

Cutting Tools for SHERLINE Lathes

P/N 3005 HSS Cutting Tool Blank

P/N 3006 Carbide Tool Set

P/N 3007 HSS Tool Set

High Speed Steel Tools

Lathe tools, or tool bits as they are sometimes called, are the cutting tools that are used for turning and facing work in the lathe. The most popular lathe tools are those made of high speed tool steel. They can be used for machining most materials including wood, plastic, aluminum, brass and steel. These tools will retain their hardness at temperatures up to 1000° F. (588° C.). For this reason, depth of cut, cutting speed and feed rates are important. The big advantage of high speed tools is the ease with which they may be sharpened. A standard aluminum oxide grinding wheel can be used. Once shaped and sharpened, they will retain their cutting edge for a long time. Sherline's tool blank is made from M2 grade high speed tool steel and can also be used with the Sherline Flycutter, P/N 3052.

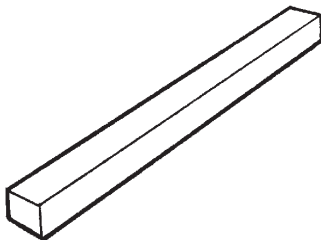


FIGURE 1—P/N 3005 High Speed Steel Tool Blank ready for grinding to suit your particular job.

Carbide Tools

Carbide lathe tools usually have a tungsten carbide cutting tip brazed or bonded to a softer steel shank. These tools are recommended for cutting hard or abrasive materials. Carbide tools can retain their hardness at temperatures up to approximately 1700°. This permits a higher cutting speed and faster feed rates.

Carbide tools are typically harder to sharpen than their high speed counterparts. A silicone carbide grinding wheel or diamond wheel must be used. The shape of a carbide tool is more critical than the shape of a high speed tool steel cutter. As long as the edge of a high speed steel tool is kept sharp it will usually perform quite well. Carbide tools, on the other hand, may be prone to chipping and cratering if the cutting angles are not proper. Sherline recommends the

use of high speed steel tools whenever possible. It is also recommended to learn to shape and sharpen high speed tools if you have any exotic projects in mind. An inexpensive grinder with good quality wheels and a wheel dresser is all that is needed. For more information on tool grinding, see our section on [Grinding Your Own Lathe Tools](#).

A grinding attachment would be an easy accessory for Sherline to manufacture; however, because of the damage that could be done to your fine tools with the grinding dust, we recommend buying a separate grinder. Sherline has no plans to make this type of accessory. If you use a grinder, protect your other tools from the abrasive dust by covering them or by doing the grinding in another area.

Cutting Tool Sets

Sherline supplies lathe tool sets in either high speed steel or carbide materials. In either case the set contains three tools: a left hand cutting tool, a right hand cutting tool and a boring tool for the high speed steel set or a threading tool for the carbide set. In view of the low cost of these tool sets, it is a good idea to have one of each on hand.

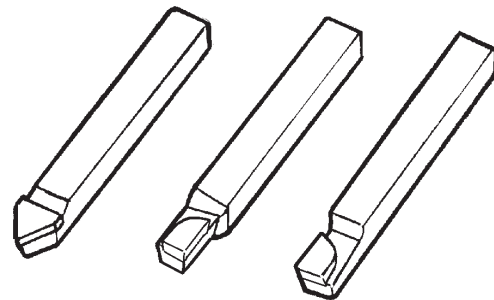


FIGURE 2—P/N 3006 Carbide Tool Set with a threading tool, a right hand cutting tool and a left hand cutting tool.

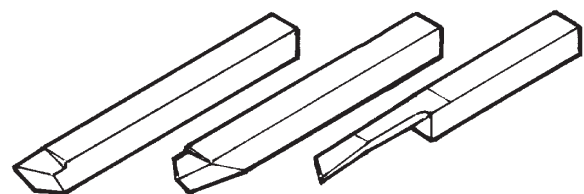


FIGURE 3—P/N 3007 High Speed Steel Tool Set with a left hand cutting tool, a right hand cutting tool and a boring tool (Right).