THE "STELLAR CUT"™

Minimal facets and maximum effect

DEMO BY

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Opening Photo: JIM LAWSON
Demo Photos: ANDREW GULIJ

Does covering a gemstone with hundreds of facets result in maximum beauty and brilliance? No. It's not the number of facets that gives beauty to a gem; it is how the facets are used. This cut is an example of maximizing the brilliance and beauty of gem material, using only a minimal amount of facets in combination with simple carving.

SKILLS YOU NEED

- intermediate faceting
- intermediate carving

MATERIALS AND TOOLS YOU NEED

MATERIALS

Gem rough

TOOLS

Grinding wheels, faceting machine, fixed carving arbor and/or flex shaft, carving wheels

TRY THIS, TOO

Set this stone into a ring

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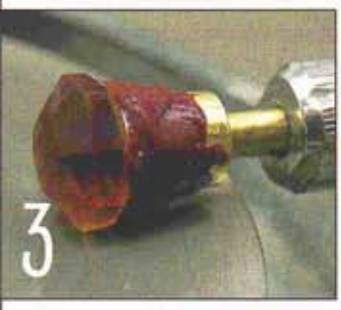
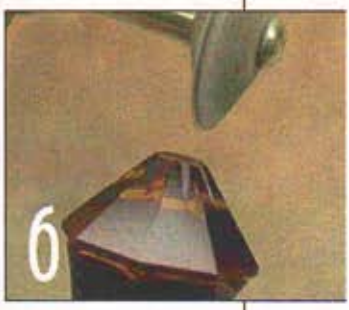
(Photo 1) The original piece of Brazilian citrine rough.

(Photo 2) Select rough material that is clean and free of internal inclusions. Make a rough preform using a grinding diamond wheel.

➤ This will not only speed up your work but will also prolong the lifespan of your faceting laps.

(Photo 3) Cut the 8 girdle facets on the faceting machine.





{Photo 4} Set angles to cut 8 main facets followed by 8 small star facets. Polish all facets in a way appropriate for gem material you are using.

{Photo 5} Transfer stone, cut and polish 8 corresponding main facets on the bottom. Cut "tablelike" facet in diameter of approximately 25-30% of stone. Remove stone from faceting machine.

➤ Now you are ready to carve and can proceed in one of two ways. First, you can remove the stone from the dopstick, clean it, and handhold it during the whole process of carving. The disadvantage of this is that it's easy to drop or scratch the stone. Also, you will have to redop it to repolish any fine scratches that arise during carving. The advantage of handheld carving is that you are in constant control over the optical appearance of the project.

The second method is to leave the stone on the dopstick, carve it, and put it back in the faceting machine for a final polish – the method we'll use for the remaining steps.

{Photo 6} Use a fine permanent marker to mark 8 lines for carving V-grooves as shown in the photo. Use a V-shaped diamond wheel at slow speed to cut 8 V-grooves.

➤ You can use either a fixed carving arbor or a flex shaft. You don't have to limit yourself to one or the other. Many carvers use both the fixed arbor and the flex shaft in many of their projects. Whatever you use, you'll need to be very careful at this stage, since the diamond wheel can seriously damage the stone if it is used carelessly.

{Photo 7} Clean the stone with water and soap to remove all diamond and stone particles from the grooves, stone surface, and your fingers. Do this after every carving step. Change your wheel to a V-shaped copper wheel, charged with 600 grit diamond followed by a phenolic wheel also charged with 600 diamond.

➤ Instead of a phenolic wheel, you can use a hardwood wheel. Use slow motion and watch what you are doing! Patience is absolutely necessary.

{Photo 8} This picture illustrates how the grooves should look before moving on to the next step. Prepare a set of wheels charged with 1200 grit diamond. Work very carefully to remove all the minute chips and imperfections. Pay attention that the grooves are straight, sharp, the sidewalls are not rounded, and the tips of the grooves meet in the center.

{Photo 9} When finished with 1200 grit, change the wheel and follow with 3000 or 8000 grit, depending on your gem material. You might try a softer wood. Don't hurry!

{Photo 10} Proceed to a final polish. Use fine diamond powders, Linde A, cerium oxide, or whatever you normally use for a final polish on your particular gem material. Thoroughly clean stone and put it back in faceting machine for a final polish of main facets.

ANDREW GULIJ is an AGTA Cutting Edge Award-winning gem carver and cutter from San Diego, California. To see more of his work, visit www.gemfix.com.