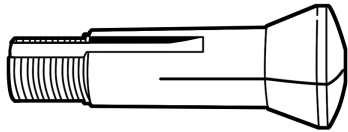


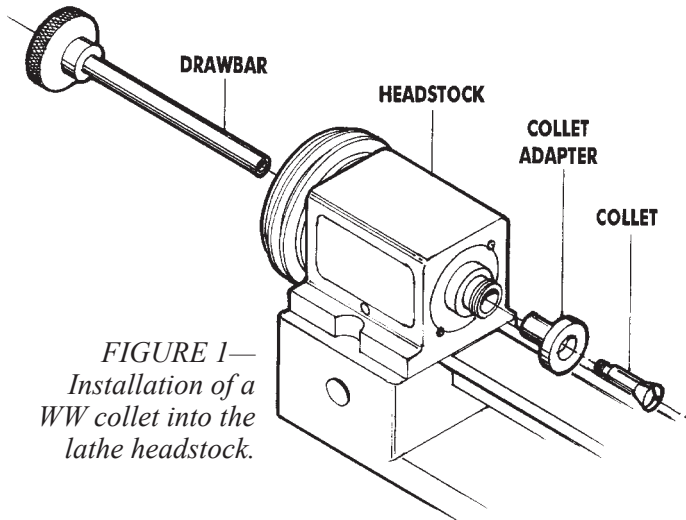
## WW Collets, Sets and Mill Collets



*A typical WW collet. Sherline collets come in sizes from 0.3 mm to 8.0 mm by 0.1 mm increments or from 1/64" to 5/16" by 1/64" increments.*

### Using WW Collets

Collets provide a quick, easy method of mounting cylindrical parts or bar stock in a lathe with a great deal of centering accuracy. A drawbar which passes through the headstock and threads into the back side of the collet is used to draw the collet tightly into the appropriate adapter. (See Figure 1.) The adapter causes the jaws of the collet to close down, gripping the part to be machined. Sherline collet adapter and drawbar (P/N 1161) holds collets with a shaft diameter of .312" to .313". Since many collets are available with shafts of .315" (8 mm) diameter, Sherline now also offers an adapter for that size as well (P/N 11560). Sherline uses the most common thread found on the various versions of WW collets, which is .275-40.

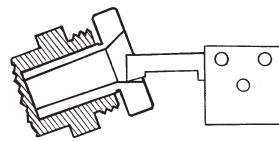


*FIGURE 1—Installation of a WW collet into the lathe headstock.*

**WW Collets vs. Milling Collets**—WW collets differ from milling collets (P/N 3060) in that WW collets have a hole completely through the collet and drawbar. This is so long material can be passed through the headstock and the appropriate portion machined. The maximum diameter material that can pass through the WW collet is 3/16" for American size collets and 4.5 mm for metric size collets. WW collets in larger sizes are sometimes referred to as "pot collets." (See Figure 5.)

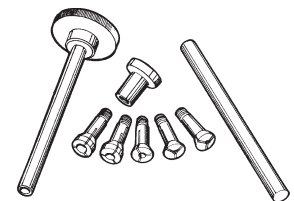
**Collet Accuracy**—Accuracy of WW collets may be improved by taking a light cut across the entrance angle of the collet adapter with the headstock set at 20° using a boring tool as shown in figure 2 below. (Refer also to the instruction manual on taper turning and boring.) In most cases, however, collet adapters are accurate enough and do not require this truing operation. Note that the collets available from Sherline are accurate yet economically priced. Should extreme accuracy beyond the tolerances of these collets be required, even more accurate collets are available from other sources and cost from about \$40 to \$350 or more each. When checking runout of a WW collet it is imperative that you make sure all tapered mating surfaces of the spindle, adapter and collet are perfectly clean and smooth. Collets must also be checked using a good quality gauge pin of exactly the size for that particular collet. Runout is measured as close as possible to the collet face using a 0.0001" (tenths) indicator.

**WW Collet Sizing**—The size of each collet is laser engraved on the collet nose. The engraving is not extremely deep, so care should be taken not to polish off the reference numbers during use or cleaning. Sherline engraves both the fractional inch or metric size plus the decimal equivalent size on the collet nose. Many traditional metric collets are marked only with a one or two digit number. This is an abbreviation of the size in tenths of a millimeter. For example, an instruction calling for a number 15 collet would mean a 1.5 mm collet and a number 3 collet would be 0.3 mm. WW collets go up to a size 80 or 8.0 mm.

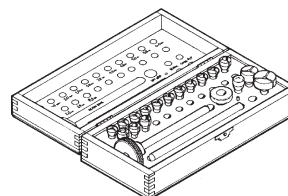


*FIGURE 2—Machining a precise angle on a collet adapter.*

**Special Drawbars**  
A special short drawbar is available for use with the P/N 3200 indexing attachment. It is P/N 1168. A short drawbar for the P/N 2045 index block set is available as P/N 11680.



*FIGURE 3—Collet set with drawbar, adapter and knockout bar (P/N 1160, Inch or P/N 1178, Metric).*



*FIGURE 4—Deluxe Collet Set in Wooden Box, P/N 1162 (Inch) or P/N 1179 (Metric).*

## Sherline WW Collet Part Numbers, Sizes and Decimal Equivalents

WW Collets—Available Inch Sizes			WW Collets—Available Metric Sizes			PART NO.	MM SIZE	DECIMAL	PART NO.	MM SIZE	DECIMAL
PART NO.	FRACTION SIZE	DECIMAL	PART NO.	MM SIZE	DECIMAL	117829	2.9 mm	.114"	117856	5.6 mm	.220"
116001	1/64"	.016"	117803	0.3 mm	.012"	117830*	3.0 mm	.118"	117857	5.7 mm	.224"
116002	1/32"	.031"	117804	0.4 mm	.016"	117831	3.1 mm	.122"	117858	5.8 mm	.228"
116003	3/64"	.047"	117805	0.5 mm	.020"	117832	3.2 mm	.126"	117859	5.9 mm	.232"
116004	1/16"	.063"	117806	0.6 mm	.024"	117833	3.3 mm	.130"	117860*	6.0 mm	.236"
116005	5/64"	.078"	117807	0.7 mm	.027"	117834	3.4 mm	.134"	117861	6.1 mm	.240"
116006	3/32"	.094"	117808	0.8 mm	.032"	117835	3.5 mm	.138"	117862	6.2 mm	.244"
116007	7/64"	.109"	117809	0.9 mm	.035"	117836	3.6 mm	.142"	117863	6.3 mm	.248"
116008*	1/8"	.125"	117810	1.0 mm	.039"	117837	3.7 mm	.146"	117864	6.4 mm	.252"
116009	9/64"	.141"	117811	1.1 mm	.043"	117838	3.8 mm	.150"	117865	6.5 mm	.256"
116010	5/32"	.156"	117812	1.2 mm	.047"	117839	3.9 mm	.154"	117866	6.6 mm	.260"
116011	11/64"	.172"	117813	1.3 mm	.051"	117840*	4.0 mm	.158"	117867	6.7 mm	.264"
116012*	3/16"	.188"	117814	1.4 mm	.055"	117841	4.1 mm	.161"	117868	6.8 mm	.268"
116013	13/64"	.203"	117815	1.5 mm	.059"	117842	4.2 mm	.165"	117869	6.9 mm	.272"
116014	7/32"	.219"	117816	1.6 mm	.063"	117843	4.3 mm	.169"	117870	7.0 mm	.276"
116015	15/64"	.234"	117817	1.7 mm	.067"	117844	4.4 mm	.173"	117871	7.1 mm	.280"
116016*	1/4"	.250"	117818	1.8 mm	.071"	117845	4.5 mm	.177"	117872	7.2 mm	.283"
116017	17/64"	.266"	117819	1.9 mm	.075"	117846	4.6 mm	.181"	117873	7.3 mm	.287"
116018	9/32"	.281"	117820*	2.0 mm	.079"	117847	4.7 mm	.185"	117874	7.4 mm	.291"
116019	19/64"	.297"	117821	2.1 mm	.083"	117848	4.8 mm	.189"	117875	7.5 mm	.295"
116020*	5/16"	.313"	117822	2.2 mm	.087"	117849	4.9 mm	.193"	117876	7.6 mm	.299"
<b>OTHER</b>			117823	2.3 mm	.091"	117850*	5.0 mm	.197"	117877	7.7 mm	.303"
2082	Special Order	to .320	117824	2.4 mm	.094"	117851	5.1 mm	.201"	117878	7.8 mm	.307"
2050	WW Blank	—	117825	2.5 mm	.098"	117852	5.2 mm	.205"	117879	7.9 mm	.311"
2083	WW w/ 1" blank	—	117826	2.6 mm	.102"	117853	5.3 mm	.209"	117880	8.0 mm	.315"
			117827	2.7 mm	.106"	117854	5.4 mm	.213"			
			117828	2.8 mm	.110"	117855	5.5 mm	.217"			

\*Indicates sizes in standard collet sets

### Other Collets

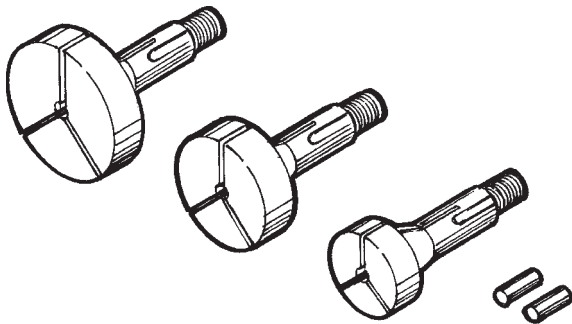


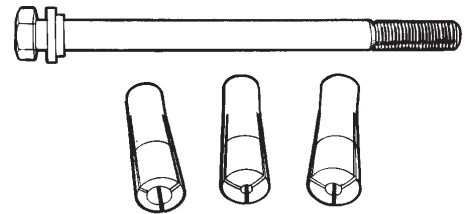
FIGURE 5—"Pot" or "Step" Collets and Dowel Pins in sizes 1-1/4" (P/N 2102), 1" (P/N 2101) and 3/4" (P/N 2100)

### Pot or Step Collets

These collets are designed to hold larger and odd shaped pieces. The collets are split and have a 1/8" hole through. It is your job to bore them to fit your application. This is accomplished by tightening the collet in the lathe on the 1/8" pin supplied and boring the collet to the size needed. The depth of the bore shouldn't exceed .200" (5 mm). The diameter shouldn't exceed .625" (16 mm) on the 3/4", .875" (22 mm) on the 1" or 1.125" on the 1-1/4" Pot Collets.

These same three pot collet sizes are now also available with 10mm "D" shanks for use in watchmaker's lathes with that size spindle. They are numbered as follows: P/N 2103 (3/4"), P/N 2104 (1") and P/N 2105 (1-1/4").

NOTE: Pot Collets are designed to hold material only on the face end, not through the collet.



### Milling Collets, P/N 3060

Sherline Milling Collets are designed to be used with Morse #1 internal taper that is standard on the spindle of both the Sherline lathe and mill. Because of the shallow angle of the Morse #1 taper when the drawbolt is tightened, greater clamping force can be applied when compared to the clamping pressure of WW collets; therefore, we recommend the use of these milling collets for holding miniature size end mills, #1 and smaller center drills (1/8" shank), and assorted other small cutters. Size are available from 3/32" to 1/4" by 1/32nds or in metric sizes of 3, 4 and 6mm.

The milling collet sets include sizes as follows: P/N 3060—1/8", 3/16" and 1/4" or P/N 3090—3mm, 4mm and 6mm.

NOTE: Special size collets can be ordered within the range of .050" to .320" or 1.27 mm to 8.13 mm. Call Sherline for pricing and part numbers. Custom collets are not laser engraved with size. PLEASE ALLOW 3 WEEKS DELIVERY FOR SPECIAL ORDER COLLETS.

Collet blanks (P/N 116000—long head or P/N 1160001—short head) are available. You can machine these yourself to any custom size you require for special projects.

You may also order just the oak wooden box and insert from the deluxe set to create your own custom set. Order part number 1170.