

Designing with Lasers

How JJBücker Developed a “Light” Touch

Julie and Jacob Buckareff—the team that comprises Toronto-based JJBücker—have gained a reputation for sinuous, finely detailed, gem-heavy jewelry designs that have won accolades and honors (including multiple MJSA Vision Awards). Their work speaks of a passion for Old World precision and craftsmanship. But ask them to name the tools that have helped them succeed, and a very modern choice leaps toward the top of the list: the laser.

As they acknowledge, many of their complicated designs simply would not have been possible without that technology (specifically, in their case, a LaserStar welding workstation). In so many of their designs—especially their pavé-heavy Wrapped collection—a torch and its high heat would have damaged gemstones or expanded settings, leading to time-consuming (and cost-prohibitive) adjustments. Moreover, the laser’s ability to accommodate more unusual gem patterns has allowed them to pursue what they call the “Wow!” factor. In this Tech Sheet, they share three tips they’ve learned in that pursuit, and which help them to maintain a “light” touch.



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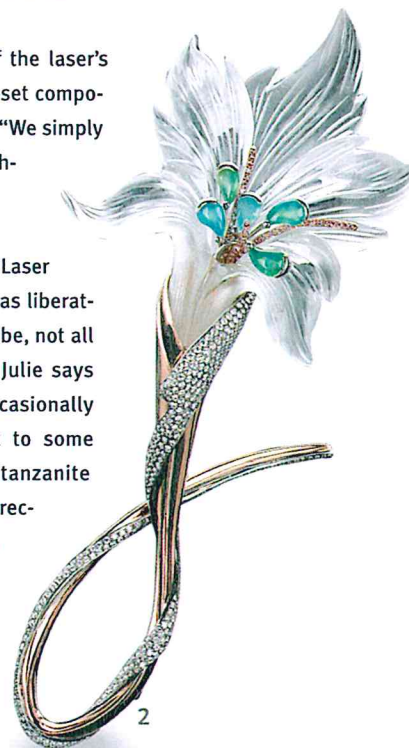
WHEN DESIGNING, KEEP IN MIND HOW THE VARIOUS PARTS WILL WELD TOGETHER.

Jacob and Julie point to the “Embrace” design (#1) from their new Wrapped collection as an example of how important this can be: As Jacob notes, “Everything is suspended in mid-air,” so the joints had to be especially secure and hold the center stone.

To ensure success, the couple created a CAD drawing that, when exploded, enabled them to see how each part would fit, as well as what kind of access the design would give for the laser to create the needed welds. “The Wrapped collection’s components were designed with the intent to weld—it’s like a puzzle,” Julie says.

SELECT YOUR GEMS CAREFULLY. The couple’s Peruvian Wild Flower brooch (#2), with its tightly situated quartz, opals, and pink diamonds,

offers a good example of the laser’s ability to assemble stone-set components quickly and safely. (“We simply couldn’t have done this without a laser,” Julie says of the piece, which won the 2012 MJSA Vision Awards’ Laser Distinction category.) But as liberating as this capability may be, not all gems are created equal. Julie says that although they’ve occasionally welded joints right next to some fragile stones, such as tanzanite and coral, she wouldn’t recommend it to the less experienced—“nerve wracking but exhilarating,” is how she describes the process. Also, Jacob adds, they take care to use only higher clarity diamonds, especially for their Wrapped designs: If a stone has a crystal inclusion, the close proximity of the laser’s heat could darken it and lead to discoloration.

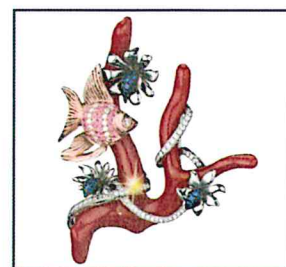


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KEEP PUSHING THE BOUNDARIES. Julie describes the JJBücker design process this way: “I come up with the conceptual work, and Jacob pushes me to keep pushing against the limitations of the technology.” She says that can especially be seen in the Wrapped designs, the couple’s first collection. They began with Julie wrapping Plasticine around a mandrel, creating something that resembled, as Jacob described it, “a diamond string around your finger.” He challenged her to make more, and she ultimately came up with 12 variations, some having as many as seven rows of diamonds undulating and circling. Knowing the laser could accommodate so many layers of pavé (and, for future production, could assemble such complicated designs cost effectively) made all the difference, Julie and Jacob say—and it continues to do so in their eternal pursuit of “Wow!” ♦

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