



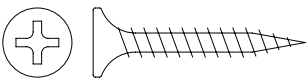
3220 Oval Jig Owners Manual

Please Read Carefully!


Parts List:

Please identify and verify that you have all of the hardware shown below prior to assembly. Parts listed below are not shown in the hardware drawings. Refer to photos in the instructions:

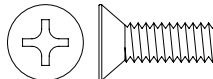
Part	Description	Quantity
3220B	Oval Jig Base.....	1
4024	24" Double Track.....	1
3220P	Pivot Assembly.....	2
3200D	Pencil Holder.....	1
3200P	Router Plate.....	1
3200S	Plate Spacer.....	1
4973	Router Plate Hardware.....	1


Part#	Description	Qty.
SFP008	1" Screw	4




Part#	Description	Qty.
NUT015	1/4-20 Nut	2



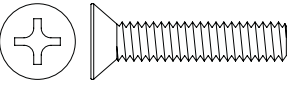
Part#	Description	Qty.
MF010	3/4" Screw	4



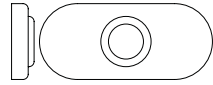
Part#	Description	Qty.
WB002	Washer	2



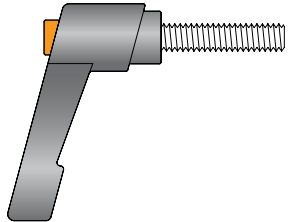
Part#	Description	Qty.
BUSH1250	1/4" Spacer	4



Part#	Description	Qty.
MF020	1-1/4" Screw	2



Part#	Description	Qty.
5760B	Oval Nut	2



Part#	Description	Qty.
5863	Ratchet Handle	2

BEFORE BEGINNING

Identify and verify that you have all the parts listed. Read the instructions at least once, familiarizing yourself with the parts before beginning. You'll need a #2 & #3 Phillips screwdriver for assembly.

DETERMINE USE

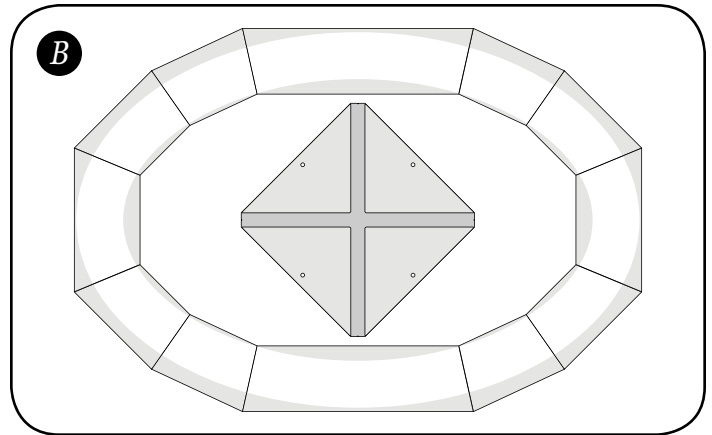
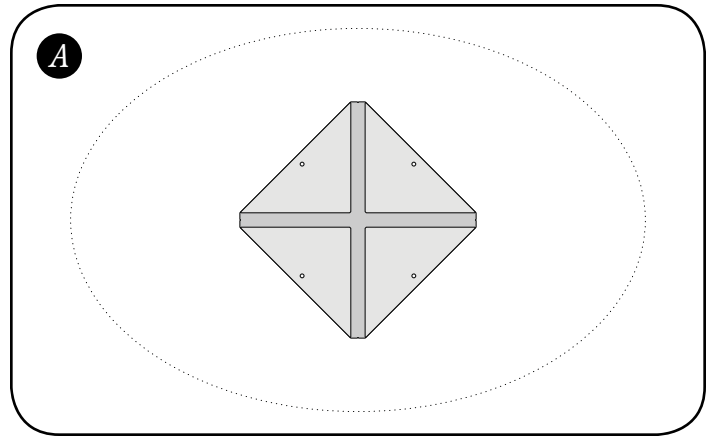
The the Oval Jig Base must be mounted at one of three different heights in relation to the top of the work: **1.** Top of Oval Jig Base at the same height as the top of the work. **2.** Top of Oval Jig Base 1/2" above the work. **3.** Top of Oval Jig Base 1" above the work. Keep in mind that the higher above the work you mount the Oval Jig Base, the longer bit you'll need to make the cut.

Option A: Oval Jig Base is mounted directly on (1/2" above) the work, for example a solid table top. Or mount the Oval Jig Base to a 1/2" plywood base (it will then be 1" above the work) and then mount the plywood to the work.

Option B: Oval Jig Base (and/or plywood base) and work are mounted on a bench and the work surrounds the Oval Jig Base, for example a segmented open frame. Oval Jig Base must be mounted either even with the top of work, 1/2" above the work or 1" above the work.

ASSEMBLY

Mark the center of your work, or center the Oval Jig Base on square piece of 1/2" plywood to serve as a base. There are small center marks on each side of the Oval Jig Base to help align it on the center of the work. Attach the Oval Jig Base to the work/plywood base with 1" screws (*STP008*). Slide a plastic glide of each pivot assembly (*3220P*) in to each of the T-slots in the Oval Jig Base. *See fig. 1.*



MOUNT ROUTER & ROUTER PLATE

Follow the directions in the *4973 Plate Hardware*. Install the hardware on the Router Plate (*3200P*) and adjust it for your router, but don't attach the router to the Router Plate yet. We offer an optional drill-style plate (*PN 3200PD*) that can be drilled for a semi-permanent router mounting. We also offer a plate to use with our Angle-Ease (*Purchase Angle-Ease separately, plate is PN 3200AP*) for more creative oval making.

Cut two blocks of wood 2-3/4" long and lay the 24" Double Track (*4024I*) on the two blocks as shown. Insert two 3/4" screws (*MF010*) thru the two countersunk holes nearest the opening in the Router Plate (*3200P*) and start nuts (*NUT015*) on the ends of the screws. *See fig. 2.*

Slide the nuts in the router plate onto the end of the Double Track until the end of the track is even with the opening in the plate, then tighten the two screws firmly. *See fig. 3.*

If you mounted the Oval Jig Base even with the top of the work, then you don't use the plate spacer and you can go on to the next section.

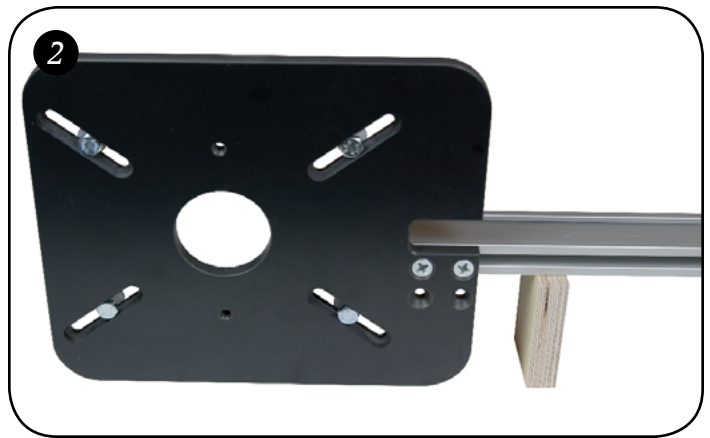
If you mounted the Oval Jig Base 1/2" above the work, install the plate spacer (*3200S*) on the bottom of the router plate using two 3/4" screws (*MF010*). *See fig. 4.*

If you mounted the Oval Jig Base 1" above the work, install the plate spacer (*3200S*) on the bottom of the router plate using two 1-1/4" screws (*MF020*) with two 1/4" spacers (*BUSH1250*) placed on each screw between the plate spacer and the router plate. This method will require a bit with a longer cutting length than the other two methods above.

MOUNT DOUBLE TRACK/ROUTER PLATE

Install a washer (*WB002*) on the stud of two of the ratchet handles (*5863*). Insert the stud of the ratchet handle thru the slot, then the hole, in the aluminum bracket of each pivot assembly. Start an oval nut (*5760B*) on the end of each stud. *See fig. 1.*

Slide the Double Track/Router Plate on to the oval nuts of each pivot assembly and install your router on the router plate. *See cover, fig. 5.*



DIFFERENTIAL

Ovals are measured by their length and width. The difference between the length and width is called the "differential". Using the same edge of both pivots as a reference, measure the distance from one edge of a pivot to the same edge on the other pivot. Multiply this distance by 2 to get the differential. For example, if the distance between pivots measures 4", then the differential between the width and height of the oval will be 8". *See fig. 5.*

OVAL SIZE

The size of the oval is controlled by the distance from the tool to the pivots. By sliding the tool closer or further from the pivots (without changing the differential), you can change the oval size. To set the oval size, loosen the ratchet handles on both pivots and slide the bar to the desired size. *See fig. 5.*

For example, if the jig is set to cut a 24" x 36" oval (12" differential) and you adjusted the router 5" further away from the pivots (maintaining the 12" differential) the jig would then cut a 29" x 41" oval.

You can increase the oval size range (but not the differential range) of your Oval Jig by getting a longer Double Track, which we offer up to 96" long.

TECHNICAL STUFF

When cutting a 4" wide oval frame, for example, the frame will only measure 4" at the 0°, 90°, 180° & 270° points. It will measure slightly narrower everywhere else. This phenomenon is common to all oval jigs. Actually the jig is cutting 4" wide everywhere, but that's measured on the travel line of the Double Track, which is not square to the edge of the part, except at the points mentioned above. The greater the differential, the more pronounced this is. *See fig. 6.*

If you need a consistent width, cut one side of the oval using the jig. Make a tool to follow the edge of the oval that also holds a pencil. Draw the opposite side of the oval at the width needed, using the machined edge as a guide. We offer a handy tool for this purpose called the *Margin Scribe, PN 3205*. Routing the inside edge first, then cutting the outside edge with a band saw, is usually the easiest method. *See fig. 8.*

ROUTING & DRAWING

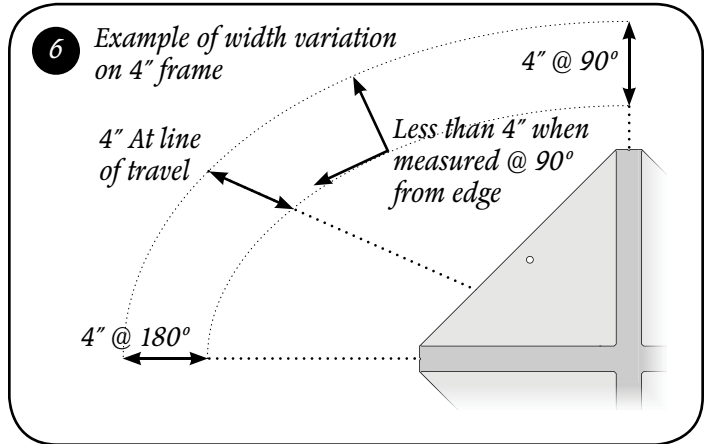
When cutting the inside edge of an oval, swing the router clockwise. When cutting the outside edge of an oval, swing the router counterclockwise.

Insert the pencil holder (*3200D*) in the bit opening of the router plate, insert a pencil (with a blunt point - like a golf pencil) in the pencil holder to draw the desired oval. *See fig 7.*

CAPACITIES

The chart to the right lists the cutting capacity of all of our Oval Jigs. It's based on the standard T-Track length (or base) included with each jig. If you need to cut smaller ovals you can cut the T-Tracks (or base of the 3220/3210), but you will reduce the differential range. Note that the 3250 measurements do not cover the full potential differential range available in this jig because it uses a 72" bar. By getting a 96" bar you can cut even larger ovals.

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	Smallest	Largest
3210 Oval Jig 1" to 10" differential	1" x 3-11"	10-18" x 20"
3220 Oval Jig 4" to 12" differential	13" x 17-25"	41-49" x 53"
3230 Oval Jig 7" to 23" differential	25" x 32-48"	54-70" x 77"
3240 Oval Jig 7" to 47" differential	49" x 56-96"	54-94" x 101"
3250 Oval Jig 7" to 95" differential	97" x 104-149"	97-142" x 149"