDS

Full length-split leather with superior wrap-around style and elastic comfort back. Maximum protection for all jewelry-making operations.

No.	Description
47.526	Open end finger guards. Box of 10
47.527	Open end thumb guards. Box of 10
47.528	Closed end finger guard. Box of 10
47.529	Closed end thumb guard. Box of 10





### 1 MSA ADVANTAGE RESPIRATOR

Protection against a variety of respiratory hazards. Maintenance-free operation requires only periodic, easy to change filter replacement. Two adjustable, lightweight, elastic straps and a flexible sealing surface to fit facial contours. With storage/disposable bag. Faceplate and cartridges are incinerable. Includes instructions and technical information. Order respirator and cartridges separately.

No.	Description
47.4000	Faceplate only
47.4110	Pair of filter cartridges (type H-approval #TC-21C-600)
47.4130	Pair of chemical/filter cartridges (type GMCH-approval #TC-23C-1283)



### 3 HANDLE with CHUCK

End of wood handle is bored and reinforced. Can be threaded onto tapered spindles so that small wheels, burs, etc. can be used on larger polishing motors. The chuck opens from .085" to .128" to fit 3/32" and 1/8" mandrels. Overall length 3-1/2".

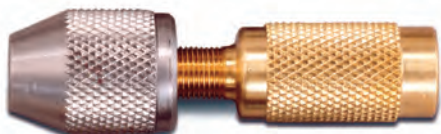
No.	Description
37.760	Handle with chuck
37.761	chuck



### 5 TAPERED CHUCK for BRUSHES

Brushes with 1/8" holes can be threaded onto the hardened steel taper, which in turn can be threaded onto a standard tapered spindle. Handy way to use small setting brushes on polishing motors.

No.	Description
47.258	Right
47.259	Left



### 7 BUR CHUCK for TAPERED SHAFT MOTORS

5/32" capacity for right shaft.

No.	Description
47.205	Brass body with steel knurl



### 2 WILLSON DUST RESPIRATOR N9510

Economical Respirator Designed for grinding, sanding, sweeping, woodworking and other dusty operations. This respirator offers economical protection.

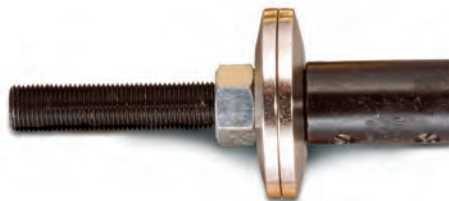
No.	Description
47.304	Pack of 20



### 4 WOOD HUB MANDREL

Heavy duty for right side.

No.	Description
47.260	1/16" diameter screw



### 6 WHEEL ARBOR

Designed to hold grinding wheel on right side of motors with 1/2" straight shaft. For wheels with 1/2" hole.

No.	Description
47.256	Steel



### 8 AUTOMATIC SPRING CHUCK for TAPERED SHAFT MOTORS

For tools with 3/32" shanks. For right shaft.

No.	Description
47.207	Steel



### 1 ABRASIVE BAND CHUCKS for TAPERED SHAFT MOTORS

Abrasive bands are held in place when rubber head is expanded.  
Brass.

No.	Description
47.250	Right
47.251	Left
47.254	Replacement rubber heads



### 3 TAPERED SPINDLES for TAPERED SHAFT MOTORS

No.	Side	Metal
47.236	Right	Brass
47.237	Left	Brass
47.238	Right	Steel
47.239	Left	Steel
47.234	Right (Baldor)	Brass
47.235	Left (Baldor)	Brass



### 6 STONE CHUCK

Steel with 1/4" shank. For wheels up to 2-1/2" diameter and 1/4" thick, with 1/4" arbor hole.

No.	Description
47.226	Right



### 8 BRASS STONE CHUCKS for MOTORS

Taper is 1/4" per foot. For use with wheels up to 3" diameter and 1/4" thick, with 1/4" arbor holes.

No.	Description
47.200	Right
47.201	Left



### 2 TAPERED SPINDLES for STRAIGHT SHAFT MOTORS

Designed to fit any straight shaft motor. Made with either right or left-handed threads (for right or left side of motor) and held to shaft by set screws. Threads are clear and deep, and the end is pointed. Steel.

Right	Left	Shaft
47.270	47.271	1/4"
47.272	47.273	5/16"
47.274	47.275	3/8"
47.276	47.277	1/2"
47.278	47.279	5/8"



### 4 SHORT TAPERED SPINDLE

No.	Description
47.268	5/8" Left
47.269	5/8" Right



### 5 TAPER CHUCK

Steel with 1/4" shank.

No.	Description
47.224	Right



### 7 BAND CHUCK

Brass with 1/4" shank.

No.	Description
47.230	Right



### 9 BUR CHUCK for MOTORS

1/4" capacity with short shank. Steel; for right shaft.

No.	Description
47.203	Right

## GROBET TUMBLERS

Provide outstanding polishing and smoothing. These units offer ease of use, excellent durability, and quiet, water-tight operation.



### 1 ONE-BARREL TUMBLER

3 lbs. capacity tumbler features a heavy gauge steel base, water-tight, molded rubber barrel, and thermally protected motor.

Ship weight 6 lbs.

No.	Description
47.781	110-volt model
47.781X	220-volt model
47.784	Replacement barrel OD 5-1/8", ID 4-3/8"



### 2 TWO-BARREL TUMBLER

Versatile, two barrel 6 lbs. capacity tumbler uses two 3 lbs. long-life, molded rubber barrels. Ideal for small batches of jewelry. Continuous-duty, fan-cooled motor with overload protection. Ship weight 9 lbs.

No.	Description
47.782	110-volt model
47.782X	220-volt model
47.784	Replacement barrel OD 5-1/8", ID 4-3/8"

### 3 HEAVY-DUTY TUMBLER

Professional quality tumbler features a larger, more powerful, continuous-duty, fan-cooled motor with overload protection. Steel hexagon barrel with removable liner ensures long, efficient and quiet operation. 15 lbs. capacity, with a five year warranty on the barrel and liner. Ship weight 18 lbs. Replacement barrel ship weight 8 lbs.

No.	Description
47.780	110-volt model
47.780X	220-volt model
47.783	Replacement barrel OD 9-3/4", ID 6-1/2"



## VIGOR® WET/DRY VIBRATORY TUMBLERS

Vibratory tumbling is an economical finishing technique which gives you a more uniform finish on large quantities of parts, in much less time than standard hand finishing, without the mess. It maintains the overall shape of the pieces and allows you to check the progress of the work without stopping the unit. Compact, yet durable, the Vigor® vibratory tumblers are donut shaped for uniform polishing and maximum coverage. The heavy polyethylene lids and bowls remove easily and quickly for emptying and cleaning. Units have two valves and a strainer for optional flow-through operation (except No. 47.785) Ball-bearing motors operate at relatively low noise levels, have thermal overload protection and are 3000 RPM at 60/Hz. One-year warranty. Made in USA.

### 4 4-3/4"-GALLON TUMBLER

#### Features and Specifications:

- Can be used wet or dry
- Capacity approximately 300 rings
- 4-3/4" gallon capacity
- .60 cu. ft.
- Holds 50 lbs. of plastic shot, 22 lbs. dry shot
- Bowl size 17" x 7" high
- Ship weight 26 lbs.



No.	Description
47.788	110 volt unit
47.788X	220 volt unit
47.78801	Replacement 3-quart bowl

### 5 3-QUART DRY VIBRATORY TUMBLER

#### Features and Specifications:

- Use dry only-cannot be used with Flow-Through system
- Capacity approximately 50 rings
- 3-quart capacity
- .10 cu. ft. • Holds 3 lbs. dry shot
- Bowl size 10" x 4" high
- Ship weight 12 lbs.



No.	Description
47.785	110 volt unit





### 1 3-QUART TUMBLER

#### Features and Specifications:

- Can be used wet or dry
- Capacity approximately 50 rings
- 3 quart capacity
- .10 cu. ft.
- Holds 8 lbs. of plastic shot, 3 lbs. dry shot
- Bowl size 10" x 4" high
- Ship weight 12 lbs.

No.	Description
47.786	110 volt unit
47.786X	220 volt unit
47.78601	Replacement 3-quart bowl

## RAYTECH TUMBLERS



### 3 TUMBLE-VIBE 5

This popular low-cost unit is a favorite of the hobbyist and is used commercially as well. Holds 25 ring castings with media or will process about 4 lbs. of rock. Bowl diameter is 8 inches with new convenient solid lid system. Ship weight 7 lbs.

No.	Description
47.701	115V/60 Hz
47.701X	230V/50 Hz CE
47.70101	Spare Bowl & lid
47.70102	TV-5 with Stone Finishing Kit (Available in 230V)



### 2 6-QUART TUMBLER

#### Features and Specifications:

- Can be used wet or dry
- Capacity approximately 100 rings
- 6 quart capacity
- .20 cu. ft.
- Holds 15 lbs. of plastic shot, 6 lbs. dry shot
- Bowl size 11-1/2" x 6" high
- Ship weight 19 lbs.

No.	Description
47.787	110 volt unit
47.787X	220 volt unit



### 4 TUMBLE-VIBE 10

Industrial model TV-10 has heavy duty drive and suspension combined with tough, cross-linked polyethylene bowl. Machine comes equipped for use with compound rinsing system 47.706. Capacity of bowl is .10 cu. ft. (.0013cu. m) Bowl is supplied with noise dampening cover and liquid drain. Ship weight 12 lbs.

No.	Description
47.702	115V/60 Hz
47.702X	230V/50 Hz CE

Tumbler	Bowl Model	Working Capacity		A	Bowl Diameter		Steel (SS)	All Ceramic & Porcelain	Media Caplates	
		Cu. Ft.	Liters		B	C			Plastic	All Dry Medias
TV-5	B-5	.05	1.5	8	4	3.75	—	5lb.	3lb.	1 lb.
TV-10	B-10	.10	2.5	10	3.5	5	—	9	6	2 lbs.

### 5 POWDERED COMPOSITIONS

For use with hand buffs, brushes, felts and wood laps. Can be mixed with water or fine oil to form a paste that will impart a high luster.

- Red Rouge For platinum, gold and silver.
- Tin Oxide For lens polishing and other glassware, as well as fine steel.
- Linde A For precious gems, gold, silver and other metals.
- Ruby Powder Gives a high luster to platinum, gold, steel, precious stones, pearl, ivory, horn shell and porcelain.
- Pumice Powder For scrubbing, cleaning or polishing.

No.	Description
47.510	Red Rouge
47.516	Tin Oxide
47.520	Linde A
47.524	Ruby
47.525	Ruby



No.	Description
23.400	Pumice-Flour-200 mesh
23.401	Pumice-Fine-150 mesh
23.402	Pumice-Medium-80 mesh



## MAGNETIC MACHINES

Magnetic Finishing presents itself as the pinnacle of methods to efficiently burnish and polish small non-ferrous metals. With media as small as .010 in diameter and .250 in length, these stainless steel pins are able to work in areas such as undercuts, recesses, slots, etc., where no previous method has been found suitable. Centrifugal Magnetic Finishing is quiet by comparison to many other forms of finishing. Typically, on soft non-ferrous metals, the finishing cycle can be as low as 30 minutes. This alone assures faster turnaround time on parts when compared to any other method. Centrifugal magnetic tumbling as an automated process, addresses the most intricate and detailed parts imaginable in finishes where others fail. It should be noted that on large, smooth or flat surfaces the finish will appear frosted and a slight buffing or a run in a dry finisher is recommended.

### What is a Centrifugal Magnetic Finisher?

The machine has a direct, fan-cooled drive. The magnetic disk is made up of many powerful magnets that are precisely placed in a cast disk. The alternating polarity is constantly changing, thereby allowing the media to move freely in a liquid solution that constantly changes its makeup. This, combined with centrifugal force, allows for super quiet and fast time cycles.



#### 1 CMF-400

Raytech's smallest capacity Magnetic Finisher has a 4" diameter chamber that finishes the equivalent of 8-10 rings. The machine comes complete with an ample amount of pins and compound. Pin capacity is 100 grams. The CMF-400 has a fixed speed complete with mechanical timer and molded bowl and cover. Ship weight 17 lbs., 1.0 cu. ft.

No.	Description
47.660	CMF-400, 115 V
47.660X	CMF-400, 230 V



#### 2 CMF-610

Raytech's Model CMF-610 is the former Model CMF-600. Designed to integrate programmable functions. Variable speed, forward/reverse. Timer functions are easily programmed to suit your cycle times. The Model CMF-610 has a 6" molded bowl with cover and carries a pin capacity of 200 grams and a parts equivalent to 20-30 rings. Pins and compound are included. Ship weight 25 lbs., 2.13 cu. ft.

No.	Description
47.662	CMF-610, 115 V
47.662X	CMF-610, 230 V

Model	HP	Amps at 115V 60 Hz	Pin Capacity in grams	Ring Capacity	Forward/Rev. Function	Variable Speed	Bowl Diameter (in)	Bowl Diameter (mm)	Timer	Voltage Available 115V 60HZ	230V 50HZ	Shipping Weight
CMF-400	1/32	2.0	100	8-12	No	No	4	200	Mechanical	Yes	Yes	17 lbs.
CMF-610	1/12	2.5	200	30	Yes	Yes	6	150	Programmable	Yes	Yes	25 lbs.



3

#### 3 MAGNETIC SEPARATOR

Exclusive design by Raytech which eliminates tedious separation of parts from media. Magnetic Separators can be placed in water to separate the parts. No need to drain water as separator will not rust. Mates with CMF-400 & CMF-600/620.

No.	Description
47.665	Magnetic Separator 400/600

## VIGOR® STAINLESS STEEL SHOT

A fast form of tumbling used to burnish metal to a mirror bright finish. Uniform in size and shape, non-abrasive and carefully tempered to ensure long life. Stainless steel is rust and corrosion-resistant, making it ideal for use in wet, flow-through systems. Sold in 10 lbs. (4.5 kg) boxes.



### 1 MIXED SHOT

A combination of 3/16" balls, 3/16" ball cones, 1/8" x 3/8" pins and 1/8" diagonals for maximum coverage on a wide variety of pieces.

No.	Description
47.0138	Carbon
47.0238	Stainless



### 2 BALLS

General purpose media.

No.	Description
47.0136/10	Carbon 1/8"
47.0137/10	Carbon 3/16"
47.0236/10	Stainless 1/8"



### 3 BALL CONES

Similar to balls but works into crevices better.

No.	Description
47.0131/10	Carbon 1/8"
47.0132/10	Carbon 3/16"
47.0231/10	Stainless 1/8"
47.0232/10	Stainless 3/16"



### 4 PINS

Tapered to a point, ideal for getting into deep recesses.

No.	Description
47.0234/10	Stainless 1/16" x 9/32"
47.0235/10	Stainless 1/8" x 3/8"



### 5 DIAGONALS

Large surface area with beveled edges, ideal for corner work. 1/8".

No.	Description
47.0133/10	Carbon
47.0233/10	Stainless

## VIGOR® PLASTIC AND NATURAL MEDIA

Aluminum oxide abrasives are blended to make a cut-down media. Good finish, super fast cut. Excellent for surface blending. 1/4" (6.4mm) triangles. 5 lb. (2.3kg) box.



### 6 FINE

White color. Light cutting prepares surface for polishing.

No.	Description
47.0141/5	5 lb. (2.3 kg) box
47.0141/50	50 lb. (23 kg) box



### 7 MEDIUM

Gray color. Standard cut-down removes file and grind marks.

No.	Description
47.0140/5	5 lb. (2.3 kg) box
47.0140/50	50 lb. (23 kg) box



### 8 COARSE

Brown color. Super fast cut.

No.	Description
47.0139/5	5 lb. (2.3 kg) box
47.0139/50	50 lb. (23 kg) box

## VIGOR® NATURAL MEDIA

Used in a dry tumbling process for the final finish. Can be used alone or charged with polishing compounds.



### 9 VIGOR® UNTREATED CORN COB

Used dry, produces a brighter finish when tumbled for 12 to 24 hours. Absorbs moisture.

No.	Description
47.0106/5	5 lbs. box
47.0106/25	25 lbs. box



### 10 VIGOR® CHARGED WALNUT SHELL

Finely ground and bonded with rouge to produce a gleaming final finish on metal and stone.

No.	Description
47.769	5 lbs. box



### 11 VIGOR® WALNUT SHELL

Produces excellent final finish especially on stone and metal.

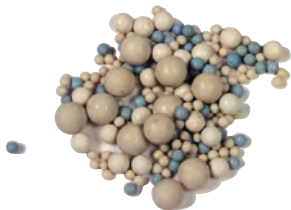
No.	Description
47.0107/5	5 lbs. box
47.0107/25	25 lbs. box

## MEDIA



### 1 CERAMIC

Ceramic media is the heaviest media and is also the fastest finisher. Bonded of the highest quality materials available, selected aluminum oxide abrasives produce constant quality. This durable, long-lasting media is extremely versatile for deburring machined, cast, or fabricated parts. Density - 90 lbs. / Cu. Ft.



### 3 MICROBRITE® PORCELAIN BALLS

The alternative to steel or stainless steel media for final finishing and used with Raytech's Compound D. Please note that there is a break-in period of 4-6 hours required. Mixing in the 1 mm and 2 mm with larger sizes is recommended for good vibratory action. Sizes available, 1 mm, 2 mm, 3 mm, 4 mm, & 6 mm. Available in 5 lbs., 15 lbs. packages.



### 2 PLASTIC

Formulated for very fine surface conditioning. Low R.M.S. finishes are commonly achieved. Plastic medias are widely used in the precision metal industries. Also due to fine surface finishes achieved, parts are prepared for preplate, pre-anodize, or decorative polishing. Brown, V-Cut, Cone (medium cut), Green (light cut), and White (very fine cut). Density - 55 lbs. / Cu. Ft.



### 4 DRI-SHINE I

A nut-shell based media treated with Red Rouge. This irregular particle-sized media, when allowed to run in excess of 5 hours in a vibrating tumbler, provides excellent coloring characteristics. Density - 35 lbs. / Cu. Ft.

Media	5lb.	15lb.	20lb.	Price	50lb.
<b>1 Ceramic</b>					
Triangles	—	—	<b>47.80001</b>		<b>47.80002</b>
Angle Cut Cylinders	—	—	<b>47.80010</b>		<b>47.80012</b>
<b>2 Plastic</b>					
1/4" Brown Pyramids	<b>47.80103</b>	—	—		<b>47.80105</b>
1/4" White Pyramids	<b>47.80106</b>	—	—		<b>47.80108</b>
1/4" Green Pyramids	<b>47.80109</b>	—	—		<b>47.80111</b>
<b>3 Microbrite Porcelain Balls</b>					
2 mm Balls	—	<b>47.80171</b>	—		<b>47.80172</b>
3 mm Balls	<b>47.80180</b>	<b>47.80181</b>	—		—
6 mm Balls	<b>47.80195</b>	<b>47.80196</b>	—		—
<b>4 Dri-Shine I</b>					
	—	<b>47.801</b>	—		—



### 5 TUMBLE SOAP

Recommended for fine finishing and burnishing precious metals, brass, bronze and similar materials with plastic, ceramic or metal media. Supplied with Raytech MFA metal finishing kits. Use approximately 1 tsp. per pint of water.



### 6 GRIFFITH OXALIC ACID

Great for cleaning most quartz crystals. 2 Tb. to one gallon of distilled water- heated (not boiling) will leach out iron stains from most quartz crystals. Alternately heating and cooling the solution with the crystal in it may be necessary, but 1/2 hour is generally all it takes.



### 7 BURNISHING COMPOUND D

Uniquely formulated liquid compound for use with steel shot. Also can be used as storage compound due to rust inhibitors in the formulation. Dilute 2% to water.

No.	Description
<b>47.80114</b>	Compound A, 1 lb.
<b>47.80115</b>	Compound A, 50 lbs.

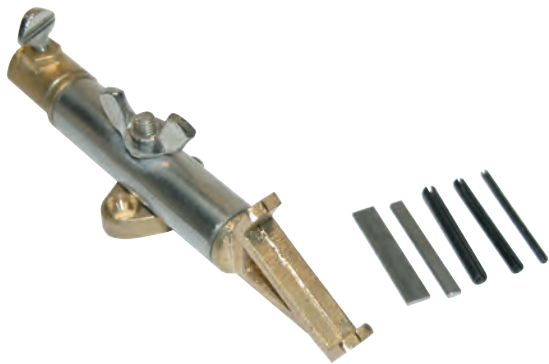
No.	Description
<b>23.215</b>	6 oz
<b>23.216</b>	16 oz

No.	Description
<b>47.80117/G</b>	Compound D, 1 gallon



# *Ring Tools*





### 1 JIFFY JUMP RING TOOL

This highly versatile tool will produce round and oval jump rings in seconds, as well as giving a square, clean cut to watch bands, tubing and sizing stock. The handy V-block will hold items up to 1/4" (6 mm) in size. Made of stainless steel and silicone bronze for long life.

No.	Description
43.115	Stainless steel and silicone bronze



### 2 RING SETTERS CLAMP

Smooth hardwood handle for comfortable hand-held operation. Includes nine plastic sleeve inserts, marked clearly in U.S. sizes from 2 to 13. Also in mm sizes from 13 mm to 22 mm. All attractively displayed in a hardwood box.

No.	Description
48.135	Nine plastic sleeve inserts

## TWEEZERS



### 3 RING SOLDERING TWEEZERS

Holds rings from inside for easy soldering.

No.	Description
No. 48.230	



### 4 HEAD and SHANK TWEEZERS – PREMIUM QUALITY

Slide-locking, stainless steel tweezers securely holds the setting and shank in position for easy soldering of solitaires. One tip is curved to hold shank, the other is serrated to grip setting.

No.	Description
48.235	Stainless steel



### 5 HEAD and SHANK TWEEZERS

Position the ring shank and setting to solder solitaires quickly and easily. Curved jaw has groove to hold shank securely, while flat jaw is serrated to prevent movement. Stainless steel.

No.	Description
57.0398	Length 5-1/2" (140 mm)



RING CLAMPS



1 WOOD RING CLAMP

Quality wood clamp with leather-lined jaws for holding rings and other pieces. One side is rounded, the other is squared off. Wedge can be driven into either end to close the other jaw tight.

No.
48.125



2 MAHOGANY RING CLAMP

Handy tool for holding rings to be filed or polished and for general ring work. Made of fine polished mahogany with round and flat leather lined jaws. Includes wooden wedge.

No.
48.126



3 KIRKLAND RING CLAMP/HOLDER

One end clamps from the outside for polishing and stone setting, while the other end holds from the inside for total circumference polishing and buffing. Metal construction conducts heat away from ring. Holds ring sizes 1 through 13.

No.
48.105



4 KIRKLAND EXTERNAL RING CLAMP

Clamps rings securely for filing, sanding and polishing inside of rings.

No.
48.106



5 BENCH BLOCK RING CLAMPS

Versatile ring clamp, with lip, fits securely into solid hardwood bench block for optimum stability. Hard plastic clamp tightens easily and has rubber lined jaws for non-marring grip. Can also be used as hand-held clamp for increased maneuverability.

No.	Description
48.130	Clamp with lip
48.0700	Clamp with lip and bench pin
13.0202	Bench pin only



6 MASCOT® RING CLAMP

A double-ended clamp with thick leather-lined jaws, for holding rings and other jewelry pieces securely while filing, polishing, stone setting, etc. The tough material used to make this clamp outlasts wood many times over and the molded construction assures perfect alignment of jaws. The wedge supplied is made of the same tough material and can be driven in hard for a tight grip.

No.	Description
48.100	Thick leather-lined jaws

## RING CUTTERS



### 1 ELECTRIC RING CUTTER

In an emergency, speed, safety and comfort are essential. Cuts the strongest alloys in less than 10 seconds, without heat or discomfort. High quality, powerful cordless motor comes with a handy recharging unit. Since it's cordless, you can take it anywhere, making it ideal in emergencies. Chrome blade assembly can be sterilized. 3 year warranty on cutting unit (except blade). US Pat 4864730.

No.	Description
48.0610	Ring cutter
48.0611	Pack of 2 replacement blades
48.0610/4	Cover plate



### 2 BEAVER RING CUTTER

Our most popular model. Saws ring while on or off finger. Satin chrome-finished metal parts are set in molded plastic handle with comfort grip design.

No.	Description
48.220	Ring cutter
48.224	Replacement saw
48.225	High speed steel saw for harder alloys only



### 4 ECONOMY RING CUTTING PLIERS

This strong, yet lightweight, cutter has box joint construction and is completely enclosed. Chrome-plated brass with comfort-grip handle.

No.	Description
48.02430	Ring cutting pliers
48.02431	Replacement blade



### 3 RING CUTTER

Lightweight model with knurled, non-slip handle. Nickel-plated, except for saw.

No.	Description
48.180	Ring cutter
48.181	Replacement Hex Key
48.192	Replacement saw



### 5 STAINLESS STEEL RING CUTTER

Pliers type design and large key make this cutter very easy to use. Stainless steel. 6-3/4" (170 mm) long.

No.	Description
48.193	Ring cutter
48.194	Replacement saw

RING SIZERS & ENLARGERS



1 WEDDING RING SIZER

Reduces and enlarges wedding rings without effort. Can be bolted to bench or used as a portable. This well-made sizer has six splines on the enlarging mandrel and takes rings up to size 15. The reducing plate has sixteen openings and is smoothly polished to prevent marring.

No.
48.350



2 ENLARGER for STONE SET RINGS

Rolls out the shanks of stone set rings to stretch the metal and enlarge the size. Has 16 polished rollers for different sizes and styles of rings. Can also be used on wedding bands. Easy to use, economically priced.

No.	Description
48.300	Enlarger and rollers

3 RATHBURN RING STRETCHER

Ring is placed on stretcher and the gentle tapping with the mandrel causes ring to expand. Economical and easy to use.

No.
48.360



## RING GUARDS



### 1 FINGER-HOLD RING GUARDS

Sold in packs of one dozen.

Size	Yellow	White
Ladies	<b>38.0500A</b>	<b>38.0505A</b>
Gents	<b>38.0501A</b>	<b>38.0506A</b>
Giants	<b>38.0502A</b>	<b>38.0507A</b>



### 2 14 KT GOLD-FILLED RING GUARDS

Easy to attach and won't slip off. Keeps ring in proper place. No sharp edges to tear clothing or scratch skin. Sold in packs of one dozen.

Size	Yellow	White
Ladies	<b>38.501</b>	<b>38.507</b>
Gents	<b>38.502</b>	<b>38.508</b>
Giants	<b>38.503</b>	<b>38.509</b>

### 3 SCHOOL RING GUARDS with BRIDGE SUPPORT

Make his ring fit her! Adjusts to any size with no springs or wires to pinch or catch. Will not twist off during active use. Bridge provides strength when reducing from larger boy's size to smaller girl's size. All sold in packs of one dozen.

Size	Yellow	White
Regular School	<b>38.404</b>	<b>38.408</b>
Large School	<b>38.406</b>	<b>38.410</b>
Family	<b>38.400</b>	<b>38.402</b>





# *Safety Supplies*





## FACE SHIELDS & SAFETY GLASSES



### 1 FACE SHIELD

Lightweight plastic provides full face coverage. Pin and hole adjustment bands with cushioned vinyl sweat band.

No.	Description
29.376	Face shield complete



### 2 INFRA-DURA 9162 WELDING GLASSES

Made of propionate material. Fits over virtually all prescription and plano safety glasses. Adjustable fit through inclination mechanism on temple. Shade is 5.0 green.

No.	Description
29.369	Shade is 5.0 green
29.377	Face shield only



### 3 CRICKET 9180 WELDING GLASSES

Adjustable ratchet hinge frame with green lenses. Frame uses Infra-Dura 3.0 lenses with universal nose bridge. Meets ANSI Z 87.1 and CSA Z 94.3 standards.

No.	Description
29.368	Infra-Dura 3.0 green



### 4 WELDING and IMPACT GOGGLES

With green polycarbonate lens and adjustable perforated venting holes. Shade is 3.0. Meets ANSI Z 87.1 and CSA Z 94.3 standards.

No.	Description
29.373	Shade is 3.0



### 5 WIDE VISION SAFETY WELDING GOGGLES

Available with stationary front or flip-up lenses. Comes with soft vinyl frame, complete with 2" x 4-1/4" shade # 5 lens. Optional shade #10 lens for platinum is available. Six ventilation ports provide maximum ventilation. Standard with elastic adjustable headband. Meets ANSI Z87.1 specifications.

No.	Description
29.387	Stationary front
29.388	Flip-up front



### 6 B & L SIGHT SAVERS CLEANING TISSUES

Anti-fog, anti-static, individually-packaged tissues clean all glass and plastic lenses. Also excellent for computer screens and more. Treated with special surfactants to clean the most soiled lenses. One hundred 5" x 8" folded pre-moistened tissues in each dispenser. Easy and convenient to use. Perfect for light industrial, office or lab settings.

No.	Description
29.062	Dispenser with 100 tissues

## SAFETY GLASSES & PRODUCTS



### 1 ASPEN-STYLE

With clear glass. Will fit over most standard frames.

No.	Description
29.009	Clear glass



### 2 CLEAR SAFETY GLASSES

Lightweight nylon black frame with soft PVC nosepiece. Molded-in side protection offers increased coverage for side impact. Adjustable temples lock into place. Impact resistant polycarbonate lenses provide 99.9% UV protection. Meets ANSI Z87.1 specifications.

No.	Description
29.011	Impact resistant polycarbonate lenses

### 3 MAG-SAFE™ BIFOCAL and FULL LENS GLASSES

Avoid the high cost of prescription safety glasses.

Save money over prescription safety glasses. Safety glasses and corrective lenses combined into one, for close-up work. Both Bifocal and Full Lens are available in diopters 1.00 through 3.00 in .25 increments. These glasses compare to drug store "readers" while conforming to ANSI Z87.1 2003 specifications for high impact protection. Check with your Eye Doctor for the best diopter model for you.

Bifoca	
Part Number	Diopter
29.801	1.00
29.803	1.50
29.804	1.75
29.805	2.00
29.806	2.25
29.807	2.50
29.809	3.00



Full Lens	
Part Number	Diopter
29.811	1.25
29.812	1.50
29.813	1.75
29.814	2.00
29.815	2.25
29.816	2.50
29.818	3.00



### 4 CLEAR ULTRASPEC 2000 SAFETY GLASSES

Made with 100% polycarbonate 4-C coating on both sides of lenses, providing anti-fog, anti-static, anti-scratch properties and anti-UV up to 385 nm. Clear lenses. OSHA approved and meets CSA Z 94.3 standards.

No.	Description
29.367	100% polycarbonate 4-C coating on both sides



### 5 SAFETY GLASSES

Help protect eyes while buffing, grinding or doing other jobs with potential eye hazards. There are two versions of these glasses; one with ventilated frame and the other, a solid frame with four specialized ventilation "ports" to protect against the intrusion of liquids from splashes.

No.	Description
29.371	
29.372	With ports

## 3M™ PARTICULATE AND WELDING RESPIRATORS

Innovative respirators from 3M feature patented technologies. The N95 classification means 95% of particles down to 0.3 microns are screened out. Observe manufacturer recommendations regarding usage.

- A.) **Cool Flow Exhalation Valve:** Patented one-way valve for easy exhalation and cool, dry comfort.
- B.) **M-Noseclip:** Adjusts easily for fewer pressure points and greater comfort.
- C.) **Electret Media:** Advanced electrostatically charged microfibers help make breathing easier and cooler.
- D.) **3M Welding Web:** Fiber media is flame resistant. Not a substitute for a faceshield.



### 1 RESPIRATOR – 3M™ 8511

Features A, B, & C listed above.

No.	Description
10.387	3M™ 8511



### 2 WELDING RESPIRATOR – 3M™ 8515

Features A, B, C & D listed above.

No.	Description
10.388	3M™ 8515



### 3 PARTICULATE RESPIRATOR – 3M™ 9211

Flat folding. Features A, B, & C listed above.

No.	Description
10.389	3M™ 9211

## RESPIRATORS



### 4 WILLSON DUST RESPIRATOR N9510

Half-face-mask respirator provides excellent protection from non-oil-based particulates. Adjustable nose clip help ensure a secure seal and a personalized fit. Elastic latex-free two-strap headband. Designed for grinding, sanding, sweeping and other dust-creating tasks.

No.	Description
No. 47.304	Half-face-mask respirator



### 5 MSA ADVANTAGE RESPIRATOR

Protection against a variety of respiratory hazards. Maintenance-free operation requires only periodic, easy to change filter replacement. Two adjustable, lightweight, elastic straps and a flexible sealing surface to fit facial contours. With storage/disposable bag. Faceplate and cartridges are incinerable. Includes instructions and technical information. Order respirator and cartridges separately.

No.	Description
47.4000	Faceplate only
47.4110	Pair of filter cartridges (type H-approval #TC-21C-600)
47.4120	Pair of chemical cartridges (type GMC-approval #TC-23C-1278)
47.4130	Pair of chemical/filter cartridges (type GMCH-approval #TC-23C-1283)



### 6 HALF MASK RESPIRATOR

Ultimate comfort. Advanced silicone material for a softer feel on the face. Unique adjustment design to reduce tension and pressure points. New Cool Flow Exhalation Valve makes breathing easier and provides cool, dry comfort. Recommended for use when exposed to organic vapors and mists associated with spray painting, varnishes, etc. Can be converted for use in the positive pressure, supplied air mode.

No.	Description
10.38901	Half Mask Respirator

## POLISHING APPAREL & SAFETY ITEMS



### 1 WHITE COTTON GLOVES

Protect jewelry, silverware, etc., from fingerprints, spotting, and tarnishing. One size fits most hands, with the lighter version slightly smaller than the heavier version. Sold by the dozen.

No.	Size
17.101	Small Heavyweight style
17.102	Heavyweight style
17.103	Lightweight style
17.109	Extra Large Heavyweight style



### 2 WHITE COTTON INSPECTION GLOVES

These high quality gloves are perfect for use in jewelry stores and manufacturing facilities. Excellent for protecting jewelry and silverware from fingerprints, spotting and tarnishing.

- High Quality Cotton and Spandex blend provide the perfect fit
- Long Lasting • Each pair is individually packaged

No.	Size
17.110	Small
17.111	Medium
17.112	Large
17.113	Extra Large



### 3 DISPOSABLE LATEX GLOVES

Protect your fingers and hands when polishing, finishing, or using solutions. Medium size will fit either hand. Sold by box of 100.

WARNING: DO NOT USE if you are NRL-latex sensitive.

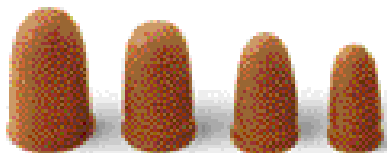
No.	Size
17.104	Small size, Economy
17.105	Small size
17.106	Medium size
17.107	Large size



### 4 PR88 HAND PROTECTION CREME

PR88 is a water soluble skin protection cream, which is applied before work begins. PR88 provides a non-greasy, non-sticky barrier against alcohol and carbon based substances like gasoline, diesel, oils, hydraulic fluids, creosote, fats, paint thinners, tar, dyes resins, non-polar organic solvents, fiberglass, superglues, ink, graphite., epoxies, etc.

No.	Size
23.040	3.5 ounce
23.041	1.5 ounce
23.042	1 iter



### 6 RUBBER FINGER COTS

Made of soft, molded rubber to provide comfortable protection from oil, dirt and grime. Sold by the dozen.

No.	Size
23.225	Small
23.226	Medium
23.227	Large
23.228	Extra large



### 5 SAFETY TAPE

Lightweight but strong. Will protect your skin from cuts and burns. Open mesh allows skin to breath. Just wrap around twice for full protection. 3/4" x 90 ft. Sold in package of 16 rolls

No.
47.532



### 7 LEATHER FINGER GUARDS

Full length-split leather with superior wrap-around style and elastic comfort back. Maximum protection for all jewelry-making operations. Box of 10.

No.	Description
47.526	Open end finger guards
47.527	Open end thumb guards
47.528	Closed end finger guard
47.529	Closed end thumb guard





### 1 DENIM APRON

Blue denim apron, 28" x 36" with breast and waist pocket.

No.
47.306



### 2 PLATINUM FLASK LINER SHEET

A handy item to have when doing any type of work with a flame. Asbestos-freehand specifically made for lining flasks for firing..

No.	Size
21.0860	8" x 31" x 1/16"



### 3 ASBESTOS FREE GLOVES

A must for working with burnout ovens and vulcanizers, and whenever melting gold. Do not use tongs to lift flasks and crucibles into or out of the furnace without protecting your hands. Durable, yet comfortable, these full length, covers your wrists. Always use on both hands. Sold by the pair.

No.	Description
22.753	One size fits all



### 4 ASBESTOS FREE MITTENS

A must for working with burnout ovens and vulcanizers, and whenever melting gold. Do not use tongs to lift flasks and crucibles into or out of the furnace without protecting your hands. Durable, yet comfortable, these full length, covers your wrists. Always use on both hands. Sold by the pair.

No.	Description
22.754	One size fits all



### 5 RESPIRATOR CARTRIDGE TYPE GMC

A Pair of chemical cartridges (type GMC-approval).

No.	Description
47.4120	#TC-23C-127



### 6 RESPIRATOR CARTRIDGE TYPE H/PR

A Pair of filter cartridges (type H-approval).

No.	Size
47.4110	#TC-21C-600



### 7 RESPIRATOR CARTRIDGES GMC-P100

A Pair of chemical/filter cartridges (type GMCH-approval).

No.	Size
47.4130	#TC-23C-1283





# *Sawblades*

## JEWELERS' SAWBLADES - Scies Miniatures, Vallorbe, Switzerland



We have manufactured premium quality Jewelers' Sawblades at our factory Scies Miniatures, owned by Grobet USA, for over half a century. We are the only sawblade manufacturer in Vallorbe, Switzerland, and we offer the finest jewelers' sawblades in the world. Each blade is manufactured to exacting tolerances for angle, size and cut of each tooth.

### Features:

- Our unique tempering process ensures consistent flexibility and long blade life. It also gives our sawblades their exclusive golden straw color, which is your guarantee of receiving the world's finest sawblades. Rounded back makes cutting curves easier. Uniformly set teeth reduce binding and breakage. Special alloy steel make our blades last longer and stay sharper.

### 1 SWISS MADE SUPER PIKE® JEWELERS SAWBLADES

Superior quality brand developed using an optimized heat treatment process to , reach a maximum level of performance. Sold by the gross.



No.	Size	No.	Size	No.	Size
SBSUPER8Z	8/0	SBSUPER1Z	1/0	SBSUPER6	6
SBSUPER7Z	7/0	SBSUPERZ	0	SBSUPER8	8
SBSUPER6Z	6/0	SBSUPER1	1		
SBSUPER5Z	5/0	SBSUPER2	2		
SBSUPER4Z	4/0	SBSUPER3	3		
SBSUPER3Z	3/0	SBSUPER4	4		
SBSUPER2Z	2/0	SBSUPER5	5		



Available in a 10 gross box

### 2 SWISS MADE PIKE® BRAND JEWELERS' SAWBLADES

Quality sawblade at a very affordable price. Sold by the gross.



No.	Size	No.	Size	No.	Size
49.440	8/0	49.446	2/0	49.453	5
49.441	7/0	49.447	1/0	49.454	6
49.442	6/0	49.448	1	49.456	8
49.443	5/0	49.450	2	49.458	10
49.444	4/0	49.451	3	49.460	12
49.445	3/0	49.452	4	49.462	14

### 3 SWISS MADE PIKE® PLATINUM JEWELERS SAWBLADES

The only sawblades specifically developed for use on platinum.  
Sold by the gross.



No.	Size	No.	Size	No.	Size
49.475	4/0	49.478	1/0	49.481	3
49.476	3/0	49.479	1	49.482	4
49.477	2/0	49.480	2		

## JEWELERS' SAWBLADES - Scies Miniatures, Vallorbe, Switzerland



### 1 SWISS MADE SCIES® JEWELERS' PIERCING SAWBLADES

Premium quality; extremely flexible, yet hardened for long life and smooth cutting. Sold by the gross.



No.	Size	No.	Size	No.	Size
49.400	8/0	49.406	2/0	49.413	5
49.401	7/0	49.407	1/0	49.414	6
49.402	6/0	49.408	1	49.416	8
49.403	5/0	49.410	2	49.418	10
49.404	4/0	49.411	3	49.420	12
49.405	3/0	49.412	4	49.422	14

### 2 SWISS MADE PRIOR JEWELERS' PIERCING SAWBLADES

A high quality blade; hardened for long life and smooth cutting. Sold by the gross.



No.	Size	No.	Size	No.	Size
SBP8Z	8/0	SBP3Z	3/0	SBP3	3
SBP7Z	7/0	SBP2Z	2/0	SBP4	4
SBP6Z	6/0	SBPZ	1/0	SBP5	5
SBP5Z	5/0	SBP1	1	SBP6	6
SBP4Z	4/0	SBP2	2	SBP8	8

### 3 SWISS MADE DAGGER® BRAND YELLOW LABEL SAWBLADES

Provide good performance normally not associated with blades in this price range. Sold by the gross.



No.	Size	No.	Size	No.	Size
49.600	8/0	49.606	2/0	49.613	5
49.601	7/0	49.607	1/0	49.614	6
49.602	6/0	49.608	1	49.616	8
49.603	5/0	49.610	2	49.618	10
49.604	4/0	49.611	3		
49.605	3/0	49.612	4		

### 4 PANTHER® JEWELERS' SAWBLADES

Swiss quality at a very affordable price. Sold by the gross.



No.	Size	No.	Size	No.	Size
49.650	8/0	49.655	3/0	49.660	3
49.651	7/0	49.656	2/0	49.661	4
49.652	6/0	49.657	1/0	49.662	5
49.653	5/0	49.658	1	49.663	6
49.654	4/0	49.659	2	49.665	8



## JEWELERS' SAWBLADES - made in Germany

### 1 ANTILOPE® SAWBLADES (Blue)

German-made, excellent quality piercing blades for hard metals. Length 5-1/4" (133 mm) with round back. Sold by the gross..



No.	Size	No.	Size	No.	Size
49.900	8/0	49.907	1/0	49.915	7
49.901	7/0	49.908	1	49.916	8
49.902	6/0	49.910	2	49.918	10
49.903	5/0	49.911	3	49.920	12
49.904	4/0	49.912	4	49.922	14
49.905	3/0	49.913	5		
49.906	2/0	49.914	6		

### 2 ANTILOPE® SAWBLADES (Yellow)

German-made, excellent quality piercing blades for hard metals. Length 5-1/4" (133 mm) with round back. Sold by the gross..



No.	Size	No.	Size	No.	Size
49.500	8/0	49.507	1/0	49.915	7
49.501	7/0	49.508	1	49.516	8
49.502	6/0	49.510	2	49.518	10
49.503	5/0	49.511	3	49.520	12
49.904	4/0	49.512	4	49.522	14
49.505	3/0	49.513	5		
49.506	2/0	49.514	6		

### 3 HERKULES® "WHITE LABEL" SAWBLADES

German-Made for cutting all metals, bone, pearl and other hard materials. Round backs make it easy to turn corners and follow curves, operations that may break other saws. Sold by the gross.



No.	Size	No.	Size	No.	Size
49.100	8/0	49.107	1/0	49.115	7
49.101	7/0	49.108	1	49.116	8
49.102	6/0	49.110	2	49.118	10
49.103	5/0	49.111	3	49.120	12
49.104	4/0	49.112	4	49.122	14
49.105	3/0	49.113	5		
49.106	2/0	49.114	6		

## JEWELERS' SAWBLADES

### 1 SPIRAL SAWBLADES

Cuts in any direction. Used for cutting rubber, plastics, wax, plaster and similar materials. Manufactured at our factory in Vallorbe, Switzerland. Sold by the dozen.



No.	Size	Diameter	
		(in)	(mm)
49.299	2/0	.027"	0.70
49.300	1/0	.030"	0.77
49.301	1	.032"	0.80
49.302	2	.037"	0.94
49.303	3	.041"	1.05
49.304	4	.042"	1.07
49.305	5	.043"	1.08
49.306	6	.045"	1.15

### 2 SKIP-A-TOOTH SAWBLADES

These blades are designed for wax cutting. Every other tooth is eliminated which provides smooth cutting and non-loading action. Made in Germany. Sold by the dozen.



No.	Size
49.320	1

## UTILITY SAWBLADES

### 3 HIGH CARBON STEEL PINNED SAW BLADES

High carbon steel 5 inch pinned saw blades. These blades are heat-treated and tempered to be flexible but maintains hardness for good life. 18 teeth per inch with a slight set to the teeth. The tooth set provides smooth cutting action with the narrowest kerf possible. Used for cutting bone, pearl, plaster, plastic and similar materials. Sold in Packs of 100.

No.	Length
49.875	5 inch

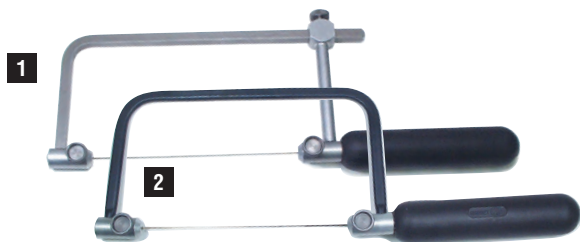
#### Chart of sizes

Size	Thickness		Width		Teeth per		Size	Thickness		Width		Teeth per	
	(in)	(mm)	(in)	(mm)	(in)	(cm)		(in)	(mm)	(in)	(mm)	(in)	(cm)
8/0	.006"	0.15	.013"	0.33	84	33	2	.013"	0.33	.027"	0.69	44	17
7/0	.007"	0.18	.014"	0.36	84	33	3	.014"	0.36	.029"	0.74	40	16
6/0	.007"	0.18	.014"	0.36	76	30	4	.015"	0.38	.031"	0.79	37	15
5/0	.008"	0.20	.016"	0.41	66	26	5	.016"	0.41	.033"	0.84	35	14
4/0	.009"	0.23	.017"	0.43	64	25	6	.017"	0.43	.037"	0.94	33	13
3/0	.010"	0.25	.019"	0.48	57	22	8	.020"	0.51	.045"	1.14	28	11
2/0	.010"	0.25	.021"	0.53	53	21	10	.024"	0.61	.053"	1.35	24	10
1/0	.011"	0.28	.023"	0.58	51	20	12	.024"	0.61	.065"	1.65	20	8
1	.012"	0.30	.025"	0.64	47	19	14	.024"	0.61	.067"	1.70	16	6



## SAWFRAMES

Swiss made Sawframes. Manufactured at our factory in Vallorbe, Switzerland Revolutionary design in three lightweight, perfectly balanced sawframes. Ergonomic handles reduce fatigue and provide greater dexterity. Patented blade-lock design eases blade insertion, maintains perfect alignment and eliminates wobble which reduces blade loss during use. \* Precision-made at our Swiss factory of the highest quality spring steel with non-glare finish. Set screws can be used on either the left or right side of the frame according to your preference. \* Blade tightening screw must be opened wide enough to allow sawblades to be inserted all the way.



No.	Description
-----	-------------

**1** 49.720 2-3/4" deep Adjustable style

**2** 49.722 2-3/4" Fixed style



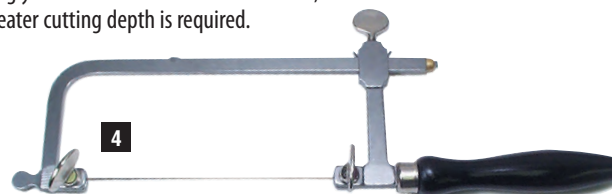
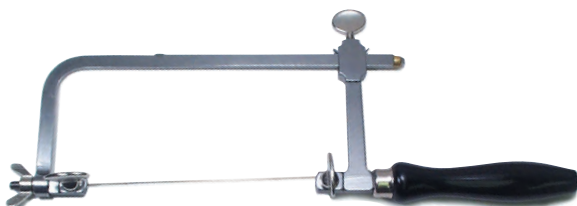
No.	Description
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**3** 49.724 4" deep

### 4 STANDARD JEWELERS' SAWFRAMES

For use with piercing, flat and spiral sawblades. Serrated clamps hold blades firmly. Strongly constructed with flat steel frames, hardwood handles and thumb-screw locking devices. Most common depth is 2-1/4" (57 mm), while others are for use when greater cutting depth is required.

No.	Depth	
	(in)	(mm)
49.700	2-1/4"	57
49.703	3"	76
49.704	4"	102
49.705	5"	127
49.706	6"	152
49.708	8"	203



Note: Replacement screws and lugs are available.

### 5 SAWFRAMES with END SCREWS

Equipped with tension screw for drawing blades taut. Otherwise, same construction as standard frames.

No.	Depth	
	(in)	(mm)
49.750	2-1/2"	63
49.753	3"	76
49.754	4"	102

Note: Replacement screws and lugs are available.

### 6 SWISS CUT SAW FRAME

Frame for 5 inch pinned blades. Designed with "S" bends to the frame it accommodates unobstructed viewing directly over the area to be cut. The frame is equipped with an ergonomic pistol grip handle fabricated with reinforced fiber filled plastic. Knurled thumbscrew provides easy to use blade tension control. Manufactured at our factory in Vallorbe, Switzerland.

No.	Description
-----	-------------

**49.800** Swiss Cut Saw Frame



### 7 CIRCULAR SAWS

For miniature work. Made of .004" (.10 mm) thick stainless steel. With 1/16" (1.6 mm) diameter center holes for mandrel mounting. Sold by the dozen.

No.	Diameter		Teeth per	
	(in)	(mm)	(in)	(cm)
49.890	3/4"	19	42	16
49.891	7/8"	22	45	17

### 8 MATT MITER BOX

Slice bars, rods and wax ring tubes into tablets with perfectly straight and parallel walls or tapered sides. The ring tube is held firmly in position inside the box so there is no strain on your hand. With stop/lock feature for cutting several tablets of the same thickness. Set includes extruded aluminum 6" x 2" (152 x 51 mm) miter box, steel hand saw and stop/lock.

No.	Description
-----	-------------

**21.02920** Miter box



# *Scales & Weights*



GROBET DIGITAL SCALES

This wide selection of Grobet Digital Scales is ideal for Jewelry, Industrial, Laboratory, Specialty use and more.



1 POCKET SCALE

Weighs in grams, ounces, carats and grains. Removable cover protects scale and will hold items to be weighed. Use 2 AAA batteries – not included.

No.	Description
50.250	Grams, ounces, carats and grains



2 POCKET SCALE

Weighs in grams, ounces, carats and grains. Clear plastic cover protects scale and folds flat so larger objects can be weighed. Uses 2 AAA batteries, included.

No.	Description
50.251	Grams, ounces, carats and grains



3 POCKET SCALE

Weighs in grams, ounces, troy ounces and pennyweight. Plastic cover protects weighing plate and folds flat so larger objects can be weighed. Uses 2 AAA batteries, included.

No.	Description
50.252	Grams, ounces, troy ounces and pennyweight



4 POCKET SCALE

Weighs in grams, ounces, pennyweight and grains. Also has parts counting. Protective cover folds out of the way so larger objects can be weighed. includes a weighing pan protector that can be used to hold objects to be weighed. Uses 2 AAA batteries, included.

No.	Description
50.253	Grams, ounces, pennyweight and grains

SCALE SPECS.										
No.	Grams	Ounces	Carats	Grains	Width	Scale Depth	Scale Height	Scale Width	Pan Depth	Pan Parts Counting
50.250	100 x 0.01	3.5 x 0.001	500 x 0.05	1500 x 0.1	2-1/2"	3-1/2"	3/4"	2-1/8"	2-1/8"	No
50.251	500 x 0.1	17.6 x 0.001	2500 x 0.1	7700 x 1	2-3/8"	4-3/4"	7/8"	2"	2-1/4"	Yes
50.252	500 x 0.1	17.6 x 0.01	16 x 0.01	320 x 0.1	3-3/8"	4-7/8"	7/8"	2-1/2"	3"	No
50.253	500 x 0.1	17.6 x 0.01	320 x 0.1	7700 x 1	3-1/4"	4-5/8"	7/8"	2-1/2"	2-1/2"	Yes

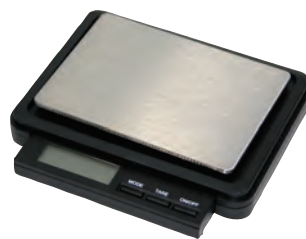




### 1 POCKET SCALE

Weighs in grams, ounces, troy ounces and pennyweight. Also has parts counting. Comes with a pan cover that can be used to hold items to be weighed. Hinged cover protects scale. Uses 2 AAA batteries included.

No.	Description
50.245	Grams, ounces, troy ounces and pennyweight



### 2 POCKET SCALE

Weighs in grams, ounces, troy ounces and pennyweight. Removable scale cover can be used to hold items to be weighed. Spring-loaded display and keyboard, retracts into scale body. Comes with a soft cover. Uses 4 AAA batteries included.

No.	Description
50.258	Grams, ounces, troy ounces and pennyweight



### 3 POCKET SCALE

Weighs in grams, ounces, metric grain, carat, troy ounces and pennyweight. Removable protective cover can be used to hold items to be weighed. Display always shows grams in the center of the display. Other weight units are shown simultaneously in the lower right corner. Uses 2 AAA batteries included.

No.	Description
50.271	200gr
50.272	1000gr



### 4 POCKET SCALE

Weighs in grams, carats, pennyweight, ounces, and grains. Opaque plastic cover protects scale and folds flat so larger objects can be weighed. Dual range; 200 grams x 0.01 and 500 grams x 0.1. Uses 2 AAA batteries included.

No.	Description
50.275	Grams, carats, pennyweight, ounces, and grains



### 5 DIAMOND SCALE

Weighs in grams, ounces, troy ounces, pennyweight and carats. Also has parts counting. Touch screen display makes this a very easy scale to use. Has a flip-top draft shield. Comes with a 10 gram calibration weight, a removable flat round tray for holding items to be weighed and a scoop tray. Uses 4 AAA batteries included.

No.	Description
50.262	grams, ounces, troy ounces, pennyweight and carats



### 6 DIAMOND SCALE

Weighs grams, pennyweight, carats and grains. Comes with tweezers, a 5 gram and a 10 gram calibration weight. Draft shield folds up. Uses 2 AAA batteries included.

No.	Description
50.303	grams, pennyweight, carats and grains

SCALE SPECS.												
No.	Grams	Ounces	Ounces Troy	Penny Weight	Carats	Grains	Scale Width	Scale Depth	Scale Height	Pan Width	Pan Depth	Parts Counting
50.258	2000 x 0.1	70 x 0.01	64 x 0.01	1280 x 0.1	----	----	4-1/2"	3-3/8"	3/4"	3-3/4"	2-3/4"	No
50.245	500 x 0.1	17.6 x 0.001	16 x 0.001	320 x 0.01	----	----	4-3/4"	3-1/8"	7/8"	3-1/8"	2-1/4"	Yes
50.271	200 x 0.01	7.06 x 0.01	6.44 x 0.01	128.6 x 0.01	----	1000 x 0.05	2-7/8"	4-3/4"	3/4"	2-7/8"	2-1/2"	Yes
50.272	1000 x 0.1	35 x 0.01	32 x 0.01	640 x 0.1	----	5000 x 0.1	2-7/8"	4-3/4"	3/4"	2-7/8"	2-1/2"	Yes
50.275	200 x 0.01	7.06 x 0.01	6.44 x 0.01	128.6 x 0.01	----	1000 x 0.05	5-3/8"	3-1/8"	7/8"	3-1/4"	2-5/8"	No
	500 x 0.1	17.65 x 0.1	16.1 x 0.1	321.5 x 0.1	----	2500 x 0.5						
50.262	10 x 0.001	.35 x 0.0001	.32 x 0.0001	6 x 0.001	50 x 0.001	155 x 0.001	2-3/4"	5-3/8"	1-3/8"	1" dia		Yes
50.303	10 x 0.001	----	----	6 x 0.001	50 x 0.001	155 x 0.01	2-1/2"	4-1/2"	1-5/8"	1" dia		No



### 1 BENCH SCALE

Weighs in grams, ounces, troy ounces and pennyweight. Large plate makes weighing large objects easy. Uses a 9-volt battery, included.

No.	Description
50.265	Bench scale
50.26501	Adaptor



### 2 BENCH SCALE

The ideal scale for today's Jeweler. Small, compact size for portability and efficient bench space. Program menu enables user to select weighing modes, auto off time and stability range. Easy to read 1/2" high display numbers.

Tare Range - Tare full capacity.

Supplied with AC adapter or use 6 - AA batteries, (not included)

Large 5-1/4" x 5-1/4" weighing platform.

No.	Description
50.306	2000 g x 0.1g



### 3 CITIZEN LEGAL FOR TRADE SCALE

This high-performance precision balance provides fast and accurate weight measurement in grams, ounces, troy ounces, pennyweight, and carats. Keypad's light-touch switches and large, easy-to-read liquid crystal type display (LCD) make this a versatile general purpose balance. LCD is supplied with a white color LED backlight and loading bar graph. Stainless steel weighing pan is on an ASS base assembly. Automatic zero tracking and accumulation facility allows the count to be stored and recalled as an accumulated total.

No.	Description
50.450	Citizen

SCALE SPECS.												
No.	Grams	Ounces	Ounces Troy	Penny Weight	Carats	Grains	Scale Width	Scale Depth	Scale Height	Pan Width	Pan Depth	Parts Counting
50.265	1000 x 0.1	35 x 0.01	32 x 0.01	640 x 0.1	---	---	6-1/4"	7-3/8"	1-3/8"	6-1/4"	6-1/8"	No
50.306	2000 x 0.1	70.4 x .0005	64 x 0.005	1280 x 0.1	10000 x 0.1	4.4 x 0.0005	5-3/8	7-1/2	1-3/4	5-1/4	5-1/4	No
50.450	1200 x 0.1	42.3 x 0.005	38.6 x 0.005	772 x 0.1	6000 x 0.5	---	8"	10"	3-1/8"	5-1/2"	5-5/8"	No



### 4 PENNYWEIGHT/GRAM SCALE

Pennyweights and grams are combined on one scale strip, adding convenience to this economically priced scale.

No.	Description
51.0906	40 dwt (60 g) capacity



### 5 DIAMOND SHOVEL

Nickel-plated chrome finish

No.	Description
51.095	Diamond Shovel



### 6 GRAM WEIGHT SET

238 g capacity.

No.	Description
51.093	Gram Weight Set



# *Screwdrivers*





### 1 SET of WATCHMAKERS' SCREWDRIVERS

Precision-made, with set screw to hold blade firmly. Hexagonal swivel heads prevent rolling and each handle is color banded for size identification. Lengths are proportioned to blade size and range from 4-1/8" to 3-1/4" (105 to 83 mm). Sets contain all nine blade sizes, 3.00 mm to .60 mm (.118" to .023"). Swivel stand has compartments for separate blades in the center.

No.	Description
52.0905	Set of screwdrivers in wood box



### 3 NON-MAGNETIC SCREWDRIVERS

Precision screwdrivers with hexagonal swivel heads to prevent rolling, and knurled handles for firm grip. Color identifier bands allow for easy selection and set screw holds blades securely. Sold individually.

Screwdrivers	Blade Size	
	(in)	(mm)
52.0911/2	.031"	0.80
52.0911/3	.039"	1.00
52.0911/5	.055"	1.40
52.0911/6	.026"	.60
52.0911/7	.031"	.80
52.0911/8	.039"	1.00
52.0911/9	.046"	1.20



### 4 ECONOMY SCREWDRIVER

Precision screwdrivers with hex shaped heads, heat treated blades range from size .80 to 2 mm. Set of 6 in plastic pouch

No.	Qty.	Sizes
52.320	6	80 to 2 mm



### 2 SCREWDRIVER SETS

Designed especially for watchmakers. Nickel-plated to prevent rust. Reversible, double-ended blades and threaded ferrules for easy replacement. Color identified heads for quick selection. See chart below for sizes.

No.	Description
52.0762	Set of seven, numbers 3 to 9 for baguette and pocket sizes, in polished hardwood stand with carborundum sharpening stone built into base and a side compartment for spare blades
52.0730	Set of seven, numbers 3 to 9 for baguette and pocket sizes, in box
52.0763	Replacement stand
52.0732	Set of seven replacement blades for No.52.0730 and No.52.0762

Individual Blades - Blades sold by dozen.

Blade Diameter		No.	Blades
(in)	(mm)		
.059"	1.50	3	52.0735/3
.050"	1.28	4	52.0735/4
.047"	1.20	5	52.0735/5
.039"	1.00	6	52.0735/6
.031"	.80	7	52.0735/7
.027"	.70	8	52.0735/8
.024"	.60	9	52.0735/9



### 5 SWISS PATTERN SCREWDRIVER SET IN PLASTIC BOX

Economical screwdrivers, with steel blades set firmly in metal handles. Hexagonal swivel head prevents rolling on bench. Overall lengths are proportional with blade sizes and range from 3-3/4" to 2-5/8" (95 to 67 mm). Set contains seven Swiss pattern screwdrivers, styles 3 through 9.

No. 52.514

Individual Screwdrivers

No.	Blade Diameter		Style
	(in)	(mm)	
52.521	.079"	2.00	2
52.522	.071"	1.80	3
52.524	.047"	1.20	5
52.525	.039"	1.00	6



## 1 WATCHMAKERS' SCREWDRIVERS

Set of screwdrivers on swivel stand Individual Watchmakers' Screwdrivers and Blades Blades sold by dozen.

No. **52.540**

Blade Diameter (in)	(mm)	Color	Screwdrivers	Blades Pk 12
.118"	3.00	Brown	<b>52.550</b>	<b>52.560</b>
.089"	2.50	Blue	<b>52.551</b>	<b>52.561</b>
.078"	2.00	Green	<b>52.552</b>	<b>52.562</b>
.063"	1.60	Purple	<b>52.553</b>	<b>52.563</b>
.055"	1.40	Gray	<b>52.554</b>	<b>52.564</b>
.047"	1.20	Red	<b>52.555</b>	<b>52.565</b>
.039"	1.00	Black	<b>52.556</b>	<b>52.566</b>
.031"	0.80	Yellow	<b>52.557</b>	<b>52.567</b>
.024"	0.60	Lilac	<b>52.558</b>	<b>52.568</b>



## 3 SCREW-HOLDING SCREWDRIVER

Features self-adjusting jaws. Will hold screw straight and securely while removing or replacing. Overall length 4-3/4" (121 mm).

No.	Description
No. <b>52.850</b>	Screwdriver with 2mm flat blade
No. <b>52.852</b>	Replacement blade, 2mm flat, pack of 3
No. <b>52.853</b>	Replacement blade with clamp, 2mm flat
No. <b>52.749</b>	Screwdriver with 1mm flat blade
No. <b>52.74901</b>	Replacement blade, 1mm flat, pack of 3
No. <b>52.74904</b>	Replacement blade with clamp, 1mm flat
No. <b>52.748</b>	Screwdriver with 2mm Phillips blade
No. <b>52.74801</b>	Replacement blade, 2mm Phillips, pack of 3
No. <b>52.74804</b>	Replacement blade with clamp, 2mm Phillips



## 4 SCREW CHUCK SCREWDRIVER SET

Set of six well-constructed, precision screwdrivers with replaceable blades that are held firmly in the handle by means of screw chucks. Blades are made of quality tool steel, which have been heat treated for toughness and long wear. The bodies are plated and have hexagonal swivel heads which will not roll on bench. 3-1/2" (89 mm) overall length. Comes in plastic pouch.

No. **52.480**

**Individual Screw Chuck Screwdrivers and Blades.** Blades sold in 3 packs.

Blade Size (in)	(mm)	Screwdrivers Pk of 3	Blades Pk of 3
.100"	2.54	<b>52.482</b>	<b>52.492</b>
.078"	2.00	<b>52.483</b>	<b>52.493</b>
.070"	1.80	<b>52.484</b>	<b>52.494</b>
.055"	1.40	<b>52.485</b>	<b>52.495</b>
.040"	1.02	<b>52.486</b>	<b>52.496</b>
.025"	0.64	<b>52.487</b>	<b>52.497</b>



## 2 BERGEON SET of NINE SCREWDRIVERS with STAND

Beautifully made precision screwdrivers in nine sizes: .019", .023", .031", .039", .047", .055", .065", .078" and .089" (.50, .60, .80, 1.00, 1.20, 1.40, 1.60, 2.00 and 2.50 mm) with an extra blade in each size in center compartment. Swivel heads and knurled handles with set screws to keep blades tight.

No. **5970**

### INDIVIDUAL SCREWDRIVERS and BLADES

For set No. **30009, 2639, 2631, 2868, 4063, 3044A** and **5970**.

Screwdrivers	Screwdrivers
<b>30080/B</b>	<b>30080/F</b>
<b>30080/C</b>	<b>30080/G</b>
<b>30080/D</b>	<b>30080/H</b>
<b>30080/E</b>	<b>30080/L</b>

Blades (pk of 10)	Blade Diameter
<b>30080A/50</b>	.019" 0.50
<b>30080A/60</b>	.023" 0.60
<b>30080A/80</b>	.031" 0.80
<b>30080A/1.00</b>	.039" 1.00
<b>30080A/1.20</b>	.047" 1.20
<b>30080A/1.40</b>	.055" 1.40
<b>30080A/1.60</b>	.065" 1.60
<b>30080A/1.30</b>	.051" 1.30

No. **30080/Y** .60 - 1.60 mm, Replacement Screws - Pk 10



## 5 DOUBLE BLADE SCREWDRIVERS

Perfectly balanced, with a nickel finished knurled body to permit a firm grip and heavy pressure. Overall length 4-1/2" (114 mm).

No.	Screwdriver Description
<b>52.450</b>	with flat blade, 1.5mm x 2.2mm
<b>52.462</b>	with Phillips blade, 1.5mm x 2.2mm

Replacement Blades, (pk of 3)
<b>52.454</b> Flat 1.5mm x 2.2mm
<b>52.453</b> Flat 1.5mm x 1.5mm
<b>52.458</b> Flat 2.0mm x Phillips 2.2mm
<b>52.461</b> Phillips 1.5mm x Phillips 2.0mm





### 1 SET OF 5 SCREWDRIVERS

Set contains a useful combination of small screwdrivers - three flat drivers: 1.0mm, 1.8mm, and 2.0mm and two Phillips drivers: 1.4mm and 2.0mm. The handles are knurled for a secure grip. The hexagon heads swivel smoothly and impede roll away. The combination is packed in a small plastic pouch.

No.	Qty	Description
52.490	5	Three flat, two Phillips



### 3 SET of THREE REMOVERS/EXTRACTORS

Includes one each of removers/extractors noted in chart below.  
No. 52.470

#### Individual Removers/Extractors and Blades

Size (in)	Size (mm)	Removers/ Extractor	Replacement Blades (pk of 3)
.078"	2.00	52.473	52.476
.059"	1.50	52.472	52.475
.049"	1.25	52.471	52.474



### 5 SCREWDRIVER SHARPENER

Spring action holds screwdriver firmly in place. Steel wheels are carefully set into body to provide even action when wheeled over stone. Overall width is 1-9/16" (40 mm). Stone and screwdriver shown for illustration purposes only.

No.	Overall length
52.469	1-9/16" (40 mm)



### 2 SET of FIVE PHILLIPS SCREWDRIVERS

Knurled nickel-plated brass handle provides a sure grip. Color-coded, hexagonal head makes size identification easy and prevents rolling. With strong, heat treated steel Phillips blades. Comes in handy protective pouch. See chart below for sizes.  
No. 52.0720

#### Individual Screwdrivers

Screwdriver	Blade Diameter		Color
	(in)	(mm)	
52.571	.047"	1.20	Gray
52.572	.059"	1.50	Violet
52.573	.079"	2.00	Green
52.0724	.098"	2.50	Blue
52.0725	.118"	3.00	Brown



### 4 10 PIECE NUTDRIVER SET

Set contains 10 color-coded nutdrivers in sizes: 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32" and 3/8". The torque handle measures 1" x 3-1/8" (25.4 x 79.4 mm).

No.	Qty	Description
52.888	10	Color-coded nutdrivers



### 6 MINIATURE OPEN END WRENCH SET

Six steel wrenches, with smooth black oxide finish and set in aluminum hex handles. Set is supplied with the following sizes.

Size	Opening	Size	Opening	Size	Opening
1	3/32"	3	5/32"	5	1/4"
2	1/8"	4	3/16"	6	5/16"

No. 52.464

# *Soldering Tools*





## ELECTRIC PICKLING

Pickling is the immersion of metals in an acid solution, for the purpose of removing surface fire scale and oxides caused by heating, annealing, casting, soldering, etc. The pickle solution works better if heated to a temperature of approximately 125° F (52° C).



### 1 FERRIS ELECTRIC PICKLERS

Automatically keeps solution at the right temperature and prevents it from boiling away. Plastic basket is included with each unit for holding articles in solution.

No.	Voltage	Capacity	Diameter	Height
45.306	115V	12 oz.	5"	5-3/4"
45.306X	220V	12 oz.	5"	5-3/4"

#### Replacement Baskets

No.	Capacity
45.315	12 oz.

### 2 PORCELAIN PICKLING PAN

Used for boiling pickling solutions containing metal pieces to be cleaned and brightened.

No.	Capacity
45.200	4 oz.

## PICKLING COMPOUNDS

Dry, granular acid compounds for removing oxides caused by heating precious and non-ferrous metals, such as gold, silver, copper, bronze, brass, German silver, etc. These substitutes for sulfuric acid are non-flammable and non-explosive.



### 3 PRO-CRAFT® PRE-PO PICKLE

Pre-cleans before soldering; pickles after heating and soldering, to remove oxides. Works well even at room temperature. When solution is exhausted it turns from pink to amber to alert you. Biodegradable and mixes with water to make solution.

No.	Capacity
45.100	Makes one quart of solution
45.102	Makes one gallon of solution



### 5 GRIFFITH PICKLE SAFE

A dry, granular acid compound used to pickle gold, silver, and other non-ferrous metal castings.

No.	Capacity
45.135	10 oz makes one quart.
45.136	2-1/2" lb. makes one gallon
45.137	40 lb. makes 16 gallons



### 6 GRIFFITH NICKEL PICKLE

A pickling compound for nickel, German silver, brass, bronze, copper, and imitation gold metals.

No.	Capacity
45.140	10 oz. makes one quart
45.141	2-1/2" lb. can makes one gallon
45.142	40 lb. makes 16 gallons



### 4 PRO-CRAFT® PICKLE

Standard sodium bisulfate compound is mixed with warm water to make economical solution. Works best at 125° F (52° C).

No.	Capacity
45.122	10 oz. can makes one quart
45.124	2-1/2" lb. can makes one gallon
45.126	40 lb. drum makes 16 gallons



### 7 SPAREX PICKLE

Dry granular acid compound specially made for pickling and the cleaning and removing of surface oxidation and scale from copper and silver. Non-flammable and non-explosive.

No.	Capacity
45.127	2-1/2" lb. can makes one gallon
45.128	10 oz. can makes one quart
45.129	45 lb. drum makes 18 gallons

## "THIRD HAND" HOLDERS

These handy holding devices are available with either round or horseshoe bases. Each are heavy, non-tipping bases equipped with ball joint attachments which can position work at any angle. Cross-locking tweezers and various types of clamps will fit on these bases. Handy for positioning pieces to be joined by solder or adhesive, freeing both hands.



### 1 "THIRD HAND" with TWEEZERS

Cross-locking, 6-1/2" tweezers closes when released. Mounted on heavy-duty round or horseshoe base.

No.	Description
54.080	Round base
54.090	Horseshoe base



### 2 DOUBLE CLAMP-ON STAND

No.	Description
54.085	Round base
54.095	Horseshoe base



### 3 CERAMIC RING STAND

Mounted on base with swivel to provide the exact position or angle desired. 6" ceramic rod is much cleaner than carbon and holds heat better. Clamp releases rod for replacement.

No.	Description
54.131	Ring stand
54.130	Replacement carbon rod
54.132	Replacement ceramic rod

### 4 CARBON RING STAND

Holds rings, leaving both hands free. Mounted in fixed position on asbestos-free base. Length of rod is 6".

No.	Description
54.128	Ring stand
54.130	Replacement carbon rod
54.132	Replacement ceramic rod

### 5 SOLDER/ASSEMBLY STATION

Large work area 12" x 9-1/2". Fully adjustable and interchangeable holding fixtures. Slotted/grooved jaws to grip unusually shaped items. 3X magnifier for close-up work. Rubber edging to hold the station in place.

No.	Description
54.025	Solder/assembly station
54.211	Replacement asbestos free soldering board 6" x 12"

*Note: The surface of the station is not flame or heat resistant. Use No. 54.211 asbestos free soldering board (sold separately) which withstands temperatures up to 3000° F (1649° C) for soldering or torch use.*



### 6 HEAD and SHANK TWEEZERS

Stainless steel slide-locking tweezer securely holds the setting and shank in position for easy soldering of solitaires. One tip is curved to hold shank, the other serrated to grip setting.



No.	Description
57.0398	Econo, Overall length 5-1/2"



No.	Description
48.235	Premium Quality

### 7 RING SOLDERING TWEEZERS

Holds rings from inside shank for easy soldering.



No.	Description
48.230	Holds rings from inside shank



### 1 SOLDER PIC

Wood handle with sharp pointed tip for placing, holding and positioning solder in just the right place.

No.	Description
54.771	Gold & silver soldering with titanium tip
54.772	Platinum soldering with tungsten tip



### TUNGSTEN SOLDER PIC

With wood handle, tungsten solder pic for use with platinum.

No.	Length
3 54.775	6"
4 54.776	6"



### 6 COMBINATION BLOWER/SOLDER-OFF BULB

Suitable as a blower or for suctioning excess molten solder.

No.	Description
54.135	Rubber body with Teflon tip



### 8 PRO-CRAFT® ELECTRIC SOLDERING MACHINE

- No torch or gas tanks needed.
- Used for hard or soft soldering.
- Up to 2000° F (1093° C).
- Demagnetizes watch movements, small instruments and small tools.
- Low voltage unit is shock resistant – your hands may safely touch any part of the carbon holders or contact clips.



### 2 SOLDER PIC - METAL HANDLE

Soldering pic with titanium tip and metal handle. For gold and silver solder.

No.	Description
54.774	Solder Pic with metal handle



### 5 TITANIUM SOLDER PICS

Colored metal handles to eliminate contamination of different solders. Titanium is best for precious metals except platinum. 6-3/8" long. Handle has 6 sided end to stop tool from rolling on bench.

No.	Description
54.778	Blue handle
54.779	Gold handle
54.780	Red handle



### 7 SET OF 5 CARBONS

Includes carbons: 54.054 - round taper, 54.055 - 2 small pencil, 54.057 - large cylindrical, and 54.058 - large cylindrical/flat.

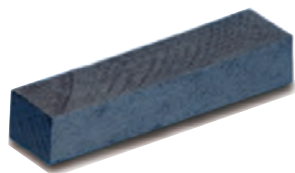
No.	Description
54.066	5 piece Set
54.054	Round taper, Replacement Carbons
54.055	Small pencil, Replacement Carbons

Compact, efficient machine for soldering rings, jewelry, spectacle frames or any piece where solder is needed. The heat range is acceptable for soldering very light to heavy items. Heat control is easily achieved by turning the selector knob. Heat is produced electrically, without flame, by touching a carbon electrode to the work to be soldered. The current passing through the carbon will heat the object in a matter of seconds. Carbons are copper plated to insure good contact. The carbon holder can be adjusted to use carbons horizontally or vertically. Maximum 1000 watts. Includes: foot control switch, 54.064, Complete Carbon Stand, 54.066, Set of 5 carbon lead wires, and instructions. 90 day warranty. Ship weight 12 lbs.

No.	Description
54.050	110 volt model - 15 amps
54.050X	220 volt model - 7.5 amps

Replacement parts:

54.054	Round tapered Carbon
54.055	Small pencil Carbon
54.068	Clip with electrodes
54.060	Clamp with Lug
54.064	Carbon Stand
54.095	"Third Hand" Holder
54.830	Silver Solder Paste with Flux
54.833	Gold Solder Paste with Flux



### 1 BLOWPIPE CHARCOAL

4-1/2" x 3/4" x 1" size is most popular for soldering with blowpipes.  
Sold by package of 12.

No.	Size
54.180	4-1/2" x 3/4" x 1"



### 3 LENK SOLDERING PENCIL

Perfect for fine jewelry work.

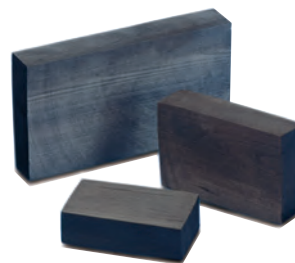
No.	Description
54.0960	Pencil Melts solder in 90 seconds



### 5 ROTATING NON-ASBESTOS SOLDERING TABLE

Grooved work surface disk is 4-1/2" in diameter. Rotates on ball bearings, lazy-susan style, providing 360° access. Perfect for soldering small parts.

No.	Description
54.116	Soldering table
54.117	Replacement disk



### 2 GROBET USA® CHARCOAL SOLDERING BLOCKS

A time proven technique for effective soldering. Under flame, the charcoal glows and reflects heat back in to work, making the flame more efficient. Select, close-grained, knot-free wood is chemically prepared with a special process for soldering. Easily punctured to hold work. (Not heat rated)

Box of 6	Individual	Size
54.151	54.152	3-1/2" x 2-1/4" x 1-1/2"
54.161	54.162	4-3/4" x 3" x 1-1/2"
54.171	54.172	7" x 4" x 1-1/2"
54.181	54.182	140mm x 70mm x 30mm



### 4 ADJUSTABLE SOLDERING BOWL

Stainless steel bowl holds workpiece when soldering, leaving both hands free. Mounted on solid base, bowl adjusts in any position for use on any job. Comes filled with Thermo-Guard (No. 54.469) and can also be used with pumice stone.

No.	Description
54.0720	Bowl is 4" in diameter and 1-5/8" deep



### 6 ANNEALING PAN

Allows positioning of work while annealing or soldering on a heat reflecting material, such as pumice. Rotates on ball bearings, providing 360° access. Pan is 12" in diameter and comes with 2-1/2" lbs. of lump pumice. Ship weight 6 lbs.

No.	Description
54.120	Annealing pan
54.122	Replacement pumice, 2-1/2 lbs. (1.1 kg)

## FLUX

**1 GRIFFITH SOFT SOLDERING FLUX**

For use with lead-tin and lead-tin bismuth solders which melt under 450° F (232° C).

No.	Size
54.423	4 oz.

**2 GRIFFITH PRIP'S FLUX**

A liquid hard soldering flux that prevents the formation of firecoat and firescale during soldering.

No.	Size
54.501	4 oz.
54.502	8 oz.
54.503	16 oz.
54.504	32 oz.
54.505	1 gal.

**3 BORAX FLUX**

Controls oxidation during the melting process.

No.	Size
22.820	8 oz.

**4 BORAX**

Prepared borax for making flux for soldering jewelry. Dissolves easily when rubbed on borax slate.

No.	Size
54.252	4 oz. cone

**5 GRIFFITH BORAX POWDER**

Used for making soldering and casting fluxes.

No.	Size
22.822	16 oz.

**6 GRIFFITH BORIC ACID POWDER**

Used as an anti-oxidizer soldering or in making flux.

No.	Size
54.522	7 oz.
54.523	16 oz.

**7 GRIFFITH BORIC ACID GRANULES**

Used as an anti-oxidizer soldering or in making flux.

No.	Size
54.520	7 oz.
54.521	16 oz.

**8 VIGOR® CREAMY SILVER BRAZING FLUX**

Spreads quickly and wets the surface completely so alloys flow better. Protects from oxidation while heating and retards discoloration of brazed area. Working temperature range is 1100° - 1350°F (593° - 732°C). Excess flux can be removed with hot water. No waste or loss due to drying, simply add water until creamy.

No.	Size
54.0340	2 oz.
54.0341	8 oz.



## FLUX



### 1 BATTERN'S® SELF PICKLING HARD SOLDERING FLUX

For over 50 years, the proven standard of quality. Makes hard soldering as easy as soft soldering. Use on gold, silver, platinum and other metals with high melting points. Preserves temper and color of metal and the adhesive qualities of this liquid flux hold solder in place.

No.	Size
54.400	1 oz.
54.402	3 oz.
54.404	8 oz.
54.406	16 oz.
54.408	32 oz.
54.410	1 gal., ship weight 9 lbs.



### 3 DANDIX® PASTE FLUX

For use in low temperature brazing and silver soldering ferrous and non-ferrous metals. Begins to dissolve oxides at 800°F (427°C) and is fluid- active between 1100° and 1600°F (593° and 871°C).

No.	Size
54.440	1-1/2" oz.
54.442	8 oz.
54.444	16 oz.



### 5 PRO-CRAFT® JEL-FLUX®

For hard soldering with flame. Stays put like a paste, will not run like a liquid and yet is transparent. Eliminates blind joint soldering. Jel-Flux produces less oxides and residues, allowing for faster pickling. With no toxic fumes and it's biodegradable.

No.	Description
54.438	2 oz.



### 2 GRIFFITH SELF PICKLING FLUX

A liquid hard soldering flux for metals which melt under 2000° F (1093° C).

No.	Size
54.510	1 oz.
54.511	4 oz.
54.512	8 oz.
54.513	16 oz.
54.514	32 oz.
54.515	1 gal.



### 4 GRIFFITH GRIFFLUX #1

A hard soldering paste flux for use on all ferrous and non-ferrous metals and alloys.

No.	Size
54.445	1-1/2" oz.
54.446	8 oz.
54.447	16 oz.



### 6 GROBET USA® FLUX DISPENSER PUMP

Compact, convenient, polyethylene bottle, with stainless steel pump-action lid. Dispenses just the right amount of flux or other liquids. Pump the lid lightly and the fluid is dispensed into the well. The one-way pump holds the fluid in the well of the cap, preventing contamination of the unused fluid. For best results and to avoid clogging, the well should be emptied and the cap cleaned between uses. Flux not included.

No.	Description
54.415	4 oz. capacity

## PADS &amp; BLOCKS

**1 ASBESTOS-FREE PAD for PLATINUM**

Ideal for bench protection. Steadying pins can be inserted. Withstands temperatures up to 3000° F (1649° C).

No.	Size
54.210	6" x 6" x 1/2"
54.211	6" x 12" x 1/2"
54.212	12" x 12" x 1/2"

**2 MAGNESIA SOLDERING BLOCK**

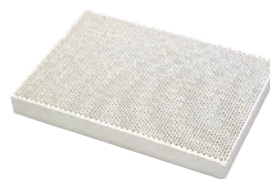
Soft, fire-proof material, into which work or pins can be easily pressed. Withstands temperatures up to 2000° F (1093° C).

No.	Size
No. 54.186	6" x 3" x 1-1/2"

**3 CERAMIC SOLDERING BLOCK**

Round block has holes, approximately 1/16" in size. Withstands temperatures up to 6000° F (3315° C). Provides a permanent flat surface with very low loss of heat.

No.	Size
54.0965	4-1/2" (114 mm) dia.

**4 HONEYCOMB DESIGN CERAMIC SOLDERING BLOCKS**

Contain no asbestos. Lightweight blocks reflect heat and perforations hold pins to keep work in place while heating. Withstands temperatures up to 2000° F (1093° C).

No.	Size
54.215	3-3/4" x 5-1/2" x 1/2"
54.216	5-1/2" x 7-3/4" x 1/2"

**5 CORDIORITE SOLDERING BOARD with GROOVES**

Non-asbestos. Flat on one side, with grooves on the other, for holding shanks, chains, etc. Withstands temperatures up to 2000° F (1093° C).

No.	Size
54.219	7-1/2" x 7-1/4" x 7/8"

**6 CORDIORITE SOLDERING BOARD with RUBBER FEET**

Non-asbestos. Withstands temperatures up to 2000° F (1093° C). Rubber feet keep board raised above bench.

No.	Size
54.218	6" x 6" x 1/2"
54.220	6" x 12" x 1/2"



HAZARDOUS

**7 GRIFFITH ANTI-FLUX**

Effectively prohibits the flow of solder to unwanted areas.

No.	Size
54.464	4 oz.

**8 PRO-CRAFT® YELLOW OCHRE**

When this powder is mixed with water or alcohol, it can be used to prevent the flow of solder to unwanted areas, such as a previously soldered joint or the moving parts of a catch.

No.	Size
54.470	1/2 lb. box

**9 GRIFFITH'S YELLOW OCHRE**

Just add small amounts of Griffith's Yellow Ochre with alcohol to area needed to be soldered.

No.	Size
54.471	2 oz. powder

## PROTECTIVE COATING



### 1 VIGOR® HEAT SHIELD PROTECTIVE PASTE

Protects components under direct 5000°F (2760°C) flame. Not necessary to remove stone before soldering. Prevents oxidation and is odorless and non-toxic. Good for dozens of applications. Washes off with water.

No.	Size
54.448	1 lb. jar
54.449	2 oz. tube



### 3 HEAT SHIELD™ Hands Free™ SOLDERING STATION

It Instantly facilitates precise positioning of items to be soldered. Virtually eliminates need for jig devices or investment. Precious stones, enameling, solder joints are protected. Flame resistant, Water removable, Non-toxic, Reusable. Similar to Heat Shield Paste but the consistency is thicker to hold pieces to be soldered in place.

No.	Size
54.450	10.5 oz
54.451	10.5 oz refill



### 5 STOP FLOW ANTI-FLUX

Prevents solder from flowing to unwanted areas.

No.	Size
No. 54.472	1/4 oz.



### 2 FIRESCOFF™ CERAMIC COATING

Firescoff™ is a revolutionary heat activated ceramic spray coating. Firescoff™ provides an all-in-one scale preventer, high performance non-fluorinated flux, for both hard and soft solder, and the convenience of easy removal in warm water. Jewelry and gemstones evenly coated with Firescoff™ are protected from scaling. Firescoff™ transforms from a clear liquid mist to a protective ceramic anti-oxidation barrier with built-in flux. The Firescoff™ coating can be removed by simply rinsing jewelry in warm water or placing jewelry briefly in an ultrasonic cleaner.

No.	Description
54.485	FS Soldering Flux 4 FL OZ
54.486	RH Soldering Flux 4 FL OZ



### 4 THERMA-GUARD PROTECTIVE BLANKET

Made of Silquar, a unique ceramic material which forms a protective blanket around any stone or jewel while adjacent metal parts are being soldered or heated. Resists temperatures up to 2000°F (1093°C), Odorless, non-toxic and easy to use. Comes in 2 oz. jar, good for hundreds of jobs, because it's reusable.

No.	Size
54.469	2 oz.



### 6 KOOL-JOOL

Protects jewels from heat while soldering. No need to remove jewels from settings (except opals). If flame is used for soldering, the jewel will stay cool. Rinses off in plain water. 8 oz. jar.

No.	Size
54.468	8 oz.



### 1 STAY-BRITE SOLDER

High strength silver-bearing solder melts and flows at 430°F (221°C). Provides strength without distortion caused by high temperature brazing. Kit contains 1/2 oz. of solder and 1.2 oz. of flux.

No.	Description
54.452	Kit
54.456	1 lb. spool of 1/16" Stay-Brite solder



### 2 LEAD FREE SOLDER

Excellent for use in any soft solder applications. Does not contain any lead, antimony or zinc. Free flowing and produces a bright white finish. 1/8" dia. weight 1 lbs.

No.	Description
54.811	Lead Free Solder



### 3 SOLDER PASTE with FLUX

Ingenious dispenser contains solder with flux. The proper amount of solder and flux can be placed at the exact point required, eliminating waste and improving the appearance of the joint. Solder contains no cadmium.

No.	Type	Quantity	Melting Point	
			°F	°C
54.830	Easy - silver	1/2 oz.	1240	671
54.831	Medium - silver	1/2 oz.	1275	691
54.832	Hard - silver	1/2 oz.	1365	741
54.833	Yellow gold, 14K	1 dwt.	1265	685
54.834	White gold, 14K	1 dwt.	1160	627



### 4 LOW TEMPERATURE SOLDER

Excellent for use at low temperature of 430°F (221°C). Contains no lead or corrosive materials. Easy to use, paste dispenser contains the proper amount of solder and flux. Five times as strong as ordinary solder and will not tarnish.

No.	Size
54.801	7.1 g

*Call for current pricing.*



### 5 STAY-CLEAN FLUX

No.	Size
54.453	4 oz.
54.454	16 oz.
54.455	32 oz.



### 6 TIX ANTI-FLUX®

Prevents solder from flowing to unwanted areas. Brushes on easily.

No.	Size
54.462	1/2 oz.



### 7 TIX FLUX®

A non-corrosive flux, harmless to hands or clothing. Washes off with water even after drying. Works with any soft solder.

No.	Size
54.460	1/2 oz.



### 1 "N"-BRAND GOLD SOLDERS

Superior color, ductility and strength. All are easy flowing. Match karat to the work being soldered. Packed in envelopes of 1 dwt. each.

For Karat	White	Price	Melt Point °F °C	Yellow	Price	Melt Point °F °C
Low K	—	—	—	<b>54.626</b>	—	1325 718
8K	—	—	—	<b>54.638</b>	—	1385 752
10K	—	—	—	<b>54.640</b>	—	1320 716
14K	<b>54.614</b>	—	1430 777	<b>54.644</b>	—	1315 713

*Call for current pricing.*



### 3 SILVER SOLDERS

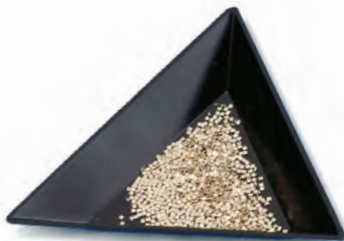
Available in sheets or wire coils.

Grade	Melting Point °F °C	Sheet 1/4 oz	Wire .031" 1 oz (28 g)
Easy Flo*	1325 718	<b>54.700</b>	<b>54.720</b>
Easy	1240 671	<b>54.701</b>	<b>54.722</b>
Medium	1275 691	<b>54.702</b>	<b>54.732</b>
Hard	1365 741	<b>54.703</b>	<b>54.742</b>

**10K GOLD WIRE SOLDER** (not shown)

One dwt. for 10K yellow .02" diameter.

No. **54.660**



### 5 CLIPPED SOLDERS

.04" square flat pieces, Easy Flo grade. Ready to use. 1/4 oz. in bottle.

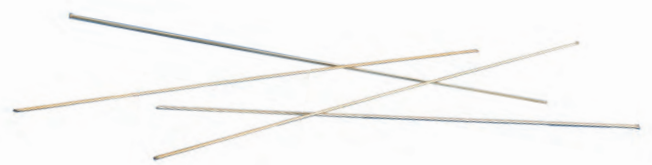
No.	Description
No. <b>54.750</b>	Silver



### 2 TIX SOLDER

Hardest soft solder on earth. Melts at 275°F (135°C) and has a holding power of 4300 PSI. Adheres to all ordinary solderable materials and works with gun, iron, torch or soldering machine. Stays white and does not tarnish.

No.	Description
<b>54.808</b>	Comes in 3" sticks, with 20 sticks per package



### 4 SILVER ALLOY SOLDERING RODS

Ideal for soldering non-precious and gold filled jewelry. Silver alloy rods have flux core eliminating the need for additional flux or cleaning agents. 6" long x 1/32" diameter solder rods provide a strong, permanent bond with a gold-tone finish. Each rod contains .129 dwt. of silver. Melting temperature 1275° F (691° C).

No.	Quantity
<b>54.755</b>	Pack of 4 rods
<b>54.756</b>	Pack of 12 rods

*Call for current pricing.*



### 6 SOLDER CUTTER

Solder sheets can be easily cut in clipped pieces. Sheets are placed on bottom jaw and snapped. Pieces drop out cleanly. These can also be used to cut wire solder by inserting the wire into the side hole. Available in two sizes; 1.5 mm and 3 mm.

No.	Description
No. <b>53.812</b>	1.5 mm



## "THE LITTLE TORCH"

Miniature welding torch maneuvers easily in areas impossible to reach with conventional torches. Produces a perfectly controlled, stable flame hot enough to melt metals, glass and ceramics with thread-thin flames up to 6300°F (3482°C). Color-coded oxygen and fuel gas lines and valves help prevent errors. Uses acetylene, propane and propylene based fuels. Welds an unlimited range of materials and brazes and solders the tiniest elements with ease. All torches supplied with 6' (182 cm) hoses.

### "Little Torch" Fuel Temperatures:

Acetylene 5900° F - 6300° F (3260°C - 3482°C) • Butane 4995° F (2757°C)

MAPP 5300° F (2926°C) • Hydrogen 4850° F (2676°C)

Natural Gas 4600° F (2537°C) • Propane 4780° F (2637°C)

### 1 FIVE-TIP KITS in BOX

Include torch, hoses, curved tips and instructions.

Packaged in display box. Fitting sizes: US - 9/16", British - 3/8"

No.	Description
<b>14.002</b>	For acetylene, with tips 3-7
<b>14.00203</b>	For acetylene, with tips 2-6 British fittings
<b>14.00204</b>	For acetylene, with tips 3-7 European fittings
<b>14.00205</b>	For acetylene, with tips 2-6 Australian fittings
Replacement	
<b>14.043</b>	Green oxygen valve
<b>14.044</b>	Red fuel valve
<b>14.056</b>	Torch body with 6' hose



### 2 PORTABLE OUTFIT

Includes "Little Torch" kit No. **14.008**, along with disposable oxygen and propane tanks.

No.	Description
<b>14.007</b>	Portable Outfit



### 4 "LITTLE TORCH" EXTRA TIPS

Curved Tips No.	Straight Tips No.	Twin Tips No.	Size	Orifice (in)	(mm)
<b>14.012</b>	—	—	2*	.006"	.15
<b>14.013</b>	—	—	3	.011"	.28
<b>14.014</b>	<b>14.0141</b>	<b>14.024</b>	4	.020"	.51
<b>14.015</b>	—	<b>14.025</b>	5	.029"	.74
<b>14.016</b>	—	<b>14.026</b>	6	.037"	.94
<b>14.01602</b>	—	—	7	.047"	1.19

\*Tip size 2 is for use with oxygen and acetylene or oxygen and hydrogen only.



### 3 ONE TIP KIT for DISPOSABLE TANKS

Includes torch, hoses, pre-set oxygen regulator, pre-set propane regulator, size 4 curved tip, tank rest and instructions.

No.	Description
<b>14.008</b>	Packaged on display card



### 5 HEATING/MELTING TIPS

Multiple orifice design gives you maximum melting power and increased versatility for melting platinum, gold, silver or bronze in a crucible.

No.	Description
<b>14.030</b>	Use with oxygen and acetylene. Supplies 3000 BTU's for temperatures up to 6000° F (3315° C). 6" long and melts up to 3 oz. of metal.
<b>14.031</b>	Use with propane or natural gas at temperatures up to 5200° F (2871° C). Propane supplies 5000 BTU's, natural gas 2420 BTU's. 6" long and melts up to 5 oz. of metal.



Fuel tank capacity 10 cu - (MC Type)  
Oxygen tank capacity 20 cu

### 1 ACETYLENE CADDY OUTFIT

Includes torch, hoses, five tips, empty oxygen tank and regulator, empty fuel gas tank and regulator and handy plastic carrying caddy. Shipping weight 31 lbs.

No.	Description
No. 14.005	Caddy outfit
No. 14.01006	Plastic Caddy



### 3 LITTLE TORCH TWIN HOSE

No.	Description
14.051	8' Length



### 5 HOSES and CONNECTORS

Hose assemblies are supplied with connections. Available in 2 lengths and 2 colors (for fuel gas and oxygen).

No.	Description
14.052	8' red - fuel gas
14.053	8' green - oxygen
14.01001	Ferrule Tool
14.01002	Ferrule



### 2 CADDY OUTFIT for DISPOSABLE TANKS

Lightweight portable outfit works with those disposable fuel tanks allowed for use indoors. Works with propane or Mapp® tanks. Kit includes torch, hoses, empty oxygen tank regulators with safety check valves, carrying caddy and 5 tips, sizes 3 - 7.

No.	Description
14.00901	Caddy outfit for disposable tanks



### 4 GROBET USA® LITTLE TORCH WITH CYLINDERS

Contains a Little Torch, oxygen and propane tanks, oxygen regulator and fuel regulator.

No.	Description
14.00801	Little torch with cylinders



### 6 SMITH EQUIPMENT BRAND REGULATORS and INLET CONNECTIONS

Designed for use with the "Little Torch", but can be used with any torch. Easy to read. UL listed.

No.	Gas	Fits Cylinder
14.041	Oxygen	Fits disposable oxygen
14.042	Propane	Fits disposable propane



## 1 ORIGINAL HOKE®-JEWEL TORCHES

For quality, insist on the HOKE®-JEWEL torch, most widely used by professional jewelers for daily work. Ideal for precision metal melting, soldering, brazing and welding. Fingertip control of valves and selection of tips allow user to select type of flame required, from large brush to pinpoint. Valves work easily and surely, with precise mixing of gas and never any leakage. All parts are machined from solid brass stock and seamless brass tubing and are completely nickel-plated. Overall length is 9" (229 mm). Inlets use standard 1/4" hose.

No.	Gas System	Pilot	Tips
14.120	Oxygen & Acetylene	No	4
14.121	Oxygen & Artificial Gas	Yes	4
14.122	Oxygen & Natural Gas	No	3
14.123	Oxygen & Butane or Propane	No	4

NOTE: Pilot light on No. 14.121 allows continuous flow of gas for quick ignition. This is intentional and should not be misunderstood as a faulty leak.

### Extra Tips for Standard Model HOKE®-JEWEL Torches

Gas System	Pinpoint	Flame Size		
		Pencil	Small	Large Brush
Oxygen & Artificial Gas	14.130	14.131	14.132	14.133
Oxygen & Acetylene	14.136	14.137	14.138	14.139
Oxygen & Natural Gas	—	14.142	14.143	14.144

## HOKE®-JEWEL TORCH and ADAPTER TIP KIT (not shown)

*Saves you money!*

We have combined our No. 14.122 HOKE® torch with the No. 14.060 adapter tip kit.

No.	Description
14.124	HOKE®-Jewel Torch and Adapter Tip Kit

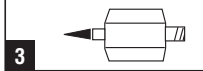
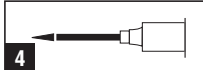
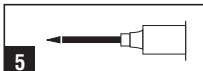
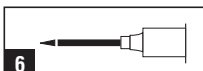
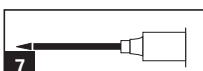
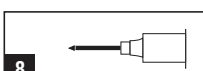
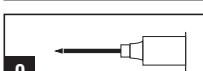


## 2 SET of SIX ADAPTER TIPS and ADAPTER

Expand your HOKE®-JEWEL torch's capabilities with this precision adapter set. Ideal for all soldering, welding and melting jobs. Even fine intricate soldering, from the thinnest chains, rings, pendants and bangles to large silver hollowware, can be done quickly and easily. With these tips you get a non-oxidizing flame, so less pickling is required and jewelry comes out cleaner. Changing tips takes only a few seconds to speed up your production (HOKE®-JEWEL torch sold separately).

No.	Description
14.060	Set of Six Adapter Tips and Adapter

*Note: The adapter tips are not recommended for use with acetylene.*

No.	Description
 <b>14.061</b>	Adapter - Without tips it can be used to melt small amounts of silver, gold and platinum.
 <b>14.062</b>	Tip with Blue Dot - Can be used for large areas of soldering, including hollowware work in gold and silver.
 <b>14.063</b>	Tip with Yellow Dot - Produces a soft, direct flame, and is used much the same way as the #2 and #3 of a standard torch tip.
 <b>14.064</b>	Short Tip with Red Dot - Gives the equivalent of a standard #1 torch tip, but is stronger and has a smaller flame.
 <b>14.065</b>	Longer Tip with Red Dot - Has a micro point flame and is also used as a projection tip, allowing use in areas not ordinarily accessible with a standard torch.
 <b>14.066</b>	Short Tip with Green Dot - Produces a mini-micro flame.
 <b>14.067</b>	Large Tip with Green Dot - Produces a super-micro flame, which permits the most complex type of soldering.



## 1 TURBOTOUCH ACETYLENE TORCH OUTFIT

Permits mixing of acetylene with air at the torch head, so no other source of air is necessary. There are additional interchangeable tips sold separately, producing a range of flame sizes from small to large, making it suitable for jewelry soldering (except very small work) and melting. The acetylene is stored in tanks as a liquid and only becomes a gas when valve is opened. The outfit (No. 14.235) includes: torch handle, one tip, regulator for "B" tank and a 12' (366 cm) hose with fittings.

No.	Description
14.235	Torch outfit
14.238	Replacement tip #1
14.239	Replacement tip #3
14.240	Replacement tip #4
14.241	Replacement tip #5



## 2 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 (#50 drill size) and 6' hose. Uses "B" tank.

No. 14.0370

### Tips for Acetylene Torch

No.	Description
14.0371	3/8" Flame Opening
14.0372	1/4" Flame Opening
14.0373	3/16" Flame Opening
14.0374	.147" Flame Opening
14.0375	.095" Flame Opening
14.0376	.066" Flame Opening
14.0379	12' Replacement hose
14.0380	Torch Body

## 3 ORCA® TORCH

- New low-cost torch • No oxygen or air supply needed
- Use with common gas • Tips create flame versatility

Tip #1 (Small) up to 2000°F (1200°C) • Tip #2 (Medium) up to 2300°F (1250°C)  
Tip #3 (Large) up to 2400°F (1300°C)

No.	Description
14.068	Complete Torch Kit with 3 Tips
14.070	Complete Torch Kit includes: • Torch Body • Hose • Three tips: Small, Medium and Large
14.075	Complete Torch Kit includes: • Torch Body • Hose • Disposable Propane Regulator (No. 14.07201) • Three tips: Small, Medium and Large



No.	Description
4 14.071	Propane Tank Regulator for 1 Torch
5 14.072	Propane Tank Regulator for 2 Torch
6 14.07201	Disposable Propane Regulator
7 14.07202	Large Tip for Orca Torch

No.	Description
8 14.07203	Medium Tip for Orca Torch
9 14.07204	Small Tip for Orca Torch
10 14.07205	50" Hose with both End Connectors



**1 HI-HEAT TORCH**

The mixing chamber of the Model D blowpipe is designed for use with natural, artificial or bottled gas, but not for acetylene. Produces an intense, perfectly formed flame. Uses 1/4" hose.

No.	Gas System	Tips		
		Large	Small	Oxygen
14.150	Natural, artificial & bottled gas with air	1	-	-
14.151	Natural, artificial & bottled gas with air	1	1	-
14.152	Natural, artificial & bottled gas w/air or oxygen	1	1	1

**Extra Tips for Hi-Heat Torch**

No.	Description
14.155	Large, for gas and air
14.156	Small, for gas and air
14.157	For oxygen and gas

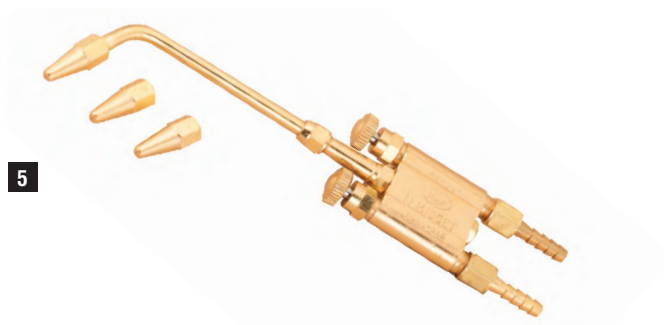


4

**2 MIDGET TORCH**

Small size and light weight make this torch ideal for jewelry welding and brazing, as well as other small jobs. Can be used with oxygen and acetylene, hydrogen, natural gas, propane or butane. Control valves are conveniently positioned and hold flame adjustment precisely. Includes three tips and slip-on hose connectors for 3/16" hose. Overall length 6-3/4".

No.	Description
14.160	Midget torch
14.161	Replacement tip #1/0 (Small)
14.162	Replacement tip #1 (Medium)
14.163	Replacement tip #2 (Large)



5

**3 SMITH EQUIPMENT BRAND REGULATORS and INLET CONNECTIONS**

Designed for use with the "Little Torch", but can be used with any torch. Easy to read. UL listed.

Gas	No.	Fits Cylinder
Oxygen	14.035	Fits all industrial
Acetylene	14.036	Fits type B and autolite
Acetylene	14.037	Fits commercial acetylene
Acetylene	14.039	Fits MC
Propane	14.040	Fits POL

**4 STARTER SETS with REGULATORS**

Each contains a "Little Torch" kit No. 14.002, universal oxygen regulator No. 14.035 and one of the following fuel cylinder regulators.

No.	Description
14.00401	Acetylene type B and autolite cylinder regulator No. 14.036
14.00403	LP, propylene, MAPP, NPG and POL cylinder regulator No. 14.040
14.00405	Acetylene type MC cylinder regulator No. 14.039



## 1 PRIMO™ FIRE RESISTANT TORCH HOSES

*The Economical Answer to Safe Soldering!*



No.	Description	Comments
14.081	8' Twin Hose	For Little Torch and Gentec Torch *
14.083	12' Twin Hose	For Little Torch and Gentec Torch *
14.085	8' Twin Hose	For Meco Torch
14.087	12' Twin Hose	For Meco Torch
14.089	8' Twin Hose	For Swiss Torch
14.091	12' Twin Hose	For Swiss Torch
14.093	8' Twin Hose	For Torch 3/16" ID
14.095	12' Twin Hose	For Torch 3/16" ID
14.096	Hose Clamp	For 3/16" Hose
14.097	Hose Clamp	For 1/8" Hose

\* 2 Hose Clamps Included

### Non-Flame Resistant

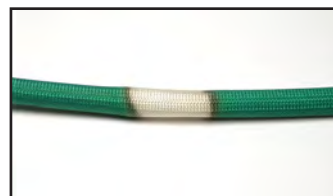
Casing and internal hose melt, creating a dangerous situation.



**BAD**

### Flame Resistant

Flame causes casing to change color, but internal hose remains intact.



**GOOD**



## 2 REINFORCED RUBBER HOSES

3/16" diameter x 12-1/2" long twin fuel gas/oxygen hoses.

No.	Description
14.0780	With two 9/16" "B" fittings
14.0781	With 3/8" "A" and 9/16" "B" fittings
14.0379	12' replacement hose

### TUBING

For connecting torches, bunsen burners, compressors, etc. Sold by the foot.

No.	Description
3	No. 14.188 Clamp for 1/4" ID
4	No. 14.189 Green reinforced oxygen 1/4" ID
5	No. 14.190 Red reinforced fuel gas 1/4" ID
6	No. 14.186 Black rubber 3/16" ID
7	No. 14.191 Pure gum 5/16" ID



### 1 BLAZER FIREFOX TORCH

Torch created specifically for the Jewelry market. Light weight -7oz, 4.5" tall.

No.	Description
14.218	20 minute burn time



### 2 MICRO TORCH - ECONO MODEL

Electronic instant-ignition system for push-button start-ups. Both flame and temperature can be adjusted precisely. High temperature flame of 2500° F (1371°C). Uses butane only, not included.

No.	Description
14.214	90 minute burn time



### 3 BIG BUDDY BY BLAZER

The Butane Refillable Torch featuring unparalleled quality and craftsmanship

- Lightweight & Portable
- Piezo Self-Ignition
- 2500°F Blue Flame
- Precision Flame Control
- 30 mL Butane Gas Chamber Capacity
- One Hand Operation
- Lock Switch and Base Allows for Hands Free Operation
- Meets CPSC Safety Standards

No.	Description
14.219	60-90 minute burn time



### 4 BUTANE FUEL for MICRO TORCH

Ultra-refined butane fuel specifically geared for use with Micro Torch. Special, non-clogging formula allows extended use. Includes a single piece, universal tip.

No.	Description
14.220	5-1/8 fl. oz. can.



**HAZARDOUS**

### 5 DISPOSABLE OXYGEN TANK

No.	Description
14.224	Shipping weight 2 lbs.



**HAZARDOUS**

### 6 DISPOSABLE PROPANE TANK

No.	Description
14.223	Shipping weight 2 lbs.



### 1 EXCALIBUR™ BY BLAZER

The Multi-Purpose, Soldering and Hot Air Tool Kit. A self-igniting, butane refillable, cordless Soldering Iron, Hot Air Blower and 2500°F Butane Torch complete in one great tool kit. The piezo crystal electric instant ignition system provides a quick start-up in any mode. The Excalibur Multipurpose Tool Kit includes 5 interchangeable tips for soldering, hot air blowing, heat shrink tubing, removing or activating adhesives and more. Includes 2 wrenches, a cleaning sponge and one tube of solder.

- Woodworking • Lapidary • DIY, Crafts • Meets CPSC Safety Standards

The Excalibur is a versatile and portable kit that should be in every tool box.

*Note: Butane Gas sold separately.*

No.	Description
14.210	EXCALIBUR™ By Blazer



### 3 CHECK VALVES

Helps prevent dangerous reverse gas flow.

No.	Description
14.180	For oxygen regulator 9/16" RH



### 5 HOSE CONNECTIONS

Used on regulators so that standard ID hose can be used.

Right Hand Thread for Oxygen	Left Hand Thread for Fuel Gas	Size
14.198	14.196	3/8" - 24 for 3/16" ID
14.195	14.199	9/16" - 18 for 3/16" ID
14.178	14.197	9/16" - 18 for 1/4" ID



### 2 BLAZER MICRO TORCH

Electronic, instant ignition torch requires only one hand to ignite and adjust the flame. The easy, thumb-adjustable gas=flow lever allows precision flame corrections.

No.	Description
14.212	Approximate burn time is 90 minutes

### 4 CHECK VALVES/FLASHBACK ARRESTORS

Stops flashback fires by preventing reverse gas flow. With automatic reset between flashes. Solid brass case is durable and easy to install. Fits standard 9/16" "B" connections.

No.	Description
14.0769	For fuel gas line



### 6 Y CONNECTORS WITH SHUT-OFF VALVES

For use in multiple torch hook-ups.

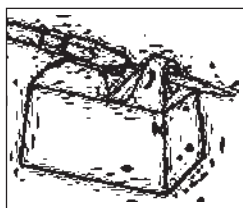
No.	Description
14.184	Fuel gas 9/16" LH to 9/16" - 18 LH
14.185	Oxygen 9/16" RH to 9/16" - 18 RH



### 1 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. (Torch not included)

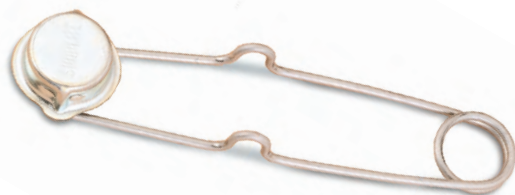
No.	Description
14.058	"third-hand" holder



### 3 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.

No.	Description
14.204	Torch-Mate



### 7 TORCH LIGHTER

Makes sparks to light gas without open flame. Includes one flint.

No.	Description
14.205	Lighter
14.206	Box of 5 flints



### 2 WEIGHTED TORCH STAND

A quick and convenient place to rest your torch while working. Stainless steel rod ensures easy placement and removal of the torch without sacrificing safety. Texturized cast-iron base provides strong, balanced support, as well as storage space for your extra tips. (Torch not included)

No.	Description
14.203	Weighted Torch Stand



4



5



6

### TORCH HOLDERS

Mount anywhere on your bench to accommodate most torches.

No.	Description
4 14.202	Low bracket-type with wide top
5 14.201	Hook-type
6 14.200	High bracket-type with narrow top



### 8 TORCH WRENCH

Fits all nuts on torches listed in our catalog.

No.	Description
14.164	Torch Wrench

## BUNSEN BURNERS



### 1 BUNSEN BURNER

Has needle valve gas control adjustment to provide flame from very hot brush to needle with intense heat. 3" base diameter. Uses 1/4" tubing. For artificial or natural gas.

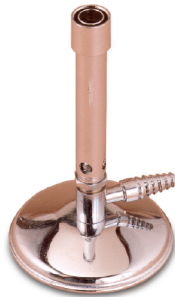
No.	Description
14.260	4-1/2" height
14.261	Wax cup



### 2 WAX CUP

For use with artificial or natural gas. Nickel-plated. 3" diameter, 1-3/8" height. Designed to fit on top of burners.

No.	Description
14.261	fits on No.14.260
14.272	fits on No.14.271



### 3 BUNSEN BURNER

Nickel-plated with tapered, serrated stems for use with 5/16" (8 mm) ID tubing. 11/16" ignition collar stabilizes flame. With adjustable air intake and 3" base diameter. For use with natural gas.

No.	Description
14.266	5" high
14.267	4" high



### 4 MICRO BUNSEN BURNER

Nickel-plated with tapered, serrated stem for use with 5/16" (8 mm) ID tubing. Lever in base adjusts air intake. 2" base diameter. For use with natural gas.

No.	Description
14.268	2-9/16" height



### 5 BUNSEN BURNER

Has adjustable pilot flame with T-handle valve. An 1-1/16" ignition collar stabilizes flame. Use with 5/16" ID tubing. 3" base diameter. For use with natural gas.

No.	Description
No. 14.269	6" height



### 6 BUNSEN BURNER

Has 2" diameter black enamel base and the height is only 2-5/8". Uses 1/4" tubing. For use with natural gas.

No.	Description
14.271	Bunsen Burner
14.272	Wax cup





### 1 TRIPODS with MESH SCREEN

Can be placed over bunsen burner or alcohol lamp, or used with heating frame (No. 14.330) so that work can be heated from below while soldering or enameling. Mesh screen is 6" square.

No.	Description
14.312	Tripod with 6-1/2" legs and mesh screen
14.315	Tripod with 9" legs and mesh screen
14.321	Tripod only, 9" legs
14.325	Replacement mesh screen



### 3 GLASS ALCOHOL LAMPS

Nickel-plated brass burner with screw adjustment for wick. Includes 3" wick, 3/16" diameter. (Uses Griffith Alcohols, page 344)

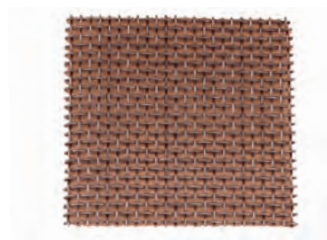
No.	Diameter	Height	Capacity (oz)
14.278	2-1/2"	1"	1-1/2
14.279	2-1/2"	1-3/4"	3



### 5 METAL ALCOHOL LAMPS

Polished chrome-plated brass with screw adjustment for wick. Supplied with 3/16" diameter wick.

No.	Diameter	Height	Capacity (oz)
14.288	3"	1"	3
14.289	3-1/2"	1"	5



### 2 HEAVY HEATING FRAME

Used on tripod, charcoal block, or asbestos, so that work can be heated from below while soldering or enameling. Measures 6" x 6". #304 Stainless Steel

No.	Description
14.330	6" x 6"



### 4 SIMPLICITY BURNERS

Flame can be adjusted by raising or lowering split sleeve. Faceted bowl measures 3-3/16" in diameter and holds 4 oz. of fuel. (Uses Griffith Alcohols, page 344)

No.	Diameter	Wick Dia.	Capacity (oz)
14.285	3-3/16"	1/2"	4
14.286	3-3/16"	1/4"	4



### 6 ALCOHOL LAMP WICKS

Replacement Wicks for Alcohol Lamps. Supplied in packs of one dozen.

No.	Diameter
14.292	1/2"
14.293	3/16"
14.294	1/4"

*Specialty*



## DENTAL

**1 PEGWOOD STICKS**

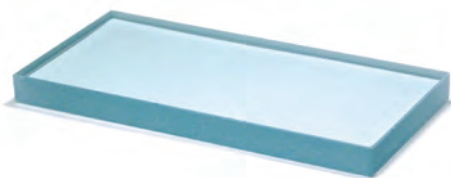
These round sticks are used for making Port polisher points. 18-24 sticks per bundle, depending on diameter.

No.	Diameter		Stick Length	
	(in)	(mm)	(in)	(mm)
23.300	.08"	2.0	5-3/4"	146
23.303	.16"	4.0	5-3/4"	146
23.304	.24"	6.0	7"	178

**2 COTTONWOOD STICKS**

These square sticks are used for fastening crowns on teeth. Box of 12 sticks.

No.	Diameter		Stick Length	
	(in)	(mm)	(in)	(mm)
23.308	1/2"	13	8"	203

**3 GLASS SLABS**

Polished surfaces and beveled edges. Individually boxed.

No.	Size
27.220	6" x 3" x 1/2" (152 x 76 x 13 mm)
27.221	6" x 3" x 3/4" (152 x 76 x 19 mm)

**4 GLASS MIXING SLABS**

Ground on one side, polished on the other. Edges are rounded. 12 oz. (340 g).

No.	Size
27.230	4" x 2-1/2" x 1/4" (102 x 64 x 6 mm)

**5 PORCELAIN MIXING TABLETS**

Shipping weight 8 oz. (227 g).

No.	Compartments	Size
27.240	3	2-1/2" x 4-1/4" (64 x 158 mm)
27.242	6	4" x 2-1/4" (102 x 57 mm)

**6 DAPPEN DISHES**

Made of glass, the dappen dish is ideal for mixing acrylics, amalgam, resins, sealants and other materials. Available in four colors.

No.	Color
27.200	Amber
27.201	Blue
27.202	Clear
27.203	Green

**3 CHIP SYRINGE**

Chrome plated point with red bulb.

No.
23.556 #22
23.561 #25
23.557 Replaceable chrome point
23.558 Red bulb only for 23.556

**4 DENTURE PALATE RELIEF METAL**

B & S gauge #24. Supplied in 3" (76 mm) wide sheets. 1 lb. (454 g) rolls.

No.	Gauge	Width
43.484	#24	3"

**5 THREE-PRONG CLASP PLIER, NO. 200**

Stainless steel pliers.

No.	Size
46.658	4-1/2" (114 mm)



### 1 PEARSON TYPE VUL-CRYLIC CHISELS

Expertly crafted blades are properly hardened and tempered to retain a keen edge for long periods of use. Can be resharpened. Seasoned hardwood handles.

No.	Style	Length	
		(in)	(mm)
52.213	13-straight	6"	152
52.214	14-right	6"	152
52.215	15-left	6"	152
52.216	16-left	4"	102
52.217	17-right	4"	102



### 2 KINGSLEY TYPE VUL-CRYLIC SCAPERS

High grade steel drill rod is used in the production of these superbly crafted instruments. Set in seasoned hardwood handles. Can be resharpened.

No.	Style	Length	
		(in)	(mm)
52.241	1	6"	152
52.242	2	6"	152
52.243	3	6"	152
52.244	4	6"	152

## EAR PIERCING ACCESSORIES



### 4 SMALL DISPLAY STAND

Ideal for increased sales and profits. Selection of 24 styles of pierced ear studs. Compact but effective.

No.	Description
65.0982	Small display stand



### 5 STUDEX EAR PIERCING GEL

.02 oz

No.	Description
65.0905	24 pack



### 1 EAR PIERCING ACCESSORIES ALCOHOL PREPS

200 individually wrapped cleaners per box.

No.	Description
65.0900	Alcohol preps



### 2 RELEASE FORMS

A must when working with consumers.

No.	Description
65.0910	Sold in packs of one dozen



### 3 MARKING PEN

Unique pen safely marks the desired area on the ear for placement of the earring stud.

No.	Description
60.719	Sold individually



## PROFESSIONAL EAR PIERCING EQUIPMENT FROM STUDEX®

The safe and effective way to pierce ears profitably!

### EAR PIERCING KITS

Each kit contains a universal ear piercing instrument which pierces three sizes of studs; maxi, mini and regular, plus the additional accessories listed. Studs are 24K goldplate over surgical stainless steel, with surgical stainless steel posts.



#### 1 UNIVERSAL STARTER KIT

Includes 12 pairs of assorted studs in three sizes, non-toxic marking pen, window banner, counter sign, release forms, tube of ear care gel, one pair of training studs and instructions.

No.	Description
65.0997	Universal Instrument Kit



#### 2 UNIVERSAL INSTRUMENT KIT

Includes non-toxic marking pen, tube of ear care gel, one pair of training studs and instructions.

No.	Description
65.0993	Universal Instrument Kit

#### 3 PIERCED EAR STUDS

Each stock number is sold in packs of one dozen pairs.



No.	Description	Price	No.	Description
65.0400	Cubic Zirconia	\$52.80	65.0301	Pearl Bezel
65.0300	Balls, Maxi	27.95	65.0501	Star Shape
65.0200	Balls, Regular	22.95	65.0502	Heart Shape
65.0100	Balls, Mini	22.95		

#### 4 REGULAR ASSORTED SHAPELITES

Contains three pairs of each of the following styles:



No.	Description
65.0613	Starlite, Heartlite, Flowerlite and Crosslite

#### 5 REGULAR BEZEL BIRTHSTONES

No.	Description	No.	Description
65.0201	Garnet, January	65.0207	Ruby, July
65.0202	Amethyst, February	65.0208	Peridot, August
65.0203	Aquamarine, March	65.0209	Sapphire, September
65.0204	Crystal, April	65.0210	Rose, October
65.0205	Emerald, May	65.0211	Topaz, November
65.0206	Alexandrite, June	65.0212	Blue Zircon, December

#### BEZEL BIRTHSTONE ASSORTMENT

Contains one pair of each month.



No.	Description	No.	Description
65.0213	Regular	65.0214	Mini

#### 6 REGULAR TIFFANY BIRTHSTARS

No.	Description	No.	Description
65.0101	Garnet, January	65.0107	Ruby, July
65.0102	Amethyst, February	65.0108	Peridot, August
65.0103	Aquamarine, March	65.0109	Sapphire, September
65.0104	Crystal, April	65.0110	Rose, October
65.0105	Emerald, May	65.0111	Topaz, November
65.0106	Alexandrite, June	65.0112	Blue Zircon, December

#### TIFFANY BIRTHSTARS ASSORTMENT

Contains one pair of each month.



No.	Description
65.0113	Regular

#### 7 REGULAR ASSORTED SHAPES

Contains pairs as noted, of each of the following styles:



Description	Description	Description
Star (2 pr.)	Triangle (2 pr.)	Crescent Moon (1 pr.)
Heart (2 pr.)	Square (1 pr.)	Flower (1 pr.)
Cross (2 pr.)	Full Moon (1 pr.)	

No. 65.0513

#### 8 REGULAR CABOCHON BEZEL ASSORTMENT

Contains two pairs of each of the following styles:



Description	Description	Description
Pearl	Turquoise	Black Onyx
Red Coral	Jade	Pink Coral

No. 65.0313



# *Testing Tools*





## 1 GXL NEXT GOLD, SILVER, PLATINUM TESTER

- With the ability to test gold, silver, & platinum the GXL-NEXT is the most complete electronic tester.
- Unrivaled electronic karat determination with full range from 6 to 24 karat.
- The quick mode testing feature instantly measures yellow gold in 10, 14, 18, 20, 22, and 24 karats.
- Touch mode allows for testing without the push of a button - simply touch.
- The GXL-NEXT does not require calibration each time it is turned on.
- Capable of 1000+ clear and clean tests per cartridge with no mess.
- The liquid testing solution is harmless and contains no toxic chemicals.
- If the sensor is left uncapped, it will not deteriorate or dry out like marker based sensors do.
- With the ability to test gold, silver, & detect platinum the GXL-NEXT is the only tester you'll ever need.
- Proudly assembled and serviced in the United States.

No. **56.650** Tri-E GXL Tester

No.	Description
<b>56.670</b>	Gold Testing Solution
<b>56.671</b>	Testing Solution For Silver
<b>56.672</b>	Sensor
<b>56.673</b>	Silver Sensor
<b>56.674</b>	AC/DC Power Supply

No.	Description
<b>56.675</b>	Test Wire Assembly
<b>56.676</b>	Replacement Stainless Steel Test Plate with 2 screws
<b>56.677</b>	Optional Plastic Test Plate with Tri Wire
<b>56.678</b>	Sensor Cap

## GOLD TESTING



### 2 PROFESSIONAL GOLD TESTER - Model GXL-18

Six to eighteen karat range, state-of-the-art electronic gold testing technology from Tri-Electronics. Technological breakthrough that allows for the measurement of low to high karat gold products, assuring the buyer of gold content in the most critical gold alloys. Measures 12" x 10" x 3" (305 x 254 x 76 mm). UL listed. Two year warranty. Operates using two 9 volt batteries (not included).

No.	Description
<b>56.762</b>	110 volt model
<b>56.766</b>	Replacement gel tube
<b>56.769</b>	Pro cleaning solution
<b>56.784</b>	Adapter
<b>56.783</b>	Replacement sensor
<b>56.787</b>	Lead wires
<b>56.791</b>	Test plate



### 3 PROFESSIONAL GOLD TESTER - Model GXL-24 PRO

Six to twenty four karat range, state-of-the-art electronic gold testing technology from Tri-Electronics. Technological breakthrough that allows for the measurement of low to high karat gold products, assuring the buyer of gold content in the most critical gold alloys. Measures 12" x 10" x 3" (305 x 254 x 76 mm). UL listed. Three year warranty. Operates using two 9 volt batteries (not included).

No.	Description
<b>56.763</b>	110 volt model
<b>56.767</b>	Replacement gel tube
<b>56.769</b>	Pro cleaning solution
<b>56.790</b>	Replacement sensor
<b>56.787</b>	Lead wires
<b>56.791</b>	Test plate
<b>56.763A</b>	Adapter
<b>56.76301X</b>	220v Adapter



### 1 GOLD TESTER - Model GT-3000

The most accurate, low-cost tester available, backed by dependable service and built by Tri-Electronics, the inventor of electronic gold testers. Measures white, yellow, pink and green gold in a full range of values from 6 to 18 karat. No dangerous chemicals or mixing of fluids, so it's ecologically safe. Measures 12" x 9" x 1-3/4" (305 x 229 x 44 mm). UL listed. One year warranty. Only operates using two 9 volt batteries (not included).

No.	Description
56.782	110 volt unit
56.766	Replacement gel tube
56.769	Pro cleaning solution
56.783	Replacement sensor
56.787	Lead wires
56.791	Test plate



### 2 GOLD TESTER - Model GT-4000

Accurately measures white, yellow, pink and green gold, along with platinum, in a full range to 24 karat. Accurate to the nearest karat in the 6 to 18 karat range, plus 20, 22 and 24 karat readings. Ecologically safe with no dangerous acids or messy, harmful chemicals. Measures 12" x 9" x 1-3/4" (305 x 229 x 44 mm). UL listed. Two year warranty.

Only operates using two 9 volt batteries (not included).

No.	Description
56.785	110 volt unit
56.767	Replacement gel tube
56.769	Pro cleaning solution
56.786	Replacement sensor
56.787	Lead wires

### 3 ELECTRONIC GOLD TESTER M24

Features

- Tests gold from 9 to 24 karat
- The M24 tests 9K, 10K, 12K, 16K, 20K, 22K, & 24K
- Distinguishes gold flash and gold plate from solid gold
- Tests all color gold alloys
- Non-destructive testing
- Determines platinum shuts off automatically increases battery life
- Tests in as little as two seconds
- Patents 5080766, 5128016

Two Year Warranty

No.	Description
56.797	Tester M24
56.799	Test solution



### 4 GOLD TESTING SOLUTION

Testing solution for ET18 & M18. Comes with Activator and Electrolyte.

No.	Description
56.798	For ET18 & M18



### 5 GOLD TESTING SOLUTION

Testing solution for M24. Testing for gold made easy.

No.	Description
56.799	For M24





## DIAMOND/MOISSANITE TESTING



### 1 PRESIDIUM GEM TESTER/COLOUR STONE

The design of the Presidium Gem Tester is based upon the use of heat conductivity to distinguish diamond simulants from diamonds. It incorporates a sophisticated thermoelectric probe and a thermometer which ensures reliable readings. The Presidium Gem Tester can be used on mounted or unmounted stones, which can be as small as 0.02 carat. Includes an AC adapter, a soft vinyl pouch, and a hard plastic case.

No.	Description
56.720	Presidium Gem Tester/Colour Stone



### 1 PRESIDIUM MULTI TESTER PMUT III

The Presidium Multi-Tester utilizes the combined principles of thermal and electrical conductivity from Presidium's patented technology. The measuring probes together with the electronics circuitries are designed to pick up and segregate data collected from the stones via a customized micro-controller. Within a split second, the test result will be displayed.

#### Features:

- Surface mount technology • Retractable tip to ensure the accuracy and consistent pressure between the measuring probe and gemstone • No waiting time between tests • Clear LED display for diamond, moissanite, simulants and metal • Built-in metal detector • Low battery indicator • Automatic power down

#### Options:

- AC Adapter (120v or 230v) • AAA Batteries

No.	Description
56.719	Tester PMUT III
56.731	AC Adaptor 220v
56.732	AC Adaptor



### 2 PRESIDIUM MOISSANITE TESTER II

Presidium Moissanite Tester II is a second generation moissanite tester developed using the technology of electrical conductivity. Operates on AAA batteries (not included).

- Features: • Pocket size • Carrying Case • Low-Battery consumption • Continuous beep when measuring moissanite

No.	Description
56.724	Moissanite Tester II



### 2 PRESIDIUM DIAMONDMATE-A

The Presidium Diamond Mate-A utilizes proven thermal conductivity testing method to instantly verify the authenticity of diamonds. The test results are indicated by visual light and audible beeps. Operates on alkaline (AAA) batteries (not included) or AC adapter 120 volts (not included). One-year factory warranty.

- No waiting between tests • Pocket size • Low-battery indicator • Carrying case • Metal detector-intermittent beep • Measured diamond-continuous beep • Metal detector-intermittent beep • Low battery consumption

No.	Description
56.722	Diamond Mate-A



### 3 PRESIDIUM DIAMONDMATE-C

A pocket-size, thermal conductivity method of verifying the authenticity of diamonds. Operates on a rechargeable battery or AC adapter/charger. Complete with metal detector, carrying case and three-piece Nicad battery pack.

No.	Description
56.723	Diamond Mate-C

## DIAMOND/MOISSANITE TESTING



### 4 A-SOURCE DIAMOND TESTER

This economic and reliable diamond tester utilizes thermal conductivity to instantly verify diamonds. The results are indicated by visual lights as well as audible beeps. Operates on AAA batteries (not included) or AC adaptors.

- Pocket size • No waiting between tests • Carrying Case • Low-Battery indicator
- Measured diamond continuous beep • Great investment

No.	Description
No. 56.728	Diamond Tester



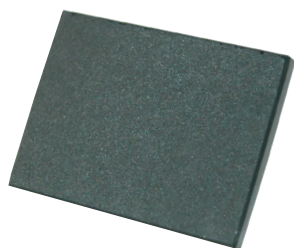
### 5 A-SOURCE MULTI-TESTER

The A-Source multi tester uses thermal and electrical conductivity to test stones. The measuring probes together with the electronics are designed to pick up data collected from the stones through a micro-controller. Within a split second, test results will be displayed. Operates on AAA batteries (not included) or AC adaptors.

- No waiting between tests • Surface mount technology
- Clear LED display for Diamond, Moissanite and Simulantes
- Low battery indicator • Automatic power down

No.	Description
56.729	Multi-Tester
56.730	AC adaptor

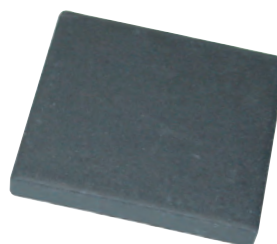
## TESTING STONES



### 1 BLACK GLASS TESTING STONE

Economical black glass stone used with solutions and test needles to determine karat values.

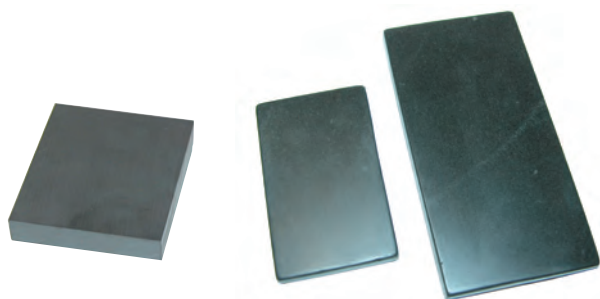
No.	Size
56.714	2" x 1-1/2" x 3/16"



### 4 TESTING STONE

Stone used with solutions and test needles to determine karat values.

No.	Size
56.744	1-7/8" x 1-17/8" x 3/16"



### 2 NATURAL TESTING STONE

Natural testing stones, available in two sizes, used with solutions and test needles to determine karat values of precious metals. The stones are of high quality and very economical.

No.	Size
56.710	1-7/8" x 1-1/2" x 1/4"
56.715	2-1/2" x 1-1/2" x 1/4"
56.716	2" x 4" x 1/4"



### 5 TESTING STONE

Stone used with solutions and test needles to determine karat values.

No.	Size
56.717	4" x 6" x 3/8"



## TESTING SET & STONES



### 1 METAL TEST SET

For appraisal and testing of gold, silver, platinum, brass, nickel and German silver. Wood case contains three acid bottles with ground glass stoppers and applicators, test stone, set of gold testing needles. Acid must be purchased locally.

No.	Description
<b>56.700</b>	Set includes nine gold testing needles
<b>56.0806</b>	Set includes five gold testing needles
<b>56.748</b>	Replacement wood case
<b>15.100</b>	Bottle

### TEST NEEDLES FOR GOLD

Used to determine karat content of gold. Needles and item to be tested are rubbed on test stone and treated with acid to determine match.



No.	Set of 9 needles
<b>56.705</b>	for 4, 6, 8, 10, 12, 14, 16, 18 and 20 karat gold



No.	Set of 5 needles
<b>56.707</b>	for 8, 10, 12, 14 and 18 karat gold



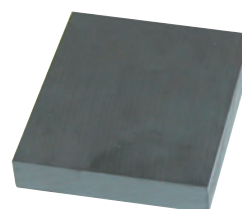
No.	Set of 3 needles
<b>56.708</b>	for 10, 14, and 18 karat gold



### TEST NEEDLES FOR SILVER AND GOLD

Needles and item to be tested are rubbed on test stones and treated with acid to determine match.

No.	Description
<b>56.706</b>	Set of 4 needles for 10, 14 and 18 karat gold plus silver



### TEST STONES

A dark stone on which needle and item to be tested are rubbed. Use with test acid solutions.

No.	Size
<b>56.710</b>	1-7/8" x 1-1/2" x 1/4"

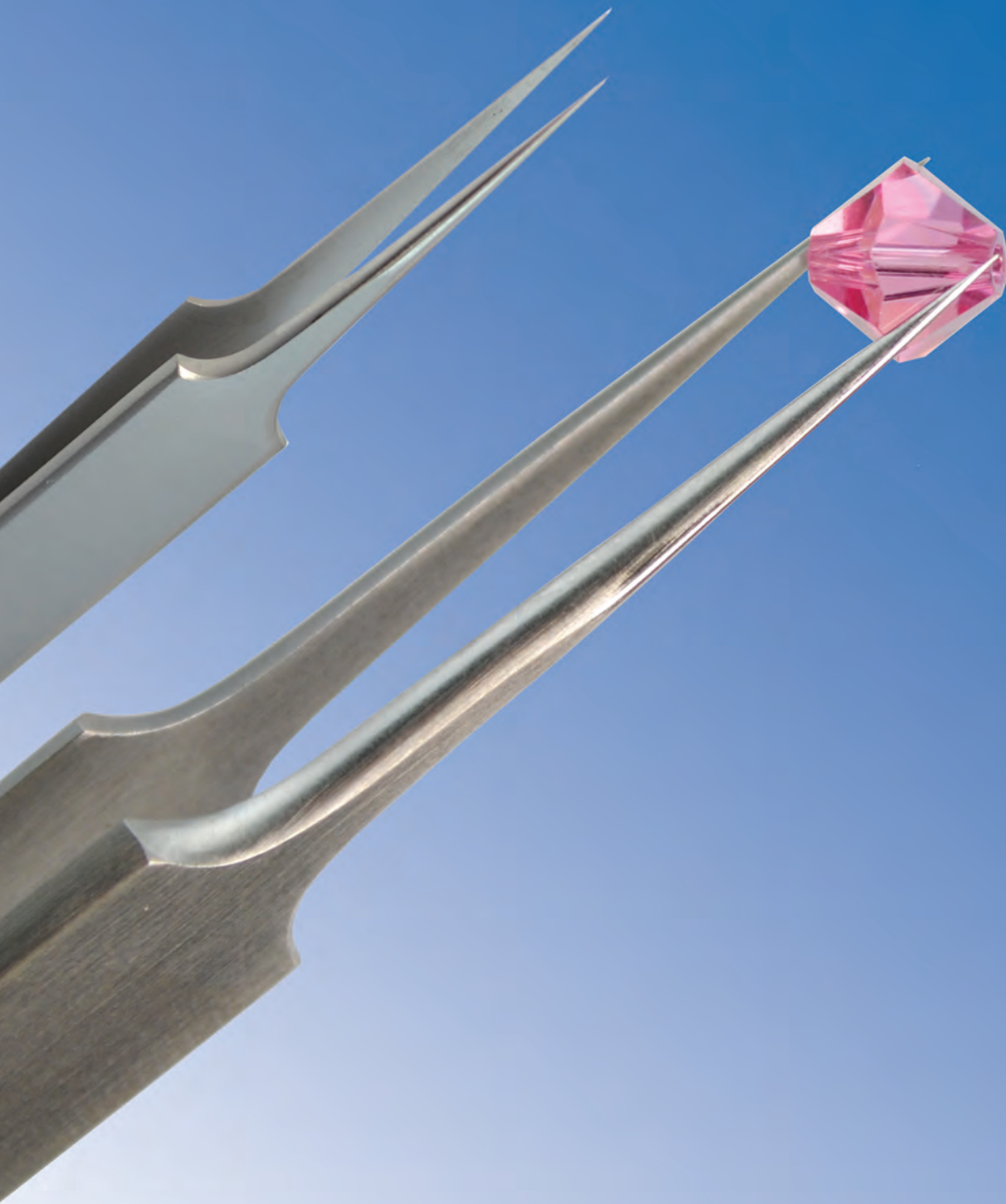


### 5 GROBET USA® HAND HELD METAL DETECTOR

The hand-held metal detector detects both Ferrous and Non-Ferrous Metals. Sensitivity is adjustable and can locate jewelry and watch parts in hard-to-reach places. Perfect for finding parts during repair work.

No.	Size
<b>15.207</b>	Hand Held Metal Detector

# ***Tweezers***



## TONGS



### 1 BENT CRUCIBLE TONGS

For holding crucibles as well as picking up hot objects.

No.	Length
57.066	19" (483 mm)



### 3 FLASK TONGS

For lifting small and large flasks to and from oven.

No.	Length
57.068	15" (381 mm).



### 5 BURNO CRUCIBLE TONGS

No.	Length
57.060	10-1/2" (267 mm)



### 7 COPPER TONGS with CURVED POINTS

Suitable for pickling and acid solutions.

No.	Length
57.052	9" (229 mm)



### 9 PERFORATED FLASK TONGS with PINS

Stainless steel, specifically designed with pins to engage the holes in perforated casting flasks for safe, secure handling. Not for use with non-perforated flasks.

No.	Length
57.069	14-7/8" (378 mm)



### 2 CRUCIBLE and FLASK TONGS

For picking up crucibles and 1-1/2" (38 mm) diameter flasks.

No.	Length
57.080	19" (483 mm)



### 4 DRAW TONGS

Serrated jaws for pulling wire. Made of forged steel with ergonomic design.

No.	Length
57.056	8" (203 mm)
57.058	10" (254 mm)



### 6 COPPER TONGS with OFFSET POINTS

Suitable for pickling and acid solutions.

No.	Length
57.054	8-1/2" (216 mm)



### 8 GROBET USA® CRUCIBLE and FLASK TONGS

All-purpose laboratory and industrial tongs for holding, manipulating and pouring, as well as for picking up hot objects. With serrated points. Stainless steel with long neck.

No.	Length
57.085	9" (229 mm)



### 10 TONGS FOR CRUCIBLES

For Picking up crucibles.

No.	Length
22.790	13" (330 mm)

## TWEEZERS

For handling miniature and micro-miniature parts and assemblies, tweezers are as essential as the fingers on your hand. There are definite differences in their patterns. Point finish and the materials used make some numbers more suitable for a particular job than others.

**Peer-Vigor** - Made in Switzerland for Grobet USA®.

**Dumont** - Finest Quality - Manufactured at the Dumont factory, in Switzerland.

**Dumont II** - Excellent Quality - Manufactured at the Dumont factory, in Switzerland.

**Grobet USA** - Great value - Made Exclusively for Grobet.



### How To Select Tweezers

To help in making the proper selection, the information in the charts on this page can be used as a general guide, while additional details will be found along with the illustrations for each stock number.

### SWISS PATTERN TWEEZERS

Precision watchmakers' tweezers. These tweezers are forged from the finest grades of metal and machined to a smooth satin finish. The Titanium tweezers are 40% lighter than steel. They are 60% stronger, are resistant to high temperatures, maintain their sharp tips without resharpening and, because they are light, cause less hand fatigue. Extensive hand operations are used in shaping, adjusting and finishing the points on the Dumont style tweezers, making them the only ones recommended for work under a microscope. Use the chart below for quick comparisons.

Points		Shanks		Length		Patterns	Points		Shanks		Length		Patterns
Tips	Finish	Profile	Edges	(in)	(mm)		Tips	Finish	Profile	Edges	(in)	(mm)	
Needle Sharp	Micro-Honed	Indented	Beveled	4-1/2"	114	4, 5, 5A	Blunt	Honed	Indented	Flat	4-3/4"	120	2
Very Sharp	Fine-Honed	Tapered	Beveled	4-3/4"	120	3	Blunt	Honed	Tapered	Flat	4-3/4"	120	00
Very Sharp	Fine-Honed	Tapered	Beveled	4-1/2"	114	3C	Rounded	Honed	Tapered	Flat	3-1/2"	89	H
Very Sharp	Fine-Honed	Tapered	Flat	4-1/2"	114	0	Rounded	Honed	Indented	Flat	4-3/4"	120	2A
Very Sharp	Fine-Honed	Tapered	Flat	3-1/4"	89	0C	Beveled	Honed	Straight	Flat	4-1/4"	108	8
Sharp	Honed	Curved	Beveled	4-1/2"	114	7, 7A, 7B	Cutting	Honed	End Nipper		4-1/4"	108	15
Sharp	Honed	Tapered	Beveled	4-3/4"	120	1, 11N	Cutting	Honed	Oblique Nipper		4-1/2"	114	15A, 15AP
Sharp	Honed	Hooked	Flat	4-1/2"	114	6							

### BOLEY STYLE TWEEZERS

Excellent tweezers, with less extensive hand craftsmanship than is devoted to the Dumont style. The matched points have received finishing at the tips making them suitable for sorting and assembly operations of small parts and components under low power magnification.

### DIAMOND TWEEZERS

Tweezers with finely serrated jaws that grip and hold even the most delicate objects securely without damage. Used extensively for handling diamonds.

### SPECIAL PURPOSE TWEEZERS

Miscellaneous tweezers such as jewel holders, three-prong holders, pocket tweezers, vacuum pickup, etc.

### Metals Used

The chart below shows general property relationships among the various metals used in the manufacturing of tweezers. In addition, note that the points of the harder metals will wear longer and are less subject to bending. The softer metals will not scratch delicate parts and usually have additional desirable properties such as being non-magnetic, etc.

Metal	Hardness	Non-Magnetic	Corrosion or Acid Resistance
Carbon Steel	Very hard	No	Poor
Stainless Steel	Hard	No	Satisfactory
Non-Mag Stainless	Soft	Yes	Good
German Silver	Very soft	Yes	Fair
Brass	Very soft	Yes	Fair
Titanium	Hard	Yes	Good
Carpenter 20	Medium	Yes	Excellent
Nickel-Plated Steel	Very hard	No	Satisfactory
Chrome Plated Steel	Very hard	No	Satisfactory





### PATTERNS 1 and 11N

For general use, assembly, inspection, sorting. Tweezers feature tapered shanks with beveled edges, and sharp, plain-finished points. Pattern 11N is made of non-magnetic German silver and is the same length as pattern 1. Overall length 4-3/4" (121 mm).

Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
<b>Pattern 1</b>				
Carbon Steel	57.400	57.200	—	—
Stainless Steel	57.401	57.201	57.249	57.801
Anti-Acid/Mag SS	—	57.202	57.516	57.0651
Titanium	57.0801	—	—	—
<b>Pattern 11N</b>				
German Silver	57.403	—	—	—



### PATTERN 2

General use tweezers with sturdier points slightly wider and thicker tips than pattern No.1. Indented and have flat edges for gripping object with tip or side. The plain finished points have a fine tip. Overall length 4-3/4" (121 mm).

Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Carbon Steel	—	57.208	—	—
Stainless Steel	57.409	57.209	57.517	—
Anti-Acid/Mag SS	57.410	57.210	57.250	—



### PATTERN 2A

Similar to pattern 2, except points are .055" (1.4 mm) wide and rounded at the tips. Overall length 4-3/4" (121 mm).

Metal	Peer-Vigor	Dumont II	Grobet USA
Carbon Steel	57.412	—	—
Stainless Steel	57.413	—	57.0752A
Anti-Acid/Mag SS	57.414	57.01202A	57.803



### PATTERN 3

Excellent tweezers for handling all miniature and micro-miniature parts. Shanks are tapered with beveled edges; points have been honed and are very sharp. Overall length 4-3/4" (121 mm).

Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Carbon Steel	57.417	57.217	—	—
Stainless Steel	57.418	57.218	57.518	57.808
Anti-Acid/Mag SS	57.419	57.219	57.251	57.809
Titanium	57.0803	—	—	—



### PATTERN 3C

Shorter version of pattern 3. Overall length 4-1/2" (114 mm).

Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Carbon Steel	57.425	57.225	—	—
Stainless Steel	57.426	57.226	57.519	57.816
Anti Acid/Mag SS	57.427	57.227	57.252	57.817
Titanium	57.0803C	—	—	—



### PATTERN 4

Ideally suited for handling microscopic parts. Shanks are indented with beveled edges and points that have been extra-honed to a needle-like shape and sharpness. Overall length 4-1/2" (114 mm).

Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Stainless Steel	57.431	—	57.01104	57.821
Anti-Acid/Mag SS	57.432	57.232	—	57.822
Titanium	57.0804	—	—	—



**PATTERN 5**

Similar to pattern 4, except have very narrow needle-like points. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Carbon Steel	—	<b>57.235</b>	—	—
Stainless Steel	<b>57.436</b>	<b>57.236</b>	<b>57.520</b>	<b>57.0755</b>
Anti-Acid/Mag SS	<b>57.437</b>	<b>57.237</b>	<b>57.254</b>	—
Titanium	<b>57.0805</b>	—	—	—

**PATTERN 6**

Sharp hooked points for wire wrapping, forming, bending and coiling. Angled points can also be useful for hard-to-get-at spots. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Carbon Steel	—	—	—	—
Stainless Steel	<b>57.441</b>	<b>57.241</b>	<b>57.01106</b>	—
Anti-Acid/Mag SS	<b>57.442</b>	—	<b>57.01206</b>	—

**PATTERN 7**

Excellent tweezers for handling all miniature and micro-miniature parts and components. The shape permits the user to rest his hand on the bench during assembly operations. The curved shanks have beveled edges; points have a plain finish, but are very sharp. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Carbon Steel	<b>57.444</b>	<b>57.244</b>	—	—
Stainless Steel	<b>57.445</b>	—	<b>57.01107</b>	<b>57.835</b>
Anti-Acid/Mag SS	<b>57.446</b>	<b>57.246</b>	<b>57.01207</b>	<b>57.836</b>
Titanium	<b>57.0807</b>	—	—	—

**PATTERN 7A**

Blunt tip tweezers for handling all miniature and micro-miniature parts and components. The shape permits the user to rest his hand on the bench during assembly operations. The curved shanks have beveled edges; points have a plain finish, but are very sharp. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Stainless Steel	—	—	—	<b>57.837</b>

**PATTERN 7B**

Tweezers with serrated jaws for handle all miniature and micro-miniature parts and components. The shape permits the user to rest his hand on the bench during assembly operations. The curved shanks have beveled edges; points have a plain finish, but are very sharp. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA
Stainless Steel	<b>57.453</b>	<b>57.253</b>	—	—
Anti-Acid/Mag SS	<b>57.465</b>	—	—	<b>57.838</b>

**PATTERN 8**

Straightens terminal lead wires, needle point indicators, etc. Blades are extra thick with blunt jaws. Overall length 4-1/4" (108 mm).

Metal	Dumont II
Carbon Steel	57.256

**PATTERN 35A**

Large flat points. Overall length 4-5/8" (118 mm).

Metal	Peer-Vigor
Anti-Acid/Mag SS	57.355

**PATTERN A**

A general utility tweezers, for assembly, inspection, sorting, etc. Shanks are thick and have flat edges that enable the user to grip and hold with the edge as well as the tip. Points are plain and tips are blunt and wider than pattern 00. Overall length 4-3/4" (121 mm)

Metal	Peer-Vigor	Dumont
Carbon Steel	—	57.284
Anti-Acid/Non-Mag SS	57.473	—

**PATTERN AC**

Similar to pattern 00C, except the points are plain and the tips are slightly wider. Overall length 4-1/2" (114 mm).

Metal	Dumont
Carbon Steel	57.287

**PATTERN H**

Stubby, wide shanks for a strong grip on the object. Generally used in pairs for wire bending, adjusting, etc. Tapered shanks with flat edges; points are honed and have round blunt tips. Overall length 3-1/2" (89 mm).

Metal	Peer-Vigor	Dumont
Carbon Steel	—	57.259
Stainless Steel	57.460	57.260

**PATTERN O**

For handling miniature and micro-miniature parts. With tapered shanks, not as thick as pattern 00, flat edges and points that have been honed and are very sharp. Overall length 4-1/2" (114 mm).

Metal	Dumont II
Stainless Steel	57.01136

**PATTERN P**

Tips are slightly thicker and sturdier than those on pattern 1. Overall length 4-3/4" (121 mm).

Metal	Dumont
Carbon Steel	57.296

**PATTERN S**

Less expensive version of pattern 3; points are not as precision finished. Overall length 4-3/4" (121 mm).



Metal	Dumont II
Anti-Acid/Non-Mag SS	57.523

**PATTERN SS**

Fine, long and narrow points. Overall length 5-1/4" (133 mm)



Metal	Peer-Vigor	Dumont
Anti-Acid/Non-Mag SS	57.0659	57.01244

**PATTERN OC**

Shorter version of pattern O. Overall length 3-1/2" (89 mm).



Metal	Peer-Vigor	Dumont	Dumont II
Carbon Steel	—	57.268	—
Stainless Steel	57.469	—	57.01130C
Anti-Acid/Mag SS	—	57.270	—

**PATTERN OA**

Similar to pattern O, except the shanks are notched and the points have been rounded and finished for fine assembly work. Overall length 4-3/4" (121 mm).



Metal	Dumont
Carbon Steel	57.273

**PATTERN OO**

A general utility tweezers for assembly, inspection, sorting, etc. Shanks are thick and have flat edges that enable the user to grip and hold the object with the edge as well as the tip. Points are honed and have blunt tips. Overall length 4-3/4" (121 mm).



Metal	Peer-Vigor	Dumont	Grobet USA
Carbon Steel	—	57.276	—
Stainless Steel	57.477	57.277	—
Anti-Acid/Non-Mag SS	57.478	57.278	57.842

**PATTERN OOC**

Shorter version of pattern OO. Overall length 4 1/8" (105 mm).



Metal	Dumont
Carbon Steel	57.281

**PATTERN OOD**

Pattern OO with serrations on tips and grips. Overall length 4-3/4" (121 mm).



Metal	Peer-Vigor
Carbon Steel	57.489
Stainless Steel	57.490

## BOLEY STYLE

Boley style tweezers are excellent general utility tweezers. All shanks are tapered and have beveled edges, except the GG pattern.

### PATTERN AA

For assembly, inspection, sorting, soldering, etc. of small parts. A non-glare black oxidized finish is available in this pattern and solder will not adhere to this finish. Overall length 4-3/4" (121 mm).



Metal	Peer-Vigor	Dumont	Dumont II	Grobet USA	Prideline
Nickel-Plated Steel	<b>57.550</b>	—	—	<b>57.850</b>	<b>57.0301</b>
Black Oxidized	<b>57.551</b>	—	—	—	—
Stainless Steel	<b>57.553</b>	—	<b>57.524</b>	<b>57.0738</b>	—
Anti-Acid/Non-Mag SS	<b>57.554</b>	<b>57.306</b>	<b>57.525</b>	—	—

### PATTERN BB

Hollow light tension points. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor
Nickel-Plated Steel	<b>57.558</b>

### PATTERN GG

Pointed, indented shanks Overall length 5-1/8" (130 mm).



Metal	Peer-Vigor	Dumont II
Nickel-Plated Steel	<b>57.562</b>	—
Stainless Steel	—	<b>57.01139</b>

### PATTERN MM

Similar to pattern AA, but heavier. The shanks are slightly longer and the corner of the handle has been rounded. Overall length 5" (127 mm).



Metal	Peer-Vigor	Dumont II	Grobet USA
Nickel-Plated Steel	<b>57.566</b>	—	<b>57.866</b>
Stainless Steel	<b>57.567</b>	<b>57.526</b>	—
Anti-Acid/Mag SS	<b>57.568</b>	<b>57.527</b>	—

### PATTERN AM

Non-magnetic brass version of pattern MM. Excellent for handling parts that scratch easily. Overall length 5" (127 mm).



Metal	Peer-Vigor
Non-Mag Brass	<b>57.556</b>

### PATTERN NN

Shorter version of pattern MM. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor
Nickel-Plated Steel	<b>57.570</b>

### PATTERN RR

Hefty, heavy-duty tweezers with wide shanks and points similar to those on pattern AA. The shanks and handle are extra thick. Overall length 5-1/4" (140 mm).



Metal	Peer-Vigor	Grobet USA
Nickel-Plated Steel	<b>57.574</b>	<b>57.0311</b>

## SWISS PATTERN CUTTING

For use on very fine wires only.

### PATTERN 15

End cutter for very soft wire or for stripping fine magnet wire. Overall length 4-1/4" (108 mm).



Metal	Dumont
Carbon Steel	57.309



Metal	Peer-Vigor
Carbon Steel	57.512

### PATTERN 15A GOLD

Cuts soft copper, gold, silver and magnetic wire up to .010" (.25 mm). Very popular, very long-lasting cutter. Overall length 4-1/2" (114 mm).



Metal	Peer-Vigor
Titanium Nitride	57.340

### PATTERN 15AP

Cuts .010" (.25 mm) and smaller soft wire. Overall length 4-1/2" (114 mm) long with parallel cutting edges.



Metal	Peer-Vigor
Carbon Steel	57.515
Stainless Steel	57.0715AP

### PATTERN 15A

The most popular wire cutting tweezers. Strong oblique cutting edge gives crisp, clean, close cuts on many types of fine wire. Overall length 4-1/2" (114 mm).

Metal	Dumont
	57.312

### PATTERN D

Transverse end cutter with rounded cutting edge. Overall length 3-3/4" (95 mm).



Metal	Peer-Vigor
Carbon Steel	57.560

## SWISS ECO-LINE

All the same features as the higher-end tweezer but at a more affordable price. Satin finish stainless steel tweezers have perfectly aligned tips and are light weight.



No.	Style	Size
57.170	00	4-1/2"



No.	Style	Size
57.171	3	4-3/4"



No.	Style	Size
57.173	SS	5-1/3"



No.	Style	Size
57.174	4A	4-1/3"



No.	Style	Size
57.175	7A	4-1/2"



No.	Style	Size
57.176	2A	4-3/4"



## ORANGE SATIN FINISH SWISS TWEEZERS

The satin soft touch provides a comfortable, non-slip grip. These tweezers provide symmetry and balance for all normal applications – shaping, adjusting and finishing.



No.	Style	Size
57.161	1	4-3/4"



No.	Style	Size
57.163	3C	4-1/3"



No.	Style	Size
57.164	0	4-3/4"



No.	Style	Size
57.165	00	4-1/2"



No.	Style	Size
57.166	2A	4-3/4"



No.	Style	Size
57.167	5	4-1/2"



No.	Style	Size
57.168	5A	4-1/2"



No.	Style	Size
57.169	7	4-1/2"

## GROBET USA® CROSS-LOCKING



### 1 SHARP TIP with REVERSE-ACTION

Nickel-plated steel.

No.	Description
57.750	Overall length 4-3/4" (121 mm)



### 2 CROSS-LOCKING TWEEZER

Stainless Steel, sharp serrated.

No.	Description
57.0492	Overall Length: 4-3/4" (121 mm)



### 3 BLUNT/SERRATED TIP with REVERSE-ACTION

Nickel-plated steel.

No.	Description
57.753	Overall length 6-1/2" (165 mm)



### 4 SHARP/SERRATED TIP with REVERSE-ACTION

Nickel-plated steel.

No.	Description
57.752	Overall length 6-1/2" (165 mm)



### 5 BLUNT/SERRATED TIP

Nickel-plated steel.

No.	Description
57.0385	Overall length 6-1/2" (165 mm)



### 6 STRAIGHT TIP with FIBER GRIPS

Heat-resistant fiber grips. Stainless steel.

No.	Description
57.760	Overall length 6-1/2" (165 mm)

## GROBET USA® CROSS-LOCKING



### 1 CURVED TIP with FIBER GRIPS

Heat-resistant fiber grips. Stainless steel.

No.	Description
57.761	Overall length 6-1/2" (165 mm)

## GROBET USA® SLIDE-LOCKING

Closing pressure is easily adjusted.



### 4 ROUNDED/SERRATED TIP

Nickel-plated steel.

No.	Description
57.772	Overall length 6" (152 mm)

## SWISS DIAMOND TWEEZERS

Superb quality, Swiss-made with serrated points for easy handling of stones.



### 6 STAINLESS STEEL SLIDE-LOCK with SATIN FINISH

Peer-Vigor	Points	Length	
		(in)	(mm)
57.605	Fine	6"	152
57.606	Medium	6"	152



### 8 CARBON STEEL SLIDE-LOCK with BLACK FINISH

High quality tweezers with black finish for optimum diamond visibility.

Peer-Vigor	Points	Length	
		(in)	(mm)
57.607	Fine	6"	152
57.608	Medium	6"	152



### 10 NICKEL-PLATED STEEL SLIDE-LOCK

Peer-Vigor	Points	Length	
		(in)	(mm)
57.616	Medium	6"	152



### 2 STRAIGHT and CURVED TIP with FIBER GRIPS

Heat-resistant fiber grips and permanent tension, self-locking jaws are ideal for soldering operations, or for holding parts. With long, tapered, non-serrated blunt jaws. Stainless steel. Overall length 6-1/2" (165 mm).

No.	Points
57.0373	Straight
57.765	Curved

### 3 SHARP/SMOOTH TIP

Nickel-plated steel.



No.	Description
57.770	Overall length 4-3/4" (121 mm)

### 5 BLUNT TIP

Nickel-plated steel.

No.	Description
57.774	Overall length 6-1/2" (165 mm)



### 7 CARBON STEEL STANDARD with BLACK FINISH

Tweezers with black finish for optimum diamond visibility. Length 6" (152 mm).

Peer-Vigor	Type	Length	
		(in)	(mm)
57.620	Slender style	6"	152
57.622	Slide-lock style	6"	152



### 9 NICKEL-PLATED STEEL STANDARD

With regular width points. Overall length 6" (152 mm).

Peer-Vigor	Prideline
57.612	—
57.614	57.0354



### 11 TITANIUM

Very light and sensitive tweezers.

No.	Points	Length	
		(in)	(mm)
57.625	Medium tip	6"	152
57.626	Fine tip	6"	152
57.627	Extra-fine tip	6"	152



## DIAMOND TWEEZERS

- High-quality tweezers to make handling diamonds easy. Made of quality matt stainless or blackened stainless steel.



### 1 STAINLESS STEEL STANDARD

Swiss-made tweezers with serrated tips, and corrugated handles.

No.	Points	(in)	Length (mm)
57.0964	Medium	6-3/4"	162



### 3 STAINLESS STEEL SLIDE-LOCK ECONOMY

Strong, corrugated points.

No.	Points	(in)	Length (mm)
57.0356A	Medium	5-1/2"	140
57.0357A	Fine	5-1/2"	140



### 5 MATT FINISH STAINLESS STEEL

No.	Points	(in)	Length (mm)
57.530	Extra	6-1/2"	165
57.531	Fine	6-1/2"	165
57.532	Medium	6-1/2"	165
57.533	Large	6-1/2"	165
57.534	Extra Large	6-1/2"	165



### 7 MATT FINISH STAINLESS STEEL with INSIDE GROOVE

No.	Points	(in)	Length (mm)
57.535	Medium	6-1/2"	165
57.536	Large	6-1/2"	165

### 9 BLACK FINISH STAINLESS STEEL

No.	Points	(in)	Length (mm)
57.541	Extra Fine	6-1/2"	165
57.542	Fine	6-1/2"	165
57.543	Medium	6-1/2"	165
57.544	Large	6-1/2"	165



### 10 CARBON STEEL ECONOMY with BLACK FINISH

Metal	Points	(in)	Length (mm)
57.0347	Extra-fine	6-1/4"	159
57.0348	Fine	6-1/4"	159



### 2 STAINLESS STEEL SLIDE-LOCK

Swiss-made tweezers with serrated tips, and corrugated handles.

No.	Points	(in)	Length (mm)
57.0967	Medium	6-3/8"	162



### 4 STAINLESS STEEL ECONOMY with SATIN FINISH

No.	Points	(in)	Length (mm)
57.0394A	Fine	5-3/4"	146
57.0395A	Medium	6-1/2"	165



### 6 MATT FINISH STAINLESS STEEL with SLIDE-LOCK

No.	Points	(in)	Length (mm)
57.537	Extra Fine	6-1/2"	165
57.538	Fine	6-1/2"	165
57.539	Medium	6-1/2"	165
57.540	Large	6-1/2"	165



### 8 MATT FINISH STAINLESS STEEL DIAMOND TIP

No.	Points	(in)	Length (mm)
57.545	Fine	6-1/2"	165



### 11 ROUNDED POINTS with SLIDE-LOCK and INSIDE GROOVE

No.	Style	Description	Tip Diameter
57.151	XLR1	Slide-lock, inside groove, Black	.0071"

## GROBET USA® SOLDER/UTILITY TWEEZERS

Heavier duty tweezers. Selection of a solder/utility tweezers involves overall length desired, shape and size of points, with or without serrations, etc.



### 1 SMALL SHARP TIP

Overall length 4-3/4" (121 mm).

No.	Metal
57.700	Nickel-Plated Steel
57.701*	Steel

\*Satin finish with rust-resistant coating.



### 2 SMALL SHARP TIP INDENTED

Nickel-plated steel.

No.	Description
57.705	Overall length 4-3/8" (111 mm)



### 3 SMALL INDENTED SQUARE/SERRATED TIP

Nickel-plated steel.

No.	Description
57.710	Overall length 5" (127 mm)



### 4 LONG INDENTED

Nickel-plated steel.

No.	Description
57.713	Overall length 7" (178 mm)



### 5 LONG STRAIGHT/SMOOTH TIP

Nickel-plated steel.

No.	Description
57.0352	Overall length 7" (178 mm)



### 6 LONG STRAIGHT/SERRATED TIP

With serrations on handles. Overall length 7" (178 mm).

No.	Metal
57.0350	Nickel-Plated Steel
57.0450	Stainless Steel



### 7 LONG WEDGE CURVED TIP

Nickel-plated steel. Overall length 6-3/4" (171 mm).

No.	Description
57.716	Wedge/Smooth tip



### 8 LONG ROUND/SMOOTH CURVED TIP

Nickel-plated steel.

No.	Description
57.0351	Overall length 7" (178 mm)

### 9 LONG SHARP/SERRATED CURVED TIP

Curved, finished points and fine serrations on the handle make this tweezers ideal for even the most delicate objects. Nickel-plated steel.

No.	Description
57.721	Overall length 6" (152 mm)



## COATED FORCEPS/STEAM TWEEZERS

Plastic coating on points provides chemical resistance. Use with steam cleaners and ultrasonic cleaners for non scratch retrieving. Made of nickel-plated steel.



### 1 LONG STRAIGHT

No.	Description
57.922	Overall length 10" (254 mm)



### 3 CROSS LOCK

No.	Description
57.777	Overall length 6-1/2" (165 mm)



### 5 EXTRA-LONG COATED TIP TWEEZERS - ECONOMY

Ideal when using ultrasonic cleaners or steamers. Insulates and provides resistance to heat and chemicals. Extra-long, sturdy, chrome-plated steel tweezers keep you a safe distance from the steam and provides a sure grip and non-scratch retrieving. Chrome-plated steel.

No.	Length	Color Coating
57.0956	8" (203 mm)	Red
57.924	11" (279 mm)	Blue
57.0957	12" (305 mm)	Red



### 7 HEMOSTATS

These versatile, stainless steel pliers can be used as a clamp, heat sink or third hand while soldering. Handles have a two-position locking device and are insulated with vinyl plastisol. Box joint prevents looseness and wobble in the serrated jaws. The serrations are not sharp and will not cut into soft materials.

No.	Points	Length
46.450	Straight	3-1/2"
46.452	Curved	3-1/2"
46.0141	Straight	5"
46.454	Straight	5-3/4"
46.456	Curved	5-3/4"
46.0142	Straight	6"
46.0143	Curved	6"
46.464	Straight	18"
46.466	Curved	18"



### 2 STRAIGHT

No.	Description
57.921	Overall length 8" (203 mm)



### 4 CERAMIC-TIPPED TWEEZERS

These ceramic-tipped, non-rusting tweezers have an aluminum shank. They are extremely smooth and long wearing because they are harder than both stainless steel and carbon steel. They are anti-magnetic and lightweight with a high heat and chemical resistance. Silver and soft solders will not adhere to these tweezers. They will withstand heat up to 1000°C, making them a great choice when soldering platinum.

No.	Description
57.500	Ceramic-tipped Tweezers
57.501	Replacement point



### 6 STEAMOSTAT

Use to hold item while steam cleaning.

No.	Description
46.150	Overall length 8-1/4" (210 mm)



### 8 SPRINGRIP

Made of solid brass with a durable rubber comfort grip. Points are bent to secure work and prevent slippage. Can also be used for inspecting, lacquer and antique application and sandblasting.

No.	Length
57.01400	9-1/2" (241 mm)
57.01401	6" (152 mm)



## GROBET USA® RETRIEVING FORCEPS

The retrieving forceps have blunt rounded serrated points. Drop-forged for extra durability, and ideal for use when steam cleaning or ultrasonic cleaning.

### RETRIEVING FORCEPS with BENT POINTS

No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.910	Nickel-Plated Steel	10"	254	No



### RETRIEVING FORCEPS with STRAIGHT POINTS



No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.917	Nickel-Plated Steel	6"	152	Yes



No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.918	Nickel-Plated Steel	8"	203	Yes

No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.914	Nickel-Plated Steel	10"	254	Yes
57.919	Nickel-Plated Steel	10"	254	No



No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.915	Nickel-Plated Steel	12"	305	Yes
57.920	Nickel-Plated Steel	12"	305	No



## GROBET USA® HANDLING TWEEZERS

Forged from the best grades of stainless steel, machined to smooth finishes. Extensive hand finishing insures proper shape and alignment of the points, tips and shafts. Curved points are ideal for many operations where small parts need to be precisely placed.



### 1 HANDLING TWEEZERS with REGULAR LENGTH POINTS

No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.894	Stainless Steel	6"	152	Serrated



### 2 HANDLING TWEEZERS with ELONGATED POINTS

No.	Metal	Length		Guide Pin
		(in)	(mm)	
57.896	Stainless Steel	6"	152	Smooth
57.898	Stainless Steel	6"	152	Serrated

## DISSECTING FORCEPS

### 3 HANDLING FORCEPS

Well balanced tweezers with serrations on handle. Provides firm gripping action.

No.	Metal	Points	Overall Length		Guide Pin	Serrated
			(in)	(mm)		
57.934	Nickel-Plated Steel	Rounded	4-1/2"	114	No	No
57.927	Nickel-Plated Steel	Blunt	4-1/2"	114	Yes	No



### 4 PATTERN 20

With straight shaft. Overall length 4-1/2" (114 mm).

No.	Metal	Points	Guide Pin
57.929	Nickel-Plated Steel	Sharp	Yes



### 5 STAMP FORCEPS

These tweezers have thin, spade-shaped tips which make it easy to pick up delicate objects, such as stamps. Overall length 4-1/2" (114 mm).

No.	Description
57.926	Straight, round spade tip

## SERRATED TIPS

Extra high quality European-made tweezers with finely serrated tips that grip and hold even the most delicate objects securely without damage.



### 1 STANDARD

Smoothly polished chromium-plated tweezers. Shanks are tapered and have beveled edges.

No.	Length	Points
57.590	5-1/2" (140 mm)	Medium
57.592	6" (152 mm)	Medium
57.594	6-3/8" (162 mm)	Medium

No.	Length	Points
57.591	5-1/2" (140 mm)	Fine
57.593	6" (152 mm)	Fine
57.595	6-3/8" (162 mm)	Fine



### 2 SLENDER

Lightweight shape for picking up smaller objects and stones. Stainless steel.

No.	Length	Points
57.598	5-1/2" (140 mm)	very fine



### 3 GROOVED TIP TWEEZER

Stainless Steel sharp grooved curved points.

No.	Length	Points
57.0250	4-1/2" (114 mm)	grooved curved



### 4 CURVED TIP

Slender pattern with very fine points. Stainless steel. Overall length .

No.	Length	Points
57.601	5-1/2" (140 mm)	fine



### 5 SLIDE-LOCK

Chromium-plated steel tweezers with serrated points and locking device.

No.	Length	Points
57.604	5-1/2" (140 mm)	Fine points

## TWEEZER FOR HOLDING PRECIOUS STONES



### 6 BOLEY STYLE MINI TWEEZER, PATTERN V

Nickel Plated Carbon.

No.	Length	Points
57.640	3-3/4" (95 mm)	Sharp



### 7 BALANCE WEIGHT FORCEPS

Stainless Steel forceps designed for manipulating balance weights.

No.	Length	Points
57.907	4" (102 mm)	Plain



### 8 RING SOLDERING TWEEZERS

Holds rings from inside shank for easy soldering.

No.	Length
48.230	5-1/4" (133 mm)

## TWEEZER FOR HOLDING PRECIOUS STONES



### 1 HEAD and SHANK TWEEZERS - PREMIUM QUALITY

Stainless steel slide-locking tweezers securely holds the setting and shank in position for easy soldering of solitaires. One tip is curved to hold shank, the other serrated to grip setting.

No.	Length
48.235	5-1/2" (140 mm)



### 2 HEAD and SHANK TWEEZERS

Position the ring shank and setting to solder solitaires quickly and easily. Curved jaw has groove to hold shank securely, while flat jaw is serrated to prevent movement. Locking handles apply even pressure. Stainless steel, anti-magnetic and anti-acid.

No.	Length
57.0398	5-1/2" (140 mm)



### 3 PEER® PEARL-HOLDING TWEEZERS

Tips are cup-shaped to hold small round objects. Overall length. Swiss made.

No.	Length
57.641	4-1/2" (114 mm)



### 4 POCKET THREE-PRONGED HOLDER for STONES & DIAMONDS

Small holder fits in pocket. Wire jaws contract into body and plunger in end opens the jaws.

No.	Length
57.636	2" (51 mm)



### 5 PRONGED HOLDING TWEEZERS for STONES and DIAMONDS

For gripping and holding small objects. Plunger in handle opens wire jaws that contract back into handle. Overall length 4-3/4" (121 mm).

No.	Description
57.634	Three-pronged holder
57.635	Four-pronged holder



### 6 SCREW-HOLDING TWEEZERS

A cross-slot cut into the tip of the tweezers allows easy pick up of screws or small pieces for placement or examination.

No.	Length
No. 57.731	4" (102 mm)



### 7 TWEEZER with shovel

Excellent for handling diamonds, pearls and other precious gemstones.

No.	Length
51.099	6-1/2" (165 mm)



### 8 PIN TUMBLE TWEEZER

Retrieving forceps have blunt rounded serrated points. Nickel plated steel.

No.	Length
57.939	6" (152 mm)



### 1 SELF LOCKING SREW HOLD TWEEZER

Self-locking, straight tip.

No.	Length
57.759	4-3/4" long (121 mm)



### 2 GLASS FILL RED TWEEZER

Never rusts, resists acetone, alcohol and acids. Also used to hold batteries.

No.	Length
57.958	5" (127 mm)

## TWEEZERS KITS IN POUCH



### 3 FIVE PIECE ALL-PURPOSE TWEEZERS KIT

A complete, basic tweezers set. An ideal way to sample and select the proper type tweezers for most applications. The tweezers have hundreds of uses and the deluxe vinyl pouch provides handy storage. Kit contains:

No.	Description
57.936	Five Piece All-Purpose Tweezers Kit 4-1/2" (114 mm) pointed tweezers 4-3/4" (121 mm) stamp tweezers 6" (152 mm) retrieving forceps 6" (152 mm) solder/utility tweezers 6-1/2" (165 mm) self closing tweezers



### 4 FIVE PIECE SOLDER/UTILITY TWEEZERS KIT

Comes in a deluxe vinyl pouch. Kit contains:

No.	Description
57.937	Five Piece Solder/Utility Tweezers Kit Self-closing general purpose tweezer Self-closing general purpose tweezer Utility/solder Utility/solder utility/solder



### 5 TWELVE PIECE ALL-PURPOSE TWEEZERS KIT

Comes in a plastic pouch. Kit contains:

No.	Description
57.01250	Twelve Piece All-Purpose Tweezers Kit #1, 4-3/4" (159 mm) Dumont style stainless tweezers #2A, 4-3/4" (159 mm) Dumont style stainless tweezers #3, 4-3/4" (159 mm) Dumont style stainless tweezers #5, 4-3/4" (159 mm) Dumont style stainless tweezers #7, 4-3/4" (159 mm) Dumont style stainless tweezers 6-1/4" (15.9 cm) black non-reflective diamond tweezers 5-1/2" (140 mm) chrome slide-lock fine diamond tweezers 5-1/2" (140 mm) chrome slide-lock med. diamond tweezers 5" (127 mm) Boley style tweezers AA 5-1/2" (140 mm) Boley style tweezers RR 6-1/2" (165 mm) soldering tweezers 4-5/8" (117 mm) plastic tweezers

## VACUUM PICK-UP TWEEZERS



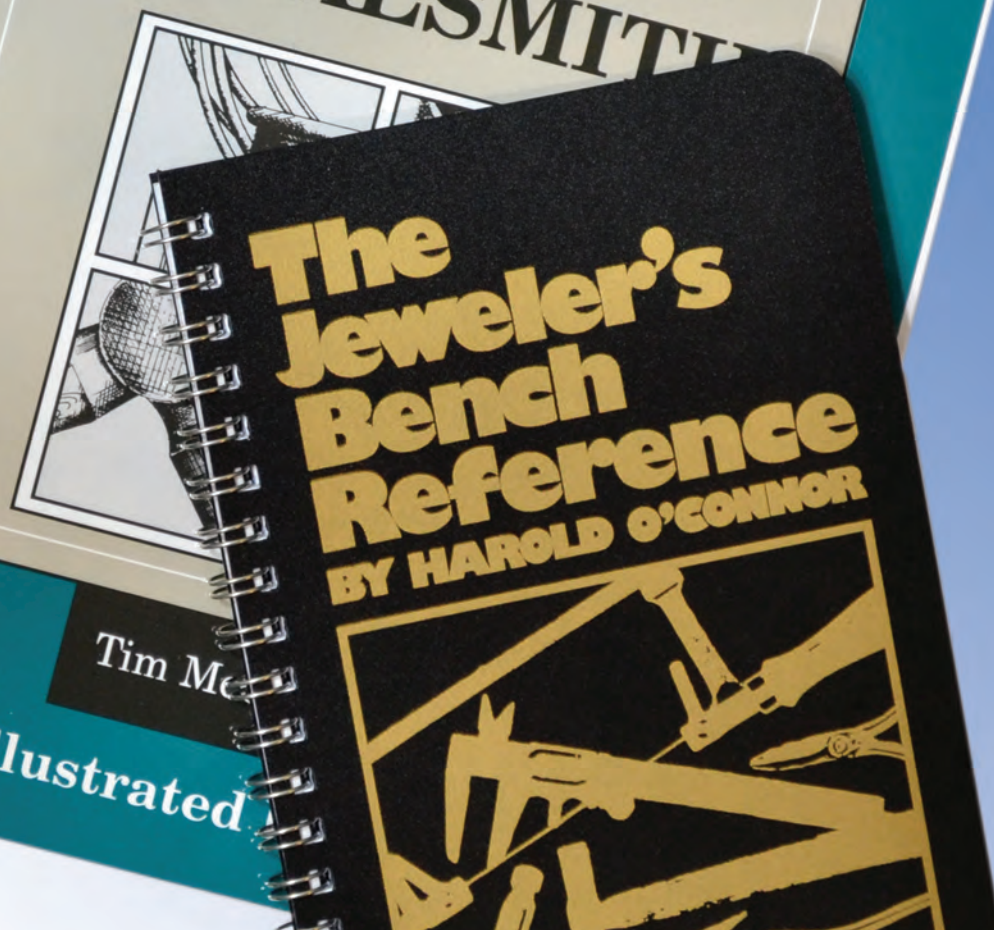
### 6 VACUUM PICK-UP TWEEZERS

Handles delicate miniature objects without scratching, breaking or pinching. Avoids contamination of parts and performs tweezer functions such as sorting, picking up, holding, carrying, etc. A lightweight, portable unit, completely assembled and ready for immediate operation as soon as the proper size tip is selected and installed. 4-1/2" high x 2-3/4" diameter, has an adjustable vacuum pressure control from 1" HG to 15" HG and an air flow of 125 cubic inches per minute. Unit has an on-off switch and is completely noiseless during operation. Set contains vacuum generator, anodized aluminum cylindrical probe, in-line filter to protect the generator, 4' length of tubing and five stainless steel probe tips.

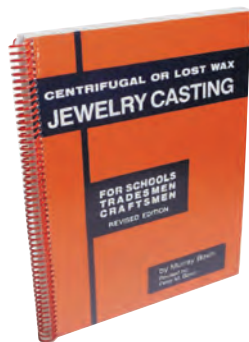
No.	Description
57.650	115 volt model
57.650X	220 volt model
57.651	Filter replacements



# *Videos & Books*







### 1 JEWELRY CASTING - Centrifugal or Lost Wax

By Murray Bovin

A thorough book covering casting by the centrifugal or lost wax method. Many of the techniques used commercially are explained in detail. While many tips are included for the beginning craftsman, this well-illustrated book is a must for anyone who does professional work. Chapters on mold making, casting waxes, spruing and investing, burnout, centrifugal casting machines, etc.

No.	Description
62.102	Soft cover, 144 pages.

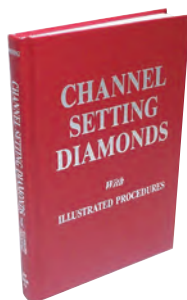


### 3 The ART and SCIENCE of CENTRIFUGAL CASTING

By Philip Romanoff

An extremely thorough, A to Z guide to the practical "ins and outs" of casting, including projects. Well-illustrated and well-written by an acknowledged expert in the field.

No.	Description
62.108	Soft cover, 357 pages

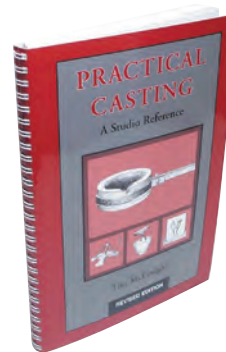


### 5 CHANNEL SETTING DIAMONDS with Illustrated Procedures

By Robert R. Wooding

Written to help clarify misinterpretations about channel setting diamonds. The book explains the fundamentals with the help of illustrations. It also provides an opportunity for diamond setters to learn how to set diamonds by a variety of means, under different situations.

No.	Description
62.446	Hard cover, 140 pages



### 2 PRACTICAL CASTING - A Studio Reference

By Tim McCreight

A studio reference for jewelers, metalsmiths and sculptors. Hundreds of drawings and concise descriptions. A complete appendix includes charts and tables not available elsewhere. Of special note are the thorough safety considerations that make this book a unique addition.

No.	Description
62.107	Soft cover, 153 pages.

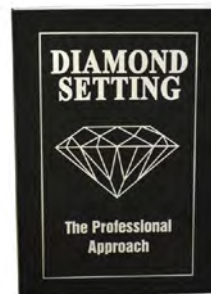


### 4 JEWELRY WAX MODELING

By Adolfo Mattiello

This book has been written by one of the world's best known jewelers and model makers. His knowledge of creating jewelry from the wax modeling method will prove invaluable to beginners and professionals alike.

No.	Description
62.493	Jewelry Wax Modeling



### 6 DIAMOND SETTING - The Professional Approach

By Robert R. Wooding

Experienced diamond setters as well as beginners can benefit from reading this book. It begins by describing the tools and supplies necessary and goes on to detail the steps necessary to do pin-point settings, prong settings (both round and fancy cut), bezel settings, channel settings, fishtail settings and bead settings.

No.	Description
62.450	Soft cover, 178 pages

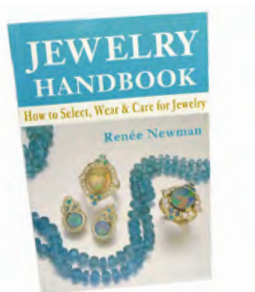


## 1 JEWELRY MAKING for Schools/Tradesmen/Craftsmen

By Murray Bovin

Revised and enlarged edition. Clear text, with useful photographs and diagrams of fundamental processes and techniques such as enameling, plating and etching. Includes sections on the three types of casting, stones used for jewelry and methods of setting stones. Appendix and supplementary tables.

No.	Description
62.451	Soft cover, 288 pages



## 3 JEWELRY HANDBOOK How to Select, Wear & Care for Jewelry

By Renée Newman

A practical guide to selecting the right jewelry for your lifestyle, budget, and body type. The book aims to help you get maximum enjoyment from your jewelry purchases.

No.	Description
No. 62.115	Soft cover, 177 pages

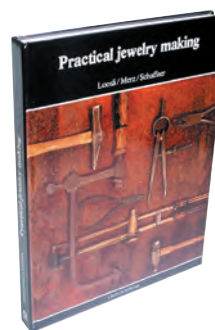


## 5 The DIAMOND SETTING MANUAL Procedures and Techniques

By Robert R. Wooding

Discussions and illustrations describe how diamonds are set in specific settings. The procedures and techniques detailed in this book will help the diamond setter advance in his/her skills.

No.	Description
62.447	The Diamond Setting Manual



## 2 PRACTICAL JEWELRY MAKING

By Loosli/Merz/Schaffner

Valuable exercises from trainee level to master working procedures. The use of each tool is described as well as a presentation of basic exercises. A special section follows with space left for the drawing imposed by the master and space provided for illustrating the apprentice's own creation. A handy workshop aid and reference book for the experienced professional.

No.	Description
62.01409	Hard cover, 164 pages

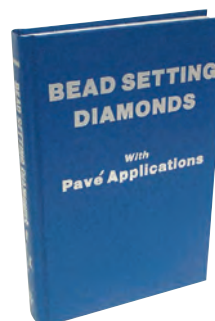


## 4 JEWELRY MANUFACTURE and REPAIR

By Charles Jarvis

With over 280 line drawings, it's a comprehensive reference book that covers the entire field of jewelry manufacture and repair.

No.	Description
No. 62.459	Hard cover, 212 pages

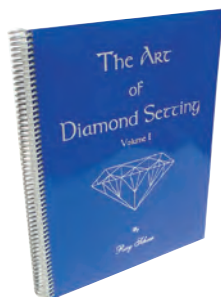


## 6 BEAD SETTING DIAMONDS with Pavé Applications

By Robert R. Wooding

Detailed, well-illustrated instructions will assist the apprentice as well as the expert. Tools, bead-setting procedures, applications and pavé setting are the four major sections. Many enriched techniques are included.

No.	Description
62.449	Hard cover, 192 pages

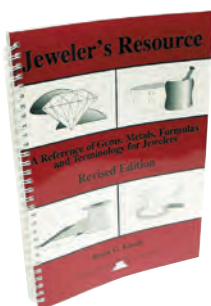


## 1 ART of DIAMOND SETTING

By Ray Schow

You will begin by learning the procedures and techniques for bead setting and bright cutting and proceed to more advanced work. With over 220 detailed photos, complicated operations are made simple. This book is a guide to help you with your setting. It will help you learn to set stones from scratch or to improve the setting you are now doing.

No.	Description
62.440	Soft cover, 220 pages.



## 3 JEWELER'S RESOURCE

**A Reference of Gems, Metals, Formulas and Terminology for Jewelers**

By Bruce Knuth

A unique and practical tool for the bench jeweler and student, as well as the retail jeweler. Easy to follow text and illustrations on many aspects of gems and jewelry including: a listing of gems and gem properties, a list of birthstones, diagrams of more than 40 gem cutting styles, legal standards of diamond, gold and silver marketing, formulas and chemical preparations, ring size gauges and sizes, measurement conversion tables and more.

No.	Description
62.443A	Soft cover, 112 pages.

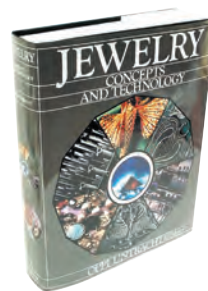


## 5 The COMPLETE METALSMITH An Illustrated Handbook

By Tim McCreight

An illustrated handbook describing everything from metals and their properties to tools and how to use them. Easy-to-follow index makes the answers easy to find.

No.	Description
62.500	Soft cover, 195 pages.



## 2 JEWELRY - Concepts and Technology

By Oppi Untracht

The definitive guide and handbook for jewelry makers at all levels of ability. Ten years in preparation and production make this one of the most comprehensive books available on the subject. Contains work by 300 jewelers from 26 countries, with 900 photos and over 300 illustrations.

No.	Description
62.498	Hard cover, 840 pages.



## 4 Techniques of JEWELRY ILLUSTRATION and COLOR RENDERING

By Adolfo Mattiello

Illustrating jewelry is the act of transforming ideas into reality. Professional looking illustrations give the designer an advantage. This manual brings the talents and expertise of outstanding jewelry designers into one volume. The templates provide support in giving your ideas a pleasing visual rendering. The manual and template set, together, help either student or trained designer bring design ideas to life.

No.	Description
62.495	Manual with 5 templates
62.49501	Manual only
62.49502	Set of 5 templates

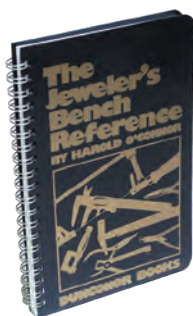


## 6 The FLEXIBLE SHAFT MACHINE - Jewelry Techniques

By Harold O'Connor

The flexible shaft machine is probably used more often than any other tool by the practicing craftsman. This well-illustrated book serves as a starting point.

No.	Description
62.499	Soft cover, 47 pages.



### 1 The JEWELER'S BENCH REFERENCE

By Harold O'Connor

A wealth of information on findings, processes, techniques and materials for the novice or intermediate craftsman. Instructs on care and use of equipment and gives expert information on jewelry making techniques.

No.	Description
62.460	Soft cover, 68 pages



### 3 The ART of ENGRAVING

By James B. Meek

A deluxe book with nearly 1400 magnificent photos, drawings and designs. Many focus on gun engraving, but the techniques can be universally applied. This is a classic on which no effort was spared.

No.	Description
62.356	Hard cover, 196 pages



### 5 GROBET USA® PLATING GUIDE

A complete booklet on the subject of plating precious metals.

No.	Description
62.01215	Soft cover, 12 pages

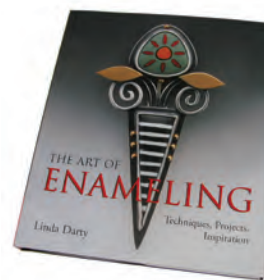


### 2 SILVERSMITHING and ART METAL for Schools/Tradesmen/Craftsmen

By Murray Bovin

Written for all who do metalsmithing. Contains the latest techniques and practical ideas and includes chapters on art metal work. Instructions are clear, easy to follow and are supported by over 300 illustrations.

No.	Description
62.456	Soft cover, 184 pages



### 4 The ART of ENAMELING Techniques, Projects, Inspiration

By Linda Darty

A complete course in enameling for beginners and more advanced artisans. Learn about each type of enamel, tools and equipment needed as well as detailed information in preparing, applying, firing, and setting.

No.	Description
62.514	The Art of Enameling



### 6 STEP-BY-STEP BEAD STRINGING

By Ruth F. Poris

A complete, illustrated professional approach to bead stringing. Describes in detail the techniques to string multiple strands, endless strands and plain strands.

No.	Description
62.463	Soft cover, 45 pages



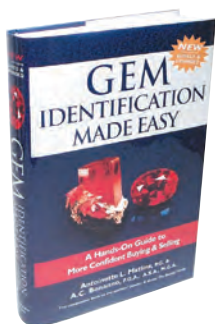


### 1 ADVANCED BEADWORK

By Ruth F. Poris

With over 300 illustrations and photographs, perfect book for teachers or individuals having an interest in beadwork.

No.	Description
No. 62.466	Soft cover, 146 pages



### 3 GEM IDENTIFICATION MADE EASY

By Antoinette L. Matlins and A.C. Bonanno

This book explains in non-technical terms how to use pocket, portable and laboratory instruments to identify diamonds and colored gems. It also shows how to separate real gems from the imitation and look-alike.

No.	Description
No. 62.412	Hard cover, 270 pages



### 5 GEM and JEWELRY POCKET GUIDE

By Renée Newman, GG, MA

Find simple buying tips from a respected gemologist in this handy pocket-sized guide. It contains highlights on diamonds, pearls, colored gem stones, platinum and gold jewelry. Great for shoppers and travelers.

No.	Description
62.405	Soft cover, 156 pages

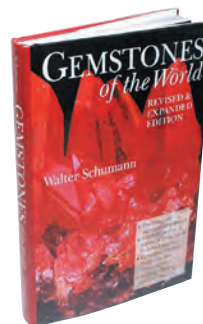


### 2 The BASICS of BEAD STRINGING - A Complete Illustrated Approach for Beginner and Advanced Designers

By Debby Kanan

Well illustrated and completely updated. Includes tools, bead selection, stringing materials, getting started, hand knotting a necklace, and helpful tips. Illustrations are life size and very easy to follow.

No.	Description
No. 62.465	Soft cover, 48 pages



### 4 GEMSTONES of the WORLD

By Walter Schumann

Authoritative reference with color photographs of more than 1400 specimens, many shown before and after cutting. Special sections on fabricated and synthetic gems, recognizing gems by color, birthstones and organic gems, such as coral and pearl. Includes technical data on gemstone properties, formation and structure of gems and cutting.

No.	Description
No. 62.417	Soft cover, 256 pages



### 6 The PEARL BUYING GUIDE

By Renée Newman, GG, MA

Pearl buying made simple. Written in easy-to-read everyday English by consumer author Renee Newman, GG (GIA), a gemologist, lecturer and talk show guest. Lots of explanatory photos and step-by-step pointers on how to buy the best pearls for the money. Learn how to recognize real pearls, compare prices, and save money.

No.	Description
62.406	Soft cover, 188 pages



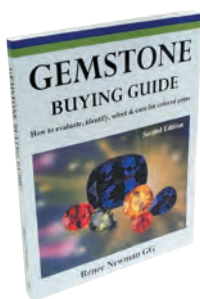


## 1 JEWELRY and GEMS - The Buying Guide

By Antoinette L. Matlins and A.C. Bonanno

A "how-to-know-what-you're-buying" book. With over 100 illustrations, it's a thorough, comprehensive, easy to understand layman's course in gem and jewelry buying. Valuable price charts and money-saving tips. Covers diamonds, pearls, precious and other popular gems.

No.	Description
62.411	Soft cover, 213 pages

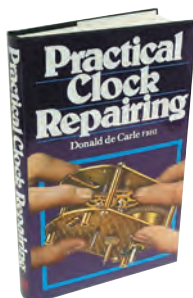


## 3 GEMSTONE BUYING GUIDE

By Renè Newman GG, MA

A full-color, comprehensive guide to evaluating, identifying, selecting and caring for a variety of colored gemstones. The Gemstone Buying Guide teaches both consumers and professionals how to judge color, transparency, flaws, and brilliancy. A valuable resource for every jeweler and gem lover.

No.	Description
62.422	Soft cover, 148 pages.

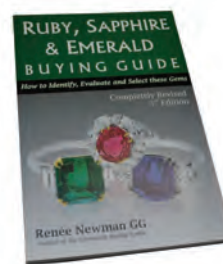


## 5 PRACTICAL CLOCK REPAIRING

By Donald de Carle, FBHI

Deals with the usual faults likely to develop in each type of movement in general use, from grandfather to alarm clocks. All tools and equipment are described and illustrated, along with information on proper use. Has 400 illustrations.

No.	Description
62.225	Hard cover, 240 pages



## 2 RUBY, SAPPHIRE and EMERALD BUYING GUIDE

By Renée Newman, GG, MA

A gemologist and lecturer with broad experience teaches you how to tell a ruby from red glass and a good sapphire from a bad one. The first and only consumer book on the ruby, sapphire, & emerald. Tells you how to spot value and avoid rip-offs. Many photos and step-by-step pointers on how to get the most for your money.

No.	Description
62.414	Soft cover, 188 pages



## 4 THE BESTFIT WATCH and JEWELRY REPAIR RECORD BOOK

The book that helps you document every repair record, with ample space for the details of each transaction - Name and address of owner, Tag and record number, Date received, repaired, and delivered, Name of receiver, complete description of Case, Case no., Movement No. and markings, Repairs made, Charges, and additional information. Contains space for 2000 entries and each line is a complete transaction with all information at your fingertips. These records should be kept for at least three years.

No.	Description
No. 62.01135	Hard cover, 142 pages

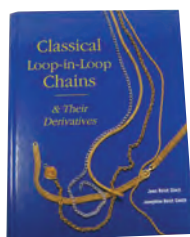


## 6 PRACTICAL WATCH REPAIRING

By Donald de Carle, FBHI

This book contains 550 illustrations describing the theories and processes of repairing and adjusting the modern watch precisely and with meticulous detail.

No.	Description
62.224	Hard cover, 299 pages

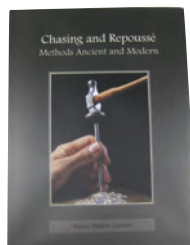


### 1 CLASSICAL LOOP-IN-LOOP CHAINS

by Jean Reist Stark

Josephine Reist Smith The ultimate resource for jewelers interested in the chains. With clear instructions and illustrations, this book is a tribute to the beauty and variety of a chainmaking technique.

No.	Description
62.560	Classical Loop-in-Loop Chains



### 2 CHASING and REPOUSSE

by Nancy Megan Corwin

Chasing and repousse have been used for centuries to embellish metal objects. This long-awaited book provides lucid and practical instruction that will appeal to beginners and advanced craftspeople.

No.	Description
62.561	Chasing and Repousse



### 3 CREATIVE STONESETTING

by John Cogswell

This book features suggestions of new ways to think about stonsetting. In detailed text and illustrations, new concepts are described along with techniques that will appeal to jewelers of every skill level.

No.	Description
62.562	Creative Stonesetting



### 4 CUSTOM KNIFEMAKING

by Tim McCreight

Spanning the gap between pre-cut and "art" knives with step-by-step illustrated instructions for unique and beautiful knives.

No.	Description
62.01516	Features 10 projects



### 5 FOLDFORMING

by Charles Lewton-Brain

A conceptual, physical and intuitive approach to metalsmithing that is informed by the natural characteristics of metals. It refers to a collection of procedures that generate an incredibly wide range of forms in metal. The first and most comprehensive book on foldforming, and one that will remain a vital resource.

No.	Description
62.563	Foldforming



### 6 INTRODUCTION to PRECIOUS METALS

by Mark Grimwade

There is a historic separation between science and the arts, this book offers a bridge between the two worlds. This book provides information for metallurgists and craftspeople alike. Knowing the underlying logic of materials helps make decisions about solders, fabrication and casting.

No.	Description
62.564	Introduction to Precious Metals

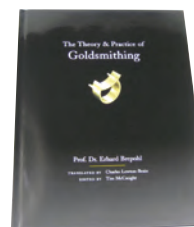


### 7 JEWELRY ILLUSTRATION

by Dominique Audette

This book is the most comprehensive book available on jewelry illustration. It covers orthographic projection, perspective drawing and perspective drawing developed from the orthographic projection.

No.	Description
62.565	Jewelry Illustration



### 8 The THEORY & PRACTICE of GOLDSMITHING

by Prof. Dr. Erhard Brehphol

This book has established itself as a dominant resource for jewelers, sculptors and all who work with metals. The book provides detailed coverage of jewelry alloys, a comprehensive description of chemistry related issues for metalsmiths and instruction in the physics of material that is both rigorous and practical. This valuable resource also explains soldering, eutectic bonding, electroplating as well as information on silversmithing, chainmaking, stonsetting and jewelry repair.

No.	Description
62.569	The Theory & Practice of Goldsmithing

## TURN YOUR DVD PLAYER INTO YOUR PRIVATE INSTRUCTOR!

DVDs enable you to learn and improve your craft by watching as well as listening. DVDs give you the ability to review each section as many times as necessary. Having a DVDs is like having an instructor next to your bench.

### METALSMITHING VIDEOS



#### 1 THE COMPLETE METALSMITH DVD

A DVD encyclopedia of basic jewelry making techniques. Covers the major elements of joining, cutting, forming and surface techniques. Included is a section illustrating techniques for making three pieces of jewelry.



#### 2 COLD CONNECTIONS DVD

This inspirational video merges technique and design to create opportunities for rich content and complex construction. Respected teacher Tim McCreight demonstrates ten projects to illustrate the diverse range of exciting possible cold connections, including tabs, rivets, tube rivets, staples, and more.



#### 3 PATINA BASICS DVD

Follow Tim McCreight through the exciting arena of patination for metal. The material in this DVD focuses on safe, readily available chemicals and takes the mystery out of the ancient techniques of metal coloration. This DVD covers preparing your metal, applying your patinas, and selecting the necessary tools and supplies for your project. Includes printable instructions (in .pdf format) and a printable poster that's ideal for the shop or the classroom.

No.	Description
63.004	The Complete Metalsmith

No.	Description
63.005	Cold Connections

No.	Description
63.006	Patina Basics

### BEAD STRINGING VIDEOS



#### 4 PMC BEADS DVD

Learn how to create unique PMC® beads with this DVD. Tim presents five bead projects, covering the basic techniques to complete them, while encouraging the artist to use their own skills to enhance the technique and design individuality.



#### 5 PEARL & BEAD STRINGING WITH HENRIETTA

Henrietta Virchick teaches you how to make a beautiful mother-of-pearl necklace and bracelet. You are given step-by-step instructions on various techniques for creating genuine, precious and semi-precious high-fashion jewelry. Useful for beginners or experienced craftsmen.



#### 6 TRI-CORD PROFESSIONAL BEAD STRINGING

An instructional DVD demonstrating use of the Tri-Cord™ knotting tool. See our Tri-Cord™ knotting tool and kits on page 34.

No.	Description
63.008	PMC Beads

No.	Description
63.1514	Running time: 50 minutes

No.	Description
63.01513	Running time: 30 minutes

### GEMSTONE SETTING VIDEOS



By Robert R. Wooding; A professional reference source for traditional diamond/gemstone setting procedures and techniques. Demonstrated with step by step instructions.

No.	Description
63.023	Baquette Diamonds
63.024	Marquise Diamonds
63.030	Basic Gemstone Setting
63.031	Oval Gemstone Setting
63.032	Pear Gemstone Setting
63.033	Marquise Gemstone Setting
63.034	Princess Cut Gemstone Setting
63.035	Emerald Cut Gemstone Setting
63.036	Bezel Gemstone Setting

## DIAMOND SETTING VIDEOS



### 1 CHANNEL SETTING DIAMONDS VIDEO

Covers advanced diamond setting techniques; open channels, curvature channels and inlaid channels for round and square cut diamonds. . .

No.	Description
63.002	Running time: 1 hour



### 3 DIAMOND SETTING FOR BEGINNERS VIDEO

A professional reference source for traditional diamond/gemstone setting procedures and techniques. Demonstrated with step by step instructions.

No.	Description
63.003	Diamond Setting For Beginners



### 2 CHANNEL SETTING DIAMONDS

emonstrates open channel, curved channel, and inlaid channel setting with round and square cut diamonds.

No.	Description
63.021	Running Time: 1 hour Approximately



### 4 FANCY CUT DIAMOND SET-WOOD VIDEO

Covers advanced diamond setting techniques, using fancy cut diamonds; oval, pear, heart-shaped, marquise, triangular and emerald cut.

No.	Description
63.001	Running time: 1 hour, 53 minutes.

## JEWELRY MAKING VIDEOS



### 5 DIAMOND SETTING VIDEOS

By Robert R. Wooding; A professional reference source for traditional diamond/gemstone setting procedures and techniques. Demonstrated with step by step instructions.

No.	Description
63.022	Diamond Setting for Beginners
63.020	Fancy Cut Diamonds
63.025	Pave Dvd



### 6 PMC BASICS DVD

More than 30 short video clips from one of the worlds foremost experts on working with PMC®. It details everything from beginning, creating textures, setting stones, and creating molds. All the hands-on information you need is here with each technique demonstrated. Learn construction techniques, drying and firing procedures and finishing and patination processes. Includes an introduction to PMC.

No.	Description
63.007	Approximately 70 mins

*Videos are supplied in sealed packages and cannot be returned for any reason if seal has been broken.*



# *Watch & Clock*





## QUARTZ CLOCK MOVEMENTS

### 1 MINI-QUARTZ CLOCK MOVEMENTS

Features:

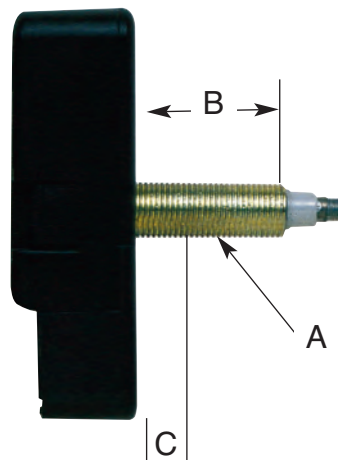
- Sturdy, compact design
- Rear time - set knob
- Clip on hanger
- Precise quartz crystal
- High stability
- 2-year warranty
- 3-post lengths for different face thicknesses

Specifications:

- Uses one AA battery, not included
- Rated voltage: 1.5V DC
- Operating voltage range: 1.2V to 1.7V DC
- Motor: stepping and self-starting
- Operating temperature range: -10°C to +50°C
- 10 mm shaft thickness, fits standard 1/2" hole in clock face
- 2-1/8" high x 2-1/8" wide x 1/2" thick

Includes:

- Rubber cushion
- Hanger
- Brass washer
- Mounting nut
- Cap nut and gold color hour, minute and sweep second hands



No.	A Brass Bushing Length	B Total Post Length	C Fit Faces Up To
CM 7441	5/16"	5/8"	1/4" Thick
CM 7442	9/16"	7/8"	1/2" Thick
CM 7443	13/16"	1-7/8"	3/4" Thick

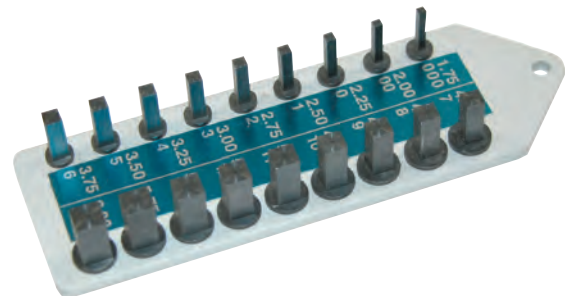
1 each is 6pcs.

## CLOCK GAUGE

### 2 SQUARE GAUGE CLOCK KEYS

Solves the problem of how to measure the square hole in a clock key. 18 sizes of squares from 1.75 to 6.00 mm, mounted on a metal plate, permits the fitting of a clock key over the square to obtain the correct key size. Assures accuracy in ordering needed keys.

No.	Description
GA 71231	18 sizes



## CLOCK REPAIR TOOLS



### 3 HEAVY DUTY HAND and GEAR PULLER

For all types of clocks and instruments. Jaws are adjustable to fit over various sized hands and pusher is always centered. Screw pressure pulls hand or gear away from post or pinion. Does not touch dial. Jaws open to 7/16" (11.1 mm).

No.	Description
24.581	Post size 1/16" (1.6mm)



### 4 CLOCK HAND REMOVER

Screw pressure forces hand away from post. Does not touch dial or rest of mechanism. Also used for pulling small gears, etc. Jaws open to 1/8" (3.2 mm).

No.	Description
24.580	Post size 1/16" (1.6 mm).



### 1 CLOCKSPRING WINDER

For loop end mainsprings. Winds up on mainwheel and arbor from clock.

No.	Description
CM 24752	Clocksring Winder



### 3 WIRE LOOPING PLIERS

Holds inner coil of mainspring when adjusting or forming to fit the barrel arbor. Stepped nose design, with one round and one concave jaw, allows smooth looping.

No.	Description
PL 46039A	Length 4-1/2" (114 mm)



### 5 BERGEON SCREWDRIVERS SETS

All of these screwdriver sets are made of chromed steel with color identifier bands for easy selection. Blades are held firmly in place by a set screw and cannot turn or twist. With tube for spare blades. Sets come in Polished Hardwood Box.

No.	Qty.	Sizes
30009	9	.019", .023", .031", .039", .047", .055", .065", .078" and .089" (.50, .60, .80, 1.00, 1.20, 1.40, 1.60, 2.00 and 2.50mm)
2639	5	.019", .023", .031", .039" and .047" (.50, .60, .80, 1.00 and 1.20mm)
2631	3	.019", .023" and .031" (.50, .60 and .80mm)



### 2 BERGEON ASSORTMENT 12 CUTTING BROACHES with BAKELITE HANDLE

No.	Description
3008	Sizes 0.05, 0.07, 0.10, 0.12, 0.15, 0.20; 2 pieces each size



### 4 CIRCULAR GLASS CUTTER

Cuts circles from 2-1/2" to 16-1/2" (64 to 419 mm) in diameter. Cutting wheel can be set anywhere along beam, which is graduated in millimeters.

No.	Description
CM 52972	Glass cutter



### 6 BERGEON PAIR OF LEVERS FOR HANDS

No.	Description
30011	Small size, 7.0 mm wide x 105 mm long
30012	Large size, 9.0 mm wide x 105 mm long



### 7 BERGEON LEVERS FOR HAIRSPRING COLLETS

Pair of levers for small collets.

No.	Description
30013	BERGEON Levers

## POLISHERS AND CLEANERS



### 1 POLYWATCH®

Removes scratches from plastic watch crystals. Apply a small amount of polyWatch to the crystal and polish with a cotton cloth. The scratches will disappear and the surface of the crystal will look as good as new

No.	Description
PS 47001	polyWatch Scratch Remover (1 tube carded)
PS 47002	polyWatch Scratch Remover (Display Box of 24 tubes)



### 2 DISPLEX DISPLAY POLISH

Removes scratches from cell phone displays.

No.	Description
PS 47004	Display Box of 24 tubes



### 3 BERGEON RODICO "ONE TOUCH" DRY CLEANER

For cleaning of precision parts and small gears. Removes surplus oils, loose dirt, grime, grease, smudges and finger prints.

No.	Description
6033	Pack of 2
6033/30	Pack of 30

## KNIVES



### HEAVY DUTY BENCH KNIVES

Blade is firmly set in hardwood handle. Blade length, 1-3/4" (44 mm).

No.	Description
4 39.105	Standard model
5 39.0626	Economy model



### 6 MEDIUM DUTY BENCH KNIFE

Has slim blade set firmly in hardwood handle.

No.	Description
39.180	Blade length, 1-3/4" (44 mm)



### 7 BLADE STYLE CASE OPENER

For opening friction fit cases. Well tempered steel blade set in hardwood non-roll handle.

No.	Description
CO 59047	Overall length 4-3/8" (111 mm)



### 8 VIGOR® BLADE CASE OPENER

Polished and tempered steel blade with knife edges. Mounted in hardwood handle with metal ferrule.

No.	Description
CO 590625	Overall length 4-1/2" (114 mm)

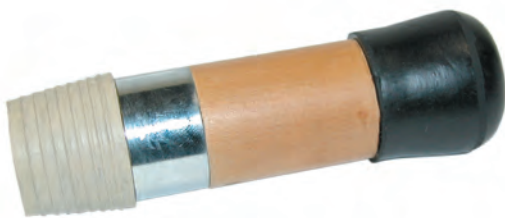


### 9 BERGEON BLADE CASE OPENERS

With polished blades. Overall length 4-3/8" (110 mm).

No.	Description
4932	Single blade
6403	Double blade

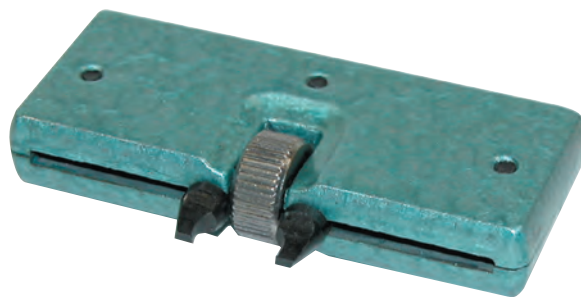
## CASE OPENERS



### 1 SUCTION TYPE CASE OPENERS

For waterproof and screw back cases. Apply pressure and turn quickly to open most cases. Rubber end will not mar soft metals.

No.	Description
<b>CO 59049</b>	Suction Type Case Opener



### 2 POCKET CASE OPENER

Compact, convenient wrench for waterproof cases. With tempered pins and easy-to-use adjusting wheel. .

No.	Description
<b>CO 590610</b>	Measures 2-5/8" x 1-1/8" x 1/2" (67 x 29 x 12.7 mm)



### 3 CASE OPENER

Provides a tight, non-slip grip. Long handle for increased pressure.

No.	Description
<b>CO 590620</b>	Includes double blade



### 4 RUBBER VACUUM CASE OPENER

For opening and closing screw backs and bezels.

No.	Description
<b>CO 59048</b>	Two cup sizes for 0 to 18s watches



### 5 CASE OPENER

Steel blade with knife edge.

No.	Description
<b>CO 59017</b>	Large grip for extra control



### 6 QUARTZ CASE OPENER

Steel blade with knife edge.

No.	Description
<b>CO 590615</b>	Mounted in plastic handle



### 7 BERGEON WATCH CASE OPENER

For pressure fit backs. Plastic handle.

No.	Description
<b>6484</b>	140 mm long



## CASE OPENERS



### 1 VIGOR® L-G "OPENALL" WATERPROOF CASE WRENCH

Especially designed for Rolex oyster cases and adaptable for use with the famous L-G wrench. Will open all Rolex waterproof cases. Six knurled rings accurately interlock with the edges on genuine Rolex cases. Diameter of rings: 18.5, 20.2, 22.5, 26.5, 28.3 and 29.5 mm. Sturdy frame fits any bench vise. Adjustable case holder, built into base of frame, accommodates all size cases. Made in USA.

No. **CO 590650** Waterproof case wrench

Replacement rings for No. **CO 590650**:

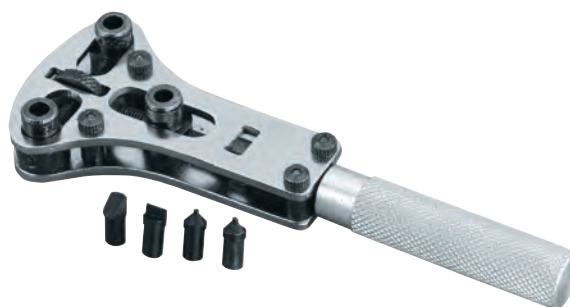
No.	Description	No.	Description
<b>CO 590651/1</b>	18.5 mm	<b>CO 590651/4</b>	26.5 mm
<b>CO 590651/2</b>	20.2 mm	<b>CO 590651/5</b>	28.3 mm
<b>CO 590651/3</b>	22.5 mm	<b>CO 590651/6</b>	29.5 mm



### 2 CASE OPENER FOR LARGE CASES

Extra large body for large watches. Includes 4 sets of pins: round, flat, square and toothed.

No.	Description
<b>CO 59060</b>	Case Opener for Large Cases



### 3 ECONOMY WATERPROOF WATCH CASE OPENER

Includes sets of easy-to-insert jaw pins: round, flat, square and toothed. Provides a tight, non-slip grip that will not scratch or mar. Protective wood storage case included.

No.	Description
<b>CO 590790</b>	Case opener
<b>CO 590791/1</b>	Set of replacement pins



### 4 BERGEON JAXA CASE WRENCH

Swiss made. Opens almost all types of waterproof cases with four sets of pins which are easily removed and replaced. Precision tool made for hard use. Handle and body are chrome-plated. Packaged in plastic case that holds wrench and pins.

No.	Description
<b>2819-4</b>	Case wrench
<b>2819C</b>	Set of three #1 pins Flat
<b>2819A</b>	Set of three #2 pins Square
<b>2819B</b>	Set of three #3 pins Round
<b>2819D</b>	Set of three #4 pins Toothed



CASE OPENERS AND CASE VISES



**1 WOOD CASE VISE**  
Opens to accept all size waterproof cases.

No.	Description
MV 59086	Will not mar watch cases.



**2 BERGEON KEY SETS**  
For opening oyster cases manufactured by Rolex. Contains wrench and six milled chucks in the following sizes: 18.5, 20.2, 22.5, 26.5, 28.3 and 29.5 mm.

No.	Description
5537	BERGEON Key Set



**3 BERGEON JAXA CASE VISE**  
Has plastic posts to prevent marring. Posts are removable and can be set into different positions for different cases. Opens and closes with large knurled knob. Plastic frame fits into bench vise.

No.	Description
5090	Case vise 50 x 45 x 35
5090A	Replacement plastic post



**4 LARGE ALUMINUM CASE VISE**  
Plastic posts can be set in 5 different positions up to 2" apart to hold large size cases.

No.	Description
MV 59090	Large Aluminum Case Vise



**5 ALUMINUM CASE VISE**  
Four plastic posts prevent damage. Posts can be set in different positions to hold various cases.

No.	Description
MV 59089	Aluminum Case Vise



**6 Watch Case Opener**  
Adjustable jaw enables this opener to work on almost any watch. Holds watch steady and securely and slot in side allows crown to rest unmarred while tightening screw to pop the case open. Base is pre-drilled for mounting to workbench.

No.	Description
CO 590800	Watch Case Opener



**7 WATCH CRYSTAL PRESS WITH 10 ADAPTER**

No.	Description
CO GSHP6	Contains 10 adapters



## 2 CASE JIG WITH NYLON DIES

For fitting mineral watch crystals.

No.	Description
CO 59090	Case Jig with Nylon Dies



## 4 METAL WATCH PRESS

For closing snap-back watch cases, installing bezel rings and friction inserting mineral crystals. Includes 15, two-sided dies for a total of 30 sizes.

No.	Description
CO 59080	Metal Watch Press



## 6 SET OF 12 DIES

Plastic dies in sizes: 21, 22, 27, 28, 31, 32, 33, 34, 35, 36, 39 and 40 mm. Fits all presses described above.

No.	Description
CO 59081	Set of 12

# REMOVERS AND CASE PRESSES

## 1 VIGOR® METAL WATCH PRESS

Ideal for closing snap-back watch cases, installing bezel rings and friction inserting mineral crystals. Sturdy metal press makes battery changing easy by eliminating the difficulty of closing cases. Will not scratch.

No.	Description
CO 590795A	14, two-sided dies, for a total of 28 sizes



## 3 VIGOR® CRYSTAL LIFT

Removes and inserts crystals without disassembling the watch. Effortlessly remove and insert any round unbreakable crystal without taking the watch apart or removing the bezel. Eliminates all rings, wrenches or pliers and the brass fingers will not mar the crystal. The gripping force can never lose strength because the fingers are mechanically operated. Access to the dial and hands is instantaneous and the works of one piece cases can be laid bare in seconds. A platform is provided to grip a new crystal for inserting into the watch.

No.	Description
RM 590365X	8 to 45 mm (3-3/4" - 20 linge)
4266	Bergeon Brand, 10 to 45 mm (4-1/2" - 20 linge)
RM 59102	Economy lift, standard



## 5 ECONOMY WATCH PRESS

Metal press with 12 nylon dies.

No.	Description
CO 59085	Economy Watch Press



## 7 SET OF EXTRA LARGE DIES

Plastic dies in sizes: 40, 42.5, 45, 47.5, 50, 52.5, 54, 55, 56 and 57 mm. Fits all presses described above.

No.	Description
CO 59082	Set of 10

## SPRING BAR TOOLS

Removes, measures and inserts all types of spring bars. Ends of tool are made of tempered steel with one end flat and the other pointed to permit necessary work. Plastic handle has millimeter scale for measuring and selecting the proper fitting bar.



### 1 BERGEON SPRING BAR TOOL

No.	Description
3153	Spring Bar Tool
3153A/10	Package of 10 replacement flat tips
3153A/100	Package of 100 replacement flat tips
3153B/10	Package of 10 replacement pointed tips
3153B/100	Package of 100 replacement pointed tips



### 3 BERGEON SPRING BAR GAUGE

Designed to gauge space between case ends to select proper size spring bar. Metal gauge reads in inches and millimeters.

No.	Description
4085	BERGEON Spring Bar Gauge



### 5 SPRINGBAR REMOVER

One end is forked and the other is straight.

No.	Description
RM 59046	Overall length 5-1/8"



### 7 HOLE PUNCH PLIERS

Cuts smooth, clean holes in leather watchbands. Plated steel with contoured handle for comfort.

No.	Description
PL 4602420	Overall length 5"



### 2 PRIDELINE® SPRING BAR TOOL

No.	Description
RM 590420	Spring Bar Tool
RM 590421/1	Replacement flat tip
RM 590421/2	Replacement pointed tips



### 4 DELUXE SPRING BAR TOOL

Removes and inserts all types of spring bars. Tempered steel with two tips; one large and forked and the other reversible, small forked or pointed. Knurled handle provides firm grip.

No.	Description
RM 590470	Spring bar tool
RM 590471/2	Replacement pointed tip



### 6 SPRINGBAR REMOVER

Pocket sized, one end is forked and the other is straight.

No.	Description
RM 59045	Overall length 3-1/8"



### 8 MULTI-PURPOSE LINK AND SPRINGBAR TOOL

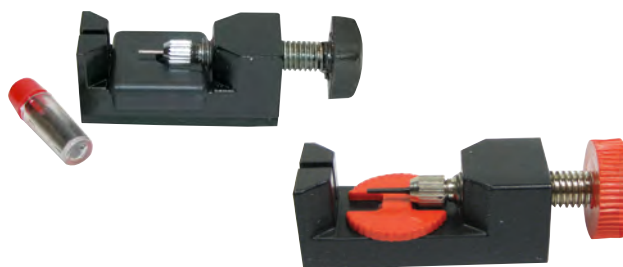
For removing stubborn links and westar-type spring bars. Includes 6 pins 0.40 to 2.00 mm. Also includes screwdriver with 2.5 mm tip for screw-type springbars.

No.	Description
RM 59050	Complete Set
RM 59051	Set of 6 replacement pins

## 1 CHAIN LINK REMOVER

Watch band sits in clamp. Large knob makes it easy to turn and pin is pushed out. Standard model is supplied With 2 removable spacers for different thickness band sizes. Also available as adjustable model with a rotating pallet. Supplied with 0.6, 0.8 and 1 mm pins.

No.	Description
59.080	Standard model
59.081	Set of 3 replacement pins



## 2 BRACELET PIN REMOVING KIT

Kit is complete with hammer, 0.8 mm pin remover, 1 mm pin remover and bracelet holder. Removers include 2 replacement tips.

No.	Description
RM 59055	Removing kit with wooden holder
RM 59056	Removing kit with plastic holder



## 3 BRACELET HOLDER

Use to remove links from watch bands and bracelets. Measures approximately 2" x 2" x 1".

No.	Description
RM 59057	Red Plastic
RM 59058	Gray Plastic
RM 59059	Wooden



## 4 LINK REMOVING PLIERS

Fast and easy way to remove link pins. Includes pins: 0.6, 0.8 and 1 mm.

No.	Description
PL 46001	Link Removing Plier
PL 46001/1	Ex Punch Point 1mm Tip
PL 46001/2	Ex Pins, 1mm, Pkg of 5
PL 46001/3	Extra Spring
PL 46001/4	Ex Pins, .8mm, Pkg of 5



## 6 PIN PUSHER

Handle with 3 tips: 0.6, 0.8 and 1 mm.

No.	Description
RM 59060	Overall length 3-1/4" (83 mm)

## 5 PIN PUSHER WITH WOOD HANDLE

For removing spring bars from watch cases or strap buckles. Hardwood handle with tempered steel blade which can also be sharpened to scratch designs on soft metals.

No.	Description
PI 59300	Overall length 5-3/8" (137 mm)



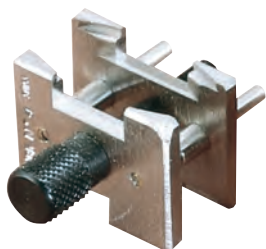
## 7 PIN PUSHER & SPRING BAR REMOVER

One end is forked for removing spring bars from watch cases with blind holes, while the other end is straight for through holes. Both ends are replaceable.

No.	Description
PI 59302	Overall length 5-3/4" (146 mm)



## HOLDERS AND WINDERS



### 1 TWO-WAY HOLDER

Reversible brass holder will take all shapes and sizes up to 12-1/2" lignes.

No.	Description
HO 59280	Two-Way Holder



### 2 EIGHT-WAY MOVEMENT HOLDER

Each side has 2 sets of cut-outs for different size movements.

No.	Description
HO 59281	Eight-Way Movement Holder



### 3 REVERSIBLE HOLDER

One side takes watches up to 18 lignes and the other is for smaller watches. Room for clearance of curved plates and winding stems. Well made with guide pins.

No.	Description
HO 59284	Swiss made



### 4 PLASTIC RESTS

Rings for holding round movements from 7-1/2" to 22-1/2" lignes.

No.	Description
HO 590254	Set of 12



### 5 POISING TOOL DELUXE MODEL

Precision tool with ruby-jeweled jaws. Legs are adjustable so that the tool can be leveled. A level is included in deluxe fitted case.

No.	Description
HO 59294	Poising Tool Deluxe Model



### 6 BERGEON VICE for SCREWING and UNSCREWING BRACELETS

Used to screw and unscrew bars of bracelets and links of any thickness. Tool fitted with a turning table that can be adjusted to 3 heights (0, 0.5 and 1.0 mm) which enables positioning the bracelet screw in the axis blade. Watch case and bracelet are well protected with cushions.

No.	Description
6670	BERGEON Vice for Screwing and Unscrewing Bracelets



### 7 ALUMINUM CASE HOLDER

The aluminum case holder holds all types of cases when removing backs. Reversible and made of heavy duty aluminum for durability.

No.	Description
HO 590300	Aluminum Case Holder



### 8 CASE HOLDER with VISE

Holds case securely when removing back. Vise clamps to bench to keep case steady and enables you to use both hands.

No.	Description
HO 590305	Case Holder with Vise





### 1 PLASTIC MOVEMENT COVER AND TRAY

Clear plastic cover with compartmentalized tray.

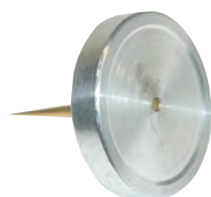
No.	Description
CV 590270	4" dia. x 2-1/4" H



### 2 DUST COVER

Clear plastic cover and 2 trays, one is compartmentalized and one is not.

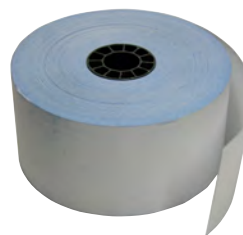
No.	Description
CV 590271	3-5/8" dia. x 2-1/8" H



### 3 BALANCE TACK

Simple but practical for holding bridge with balance attached while putting it in beat, straightening kinks in hairspring, undercutting screws, adding or removing timing washers, etc.

No.	Description
HS 590310	Balance Tack



### 4 WATCHMAKERS' TIMING MACHINE PAPER

For No. TS 592000.

No.	Description
TS 590212	Pack of 10 rolls



### 5 BERGEON ROLLER REMOVER

V-slot slips between hub of staff and seat of roller. Slight pressure on sides of tool is sufficient to lift roller from balance seat. Extra fine jaws permit use on both small and standard sizes.

No.	Description
2810	V-slot



### 6 BERGEON BROKEN SCREW REMOVER

Quickly removes broken plate screws. Deep U-shape permits inserting pocket watches as well as bracelet watches. Complete with four sizes of extra fine cutting jaws. Cutters are placed into head, held firm with set screws and brought to bear on broken screws. One end of head turns, causing the cutting action.

No.	Description
30209	U-shape



### 7 CASE CUSHION

Prevents scratching. Used for opening and closing cases and while making adjustments.

No.	Description
5394	Bergeon
MV 59080	Economy



### 8 BERGEON EXTENDABLE and REVERSIBLE MOVEMENT HOLDER

For pocket watches.

No.	Description
4040	Nickelled

# 1 BERGEON PRESTO #9 CROWN REMOVER for SPLIT STEMS

Will not damage the tube or mar the case. Exerts an even pressure on the crown and case to lift the crown straight off without snapping. Can also be used to remove hands and setting knobs on travel alarms and desk clocks.

No.	Description
4344/9	Crown Remover for Split Stems



# 2 BERGEON PRESTO #1 HAND REMOVER

Pusher blocks have fiber tips that will not mar the dial. Jaws retract when side springs are pressed. Center plunger holds the hands firmly.

No.	Description
30636/1	Hand remover



# 3 BERGEON PRESTO #3 SWEEP WHEEL REMOVERS

Designed to remove the smallest sweep wheels, as well as large sweep wheels. Three-pronged jaws will fit uneven number of spokes.

No.	Description
30638/3	For five spoke wheels



# 4 BERGEON PRESTO #6 SECOND HAND REMOVER

Removes both regular and sweep second hands. Thin, narrow jaws are very effective for countersunk, curved dials.

No.	Description
30670/6	Second hand remover



# 5 HAND REMOVER

Fiber tips will not mar the dial. Sturdy jaws retract when side springs are pressed. Center plunger holds the hands firmly.

No.	Description
RM 590345	Hand remover



# 6 CANNON PINION REMOVER

Removes all sizes easily. With sturdy jaws and side springs.

No.	Description
RM 590346	Cannon pinion remover



# 7 HAND REMOVER

Quick acting tool for removing all types of hands from watches and instruments. Hands are removed by pushing downward on the plunger-type handle. Center post acts as a guide and holds hands after removal.

No.	Description
RM 59314IMP	Hand remover



## TESTERS, TIMERS AND DIE SETS



# 8 BERGEON WATERPROOF TESTER

- Tests the water-resistance of watch cases, under normal conditions of wear
- Pressure gauge has a range of 0-3 atmospheres (kg/cm2)
- Diameter of opening is 50 mm
- Capacity is two watches
- Measures 9-5/8" x 5-7/8" x 12-3/16" (244 x 150 x 310 mm.)
- Ship weight 7 lbs. (3.2 kg)

No.	Description
5555TSTR	Waterproof tester

\* For available accessories, contact your local distributor.



# 9 PRECISION METRIC TAP and DIE SET

Consists of eight dies covering the range from 1.00 mm to 3.00 mm in sizes listed below. Also included: a die holder, adjustable tap holder, eight sets of three right taps (total 24) and a fitted hardwood case. This set is for clocks, meters and similar sized instruments. German quality.

No. CM 56150

Individual Taps and Dies

Dies	Taps (Pk of 3)	Size
CM 56151	CM 56161	1.00 mm
CM 56152	CM 56162	1.20 mm
CM 56153	CM 56163	1.40 mm
CM 56154	CM 56164	1.70 mm
CM 56155	CM 56165	2.00 mm
CM 56156	CM 56166	2.30 mm
CM 56157	CM 56167	2.60 mm

## KITS AND SUNDRIES



### 1 VIGOR® CIRCUIT MAKER

Repairs quartz analog and digital circuitry as well as any other fine wire circuits with a minimum of time and effort. Eliminates long drying times. One minute set up time required. Kit includes bottle of Circuit Maker® and an applicator.

No.	Description
CE 590890	05 fluid oz. (1.5 ml)



### 3 BERGEON PLASTIC BLOWER

Specially designed to fit the hand. Edging prevents the blower from rolling when not in use. Treated washers will not dry out.

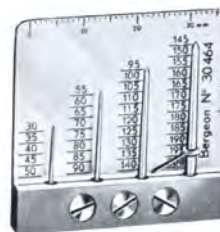
No.	Description
30540	4-1/2" (114 mm) long



### 5 RUBBER BLOWER

High quality rubber for long life. Brass tip provides a strong stream of air. Valve in rear of bulb for fast refill.

No.	Description
CM 23320	Rubber Blower



### 2 BERGEON HOUR and MINUTE HAND GAUGE

Made of polished brass with long lasting steel posts. Post sizes covers the entire range of hour and minute hands.

No.	Description
30464	Post sizes from 0.30 mm to 2.0 mm



### 4 BERGEON CROWN WINDERS

Plunger opens and closes jaws. Strong spring action holds crown firm while winding. Saves wear and tear on fingers. Swiss made.

No.	Description
30409A	3 to 5 mm opening
30409B	5 to 7 mm opening
30409C	4 to 6 mm opening



### 6 CELL TESTING TWEEZERS

Put cell between tweezers ends to test. Handle shows a red light if cell has a charge. Will test 1.5 to 3 volt cells. Works on flashlight batteries as well.

No.	Description
CE 59090	Cell Testing Tweezers

## OIL APPLICATORS



### 7 SWISS-STYLE DIP OILERS

Flat steel tips pick up oil and re-deposit on contact. Plastic handles are non-rolling and color coded for quick identification. Dust caps keep tips clean.

No.	Color	Size	Watch Type
OL 42250	Black	Extra fine	Baguette
OL 42252	Gold	Extra fine	Baguette
OL 42254	Blue	Fine	Bracelet
OL 42256	Green	Medium	Bracelet
OL 42258	Red	Large	Pocket

#### Oilier Sets

No.	Description
OL 42260	Black, blue, green and red oilers
OL 42262	Black, blue, green and red oilers plus inserter

## OIL APPLICATORS



### 1 PRECISION APPLICATOR

Economical, hypodermic-type applicator can be used for applying lubricants, adhesives and other liquids. Round needle is not sharp and will not cut into materials. Hole diameter is .023", length 4-1/4", capacity 2 cc.

No.	Description
OL 42110	Precision applicator
OL 42111	Applicator with tube of silicon lubricant

### 2 BUTTON PITHWOOD

Tis button pithwood is ideal for cleaning the tips of oilers.

No.	Description
CM 23334	Box of 10 assorted

## MOEBIUS OILS & GREASES

Moebius Watch and Clock Oil has been acknowledged and acclaimed as the finest for generations. All Moebius products are developed, manufactured and tested in Switzerland. The large variety enables you to choose just the right oil or grease for your particular application. Natural Watch Oils, a mixture of neatsfoot and mineral oils, are satisfactory except that, after a period of time in contact with metals, they change chemically and form a gummy substance. Synthetic Oils have the same lubricating properties as natural oils, but will not change over a period of time, so they will not gum up, cause corrosion, become acidic, creep, or spread.

## NATURAL OIL



### 3 CLOCK OIL #3 - 8030

For clocks, alarm clocks and meters not directly exposed to low winter temperatures.

No.	Description
OL 42360	20 ml bottle



### 4 CLOCK OIL #3A - 8031

Same as No. OL 42360 but formulated for units exposed to very low temperatures.

No.	Description
OL 420203A	20 ml bottle.



### 5 LARGE MOVEMENT CLOCK OIL #4 - 8040

For large clocks, tower clocks and small machines. Has a high viscosity and can be used in low temperatures to minus 68° F (-20° C).

No.	Description
OL 42362	20 ml bottle



### 6 WATCH OIL - 8000

General purpose for chronometers and watches, all calibers up to 18L. Outstanding lubrication with minimal spreading and a low freezing point.

No.	Description
OL 42364	8 ml bottle

### 7 REGULAR OIL

A general purpose mainspring lubricant. Can be used in watches from 9-3/4 Ligne to 19 Ligne, as well as in alarm clocks, pendulum clocks and wall clocks.

No.	Description
OL 420206A	8200 20 ml bottle
OL 420206	8200 50 ml bottle



## NATURAL OIL



### 1 REGULAR OIL for CLOCKS - 8300

A general purpose grease. Well suited to the winding and setting parts of watches. Also for uncoiled mainsprings, as well as for clocks and clock springs.

No.	Description
OL 42512	20 ml bottle



### 2 QUARTZ OIL - 9000

Especially designed for quartz analog watches, particularly the rotor bearing, click wheel and the gear train. Non-toxic, non-spreading, long-lasting with good viscosity.

No.	Description
OL 42365	2 ml bottle

## SYNTHETIC OIL



### 3 SYNT-A-LUBE - 9010

A general purpose synthetic watch oil, unequalled for pallet jewels, escapements and balance staffs. It can be used in place of all regular oils, and for small clocks and instruments exposed to low temperatures to minus 68° F (-20° C).

No.	Description
OL 42500	2 ml bottle
OL 420215	Econo size 10 ml w/applicator



### 4 SYNTA-VISCO-LUBE - 9020

Specially designed for slower moving units and larger watch movements. Ideal for lubricating the pivots of staffs, oscillating weights and other parts of automatic watches. Excellent to minus 68° F (-20° C).

No.	Description
OL 420219	2 ml bottle



### 5 OIL for ESCAPEMENTS - 941

Specially manufactured for use on pallets. Has a higher degree of oiliness than the standard synthetic oils. Ideal for lubricating the pivots of staffs, oscillating weights and other parts of automatic watches. Excellent to minus 68° F (-20° C).

No.	Description
OL 420233	2 ml bottle



### 6 ALL-PURPOSE SYNTHETIC GREASE - 9415

For watches and clocks.

No.	Description
OL 420227	2 ml bottle

## NYE OILS & LUBRICANTS



### 7 FULCRU

Though light enough to flow easily, fulcrum oils stay where applied, giving positive pivot point protection. They won't evaporate, gum, or become stringy. Give effective, long-lasting lubrication.

No.	Type	Size
OL 42302	Clock	1 oz.
OL 42304	Clock	4 oz.
OL 42306	Clock	8 oz.
OL 42308	Clock	16 oz.
OL 42320	Watch	1/4 oz.



### 8 CLOCK OILS

No.	Type	Size
OL 42400	Clock	1/4 oz.
OL 42402	Clock	1 oz.
OL 42404	Clock	2 oz.
OL 42406	Clock	4 oz.
OL 42408	Clock	8 oz.
OL 42410	Clock	Pint
OL 42412	Clock	Quart



### 9 WATCH OILS and GREASE

No.	Type	Size
OL 42440	Watch	1/4 oz.
OL 42442	Watch	1 oz.
OL 42444	Watch	2 oz.



NYE OILS & LUBRICANTS



1 NYOIL

Used as a cleaner, polisher, lubricant, and rust preventer. General purpose oil for clocks. Also effective lubricant for tools and light machinery.

No.	Description
OL 42460	4 oz. bottle

NYE PML OIL and GREASE

PML Oil 80 Clock. Made to exacting standards for clocks.

No.	Description
OL 42470	3-1/2" cc bottle



2 SILICON 7 WATERPROOF CASE SEALER

High vacuum pressure waterproof watch case sealant prevents leakage of moisture into the case due to worn gaskets. Will not evaporate, vaporize, harden, or break down, and will not affect watch oils. Unaffected by temperatures from minus 280° F to 435° F (138° C to 224° C) or by moisture, salts, acids, fungi, alkali, or sweat.

No.	Description
OL 420340A	Contains 8 grams



3 ZENITH VACU SEAL

No.	Description
OL 420262	1 oz. bottle



4 ZENITH OILS

Manufactured from the finest ingredients. Available in 1 oz. (29.6 ml) squeeze bottles.

No.	Description
OL 420260	Bracelet oil



5 PIKE GENERAL PURPOSE OIL by NORTON

Recommended for sharpening operations, and lubricating hinged or moving parts.

No.	Description
42.480	4-1/2 oz. can



6 VIGOR® SILICONE LUBRICATOR

Ideal for lubricating gaskets and O-rings for easier replacement. Simply place gasket between foam pads and twist.

No.	Description
OL 420348	VIGOR® Silicone Lubricator



7 SILICONE LUBRICATOR

Case has 2 sponges saturated with silicone lubricant. Place "O" ring between sponges, close the case and rotate to coat.

No.	Description
OL 42041	Silicone lubricator
OL 42042	10 grams silicone lubricant
OL 42043	40 grams silicone lubricant



## 1 QUICKEN® NANOLUBE

*Specifically formulated for horologists.*

NanoLube contains NanoDiamonds. The NanoDiamonds act as ball bearings, eliminating friction and wear. NanoDiamonds are .1 to 4 nanometer synthetic diamond ball bearings that never wear out. On average, it takes 80,000 NanoLube particles to span the width of a human hair - and all particles are spherical, synthetic diamond.

No.	Description
<b>OL 420100</b>	2ml for Clock
<b>OL 420101</b>	1.5ml for Watch
<b>OL 420102</b>	1.5ml for Multi-Purpose Watch

## 2 BERGEON AUTOMATIC OILERS



For oiling cap jewels, shock-absorbing devices without removal and for general oiling in small movements.

No.	Description
<b>2718</b>	Needle measures .1475 mm

For oiling pallet stones, chronographs, calendar movements, pin lever escapements and for use whenever a given quantity of oil is required.

No.	Description
<b>2719</b>	Needle measures .16 mm

The end part of the oiler is specially designed to fit exactly the space between the pivot and the rim of the jewel oil cup. With special hard needle.

No.	Description
<b>2720</b>	Needle measures .145 mm

For use on clocks and alarm clocks. The same as No. OL 2719 above but needle and oil cup have larger capacity.

No.	Description
<b>4743/12</b>	Needle measures .55 mm.

### REPLACEMENT PARTS for OILERS

Replacement needle	Price	Plex well with tip
<b>2718P</b>	\$35.00	<b>2718DR</b>
<b>2719P</b>	26.70	<b>2719DR</b>
<b>2720P</b>	25.95	—
<b>4743/P</b>	10.35	<b>4743/DR</b>
<b>4744/P</b>	10.35	—



## 3 BERGEON OILERS and STAND

Preserve and protect your oilers and have them at your fingertips when needed.

No.	Description
<b>30226A</b>	Oiler and stand



## 4 BERGEON AUTOMATIC OILER STAND

Stand with three holders is specially designed for the automatic oilers. (Oilers shown are for illustration purposes only.)

No.	Description
<b>2847</b>	Three-holder oiler stand
<b>3039</b>	Single-holder oiler stand for No. 2718 only

## TERMS OF BUSINESS

### Design and Manufacture

The descriptions and pictured representations in this catalog resemble the actual product as closely as possible. However, because of continuing efforts to improve our merchandise, changes are unavoidable and designs and specifications will sometimes vary. If tolerances or dimensions are critical, please mention this in your order.

**Warning:** All products in this catalog are to be used according to directions, industry standards and governmental regulations such as the Occupational Safety and Health Act, Federal Hazardous Substance Act and the Environmental Protection Agency regulations.

Those who are not knowledgeable in the proper usage of hazardous materials as well as electrical, high-speed, grinding, and/or high-temperature equipment should NOT purchase these products, as non-compliance with safety regulations can be dangerous to health and property.

Keep all products out of the reach of children.

### Prices

Prices are subject to change without notice. Price lists are published periodically and the latest price list will be sent upon request. You may also request quotations before shipment by submitting a list of the items you wish to order.

### Shipments

In the absence of special instructions on "how to ship", we will use our best judgment in forwarding merchandise. We will comply with your instructions insofar as DOT, ICC and other applicable government regulations permit. Hazardous materials are subject to strict government regulations and additional charges may be incurred.

### Returns

All products in this catalog should be free of defects and workmanship and perform the work for which they were designed. If, upon examination or first use, a product is found to be defective, contact us with the details. No merchandise may be returned without written authorization to do so. We maintain a 30 day return policy for defective or unused merchandise. Items which have been abused or used for work for which they were not intended will not be replaced or credited.

### General

The products in this catalog were selected for use by technicians and craftsmen working in professional repair and maintenance shops, laboratories, and manufacturing facilities. Some of the products, particularly solutions and compounds, may be considered hazardous if used, stored, or disposed of in an improper manner. These products are intended for professionals and Federal law prohibits the use of some of them in the home. Possession of this catalog does not constitute a right to purchase and identification may be required to ascertain whether a buyer is qualified as a professional user.



Thank you for your interest in our new catalog.  
You will find that the quality of our products and fair pricing represent outstanding value.

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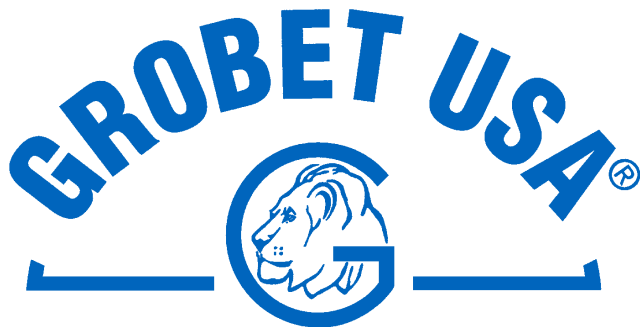
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