

# Scraping and Hollowing Tools from Crown: Some Comparative Comments

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**[Editor's Note: This document is an update of an article originally published in *More Woodturning*, June 2003, Pages 6 and 7.]**

I recently obtained some turning tools from Lee Valley (have you noticed, they are greatly increasing their offerings of turning tools and supplies?). These are two relatively recently introduced tools from Crown; a multi-tip scraper and a cutting hollowing tool. The interchangeable tip scraper has been out the longer of the two, but North American distribution was largely limited to Woodcraft. It is an interesting tool, marrying three very thick (Woodcraft says "almost 1/4 inch," Lee Valley says 3/16,"; mine measure .21" which is closer to the latter than the former) replaceable tips to a 1/4 thick by 3/4 inch wide short flat shaft (Woodcraft says it is 7 inches long, but in reality the usable length is only 6 inches at most). Its 8.5 inch handle is nicely shaped and comfortable for one handed use, but I find it rather short for use with this scraper package. The tips come in three shapes, round, square, and a symmetrical tear drop, all about 1 inch across and made from HSS hardened to Rc 62-64.

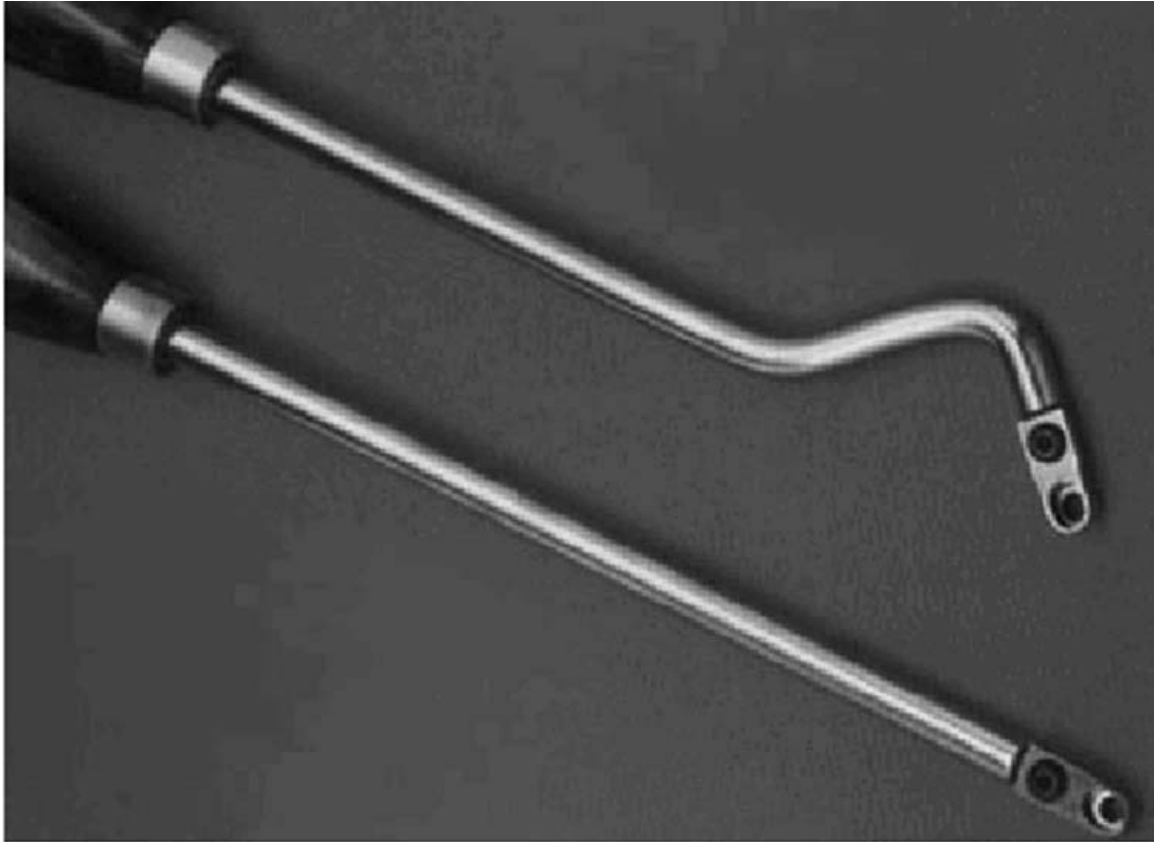
I am predisposed to like Crown tools, I find Crown more willing to innovate and offer low volume specialized tools than most other British manufacturers of turning tools, but frankly I do not get the point of this new scraper. It has these big, thick, replaceable tips, but the shaft and handle are so short that it is limited to fairly small forms, perhaps being better suited for boxes and small bowls, than the larger forms and deeper overhangs one would usually associate with the need for such heavy duty tips. It comes with shapes that are often associated with shear scraping (the square and teardrop), but its flat sharp edged shaft discourages use in that mode. It even attaches these tips with such an unusually large diameter bolt, that it makes the tips less than ideal to transfer over to other larger tools like a Hooker-style shaft. One even wonders what is the point of attaching such heavy duty tips to a shaft that is but little thicker than the tips.



**The Crown Tools Multi-Tip Scraper.**

In some respects, the Crown Interchangeable Tip Scraper, calls for comparison with the similarly priced (both are about \$60-65 depending on source) Sorby RS200KT "Multitool." Though the Sorby Multitool is often thought of more as a hollowing tool than a scraper, it comes with an asymmetrical teardrop scraper tip, and has a round scraper tip and a host of specialized scraper tips available for it (coving scrapers, beading scrapers, dovetail scrapers, etc.). The Sorby shaft is about a half inch longer, the same width, and at its maximum thickness is twice as thick as the Crown. More importantly, it is flat on one side but round on the other, so that the tool can be used either flat for traditional scraping, or angled on its rounded side for shear scraping. Though thinner at 1/8 inch, the Sorby asymmetrical tear drop (having one mostly straight side) is quite appropriate for external shear scraping, as well as for internal work. The Sorby handle, though thinner, is over 3.5 inches longer, allowing for a better two handed grip, or one hand with forearm support. So for a modest length, interchangeable tip scraper, I find the Sorby to offer the better package, not to mention the Sorby's additional abilities as an introductory or light duty hollowing tool.

Still, those thick Crown interchangeable tips are appealing and I would love to see them applied to a longer thicker shaft with a better handle (or better yet, a removable steel handle). I hope Crown will consider modifying one of their excellent 1/2 inch thick conventional scrapers (with their 14 inch handle) to take these scraper tips.

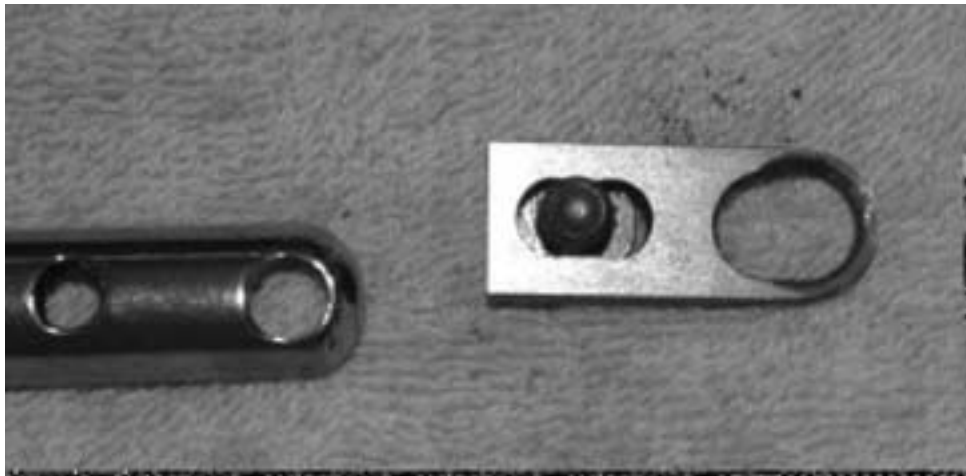


**Crown Deep Hollowing Tools.**

The other new tool from Crown, is what Crown calls a deep hollowing tool. Despite its name, this is not a tool for deep hollowing, but it is a pretty good tool for more modest hollowing and can serve as a pretty good introductory hollowing tool. The tool I have, which was the first to be introduced, is 26 inches in overall length, having a 14 inch wooden handle fitted with a 1/2 inch diameter, 12 inch effective length shaft. Crown also offers an angular “Swan Neck” shaft of the same overall and working length. Both tools use a 1/2 inch wide, guarded, replaceable, HSS cutter head that is adjustable for both extension and cant. These adjustments allow one to tune both the size and location of gap between the cutter and thus determine the bite of the tool on the wood (thickness of the shaving and associated aggressiveness), and whether the tool will be applied more to the front (a plunge cut) or a bit to the side to achieve a shaving.



**The business end of the Crown Deep Hollowing Tools.**



**The cutter removed.**

The Crown hollower is in many respects reminiscent of the small Hamlet Hollower. Both tools use a 1/2 inch diameter shaft which is 14 inches in length (as provided, the Crown shaft has 2 inches of that length located inside its handle), but the maximum effective length of both shafts is essentially the same. In both cases, the shaft is longer than it will be stable for when maximally extended over the tool rest. Realistically, both these tools lack the rigidity to be used much beyond 8 inches over the tool rest (compared to say about 10-12 inches for a tool with a 5/8 inch shaft). Sure you can stick it out there farther, but the shaft is going to flex and vibrate, resulting in a poorly controlled cut and subsequent surface. The handle system for the Hamlet is much the superior, being slightly longer (17 inches compared to the Crown's 14), being easily weighted, and allowing one to vary the amount of shaft actually exposed. These are things a steel handle allows that are not generally achievable with a fixed wooden handle. My solution was to remove the Crown wooden handle as soon as my preliminary evaluation was completed (just put the end of the shaft in a metal vise and the handle can be easily twisted off).

The Hamlet tip is composed of separate guard and cutter components that are bolted to the shaft. While the Crown cutter is removable and replaceable, the guard is fixed in place, as it is integral with the shaft. On the down side, this means the Crown cutter head is not capable of being swiveled off from the linear center line of the shaft (other than a very slight cant which influences blade exposure). However, I have always found the Hamlet system to be awkward and frustrating. It is difficult for me to hold the guard in the desired relationship to the cutter head with both in the desired relationship to the shaft when tightening down the Allen bolt that locks them into position. Furthermore, the Hamlet head system has often come loose when in use during blind hollowing, with the head then becoming off angle or flopping about within the form before I can identify this and stop to remove the tool, reset, and retighten. I do not have these problems with the Crown. The Crown cutter head is fully adjustable for extension and cant (rotation from the linear axis of the shaft), but continues to be captured by the Allen bolt so there is no problem with it coming free of the shaft. I have not found it to move on me due to the forces encountered in the course of hollowing. There is also a minor advantage to the Crown's downward facing Allen head, in that it tends to stay cleaner, and thus makes it easier to seat a wrench for quick adjustments.

Both the Hamlet and the Crown use fairly similar "ring" style cutters. The Hamlet is circular in shape, the Crown is an elongated circle (i.e., it has two hemispherical ends separated by short flat sides). I like the Crown shape better, as the head can be positioned so as to take a slightly flatter shaving than is possible with the circular Hamlet cutter. In this respect, the Crown is somewhat closer to the J shaped cutter found on the Woodcut Proforme. In use, both cutters could clog, but neither unacceptably so, with the Crown being less prone to clogging than the Hamlet. Both were capable of good clean cuts on both wet and dry wood, inside and out, but as provided from the factory, the Crown was the sharper tool.

I have mixed feelings about the new Crown hollowing tool. I am pleased to see Crown begin to address the needs of those who require something more than a gouge to hollow out their turnings. I believe they have come up with a pretty good cutter head, and its 1/2 inch size will allow working through smaller openings than the bigger Proforme, Munro and Stewart tools. But the current offering is very limited in scope (it is not even able to take Crown's own interchangeable scraper tips), too light duty for deep hollowing, and yet still expensive enough (89 US dollars from Lee Valley) to give those beginning with hollowing reason to pause. A Sorby Multitool is cheaper and has more possible applications as an introductory tool. Likewise the Oneway Termite is also cheaper at around \$75 and covers about the same range of uses. The small Hamlet hollower is considerably more expensive at \$150, but has a much superior handle system that can be used with other tools and other shafts, and its shaft will allow for mounting their own range of optional scraper tips. The 1/2 inch Kelton Hollowers will handle a much wider range of shapes, and are excellent hollowing tools, but even though they are cheaper without handles, if one purchases a steel handle they become significantly more expensive at about \$125. Then of course, there is the proven Proforme system with a heavier 5/8 inch shaft. A Proforme cutting head with a single shaft (without handle) will

cost \$120 dollars and provide one with the beginnings of a high performance hollowing system. Thus, I think Crown is off to a good start, coming up with a solid cutter head design, but its current offering is a bit expensive for the functions it provides and the competition it faces. Give us that same cutter head matched to an interchangeable handle system than can control the extension of the shaft and allows for sand or lead ballast, a greater choice of shaft shape and diameters, and then we will have a new hollowing system worthy of adapting.