

# the world of CAD/CAM:

## *How quickly it changes!*

In 1988, when working at the bench was simpler and times were not as fast, people were easier, designs were done by hand; first in the imagination, then on paper and then with a wax tube, file and carvers.

As time has moved on so has the way you create wax designs. Now, you have different types of model-making CAM machines from which to choose as well the CAD design software, and decisions about which works with which. The world of wax design is a head spinner.

You can choose from a variety of vendors and technology including, SolidScape, 3D Systems additive, Rapid-Prototyping machines, ModelMaster and Gemvision 4 Axis milling machines.

And, Stuller has recently added the Roland JWX-10 jewelry model maker 26-3001, for several reasons.

1. Roland has been manufacturing tabletop milling machines for more than 22 years and is the only model-making machine manufacturer with an ISO-certified digital factory.

2 The JWX-10 drive motors, spindle, fixtures, CAM software, tools, machineable wax and tutorials are a complete, optimized system designed specifically for custom retailers and manufacturers who need castable wax models.

3. The JWX-10 takes up very little shop space, is quiet and fully enclosed for safe, clean operation.

4. Stuller recommends Vision Numeric 3-Design software 24-0999, but the JWX-10 is also compatible with all the popular jewelry design CAD software including: Gemvision Matrix, ArtCAM JewelSmith, JewelCAD



Andy Kroungold  
**THE TOOL GUY**

and Rhino. Choose the design software with which you are most comfortable, because they all export industry standard STL files and the JWX-10 easily imports them all.

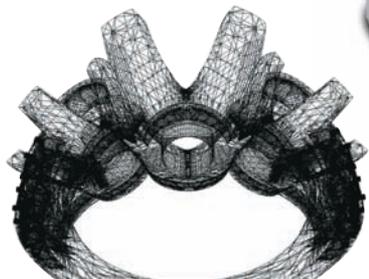
CAD/CAM has changed the design and manufacture of nearly every new product from aircraft and automobiles, to golf clubs and fishing equipment. The JWX-10 helps the jeweler create more and better jewelry in a shorter timeframe. It also allows the bench jeweler to charge the same amount as though the piece were produced by hand. Obvious

benefits to CAD/CAM include perfect symmetry, right and left mirrored earrings, and design file reuse. CAD/CAM enables you to focus on the designs while the machine focuses on carving the wax. The machine can carve wax 24/7; much more efficient than hand carving. CAD/CAM can be a great virtual sales tool, making it easier for the customer to visualize the finished piece and place the order with a deposit.

Other less obvious benefits of CAD/CAM include getting family members interested in the business. Show your children hand tools, and they say, "No way!" Show them a computer, and they say, "Way cool!"

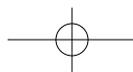
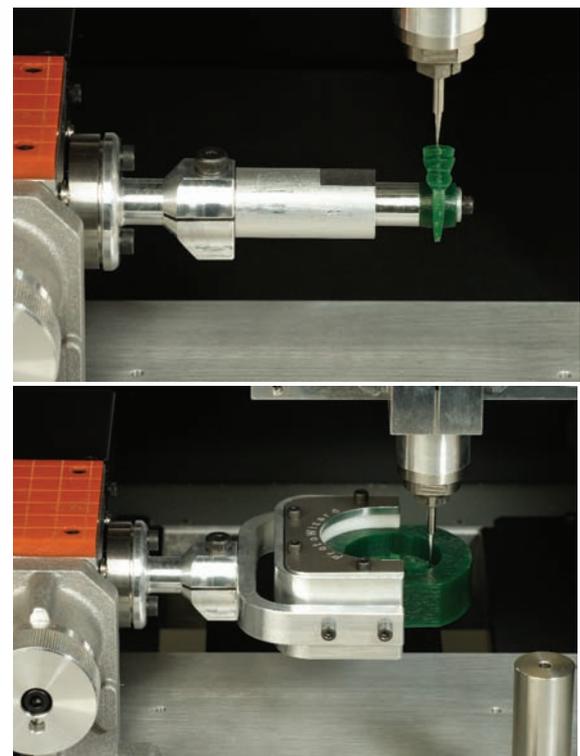
As always, have a Stullerific day and the best Stuller tool day. ⌘

JWX-10  
26-3001



For additional  
information, call  
800.877.7777,  
ext. 4300

**Roland**<sup>®</sup>  
Advanced Solutions Division



# master's touch

## Bench Essentials: the Pneumatic Air Hammer



1 Chicago Pneumatic Air Scribe 26-4055  
Replacement Stylus 26-4056  
Optional Air Pedal 26-4057

2. Silentaire Air Compressor 14-5000

Every bench jeweler I've been around strives for two things in their work, speed and quality. Speed lets us maximize our profits by turning out more work. Quality keeps our customers happy and returning for more. It's not really rocket science, it's just the way it is.

Many jewelers know this, and they stay on the cutting edge because they work smarter, not harder. They stay abreast of the latest tools and equipment that are out there and decide what will work for them. I would like to tell you of such an item.

This tool is the Pneumatic Air Handpiece from Stuller. Some of you have already purchased one or more for your shop. You already know what this tool can do. You already know how easy it is to use. And if you own one, you already know how absolutely effective it is.

The director of our stone setting department, Brett Northcutt, introduced the tool to our company several years ago. In my opinion, it has had one of the greatest impacts of any tool we have ever used here at Stuller, Inc. It is what gives us the ability to set thousands of stones every day with speed and precision. From master setters like Eric Broussard and Lance Leblanc to trainees who just fell off the turnip truck, we all use this tool.

The Pneumatic Air Handpiece is a high-precision, hammering hand piece with extraordinary power. I am not being loose with my adjectives either. For anyone who

has channel set baguettes or bezel set emeralds with a punch and a hammer, this tool is a way to avoid those late-night battles alone in the shop when everyone else is enjoying Christmas carols and eggnog. The amount of metal that the carbide-tipped stylus can push can be overwhelming on the number five setting with just 45 PSI. The settings are from one to five. It comes with an inline filter on the sturdy, reinforced, rubber hose. It is capable of delivering 13,500 blows per minute. The scribe can operate on as little as 1 CFM. The hand piece is about five inches long and is contoured for comfortable use. You are able to get right up close to the work surface because the stylus is short and the reciprocating action is tight and crisp.

Uses for the Pneumatic Air Handpiece are many. We use it to channel set, bezel set, and to push large prongs. It can be used to rivet. The hammering action can be used to deal with porosity. You can use it to bust out damaged stones. We use it to put names and labels on metal tools. I would love to try and use it to inlay 24k on steel engravings such as guns or knives.

To make your shop more efficient, I think you should consider this tool as a valuable addition to your bench. Just ask any jeweler who has one, he'll tell you about it with enthusiasm. We could not be nearly as effective without this tool throughout our manufacturing areas. It is well worth the money. 

By Troy C. Racca,  
Tools & Supplies Sales Manager

## FEATURE

# comparing whiteness

## Stuller evaluates absolute & perceptual color of metals

How does whiteness of 950 palladium compare to 585 platinum and the 950 platinum metals? At Stuller an evaluation was undertaken to understand and numerically measure the differences in the whiteness of these metals. These alloys do not appear to have any significant color overtones. White gold alloys can have yellow overtones and this situation caused the recent development of a “Yellowness Index” so that white gold alloys could be graded for different levels of yellow overtones.

When discussing color, it is especially important to make the distinction between absolute measurable color, and perception of color. Viewed alone, a piece of white gold, platinum, silver or palladium may appear white. When viewed next to another piece of product you can see the color difference. The visual white is perceptual color.

It is important to realize that the perceived color of a metal is the color of all the light that is reflected from the surface of the metal. This means that lighting conditions and the condition of the metal surface – brightly polished, satin finished or florentined, etc., – can affect the perceived color of an alloy.

A color spectrophotometer measures absolute color using three components –  $L^*$  for luminance or brightness,  $a^*$  for red-green component and  $b^*$  for blue-yellow component. In this way, a set of three values for  $L^*$ ,  $a^*$ , and  $b^*$  can be used to define what appears to be the color of a metal surface.

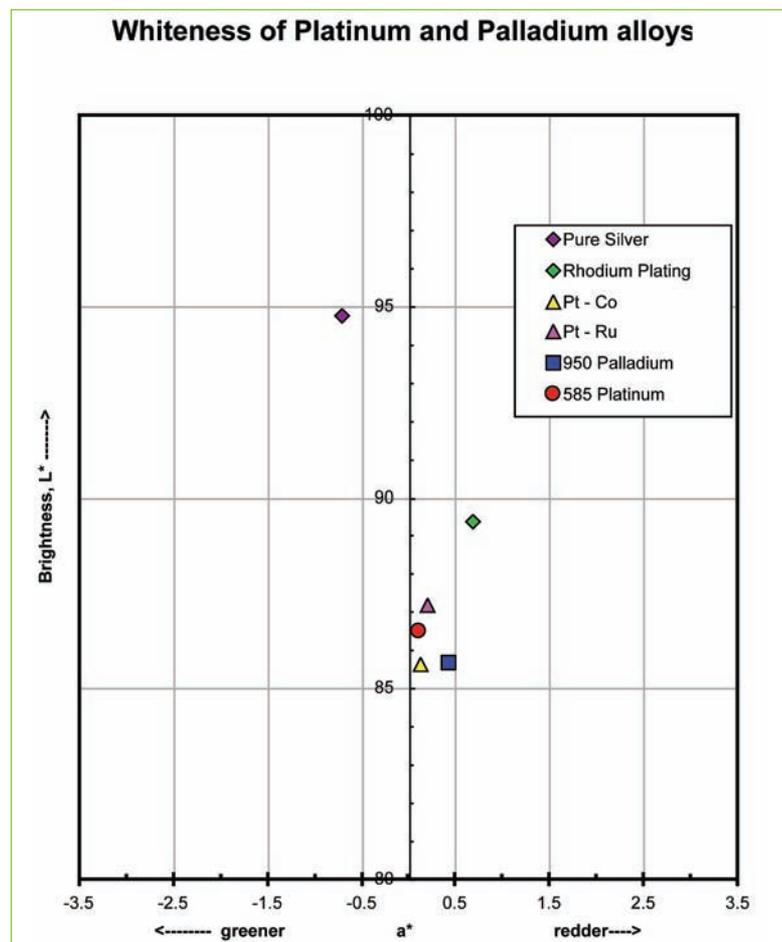
A ColorQuest XE color spectrophotometer was used at Stuller to measure the color co-ordinates of four platinum group alloys. Color co-ordinates for pure silver and rhodium electroplating were also determined. Data is plotted in the attached chart as  $L^*$ , brightness vs.  $a^*$ , the measure of the red-green color consignment. An  $L^*$  value of 100 indicates that all incident light is reflected from the metal surface. A positive  $a^*$  value indicates red and a negative value indicates green component of color spectrum reflected off of the surface of the metal.

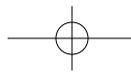
The brightness values for the four platinum group metals are clustered together with values of  $L^*$  ranging from 85.6 to 87.2 and  $a^*$  in the range 0.1 to 0.4. The brightness of 950 Pd/Ru Ga alloy appears to be the same as the brightness of Pt-Co alloy and the brightness of Pt-Ru has the highest value of the Pt alloys in this investigation. The brightness of 585 Pt alloy lies in the middle of this range. None of the alloys, however, attained the

brightness of rhodium electroplating. The 950 Pd/Ru Ga alloy has the highest positive  $a^*$  value of 0.4.

A color spectrophotometer yields an unbiased measure of color when used on the same materials under these same measurement conditions. The human eye is not an unbiased color measuring instrument. In a large collection of individual people, it would be expected that different people might have different perceptions of the same color. In spite of this, the close agreement between the  $L^*$  values for the four platinum group metals evaluated in these color trials suggest that it would be quite difficult to perceive color differences between these metals when they all have the same surface finish and are observed under the same lighting conditions.

Editor's Note: Stuller's expert metal technology team supplied this information.





CUSTOM PROGRAM

# Custom Designs

## the Beauty of the bench

John Wright, owner of Gems By John, in Lexington, KY used two Stuller components to make this ruby pendant: 8239 14KY and 21293 6x4 14KY. The piece was fashioned for his customer's daughter's graduation. John had two weeks to make the pendant using his customer's oval ruby. John cut off the original 3mm round setting & tab 8239 and cut off the post & tab from 21293. He

filed part of 8239 to match the back of the oval earring. Using two small chips of Stuller's 14K Yellow Easy Sheet-Plumb Gold-Cadmium Bearing Solder, John soldered the finding to the pendant with Little Torch 14-0021, and #4 tip 14-0014, using propane gas and oxygen with a small blue flame. The pendant was completed the day before the customer was to fly to New York for the graduation. She

was delighted with the way the pendant turned out, and went on to purchase a Stuller gold chain, Figaro CH492, that John just happened to have in his showcase.



OVAL RUBY PENDANT  
Gems by John

By submitting your design, you warrant that you have the right to make, use, and sell the designs you submit and guarantee there are no copyright infringements. You also agree to permission to print, identification as the creator of the piece, and that Stuller can release your contact information, if necessary. Stuller provides publication service only and is not liable for copyright infringements on Custom Design submissions.

Please prepare your submission in the following manner: in-focus color photo or digital image @ 300dpi (72dpi, 12" x 17"); your name, store name, telephone number and city/state/region if Canada; a full description indicating any Stuller parts, along with your customer's response to the piece. Send by mail to Stuller Standard, P.O. Box 87777, Lafayette, LA 70598-7777; or by email to [stullerstandard@stuller.com](mailto:stullerstandard@stuller.com). PLEASE DO NOT SEND IN JEWELRY.



## Preform SIZING SYSTEM

The standard technique of sizing rings typically used by jewelers has been around for centuries. This method is slow, tedious and requires much time to reshape and refinish the ring. Something better was desperately needed to increase productivity and make a higher-quality product.

Using our patent pending Preform™ sizing stock and system offers many benefits that save time as well as improve the quality of the joint and finished product, compared to traditional sizing stock and ring sizing processes.

Stuller's Preform™ sizing stock is already shaped to the radius of the ring mounting, and the width of each available size stock is preset for each ring size needed.

*Designed to save time & money!*



Preform™ sizing stock, produced in four different thicknesses, is premeasured to size rings up ½ size to 3½ sizes in ½-size increments. It is produced to match the curvature in a ring and is available in all popular metal qualities, including X1 white gold. See it in the new *Metals Book, volume 54*.



SHOWCASE DISPLAYS



Santa 61-7536, \$6.34; Christmas tree 61-7538, \$6.34; Snowman 61-7542, \$8.27; Mirrored Motion Displays (l-r): 61-0265, \$41.55; 61-0267, \$21.82; 61-0266, \$21.82

## Stop Traffic!

Are your showcases visually interesting?

Did you know that shoppers notice worn displays?

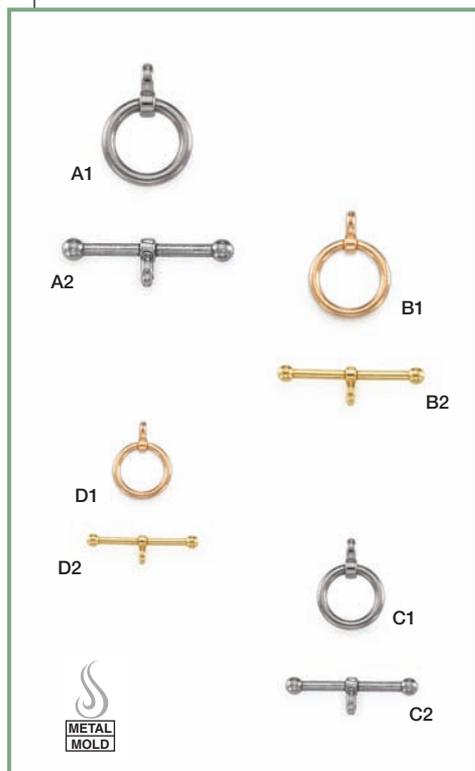
Now is the time before the holiday selling season begins to take a look at all of your displays and make sure they are clean and well kept.

Movement is a key interest grabber for your showcases! Why not pick up some of these mirrored, moving displays for your products this season. Diamond products on a mirrored moving display will show off sparks as they catch the light!

To add seasonal holiday props to your cases, such as holiday ring boxes, see the *Packaging & Display Book*.

Look for your new Packaging, Display and Gift catalog coming soon!

## New Toggle Clasps by Stuller!



What makes a great bracelet or chain better? A toggle clasp! Stylish, yet simple, easy to put on and take off, the clasp provides a fabulous hold with a great look.

These toggles were developed using Stuller's exceptional Metal Mold technology and manufacturing process, which produces consistent, distortion-free

castings with extraordinary surface quality every time.

Stuller Findings, your manufacturer of choice for superior selection, quality and service!

To order yours, call 800.877.7777, or order online at [www.stuller.com](http://www.stuller.com).

### 23620 Toggle Rings

OD	1 pc.	3 pc.
A1. 12.00mm	\$18.43	\$17.23
B1. 10.50mm	\$14.70	\$13.73
C1. 9.00mm	\$10.95	\$10.22
D1. 7.50mm	\$8.35	\$8.14

Stocked in 14KY and 14KW

### 23628 Toggle Bar with Ball Ends

Length	1 pc.	3 pc.
A2. 22.50mm	\$16.19	\$15.13
B2. 19.50mm	\$12.55	\$11.73
C2. 17.25mm	\$10.85	\$10.13
D2. 14.75mm	\$8.21	\$8.01

Stocked in 14KY and 14KW

Pricing shown is dealer cost @ \$600 gold.

# stolen jewelry website

## Clearinghouse for law enforcement, jewelry and insurance industries

The Stolen Jewelry Website of the Jewelers' Security Alliance (JSA) launched in January and provides a central clearinghouse for the jewelry industry, law enforcement, insurance personnel and the general public. It shares information on jewelry that has been stolen or recovered in the United States, which has been reported to JSA.

It is the only publically available, free, comprehensive website to list stolen jewelry. It is expected to become more valuable to the jewelry and law enforcement communities as the number of submitters and items added grow.

Listings are free and limited to watches, gems and jewelry. Art,

furniture, stamps, coins and other valuables are not currently eligible for listing.

Access to the database requires registering online with a valid email address. Anyone from law enforcement can list merchandise. Jewelers can also list merchandise, once law enforcement has been notified and a report filed. Jewelers will need to be able to provide filing information about the crime report, including the date of loss, and filing number.

Items of low value, or that do not have unique or distinguishing features, such as laser inscriptions, grading reports or serial numbers, may not be suitable to add to the database. JSA reserves the right to make the final decision on inclusion of these items.

This service was developed through a generous grant to the Jewelers' Security Alliance from the JCK Jewelry Industry Fund. [3](#)

## Jewelers' Security Alliance

### Helping Retail Jewelers & Law Enforcement

Jewelers' Security Alliance (JSA) is a non-profit trade association with 19,500 members that has been providing crime information and assistance to the jewelry industry and law enforcement since 1883.

JSA fulfills its mission of informing and alerting jewelers about crime through publications, a web site, seminars and consulting activities. JSA also works closely with the FBI and local law enforcement agencies, sharing its data and analysis in order to further the war on jewelry crime.

All law enforcement personnel can receive free membership in the Jewelers' Security Alliance upon request. There are annual dues for jewelers. When you become a JSA member you receive:

- Weekly e-mail crime alerts containing information on crimes and suspects.
- A 137-page JSA Manual of Jewelry Security, the only published book in the world on this subject.
- JSA Wanted Bulletins on dangerous jewelry criminals.
- Annual Crime Report containing jewelry crime statistics and trends.
- Crime Prevention Bulletins on effective security procedures.
- Up to \$1,000 rewards offered if your firm

suffers a criminal loss.

- Invitations to special crime prevention seminars and events
- Access to an Internal Theft Hotline to which employees can anonymously report crime information.
- Access to training videos on crime prevention and other training materials.
- Unlimited telephone consulting assistance from JSA experts.
- Lobbying for more law enforcement assistance for the jewelry industry.

JSA also provides rewards to civilians for information that assists in the investigation of crimes against JSA member jewelry firms, and makes annual grants of \$500 to \$1000 to private law enforcement organizations such as the National Association of Property Recovery Investigators and National Association of Bunco Investigators. Each year, JSA also presents the James B. White Award to honor someone in law enforcement who has made an outstanding contribution to the safety of the jewelry industry. JSA personnel regularly speak at law enforcement training sessions and meetings throughout the U.S.

JSA provides law enforcement personnel with the largest database on jewelry theft in

the jewelry industry in the U.S. This database includes thousands of cases with information on suspects, M.O., vehicles and unusual crime characteristics that JSA will share with law enforcement personnel. From this database, JSA is able to produce customized reports to answer specific investigative questions.

JSA cooperates on jewelry crime with an extensive network of FBI and local law enforcement personnel throughout the U.S. JSA also works closely with the FBI's Jewelry and Gem Program, based at FBI Headquarters in Washington, D.C., and with a variety of task forces.

Cost of JSA membership per year is: \$160-\$430 for a regular member depending on inventory; \$160 plus \$38 per branch (maximum \$1600) for a retail chain; \$300 for a non-jeweler associate; and no charge for law enforcement. For more membership information, contact:

Jewelers' Security Alliance  
6 East 45th Street  
New York, NY 10017, USA  
800-537-0067 (Phone)  
212-808-9168 (Fax)  
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