

## Top Jaws for 3- and 4-jaw Sherline Chucks

P/N 1141-1149

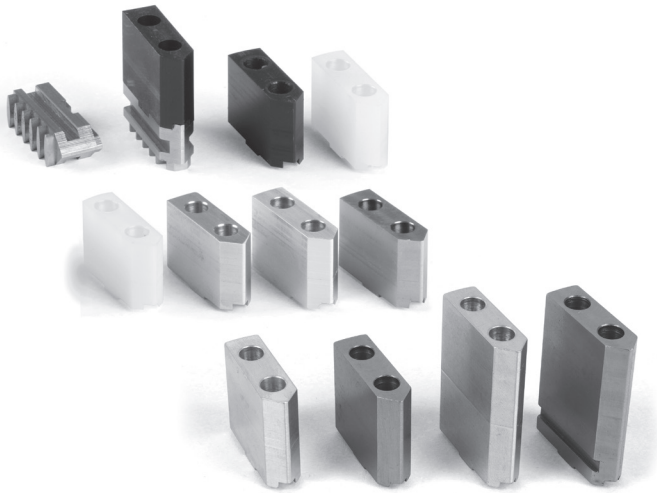


FIGURE 1—Master steel jaws (top left) accept top jaws made of (top, left to right) Delrin®, nylon, (middle row) Teflon®, brass, aluminum, and unhardened steel, (bottom row) tall jaws: 1" aluminum and mild steel, and 1.5" aluminum and mild steel.

### The Purpose and Use of Top Jaws

The addition of master jaws with soft top jaws (which are made from different materials) to our line of Sherline accessories came about when one of our customers from the medical field requested that we make prototypes of these jaws for him. He needed jaws that would not transfer rust or other metal particles to the surface of his medical parts. We have other customers who need soft jaws that will not scratch the anodizing off of their parts. In time many other needs and uses will be discovered for our soft jaws. Whether it is for machining, laser engraving, assembly tools, or other uses, different applications will be found.

Because we make machining tools, our first concern when we design a product is accuracy. In order to achieve higher accuracy we hold the tolerance between the master jaws at the top jaws within .001". This ensures a tight fit for accuracy and repeatability when you



FIGURE 2—Jaw location marks.

change the top jaws. Because of the tight fit, assembly of the top jaw to the master jaw may need the assistance of the two 4-40 socket head cap screws that are used to mount the jaws. Before mounting the top jaws, it would be wise to mark the jaws A, B, C, and D (if using a 4-jaw chuck) to coincide with the jaw location marks as they are engraved on the face of the chuck (see Figure 2). This will allow you to remount the top jaws on the same master jaws the next time that you use them for increased accuracy and repeatability.

### Mounting the Top Jaws

First, press the soft jaws onto the master jaws as far as they will go with average force. If they press on all of the way, you're set. If they don't fully seat themselves, insert the two 4-40 screws and tighten each one a little bit, alternating from one to the other, until the screws are snug and the jaw is fully seated.

Because of this snug fit it may also be hard to remove the top jaws. To remove the jaws, first remove the two screws, then try to wiggle the top jaw from side to side. If the jaw still won't come off, there is a slight gap between the top jaw and the master jaw beneath the center tooth (see Figure 3).

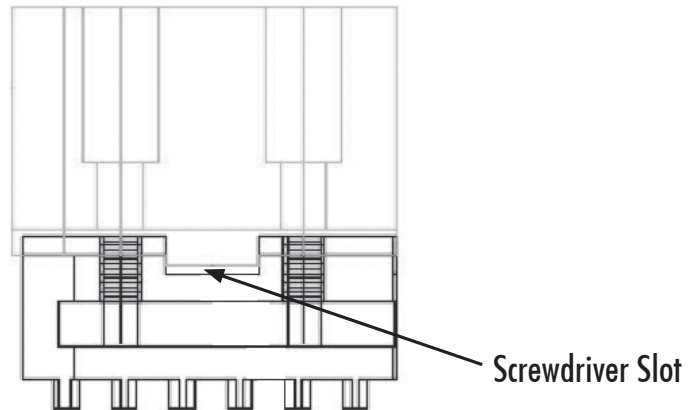


FIGURE 3—This slot is intended to accept a flat-bladed screwdriver to help separate the top and bottom jaws once the screws are removed.

Use a small blade screw driver and pry the top jaw off by inserting the screw driver into the slot and turning the screw driver slightly to the left and right. This should pop the jaw off. If better run out is needed, we suggest that you bore the jaws to a diameter that is .002 or .003 smaller than the diameter of the part that you are holding.

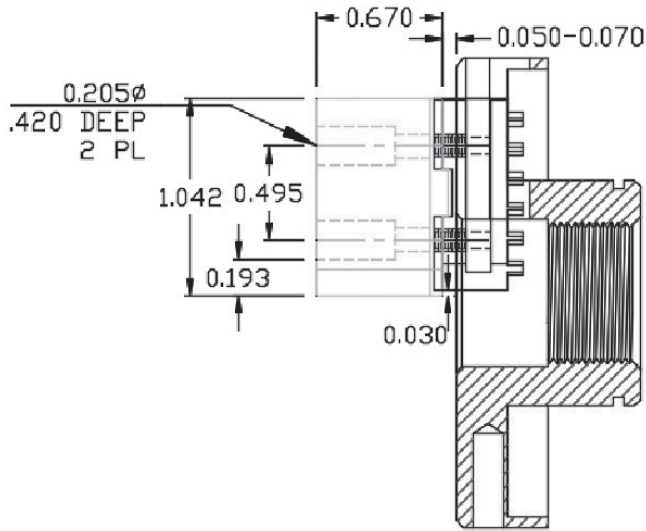


FIGURE 4—This diagram shows the master jaw and top jaw mounted in the chuck.

If you use the jaws as they are, we designed the top jaws so they stick out .030 past the front point of the master jaw. This will allow you to hold parts inside of the chuck without contacting the hardened steel master jaws (see Figure 4).

Our top jaws are designed to fit on all of our master jaws. This includes our 3- and 4-jaw self-centering master jaws (P/N's 11415 and 11445) and our 4-jaw independent master jaw (P/N 11465).

Thank you,  
Sherline Products Inc.

#### Available Sets of Master Jaws & Top Jaws

PART NO.	DESCRIPTION
1141	Hardened Bottom Master Jaws (3-jaw self-centering chucks)
1142	Teflon Top Jaws (Set of 3)
1142-4	Teflon Top Jaws (Set of 4)
1143	Mild Steel 12L14 Top Jaws (Set of 3)
1143-4	Mild Steel 12L14 Top Jaws (Set of 4)
1144	Hardened Bottom Master Jaws (4-jaw self-centering chucks)
1145	Hardened Bottom Master Jaws (4-jaw independent chucks)
1146	Aluminum Top Jaws (Set of 3)
1146-4	Aluminum Top Jaws (Set of 4)
1147	Brass Top Jaws (Set of 3)
1147-4	Brass Top Jaws (Set of 4)
1148	Delrin Top Jaws (Set of 3)
1148-4	Delrin Top Jaws (Set of 4)
1149	Nylon Top Jaws (Set of 3)
1149-4	Nylon Top Jaws (Set of 4)
1138.1-3	1" Tall, Aluminum Top Jaws (Set of 3)
1138.1-4	1" Tall, Aluminum Top Jaws (Set of 4)
1138.15-3	1.5" Tall, Aluminum Top Jaws (Set of 3)
1138.15-4	1.5" Tall, Aluminum Top Jaws (Set of 4)
1139.1-3	1" Tall, Mild Steel 1018 Top Jaws (Set of 3)
1139.1-4	1" Tall, Mild Steel 1018 Top Jaws (Set of 4)
1139.15-3	1.5" Tall, Mild Steel 1018 Top Jaws (Set of 3)
1139.15-4	1.5" Tall, Mild Steel 1018 Top Jaws (Set of 4)