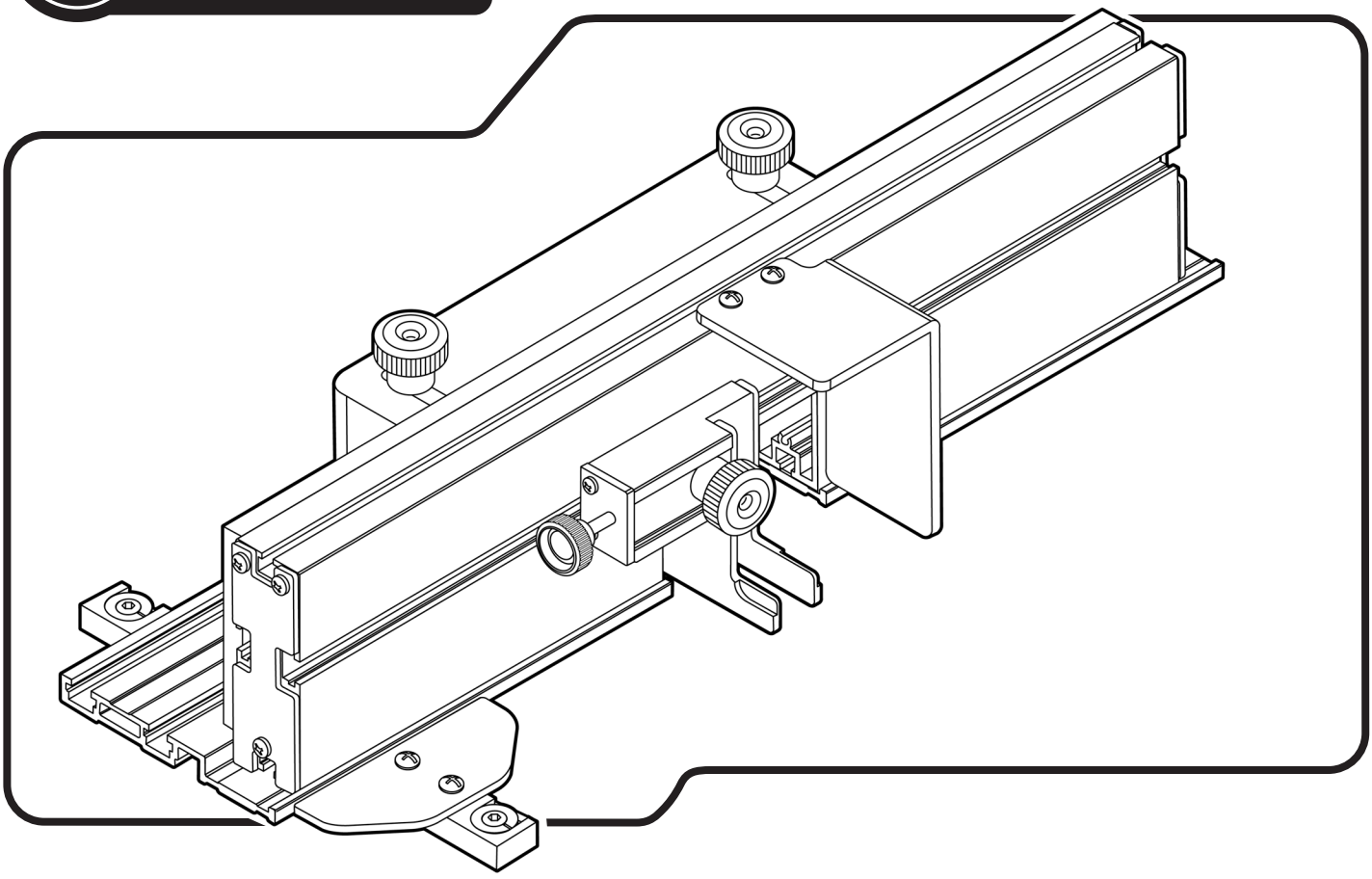
Model No. 71759

Owner's Manual

POWERTEC®

Box Joint Jig

QUESTION...
1•847•780•6120



Visit us on the web at **www.powertecproducts.com**

You will need this manual for safety instructions, operating procedures, and warranty.
Put it and the original sales invoice in a safe, dry place for future reference.

23-0604

TABLE OF CONTENTS

PRODUCT SPECIFICATIONS

RECOMMENDED SPEEDS

BIT DIAMETER	MAXIMUM SPEED
Up to 1" (25 mm)	22,000 -24,000 rpm
1" to 2" (25 mm–51 mm)	18,000-22,000 rpm
2" to 2-1/2" (51 mm–64 mm)	12,000-16,000 rpm
2-1/2" to 3-1/2" (64 mm–89 mm)	8,000-12,000 rpm

NOTE: *Always follow bit manufacturer's speed recommendations. Some bit designs require specific speeds for safety or performance.*

SAFETY RULES

⚠ WARNING

For your own safety, read all of the rules and precautions before operating tool.

⚠ WARNING

Always follow proper operating procedures as defined in this manual even if you are familiar with use of this Box Joint Jig or any tool used with this Box Joint Jig. Remember that being careless for even a fraction of a second can result in severe personal injury.

Before using another tool with this product, always read, understand and follow the instructions and safety warnings in the owner's manual for that tool. If you do not have the owner's manual, obtain one from the tool's manufacturer before using it with this product.

You must be familiar with the use of any tool or accessory used with this Box Joint Jig. The supplier cannot be held responsible for any accident, injury or damage incurred while using this Box Joint Jig with any tool.

It is the responsibility of the purchaser of this product to ensure that any person using this product reads and complies with all instructions and safety precautions outlined in this manual prior to use.

⚠ WARNING

Some dust created by operation of power tool can expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. To reduce your exposure to these chemicals, work in a well ventilated area and work with approved safety equipment. Always wear OSHA/NIOSH approved, properly fitting face mask or respirator when using such tools.

⚠ CAUTION

Do not modify or use this Box Joint Jig for any application other than that for which it was designed.

FOLLOW ALL STANDARD SHOP SAFETY PRECAUTIONS, INCLUDING:

- Keep children and visitors at a safe distance from work area.
- Keep work area clean. Cluttered work areas invite accidents. Work area should be properly lit.
- Do not use power tools in dangerous environments. Do not use power tools in damp or wet locations. Do not expose power tools to rain.
- Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts of the tool.
- Wear protective hair covering to contain long hair.
- Wear safety shoes with non-slip soles.
- Wear safety glasses complying with United States ANSI Z87.1. Everyday glasses have only impact resistant lenses. They are NOT safety glasses.
- Wear face mask or dust mask if operation is dusty.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.

- A guard or any other part that is damaged should be properly repaired or replaced. Do not perform makeshift repairs.
- Use the right tool for your job. Do not force your tool to do a job for which it was not designed.
- Use safety equipment such as featherboards, push sticks and push blocks, etc., when appropriate.
- Maintain proper footing at all times and do not overreach.
- Do not use the router table as a step or seat.

⚠ WARNING

To avoid serious injury, turn off and unplug the machine before attaching or changing accessories or adjusting the cutter height/fence position.

⚠ CAUTION

Think safety! Safety is a combination of operator common sense and alertness at all times when tool is being used.

⚠ WARNING

Do not use the Box Joint Jig until it is completely assembled and you have read and understood this entire operating manual and the operating manual of the tool being used with this Box Joint Jig.

SPECIFIC SAFETY RULES 1

⚠ DANGER

To avoid serious injury, keep hands and fingers away from the spinning blades or router bits. Be aware of the cutting apparatus at all times.

⚠ WARNING

Turn off and unplug machine before installing or adjusting the bit or adjusting the Box Joint Jig and accessories.

BEFORE beginning any cutting operation, **ALWAYS** make sure **ALL** knobs on the Box Joint Jig and accessories are tightened and the fence will not shift during use.

BEFORE plugging in and turning on the machine, **ALWAYS** make sure the MDF adjustable fence faces are fully secured and the cutting apparatus can rotate freely without touching the fence faces.

⚠ WARNING

When adjusting the position of the Box Joint Jig do not allow the metal blade/bit to come in contact with any metal portion of the Box Joint Jig.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

PARTS AND CONTENT 1

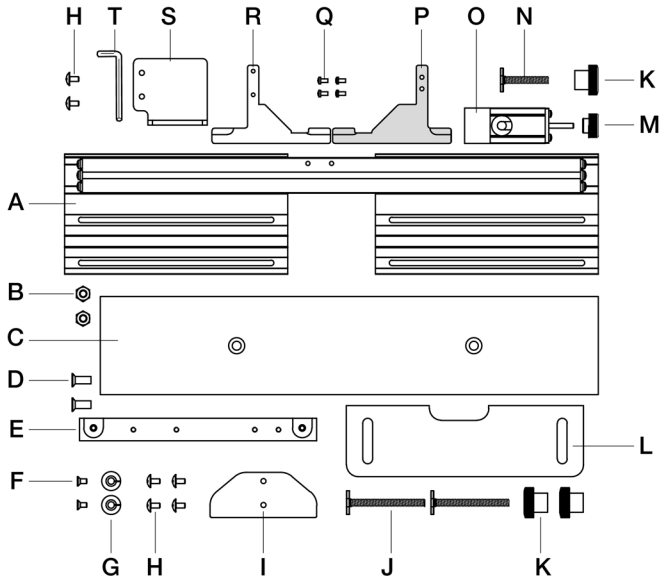
UNPACKING

Refer to Figure 1

Check for shipping damage. Check immediately whether all parts and accessories are included.

ITEM	DESCRIPTION	QTY
A	Body Assembly	1
B	1/4"-20 Hex Nut	2
C	MDF Sub Fence	1
D	Flat Head Phillips Screw 1/4"-20 x 5/8"	2
E	Guide Bar	1
F	Flat Head Phillips Screw M4 x 8L	2
G	Extra Expansion Discs	2
H	Phillips Head Screw	6
I	Guide Plate	1
J	T-Bolt 1/4"-20 x 2-1/2" L	2
K	Knurled Knob	3
L	Clamp Guard	1
M	Adjustment Knob	1
N	T-Bolt 1/4"-20 x 1-1/2" L	1
O	Adjustment Mechanism	1
P	Adjustable Stop Plate	1
Q	Phillips Cross Recessed Round Head Tapping Screw M3.5x8L	4
R	Fixed Stop Plate	1
S	Acrylic Safety Blade Guard	1
T	2.5 mm Hex Wrench	1

Figure 1



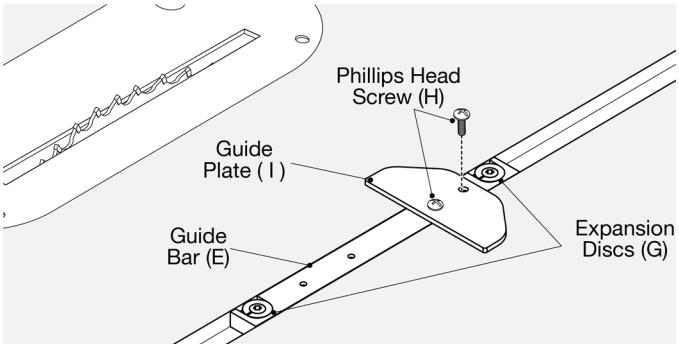
⚠ WARNING

Do not use the Box Joint Jig until it is completely assembled and you have read and understood this entire operating manual and the operating manual of the tool being used with this Box Joint Jig.

ASSEMBLY

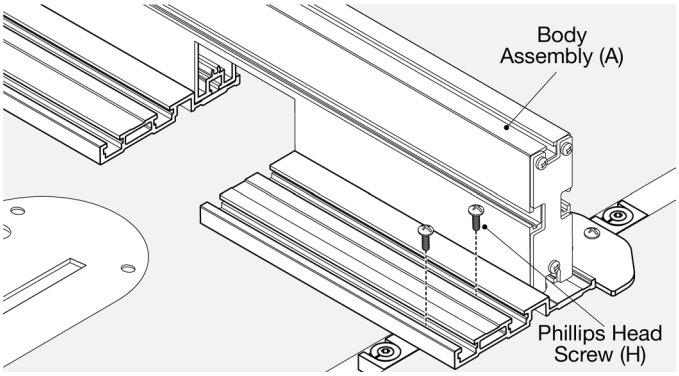
1. See Figure 2. Attach Guide Plate (I) to Guide Bar (E) with two Phillips Head Screws (H)
2. Fit Miter Guide assembly into the table saw miter track. This Miter Guide can be set in either a right or left miter track.
3. Using a 2.5 mm Hex Wrench (included) adjust the Expansion Discs (G) on each end of the Guide Bar for a snug but not tight fit. Tighten or loosen as needed. Guide Bar should glide smoothly in the miter track.

Figure 2



4. See Figure 3. Place the Body Assembly (A) onto the end of Guide Bar (E) Match up the slots on the Body Assembly with the two predrilled holes in the Guide Bar.
5. Use two Phillips Head Screws (H) to secure the Body Assembly to the Guide Bar.
6. Use a square to verify the body is perpendicular to guide bar.
7. Ensure assembly slides smoothly in the miter track.

Figure 3



Assemble the Adjustment Mechanism:

1. See Figure 4-5. To assemble the Adjustment Mechanism (O) take Adjustable Stop Plate (P) align with holes on the inset of the Adjustment Mechanism and secure with two Phillips Head Tapping Screws M3.5x8L (Q).
2. Align Fixed Stop Plate (R) to the outside holes on the Adjustment Mechanism (O) and secure with two Phillips Head Tapping Screws M3.5x8L (Q). Add Adjustment Knob (M) to adjustment post.

Figure 4

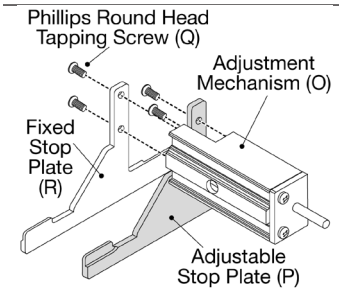
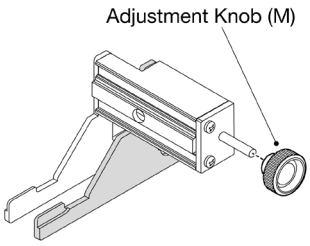


Figure 5



3. See Figures 6-7. Slide 1-1/2"T-Bolt (N) into left slot on the back of the fence. Move T-Bolt to center cutout in fence. Matching up T-Bolt and hole in the body of Adjustment Mechanism (O). push Adjustment Mechanism onto the T-Bolt. Twist Knurled Knob (K) onto the T-Bolt but do not tighten at this time.
4. Take Acrylic Blade Guard (S) and align predrilled holes with two holes in center top of the fence. Using two Phillips Head Screws (H) secure Acrylic Blade Guard to fence.

Figure 6

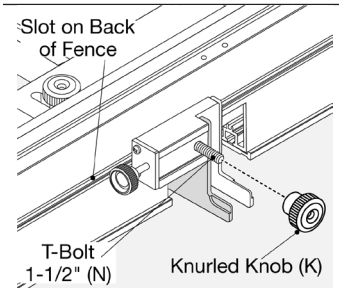
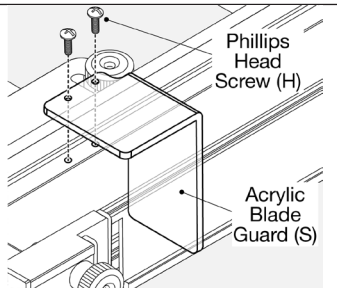


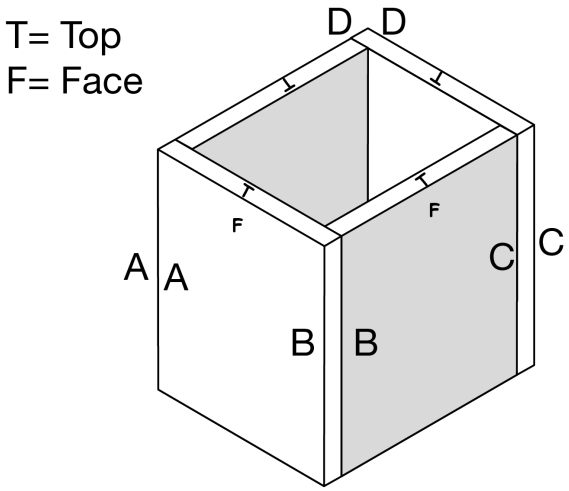
Figure 7



Setting up the work pieces:

1. Before installing the dado blades use a standard blade to pre-cut the box pieces to have them ready to joint.
2. See Figure 8. After cutting, orient the panels aligning the wood grain then set up a mock assembly. Pencil mark each corner with matching letters. For example: A to A, B to B and so on, for all four corners.
3. Mark the Top (T) and Face (F) of each board. A direction indicator could also be used.

Figure 8

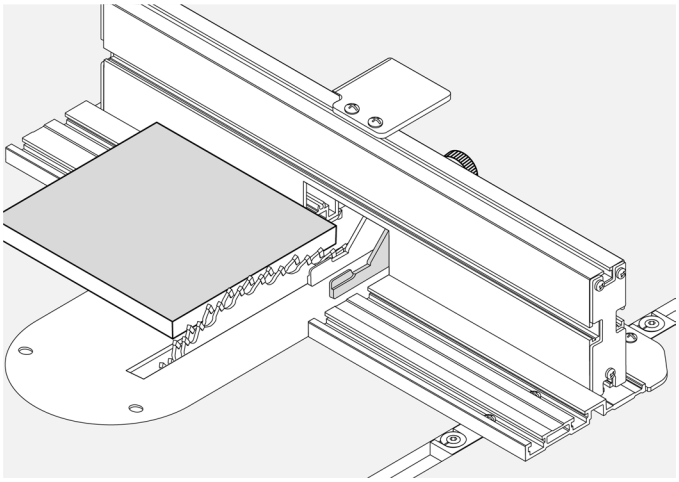


Set Up the Dado Blades:

1. See Figure 9. Install the Dado set following all safety and installation instructions from manufacturer and instructions for the table saw.
2. For this example there are two 1/8" dado blades to produce a 1/4" box joint.
3. Place a workpiece on the base of the Box Joint Jig and raise the blades to desired height. This blade height will determine the height of the box joint. The blade should be a "fraction" above the board. This should reduce cleanup.

NOTE: *If you do not have a table saw and dado blade set this POWERTEC Box Joint Jig can also be used on a router table.*

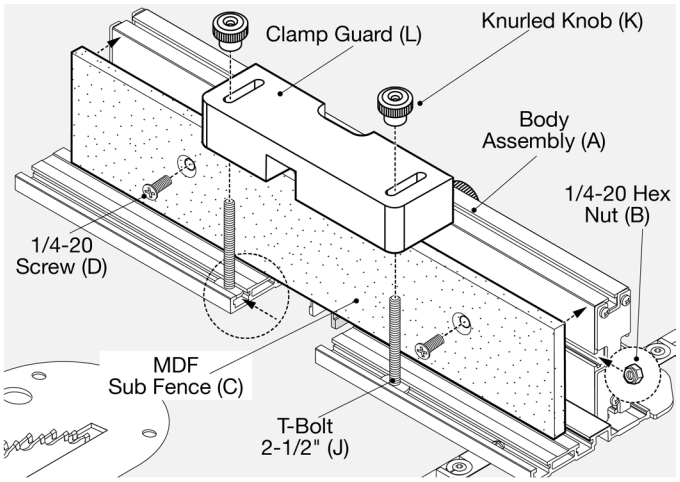
Figure 9



Install the Sub Fence and Clamp Guard:

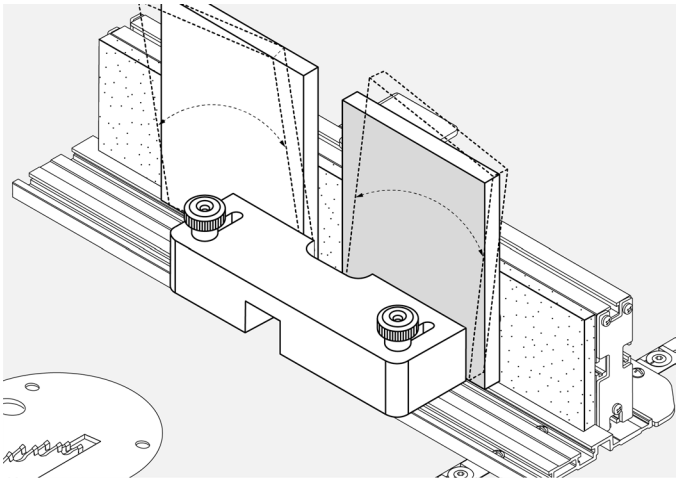
1. See Figure 10. With the table saw OFF. Slide Body Assembly away from blade. Before securing MDF Sub Fence (C) in place, slide two Flat Head Phillips Screws 1/4"-20 x 5/8" (D) through the holes of the MDF Sub Fence (C). Loosely thread two 1/4-20 Hex Nuts (B) onto the 1/4-20 Screws. Slide MDF with Hex Nuts into the T-slot on the front of the Fence. With MDF Sub Fence in place tighten the 1/4-20 Screws.
2. Slide a 2-1/2" T-Bolt (J) into the slots on each side of the base of Body Assembly (A).
3. Place Clamp Guard (L) over the two T-Bolts in the base.
4. Once seated, add an Knurled Knob (K) to each T-Bolt. Do not tighten at this time.

Figure 10



5. See Figure 11. Take two of the precut workpieces to align and set Clamp Guard (L). Position the two workpieces between the MDF Board (C) and Clamp Guard ensuring the Clamp Guard is square to the fence.
6. Once the boards are in place tighten the two Knurled Knobs (K) on Clamp Guard (L) to a snug fit—tight enough to hold the boards in place while allowing boards to move freely side to side. This allows the user to easily move the boards to the next cutting position.
7. Lift the boards in and out checking for ease of movement while positioning in place.

Figure 11



Set the Spacing for Box Joints:

Please note it will be necessary to remove Clamp Guard (L) to set the Stop Plates. Replace, using the steps shown in Figure 10 before making cuts.

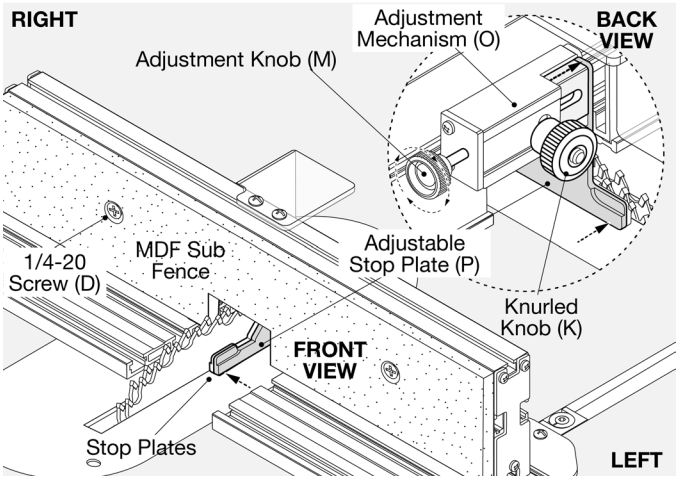
See Figure 12. Notice the "Foot" of the Stop Plates protrudes past the installed MDF Sub Fence (C). From the front the Fence Stops should be to the right of the blade/bit. When viewed from the back the Stops will be to the left of the blade/bit.

- **Adjustment Knob (M)** moves Adjustable Plate (P). Turn clockwise (right) to reduce spacing between Stops. Turn counterclockwise (left) to widen spacing between Stops.
- **Knurled Knob (K)** moves Adjustment Mechanism (O) side-to-side (toward and away from the bade) .

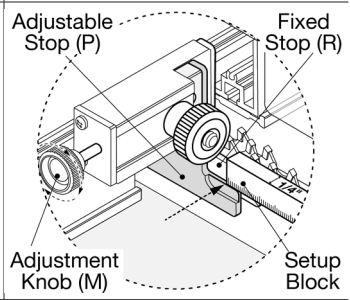
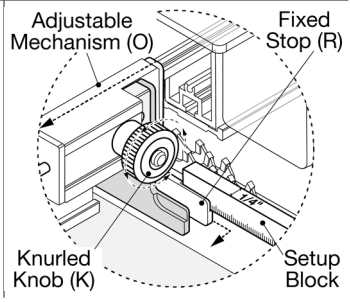
⚠ WARNING

Risk of injury or damage to equipment. Do not allow metal blade/bit to come in contact with any metal portion of the Box Joint Jig.

Figure 12



Determine Size of Pin to Be Cut:

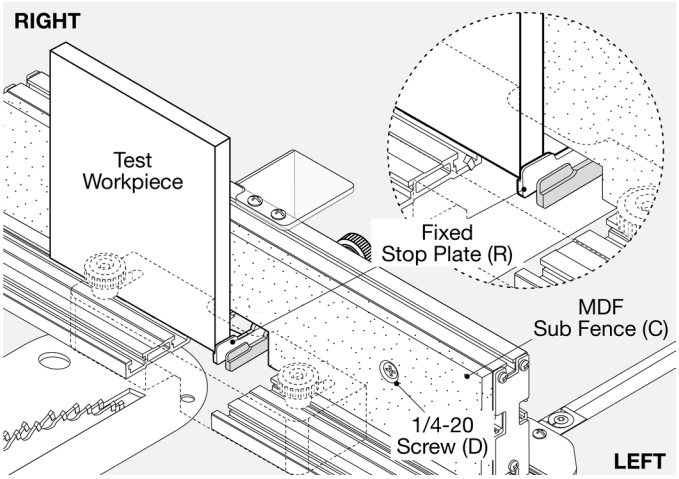
Set Joint Spacing	Figure 13
Turn Adjustment Knob (M) counterclockwise to widen spacing for Stop Plate (P). Place a setup block on top of the Stops. Turn Adjustment Knob (M) clockwise to reduce spacing until the sides of the setup block and the recessed edges of the two Stops are flush. Remove setup block.	
Set Blade Distance	**Figure 14**
Loosen Knurled Knob (K) and slide Adjustment Mechanism (O) to the left. Rest the same setup block on the inset ledge of Fixed Stop (R) and between the blade. Make adjustments to spacing as needed. Tighten Knurled Knob (K). Remove setup block.	

Cut the Test Joint:

1. If needed, move MDF Sub Fence (C) to a fresh section. This will provide support and help prevent the pins from breaking out.
2. Replace Clamp Guard (L).
3. See Figure 15. Once the spacing and blade distance are set, two mating scrap boards will be needed for a test run. Mark these in the same manner as shown in "Setting Up the Workpieces".
4. Note the direction of the marked indicators on the workpieces. In this example "B" side workpiece will be the first piece cut.
5. Place the test workpiece resting it on the narrow ledge of the foot of Fixed Stop Plate (R), to the right of the blade.

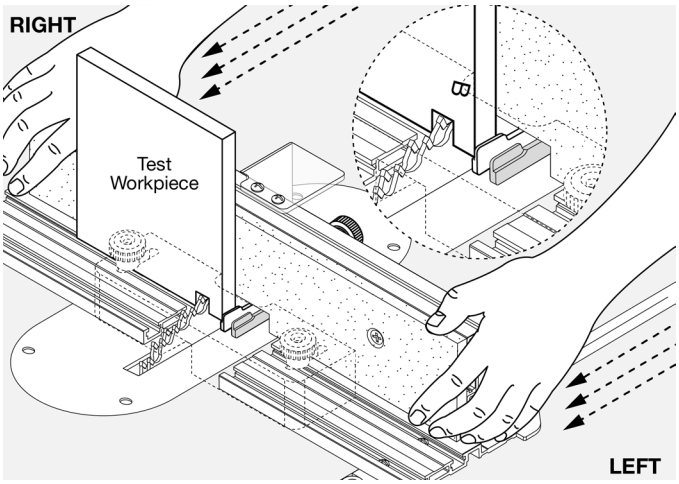
NOTE: *A small clamp may be needed to secure the workpiece.*

Figure 15



6. See Figure 16. Turn on the table saw.
7. Carefully slide the Box Joint Jig far enough forward to cut through the workpiece. This will also cut through the MDF and may cut through the Clamp Guard, which is typical.
8. Turn off the machine and inspect the cut.

Figure 16

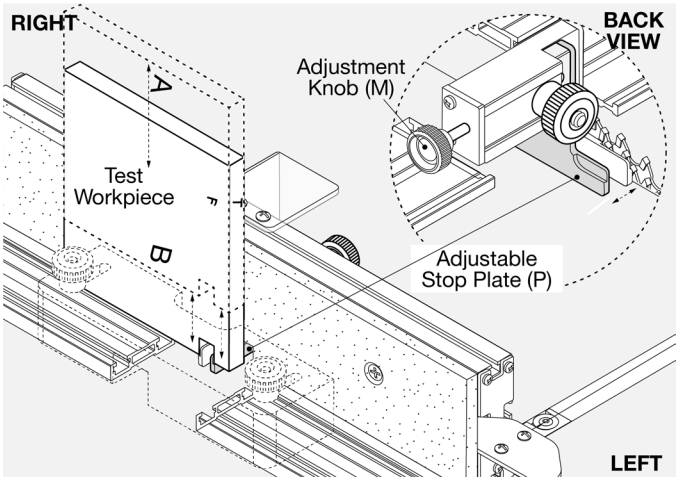


If Adjustment is needed:

This step will help produce consistent, equal spacing to the remaining cuts.

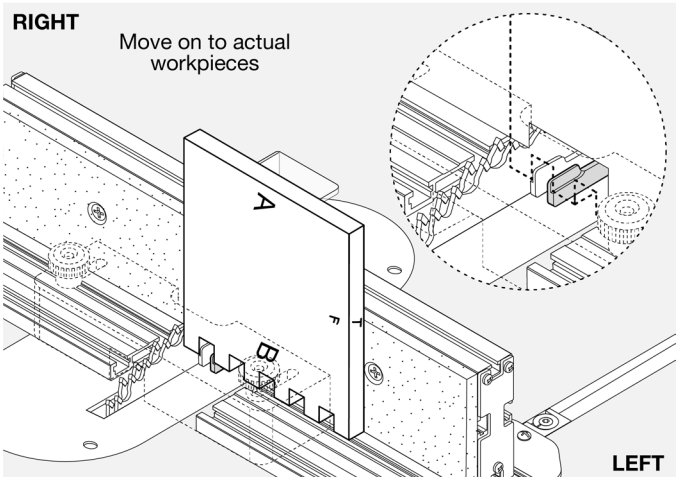
1. See Figure 17. Take the notched test workpiece and place it on-and-off the Stop Plate setup.
2. If there is too much play in the fit make adjustments to Adjustable Stop Plate (P) using Adjustment Knob (M) on the Adjustment Mechanism. Turn counterclockwise to widen the space and clockwise to reduce the space. Continue adjustments until test joint fits snug (but not tight) over the Stop Plate setup.

Figure 17



3. See Figure 18. Keeping this position, setup is ready to cut the box joints on ***the actual first workpiece side "B".***
4. For the first cut, position the board against the Fixed Stop Plate on the right (See Figure 15). Make the first cut. Move the board left to position the cut over both Stop Plates indexing the next cut. Continue the sequence until all cuts are made on side B.

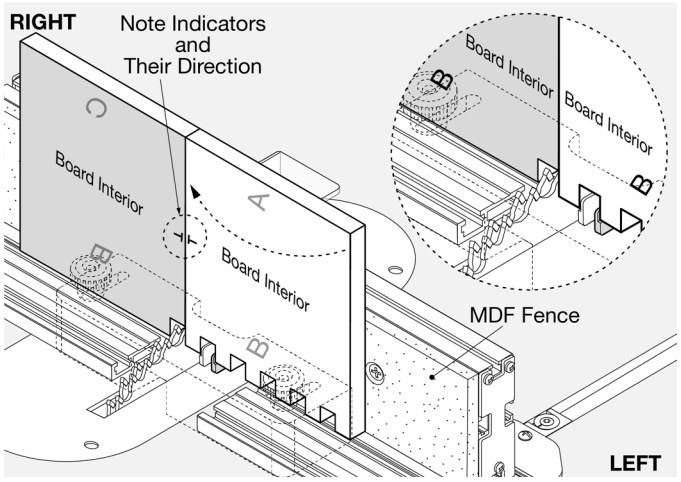
Figure 18



Cut Remaining Joints:

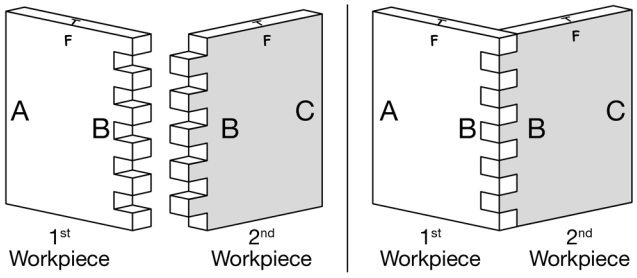
1. See Figure 19. To setup the adjoining workpiece, reverse the first "A-B" workpiece 180° (flip horizontally) to follow configuration for assembly. The face of the A-B board will now be facing the MDF Fence.
2. Using the first A-B workpiece as a spacer, position the cut joint end over Adjustable Stop Plates. The edge of the first A-B workpiece will be to the left of the blade.
3. Butt the edge of the second "B-C" workpiece firmly against the edge of the first workpiece *(pay attention to location of the letter markings).* Make sure the two Top "T" edges are the butted edges. This will set the spacing for the joints to align for the next workpiece to be cut.
4. Remove the first A-B workpiece and make the first cut on the B side of the second B-C workpiece.
5. Continue indexing the second workpiece until the remaining cuts are made.

Figure 19



6. See Figure 20. Join the two workpieces "B" to "B" together to confirm a good fit. If necessary, adjust. If all settings are satisfactory match accordingly and complete the remaining workpieces.

Figure 20



GENERAL MAINTENANCE

⚠ WARNING

When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage. To ensure safety and reliability, all repairs should be performed by a qualified service technician.

⚠ WARNING

Keep the Box Joint Jig dry, clean, and free from oil and grease. Always use a clean cloth when cleaning. Never use brake fluids, gasoline, petroleum-based products or any strong solvent to clean the Box Joint Jig. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

6 WARRANTY

Thank you for investing in a ***POWERTEC*** power tool. This product has been designed and manufactured to meet high quality standards and is guaranteed for domestic use against defects in workmanship or material for a period of 12 months from the date of purchase. This guarantee does not affect your statutory rights.

SOUTHERN TECHNOLOGIES LLC. BENCH TOP AND STATIONARY POWER TOOL LIMITED 1 YEAR WARRANTY AND 30-DAY SATISFACTION GUARANTEE POLICY

POWERTEC products are designed and manufactured by **Southern Technologies LLC.** All warranty communications should be directed to **Southern Technologies LLC** by calling 847-780-6120 (toll free), 9 AM to 5 PM, Monday through Friday, US Pacific Time.

30 - DAY SATISFACTION GUARANTEE POLICY

During the first 30 days after the date of purchase, if you are dissatisfied with the performance of this ***POWERTEC*** tool for any reason, you may return the tool to the retailer from which it was purchased for a full refund or exchange. You must present proof of purchase and return all original equipment packaged with the original product. The replacement tool will be covered by the limited warranty for the balance of the one year warranty period.

LIMITED ONE YEAR WARRANTY

This warranty covers all defects in workmanship or materials in this ***POWERTEC*** tool for a one year period from the date of purchase. This warranty is specific to this tool. **Southern Technologies, LLC** reserves the right to repair or replace the defective tool, at its discretion.

HOW TO OBTAIN SERVICE

To obtain service for this ***POWERTEC*** tool you must return it, freight prepaid, to ***POWERTEC***. You may call (toll free) 847-780-6120 for more information. When requesting warranty service, you must present the proof of purchase documentation, which includes a date of purchase. ***POWERTEC*** will either repair or replace any defective part, at our option at no charge to you. The repaired or replacement unit will be covered by the same limited warranty for the balance of one year warranty period.

WHAT IS NOT COVERED

This warranty applies to the original purchaser at retailer and may not be transferred.
This warranty does not cover consumable items such as saw blades, knives, belts, discs, cooling blocks, and sleeves.
This warranty does not cover required service and part replacement resulting from normal wear and tear, including accessory wear.
This warranty does not cover any malfunction, failure or defect resulting from:
1) misuse, abuse, neglect and mishandling not in accordance with the owner's manual.
2) damage due to accidents, natural disasters, power outage, or power overload.
3) commercial or rental use.
4) alteration, modification or repair performed by persons not recommended by ***POWERTEC***.

DISCLAIMER

To the extent permitted by applicable law, all implied warranties, including warranties of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, are disclaimed. Any implied warranties, that cannot be disclaimed under state law are limited to one year from the date of purchase. **Southern Technologies LLC** is not responsible for direct, indirect, incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Southern Technologies LLC., makes no warranties, representations, or promises as to the quality or performance of its power tools other than those specifically stated in this warranty.

POWERTEC®

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Chicago, IL 60606