

NOTE: Allowable chuck runout is specified as .003" or less.
Not designed for use above 3000 RPM.

VIDEO INSTRUCTIONS AVAILABLE
For Pie Jaws installation and use demonstration, please visit our YouTube channel at <https://youtu.be/DrviQq4jZEM>

**SHERLINE
PRODUCTS**
INCORPORATED 1974

Pie Jaws for 4-Jaw Self-Centering Chuck

P/N 1076C-PIE

The Purpose of a Chuck with Pie Jaws

We decided to make our pie jaws for our four jaw self-centering chuck after a request by David Lindow (the owner of Lindow Machine Works, Maker of Modern Rose Engine Lathes, <https://lindowmachineworks.com/lindow-rose-engine-menu/>). We were skeptical at first because we didn't believe we would sell enough to make it worthwhile. Then we checked out David's website and a few of his articles from the Lindow White Rose Engine News. We were very impressed by the rose engine lathe and the ornamental woodwork that was made on it. The machine is a mechanical work of art that creates beautiful pieces of art in wood. We decided then that we wanted to build something that could be used on one of these beautiful machines, and if the jaws and the chuck were made well enough, we would sell enough to make it worthwhile. In addition to David's request, we had also received several requests from our Horological customers who were looking for a chuck similar to the Swiss made watchmaker scroll chuck.

NOTE: These jaws are designed to be used on our Nickel/Teflon coated chuck P/N 1076C only. (See paragraph #4 below.)

Installing and Using the Pie Jaws

We designed our pie jaws in both form and function after the Swiss chucks.

1. Our pie jaws are blank so the customer can turn or bore them to their desired diameter.
2. We made the jaws so there is a .001"-.002" interference fit with the face of the chuck. (See figure 1.) This is how the original Swiss chucks were designed. This ensures that there is no gap between the face of the chuck and the back side of the pie jaws. Because of this interference fit, when you mount the jaws, the jaw mounting screws should only be torqued down finger tight, or you will lock up the chuck.
3. The chuck comes with a 1/4" dowel pin which is used to clamp on when you bore the jaws. This loads the jaws against the master jaws to ensure concentricity and the least amount of run out.

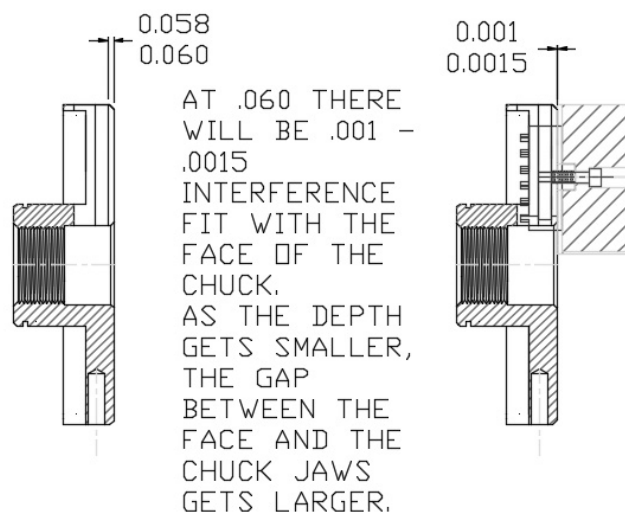


Figure 1—Because of tight interference fit between pie jaw and the face of the chuck, the hold-down screws should not be overtightened.

We also recommend that you place the 1/4" pin in the pie jaws before you tighten the jaw screws. With the jaw screws loose, tighten the chuck down lightly on the pin, and then tighten the jaw screws snugly. This will load the pie jaws against the tooth on the master jaws to ensure proper pie jaw location.

4. The jaws are made from 12L14 steel and the chuck body (P/N 1076C) has a nickel-Teflon coating on it. The nickel coating makes the surface harder and the Teflon adds lubricity to the surface. If you use the steel pie jaws on our uncoated chucks the jaws will eventually scratch and gall the face of the chuck because they are materials of equal hardness.

Aluminum pie jaws (P/N 11454-4P) are available for use on the standard 1076 4-jaw chuck (uncoated steel body). 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.

5. Each of the pie jaws has a corresponding letter laser engraved on them so they can be mounted on the same master jaw in relation to the letters on the chuck face.
6. Pie Jaw installation:
 - a. Open the master jaws until they are located in the middle of the jaw slot on the chuck.
 - b. Wipe the face of the chuck and the backside of the pie jaw so they are both clean.
 - c. Mount the pie chuck onto the master jaw locating on both the tooth and the sides of the master jaw. Be sure that the jaw is seated all the way down before attempting to tighten with the jaw screw. There should be no gap between the bottom of the pie jaw and the face of the chuck.
 - d. Turn the chuck scroll until the outside surface of the pie jaw is even with the outside surface of the chuck body. This should space the master jaws out far enough to mount the rest of the jaws with some clearance room.
 - e. Insert the screw into each jaw as you mount them and just tighten the screw for a snug fit.
 - f. See paragraph 3 on the previous page for the final jaw assembly process.

CAUTION!

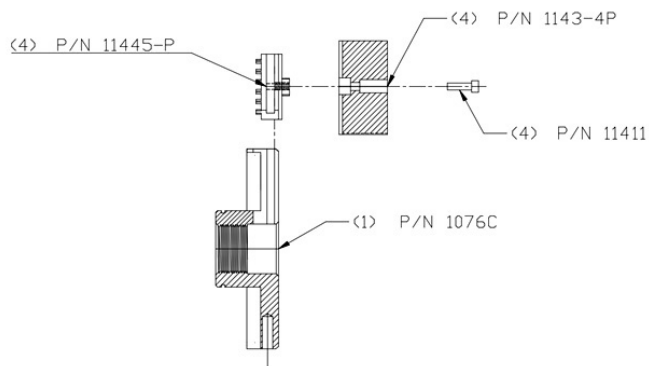
- **DO NOT OVERTIGHTEN CHUCK.** Use only moderate pressure with the Tommy bars supplied when tightening.
- These chucks were not designed for use on high speed spindles operating at speeds above 3000 RPM.
- **IMPORTANT!** Do not turn the lathe spindle on unless the chuck jaws are tightened. Acceleration of the spindle can cause the scroll to open the chuck jaws if they are not tightened!

Installing Chuck Master Jaws

Refer to the instructions that come with the 1076C 4-jaw self-centering chuck for jaw identification and order of jaw installation. They can also be found on our website at <http://sherline.com/Wordpress/wp-content/uploads/2015/01/1075inst.pdf>.

Exploded View

Figure 2



Parts Listing

QTY.	PART NO.	DESCRIPTION
1	1076C*	Nickel-Teflon coated 4-jaw self-centering chuck
1	11445-P*	Set of 4 Master jaws
1	1143-4P	Set of 4 Pie jaws
1	4058	Set of 2 1/8" Spindle bars
1	40561	1/8" Hex adjustment key
4	11411	4-40 x 3/8" SHCS (jaw attachment screws)
1	114531	1/4" x 1" Steel dowel pin

* Factory only—Jaws are custom fitted to each body, so master jaws (11445-P) are not available for purchase separately.