

WOODHAVEN

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 #3 Phillips screwdriver for assembly.

The majority of the parts have the hardware pre-attached and just need to be attached to the Ultra Track. You may need to loosen the hardware to install the parts, or reattach the hardware if it came loose during shipping. Replacement Sub-Fences (**4556F**) are available from Woodhaven, or you can make your own out of 3/4" material.

The Portable Box Joint Jig is designed to be used on work that is clamped in a stationary position. It's perfect for work that

4556

Portable Box Joint Jig

Please Read Carefully!

Parts List

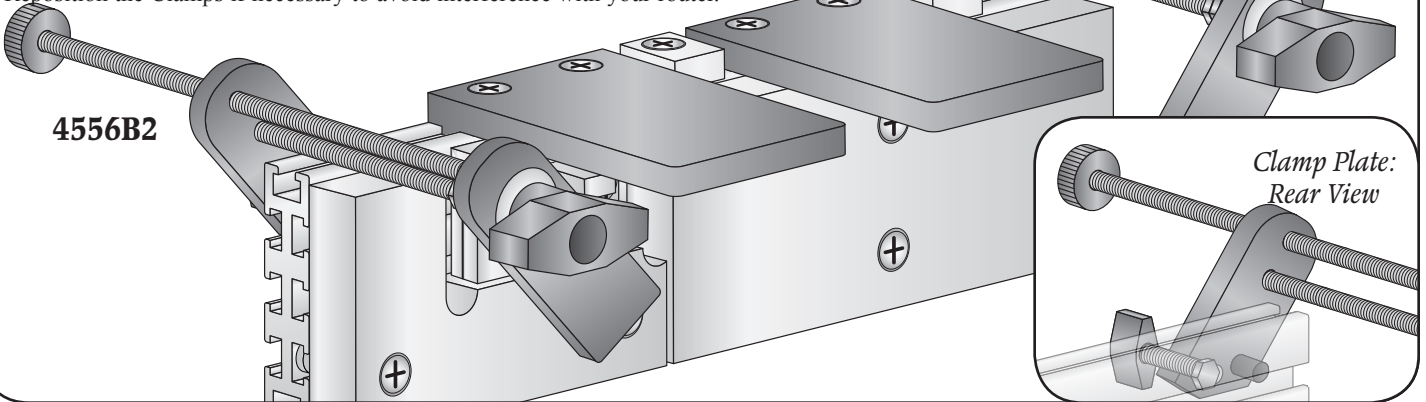
Part	Description	Quantity
4556	Portable Box Joint Jig Assembly.....	1
4556B2	Clamps	2
4556D	Inch Setup Jigs, 5 pc. set	1

is too heavy or cumbersome to pass over a stationary cutter on a table saw or router table. The jig will cut box joints 1/2" to 1-9/16" wide a minimum of 1/2" deep in stock a maximum of 2" thick.

For cutting, you'll need a 1/2" collet router, a 3/4" diameter bushing and a 1/2" diameter bit. Spiral upcut bits are excellent for cutting solid woods. Select a bit with the shortest possible cut length. You'll also need a 6" bar clamp (**for the first and last cuts on the work**) and a workbench/visse to hold the work.

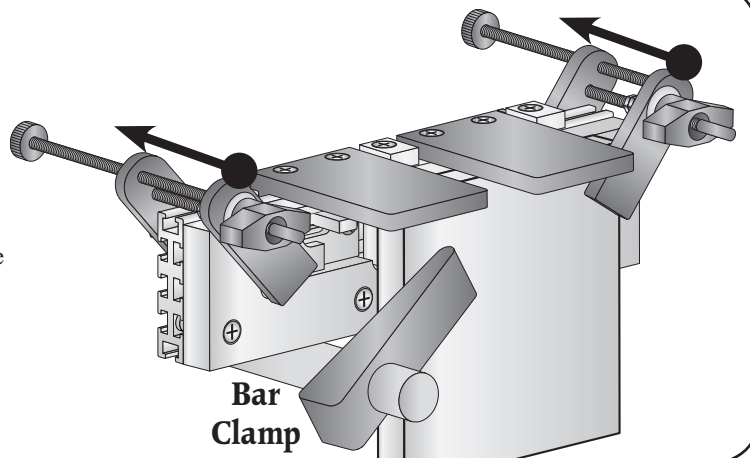
1 Install Clamps:

The Clamps get installed on the rear upper T-slot of the 12" Ultra Track. The two Clamps (**4556B2**) have a hex bolt and pin that fits into the T-slot of the track. Loosen the knob and slide the bolt head into the T-slot first, followed by the pin. When the pin is inside the T-slot a 1/2" or so from the end of the track, tighten the knob on the hex bolt. Reposition the Clamps if necessary to avoid interference with your router.



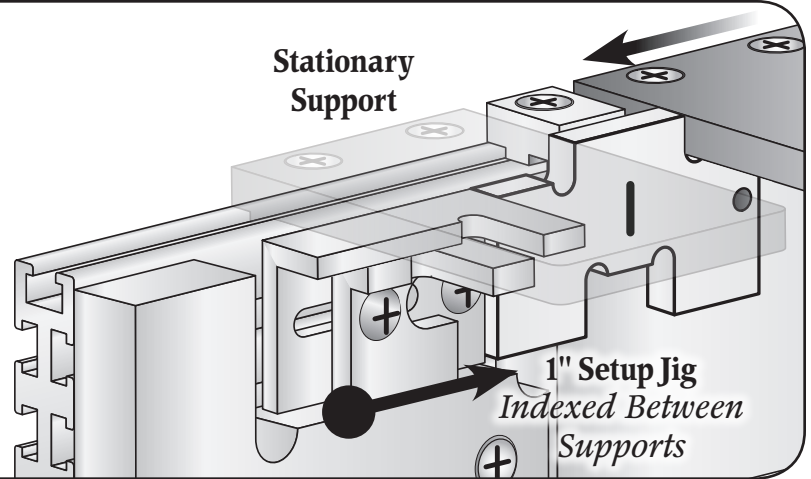
2 Adjust Clamps for work thickness:

Place the work between the Clamp Pad and the Sub-Fence. Position the Clamp Pad so it's flat against the work by adjusting the 3/4" knob at the back of the Clamp. Make sure the end of the bolt on the 3/4" knob remains bottomed out in the recessed hole at the back of the Clamp Pad. Next turn the 3/4" knob approximately 1/4 turn more, pushing the top of the Clamp Pad slightly away from the work. When tightened, the Clamp Pad should sit flat on the work. Tighten the 2" T-Knob at the front of the Clamp Pad until the Jig is snug on the work. Do not over tighten! You'll also need to provide a 6" bar clamp (**for the first and last few cuts on the work**) to clamp the opposite side of the work from the Clamp Pad when it's only possible for one of the Clamp Pads to engage on the work.



3 Adjust Right Router Support for joint size:

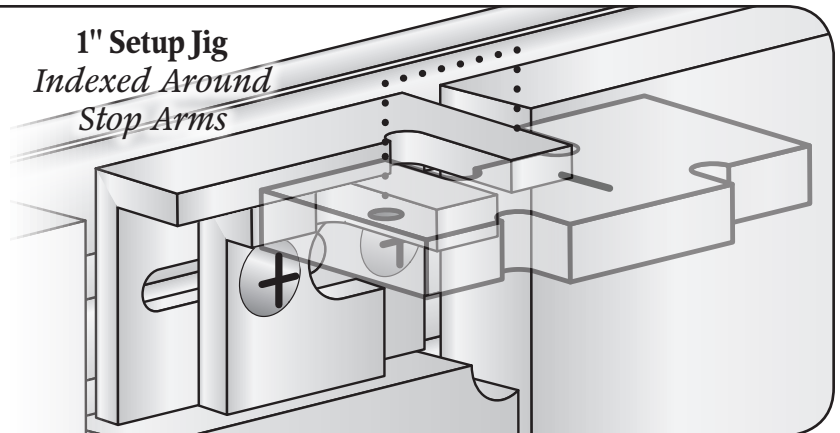
The Right Router Support is the *ONLY* Support you'll make any adjustments to during use. *The Left Router Support will always remain stationary.* Adjusting the Right Support in relation to the Left Support determines the width of cut. From the Inch Setup Jigs, select the size joint (*1/2"*, *3/4"*, *1"*, *1-1/4"* & *1-1/2"*) you wish to cut and remove it from the chain. Loosen the Right Support. Loosen both Aluminum Stops and slide them to the far left. Sandwich the "tall" portion of the selected Setup Jig between the Supports then tighten the Right Support. When using the *1/2"* Setup Jig, check to make sure the *3/4"* guide bushing will fit between the Supports and readjust the Right Router Support as necessary.



4 Adjust Aluminum Stops for joint size:

Slide the right outside edge of the leg of the Stationary Stop against the left outside edge of the Setup Jig and tighten the Stationary Stop.

Rotate the Setup Jig 180° so the notch is against the underside of the Router Supports and straddles both of the legs of the Aluminum Stops. With the right inside edge of the Setup Jig against the right outside edge of the leg of the Stationary Stop, position the left edge of the leg of the Adjustable Stop against the left inside edge of the Setup Jig. Tighten the Adjustable Stop and remove the Setup Jig.



5 Test Cuts:

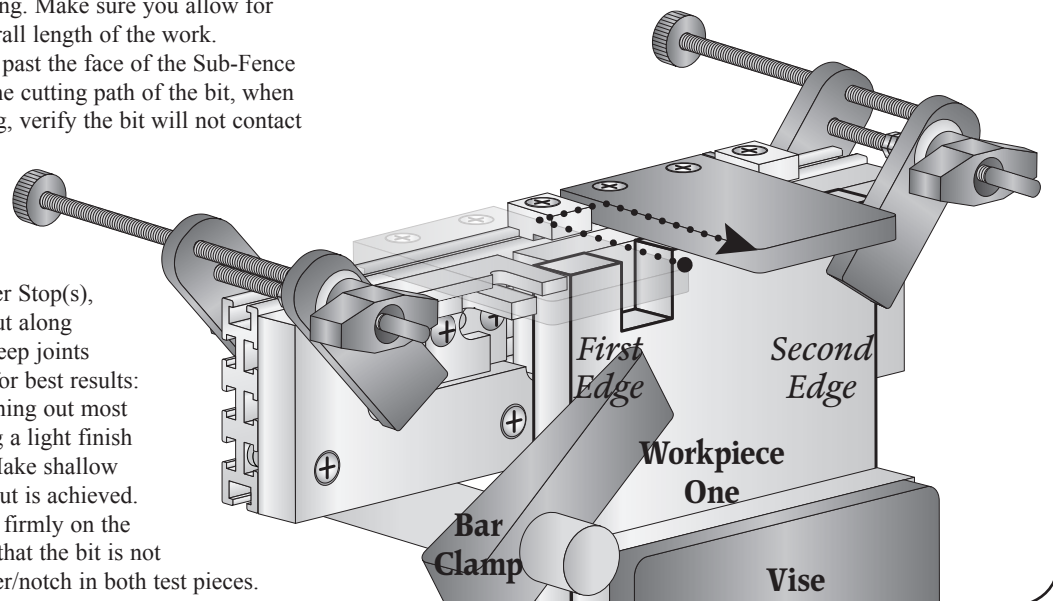
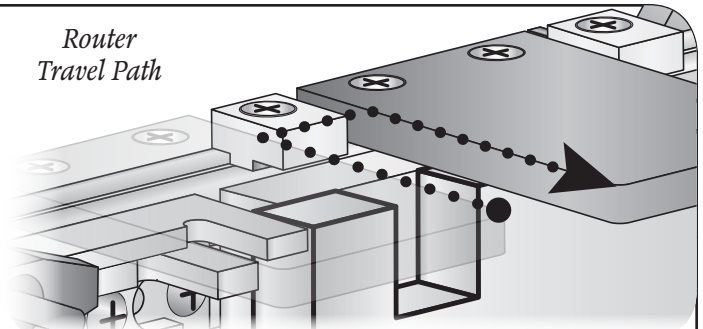
Use two wood scraps about 6" square. Clamp the bottom 2" of one in a vise and rest the Left and Right Supports on the top of the work, with the right side of the Stationary Aluminum Stop butted against the left edge of the work. Adjust and tighten the right Clamp Pad to hold the jig to the work. In addition, for the first and last few cuts of every part, you'll need to use a small bar clamp to clamp the work to the jig, since you can only use one of the two Clamp Pads for these cuts.

Set the cutting depth of the bit to the thickness of work **PLUS** the thickness of the Left/Right Support **PLUS** the desired amount of overhang. Any overhang can be removed later after assembly by sanding or flush trimming. Make sure you allow for this overhang when figuring the overall length of the work.

The Aluminum Stops protrude past the face of the Sub-Fence and should always be to the left of the cutting path of the bit, when viewed from the front. Before cutting, verify the bit will not contact the Stops, Sub-Fence screws or anything metallic.

Make the cut in a clockwise fashion by running the bushing/bit along the Left Router Support until it bottoms out against the Router Stop(s), move to the right, then come back out along the Right Router Support. Wide or deep joints require one of two cutting methods for best results: A.) Cut at full depth, gradually roughing out most of the center area first before making a light finish cut along the Router Supports. B.) Make shallow depths of cut until the full depth of cut is achieved.

Make sure the router is resting firmly on the Left and Right Router Supports and that the bit is not touching the work. Cut a single finger/notch in both test pieces.



6 Fine adjustments:

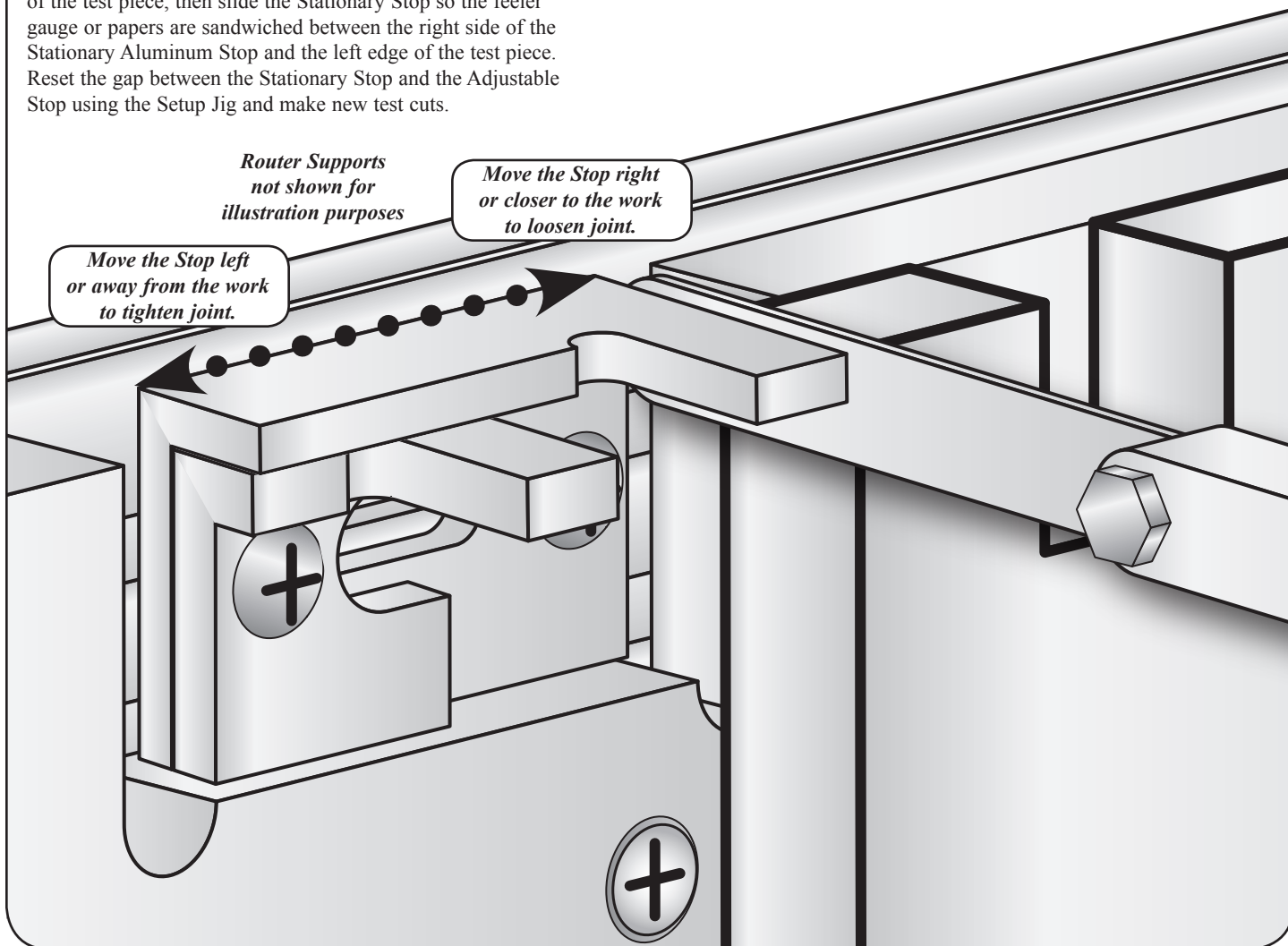
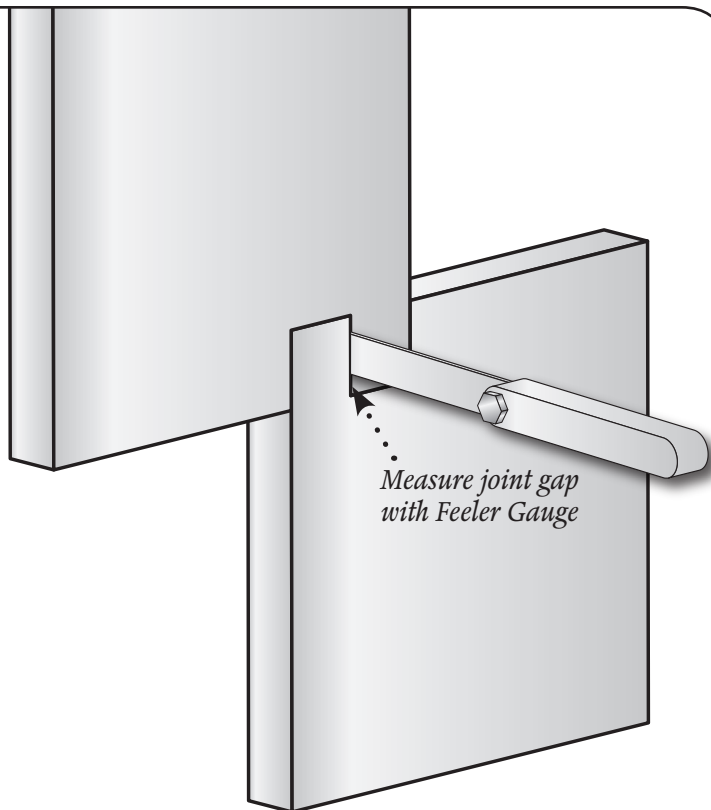
Fit the finger of one test piece in the notch of the other. Measure the gap between them using a feeler gauge (*not supplied*) or pieces of paper (*1 thickness of paper = approximately .002"*). Joints that are glued should have a "slip" fit (*approximately .005" of gap*) to allow room for the glue.

If the parts don't fit together, readjust Stationary and adjustable Stops to the right *slightly* and recut the test joints.

The final fit of the joint is adjusted by *slightly* increasing or decreasing the distance between the right side of the Stationary Aluminum Stop and the left edge of the work. *Move the Stop left or away from the work to tighten joint. Move the Stop right or closer to the work to loosen joint.*

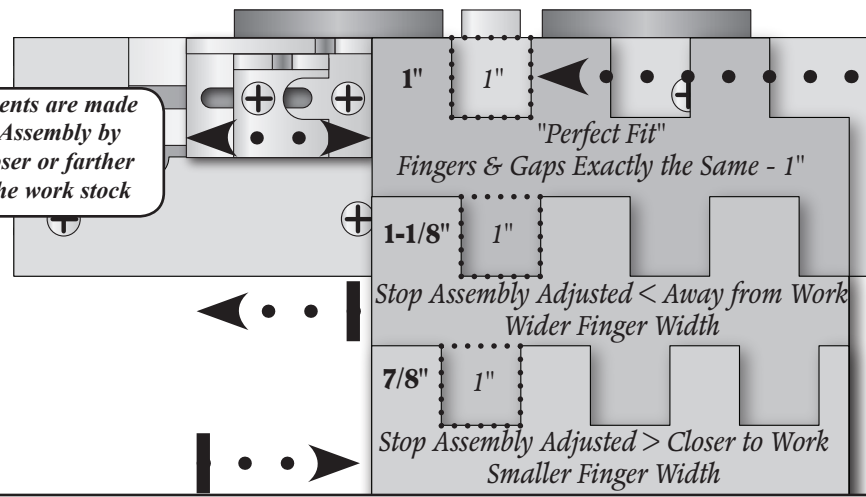
It's easier to measure a joint that's too loose using a feeler gauge or pieces of paper, than it is to measure a joint that's too tight, which requires a caliper. We recommend making test cuts that are slightly loose to make it easier to figure the amount of adjustment necessary. Very often the joints will fit just right using the Setup Jigs we supply.

Before making any adjustments to tighten the joint, clamp one of the test pieces back in it's original position on the jig. Loosen both the Adjustable and Stationary Stops and slide them away from the left edge of the test piece. Using the feeler gauge or piece(s) of paper from above, set them against the left edge of the test piece, then slide the Stationary Stop so the feeler gauge or papers are sandwiched between the right side of the Stationary Aluminum Stop and the left edge of the test piece. Reset the gap between the Stationary Stop and the Adjustable Stop using the Setup Jig and make new test cuts.



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ALL Adjustments are made to the Stop Assembly by moving it closer or farther away from the work stock



NO Adjustments are made to the machined area - or negative space - this remains fixed based on the initial setup steps. In all three box joint examples the gap or machined space remains fixed at 1"

For illustration purposes this adjustment has been exaggerated to 1/8"

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Part Cutting:

On your first workpiece, cut along the entire width of the work, hop-scotching the Jig/Stops into each freshly cut notch to reindex the Jig for the next cut. Always make sure the Stops are fully in the freshly cut notch before cutting the next notch.

To make the mating cuts on the second workpiece line up with those on the first workpiece, you need to offset the first cut on the second workpiece by the width of the joint.

To do so, take your first workpiece and flip it edge for edge so its first notch is between the Stops. Butt the second workpiece against the edge of the first workpiece and clamp it in place. Remove the first workpiece and make the first cut on the second workpiece, then continue cutting the second workpiece by hop-scotching the jig from notch-to-notch the same as you did the first workpiece.

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