SHERLINE PRODUCTS
INCORPORATED 1974

TIP 2— Diamond Tool Dressers/Henry W. Scherer

Here is a message from Mr. Henry Scherer about a handy tool he has found: "I have found that an extremely sharp tool results in a finer finish with less motor work. It also allows for much deeper cuts. The problem comes in dressing a tool in while in the tool holder so that tool alignment and position is not lost. The 3M Company makes a line of inexpensive plastic handled diamond dressers. These come in four grits with the finest being about the equivalent of 600 grit sandpaper and the coarsest being about 220 grit. The working end of these files is about 1/2" by 1-1/2"; just right for dressing all of the edges of a tool. I have found that a couple of licks with the fine tool maintains a very keen edge that cuts very nicely. The coarse tool is excellent for finishing off a tool after it has been roughed on the grinder. All of these diamond dressers are excellent for dressing up carbide tools as well. They are very reasonably priced at $7.50 each. The last use I put them to is to put a final finishing touch on a turned piece. These dressers provide very controlled metal removal with an extremely fine finish, allowing for 0.0001 "cuts."

Henry W. Scherer

The diamond dressers are no doubt available from a number of sources. Mr. Scherer got his from the Trend Lines Catalog (now out of business). When Mr. Scherer purchased them they were listed under the following part numbers:

PART NO.	DESCRIPTION
TM 833	125 micron flat
TM 834	74 micron flat
TM 835	40 micron flat
TM 836	20 micron flat
TM 837	125 micron half-round
TM 838	74 micron half-round
TM 839	40 micron half-round
TM 840	20 micron half-round

Mr. Scherer notes that the files are $7.95 each or $19.95 for a set of four. Including attached handle they are about 7" or 8" long.

Some Notes on Lapping Compound from Mr. Scherer...

"I spent a couple of hours using 1 micron diamond lapping compound to lap all of the moving parts on my Sherline 3-jaw chuck and got a remarkable improvement in performance. The effort was well worth the trouble. The chuck now spins to tighten. Parts are chucked repeatedly within 0.002". The excellence of your design and machining are demonstrated by the fact that only a small investment in time and materials are required to make it a very high precision instrument and that abrasive of such a small size is effective. Should you wish to lap in a chuck, it is not necessary to pay high prices for diamond lapping compound charged by the large tool supply outfits. One micron (and much larger) diamond lapping compound is available through lapidary and jeweler's supply houses in five-gram tubes for $5.00*. One tube will do about ten chucks."

*This price is pretty old, and diamond products have gone up quite a bit. As of January, 2007 the price is about $18.00 for one tube or about $1.80 per chuck.

Steven Lang obtained the following information from the J&L catalog regarding grits:

Micron	Grit	Color
250	060	Green
125	120	Black
074	200	Red
040	400	Yellow
020	800	White
010	1800	Blue

NOTE: Mr. Scherer also sent us a tip on special synthetic grease that worked very well on his Sherline lathe. We tried it and immediately replaced our normal grease in the production line. He used Mobil 1 synthetic grease that is available in grease gun type canisters at auto parts stores. We are now using similar grease on all our machines and it does offer superior performance. Our thanks to him for the tip. See www.super-lube.com for the web page of the brand of lube we use. It is also available from Sherline in a 3 oz. tube (P/N 7550) or a spray can of dri-film lubricant (P/N 7555).