

Careful Measures

Modifying spring gauges for wax work

BY KATE WOLF A spring or degree gauge is an essential tool for measuring models prior to casting (1). Whether the pattern is handmade in wax or metal, milled, or grown, it's important to get the proportions and wall thicknesses right so you can ensure the structural integrity of the piece; for example, sections that go from thick to thin abruptly could lead to shrink tear porosity, and prongs that are too thin to hold stones in place could lead to setting failure.

Two spring gauges are shown here (2). The gauge on the right is smaller at the tips, but the throat is shallow, so it limits depth measurement. The insides of the tips measure 90°, but I prefer them to be slightly rounded on the edges. The degree gauge on the left has a nice deep throat, but it is too bulky. Both gauges would benefit greatly from the following quick tool modifications:

- To modify the gauges, use a black Sharpie to mark the material to be removed (3).
- Using a diamond bur, grind away the inside of the bulky gauge (4).
- Using a Mizzy Wheel, grind away the outside of the bulky gauge (5).
- Smooth the insides and outsides of both gauges with sanding discs. I use Snap-On Adalox Discs in medium and fine grits (6).
- Viewing under magnification and using



a light touch, round the corners of the tips of the jaws on both gauges. Be sure to leave the points rounded, and don't remove material from the very center of the jaws or you'll have to adjust them back to zero (7).

• Here are the two improved degree gauges, which are now ideal for measuring models (8). ♦

