Why Sherline Tools Are Right for You

At Sherline, our goal has been to produce a high quality line of miniature machine tools at a price that offers the sophisticated hobbyist or technician the value and versatility that have been prime requirements in the design process. As a result, we’ve been gratified to find that almost half our sales have been to technicians and industrial users, who adapt our machines to light production line use to make a tremendous variety of small parts. This attests to the accuracy, adaptability and dependability of Sherline tools.

Sherline was founded in 1972, with an initial offering of five machines: the 4000 Series Short Bed Lathe, the 5000 Series Vertical Mill, the 7000 Series Vertical Mill, the 7500 Series Lathe and the 8000 Series Mill. In 1975, the Sherline vertical milling machine was totally designed and manufactured at our San Marcos facility. Since then, Sherline has devoted itself to providing versatile, quality products by using the latest manufacturing and engineering techniques. State-of-the-art computer-controlled equipment allows us to produce tools that are of higher quality and more accurately, while at the same time allowing us to keep production costs down, making Sherline tools an even better buy. A laser engraving machine precisely engraves scales, providing greater utility and a higher quality look. It is also an example of one more job done “in-house” to both maximize quality and reduce costs. In fact, over forty major machine tools—an investment valued at millions of dollars—are used to produce all Sherline’s machined parts.

In our fourth decade of production, we take pride in certain benchmarks of progress. What began as an import from Australia is now made entirely in the U.S.A. In addition, Sherline tools are exported throughout the world. This is the ninth printing of our color catalog, which has continued to grow as new products are introduced to the line. Attesting to the good basic design of the machine is the fact that new accessories work just as well on Sherline tools made over thirty years ago or today. Sherline has the most complete line of small precision machine tools and accessories available. We continue to expand that line with the introduction of new accessories each year.

One feature that sets Sherline apart is our complete, well-written, illustrated instructions. We are able to pass on this valuable knowledge to our customers because the people who design and build Sherline tools use them themselves and understand your needs. Sherline’s engineering staff has an extensive background not only as machinists, but also as modelers.

With the sophistication of manufacturing techniques plus the sound design principles of the equipment manufactured by Sherline, the need to constantly redesign the products has been eliminated. In a world of planned obsolescence and disposable everything, it’s a pleasure to work with a tool built with quality in mind. If, as a hobbyist, jeweler, technician or machinist you want or need to produce your own accurate, small, machined parts, Sherline tools are right for you!

ORDERING

Ordering Lathe, Mill, and Accessory Packages

All lathes and mills may be ordered plain or packaged with selections of accessories. Ordering a machine and accessory package saves you money compared to purchasing the same items separately, and the package includes the items most people buy first. See pages 47 and 48 for a description of the “A”, “B” and “C” package options. Full machine shop packages, lathe and mill, an array of accessories are also available.

Order Any Machine with Digital Readouts or CNC

In addition to accessory packages, any lathe or mill may be ordered with factory-installed digital readouts (DRO). To purchase a machine with digital readouts simply add the letters “-DRO” to the part number. See pages 24 and 40 for more on digital readouts.

Any machine can also be ordered with motor mount readout ready for the installation of one of our CNC stepper motors and computer controls. We call this “CNC-ready.” To purchase a CNC-ready machine, simply add the letters “—CNC” after the part number. Buy a driver box and stepper motors to complete the package using your own computer.

Complete, ready-to-run CNC systems with stepper motors, driver box, cables, computer and software are also available. See page 45 for details.


Retrofitting DRO or CNC Later

Any Sherline machine can be retrofitted with digital readouts or CNC later if not ordered that way initially.
Sherline tools are used throughout the world in industry, schools, labs and by the hobbyist...wherever there is a need for small, precision-machined parts. They are operated by engineers, scientists, technicians, machinists, and model makers to produce prototype parts in metal, plastic and wood. Craftsmen should have no problem operating Sherline miniature machine tools, for they are designed to be operated by people with a “common sense” knowledge of mechanics. The skills of an experienced machinist are not required to get started.

The Craftsman’s Alternatives

Eventually every technician, machinist, and hobbyist will find the need for a part that cannot be purchased or built with ordinary hand or power tools. The choice has been either struggling with a hand drill and file or spending thousands of dollars on standard machine shop equipment. Projects have been abandoned, and many craftsmen have never had the satisfaction of taking a completely original idea and transforming it into a working prototype simply because they lacked the proper tools.

Now, Sherline tools fill the gap between makeshift hand tools and expensive professional equipment. They are capable of producing a great variety of machined parts. Accessories are available that allow them to perform virtually any machining operation, the size of the part being the only limitation. Sherline’s commitment to quality extends to our service department. Should the need arise, repair parts and/or service are top priority. You will experience a maximum of a two working day (in-house) turnaround time rather than weeks of waiting.

VERSATILITY... a small solution to big challenges

Sherline machines have a tremendous capacity to turn out parts for all kinds of uses. Aluminum, steel, brass, plastic, or wood parts can be easily machined on the lathe, yet the entire lathe can be stored on a closet shelf. Together, the lathe and milling machine with their many available accessories are capable of performing all the standard machining operations. Now, there is almost no small machining job that can hold up your project. If a part isn’t available, just design and machine your own!

For those who prefer to work in metric increments, the Sherline lathe and milling machine are available calibrated in millimeters rather than inch equivalents, or if you’re currently thinking in inches, buy a machine that is calibrated in inches. In other words, buy a machine that is calibrated in the same increments as the tools you are currently using to eliminate the aggravation of converting dimensions. Later, should you decide to convert an inch machine to a metric machine, all the parts are available. There’s no need to buy a new machine. Additionally, the DC motor and speed control supplied with the machines will run domestically or outside of the United States without any change in motor or controller, and no transformer is required.

ECONOMY...it doesn’t cost much to produce valuable custom made parts

The value of any tool is the relationship between its cost and the results it produces. For most of the small machining jobs encountered by the average user, Sherline machines will produce results equal to machines costing many times more. Unless money is no object, why pay more? A good tool never becomes obsolete. The operations done on a lathe or mill have remained the same since the dawn of the machine age. A good 50-year old lathe still produces good parts. Sherline machines are designed and built to last for generations.

Economy, versatility and quality—Sherline machines embody all three in an unbeatable combination.

That’s VALUE!

QUALITY...designed by a machinist and built from top quality material

Sherline equipment and accessories incorporate many features found only in the best production machines. For example, the lathe spindle and the milling machine spindle both utilize lifetime lubricated bearings with adjustable preload for minimum end play. With the exception of the electronic speed control’s plastic housing and protective belt guards, all parts are metal, precision machined with instrument quality finishes on all working parts.

Both the lathe and milling machine feature fully dovetailed machine slides with adjustable gib to give precise adjustment and maximum rigidity. Machining accuracy of one thousandth of an inch or better can be easily obtained. In fact, the handwheels are precisely laser engraved in graduations of .001 inch or .01 mm on metric machines. The bases of both the lathe and the milling machine are made with mounting holes so that they can be permanently attached to a board or workbench for even more rigidity, and vibration-free operation.

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That’s VALUE!
No other miniature machine tools offer all these features.

UNRIVALED QUALITY

Speed is electronically controlled with the turn of a knob, offering a range of 70 to 2800 RPM with no gear or belt changes needed. Automatically adjusts to any current used throughout the world.

Motor is located out of the way on lathe and mill. Stays clear of chips and cutting oil. Motors now feature externally replaceable brushes for easy maintenance.

Two-speed, caged "V" belt drive increases electronic speed control power range by offering lower ratio for more torque at lower speeds when turning larger parts.

No need to worry about your investment becoming outdated. The soundness of the basic tool design means accessories made twenty years ago still fit today's tools. New accessories every year add to value.

Headstock and motor assembly are easily relocated when switching to vertical milling column attachment. It takes less than one minute!

Ground steel bed features dovetailed machine slides with tapered gib that handle stress well in both lathe and mill configurations. This is the way most large, high-quality machine tools are built.

- Optional thread-cutting attachment cuts over 50 different pitches, metric or inch, left or right hand threads.
- Sherline offers not only a vertical milling attachment for the lathe, but also makes several complete vertical milling machines. (See pages 28-30)
- Huge list of available accessories makes Sherline the most versatile tool line in the world. Virtually any conceivable machining operation is possible in miniature.

Holes are predrilled into cast metal base for secure mounting to board or benchtop.

Tailstock spindle has a standard #8 Morse inside taper.

Handwheels are anodized aluminum to increase the readability of the laser-engraved scales. (Black anodized handwheels are available upon request.)

Optional resettable "zero" handwheels are available that can be unlocked and reset to "zero" (or any number) at any time. This makes dialing in a precalculated amount of feed much easier (See page 26).

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When Sherline’s best selling lathe.

"zero" handwheels on the crosslide and feed screw and a handwheel on the leadscrew, two 2” (51 mm) resettable 4400-series lathes have a 24” (610 mm) bed that has 17” T-slots, two position pulleys, a kevlar reinforced drive belt with Adjustable Zero Handwheels.

T-slots, two position pulleys, a kevlar reinforced drive belt

When used with its vertical milling column attachment it can be used for milling, fly cutting, drilling, and boring operations.

Sherline now offers several lathes to fit every budget and need, and they are available with either inch or millimeter calibrations. A high-torque DC motor with variable speed control is standard on each machine. This speed control is internally equipped with a converter that automatically adjusts to incoming AC current from 100 to 240 volts, 50 or 60 cycles/sec without loss of torque.

The 4000-series lathes come with standard 1-5/8” (41 mm) resettable “zero” handwheels on the leadscrew and crossfeed slide. (For additional information on the adjustable handwheels (#3420), see page 26.)

4000 Series Deluxe Lathe (3.5” x 17”) see image on previous page

When used with its various accessories, Sherline lathes will perform a host of tasks. They will turn, face, bore, ream, thread, cut tapers, and cut both inch and metric threads. When used with its vertical milling column attachment it can be used for milling, fly cutting, drilling, and boring operations.

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4000 Series Deluxe Lathe (3.5” x 8”) see image on page 3

The 4500-series lathes offer the same equipment as the 4000-series lathes, but with the addition of two 2” (51 mm) resettable “zero” handwheels on the leadscrew and crossfeed slide. (For additional information on the adjustable handwheels (#3420), see page 26.)

4500 Series Deluxe Lathe (3.5” x 8”) see image on page 3

Standard Equipment Included with Every Lathe

Every Sherline lathe comes with a DC motor and speed control, a 2.75” (70 mm) x 6.0” (152 mm) crossslide with two T-slots, two position pulleys, a kevlar reinforced drive belt and adjustable anti-backlash.

The 4000-series lathes come with standard 1-5/8” (41 mm) laser-engraved aluminum handwheels, while the 4400 and 4500-series lathes come with 2” deluxe adjustable zero handwheels. The 4400-series lathes also include a rocker tool post in place of the standard tool post.

Also Included:

• faceplate
• two dead centers
• hex adjustment keys
• tool post

• sharpened high-speed steel K/H cutting tool
• tommy bar
• 56-page color Assembly and Instruction Guide
• gib removal tool

With this attachment the Sherline lathe can be quickly and easily converted into a small milling machine. The attachment consists of a steel dovetailed vertical column with a solid aluminum base that attaches to the bed of the lathe in place of the headstock. The headstock then mounts to a dovetailed saddle on the vertical column. The saddle is raised and lowered to control the depth of cut by turning a handwheel. Calibrations on the handwheel enable depth control to .001” (.01 mm). Parts to be machined are mounted on the crosslide. On the deluxe version, a 2-1/2” adjustable “zero” handwheel replaces the standard handwheel.

This is the most economical way to go into milling. Most standard vertical milling operations can be performed with this attachment, with part size being the basic limitation. Conversion from the lathe to milling takes less than one minute. Most Sherline milling accessories can be used with this setup, although larger accessories like the tilting angle table and rotary table may require some lowering of the motor.

Multi-Direction Vertical Milling Column #3590 (#3595 Metric)

The multi-direction vertical milling column provides all the movements of the model 2000-series 8-direction mill (see page 28). The entire Z-axis column can be swung, rotated, tilted or moved in and out for machining or drilling from just about any angle. At any time, you can purchase the new #5600/#5610 deluxe XY base that has been designed to accept this special column. In doing so you have duplicated a 2000-series mill while enjoying the cost savings of not purchasing a second headstock and motor unit. This incremental approach allows you to start machining now and add to your shop as your projects become more demanding or your budget allows.

The new multi-direction vertical milling column opens up many new machining possibilities on the lathe by turning it into an 8-direction mill. Now included is an oil reservoir on the saddle nut to keep the leadscrew lubricated.

Crosslide Accessory Plate #3007

The table on the mill is thicker than the table on the lathe because of the greater forces transferred to the table in milling and the requirement for stiffer setups. When using the vertical milling column on the lathe, the table can be “beefed up” with the addition of this plate, which adds 1/2” of thickness to the table. It also serves as a retaining plate that protects the surface of your lathe table from damage. The plate attaches to the table by means of four recessed cap screws and T-nuts. It must be removed for lathe turning to maximize the diameter of part that can be turned and so that the standard tool post can be used.
### CHUCKS

#### 3-Jaw Self-Centering Chuck  
**P/N 1140 (3.125") and P/N 1144 (3.5")**

Three-jaw chucks are designed so that all three jaws move together and automatically center round or hexagonal parts or stock to within a few thousandths of an inch. These chucks provide the quickest and easiest way of holding work in the lathe. For this reason, they are the most popular of the Sherline accessories. The Sherline 3-jaw chucks are designed so that they can be clamped externally on bar stock or internally on tube stock. The jaws are reversible to accommodate larger stock.

#### 4-Jaw Self-Centering Chuck  
**P/N 1155 (3.1") and P/N 1160 (3.5")**

These chucks combine the ease-of-use advantages of the 3-jaw chuck with some of the advantages of a 4-jaw (independent) chuck. They will automatically center square or round stock. (The stock must be accurately shaped for all four jaws to grip.) They will also grip thin wall tubing in four places rather than three, spreading out the load to allow more grip without crushing the tubing. The physical specifications for these chucks are the same as for the 3-jaw chucks listed above. The jaws are reversible to accommodate larger stock.

#### Electroless Nickel-Teflon Coated Chucks  
**P/N 1040 (3-jaw) and P/N 1076 (4-jaw)**

Sherline’s 3.1” 3-jaw and 4-jaw self-centering chucks are now available with a nickel-Teflon coating to prevent rust, designed for lab or clean room use. These chucks are identical to #1040 and #1076 respectively, except for an electroless Nickel-Teflon coating that has been applied to help prevent wear and corrosion. This special coating has been applied to all external and internal surfaces of the chuck (except for chuck jaws), significantly improving the life of the chuck. These chucks also open and close more smoothly due to the lubrication properties of Nickel-Teflon.

#### Interchangeable Top Jaws for Sherline Scrolling Chucks

Certain delicate parts require gripping with softer jaw materials. Other operations require chuck jaws that do not transmit particles of rust to the part being held. To accommodate these special circumstances, Sherline now offers 2-piece chuck jaws with interchangeable top jaws made from special materials. In place of the standard hardened or optional unhardened ("soft") steel 1-piece jaws, these new top jaws come in soft materials like Delrin, Teflon and Nylon, plus harder but non-rusting materials like brass and aluminum.

- **Master steel jaws** (for left) accept top jaws made of (left to right) Delrin®, nylon, Teflon®, brass, aluminum and unhardened steel.
- **4-Jaw (Independent) Chuck  
P/N 1045 (3.125") and P/N 1044 (3.5")**

These chucks have four advantages over 3-jaw chucks: 1) They can be used to hold irregularly shaped parts. 2) They can be used to center parts with a great deal of accuracy. 3) 4-jaw chucks can be used to deliberately hold a part off-center. 4) They can clamp stock tighter. This is a valuable asset when machining cams, crankshafts and similar parts. The main disadvantage of the 4-jaw independent chuck is that the jaws must be set individually, adding considerable setup time. The jaws are reversible to accommodate larger stock.

Like the Sherline 3-jaw chucks, the 4-jaw chucks can be used to clamp either externally or internally. Although we recommend the 3-jaw chuck for standard lathe projects, the 4-jaw chuck is considered the accessory that could add the most versatility to your machine. If you feel the 4-jaw chuck would be more useful, and you have no need for the 3-jaw chuck, any lathe “A” package can be ordered with the 4-jaw chuck substituted for the 3-jaw upon request. A clamping groove allows the chuck to hold parts for milling.

- **3.1” 1076C 4-jaw chuck with "Pie" jaws  
P/N 1045-P**

Sherline’s electroless Nickel-Teflon coated 4-jaw chuck is fitted with unhardened 12L14 “pie” jaws that can be machined to hold specific size blanks for turning. It was specially designed for clock makers to hold gear blanks but useful in other special tasks as well. Pie-shaped jaws offer two main advantages; boring the unhardened jaws to hold a particular diameter part means that instead of gripping the part at only three or four tiny contact points, they grip the part all the way around its diameter. This increased gripping area allows for much less clamping pressure and less chance of deforming a gear or other delicate part held in the chuck.

- **Replacement “Pie” jaws  
#1044-P (Stainless Steel, top)  
#1043-P (Aluminum, bottom)**

The steel pie-jaws replacement set, #1143-P, can be installed on your existing 1076C nickel/Teflon coated chuck body and master jaws. They are not intended for use on the standard 1076 chuck body.

- **Replacement “Pie” jaws  
P/N 1145-P (Stainless Steel, top)  
P/N 1144-P (Aluminum, bottom)**

The aluminum pie-jaws replacement set, P/N 1145-P, was designed to give our customers the option of pie jaws that are made from a softer material than our P/N 1143-P steel replacement pie-jaws. Because they are aluminum, they can be used with our 1076 chuck, however, we still recommend using them with our 1076C because of the hardness of the nickel and the lubricating properties of the Teflon.

The primary advantage of the aluminum jaws is that the aluminum is easier to machine, and it offers a material that will not scratch or dent softer parts held in the chuck.

- **3-jaw Chuck Pin Jaws  
P/N 1140**

Pin Jaws are specifically designed for laser engraving rings and similar parts that require only finger tight closing pressure to hold the part. Included are 1/8” steel pins in three lengths from 3/4” to 1-1/4”. Available with a new chuck or fitted to your 3.1” Sherline 3-jaw chuck. The jaws are reversible for a larger clamping range. We recently improved the design of the pin jaws. The hole that holds the pin now goes all the way through each jaw so you can easily knock out any broken pins.

- **P/N 1140 3-Jaw Chuck “Pin Jaws” For laser marking use only (chuck sold separately)**
A drill chuck will enable you to accurately centerline drill, ream or tap any part mounted on the lathe. The part to be machined is mounted in the headstock using a chuck or collet. The tool is mounted in the tailstock chuck and fed into the part using the tailstock ram feed. Parts that are going to be mounted between centers can be centered drilled this way. These drill chucks can also be mounted in the headstock or used on the mill with the Morse #1 arbor.

Chuck Adapter (#0 Morse to 3/4-16) #330

This adapter fits into the #0 Morse taper of the tailstock to allow Sherline chucks with a 3/4-16 spindle thread to be mounted to the tailstock for holding tools or work. This is a simple and inexpensive way to increase the versatility of your lathe.

Drill Chuck

#009 (3/8” capacity) and #1073 (1/4” capacity)

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Rubber “Gripper” Spindle/Tommy Bar Covers #4099

“Tommy” bars can be hard on your fingers when tightening or loosening a chuck or removing a tool from the spindle. These molded rubber end caps give more comfort and secure grip. They also prevent spindle bars from rolling off your bench.

TOOL POSTS

Grinder Tool Post #8976

The cutting edge of a lathe tool should be set right on or just slightly below the centerline of the part being machined. With new lathe tools this is not a problem, because Sherline tool posts are made to hold them at the correct height. Old tools that have been sharpened numerous times may require shimming to bring them up to the correct height. Sherline rocker tool post is designed to eliminate the need for shimming. The height of the cutting edge can be changed by simply adjusting the two clamping screws. This inexpensive accessory reduces setup time and also extends the life and the usefulness of your old lathe tools.

Cutoff Tool and Holder #3002

After completing a part in the lathe it is frequently necessary to separate the part from the excess material used for chucking. This operation is best accomplished with the use of a cutoff tool or “parting tool” as it is sometimes called. The Sherline cutoff tool and holder consists of a very slender high-speed steel cutting blade mounted in a special holder. The thickness of the blade (.040” or 1 mm) enables it to feed into the part quite easily, and, at the same time, minimizes the amount of waste material. The turning speed for parting should be approximately one-half the normal turning speed for any given material. One word of caution; never use a parting tool on a part mounted between centers. The part can bind on the cutter and result in a snapped part or a broken tool. A small amount of cutting oil is a must. Parting off free machining material over a 1.00” (25 mm) diameter will always be a problem on a machine of this size. The #3002 cutoff tool can be used on the “back-side” of the tool post with the addition of the #3016 rear mount riser (see below).

Rocker Tool Post #3067 (1/4”)

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Riser Grinder Tool Post #8977

Use the #8970 high-speed grinder (see page 44) on your lathe for polishing or fine grinding jobs. The #8976 tool post holds the grinder body on center with your lathe. The #8977 riser tool post is used when the lathe riser blocks are in place.

Two-Position Tool Post #3003 (1/4”-1/4”) and #3008 (5/16”-3/8”)

It is not unusual to have to stop and change lathe tools several times while turning a part on the lathe. The change may be to switch from a left-hand tool to a right-hand tool, from a sharp-nosed tool to a radiused tool, or from a roughing tool to a finishing tool. Whatever the reason, each change requires a little setup time. This time can be reduced by using a two-position tool post. Each Sherline two-position tool post mounts two lathe tools. By having one or more of these tool posts with your favorite lathe tools pre-mounted in them, you can simplify your work and reduce the time required to change tools.

Insert Holder Tool Post #7600 (3/8”)

Your present Sherline tool post may be modified to accept these special tool holders, but an easier solution is Sherline’s special tool post. It is designed to fit the larger 3/8” square and 3/8” round tool holders commonly used for carbide, ceramic or diamond inserts. It will also hold Sherline’s own right- and left-hand 35° inserted tip tool holders (#2258). Purchase of this tool post will allow you to keep your standard tool post available for use with 1/4” high-speed steel tools for jobs where they are sufficient and/or a specially ground and shaped tip is required.

NOTE: Carbide inserts and inserted tip tools are available through Sherline. Call for a complete listing or see our website.

Cutoff Tool Rear Mounting Block #3016

For those who already own a standard #3002 cutoff tool holder, this spacer block will lift the cutoff tool holder off the height of the blade, allowing the blade to be mounted upside down and used on the back side of the crossslide. With the standard #3002 holder and this adapter, you have a choice of mounting the cutoff tool on either the front or rear side of the table.
Riser Cutoff Tool and Holder #1296

This time-saving cutoff or parting tool holder is designed to hold the cutoff blade upside down for use on the “back” side of the part. This allows the holder to remain mounted to the crossslide where it is out of the way while the regular tool holder stays mounted on the front of the crossslide. A 3/4” parting tool blade is included.

Headstock Riser Block Set #1230

A 3.5” (88.8 mm) diameter part is the largest part that can be accommodated in the basic Sherline lathe. However, occasionally it may be necessary to work on something larger. The Sherline riser block set increases the maximum working diameter of the lathe to 5.5” (140 mm). #1291 includes a 1-1/4” (31.7 mm) riser block to fit under the lathe headstock and a riser rocker tool post that raises the cutting tool by a corresponding amount. This useful accessory greatly expands the capability of the lathe. (If you are using the #1250 quick-change tool post, a riser for that tool post is available separately as #1289.)

NOTE: A new 8” leadscrew is required for the installation of the leadscrew hole for mounting a stepper motor mount. That it has an additional two holes on either side of the tool that post offers a convenient and accurate way to hold up to four tools with a known centerline-to-centerline distance of 1.500”. This tool post has (4) 3/8” holes to hold boring bars, drill chucks, or tool bushings with two locking screws for each tool (tools not included).

Riser Cutoff Tool and Holder #1296

This accessory is not mount to imply that you can part off large stock, but many people leave their riser blocks in place when doing operations on small diameter stock, and this accessory allows you to use the cutoff tool without removing the riser blocks. It is used on the “back” side of the part with the blade upside down to reduce “chatter.” The extra wide base adds to stability.

8” Crosslide (table only) #6088, 67036 (CNC)

The 8” crosslide is 7/8” thick, as opposed to the standard 6” crossslide which is 5/8” thick. This thicker table is offered by request of several customers who replaced our 6” crosslide with the thicker 8” crosslide. Most of these customers are using our lathe as a chucker lathe with gang-tooling. By using this riser plate, the headstock is raised to match the additional thickness of the 8” crosslide. This allows you to use all of our standard tool posts, however, it does not allow you to turn between centers.

Headstock Riser Block Set #1230

The rear mount cutoff tool holder can remain mounted to the lathe table. It is out of the way on the “back” side until needed for a cutoff operation.

8” Crosslide (table only) #6088, 67036 (CNC)

Standard Sherline tooling must be modified to be used as a lathe crossslide.

The CNC crosslide differs from the manual crosslide in that it has an additional two holes on either side of the headscrew hole for mounting a stepper motor mount.

NOTE: A new 8” headscrew is required for the installation of the 8” crosslide. See Sherline Direct for #67211, and #67210 (CNC).

Larger parts up to 5.5” (140 mm) in diameter can be turned on the lathe using the riser block kit shown above. Parts over 4.3” (109 mm) in diameter can be turned between centers over the table. A tailstock riser block (see page 19) is available for holding parts between centers with the headstock riser block in place.

Riser Plate for 8” Crosslide #1234

We designed the headstock riser plate at the request of several of our customers who replaced our 6” crosslide with the thicker 8” crosslide. Most of these customers are using our lathe as a chucker lathe with gang-tooling. This tool post is designed to compliment our four position, gang-tooling tool posts. It can be used in conjunction with the gang-tooling tool post, or on its own.

The tool holder up to two tools with a known centerline-to-centerline distance of 1.500”, it also has a space to hold a cutoff blade upside down for use on the “back” side of the part. This tool post also has (2) 3/8” holes to hold boring bars, drill chucks, or tool bushings with two locking screws for each tool (tools not included).

3/8” Gang-Tooling Tool Post #5930

Our new gang-tooling tool post was designed specifically for our customers who want to convert their Sherline lathe into a “Chucker Lathe,” or gang-tooling lathe. The gang-tooling tool post was designed to hold up to four tools with a known centerline-to-centerline distance of 1.500”. This tool post has (4) 3/8” holes to hold boring bars, drill chucks, or tool bushings with two locking screws for each tool (tools not included).

5/8” Gang-Tooling Tool Post #5936

Our new 5/8” gang-tooling tool post is similar to our 3/8” gang-tooling tool post, but it allows customers to use ER16 collet holders with a 5/8” shank. Like the 3/8” holder, it also can also hold up to four tools with a known centerline-to-centerline distance of 1.500” (tools not included).

NOTE: While the gang-tooling tool posts will mount on the 6” and 8” crosslides, their size renders them unusable on either of these crosslides. These tool posts are designed to be used with our 13” Mill Table (#50180 or #67050) in place of the lathe crossslide.

3/8” Rear Side Cutoff Multi-Tool Holder #5933

The 3/8” rear side cutoff multi-tool holder is similar to our 3/8” rear side cutoff multi-tool holder, but it allows customers to use ER16 collet holders with a 5/8” shank. Like the 3/8” holder, it also has a slot for a rear mounted cutoff tool, and can also hold up to two boring tools.

5/8” Rear Side Cutoff Multi-Tool Holder #5936

The 5/8” rear side cutoff multi-tool holder was designed to compliment our four position, gang-tooling tool posts. It can be used in conjunction with the gang-tooling tool post, or on its own.

This tool holder has a slot to hold a 3/8” lathe cutting tool, and (2) 3/8” holes to hold boring bars, drill chucks, or tool bushings with two locking screws for each tool (tools not included).

3/8” Front Side Multi-Tool Holder #5932

The front-side, multi-tool holder was designed to compliment our four position, gang-tooling tool posts. It can be used in conjunction with the gang-tooling tool post, or on its own.

This tool holder has a slot to hold a 3/8” lathe cutting tool, and (2) 3/8” holes to hold boring bars, drill chucks, or tool bushings with two locking screws for each tool (tools not included).

5/8” Front Side Multi-Tool Holder #5937

The 5/8” front side, multi-tool holder is similar to our 3/8” front side, multi-tool holder, but it allows customers to use ER16 collet holders with a 5/8” shank. Like the 3/8” holder, it also has a slot for a threading or grooving tool, and can also hold up to two boring tools.
**Quick-Change Tool Post and Three Holders #2250**

This accessory brings to your Sherline lathe the ability to change tools quickly and easily. It uses a dovetail design to locate removable holders in a fashion similar to that used in production machine shops. Included with the case hardened steel tool post are three interchangeable steel holders designed to hold a 1/4" cutting tool, a 3/8" diameter boring tool and a Sherline cutoff tool. (Tools sold separately.) An optional holder for inserted carbide tips is also available as #2295. Each holder has a knurled brass knob that allows you to easily adjust the height of the tool tip. Changing tools is simply a matter of releasing the locking screw, sliding out one tool holder, sliding in another tool and re-locking. If you find your jobs require a lot of tool changes, this time-saving accessory will make your projects that much more of a pleasure.

The tool post at the left has two machined dovetails to accept the various holders. The three holders to the right of the tool post come with the #2250 set. They hold (L to R) a 1/4" HSS cutting tool, a 3/8" square shank tools like the #2256, #2257, #2265 and #2267. #2285 comes with a 55° carbide insert. The post and holders are all machined from steel and have a black oxide finish; knurled brass knobs adjust tool height.

**Live Center #1191**

The Sherline live center comes equipped with two dead centers that fit the headstock and tailstock. These centers are used for holding parts that are mounted “between centers.” This system of mounting work in a lathe has been in use for many years. However, since the tailstock center is held stationary and does not turn with the part, it is a point of friction and requires frequent oiling and attention. Also, because of thermal expansion caused by friction generated heat, the pressure of the tailstock center must be checked frequently. This is especially important for parts made from thermal plastic materials which have a tendency to soften and even melt as a result of the heat.

The Sherline live center is designed to eliminate these problems. The center is ball bearing mounted so that it can rotate with the part. This reduces wear and heat and makes machining much more pleasant. The sealed bearings are permanently lubricated and require no maintenance.

- Included with lathe “B” package.

**Bullnose Live Center #1182**

A live center is the best way to support the end of a long piece held between centers in a lathe, but sometimes the piece may have a hole in the end that is too large in which to index a standard live center. The bullnose live center will support parts or tubing with an open end as large as 1-5/8” diameter. Its solid steel bullnose center turns on two preloaded ball bearings. It is fitted with a 40 Morse taper to fit the tailstock spindle. Rather than turn a sleeve to size down a hole, this special live center will be fitted up in seconds when needed.

**Pool Cue Live Center #1182PC**

We designed this center at the request of some of our customers who use our machines to make pool cues. The extended nose gives them room for their cutters, which allows them to start cutting from the tip of the pool cue without needing extra material to hold onto.

**Steady Rest #1074**

All materials have a tendency to deflect away from the cutting tool when you are turning them in a lathe. This tendency is especially noticeable on long, slender parts and long pieces of bar stock, which makes it quite difficult to hold close tolerances. The best way to support a long part is with a center mounted in the tailstock. However, for one reason or another this is not always possible. An example, it may be a piece of stock that you want to center drill so that you can mount it between centers, or it may be a part where a center drill hole would ruin the looks of the part. Whatever the reason, a steady rest provides a means of supporting the part while it turns. The Sherline steady rest has three adjustable brass blades mounted in a holder that mounts on the bed of the lathe. These blades can be adjusted to the diameter of the part to provide necessary support. Another advantage of the steady rest that is often overlooked is the fact that work held in position by the rest turns concentrically with its outside diameter. This means that concentricity is assured when working near the steady rest, because, at that point, it must be running perfectly true despite imperfections in how it is chucked or centered at either end. The Sherline steady rest will accommodate any size part up to 1.75” (44mm) in diameter.

- Included with lathe “B” package.

**Quick-Change Tool Post Riser #2251**

Now your Sherline quick-change tool post system can be used with the riser blocks in place when turning larger diameter parts. This 1.25” riser base brings the cutting tool up to the proper height when the headstock riser block is used on the lathe. It is made from solid steel with a black oxide finish to complement the high quality of the quick-change tool holder components.

**Steady Rest Riser Block #1290**

The steady rest can be used with the riser blocks in place by using the steady rest riser block to bring it up to the same height as the headstock and tailstock. An example of where it might be used would be in turning large diameter parts that have a long shaft that needs to be steadied to keep it from wobbling or for those who leave their riser blocks in place all the time yet still need to center drill small stock.

**Lathe Follower Rest #1050**

The purpose of the follower rest is to keep long or small diameter work from deflecting when a cutting tool is applied to it. It is attached to the lathe saddle and moves as the saddle moves, keeping the point of support directly behind the cutting tool. This helps you maintain accuracy on long cuts and on small diameter stock.

The follower rest is mounted to the lathe saddle with one 10-32 set screw. It is not necessary to drill any mounting holes, and full instructions are provided for use. A support bar is attached to the table using a T-nut in the table slot. The support and T-nut are also provided. A small set screw adjustment at the end of the support presses down on the follower base to keep it from rising. It slides along the top of the follower base, allowing the tool post and tool to be moved in and out while still keeping downward pressure on the follower rest.

A follower rest in use supporting thin stock (Optional chip guard installed; see page 25).
Thread Cutting Attachment #2100

One of the big advantages of having a lathe is being able to machine threads. Many threads can be cut using taps and dies, but having a tap and die set that will enable you to cut all the non-standard thread sizes would be quite expensive. Sherline offers a unique and versatile thread-cutting attachment for its lathe. This low cost attachment enables you to machine thirty-six different unified thread pitches (Pitch range from 80 to 5 threads per inch) and twenty-eight different metric thread pitches (Pitch range from .25 to 2.0 mm). It also allows you to cut them as either left-hand or right-hand threads. A 60° threading tool can be ground to cut various thread forms (Includes LH, RH and 60° threading tool).

Lathe Cutting Tools #3005, #46-47

Pre-sharpened 1/4" high-speed steel (HSS) and carbide cutting tool sets and tool blanks you sharpen yourself.

Lathe tools, or tool bits as they are sometimes called, are the cutting tools that are used for turning and facing work on the lathe. The most popular lathe tools are those made of high-speed tool steel (HSS). They can be used for machining most materials including wood, plastic, aluminum, brass and free-machining steel. These tools will retain their hardness at temperatures up to 1000° Fahrenheit (588° C.). For this reason, depth of cut, cutting speed and feed rates are important. The big advantage of high-speed steel tools is the ease with which they can 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.

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.

Vertical Sheer Bit #19375

This cutting bit is specifically designed to work with the Sherline Quick-Change Tool Post #2250 that allows easy tool height adjustment. Because it is designed to make sheer cuts using the vertical edge of the bit, the point of contact is not on centerline. This allows you to move the bit up or down to a sharper contact point once the bit begins to dull, greatly extending the amount of time between resharpening. The 1/4" bit is also ground on both ends, effectively doubling the amount of time that it can be used between sharpening. The Vertical Sheer Bit is also the easiest cutting tool to grind properly, making resharpening a breeze.

CUTTING TOOLS

55° and 80° Offset RH and LH Carbide Insert Tool Holders (#2258 shown)

These holders have a 35° offset and hold either a 55° or 80° carbide insert affixed to a 3/8" square steel shank. A 2-ended carbide insert and a Torx screw and wrench are included with each. The 80° tips offer a little more strength for rough cuts, while the 55° cutters will cut into a sharper corner. The holders are made from case hardened steel and are designed to be held in the 3/8" slot in the #7600 tool post. Available individually or as a pair at a substantial cost savings.

55° and 80° RH and LH Carbide Insert 3/8" Boring Bars (#2261 shown)

These 3/8" diameter boring bars hold a carbide insert secured with a Torx screw. Each comes with either a 2-sided 55° or 80° carbide insert and Torx wrench. The 55° RH boring tool will fit into a 3/4" starting hole. The 80° holder will fit into a smaller 1/2" hole. The 80° holder offers a little more strength for roughing cuts while the 55° insert will cut into sharper corners. The 3-1/4" long holder can bore a hole a little over 2" deep with two fastening screws tightened on it. The holders are made from 1144 stress-proof steel with a black oxide finish. They are available in both right-hand and left-hand configurations. Available individually or as a pair at a substantial cost savings.
**Threading/Grooving Carbide Insert Tool Holder #2261**

Because of the multiple uses and the cost of the inserts, this holder is sold without inserts included. Choose which inserts you need and order them separately. A special clamp, 6-32 hold-down screw and 7/64" hex key are included with the holder.

**Ceramic Insert Holder #2265**

Ceramic inserts are used to cut hardened tool steel and other materials that might otherwise have to be ground. The triangular insert has 6 cutting surfaces. The holder has a 3/8" shank for use in the #7600 tool post. Extra inserts are available as #2266. Hex key included.

**Compound Slide #1270 (1280 Metric)**

The compound slide offers a way to turn tapers and cut angles on a lathe without rotating the headstock. Four mounting holes are provided in the base for solid positioning on the crossslide. The base has a red anodized finish with laser-engraved angle scales to make setting an angle easy. It utilizes a highly efficient locking ring design to lock it in position without having to overtighten the locking screws. A 1/4" cutting tool can be mounted across the front or on either side of the head.

Unlike compounds used on full-size, conventional lathes, this one was designed to be used from the "back" side of the table with the tool upside down. Because of the small size of the miniature lathe, operating the crossslide to lock it in position without having to overtighten the locking screws. A 1/4" cutting tool can be mounted across the front or on either side of the head.

The compound slide offers another way to cut tapers. The slide is used on the "back" side of the table with the tool upside down.

**Tailstock Riser Block #1292**

This riser block is about 1" block and allows the compound slide to be used when riser blocks are in place on the lathe. When mounted to the riser block, the compound slide is used on the "front" portion of the crossslide rather than in back, and the cutting tool is returned to the normal upright position.

**For those customers interested in turning larger diameters between centers, the tailstock riser block will raise the tailstock to correspond with the 1291 riser block kit above, allowing you an additional 1-1/4" (31.7 mm) of clearance.**

The tailstock riser block has a two-part dovetailed base to allow for easy installation and secure locking to the bed.

**Center Drill Set #3201**

Center drills are used with the lathe to drill a hole in the end of stock for mounting between centers in the lathe. They are designed to drill a small diameter pilot hole followed by a 60° countersink that provides a bearing surface for the 60° point of the lathe center. Center drills are also used extensively with the milling machine to accurately start holes. The large diameter shank on the center drill holds the drill point right on center and keeps it from "walking" as the hole is started. Once the hole is started, the center drill is replaced with a drill of the desired diameter and the hole is finished.

The center drill set includes a #1, #2 and #3 double-ended high-speed steel drill. The #1 drill has a 1/8" shank, the #2 drill has a 3/16" shank, and the #3 drill has a 1/4" shank. These and other smaller sizes (#0, #00 and #000) are available individually.

**Ceramic Inserts**

Ceramic inserts are used to cut hardened tool steel and other materials that might otherwise have to be ground. The triangular insert has 6 cutting surfaces. The holder has a 3/8" shank for use in the #7600 tool post. Extra inserts are available as #2266. Hex key included.

**Radius Cutting Attachment #2200**

The radius cutting attachment swings a tool through an arc to put a radius on the end of a part. The pivot points and tool position are adjustable, so it is capable of cutting either a concave or convex shape. It came about as a result of studying the method used to shape grinding wheels. Conventional thinking says that lathe tools should move parallel to the tool’s longitudinal axis or horizontally across it. Once it was realized that the tool could also be pivoted vertically on this axis, the design of this tool became much easier to conceive. Believe it or not, a technician with a need to cut an accurate radius to make prosthetic eyeballs got us started on putting this tool into production. Now anyone with a need to put a nice looking radius on the end of a part can benefit from the way this accessory makes it easy. It may not be something that a lot of people need, but it is typical of our commitment to serve all of our customers. If you need to (or just think it would be fun to) put a radius onto or into the end of a part, there is no easier way to do it than with this accessory. It can also cut a complete ball in a two-step operation covered in the instructions.

**Knurling Tool Holder #3300V**

Sherline’s knurling system can add that “professional” look to your parts. Knurls are embossed into the surface of a part rather than cut. Straight knurls are often used on the end of a shaft that is to be pressed into another part. Straight or diamond knurl patterns are used to provide better grip on handwheels and thumbscrews.

The holder consists of a right and left side that evenly tighten down on your part, while it is turned in the lathe, creating a knurled pattern. The holder is supplied with one set of spiral knurls that creates a diamond pattern. Other size knurls for diamond or straight patterns are also available. The tool will handle diameters up to 1” (25 mm).

**NOTE:** The knurling tool was not designed for use with riser blocks.

**Center Drill Set #3201**

Center drills are used with the lathe to drill a hole in the end of stock for mounting between centers in the lathe. They are designed to drill a small diameter pilot hole followed by a 60° countersink that provides a bearing surface for the 60° point of the lathe center. Center drills are also used extensively with the milling machine to accurately start holes. The large diameter shank on the center drill holds the drill point right on center and keeps it from "walking" as the hole is started. Once the hole is started, the center drill is replaced with a drill of the desired diameter and the hole is finished.

The center drill set includes a #1, #2 and #3 double-ended high-speed steel drill. The #1 drill has a 1/8" shank, the #2 drill has a 3/16" shank, and the #3 drill has a 1/4" shank. These and other smaller sizes (#0, #00 and #000) are available individually.

**Ceramic Inserts**

Ceramic inserts are used to cut hardened tool steel and other materials that might otherwise have to be ground. The triangular insert has 6 cutting surfaces. The holder has a 3/8" shank for use in the #7600 tool post. Extra inserts are available as #2266. Hex key included.

**Radius Cutting Attachment #2200**

The radius cutting attachment can cut a convex or concave radius. Unlike most lathe operations, the tool is moved up and down rather than horizontally.

**Knurling Tool Holder #3300V**

Sherline’s knurling system can add that “professional” look to your parts. Knurls are embossed into the surface of a part rather than cut. Straight knurls are often used on the end of a shaft that is to be pressed into another part. Straight or diamond knurl patterns are used to provide better grip on handwheels and thumbscrews.

The holder consists of a right and left side that evenly tighten down on your part, while it is turned in the lathe, creating a knurled pattern. The holder is supplied with one set of spiral knurls that creates a diamond pattern. Other size knurls for diamond or straight patterns are also available. The tool will handle diameters up to 1” (25 mm).

**NOTE:** The knurling tool was not designed for use with riser blocks.
ADJUSTABLE TAILSTOCK TOOLS

Adjustable tailstock tools make it possible to achieve "perfect" alignment between the headstock and the tool held in the tailstock.

Adjustable Live Center #1201
A live center is held in the tailstock of a lathe and supports the unchucked end of the work while allowing it to rotate easily on a bearing, as opposed to a standard "dead" center that does not rotate. If the point of the center is not in perfect alignment with the shaft, or if the center mark on the part is not dead-on, the part will "run out" (wobble), making precise machining impossible.

An adjustable live center allows you to precisely position the center point. The center is attached to one plate, while the shaft is part of another. Two slightly oversize holes in one side allow adjustment screws to be loosened, the center located and then locked down where you want it. In this manner, highly accurate centering can be achieved. If the ultimate in accuracy is your goal, the adjustable live center will help you achieve it.

Adjustable Bullnose Live Center #1205
The #1205 live center is much larger than the #1201 and is designed to support parts with a large center hole or tubing. It accommodates a center hole from 3/8" to 1-3/4" diameter. The live center features two preloaded ball bearings inside.

Adjustable Tailstock Custom Tool Holder #1202
By making your own custom split collet with a 5/8" outside diameter, this part can hold almost any tool you wish to adapt to it. A set screw tightens on the split collet to hold the tool in place. It is also used to hold the collet adapter, #2085/#2086 (see below). The split face design with adjusting screws allows perfect centering of the tool's tip. Like the previous tools, it is designed for the machinist seeking every advantage in the quest for total accuracy.

Adjustable Tailstock Chuck Holders #1203 & #1204
Much like the adjustable live center, holding a tailstock chuck in perfect alignment without some method of adjusting it can be difficult or impossible. The adjustment screws and split design allow perfect centering for the chuck, should the quality of your work demand it. #1202 accepts 1/4" and 3/8" Chucks. #1204 accepts a 5/32" 0JT Jacobs chuck. The #1205 live center is much larger than the #1201 and is designed to support parts with a large center hole or tubing. It accommodates a center hole from 3/8" to 1-3/4" diameter. The live center features two preloaded ball bearings inside.

WW Collet Adapter #2085 (8 mm #2006)
 Held in the adjustable tailstock tool holder, #1201 (Not included), the collet adapter allows the use of WW collets in the lathe tailstock. This means you can hold extremely small drills accurately on center. Drills of only a few thousandths of an inch are easily broken if not perfectly centered. When you consider the alternative is to spend thousands of dollars for a jeweler's lathe that is far less versatile, the time is well spent.

WW Collet Set #1160 (#1178 Metric)
Collets provide a quick, easy method of mounting cylindrical parts or bar stock in the lathe with a great deal of centering accuracy. Each collet is actually a small, precision 3-jaw chuck that fits into a special tapered adapter in the headstock. A drawbar that passes through the headstock and threads into the back side of the collet is used to draw the collet up into the tapered adapter. The adapter causes the jaws of the collet to close down, gripping the part to be machined. Typically, collets provide a very accurate part mounting system, but each size collet can accommodate only a small range of diameters of approximately ±0.001-0.002" (0.02 mm).

WW collets differ from milling collets (#3000) in that WW collets have a hole all the way through the collet and drawbar. The maximum diameter stock that can pass entirely through the collet is 3/16" or 4.5 mm. The WW collets that are larger than this diameter are sometimes referred to as "pot" chucks.

These collets are manufactured by Sherline and are built to standard WW specifications, however, we have come across collets that are called WW and will not fit our drawbar and adapter. Be sure to check WW collets made by other manufacturers to be sure they fit our adapter before you purchase them. Sherline manufactures a slightly larger .315" (8.0 mm) adapter and drawbar set (#1163) that will accommodate some of these other brands.

Deluxe WW Collet Set in Wooden Box #1162 (Metric #1179)
This set contains a complete selection of 17 (14 for the metric set) Sherline WW collets, including a blank, 3/4" and 1" pot chucks with 1/8" dowel pin, an adapter, drawbar and a knockout bar. It is packaged in an attractive wood box with a brass latch and hinges. A machined wood insert locates each part, plus a drawing in the lid reminds you where each part goes to keep things organized. Extra holes are provided should you want to add additional collets to suit your particular needs.

Metric WW Collet Set, 78 Collets in Wooden Box #1180
Sherline offers a set of WW watchmaker's collets that run from 0.3 mm to 8.0 mm by 0.1 mm increments. Also included is a collet blank. The oak box has brass hardware and an insert with 96 holes, leaving room for additional metric or inch size WW collets.

1" WW Collet Blank #2083
To make it easy for you to make your own custom tool holder, we now provide a 1" (25.4 mm) diameter blank collet without hole or slots. It is made from free machining steel so you can drill and machine it to whatever shape you need. The shaft is pre-machined and threaded to accept your WW collet holder.

Collet Pot Chucks #2000 (3/4"), #2001 (1") and #2002 (3-1/4")
These collets (12L14 steel) can be easily machined and are specially designed to hold larger and odd-shaped parts. A 1/8" dowel pin (high-speed steel) is included with the collet to close on while the face is being machined. They require the WW collet adapter and drawbar, #1161, which is purchased separately.

NOTE: Collet pot chucks are designed to hold material only on the face end, not through the collet. Maximum gripping depth is 3/16" (4.8 mm).

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Anyone doing repetitive operations using WW collets will appreciate the speed and convenience of this collet closer. Once adjusted to approximate closing position with the drawbar, the collet is pulled closed tightly onto the part with just a short movement of the locking lever. Releasing the part is just as easy. Simply push the lever to the right and remove or reposition the remaining raw material. Features include:

- Easy to install—just tap one existing 4-40 hole in spindle if not already tapped for threading attachment (self-tapping screw included).
- Wear parts are made from A2 hardened steel. yoke is made from 1018 steel and ball carrier and other parts are made from brass and 12L14 steel.
- Long stock up to 3/16” diameter can be passed all the way through the spindle and collet.
- Larger parts can be held with WW collets up to 8mm (3/8”) or in a custom machined WW pot chuck.
- Includes 3/8” knockout bar plus special #1 Morse to WW collet adapter with pin to engage keyway in collet to prevent rotation.

Wood Tool Rest #3038 and #3047

The Sherline lathe is used by many hobbyists to turn wooden parts. In wood turning, the chisel-like tool is held by hand rather than in a tool holder as is used to cut metal. These adjustable 3” and 5” rests are placed near the work, and the cutting tool is rested on and moved across their surface to cut wood. The design of the tool rest support system allows great flexibility in adjustment for position. Socket head screw and T-nut fasteners are included for mounting the base to the crosslide. By special request from a number of our wood turning customers, we offer a set of wood tool rests with extended bases (#3047). These are designed to accommodate the additional height needed when using riser blocks (#1291 and #1292) to work on larger diameter parts.

Spur Driver #3035

The spur driver is used in the headstock to drive wood when turning between centers rather than using the 3-jaw chuck. It has a point and four sharp blades that grip a wood part from the end to drive it (see illustration above).

Lever Collet Closer #1103

Some Sherline lathe users like to keep their riser blocks in place at all times. This new extended base for the lever collet closer mounts the accessory at the proper height to be used with the riser blocks in place.

Collet Closer Stop Kit #1153

An optional material stop is available for the collet closer (#P/N 1152). The stop block threads into the back of the collet knob. Included are four different length rods for various ranges of adjustment. The rods are held in place by a set screw.

Lever Collet Closer Riser #1152

Lever Collet Closer coming soon

Lathe Headstock Hard Stop Kit #4016

Every Sherline headstock now includes the holes to add an optional hard stop. A hole through the headstock base allows the hard stop rod to be set to contact the lathe table, providing a hard stop for the Z-axis during turning operations. The kit includes a 4” hard stop rod, a 8” hard stop rod and a 10-32 x 5/8” thumbscrew. The kit includes instructions with dimensions for those who have an older Sherline lathe and want to add the hard stop (Lathe headstock is shown for reference only, and is not included).

Lathe Digital Readout with RPM Display #3200

A digital readout is available to read the position of the two lathe axes while also providing continuous RPM readout. It allows you to read the position of the leadscrew and crosslide to three and one-half decimal places (0.005”) and either axis can be reset to a zero reading at any time with the push of a button. Now you can dial in dimensions larger than .050” (1 mm) without having to keep track of the number of handwheel rotations. If you use your lathe as a mill with the vertical milling column attachment, you can purchase a 3-axis DRO kit. If you add a 2-axis DRO to your lathe now and later purchase a vertical milling column, you can purchase a kit to add the third DRO handwheel and sensor at that time. New lathes can be ordered with the DRO already installed. See page 40 for more details on the similar DRO for the mill.

120V Power Feed #3001

Reducing the diameter of a long shaft or a long part can be a tedious task. Obtaining a good finish on such a part requires very steady movement of the cutting tool; something hard to achieve when feeding the tool by hand. For this reason, Sherline has developed a simple power feed attachment for the lathe. It consists of a constant speed gear motor complete with “ON” and “OFF” switch, a simple, easy-to-install mounting bracket and an engagement mechanism that permits quick disengagement of the motor so that you can hand-feed the cutter whenever you desire. The power feed is from right to left at a constant (non-adjustable) speed of approximately .9” (23 mm) per minute. It is not designed for use with the thread-cutting attachment.
**Headaches Later On.**

This is an easy and inexpensive way to avoid possible switch as clean as new for years of reliable operation. This special nut with a built-in seal replaces the standard switch and seals out fine dust to keep the inside of the machine from getting dirty, causing your machine to work erratically or even short out.

Clear covers have a red Sherline logo printed on them. Add new by keeping it clean and dust-free when not in use. The Chip Guard mounts to the headstock and swings down over the faceplate or chuck. It is made of tough and clear polycarbonate material, so you can see what you are doing and still be protected from flying chips. It swings easily out of the way for setups. It is not recommended as a replacement for safety glasses, but rather as an additional safety feature. This chip guard also helps keep your work area cleaner by containing chips in a smaller area. It was designed to meet the compliance requirements of countries that require a chip guard.

**Lathe Vinyl Dust Cover**

Lathe Vinyl Dust Cover #4150 (4000/4500-series lathes)

Clear dust covers are available for the two different size lathes. They extend the life of your machine and keep it looking like new by keeping it clean and dust-free when not in use. The clear covers have a red Sherline logo printed on them. Add a professional touch to your workshop with these fitted dust covers.

**Tool Height Gauge**

This steel gauge offers a simple way to assure the tip of your cutting tool is set to the centerline height of the lathe. The lower lip is for tools in the standard tool post, while the upper lip is used with the riser tool post. Just set the gauge on the lathe table and position it in front of the tool tip to check height. It is much quicker and easier than checking height against a center headstock or tailstock.

**Upper Lip**

This gauge comes with a built-in center adapter to set the gauge. The lower lip is used with the riser tool post. Both inch and metric versions are available. For the Z-axis of the mill or vertical milling column, a 2-1/2" diameter handwheel is available. Newer machines come with a ball thrust bearing set to relieve stress caused by the lifting action of the vertical Z-axis that is not present on the other horizontal axes. Older machines can be upgraded to use the new ball bearing set when getting the resettable handwheel. Call with the model number of your machine and we will help you select the proper handwheel upgrade. (Red anodized handwheels are available upon request.)

**W.R. Smith T-Rest**

The W.R. Smith T-Rest turns your Sherline lathe into a first class clockmaker’s lathe. The T-Rest supports a hand-held “graver,” the traditional metal turning tool of watch and clockmakers. World-renowned watch and clockmaker, William R. Smith has designed a T-Rest especially for the Sherline lathe. It is of solid steel construction and clamps to the lathe’s bed in seconds. If you are interested in watch or clock repair or construction but wanted a tool system more versatile and less expensive than a jeweler’s lathe, this T-Rest makes a Sherline lathe a most attractive choice.

**Tool Height Gauge** #3099

This steel gauge offers a simple way to assure the tip of your cutting tool is set to the centerline height of the lathe. The lower lip is for tools in the standard tool post, while the upper lip is used with the riser tool post. Just set the gauge on the lathe table and position it in front of the tool tip to check height. It is much quicker and easier than checking height against a center headstock or tailstock.

**Chip Guard** #3099

The chip guard mounts to the headstock and swings down over the faceplate or chuck. It is made of tough and clear polycarbonate material, so you can see what you are doing and still be protected from flying chips. It swings easily out of the way for setups. It is not recommended as a replacement for safety glasses, but rather as an additional safety feature. This chip guard also helps keep your work area cleaner by containing chips in a smaller area. It was designed to meet the compliance requirements of countries that require a chip guard.

**Clear Covers**

Lathe Vinyl Dust Cover #4150 (4000/4500-series lathes)

Clear dust covers are available for the two different size lathes. They extend the life of your machine and keep it looking like new by keeping it clean and dust-free when not in use. The clear covers have a red Sherline logo printed on them. Add a professional touch to your workshop with these fitted dust covers.

**Toggle Switch Dust Cover** #3465

Working with brass or wood often generates a very fine dust that can work its way into the toggle switch, eventually causing your machine to work erratically or even short out. This special nut with a built-in seal replaces the standard mounting nut on the speed control on/off switch. The soft silicon collar slips over the head and shaft of the toggle switch and seals out fine dust to keep the inside of the switch as clean as new for years of reliable operation. This is an easy and inexpensive way to avoid possible headaches later on.

**Horological Bushing and Depthing Attachment** #3118

Allows you to use your Sherline mill to do clock bushing and depthing tasks that used to require expensive, single-purpose horological tools.

**Depthing Attachment with a Clock Movement**

This attachment can be used to do clock depthing in the machine as well as on the lathe. It is made of 1-5/8" thick steel. However, the soft silicon collar slips over the head and shaft of the toggle switch and seals out fine dust to keep the inside of the switch as clean as new for years of reliable operation. This is an easy and inexpensive way to avoid possible headaches later on.

**Vertical Milling Table**

The vertical milling table is another method of milling on the Sherline lathe instead of using the vertical milling column. For general milling we recommend the vertical milling column, but for specific setups you may find this accessory useful.

The Sherline vertical milling table is mounted on the lathe crossslide. Vertical table travel is 2.25” (57 mm). This allows work to be moved up or down on the vertical milling table, back and forth with the crossslide, and in and out with the leadscrew, which covers all the axes needed for milling. This accessory takes two minutes or less to mount on a Sherline lathe. Many of our customers have also found uses for the vertical milling table on special machines that require a reasonably priced, small precision slide. It provides 4.25” of travel when used horizontally as a special fixture, or as a fourth axis.

**Adjustable “Zero” Handwheels**

Most expensive full-size machine tools allow the machinist to reset the handwheel to “zero” (or any desired setting) at any time during the machining operation. That option is available on Sherline’s miniature machine tools as well. These handwheels install easily in place of the standard handwheels by simply releasing one set screw. Operation is simple as well. Just release the black locking nut while holding the handwheel. Then reset the handwheel collar to “zero” and retighten the locking nut.

Now you can dial in the amount of feed you want starting from zero without having to calculate your stopping point. It’s a great time saver and also reduces the chance of errors. All standard 1-5/8” handwheels can be replaced with 2” adjustable handwheels. Both inch and metric versions are available. For the Z-axis of the mill or vertical milling column, a 2-1/2” diameter handwheel is available. Newer machines come with a ball thrust bearing set to relieve stress caused by the lifting action of the vertical Z-axis that is not present on the other horizontal axes. Older machines can be upgraded to use the new ball bearing set when getting the resettable handwheel. Call with the model number of your machine and we will help you select the proper handwheel upgrade. (Red anodized handwheels are available upon request.)

**Lathe Crosslide Anti-backlash Upgrade**

Starting in early 2014, Sherline added backlash adjustment on the lathe crossslide to all new lathes. This kit is available to retrofit any earlier Sherline lathe. Based on a similar design used for years on the mill X- and Y-axes, it uses a round, knurled brass lock nut on the leadscrew that is tightened against the side of the saddle to pull against the threads in the slide screw insert. This takes out excess play in the threads to adjust backlash to the desired amount.

Once adjusted, a knurled lock wheel secured by a button head screw keeps the lock nut from turning.

**Adjustable “Zero” Handwheels**

#3490 - 2” Diameter (Metric #3490)

These handwheels install easily in place of the standard handwheels by simply releasing one set screw. Operation is simple as well. Just release the black locking nut while holding the handwheel. Then reset the handwheel collar to “zero” and retighten the locking nut.

**W.R. Smith T-Rest** #3110

The W.R. Smith T-Rest turns your Sherline lathe into a first class clockmaker’s lathe. The T-Rest supports a hand-held “graver,” the traditional metal turning tool of watch and clockmakers. World-renowned watch and clockmaker, William R. Smith has designed a T-Rest especially for the Sherline lathe. It is of solid steel construction and clamps to the lathe’s bed in seconds. If you are interested in watch or clock repair or construction but wanted a tool system more versatile and less expensive than a jeweler’s lathe, this T-Rest makes a Sherline lathe a most attractive choice.

**Lathe Crosslide Anti-backlash Upgrade** #30950 (#30951 Metric)

Based on a similar design used for years on the mill X- and Y-axes, it uses a round, knurled brass lock nut on the leadscrew that is tightened against the side of the saddle to pull against the threads in the slide screw insert. This takes out excess play in the threads to adjust backlash to the desired amount.

Once adjusted, a knurled lock wheel secured by a button head screw keeps the lock nut from turning.

**Benchtop Milling Machine**

The Sherline milling column is available for the two different size lathes. Most expensive full-size machine tools allow the machinist to reset the handwheel to “zero” (or any desired setting) at any time during the machining operation. That option is available on Sherline’s miniature machine tools as well. These handwheels install easily in place of the standard handwheels by simply releasing one set screw. Operation is simple as well. Just release the black locking nut while holding the handwheel. Then reset the handwheel collar to “zero” and retighten the locking nut.

Now you can dial in the amount of feed you want starting from zero without having to calculate your stopping point. It’s a great time saver and also reduces the chance of errors. All standard 1-5/8” handwheels can be replaced with 2” adjustable handwheels. Both inch and metric versions are available. For the Z-axis of the mill or vertical milling column, a 2-1/2” diameter handwheel is available. Newer machines come with a ball thrust bearing set to relieve stress caused by the lifting action of the vertical Z-axis that is not present on the other horizontal axes. Older machines can be upgraded to use the new ball bearing set when getting the resettable handwheel. Call with the model number of your machine and we will help you select the proper handwheel upgrade. (Red anodized handwheels are available upon request.)
**HEADSTOCKS & MOTORS**

**Sherline Standard Headstock #3000**
Sherline’s standard headstock with a #1MT spindle. Threaded to accept 3/4 x 16 tools. Includes spindle pulley. Also available with a DC motor and standard 2,800 RPM (max.) speed control unit: #3306 Headstock and Motor Unit
Do you just need the DC motor and speed control unit? It’s available separately as #3006U

**Sherline 9/16” Headstock #3010**
The internal through hole has been opened up to a maximum of 9/16”. Please note that while this allows larger stock to pass through the headstock, it also eliminates the #1 Morse internal taper, meaning no tapered tools like drill chucks, fly cutters, etc. can be held in the headstock. The larger O.D. of the pulley through hole also renders the #3100 Thread Cutting Attachment unusable. Threaded tools can still be used, such as 3- and 4-jaw chucks, and end mill holders. Also available with a DC motor and standard 2,800 RPM (max.) speed control unit: #3308 Headstock with 9/16” Through Spindle and Motor Unit

**Sherline ER-16 Headstock #3011**
For use on a Sherline lathe or mill in place of the standard headstock if you are wanting an ER-16 spindle.
*NOTE:* We do not sell the collet nut or collets used with the ER-16 spindle. Those are available through MSC Industrial Supply Co. or other tool supply sources. Also available with a DC motor and standard 2,800 RPM (max.) speed control unit: #3308 Headstock with ER-16 Spindle Nose and Motor Unit

**Sherline 3C Collet Headstock #3013**
With the 3C collet, our customers can now hold stock up to 1/2” diameter that will pass through the headstock. When we designed our 3C Collet Headstock we made sure it would be interchangeable with our standard headstock. The 3C Spindle is electroless nickel plated to aid in rust prevention, and to increase the surface hardness of the spindle for durability. Included is a 1” spindle wrench (#0129) and spindle bar to go with the headstock to tighten and loosen the collets. Also available with a DC motor and standard 2,800 RPM (max.) speed control unit: #3310 3C Headstock and Motor Unit

**Headstock and Motor Unit (10,000 RPM) #3307**
Sherline headstock/motor/speed control units have long been popular with tooling designers and home shop users making special tooling. Why reinvent the wheel when such a powerful, compact and economical powered spindle already exists? Now we have expanded the capability of our spindle by offering a pulley ratio that makes possible spindle speeds of up to 10,000 RPM. It can be used as a stand-alone unit for custom spindle applications or in seconds it can replace the standard 2800 RPM max spindle used on all Sherline lathes and milling machines.

**VERTICAL MILLING MACHINES**

The main difference between a lathe and a mill is that on a lathe, the work turns and the cutting tool is stationary, while on a mill, the tool turns and the work is stationary. Because of the tremendous number of operations that can be performed on a vertical mill, it is commonly regarded as the most important tool in the modern machine shop...the workhorse of the industry.

At first glance, a vertical mill looks similar to a drill press, but there are some important differences; such as, a spindle that can take side loads as well as end loads and an accurate method of moving the work in relation to the spindle on all three axes.

Sherline milling machines can perform all of the tasks and operations that a large commercial machine can perform. Operations such as fly cutting, precision drilling and boring are all routine tasks for the Sherline mill. Because the tool turns rather than the work, much larger parts can be worked on in a mill, and these parts need not be round. The work is securely held, thus extremely accurate hole patterns can be drilled or bored. The longer X-axis table (side-to-side) throw also increases the machine’s versatility over that of the lathe with the vertical milling column attachment. It is an extremely rigid, accurate tool that accomplishes tough machining jobs with ease.

In addition to the basic three axes of movement, known as the “X” (left/right), “Y” (in/out) and “Z” (spindle up/down) axes, Sherline mills also offer a headstock that can be tilted to either side to mill angled surfaces. The Model 2000 mill offers four additional directions of adjustment, while the Model 5800 NexGen mill offers three additional directions of adjustment for those who wish the ultimate in flexibility (see following pages).

Sherline milling machines are offered in four models and can be purchased in either inch or metric versions. The inch models have their feeds calibrated in .001” increments, while metric models are calibrated in .01mm increments. The machines are equipped with a high-torque DC motor with variable speed control. This speed control is internally equipped with a converter that automatically adjusts between inputs of 100 VAC to 240 VAC, 50-60 Hz. without loss of torque.

The saddle locking lever is typical of Sherline’s policy of constantly striving to improve the accuracy, functionality and value of our machines (see page 31). This lock is standard on all new mills and vertical milling columns. In keeping with our goal to make all accessories and improvements compatible with existing machines, any older Sherline mill can be upgraded to add the new saddle lock by purchasing upgrade kit #4017U, which includes the locking lever and a new saddle nut.

The differences between the various models of the standard, deluxe and multi-direction mills are described in the following pages.

*New Mill Features*

All Sherline mills now include oil reservoirs on the X/Y axes and the Z axis to help keep critical parts lubricated. These were initially developed for CNC machines that run constantly for hours on end but can benefit manual machines as well. Another new feature is the brass leadscrew cover that keeps chips off the rear of the Y-axis leadscrew.

*NOTE:* All Sherline Mills are available with CNC Ready stepper motor mounts. Mills can also be ordered with Digital Readouts factory installed. See page 40 for details.
**5000 Series Vertical Mill #5000 (#3000 Metric)**

The 5000-series mills feature a solid 10" (254 mm) aluminum base, precision machined dovetailed slides with adjustable gibs, permanently lubricated spindle bearings, adjustable preload anti-backlash feed screws on the X- and Y-axes, two 1-5/8" (41 mm) laser-engraved aluminum handwheels, one 2-1/2" (63 mm) laser-engraved handwheel with thrust bearings, Z-axis locking lever and many other features found only on the best commercial machines. This milling machine, along with a Sherline lathe, will enable you to complete almost any commercial machines. This found only on the best lever and many other features.

**5400 Series Deluxe Vertical Mill #5400 (#5010 Metric)**

The deluxe 5400-series mills come equipped with all of Sherline's standard features upgraded to include a laser-engraved 12" (305 mm) solid aluminum base for 2" of additional Y-axis travel, laser-engraved scales on the table and base, 2-1/2" (63 mm) adjustable "zero" handwheel on the X- and Y-axes, and a mill headstock spacer to provide more throat distance and a 1/4" drill chuck and drawbolt. The 5400-Series is our best selling mill.


Patterned after the movements of the industry standard for full-size mills, the Bridgeport® mill, the column has been redesigned to offer four additional directions of movement compared to other Sherline mills. A modified rotary column attachment allows the Z-axis column to tilt from side to side up to 90°. A laser-engraved angle scale makes setting the tilt angle easy. As on the rotary column, a clamping ring design locks the column securely at the desired angle. On the back side of this special rotary column attachment is a knuckle that allows the top of the Z-axis column to be tilted either toward or away from the operator. Laser-engraved scales indicate movement up to 90° in either direction on this axis.

In addition to the side-to-side and fore/aft tilt movements, the new column base offers a center pivot lock that allows the ram to be moved both in and out as well as swung from side to side. In/out travel is 5.50" and side-to-side motion is indicated by laser-engraved scales showing up to 90° of movement either way. These four movements are in addition to the standard mill’s X-, Y-, Z-axis travel and headstock rotation movement, giving a total of eight directions of movement or tilt. This much versatility puts the Sherline 2000 Series in a class by itself in this size range. It is a fully functional shop mill that fits on a tabletop and stores on a closet shelf. When used with accessories like the tilting angle table and rotary table, the machining possibilities of the mill are limited only by part size and the extent of your imagination. The 2000-series mill base has been extended an additional 2" over the Model 5400, extending the Y-axis travel to 7.0" (178 mm). This was done to accommodate the pivoting mechanisms and to take advantage of the increased arm movements. Like the deluxe Model 5400 mills, all handwheels are resettable to zero at any time.

The 8-direction mill includes the same laser-engraved scales on the base and table as the 5400-series mill package. Also included is a 1/4" drill chuck. (The headstock spacer block is not included on the 2000-series mill, as the ram travel makes it unnecessary.) Optional rigid column bases are available for a small fee (see page 31).

**5800 Series NexGen Vertical Mill #5800 (#5010 Metric)**

Starting in November 2015 Sherline Products introduced its latest Vertical Milling machine. With the increase of popularity of Sherline mills in industrial, laboratory, and school training environments the need to produce larger parts has led to the development of an extended capacity milling machine. Sherline’s NexGen Mills are available in Manual, DRO, CNC-Ready, and full CNC configurations.

The new NexGen Mill has the following standard features:

- Extra-Rigid Column Base
- 18" Extended Mill Table
- 18" Mill Base
- 7" x 13" Tood Plate (3 T-slots, Alignment Pins)*
- Y-axis covers—Mill Accordian Way Cover Set and extended 12" brass rear leadscrew cover

* A 7" x 18" tooling plate (#5636) is available as an optional upgrade.

### Standard Equipment Included with Every Mill

Every Sherline mill comes with a DC motor and speed control, a 2.75" (70 mm) x 13.0" (330 mm) table with two T-slots, pulleys, drive belt, 3 hex keys, tommy bars, oils, lead screw cover and a gib removal tool.

The 5000-series mills come with two standard 1-5/8" (41 mm) laser-engraved aluminum handwheels, and one 2-5/8" (65 mm) handwheel, while the 5500, 5400, 2000, and 5800-series mills come with deluxe adjustable zero handwheels. 5400, 2000, and 5800 mills include a 1/4" drill chuck. 5400 mills also include a #1297 headstock spacer block.

### NOTE:

All mills are available as manual, digital readout, CNC-Ready, and full CNC configurations.
MILL ACCESSORIES

Mill Saddle Lock Upgrade #4017U (#4117U Metric)
Sherline mills produced before 1999 used a nylon friction lock that was tightened using a socket head screw. It squeezed against the back side of the mill column dovetail. With the introduction of the Model 2000 mill in late 1998, we changed the way the mill saddle was locked. The new system utilizes a brass lever on the leadscrew that locks against the top of the saddle nut. This provides a more secure lock that requires no tool to tighten. Older machines can be upgraded to the new system with the addition of this locking lever and a new saddle nut that has a spring-loaded ball to keep the lever from self-locking when the leadscrew is turned.

Mill Z-axis Saddle Lock Upgrade #4017Z (#4117Z Metric)
On CNC mills, excess backlash is a particular problem on the Z-axis for certain 3D modeling and engraving applications requiring very subtle movements of the Z-axis. This modification to the Z-axis locking lever allows adjustable control over the Z-axis backlash, making it possible to reduce it down to as little as .001”. It is now included as standard equipment on all CNC and CNC-ready Sherline Machines and can also be easily installed on existing manual or CNC machines, requiring no new holes. Once the lever is positioned to the desired location removing as much backlash as is desired, the thumbscrew is tightened, holding the locking lever in place.

Mill Z-axis Saddle Lock Upgrade #4017Z (#4117Z Metric)

8-Direction Upgrade for 5000-Series Mills #5650 (#5660 Metric)
If you already own a 5000-series Sherline mill, or if you purchase one now with the thought of upgrading later, you can convert your mill to an 8-direction mill when you feel its additional capabilities would be useful for your projects. Included is an adapter base and all necessary attachments. Also included is the column travel extension that allows the headstock to be brought down closer to the table (see also image on page 36).

UPGRADE NOTE: If you are upgrading a current 5000/5400 series mill that has a brass tube leadscrew cover for the Y-axis this column upgrade CANNOT BE USED without the removal of the brass tube.

Milling Vise #3531
The most convenient way to hold small parts for milling is with the milling vise. Milling vises are different from other machine vises in that they are designed to hold the movable jaw down while clamping, eliminating any chance for the jaw to lift. A cheap drill press vise is almost useless on a milling machine, because it can’t be accurately aligned with the machine.

The Sherline milling vise is sized just right to be the perfect working companion to Sherline milling machines. The jaws are 2.00” (50.8 mm) wide by 1.00” (25.4 mm) deep and open a full 2.00” (50.8 mm). The fixed jaw has both a horizontal and vertical “V” groove to facilitate holding round bar stock. The vise includes two clamps for use in conjunction with the 2000-series mill, while the rectangular spacer is meant to be used with either our Short or Tall 5400 Mill Column Bases with the 2000 Ram.

Rigid Column Bases #5605 (Short), #5606 (Tall)
For those who want the versatility of Sherline’s 2000/2010 mill column with its large work area and multiple directions of movement but have experienced unwanted column rotation during extreme machining loads on the 2000 mill, this new column offers another option. The one-piece column absolutely prevents that from happening, although you do give up the ability to rotate the column ram from side-to-side.

5400 Mill Column Base with 2000 Ram
#5640 (#5641 Metric) (Short), #5645 (#5646 Metric) (Tall)
These rigid columns are designed for those who have a 5400-series mill. Each comes with the 2000-series ram and gives the versatility of Sherline’s 2000/2010 mill column with its large work area and seven directions of movement. The tall column provides more Z-clearance.

NOTE: The mounting hole pattern for this column is designed to work with the new mill base that has the thru hole for the Y-axis cover tube. It will not mount on an older style mill base. If you wish to use this rigid base with an older style mill base, you will need to drill and countersink the two new holes in your mill base.

Rotating Mill Vise Base #3570
The rotating vise base eliminates clamping and unclamping the vise to produce angles. Once mounted square to the table, the vise can be positioned using the laser-engraved protractor scale as a guide for setting the angle. The red anodized base is laser engraved with angle measurements in 1° increments all the way around. A witness mark is engraved on the side of the rotating collar that holds the vise. The locking washers can be loosened, which allows the vise to slide forward and back in the fixture for further adjustment. A locking ring underneath pulls the collar down onto the base to lock it securely when the two hold-down screws are tightened. The low profile tooling plate base only raises the height of the vise 1/2”. Four T-nuts and hold-down screws are included.

Mill Vise w/ Rotating Base #3570 (not shown)
The mill vise and rotating base can be purchased together at a price that offers a savings compared to buying the two individually.
Chuck to T-Slot Adapter #1187

This simple adapter can be used with either the 3- or 4-jaw chuck and fastens the chuck securely to the milling table or lathe crossslide T-slots. It slides into the T-slot and the chuck is simply screwed down onto it until it tightens against the table.

4-Jaw Chuck Hold-Down Set #3098

This set consists of two clamps complete with screws and T-nuts and can be used to clamp the 4-jaw chuck to the milling table or lathe crossslide. The set provides a little more versatility than the chuck-to-T-slot adapter (#1187) in that the chuck can be located almost anywhere on the table, and the part can be properly aligned with the axis of the machine. The clamps fit in a groove machined around the circumference of the 4-jaw chuck. They are the same as those furnished with the Sherline milling vise and rotary tables, so they are not needed if you already own one of these adapters.

90° Angle Plate #3559 (long), #3561 (short)

This angle plate is a very useful work-holding fixture for milling. It can be used to hold parts on either surface which means you can hold a part perpendicular to the table, even if the bottom is not flat. Parts can also be held from two directions at once. The #3559 has large 3" x 3" x 10" (8361 3" x 3" x 3.5") machined mounting surfaces with two T-slots running full length on each. It is made from extruded aluminum with a black anodized finish. Provided with the plate are six 10-32 mounting screws and T-nuts (8356 includes four mounting screws and T-nuts).

Standard Hold-Down Set #3012

Sherline now offers two types of hold-down sets: standard and step block. The standard set offers a simple and versatile method of clamping work to the mill table. This simple hold-down set consists of two strap clamps complete with bolts, T-nuts, washers and a variety of lengths of socket head cap screws. The round heads of the carriage bolts rest upside-down on washers on the table surface and are screwed up or down to support the strap clamp at the same height as the part being held.

Step Block Hold-Down Set #3013

This style clamp set has long been popular on full-size milling machines. The step blocks are notched as are the back of the clamps to make it quick and easy to set your clamps to the proper height. A selection of threaded studs from 1" to 3/1/2" is provided to allow a variety of heights to be selected quickly. The nut and washer design is a nice touch too. The bottom of the nut is convex while the top of the washer has a matching concave surface. Even if the clamp isn’t level, the washer will seat flat on top of it while applying even pressure. Also provided is a spare, unanodized third step block that you can cut down to make smaller size step blocks for low setups. Though slightly more expensive than the standard set, this type of clamp is easier on the surface of your mill table and also quickly adjusts to a larger range of heights. At least one set of hold-down clamps should be considered a necessity for every milling machine owner.

Mill Collets #3060 (3/32" shank), #3062 (1/16" shank), #3063 (3/16" shank)

Like those used on our large production machines, the mill collet tooling plate solves two problems. It not only protects your mill’s table from damage, but it also provides an inexpensive, modifiable surface for clamping work that is as flat as the machine’s original table. The best way to hold a part more securely is to add more clamping points rather than over-tightening the points you already have. The mill tooling plate allows you to easily do this. Like a lathe faceplate, the mill tooling plate should be looked at as somewhat disposable. It has a hole pattern predrilled to make it easy to clamp down the Sherline mill vise or the rotary table, but you should feel free to drill whatever additional holes are needed to meet your particular needs. The plates are made from aluminum (#3560 - 1/2" thick, #3562 and #3563 - 3/4" thick). The mounting screw holes are countersunk to keep the working surface free of obstructions. All other holes are drilled and tapped for 10-32 screws.

Mill Tooling Plates #3560 (4" x 10"), #3562 (7" x 13"), #3563 (7" x 18")

Like those used on our large production machines, the milling tooling plate solves two problems. It not only protects your mill’s table from damage, but it also provides an inexpensive, modifiable surface for clamping work that is as flat as the machine’s original table. The best way to hold a part more securely is to add more clamping points rather than over-tightening the points you already have. The mill tooling plate allows you to easily do this.

90° Angle Table #3730

This accessory offers a variety of setup options and an alternative to rotating the column. With the base mounted square to the mill table, parts mounted to the tilted table can be machined or drilled at precise angles.

It can be set at any angle from 0° to 90°. The hole pattern in the table accepts Sherline’s mill vise or rotary table. A threaded chuck mount is also included, which means parts from the lathe can have machining operations done on them without removing them from the chuck. They can then be returned to the lathe for further operations without re-centering. With the rotary table mounted to the tilted table, many additional machining possibilities are opened up (see page 37). The pre-drilled and tapped hole pattern is laid out so that when the rotary table is in the 90° position, its center is the same height as the rotary table tailstock (#3752). This eliminates the need for the #5701 right angle attachment.

Chamfers can be milled using the tilting angle table on a mill.
3/8” End Mill Holder #3079 (other sizes available)

This easy-to-use end mill holder screws onto the threaded end of the mill spindle. End mills are held in place with a single set screw that tightens against the flat on the side of the cutter. Because of the ease of use of this type of cutter holder and the fact that it allows the use of longer or double-ended end mills, we have also made it available for 1/8” (#6081), 3/16” (#6080), 1/4” (#6079) and 5/16” (#3075) diameter cutters. For metric tools, we offer the most commonly used 10 mm end mill holder (#3078) as well as 6.0 mm (#3076) and 8 mm (#3077) sizes.

In addition to end mills, special purpose cutters such as those designed for cutting key slots, dovetails and corner radii usually have 3/8” diameter shanks. The Sherline end mill holder will increase the versatility of your milling machine by enabling you to hold these popular cutters.

CAUTION! Always consider power and size limitations of your equipment when using larger cutters. You may want to reduce cutter speed.

3/8” Double-Ended End Mill Sets #7400 and #7401

Of all the end mills available to machinists, by far the most popular are those with a 3/8” Shank. Because they are made and sold in great quantities, they are an economical alternative to the smaller but less often used miniature series end mills. They also offer the advantage of being double-ended, so you get twice the cutter for your money. Each has a flat on the side against which the set screw of the end mill holder is tightened to hold it in place. Sherline offers two sets of six double-ended cutters. Both sets include sizes 1/8”, 5/32”, 3/16”, 1/4”, 5/16” and 3/8”. (Remember, when cutting in a pocket, the corner radius left by your cutter will be half the cutter diameter.) #7400 is made up of 2-flute cutters, while #7401 offers 4-flute cutters. The 2-flute cutters are recommended for softer materials like aluminum where they are less likely to become clogged. For cutting tougher metals like steel, 4-flute cutters are a good choice. Each set comes with a wooden block to protect and store your cutters.

Double-ended 3/8” end mills fit in the #3079 end mill holder. They are available in a large variety of sizes and shapes. For strength and maximum rigidity, use the largest diameter cutter your job will allow.

CAUTION: Unlike a drill bit that looks similar, end mills are sharpened on the edges as well as the tip. These sharp edges demand a lot of respect when being handled and used! Also, to keep them sharp, store them in the block provided or individually protected in your toolbox.

Miniature End Mill Set #3080

These small, single-ended end mills can be held in a mill collet or a 1/4” end mill holder. Their small size makes them useful where space is limited. The set is made up of the highest quality general purpose 3-flute cutters manufactured in the miniature series. Sizes are 1/8”, 3/16” and 1/4” diameter, all with 1/4” shanks. End mills must run true in order to cut properly. Small end mills or miniature size end mills are very expensive and can be easily damaged if milling is attempted using a drill chuck to hold the end mill. Milling collets or an end mill holder are a must for proper operation of your mill!

End Mill Holder Style Fixture #3082 (2”), #3083 (4”)

This blank fixture can be screwed directly onto the 3/4” long threaded end of the Sherline spindle and then turned or milled to hold a part of your choice. It is made from a 1” diameter 12L14 steel billet available in lengths of 2” and 4”. The pre-cut thread assures accurate re-seating on the spindle thread each time the fixture is used.

Includes drawbolt and washer (#3082 shown)

Morse #1 Blank #3085

The Morse #1 blank is made from free-machining 12L14 steel and is available so that you can make your own custom tool holders. The proper #1 Morse taper is already machined onto the tapered end. You need only turn, drill, tap or slot the blank to fit your special tooling needs. Included with the blank is an instruction sheet showing some common uses with dimensions for making a fly cutter, a slitting saw holder or an end mill holder.

A longer blank with a threaded 3/4-16 hole in the end is available as #3082 (shown below).

Mill Cutter Arbors #3230, #3231, #3235 and #3236

Mill cutter arbors hold 7/8” or 1” I.D. round cutters for milling or gear cutting, these arbors are designed to hold them on your Sherline mill. They are steel arbors turned with a #1 Morse taper and provided with a drawbolt and washer for use in the Sherline headstock spindle. Each is available in a choice of standoff lengths of 3/4” (short) or 1-3/4” (long). You can see one in use holding a gear cutter in the bottom image on page 37.

Includes drawbolt and washer

Fly Cutter #3082

Fly cutters are used primarily for machining large, flat surface areas. The fly cutter is a single-point cutting tool similar to a lathe tool mounted in a special holder. The cutter can be adjusted to cut up to a 2.00” (51 mm) diameter and is easily capable of taking a 100” (25 mm) deep cut in aluminum at this diameter.

The Sherline fly cutter comes complete with the holder, a drawbolt, thrust washer and a left-hand brazed 1/4” carbide cutting tool. It is a worthwhile addition to any shop.

Model 5400 mill has been converted to 8-direction capacity with a #5650 column upgrade. The adapter base can be seen in the background. A Y-cutting operation is under way.

Carbide Inserted Tip Fly Cutter #7420

This fly cutter offers several advantages over the standard high-speed steel fly cutter. Inserted carbide tips will last much longer without sharpening, plus they provide an excellent finish on hard-to-machine materials like cold-rolled and stainless steel. The cutter path is 1-1/8” (28.6 mm) wide. The cutter shape allows it to cut a straight shoulder on a part—something that cannot be done with the standard fly cutter. Once you use this tool, you will understand why 80% or more of the metal removed in modern machine shops is removed with carbide insert tools.

The cutter comes with one 2-edged carbide insert, a Torx attachment screw, a drawbolt and washer plus a T-15 Torx wrench. Additional inserts are available through Sherline as #762.

Gear Tooth Cutter #3237

This gear tooth cutter is included with the purchase of the #3200 indexing attachment and can also be purchased separately. It looks much like a small fly cutter and includes a 1/4” high speed steel tool blank that you can custom grind to the particular gear tooth shape you need. The illustration on the following page shows the cutter in use in conjunction with the rotary table. The #1 Morse taper on the shaft is held in the spindle with a drawbolt and thrust washer. This is an economical alternative to round commercial gear cutters.

Slitting Saw Holder #3065

Jeweler’s slitting saws are small, circular, metal cutting saw blades that are used for machining thin slots. The Sherline slitting saw holder is designed to mount jeweler’s slitting saw blades with 1/2” diameter mounting holes. Saw blades are available through a large network of industrial suppliers. (See our “cutting tools price list” for sizes offered by Sherline.) The slitting saw holder has a #1 Morse taper and mounts directly into the spindle. A drawbolt and thrust washer are also included.

NOTE: As with almost all metal cutting operations, a small amount of cutting fluid is helpful when using a slitting saw.
A rotary table used in conjunction with a mill allows a machinist to produce virtually any part he can design. The only limits are size, not complexity.

Sherline’s rotary table is a precision piece of equipment that has been designed to work with Sherline’s vertical milling machines; however, it can be used on any mill whenever the compact 4-inch size would be an advantage.

The table is 2” (51 mm) high and 4” (102 mm) in diameter. The main components have been machined from solid bar stock steel, and the complete unit weighs seven pounds. The table has been engraved with a laser, giving sharp and precise lines every 5°, numbered every 15°. These lines are calibrated with the 72-tooth worm gear that is driven by the handwheel. The handwheel is divided into 50 parts, making each line on the handwheel 1/10°. This allows a circle to be divided into 3600 increments without interpolation. Seventy-two revolutions of the handwheel rotate the table one revolution.

The table T-slots are identical to those used on the Sherline mill and lathe, making the vast line of Sherline tooling available for use with this product. Two hold-down clamps and T-nuts are provided with the table. Also included is an adapter that allows Sherline’s 3- and 4-jaw chucks to be mounted directly to the rotary table. An optional right angle attachment is available (#3701) to mount the table in the vertical position to further increase its versatility. (See illustration at right.) With the table mounted vertically, an adjustable optional right angle tailstock (#3702) can be mounted to the mill table. It is used to support and stabilize the other end of long work held in a chuck or otherwise attached to the rotary table. A tilting angle table (#3750) can be used in place of the #3701 right angle fixture as it also aligns with the #3702 tailstock in the vertical position.

The rotary table has a unique table locking mechanism that is positive and does not move the table as it is locked. To maintain accuracy and frictionless movements a ball bearing is used. Worm gears are factory greased and the drives need only to keep out chips and dirt. An oiler is easily accessible to facilitate lubrication of the table. The appearance is instrument quality with a black oxide base, precision ground finishes and laser-engraved markings.

As with all Sherline tools, the illustrated instructions are very useful. The 8-page manual covers the basics of rotary table use and takes the user through a typical project.

Machinists who wants to take their capabilities to the ultimate levels should consider purchasing and learning to use a rotary table. The Sherline rotary table is an extremely precise and well-built piece of equipment that is sized to fit with our product line. It can also be useful on larger equipment when its compact size is called for. A computer controlled version #3730 is shown on page 38.

Sherline has taken their P/N 3700 manual 4” rotary table and applied a stepper motor mount with dampened coupling in place of the handwheel. The mount accepts a NEMA #23 frame size stepper motor for CNC control. This allows the table to be used as a 4th axis with CNC systems that have the capability to drive a rotary axis.

Sherline has taken their accurate and reliable 4” rotary table into the 21st century with the addition of Computer Numeric Control (CNC). Clockmakers or anyone with a need to cut gears, splines or radial hole patterns will find this accessory takes all the headaches out of repetitive indexing operations.

Scherline has taken their accurate and reliable 4” rotary table and applied a stepper motor mount with dampened coupling in place of the handwheel. The mount accepts a #23 frame size stepper motor. Screws are provided for attachment of the motor. Also included is a handwheel that can be used on the rear shaft of a dual-shaft stepper motor if manual control is desired for simple operations.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation Speed</td>
<td>1°/sec to 50°/sec maximum (programmable)</td>
</tr>
<tr>
<td>Resolution</td>
<td>28,800 steps per revolution (±.006° per step)</td>
</tr>
<tr>
<td>Backlash Compensation</td>
<td>Programmable</td>
</tr>
<tr>
<td>Stepper Motor</td>
<td>130 oz-in, 400 steps per revolution</td>
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<tr>
<td>Power Supply Input</td>
<td>115 VAC 50/60 Hz</td>
</tr>
<tr>
<td>Power Supply Output</td>
<td>24V, 1 Watt</td>
</tr>
</tbody>
</table>

**4” CNC Rotary Table with Stepper Motor #3730**

The Sherline 4” rotary table has been adapted for CNC use with the application of a stepper motor mount in place of the standard manual handwheel. The mount accepts a #23 frame size stepper motor. Screws are provided for attachment of the motor. Also included is a handwheel that can be used on the rear shaft of a dual-shaft stepper motor if manual control is desired for simple operations.
Mill Headstock Spacer Block #1287

On the mill, having the option to extend the headstock further out can sometimes allow surfaces to be machined that could not otherwise be reached without breaking down the setup and re-clamping the part. The spacer moves the spindle out an additional 1-1/4" (31.8 mm). Precisely machined keyways keep the headstock accurately aligned. An additional precision ground alignment key is included.

Mill Double Headstock Spacer #1289

Having the option to extend the headstock further out can sometimes allow surfaces to be machined that could not otherwise be reached without breaking down the setup and re-clamping the part. The spacer moves the spindle out an additional 2-1/2". This is twice as far as the standard P/N 1297 spacer block. Making it in one piece rather than stacking up two 1297 spacer blocks increases the mill’s rigidity and accuracy. In many cases, it is much easier to increase your machinable surface area by using this spacer than to re-clamp the part. Precisely machined keyways keep the headstock accurately aligned. A precision ground alignment key is included.

Chuck Adapters for Rotary Table #37093 (1/2-20), #37092 (14 x 1 mm), and #37091 (12 x 1 mm)

P/Ns left to right: #37093, #37092, #37091, #37090, #37094

Now you can attach a 1/4" or 3/8" drill chuck, an older Unimat chuck with 12 x 1 mm or 14 x 1 mm threads, or a 1/2-20 Sears chuck to your Sherline rotary table. The adapters screw into the 3/8-16 threaded center hole of the table.

Mill Digital Readout with RPM Display #8100 (#8160 Metric)

Most full-size shop mills are available with a digital readout, and now that option is available on Sherline mills too. They are popular because they make your life as a machinist easier.

Readouts on the X-, Y-, and Z-axes can be reset to zero at any time with the push of a button. From there, as you move the handwheels, you can read the table position to three and a half decimal places (000.0”) on the digital readout. (Metric versions read to .01 mm.) You no longer need to count handwheel revolutions or make difficult calculations when cranking in a negative number.

While we were designing the electronics, we went the extra step to include an RPM readout, adding an additional function to the package. The sensors are easy to install and require no modification of your Sherline mill. A two-axis DRO package is also available for the lathe as #8200. (See page 24) A three-axis package for using the lathe with the vertical milling column can be purchased, or a third axis can be added later if you add the vertical milling column to your lathe. For those with both a lathe and a mill, the electronic readout box can be shared between both machines to offer a cost savings if you buy just the additional handwheels and cables for the second machine. At present, the DRO is only available with a 120 VAC power supply. Those operating on 240 volt current will need to provide a converter.

Horizontal Milling Conversion #6100

An easy way to increase the size of work that can be machined on your Sherline 5000- or 5400-series mill is the addition of the horizontal milling conversion. By allowing the vertical column to be mounted in various positions in relation to the table, and with the headstock and spindle rotated 90° into the horizontal position, a tremendous variety of machining possibilities are opened up. Plus, the mill can remain mounted to the conversion base and still operate in its conventional vertical mode as well, providing a very sturdy and vibration-free base.

With the work mounted perpendicular to the table, position “A” allows an area of up to 9” by 6” to be machined without moving the work—a very large work area for a machine of this size! (The 90° angle plate, #3559 can be very useful for this purpose.) A second set of holes allows the spindle to be moved further back so longer tools such as drills or a boring tool can be used. In position “B”, the table is reversed and the column rotated 90° to the table to take advantage of the long X-axis travel (which becomes the Y-axis in this configuration). This position could offer an advantage when drilling a deep hole, for example.

The horizontal milling conversion allows the mill column to be repositioned in two different ways on a sturdy base plate in order to provide greater versatility in set-up and increase the machinable area of the parts being worked on. To the left of the mill is the base of the Z-axis column, which has been cut off to allow a lower positioning of the headstock in relation to the table.

The base is 3/4” thick aluminum 10.5” by 12.5” and is machined and drilled to accept the base on your mill’s
vertical column. The headstock is rotated 90°, and the unit is remounted to predrilled holes in various positions on the conversion plate. The mill’s vertical column base should be modified by cutting off 2” from its height to lower the spindle in relation to the table. (Machines made prior to 1993 will also require a 90° keyway on the Saddle.) This allows the spindle center to go below the top of the table, meaning you can machine the edge of material overhanging the table. The cutoff piece from the column is machined flat and re-tapped to be used as a spacer block to return the mill to its normal height.

Alignment bars are provided with the conversion so that once the base and column are mounted and squared up, they can be quickly and accurately remounted in the future. Alignment bars, a hex wrench and all necessary fasteners are provided to set up the mill in all of the possible configurations. The plate is mounted on four rubber feet for quiet operation. Complete instructions are provided.

**Note:** The horizontal milling conversion was not designed to be used with the 2000-series 8-directional columns. The additional flexibility and versatility of that mill makes this attachment unnecessary.

**Rotary Column Attachment #3500**

The headstock on the Sherline mill can be rotated so that milling cutters can be used at an angle. However, once the spindle is pivoted, it no longer aligns with the movement of the Z-axis, and the handwheel cannot be used to advance the spindle for drilling. Parts to be drilled at an angle must be mounted to the table on a tilting table. For some larger parts this may not be possible. The rotary column attachment goes between the mill column and base to allow the entire column to be rotated to any angle up to 90° in either direction. Now the Z-axis handwheel advances the spindle along its axis, allowing angle drilling to be accomplished on parts mounted square to the table. A laser-engraved collar and magnifying scribe lens make it easy to set angles accurately. No additional holes are required for retrofit. (Not required on 2000- or 5800-series mills or multi-direction vertical milling columns, as this function is already designed into those columns.)

**Boring Head #3061 (#3045 Metric)**

It is hard to say what is the most important accessory for a milling machine. It really depends on the type of work you want to do, but certainly the boring head must rank highly in importance for any shop. What makes it so important is that it provides a means of accurately machining almost any size hole. It would be very impractical to own drills and reamers for all the possible hole sizes up to 1.75” (44 mm) in diameter. Another point to consider is the fact that larger diameter drills and reamers could not be adapted to fit on a mini size machine tool. They are unnecessary too, because the boring head is infinitely adjustable so it can machine all of these holes to a high level of accuracy. It is also capable of machining stepped holes for seating bearings and internal grooves for lock rings. Boring tools cut like lathe boring tools with the difference being the tool moves rather than the work. The Sherline boring head comes complete with drawbolt, thrust washer and a hex key for making adjustments. The cutting tool is not included. The boring head is designed for use with standard 3/8” (10 mm) diameter shank boring tools. For best results, the length of the tools should be kept to a minimum. You will find that a short tool gives you less chatter and it will be easier to hold tolerances. Includes drawbar and washer.

**Boring Tools #3061, #3063 and #3069**

These high-speed steel cutting tools are designed for use with the Sherline boring head. They have a 3/8” (9.5 mm) diameter shank. The cutting end of #3061 is designed to work in a 1 1/4” (6.4 mm) minimum hole with a maximum depth of .600” (15.2 mm). #3063 is designed to work in a 5/16” (7.9 mm) minimum hole with a maximum depth of 1.00” (25 mm). #3064 also requires a 5/16” minimum but has a longer 1.5” (38 mm) reach. If desired, they can easily be ground down to work in a smaller hole. These tools can also be used in the round hole of the #7600 tool post on a lathe for boring.

**Mill XY Bases**

The Sherline vertical mill can be purchased without the headstock and motor/speed control. This allows lathe owners to swap the headstock and motor/speed control from their lathe to the mill in approximately 60 seconds. This package offers a savings of about 30% when compared to the price of our standard mill, and 10% compared to the cost of a vertical milling column and XY base. Part numbers of the various XYZ Bases are as follows:

- #5210 (Inch) or #5215 (Metric) - Standard 10” XY base from 5000-series mill.
  Travel: X=8.65” (220 mm), Y=3.0” (76 mm), Z=6.25” (159 mm)

- #5220 (Inch) or #5225 (Metric) - 10” XY base with adjustable “zero” handwheels from the 5500-series mill.
  Travel: X=8.65” (220 mm), Y=3.0” (76 mm), Z=6.25” (159 mm)

- #5420 (Inch) or #5425 (Metric) - 12” deluxe XY base with adjustable “zero” handwheels and laser-engraved table and base from the 5000-series mill.
  Travel: X=11.81” (300 mm), Y=5.5” (139 mm), Z=6.25” (159 mm)

- #5430 (Inch) or #5435 (Metric) - 14” deluxe XY base with adjustable “zero” handwheels and laser-engraved table and base from the 5000-series mill.
  Travel: X=14.30” (364 mm), Y=7.0” (178 mm), Z=6.25” (159 mm)

- #5800 (Inch) or #5805 (Metric) - 18” deluxe base with adjustable “zero” handwheels and table and base from the 5800-series NexGen mill.
  Travel: X=13.65” (347 mm), Y=11.0” (279 mm)

**Index Block Set #2045**

For simple indexing jobs, we offer a set of two blocks. An indexing set offers an easy way to index simple hole patterns or do milling on 2, 3, 4, 6 or 8 sides. Something similar to this has been around in machine shops for years utilizing 5C collets, but we adapted this set to take all the tools and accessories that will fit the spindle of your Sherline tools. A hexagonal block allows indexing to three or six sides, and an octagonal block allows indexing to two, four or eight sides. By mounting your part on the block with a collet or chuck, the block is held in a mill vise on the table. Once located, the first operation is completed. Then the vise is loosened, the block is indexed to the next side, the vise is retightened and the next operation is completed. It is quite simple, but very effective for the most common patterns you will probably do repeatedly, such as the six flats on a hex nut. A drawbolt is available (#11681) to hold WW collets in the #1 Morse taper. A 3/4-16 thread accepts Sherline chucks.
Drill Chuck #3072

The Sherline milling machine makes an excellent precision drilling machine. Accurate positioning on both the X- and Y-axes provides a simple way to locate holes, and although the standard Sherline mill does not have a quill feed, the Z-axis feed screw does give you micrometer accuracy for depth control. The drill chuck is similar to the tailstock chuck used with the lathe in that it holds drill bits from 1/32" to 1/4" (6.4 mm). It is mounted on a #1 Morse arbor that has been drilled and tapped for a drawbolt. This prevents the arbor from working loose during use. The Sherline drill chuck comes complete with key, #1 Morse arbor, drawbolt and thrust washer.

A 5/32" drill chuck is also available for use in the mill. #1010 has a #1 Morse adapter pressed in and includes a drawbolt and washer. It is capable of holding drills as small as #80. The #3073 3/8" Jacobs chuck can also be used on the mill (see chucks on page 11). Includes drawbar and washer.

NOTE: These chucks are NOT designed for lateral loads and should not be used for holding end mill cutters. End mills should be held in a collet or end mill holder.

Drill Chuck Holder #3074

This chuck holder was designed to help CNC users change tools quickly on the mill. End mill holders with a preset diameter and tool length can be entered into the CNC program's tools table. Settings are retained when the tool is returned to the spindle. This works the same way for a drill chuck with a drill bit mounted in it. The 3/8-24 thread accepts a 1/4" or 3/8" chuck.

10,000 RPM Spindle Pulley Set #4305

The standard Sherline pulley set is geared to turn the spindle at a maximum speed of 2800 RPM. This offers a speed range sufficient for most lathe and mill operations while taking maximum advantage of the motor's torque. However, we often get requests for higher turning speeds from people running small diameter cutters for jobs like engraving. For this purpose we have developed a pulley set that is capable of turning the spindle at speeds up to 10,000 RPM. Naturally, when geared to turn such a high speed, power is somewhat reduced, but this is not normally a problem with small cutters or when turning small shafts. In the second belt position, maximum speed is 2200 RPM, which is about the same as the normal pulley set when you need more torque. Installation takes about 10 minutes.

Sensitive Drilling Attachment #1012

Tiny drill bits are expensive and easily broken. This attachment gives you the proper feel for hand feeding when drilling small holes while also speeding up the process. The shaft fits inside the spindle and the mount threads onto the spindle thread in seconds. A 5/32" Jacobs drill chuck is pushed down by hand using a knurled collar that rides on ball bearings. A spring inside the shaft returns the chuck to the retracted position when pressure is released. You get precise control of the feed with plenty of feel for the cut when the precision of the Z-axis handwheel is not needed for depth control.

Sherline Hex T-Driver #3020

This tool is used in place of the standard 5/32" hex key that is furnished with your lathe or milling machine. The major improvements on the Sherline tools and accessories are made with this size hex key. Its large black plastic handle is more comfortable and provides better leverage than the shorter standard key. Also, because of its larger size, it is easier to spot on your workbench when you want to use it. This T-driver will quickly become your most-used tool.

Mill Accordion Way Cover Set #5090 and #5096

The advent of CNC has increased the demand for the ability to engrave type and fine patterns. This air grinder comes with its own headstock that replaces the standard mill DC motor headstock. It is driven by your 1.5 HP compressor and needs only 90 PSI of line pressure. Included in the kit are 3 carbide engraving tips, air lines, lubricating oil and several grinding tips.

Drill Chuck Holder #3074

This chuck holder was designed to help CNC users change tools quickly on the mill. End mill holders with a preset diameter and tool length can be entered into the CNC program’s tools table. Settings are retained when the tool is returned to the spindle. This works the same way for a drill chuck with a drill bit mounted in it. The 3/8-24 thread accepts a 1/4" or 3/8" chuck.

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The standard Sherline pulley set is geared to turn the spindle at a maximum speed of 2800 RPM. This offers a speed range sufficient for most lathe and mill operations while taking maximum advantage of the motor’s torque. However, we often get requests for higher turning speeds from people running small diameter cutters for jobs like engraving. For this purpose we have developed a pulley set that is capable of turning the spindle at speeds up to 10,000 RPM. Naturally, when geared to turn such a high speed, power is somewhat reduced, but this is not normally a problem with small cutters or when turning small shafts. In the second belt position, maximum speed is 2200 RPM, which is about the same as the normal pulley set when you need more torque. Installation takes about 10 minutes.

Sensitive Drilling Attachment #1012

Tiny drill bits are expensive and easily broken. This attachment gives you the proper feel for hand feeding when drilling small holes while also speeding up the process. The shaft fits inside the spindle and the mount threads onto the spindle thread in seconds. A 5/32" Jacobs drill chuck is pushed down by hand using a knurled collar that rides on ball bearings. A spring inside the shaft returns the chuck to the retracted position when pressure is released. You get precise control of the feed with plenty of feel for the cut when the precision of the Z-axis handwheel is not needed for depth control.

Sherline Hex T-Driver #3020

This tool is used in place of the standard 5/32" hex key that is furnished with your lathe or milling machine. The major improvements on the Sherline tools and accessories are made with this size hex key. Its large black plastic handle is more comfortable and provides better leverage than the shorter standard key. Also, because of its larger size, it is easier to spot on your workbench when you want to use it. This T-driver will quickly become your most-used tool.

Mill Accordion Way Cover Set #5090 and #5096

The advent of CNC has increased the demand for the ability to engrave type and fine patterns. This air grinder comes with its own headstock that replaces the standard mill DC motor headstock. It is driven by your 1.5 HP compressor and needs only 90 PSI of line pressure. Included in the kit are 3 carbide engraving tips, air lines, lubricating oil and several grinding tips.
For years Sherline lathes and mills have been available in “CNC-ready” configuration as they still are for the application of controls made by others; however, many customers expressed a desire to be able to buy a complete, turnkey system from one reliable supplier. Now Sherline offers just such a system, and at a great price too. Each CNC system includes a lathe or mill with stepper motors mounted on each lead screw axis, a new computer with keyboard, mouse and 4-axis driver box, connecting cables that plug into each stepper motor and pre-installed Linux CNC operating system and G-code control program. All you need to supply is a monitor. Any Sherline machine or shop package can be purchased this way.

Your CNC Options

Sherline offers machines in various states of completeness depending on your budget and/or knowledge of putting together a working CNC system. Here are your options:

Retrofit kits—Any existing Sherline machine can have stepper motor mounts added in place of the handwheels. Complete retrofits with computer and motors are available as well.

CNC-Ready—You can order any new Sherline machine with stepper motor mounts installed. You add the stepper motors, controls, software, computer and other components to turn it into a complete CNC system.

Complete CNC—Like the system shown above, you can now buy a complete turnkey system with everything you need to get started. All our standard accessory packages can also be ordered. For example, you could order a CNC mill with the “A” accessory package, or you could order a complete shop package including lathe, mill and rotary table all fitted with stepper motor mounts, stepper motors, computer, drivers and all the tools and accessories.

About Linux and LinuxCNC

Operating System (OS)—Linux is an operating system like Windows®, except it offers some advantages: 1) It is open source, which means we don’t have to charge you extra for it. This keeps our system cost down. 2) It operates in “real time” and can handle multi-tasking, so the information stream to your stepper motors is uninterrupted and glitch-free, and 3) It is graphically almost identical to Windows, so most operators familiar with Windows will not have any trouble adapting to a new environment.

LinuxCNC—According to the official definition, “The Enhanced Machine Controller (EMC) program is a National Institute of Standards and Technology (NIST) effort to develop, standardize and verify a specification for interfaces to open architecture controllers.” In simpler terms, EMC2 is a free but highly capable open source CNC control program. Because this sophisticated program is available at no charge, we are able to pass the savings on to you by eliminating one of the biggest sources of expense in most CNC systems—the operating system and software.

Features:
- Utilizes industry standard g- and m-codes that you write yourself or generate from a CAD/CAM program (not included) that generates G-code
- Features powerful NEMA 23 size, 136 oz-in, dual shaft stepper motors
- Capable of accuracy to 0.001” (0.01 mm) or better
- Tool offsets—Enter the tool diameter in the “tools” table and the computer calculates how far to offset the tool path so the side of the tool cuts the desired path
- Accepts inch or metric dimensions using G20, G21
- Instructions by Joe Martin—the most practical, concise and down-to-earth you will find on the subject of CNC
- Priced for the hobbyist but suitable for running small prototype or limited production work
- One-year warranty on lathes, mills, and accessories for home (non-production) use
- 90-day warranty on CNC and computer-related components

Part Numbers for CNC systems

- #8400/#8401—4000-series lathe with computer (2 axes)
- #8410/#8411—4400-series lathe with computer (2 axes)
- #8500/#8501—5400-series mill with computer (3 axes)
- #8510/#8511—2000-series mill with computer (3 axes)
- #8520/#8521—5800-series mill with computer (3 axes)
- #8600/#8601—Complete CNC shop package with 4400-series lathe, 5400-series mill, 4th axis rotary table and accessories with computer (2 axes—4th axis, 4 axes—mill)
- #8610/#8611—Same as above but with 2000-series mill instead of 5400-series mill.
- #8620/#8621—Same as above but with 5800-series mill instead of 5400-series mill.

* See page 47 for accessories that come with a complete shop package.

A 2-amp, NEMA #23 stepper motor, #67127, comes standard on all CNC machines.

A 2-amp, high-torque stepper motor, #67126, is available as an option for CNC machines.

The #8760 Driver Box runs up to four stepper motors and plugs into the parallel port of your own computer. It includes cables, power supply and Linux/EMC software and is now fuse protected.
The Ultimate Machine Shop package shown above includes a long-bed lathe and deluxe mill plus all of the most important accessories most people choose when setting up a shop. The package can be purchased with either the 5400-series, 2000-series, or 5800-series mill. It can also be ordered with digital readouts or stepper motor included with 8600/8601 and 8220/8621 CNC shop packages.

Buying tools as a package offers two advantages. First, we have made it easier by helping you with the selection of the most important accessories you need. In addition, we have reduced the price of each package to save you money compared to buying all the items individually. (Accessories are prepackaged for shipment, so we cannot make substitutions at the discounted price. Additional accessories may be purchased separately.)

Lathe and Mill Accessory Packages

Sherline Accessories Shop Guide

- Ultimate Package with #5400-series mill
- Ultimate Package with #2000-series mill
- Ultimate CNC Package above with 5400-series mill
- Ultimate CNC Package above with 5800-series mill
Q: How accurate are Sherline tools?
A: We can turn a .015" (.4 mm) diameter on the lathe. If you need it, we can make a tool of this compact size.

Q: How heavy a cut can I make on the Lathe?
A: Free-machining steel you could take that same .015" (.4 mm) diameter and take cuts of up to .060" (1.5 mm) on 3/4" diameter stock.

Q: What is the power of the motor and the speed range?
A: The 4000-series standard lathe, 8" between centers 4400-series standard lathe, 17" between centers

Q: What is the speed control range?
A: The electronic speed control offers a range of 70 to 2800 RPM requires no changes of gears or adjustment.
**TECHNICAL SPECIFICATIONS—MILLS**

<table>
<thead>
<tr>
<th>Vertical Mills</th>
<th>5000 (5100)</th>
<th>5400 (5410)</th>
<th>2000 (2010)</th>
<th>5800 (5810)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. clearance (table to spindle)</td>
<td>8.00&quot; (203 mm)</td>
<td>8.00&quot; (203 mm)</td>
<td>9.00&quot; (229 mm)</td>
<td>14.00&quot; (356 mm)</td>
</tr>
<tr>
<td>Thrust (no spacer)</td>
<td>2.25&quot; (56 mm)</td>
<td>2.25&quot; (56 mm)</td>
<td>Adjustable (Adjustable)</td>
<td></td>
</tr>
<tr>
<td>Thrust (w/ headstock spacer) optional</td>
<td>3.50&quot; (89 mm)</td>
<td>Adjustable (Adjustable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travell. X-axis (with stop)</td>
<td>8.65&quot; (220 mm)</td>
<td>8.65&quot; (220 mm)</td>
<td>8.65&quot; (220 mm)</td>
<td>13.65&quot; (347 mm)</td>
</tr>
<tr>
<td>Travell. Y-axis</td>
<td>3.09&quot; (78 mm)</td>
<td>5.00&quot; (127 mm)</td>
<td>7.00&quot; (178 mm)</td>
<td>11.00&quot; (279 mm)</td>
</tr>
<tr>
<td>Travell. Z-axis</td>
<td>6.25&quot; (159 mm)</td>
<td>6.25&quot; (159 mm)</td>
<td>5.38&quot; (137 mm)</td>
<td>9.38&quot; (238 mm)</td>
</tr>
<tr>
<td>Hole through spindle</td>
<td>40° (10 mm)</td>
<td>40° (10 mm)</td>
<td>40° (10 mm)</td>
<td>40° (10 mm)</td>
</tr>
<tr>
<td>Spindle nose taper</td>
<td>#1 Morse</td>
<td>#1 Morse</td>
<td>#1 Morse</td>
<td>#1 Morse</td>
</tr>
<tr>
<td>Spindle runout of Morse taper</td>
<td>.0005&quot; or less</td>
<td>.0005&quot; or less</td>
<td>.0005&quot; or less</td>
<td>.0005&quot; or less</td>
</tr>
<tr>
<td>Handwheel graduations</td>
<td>.001&quot; (0.01 mm)</td>
<td>.001&quot; (0.01 mm)</td>
<td>.001&quot; (0.01 mm)</td>
<td>.001&quot; (0.01 mm)</td>
</tr>
<tr>
<td>Electronically controlled spindle speed range</td>
<td>70 to 2800 RPM</td>
<td>70 to 2800 RPM</td>
<td>70 to 2800 RPM</td>
<td>70 to 2800 RPM</td>
</tr>
<tr>
<td>Width overall*</td>
<td>14.75&quot; (375 mm)</td>
<td>15.00&quot; (381 mm)</td>
<td>15.00&quot; (381 mm)</td>
<td>20.00&quot; (508 mm)</td>
</tr>
<tr>
<td>Depth overall*</td>
<td>11.75&quot; (298 mm)</td>
<td>14.00&quot; (356 mm)</td>
<td>22.35&quot; (568 mm)</td>
<td>23.13&quot; (588 mm)</td>
</tr>
<tr>
<td>Height overall (Max.*)</td>
<td>20.75&quot; (527 mm)</td>
<td>20.75&quot; (527 mm)</td>
<td>23.30&quot; (590 mm)</td>
<td>24.50&quot; (622 mm)</td>
</tr>
<tr>
<td>Table size</td>
<td>2.75&quot; x 13.00&quot;</td>
<td>2.75&quot; x 13.00&quot;</td>
<td>2.75&quot; x 13.00&quot;</td>
<td>2.75&quot; x 18.00&quot;</td>
</tr>
<tr>
<td>(70 mm x 330 mm)</td>
<td>(70 mm x 330 mm)</td>
<td>(70 mm x 330 mm)</td>
<td>(70 mm x 330 mm)</td>
<td>(70 mm x 330 mm)</td>
</tr>
<tr>
<td>Hold down provision</td>
<td>2 T-slots</td>
<td>2 T-slots</td>
<td>2 T-slots</td>
<td>3 T-slots</td>
</tr>
<tr>
<td>Shipping weight</td>
<td>33 lb (14.5 kg)</td>
<td>36 lb (16.3 kg)</td>
<td>38 lb (17.2 kg)</td>
<td>50 lb (22.7 kg)</td>
</tr>
<tr>
<td>Movements in addition to X, Y- and Z-axes Headstock rotation</td>
<td>90° (L/R)</td>
<td>Headstock rotation</td>
<td>90° (L/R)</td>
<td>Headstock rotation</td>
</tr>
<tr>
<td>Column rotation</td>
<td>N/A</td>
<td>(90° L/R)</td>
<td>N/A</td>
<td>(90° L/R)</td>
</tr>
<tr>
<td>Column pivot</td>
<td>N/A</td>
<td>N/A</td>
<td>(90° Fwd/Bk)</td>
<td>(10° Fwd/Bk)</td>
</tr>
<tr>
<td>Column swing</td>
<td>N/A</td>
<td>N/A</td>
<td>(90° Fwd/Bk)</td>
<td>(90° Fwd/Bk)</td>
</tr>
<tr>
<td>Column travel</td>
<td>N/A</td>
<td>N/A</td>
<td>(In/Out) 5.5&quot; (140 mm)</td>
<td>(In/Out) 5.5&quot; (140 mm)</td>
</tr>
</tbody>
</table>

**INDUSTRIAL PRODUCTS DIVISION**

If You Can Imagine It We Can Build It!

Sherline Products Inc. has been making precision miniature machine tools and accessories for over 25 years. Though advertising for our versatile tool line has been directed toward hobbyists, over half our tool sales go to industrial clients. The Industrial Products Division was set up to deal specifically with the problems faced by tooling designers. By specializing in the production of tools and components in a specific price range, we can purchase and manufacture in quantities that keep costs down. Sherline’s experience in the machine tool line brings with it many advantages for you, the customer. If the size of our components fits your needs, why pay more?

The Experience Advantage

Sherline’s manufacturing volume means we can buy materials and parts in large quantities. Many are shared with our miniature machine tool line. This quantity savings is passed on to you.

Made in Our Own Factory in the USA

We manufacture all our own parts. This means you not only get high quality, but you also get fast delivery. Stock items ship within 48 hours of your order, worldwide, and there is no minimum order. Sherline has built its reputation on outstanding customer service, and the Industrial Division continues that tradition.

Huge Accessory Line Available

Our industrial components are designed to take advantage of the extensive and versatile accessories we have developed for our machine tool line. Chucks, collets, vises, tilting angle tables, rotary tables, clamps...all will work with the T-slots and spindles on the industrial components.

The Design Advantage

Sherline components are designed to work together in a “modular” fashion. They can be combined in a number of ways to produce a variety of movements at very low cost. If you don’t need long travels, why spend more?

Manual or CNC, Inch or Metric

Sherline machine slides are offered in both manual and CNC-ready configurations. The CNC coupling features two ball bearings with an adjustable preload nut to eliminate end play. Each slide is also available in your choice of either inch or metric lead screws and handwheel graduations.

Industrial Headstocks and Spindles

Industrial spindles are offered in several configurations with pulleys for “V” belt or timing-belt drives. They can be ordered with #1 Morse internal tapers or ready to accept an ER-16 collet. All Sherline Industrial spindles feature lifetime lubricated bearings with adjustable preload.

We Take Requests

If you have a machine or a tool that we make, but you want it customized, give us a call. We may have already made just what you need for another customer; we often make a few extras of these custom tools. If we don’t have the perfect part, you can speak with one of our technicians and perhaps we can accommodate your needs. We look forward to working with you.

Visit the Sherline Industrial Products Division website at: www.SherlineIPD.com

**INDUSTRIAL PRODUCTS DIVISION**

**SHERLINE INDUSTRIAL PRODUCTS DIVISION**

Typical Components—Machine Slides, and Industrial Headstocks and Spindles

<table>
<thead>
<tr>
<th>Part Number:</th>
<th>Inch (Metric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 6552 (6553) CNC</td>
<td></td>
</tr>
<tr>
<td>P/N 6545 (6546) CNC</td>
<td></td>
</tr>
</tbody>
</table>

**NEW!**

CNC Chucker Lathe

Ball Screw/Stepper motors

3C Collet headstock

Powerful 40V motor with electronic speed controller

Two, 2-amp high torque stepper motors

More Available—Shop Online!

Visit the Sherline Industrial Products Division website at: www.SherlineIPD.com
Many of our customers have asked if we will ever use ball screws in any of our machines, due to their higher efficiencies. We are proud to announce that we are introducing ball screws in our new Chucker Lathe, available exclusively on our Industrial Products Division website. We will also be offering ball screws on our CNC mills and lathes in the near future. These new machines will also include 2-amp, high-torque stepper motors (see spec chart below). We are currently waiting for our shipment of ball screws to arrive (October – November 2017). If you are interested, contact us via email at sherline@sherline.com and we will put you on the interested list.

**Lead Screws Explained**

Lead screws translate rotational motion to linear motion. There are three types of lead screws in the machining world: ACME screws, ball screws, and roller (planetary) screws. The differences are in the thread shape and the design and operation of the matching nut. For brevity’s sake, we will discuss only the ACME and ball screws in this post.

Sherline uses rolled “V” thread lead screws, which is similar in shape and function to the ACME thread. The “V” thread shape generates a bit less force than the ACME thread shape. The ACME thread is also more resilient to chips and debris. We use a pair of oppositely loaded brass nuts to compensate for backlash, which adds friction. The thread profile shape of an ACME screw is trapezoidal, which offers high strength (see pictures for reference).

The nut has the same thread, letting ball bearings fit between the two grooves to transmit force and relative motion. The circulating balls travel inside the thread form of the screw and nut, and balls are recirculated through various types of return mechanisms. Low friction in ball screws yields high mechanical efficiency compared to other lead screw alternatives, and efficiencies can range from 70% to 95%. While reducing friction, ball screws can operate with some preload, effectively eliminating backlash (slop) between input (rotation) and output.

**Ball Screws Explained**

Ball screws use circular or ogival (Gothic arch) threads. The nut has the same thread, letting ball bearings fit between the threads of a rolled ball screw.

### Threads of a rolled ball screw

**Sherline Ball Screw Specifications**

- **Rolled Ball Screw with BSH Nut** 10mm Diameter, 2mm Lead, C7 Accuracy, P1 Preload. The linear accuracy is 50 micrometers/300mm (0.019/11.811”).

### High-Torque Stepper Motor Specifications

- **Step Angle** 1.8°/full step
- **Step Angle Accuracy** ±5%
- **Number of Phase** 4
- **Rated Voltage** 4.5V DC
- **Rated Current** 2.0 A
- **Holding Torque** 1.35 N.m (Newton meter) or 11.94in-lb (inch pound)
- **Weight** 1.0 Kg (2.2 lb.)
- **Axial Force** Fx = 15 N Max., or 3.37 lb Max.
- **Radial Force** Fr = 73 N Max., or 16.86 lb Max.

The tops and bottoms of these hardened steel spacers are accurately ground and come in a variety of heights. Parallels are typically used to raise a part a known distance while keeping it parallel to the table surface during machining. The pieces in this set are 2-1/2” long and 1/16” thick. The set includes five pairs of precision ground steel bars in heights of 1/4”, 3/8”, 1/2”, 5/8” and 3/4”.

**COMING SOON—BALL SCREWS**

**Tabletop Machining by Joe Martin #5301**

Joe Martin’s book gives you not just the “hows,” but also the “whys” of machining practices. Joe was both a hobbyist and a manufacturer, so he was familiar with the needs of both the home shop machinist and the commercial production facility. His insights offer a unique and practical perspective on the equipment and processes of machining at both extremes... from intricate miniature machining projects to full size shop production tools and practices.

Joe’s book details “real world” practices in machining, and gives a good insight into the challenges faced by machinists. For those wishing to design and build their first metal parts, it is a perfect starting point. Sherline tools are featured throughout in the examples, but the rules of machining apply to equipment and projects of all sizes.

Information is given on selecting materials, using a lathe and a mill, using accessories, setting up a home shop, and much more. Several simple projects are provided for beginning machinists. A photo gallery of superb miniature projects will inspire you and show what these small but mighty machines can really do. This is a high quality book that will be equally at home on your coffee table or shop workbench. This book has received many positive reviews from magazine editors and home machinists alike.

• 8-1/2” x 11”, softbound with “lay-flat” binding, full color, 352 pages, 400+ color photos, 200+ illustrations

**Sherline Apparel #AP-1000, #AP-1200, #AP-2000**

Crewneck T-shirts feature “Sherline USA” screen printed across the chest. The casual, short-sleeve T’s are perfect for the shop or everyday wear.

**T-shirt Features:**

- Available in heather gray or black, and women’s cut
- Available in sizes L-XXXL (men), and M-XXL (ladies)
- Cotton/Poly blend (50% cotton, 50% polyester)
Sherline’s modern 66,000 square foot manufacturing facility is located in Vista, California. If you would like to see how we produce our high quality tools at such a reasonable price, we invite you to visit our factory. You will see state-of-the-art equipment, including computer-controlled machining centers and laser engravers producing the extremely accurate parts that make up our lathes, mills and accessories. Vista is located approximately 35 miles North of San Diego. Our showroom display includes examples of all our tools and accessories. Manual and CNC lathes and mills are available for demonstration by appointment. Our showroom is open Monday–Friday, 8 AM to 3 PM and closed holidays.

The Internet Craftsmanship Museum

The Joe Martin Foundation for Exceptional Craftsmanship hosts a spacious new museum in Carlsbad, California that features some of the world’s finest miniature craftsmanship. Featured are engines, models, guns, tools, doll house miniatures and a working machine shop. If you can’t visit in person, there is an online version that is open 24 hours a day. Admission to either museum is free.

www.CraftsmanshipMuseum.com