

Key-Ring Hardware Kits

88K73.20, .22, .23

Requires standard “A” mandrel, pen/pencil bushings (88K71.08), 7mm drill bit, and minimum 1/2” square by 2 1/2” long blank (1 3/8” long blank for the whistle kit).

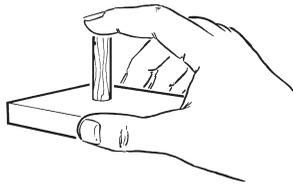
General Instructions

Cut the turning squares to length, center-drill each piece to accept a brass sleeve, and glue the brass sleeve into the turning blank. Mount the bushings and blanks on the mandrel and turn the blanks to size, using the bushings to gauge the proper diameter of the components to be turned.

Cutting the Blanks to Length

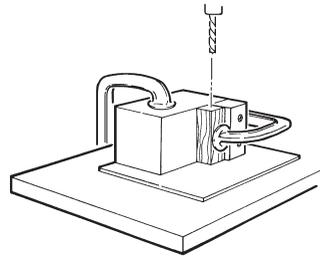
When cutting the turning squares to length, cut the blank 1/32” longer than the brass sleeve. When turned, sand the wood flush and square at either end to ensure a seamless fit between the wood and the key-ring hardware.

You can make a small sanding jig from a 1 1/2” x 1 1/2” x 3/4” square of wood with an accurately drilled hole matching the outside diameter of the wood components to ensure that the end is sanded squarely. You can also use a 7mm pen mill to square and trim the blank after gluing in the sleeve.



Drilling the Stock

It is strongly recommended that you drill your turning blanks on a drill press. Narrow squares do not leave a lot of room for error. A drill-press vise or homemade jig to help keep your blanks centered and vertical is also a necessity.



You can use a standard twist bit; however, there is a chance that you will split the blank when the bit breaks through the bottom. You will not have this problem if you use a HSS lipped brad-point bit or a HSS parabolic-flute bit (which is ideal for use in dense hardwoods, epoxy-stabilized woods, acrylic acetate, or other challenging materials). Whichever bit you choose, withdraw the drill frequently to clear chips from the flutes.

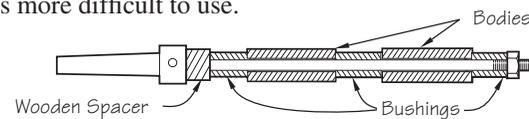
For exotic woods that have a more unstable moisture content, you can prevent cracking by first drilling a 1/8” diameter hole. Let the wood blanks dry for about a week, then re-drill with the size of drill required for the sleeve. Other turners prefer to drill the wood and insert the sleeves immediately on bringing the wood in the shop, since the thin walls are less likely to crack.

Gluing the Brass Sleeve

Use quick-setting epoxy, polyurethane or cyanoacrylate to glue the brass sleeve into the wood blank. Spread a small amount of glue onto the outside of the brass sleeve and slide the sleeve into the wood. **Do not** put the glue into the hole in the wood because you will inevitably end up with glue inside the brass sleeve.

Turning the Body

If turning only one blank, mount a wooden spacer (cut to length and drilled through) on the mandrel, followed by one bushing, the wooden blank, and another bushing. Be sure that the bushings and brass sleeves are a snug fit on the mandrel. If they have a bit of play, it could cause the brass sleeve to be slightly off center in the turned wood body. The fit can be corrected by shimming the mandrel. A full turn of cellophane tape (mending tape) will add just over 0.005” to the mandrel diameter. This should be adequate, but if not, try two turns. (Full turns are necessary, as partial turns will cause eccentricity.) If the bushing will not go on over a single turn of tape, the fit is close enough. Aluminum foil makes finer shims, but is more difficult to use.



Note: An additional wooden spacer, preferably made from hardwood, will be required so that all the components on the mandrel fit tightly. The spacer should measure from 3/4” to 3 1/8”, depending on how many blanks will be turned and what depth the mandrel is chucked into a Morse taper or self-centering chuck. The simplest way to measure the length of the required spacer is to mount the wooden blanks and bushings on the mandrel and measure the distance from the end of the last bushing to the beginning of the threads on the mandrel. This distance will indicate the length of the spacer required. A spacer can be prepared in the same manner as a wooden blank (i.e., cut to length and drilled through).

If turning two blanks, simply mount a wooden spacer (cut to size and drilled through) on the mandrel, followed by one bushing, the first wooden blank, another bushing, another wooden blank and, finally, the last bushing.

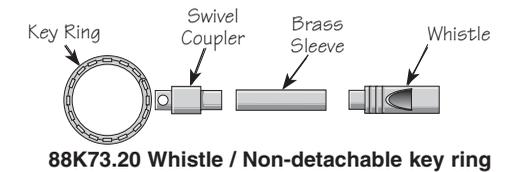
Clamp the wood in place by threading the nut onto the end of the mandrel only finger tight. Slide the tailstock in place and support the mandrel with light pressure of a live center.

Turn the blanks with any tool and at any speed you are comfortable with. The ends of the wooden blanks should be turned slightly oversize (1/32”) to ensure a seamless fit. We recommend that you set your calipers to the diameter of the end cap and check frequently as you approach the proper diameter to ensure that your turning is not undersize. Sand and finish the wood on the lathe.

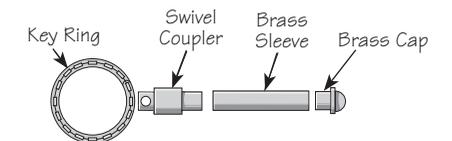
Assembly

The components press-fit together. Once the components are pressed together, it is almost impossible to take them apart. **Do not** try to dry fit the assembly before the wood is completely finished.

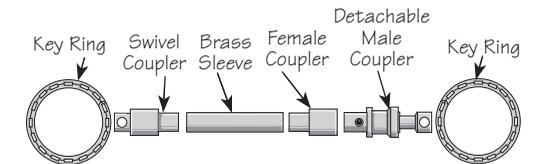
Assemble the key rings as shown. Depending on the kit purchased, press the whistle/brass cap/female coupler into one end of the completed body. Press the swivel coupler into the other end of the completed body. Feed the key ring(s) through the hole in the coupler(s).



88K73.20 Whistle / Non-detachable key ring



88K73.22 Non-detachable key ring



88K73.23 Detachable key ring

Lee Valley TOOLS LTD.
www.leevalley.com

1090 Morrison Drive Ottawa ON K2H 1C2 Canada
814 Proctor Avenue Ogdensburg NY 13669-2205 United States
1-800-267-8761 1-800-267-8735
customerservice@leevalley.com