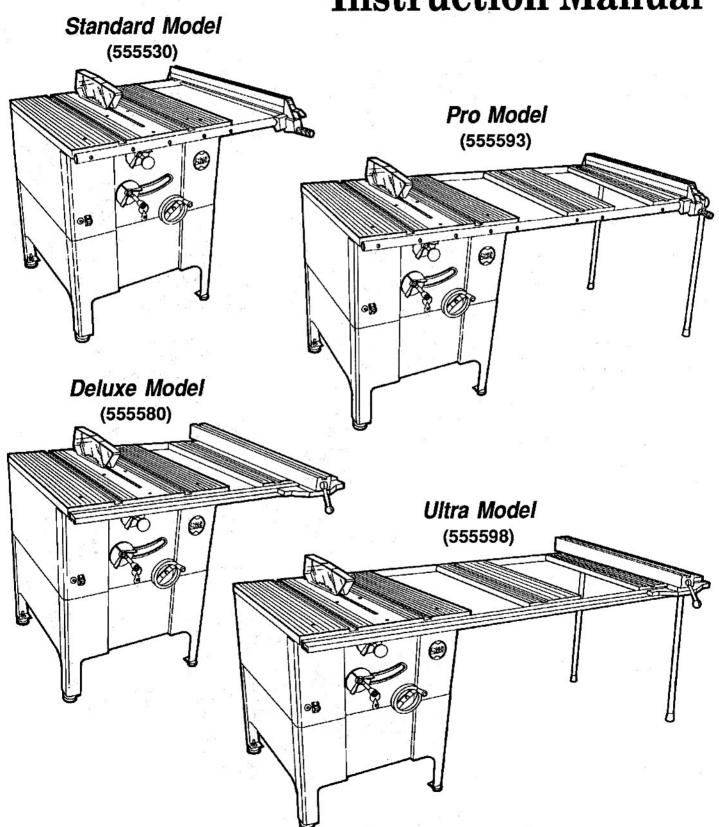


Sawsmith 2000

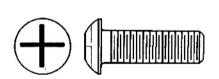
Instruction Manual



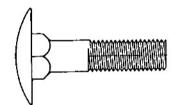
General Operating Instructions.....51
Table Saw Mode.......53
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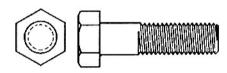
Quick Help for Identifying Hardware Parts Used for the Sawsmith 2000...



Phillips Pan Head Screw



Carriage Bolt



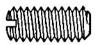
Hex Head Bolt



Truss Head Screw



Round Head Screw



Slotted Headless Setscrew



Split Lock Washer



Star (Internal Tooth) Washer



Square Nut



Hex Nut

Introduction

The Sawsmith 2000 is two machines in one. It's a radial arm saw. It's a table saw. You decide in which mode to use the Sawsmith 2000 and when. For instance, you can start cross cutting a wide board using the table saw mode and finish the cut in the radial arm saw mode. The Sawsmith 2000 is a versatile tool for making your woodworking projects. Because it is essentially two machines in one, it saves valuable workshop space.

How to Use This Manual

Read this entire instruction manual before you assemble the Sawsmith 2000. This will get you familiar with terms and how things fit and work together. Then return to the Safety section and thoroughly read and follow the information before you assemble and align the machine. Do the steps in sequence. When operating the Sawsmith 2000, make sure you follow all the safety information at all times. Keep this instruction manual handy for quick reference and to review the Sawsmith 2000's different methods of operation.

Safety First

The Sawsmith 2000 has many built-in safety features. But their effectiveness depends on you. Throughout this manual are warnings, cautions and notes. Their meanings are:

WARNING

A WARNING is given when failure to follow the directions could result in injury, loss of limb, or loss of life.

CAUTION

A CAUTION is given when failure to follow the directions could result in temporary or permanent damage to the equipment.

NOTE

A NOTE is used to highlight an important procedure, practice or condition.

Eye Protection

Always wear eye protection when you use power equipment. Use goggles, safety glasses or a face shield to protect your eyes.

• Goggles completely surround and protect your eyes. Many goggles will also fit over regular glasses. Be sure your goggles fit closely and comfortably.

- Safety glasses don't fog as easily as goggles and can be worn all the time. Regular eyeglasses normally have only impact resistant lenses. They are not safety glasses.
- A face shield protects your entire face. And you can flip it up out of the way when you don't need it. A face shield can be used with regular glasses.

Ear Protection

Prolonged exposure to high frequencies from high speed power equipment can damage your hearing. Hearing protectors screen out noise levels that can damage your ears. Wear hearing protection when you are exposed to power equipment noise for prolonged periods of time.

Sawdust and Chips

Sawdust and chips can be fire hazards and breathing sawdust can be a health hazard. Sawdust may cause you physical discomfort, especially if you have emphysema, asthma, or allergies. The sawdust from some woods can also be toxic. When sawing:

- Attach a dust collector or shop vacuum to the dust chute in the lower saw guard.
- Wear a close-fitting face mask if a significant amount of dust is released into the air. Clean or replace the filters in the mask regularly.
- Open a window or use a fan to ventilate your shop.

Saw Guards

Most shop accidents happen while using the table saw. For this reason, always keep the upper and lower saw guards in place whenever you operate the Sawsmith 2000. The ONLY exception to this rule is when making a non-through cut—such as when cutting a rabbet or groove, or when using a dado or molder accessory. Then you must remove the upper guard. Whenever you remove the upper guard, keep the lower guard in place and work with extreme caution.

The saw guards provide a physical barrier between you and the blade, no matter what height or angle you adjust the blade. The saw guards have other safety features:

- The **lower guard** has an adjustable side that adjusts for the width of the blade. The lower guard's adjustable side provides for easy accessory attachment and dust collection efficiency.
- The **upper guard** is clear so that you can see the blade. There's a removable plastic insert in front of the blade. This can be easily cleaned or replaced so that you can keep your line of sight clear.
- The upper guard has a **riving knife** that is positioned 1/8" from the blade regardless of stock thickness. The riving knife has anti-kickback cams that help capture the stock in the event of a kickback. The riving knife mounts in the lower guard. The lower guard mounts to the end motor housing. This permits you to adjust the blade without having to go back and align the riving knife with the blade.

Table Saw Kickback

Table saw accidents are often associated with kickback. Kickback is the ejection of the stock from the saw, usually back toward the operator. Kickback causes loss of control, and your hand could be thrown into the blade. You could be hit by flying stock. To reduce kickback and the chance of being hit by flying stock, never stand directly in the line of rotation of a moving blade.

Kickback is caused by:

- The kerf of the stock closing up and pinching the rear of the saw blade.
- The stock wedging between the rip fence and the rear of the saw blade.
- The stock binding against the sides of the blade as the blade passes through the stock.

To prevent kickback:

- Always keep the upper and lower saw guards in place. An anti-kickback mechanism on the guards helps prevent the stock from binding against the blade, and the stock from being thrown back toward the operator. Make sure the riving knife is aligned properly with the blade. This is extremely important with thin kerf blades to prevent stock from catching against the riving knife.
- Never cut stock freehand. Always use a push stick, push block, fence straddler, feather board, fixture, rip fence or miter gauge to guide and support the stock.

- Never reach over the blade while the machine is running. You could slip or twist the stock, causing a kickback. Use a rear support table or a roller stand to help support the stock and turn off the machine before removing stock or scraps.
- Keep blades sharp, properly set and free of pitch. Well maintained blades minimize the likelihood of kickback.
- Avoid cutting wet or pitchy wood.
- The anti-kickback cams are not effective when 8" diameter saw blades are used (do **not** use 8" diameter blades on the Sawsmith 2000).
- When cross cutting, always use the miter gauge or a cross cutting fixture and hold the stock firmly against the miter gauge or fixture.
- When cross cutting, never use the miter gauge with the rip fence unless you mount a stop block to the rip fence to prevent the stock from binding between the rip fence, miter gauge and blade.
- When ripping, always use the rip fence to guide and support stock.
- Make sure the rip fence is parallel to the blade.
 If the rip fence closes in toward the rear of the blade, the rip fence will tend to wedge the stock against the blade, causing kickback.
- Always cut with the smooth, hard surface of the stock against the worktable. Anti-kickback mechanisms are not as effective when cutting smooth, hard surfaces.

Electrical Requirements

Pay particular attention to the connection between your power equipment and your power source.

Circuit

Before you plug in your Sawsmith 2000, check the output and the amperage of the circuit you will be using. The output of the circuit **must** meet or exceed the electrical requirements of the Sawsmith 2000 motor.

The amperage must be rated high enough to handle the load (in amps) of the motor, plus any of the tools or appliances you may have plugged into the same circuit and are running at the same time.

The Sawsmith 2000 115-volt motor is rated at 1-1/4 hp. It develops over 2 hp in use and draws 18-20 amps when running under a heavy load. This motor runs on ordinary U.S. house current—115 volts, 60 hz. The wire size (gauge) in the circuit you use must be rated for at least 15 amps. Wire rated to handle 20 or 25 amps will give you an even bigger safety margin.

- We recommend you install circuit breakers or use time-delay fuses. Fusetron T-15 fuses are recommended. Do not use fuses or circuit breakers larger than 15 amps. When you first turn on the machine, the motor pulls high amperage to get up to running speed. A time delay fuse won't blow during this initial surge.
- If you need to run a new circuit to operate the Sawsmith 2000, be sure that the wire you use is rated to handle the amperage of the circuit.

Grounding

The circuit you use should be properly grounded.

• The Sawsmith 2000 plug has three prongs, as shown in Fig. A. The receptacle should have three corresponding holes. Do not modify the plug. If it will not fit the receptacle, have the proper receptacle installed.

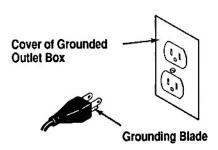


Fig. A

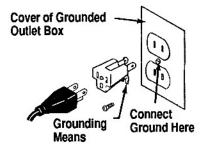


Fig. B

WARNING

If you have a two-hole receptacle, use a temporary adaptor to plug in the Sawsmith 2000, as illustrated in Fig. B. The grounding lug or wire on the adaptor MUST be connected to a permanent ground such as a grounded outlet box. The temporary adaptor should be used only until a properly grounded outlet can be installed. (Adaptors are not allowed in Canada.)

 If you are unsure as to whether your outlet box is grounded, ask a licensed electrician.

Extension Cords

If you use an extension cord with your Sawsmith 2000, be sure it is a three-conductor cord with a grounding plug and receptacle.

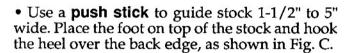
• The wire gauge must be thick enough to prevent loss of power and overheating—the longer the cord, the thicker the wire should be. Use the chart to determine the American Wire Gauge wire size required:

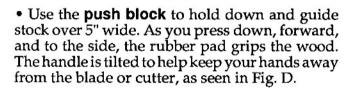
Cord	Minimum
Length	Wire Size
25 ft.	12 AWG
50 ft.	12 AWG
100 ft.	10 AWG

- Before using an extension cord, inspect it for loose wires or damaged insulation. Replace damaged cords immediately.
- Do not let the connection between the power cord and an extension cord lie on a damp or wet surface.

Safety Kit

Four important safety devices are included with your Sawsmith 2000— push stick, push block, fence straddler and feather board. These devices are designed to hold or maneuver stock close to moving blades and cutters. They give you better control over the stock which helps achieve a more accurate cut. Depending on the operation, use one or more safety devices. Choose the device that gives you the most control and keeps your hands out of danger.





- Use the **fence straddler** to hold down and push stock narrower than 1-1/2" past a blade or cutter. The body rides on the rip fence, while the heel hooks over the back edge of the stock. To change the height of the heel, loosen the locking knob. To reverse the heel, rotate the side 180°. Keep the locking knob secure. See Fig E.
- Use the **feather board** to press stock against the rip fence. Mount the feather board in either miter slot. The fingers must be angled in the same direction that you feed the stock— use the arrow on top of the feather board as a guide. Position the feather board just in front of the blade or cutter on the infeed side of the table. Press the fingers against the stock until they deflect 1/8", then tighten the locking knobs. See Fig. F. To reverse the direction of the fingers, remove the mounting bar, turn the feather board over, then replace the mounting bar.

WARNING

To avoid a kickback situation, be sure to position the feather board in front of the blade or cutter so that the fingers do not press the workpiece against the blade.

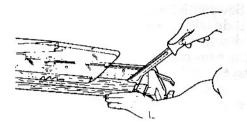


Fig. C

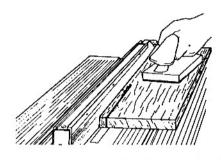


Fig. D

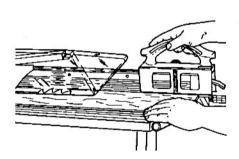


Fig. E

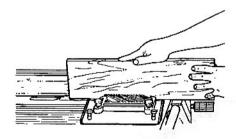


Fig. F

Safety

Follow these safety rules for safe, proper, and efficient use of the Sawsmith 2000. Also, read, understand and follow the Operations Safety Rules listed in the Operations section of this manual before performing any operations.

WARNING

General Safety Rules

- Read, understand and follow this instruction manual before attempting any operations.
- Wear proper eye and ear protection. Also, wear a dust mask.
- Ground the Sawsmith 2000 into a grounded (three pronged) outlet before using.
- Keep the upper and lower saw guards in place and in working order.
- Never stand directly in the line of rotation of the moving blade or cutter. If a kickback occurs, you could be hit by the workpiece.
- Do not wear loose clothing, ties, gloves or jewelry. Roll sleeves up above your elbows, wear non-slip footwear, and restrain long hair.
- Never operate the Sawsmith 2000 if you are fatigued, taking medication or other drugs, or under the influence of alcohol.
- Do not work with stock that is too small or too large to handle safely, or that has loose knots or other defects.
- Plan the operation before you begin.
- Turn off the Sawsmith 2000 and wait until it comes to a compete stop before removing stock and scraps.
- Turn off and unplug the Sawsmith 2000 before making adjustments, changing modes, changing blades or cutters, or performing maintenance, or performing alignment.
- Make your workshop childproof. Unplug equipment, use padlocks and master switches, and remove the switch keys.

- Keep observers and/or children a safe distance from the Sawsmith 2000, and make them wear eye and ear protection.
- Never stand or lean on the Sawsmith 2000. You could fall onto the machine or it could tip over.
- Keep work area well lit, clean and free from clutter and saw dust.
- Do not use the Sawsmith 2000 in damp, wet or explosive atmosphere.
- Repair or replace damaged parts before further use. If a strange noise or vibration develops, turn off and unplug the Sawsmith 2000. Correct the problem.
- Use only recommended Shopsmith parts and accessories on your Sawsmith 2000. Never use non-Shopsmith replacement parts or accessories. They are not designed like Shopsmith parts. Using non-Shopsmith parts may create a hazardous condition, cause serious bodily injury, and will void your warranty.

WARNING

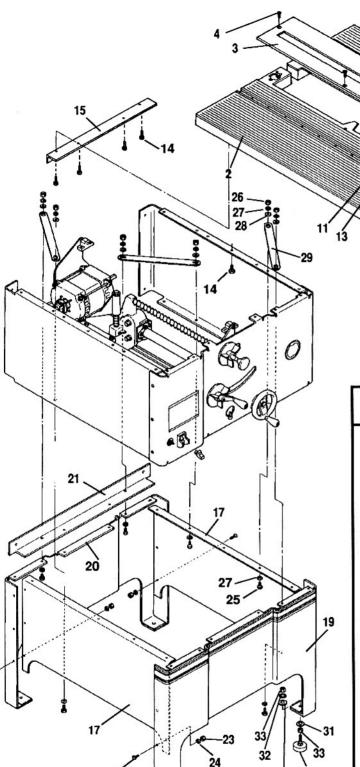
Setup and Other Safety Rules

- Keep your hands, fingers and other parts of your body at least 3" away from any moving blade or cutter, and keep them out of the red insert area.
- Reduce the risk of unintentional starting. Make sure the switch is in the "off" position before plugging in the Sawsmith 2000.
- Make sure the blade bevel lock is secured before operating the Sawsmith 2000.
- Make sure safety devices, accessories, fixtures and jigs are properly adjusted and secured before turning on the Sawsmith 2000. Also, routinely check the arbor setscrew for tightness.
- Make sure that adjusting wrenches and other tools are removed from the Sawsmith 2000 before turning it on.

WARNING

- Never try to stop the saw blade by touching the blade, or jamming stock into the blade.
 Always wait for the saw blade to stop on its own, and with the upper saw guard covering the blade.
- Never leave the Sawsmith 2000 running unattended. Do not leave until the machine comes to a complete stop. When finished, turn off and unplug the Sawsmith 2000.
- Do not over-reach. Keep proper footing and balance at all times.
- Never reach under the worktable while the Sawsmith 2000 is running.
- Never use a carbide-tipped blade or cutter to cut second-hand lumber. Nails or other foreign objects can crack, chip or remove carbide teeth from the saw blade, and you could be hit by pieces of metal.
- Keep parts, blades and cutters sharp, clean, maintained and free of saw dust.
- Make sure the Sawsmith 2000 rests firmly on the floor when in use. If the (optional) casters are installed, make sure they are fully retracted before operating the Sawsmith 2000.
- Do not force the workpiece. Always feed the workpiece against the rotation of the blade. Let the blade get up to full speed before you feed a workpiece into the blade.
- Make sure the workpiece rests firmly against the worktable, miter gauge, rip fence or stop pins. Do not cut warped or twisted stock on the Sawsmith 2000.
- Do not work with long boards or sheet materials by yourself, unless you use a large outfeed-side support table or roller stands. It is best to have a helper, especially one who is experienced in woodworking.

- Always keep the upper saw guard in place. The ONLY exception is when you execute a non-through cut—such as when a rabbet or groove, or when you use the dado or molder accessory. When these exceptions occur, use safety devices to move the stock past the unguarded blade. NEVER place your hands over the blade even if the blade is covered by the workpiece.
- Always keep the lower saw guard in place. There are no exceptions.
- The saw blade should never protrude more than 1/4" above the stock.
- · To Prevent Kickback:
 - 1. Never make freehand cuts.
 - 2. Never reach over the saw blade while the machine is running.
 - Keep blades sharp, properly set and free of wood resin.
 - Avoid cutting twisted, warped, second hand, or wet wood.
 - When crosscutting, always use the miter gauge with the safety grip and/or a jig that fully supports the stock.
 - 6. When crosscutting, if you use the rip fence with the miter gauge, always clamp a stop block to the rip fence on the infeed side of the blade.
 - 7. When ripping always use the rip fence and make sure that it is parallel to the blade.
 - 8. Always cut with the smooth, hard surface of the stock against the table.
 - Make sure the riving knife on the upper saw guard is in line with the saw blade and the cams are properly adjusted.
- Do not use saw blades larger than 10" in diameter because they will not fit in the guards.
- Do not use saw blades smaller than 10" in diameter, because smaller saw blades cause the anti-kickback cams to be ineffective.
- Always use the proper table insert for the operation.
- Always secure the riving knife lock knob, even when the upper saw guard is not being used.

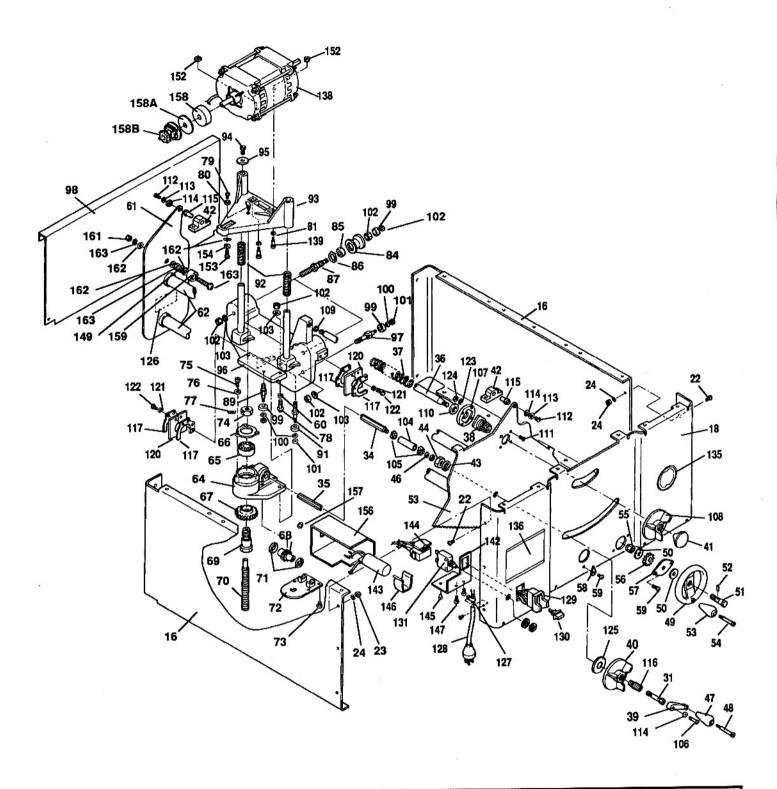


PARTS LIST FOR THE TABLE AND CABINET ASSEMBLIES

AND CABINET ASSEMBLIES				
Ref. No.	Part No.	Description	Qty.	
	516545	Table Assembly		
1	516605	. Table, right hand	1	
2	516606	. Table, left hand	i	
2	516601	. Table Insert	1	
٥	501637	. Socket Head Screw	4	
5	516559	. Setscrew	2	
2 3 4 5 6 7	120377	. Hex Nut, 3/8-16	4 2 4 4 2 4	
7	513434	. Flat Washer	4	
8	426370	. Socket Head Cap Screw	2	
9	516669	. Bolt, 1/4"-20 x 3/4"	4	
10	120380	. Split Lock Washer	4	
11	120382	. Split Lock Washer, 3/8"	2	
12	517059	. Phillips Flathead Screw,	20	
1.5	017000	8-32 x 3/8"		
13	516497	. Slot Extrusion	2	
14	513993	. Hex Head Screw, 5/16-18	16	
15	517103	. Shipping Bracket	1	
	516496	Cabinet Assembly		
16	516603	. Side Panel	2	
17	516594	. Lower Side Panel	2 1 1	
18	516600	. Front Panel	1	
19	517070	. Front Panel (with label)	1	
20	516604	. Back Panel (without label)	1	
21	517088	. Angle Bracket	1	
22	517105	. Phillips Pan Head Screw,	8	
		1/4-20 x 1/2"		
23	120375	. Hex Nut, 1/4-20	8	
24	115546	. Internal Tooth Washer, 1/4"	8	
25	426367	. Hex Cap Screw, 5/16-18 x 3/4"	20	
26	102634	. Hex Nut	20	
27	120214	. Split Lock Washer	20	
28	120393	. Flat Washer	40	
29	517114	. Corner Brace	4	
30	515230	. Adjustable Foot	4	
31	120394	. Flat Washer	8	
32	120382	. Split Lock Washer	4	
33	120377	. Hex Nut	8	

PARTS LIST FOR THE CARRIAGE AND UPPER CABINET ASSEMBLIES

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qt
_	516608	Cradle Assembly		_	516491	Lower Clamping Roller Assembly	1
34	516456	. Long Height Shaft	1	91	516490	Shaft	1
35	516452	. Height Shaft	. 1	92	516549	Compression Spring	2
36	516464	. Carriage Pull Rod	1	93	516564	Motor Mount	
37	516561	. Compression Spring	1	94	120706	Hex Bolt	2 2 1
38	516457	. Locking Collet	1	95	515540	Flat Washer	2
39	516451	. Crank	1	96	516560	Carriage & Post Assembly	
40	516461	. Clamping Hub	1	_	516489	. Upper Clamp Roller Assembly	2
11	514238	. Ball Knob	1	97	516488	Upper Clamp Shaft	1
12	516553	. Table Bracket	2	98	517161	Rear Panel	1
13	516675	. Flat Washer, 5/8"	1		517442	Velcro Pads (not shown)	4
14	516674	. Hex Nut, 5/8"	1	99	514011	Tension Bearing	1
45	not used	,		100	not used	_	
46	514049	. Retaining Ring	1	101	120375	Hex Nut, 1/4-20	1
47	513374	. Crank Knob	1	102	120377	Hex Nut, 3/8-16	1
48	513373	. Knob Shaft	i	103	120382	. Flat Washer	1
_	516495	. Angle Adjustment Assembly		104	516668	. Short Hose	1
19	513355	Crank	1	105	516672	. Hose Clamp	ż
50	516077	Flat Washer	2	106	516669	. Cap Screw, 1/4-20 x 3/4"	1
51	516563	Pinion Shaft	1	107	516459	. Collet Plate	4
52	516455	Gear Pin	i	108	516458		- 1
3						. Locking Hub	- 1
	513374	Crank Knob	1	109	516670	. Split Washer, 1/2" medium	- !
4	513373	Knob Shaft	- 1	110	516671	. Flat Washer, 3/4" medium	1
55	515825	Nut	1	111	516841	. Flat Head S.C. Screw, 10-24 x 5/8"	4
6	516454	Pinion Gear	1	112	514393	. Cap Screw, 1/4-20 x 1/2"	2 2 3 2
7	516453	Plate	1	113	120380	. Split Lock Washer	2
8	516595	. Pointer	1	114	120392	. Flat Washer	3
9	515087	. Screw, 1/4-14 x 3/4"	3	115	516554	. Pivot Pin	
	516498	. Cradle	1	116	516555	. Bushing	1
60	516556*	Front Support	1	117	516688	. Wiper Support	8
31	516557*	. Rear Support	1	118, 1	19 not use		
62	516558*	Tube	1	120	516689	. Wiper	4
	516493	. Carriage Assembly	1	121	516827	. Split Lock Washer, #8	8
-	516485	Gear Box Assembly	1	122	516828	. Phillips Pan Head Cap Screw,	8
33	not used					8-32 x 1/2"	
64	516470	Gear Housing	1	123	502973	. Lock Washer	4
35	501297	Bearing	1	124	274737	. Hex Nut	4
36	516482	Bearing Plate	1	125	517102	. Nylon Washer	1
67	516465	Main Helical Gear	1	126	516562	. Blade Angle Label	1
8	516463	Helical Gear Pinion	1	127	517101	Cord Clamp	1
39	516467	Gear Shaft	1	128	516607	Power Cord	1
70	516462	Elevating Screw	i	129	516532	Safety Switch	1
71	516484	Washer	2	130	517143	Switch Key	- 1
72	516466	Saddle Bearing & Dust Guard	1	131	516847	. Overload Switch	1
73	517045	Washer Head Screw	4	132-13		not used	•
74	516483	Nut	1	135	516693		4
		Washer	100 E 100			Shopsmith Logo	4
75 76	120380		3	136	516694	Warning Label	1
76	513971	. Socket Head Cap Screw, 1/4"-20	3	137	not used	Manager Assessed	
77	515233	Set Screw	1	400	516850	Motor/Electrical Assembly	1
78	514745	Socket Head Cap Screw	2	138	516550	. Motor	1
79	517060	Button Head Cap Screw,	1	139	516552	. Shoulder Screw	2
30	120393	Flat Washer	1	140	115548	. Washer	2
31	120214	Split Lock Washer	2	141	516950	. Capacitor Relay Assembly	1
32	not used	ected		142	516892	Mounting Bracket	1
	516480	Upper Adjustable Roller Assembly	2	143	516846	Capacitor	1
33	515921	Retaining Ring	1	144	516845	Relay	1
34	516477	Roller	1	145	516060	Blind Pop Rivet	1
35	516596	Bearing	1	146	516949	Capacitor Bracket	1
86	516478	Snap Ring	1	147	515356	Hex Head Bolt, 8-32 x 3/16"	2
B7	516475	Adjustable Shaft	1	148	516929	. Wire Assembly, orange	1
38	516487	Lower Roller Assembly	i	150	546930	. Wire Assembly, brown	1
89	516486	Shaft	i	151	516931	. Wire Assembly, blown . Wire Assembly, yellow/green	1
	not used	Official		152	120372	. Square Nut	2
90			10.23	152	1203/2	Souare Nut	



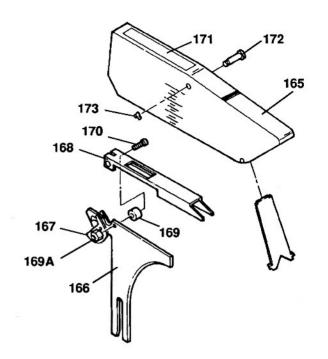
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty
153	513201	. Socket Head Cap Screw	1		517135	Bumper Assembly	1
154	120380	Flat Washer	1	159	517134	. Bumper	1
155	517074	Phillips Head Screw, 1/4-14 x 1/4"	2	160	517136	. Phillips Pan Head Screw,	1
156	517061	Electrical Cover	1			1/4-20 x 1-3/4	
157	517137	Grommet	1	161	120375	. Hex Nut, 1/4-20	3
158	517317	Brake Drum	1	162	120392	. Flat Washer	3
158A	517326	Brake Lining	1	163	102380	Split Lock Washer	1
158B	517327	Brake Activator	1	164	not used	93.	
	517316	Setscrew, 10-32	4				

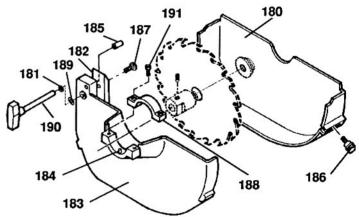
Ref. No.	Part No.	Description	Qty.
	516844	Upper Guard Assembly	
165	514453	. Guard & Insert	1
_*	517115	. Riving Knife Assembly	1
166*	517104	Riving Knife	1
167*	514562	Anti-Kickback Cam	2
_*	515058	Washer	1
_ :	514557	Washer	2
- *	515057	Pivot Pin	1
168	514312	. Support Link	1
169	514114	. Support Link Spacer	1
169A	514373	. Support Link Hub	1
170	186923	. Socket Head Cap Screw	1
171	514595	. Upper Guard Warning Label	1
	514305	. Hinge Pin	1
	514411	. Retaining Ring	1
	9 not used		10
		a service part.	

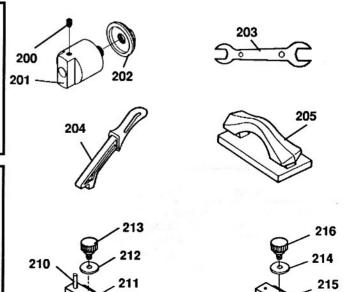
— 516843 Lower Saw Guard Assembly 180 516856 . Cover 1 181 504267 . Flat Washer 3 182 514113 . Plate Clamp 1 — 516948 . Guard & Pin Assembly 1 183 516612* . Lower Guard 1 184 514360* . Spring Pin 2 185 273336* . Roll Pin 1 186 516917 . Knob Assembly 2 — 516916* . Knob 1 — 186923* . Socket Head Cap Screw 1 187 516686 . Carriage Bolt 1 188 513492 . Retainer Cap 1 189 514473 "O" Ring 1 190 516682 . Knob Assembly 1 191 513513 . Socket Head Cap Screw 2 192−199 not used * Not a Service Part.					
	181 182 — 183 184 185 186 — — 187 188 189 190 191 192–19	516856 504267 514113 516948 516612* 514360* 273336* 516917 516916* 186923* 516686 513492 514473 516682 513513 9 not used	. Cover . Flat Washer . Plate Clamp . Guard & Pin Assembly . Lower Guard . Spring Pin . Roll Pin . Knob Assembly . Knob . Socket Head Cap Screw . Carriage Bolt . Retainer Cap "O" Ring . Knob Assembly . Socket Head Cap Screw	1 1 1 2 1 2 1 1 1 1 1 1 1	

-	517118	Arbor Assembly	
200	516240	. Brass-tipped Setscrew	1
201	517117	. Arbor	1
202	514406	. Arbor Nut	1
203	515979	Arbor Wrench	1
204	513701	Push Stick	1
205	513711	Push Block	1
	517350	10" Carbide-Tipped Saw Blade	1

	517107 517100 517099 516992 516989	Auxiliary Stop Pin Assembly . Pin . Tee Nut . Flat Washer . Knob	1 1 1 1
 214 215 216	516678 516992 515542 516989	Miter Stop Assembly . Flat Washer . T-Nut . Knob	1 1 1



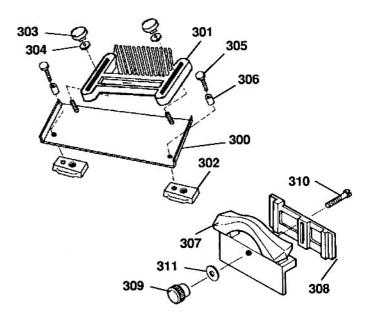


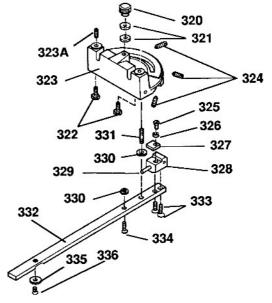


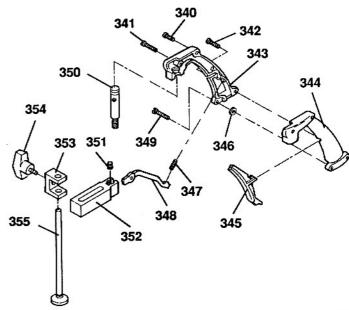
Ref. No.	Part No.	Description	Qty.
	515542 513713 513864	. Knob . Washer	1 1 2 2 2 2 2 2
311		. Slide Rail . Knob . Machine Screw . Washer	1 1 1 1

_	516676	Miter Gauge Assembly	
320	504268	. Lock Knob	1
321	120392	. Washer	2
322			2
323	516692	. Protractor	1
323A		. Setscrew	1
324		. Headless Stop Screw	3
325	T. T	. Pan Head Machine Screw	1
326			1
327		. Vernier Plate	1
328		. Indicator Mount and	1
(5,75,5)		Plunger Assembly	
329	514307	Miter Stop Plunger	1
330	504267	. Special Washer	2
331	504266	. Miter Stud	1
332	516650	. Miter Gauge Bar	1
333	501635	. Machine Screw	2
334	501639	. Nylock Machine Screw	1
	514376		1
	514377		1
100000000000000000000000000000000000000	339 not use		

450213 450219 450217 501469 501468 501465 501470 501467 501464 132066 501466 222458 555125 514250 514252 514310	. Tapping Screw . Tapping Screw . Tapping Screw . Right Grip . Left Grip . Trigger . Washer . Lever Spring . Lever Lock . Machine Screw . Grip Stud . Setscrew . Quick Clamp Assembly . Lock Guide . Lock Clamp . Grip Knob	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
514464	Rod and Shoe Assembly	1	
59 not use	d.		
	450213 450219 450217 501469 501465 501470 501467 501464 132066 501466 222458 555125 514250 514252 514310 514464	450213 . Tapping Screw 450219 . Tapping Screw 450217 . Tapping Screw 501469 . Right Grip 501468 . Left Grip 501465 . Trigger 501470 . Washer 501467 . Lever Spring 501464 . Lever Lock 132066 . Machine Screw 501466 . Grip Stud 222458 . Setscrew 555125 . Quick Clamp Assembly 514250 . Lock Guide 514252 . Lock Clamp 514310 . Grip Knob	450213 . Tapping Screw 1 450219 . Tapping Screw 1 450217 . Tapping Screw 1 501469 . Right Grip 1 501468 . Left Grip 1 501465 . Trigger 1 501470 . Washer 1 501467 . Lever Spring 1 501464 . Lever Lock 1 132066 . Machine Screw 1 501466 . Grip Stud 1 222458 . Setscrew 1 555125 . Quick Clamp Assembly 514250 . Lock Guide 1 514252 . Lock Clamp 1 514310 . Grip Knob 1 514464 . Rod and Shoe Assembly 1

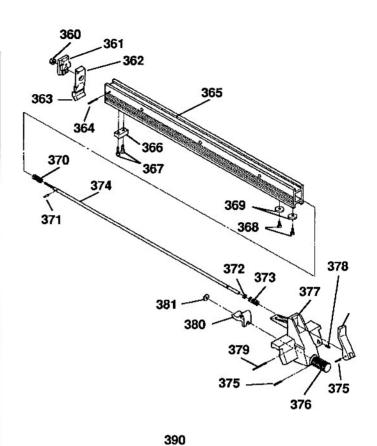


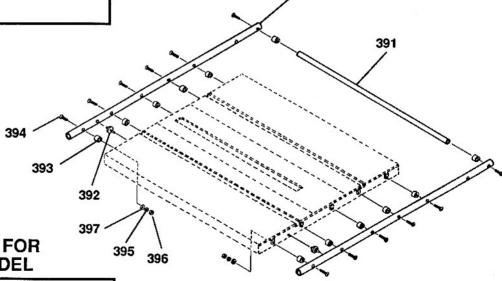




RIP FENCE FOR STANDARD AND PRO MODELS

Ref. No.	Part No.	Description	Qty	/ -
	516830 515286 515114 514455 514259 514454 514391 516473 514924 515426 502333 514463 514389 514463 514389 514467 514353 514469 514527 517109 516831	Rip Fence Assembly Lock Nut Fence Cap Outfeed Clamp Assembly Clamp Protector Rollpin Fence Extrusion Fence Rest Screw Pan Head Sems Screw Flat Washer Spring Rollpin Retaining Ring Spring Fence Lock Rod Rollpin Handle Base Assembly	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<u>r</u> _
378 379 380	514567	Fence Base Setscrew Dowel Pin Infeed Clamp	1 1 1	
381 382 3	514386 89 not used	Retaining Ring d.	1	





FENCE SYSTEM FOR STANDARD MODEL

		Description	Qty.	
390	517374	Table Tube	2	
391	516598	Spreader Bar	ī .	
392	514440	Thumb Screw	2	
393	514101	Spacer	12	
394	515932	Screw	12	
395	115546	Internal Tooth Washer	10	
396	120375	Hex Nut	10	
397	120392	Washer	10	
398-3	99 not used			

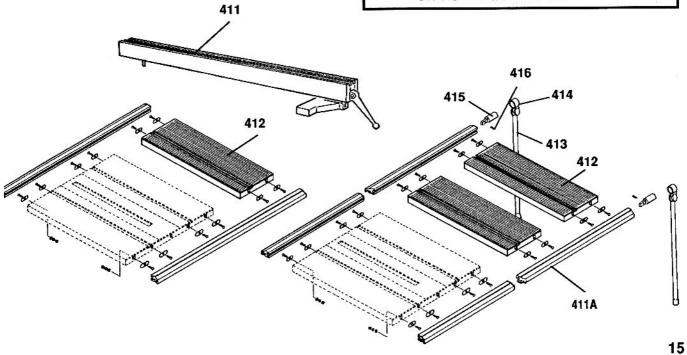
FENCE SYSTEM FOR PRO MODEL

No.	. Part No.	Description	Qt
400	517378	Table Tube	2
401		Thumb Screw	6
402		Spacer	18
403		Screw	18
404		Internal Tooth Washer	18
405		Hex Nut	18
406		Flat Washer	18
407		Telescoping Leg	2 2 2 2
408		T-Joint Fitting	2
409		Connector Tube	2
410	516565	Extension Table	2
			. >
		403	Week.
		400	//<`
		402	150
			401
			7
		40	06 //
			404 4

No.	Part No. Description		Qty.
_	517416	Fence and Rail System	1
411		Excalibur Fence	1
_	<u> </u>	Excalibur Rail System	1
412	516565	Extension Table	1
	517419	Hardware Pack	1

FENCE SYSTEM FOR DELUXE MODEL FENCE SYSTEM FOR ULTRA MODEL

No.	Part No. Description		Qty.	
411	517418	Excalibur Fence	1	
411A	517417	Excalibur Rail System	1	
412	516565	Extension Table	2	
413	514529	Telescoping Leg	2	
414	514520	T-Joint Fitting	2	
415	517445	Leg Adaptor	2	
416	516240	Brass Tipped Setscrew	2	
	517419 Hardware Pack		2	



Assembly

Tools Needed:

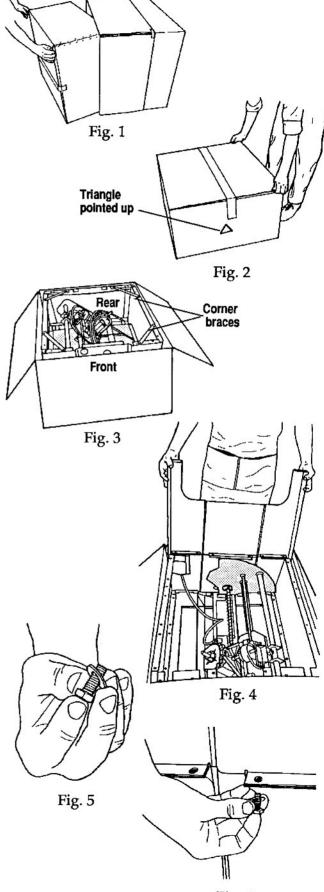
- Utility Knife
- 7/16" wrench
- Two 1/2" wrenches
- 1/2" Socket and ratchet wrench (optional)
- 5/32" Allen wrench (provided)
- Medium Phillips screwdriver
- Small Phillips screwdriver

REMOVE THE SMALLER BOX FROM THE OUTER BOX

- 1. Open and tape the outer box's four flaps to the side of the box. Then remove the base cabinet panels, top boxes and corner pads. Set them aside.
- 2. With a friend assisting, turn the outer box on its side.
- **3.** As demonstrated in Fig. 1, "scoot" the smaller inner box from the outer box. Set the outer box aside and save it (along with boxes and corner pads) in case your Sawsmith 2000 should ever need to be shipped again.
- **4.** Gently place the smaller box right-side up, as shown in Fig. 2. The triangle on the box should point up.
- **5.** Open the box, fold back and tape its flaps, as seen in Fig. 3. Remove the box lying on the table bottom and set it aside.

ASSEMBLE THE BASE CABINET

- **6.** Use two 1/2" wrenches to remove four corner braces (29), as identified in Fig. 3. Save them for re-attachment later.
- 7. Open the largest of the three boxes you had previously set aside. Find the hardware bag labeled "Stand to Base Hardware" and sort the contents. Refer to the illustrations on page 2 to help you become familiar with them.
- **8.** Place the front end panel (20) (the one without the "Sawsmith" label) on the front of the cabinet (where the controls are), as shown in Fig. 4.
- 9. Place a flat washer (28) on a bolt (25), as in Fig. 5.
- **10.** Insert the bolt up through both a base hole and leg hole, as shown in Fig. 6. Leave open the holes previously used to attach the corner braces (later you will reattach the corner braces using these holes).



- 11. Hold the bolt in place with a finger, and put another flat washer (28) on the bolt, as seen in Fig:
- 12. Place a split lock washer (27) on the bolt, as shown in Fig. 8.
- 13. Start a hex nut (26) on the bolt, as illustrated in Fig. 9, and finger tighten.

NOTE

You may find it easier to assemble the bolts, washers and nuts located closest to the switchbox by putting the bolts down through the holes rather than up through the holes.

- 14. Repeat Steps 9-13 for the three other holes in the end panel. Remember, at this time do not insert bolts where the corner braces attach.
- **15.** Repeat Steps 7–13 for the back end panel.

ASSEMBLE THE SIDE PANELS & RE-ATTACH THE CORNER BRACES

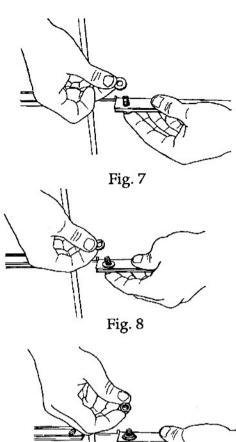
16. Place a side panel (17) between the two end panels and against the cabinet, as shown in Fig. 10. It should be inside the end panel legs.

NOTE

Make sure you place the power cord up through the corner opening created by end and side panels. This ensures that the cord is not entrapped by the panels. (The power cord is supposed to hang directly from the switchbox to the floor.) See Fig. 10. Do this before you attach the side panels.

- 17. Attach a side panel (17) to the two base cabinet holes using bolts (26), flat washers (28), split lock washers (27) and hex nuts (26), as described in Steps 9-13. Finger tighten. (Remember to not insert bolts where the corner braces are located at this time.)
- 18. Repeat Steps 16 and 17 for the other side panel (17).
- 19. Place the four corner braces (29) under their original holes, as shown in Fig. 11, and attach them to the base using bolts (26), flat washers (28), split lock washers (27) and hex nuts (26), as described in Steps 9-13. Finger tighten.

Now locate the base assembly hardware bag and sort its contents.



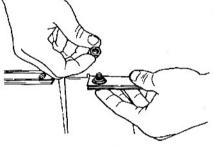


Fig. 9

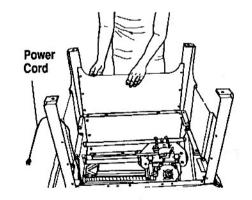


Fig. 10

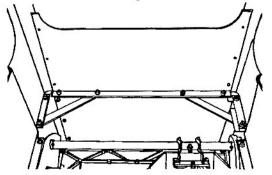


Fig. 11

- **20.** Insert a Phillips head screw (22) through an end and side panel, as shown in Fig. 12. The screw head should be on the outside.
- **21.** Place a internal tooth washer (24) on the screw and attach a hex nut (23), as seen in Fig. 13. Finger tighten.
- **22.** Repeat Steps 19 and 20 for the remaining five holes and for the other side panel.

NOTE

In order to assemble the final screws, internal tooth washers and hex nuts, you will need to use a pointed tool (like a scratch awl or punch) to locate and pierce a hole through the front end panel's label.

TIGHTEN ALL LEG NUTS

- 23. (You may need a helper for this step.) Starting in the corner with the electrical box, look at the exterior of the machine. Move the end panel even with the machine base along its entire length. Use two 1/2" wrenches (or 1/2" wrench and ratchet wrench) to securely tighten all six nuts (26) attaching the end panel to the base, as demonstrated in Fig. 14.
- 24. Repeat Step 23 for the other end panel.

TIGHTEN ALL SIDE PANEL NUTS AND SCREWS

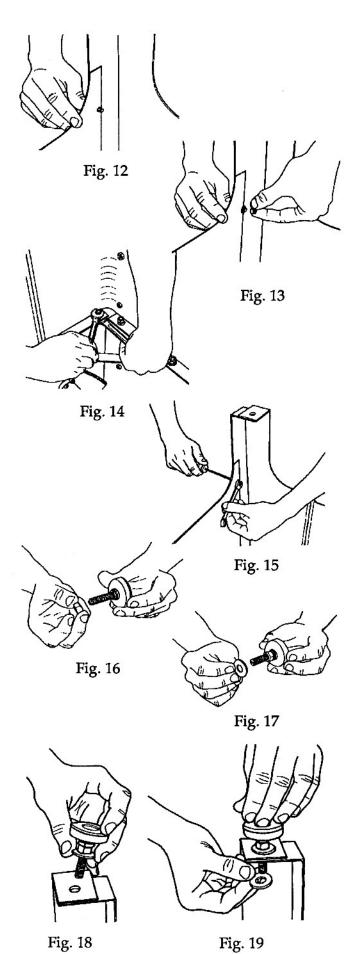
- 25. Use two 1/2" wrenches (or a 1/2" wrench and a ratchet wrench with a 1/2" socket) to securely tighten all eight nuts attaching the side panels to the machine base.
- **26.** Use a medium Phillips screwdriver and 7/16" wrench to securely tighten all side panel nuts to the legs, as shown in Fig. 15.

NOTE

Only turn the nut to tighten the screws located at the label so the label will not tear.

ATTACH THE LEVELING FEET

- **27.** Locate the leveling feet hardware bag and sort its contents. Thread a hex nut (33) all the way on the leveling foot (30), as shown in Fig. 16.
- **28.** Place a flat washer (31) on the leveling foot, as seen in Fig. 17.
- **29.** Insert the threaded shaft of the leveling foot down through the hole in the leg, as demonstrated in Fig. 18.
- **30.** Place another flat washer (31) on the shaft of the leveling foot, as seen in Fig. 19.



- **31.** While holding the flat washer in place, attach a hex nut (33), as seen in Fig. 20. Finger tighten. Fig. 21 shows the assembled leveling foot.
- **32.** Repeat Steps 27–31 for the remaining three leveling feet.

PLACE THE MACHINE UPRIGHT

- **33.** With a friend helping you, turn the machine on its side, as seen in Fig. 22.
- **34.** Place the machine upright, as in Fig. 23.
- **35.** Remove the box from the machine, as shown in Fig. 24. Save the box in case you should ever need to ship the Sawsmith 2000.

ATTACH THE KNOBS

- **36.** Open the smallest box you had earlier removed from the main box. Remove the knobs, miter gauge, bevel crank and hardware.
- **37.** Screw the pull knob (41) on the carriage rod (36), as seen in Fig. 25.
- **38.** Install the blade height adjustment handle (39), as in Fig. 26, using a cap screw (106) and flat washer (114).
- **39.** Securely tighten the cap screw with a 5/32" Allen wrench (provided), as shown in Fig. 27.

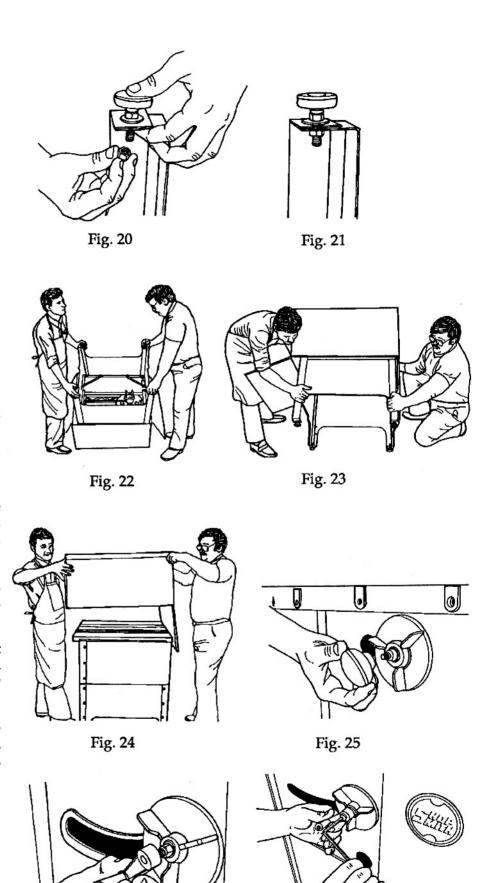


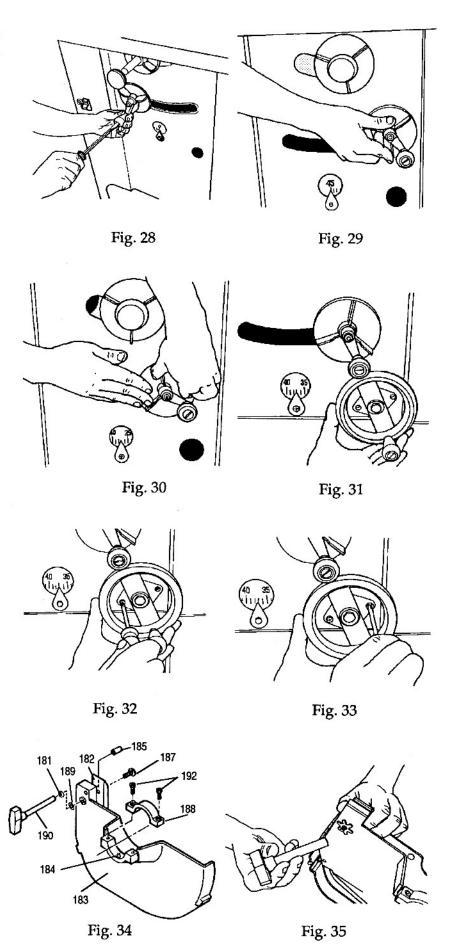
Fig. 26

Fig. 27

- **40.** Use a medium screwdriver to check the knob for tightness, as illustrated in Fig. 28.
- **41.** Loosen the blade bevel lock (40), as in Fig. 29, and move the blade to the 37° setting on the scale, as illustrated in Fig. 30. Tighten the blade bevel lock.
- **42.** Install the knob on the bevel crank by inserting the shoulder screw through the knob, and attaching it to the crank. Use a medium screwdriver to tighten.
- **43.** Install the blade bevel crank (49) with the crank knob oriented as shown in Fig. 31. This orientation will prevent interference between the blade bevel crank knob and the blade height adjustment knob.
- **44.** Use a medium Phillips screwdriver to attach the left and right screws (59), as shown in Figs. 32 and 33. Before securely tightening the screws, push the bevel crank up toward the height adjustment handle. This will ensure maximum teeth engagement.

INSTALL THE LOWER SAW GUARD

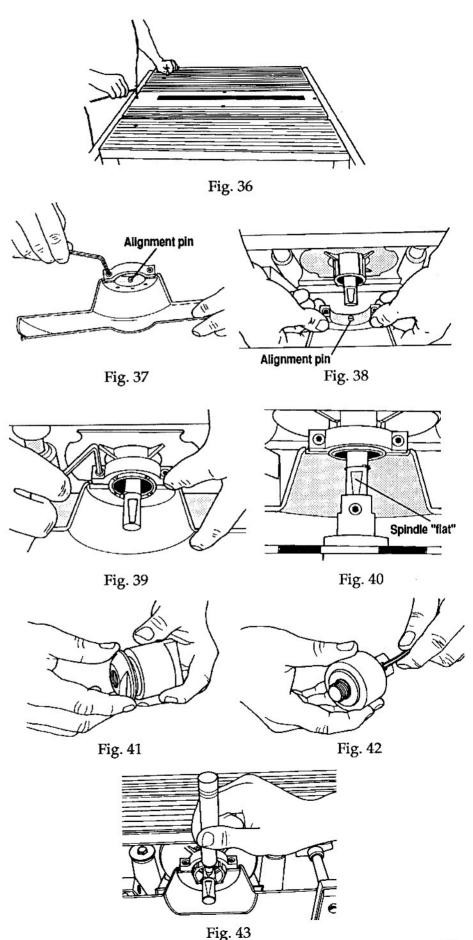
- **45.** See Fig. 34. Remove the lower dust chute from the lower saw guard. Locate the plate clamp assembly in the largest inner packing box. Remove the riving knife knob (190), washer (181), and "O" ring washer (189) from the carriage bolt (187). Attach the plate clamp (182) to the lower saw guard (183). Make sure the two alignment pins are properly seated in the plate clamp holes.
- **46.** Insert the carriage bolt (187) through the plate clamp (182) and lower saw guard (183). Place an "O" ring washer (189) on the carriage bolt. Then place a flat washer (181) on the carriage bolt, and thread the riving knife knob (191) into the saw guard, as seen in Fig. 35.



- 47. Use a 5/32" Allen wrench to remove the four setscrews (4) in the table insert (3), as illustrated in Fig. 36. Remove the table insert. Then lower the motor all the way down by turning the height adjustment handle counter-clockwise. Loosen the bevel lock, move the carriage to "0" on the scale, then re-tighten the bevel lock.
- **48.** Use a 5/32" Allen wrench to remove the two capscrews (192) attaching the guard clamp (188) to the guard, as shown in Fig. 37. Place the lower saw guard through the opening in the cabinet back.
- **49.** Notice the alignment pin in Fig. 38. Place the lower saw guard on the motor spindle housing, fitting the alignment pin into the hole located at the bottom of the spindle housing.
- **50.** Re-attach the guard clamp. Use a 5/32" Allen wrench to tighten both capscrews, as seen in Fig. 39. Turn one or two turns on one capscrew, then do the same for the other one, until both capscrews are securely tightened.

MOUNT THE ARBOR ON THE SPINDLE

- **51.** Remove the arbor nut (202) by turning it counter-clockwise, as shown in Fig. 41.
- **52.** Use a 5/32" Allen wrench to loosen the arbor's setscrew (200), as seen in Fig. 42.
- **53.** Use a permanent marker to mark where the flat on the spindle is located, as demonstrated in Fig. 43.



54. Place the arbor (201) all the way on the spindle, as shown in Fig. 44, making sure the arbor's setscrew lines up with the spindle's flat. Use the 5/32" Allen wrench to securely tighten the arbor's setscrew, as seen in Fig. 45.

WARNING

It is very important that the setscrew is securely tightened on the motor shaft's tapered flat. Once tight, slightly rock the arbor back and forth as you check the setscrew for tightness, therefore ensuring the setscrew is properly seated on the tapered flat. So take extra care with Step 53!

INSTALL THE SAW BLADE ON THE ARBOR

- **55.** Mount the saw blade on the arbor, as demonstrated in Fig. 46. Be careful not to cut yourself on the blade teeth and make sure the blade teeth point toward the front of the machine.
- **56.** Attach the arbor nut, as seen in Fig. 47, and hand tighten.
- **57.** Use a large adjustable wrench to hold the setscrew-side of the arbor. At the same time, use the arbor wrench (203)) to securely tighten the arbor nut, as shown in Fig. 48. Re-attach the lower saw guard.

NOTE

The arbor should always remain securely attached to the spindle. Also, you must periodically check the tightness of its setscrew. Step 57 outlines the procedure you will always follow when changing saw blades.

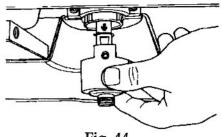


Fig. 44

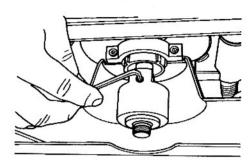


Fig. 45

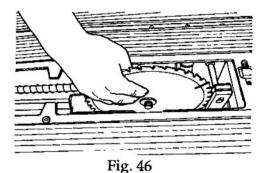


Fig. 47

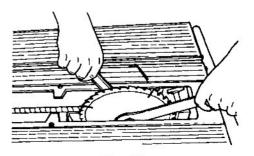


Fig. 48

REMOVE THE SHIPPING BRACE

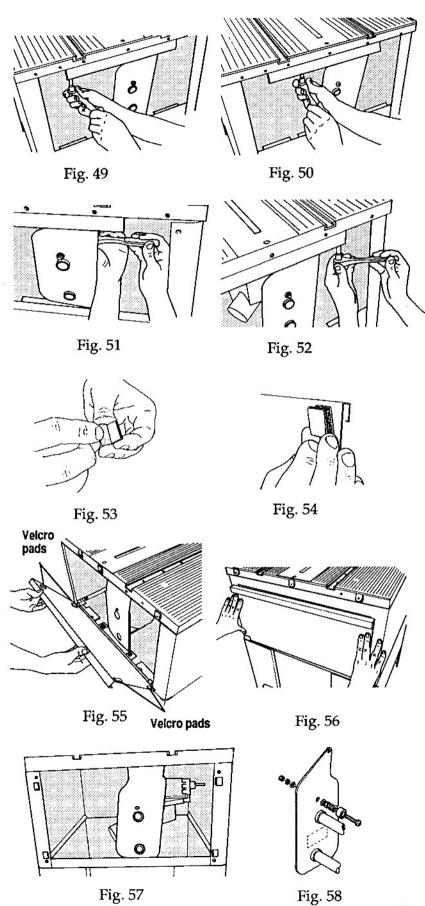
58. Use a 1/2" socket and ratchet wrench to remove the four bolts (14) attaching the shipping brace (15) to the table top (1). See Figs. 49 - 52 for their locations. Save for later re-attachment.

INSTALL THE BACK PANEL

- **59.** Locate the last inner packing box which you had previously set aside in Step 5. Find the Velcro pads inside the safety goggles of the large inner packing box. Then unpack the back panel (98) from its package.
- **60.** Peel the backing from one side of a Velcro pad, as seen in Fig. 53. Carefully stick the Velcro pad on an inside corner of the back panel, as shown in Fig. 54.
- **61.** Peel the remaining backing from the Velcro pads. See Fig. 55 to view all four Velcro pads properly attached to the back panel.
- **62.** Align the back panel, as in Fig. 55, making sure the two bent tabs rest on the cabinet edge. Carefully but firmly press the back panel against the cabinet, as shown in Fig. 56. Fig. 57 shows the placement of the Velcro pads after removing the back panel.

INSTALL THE CARRIAGE BUMPER

- **63.** Remove the back panel.
- **64.** Loosen the carriage lock and move the carriage to the middle of the table. Retighten the carriage lock. Now locate the assembled carriage bumper in the (previously opened) smallest packing box.
- **65.** See Fig. 58. Remove a hex nut (161), split lock washer and flat washer (162) from the assembled carriage bumper.
- **66.** Put the carriage bumper through the hole in the carriage plate (61), with the rubber bumper (159) inside the cabinet.
- **67.** Re-attach a flat washer, split lock washer and hex nut. Finger tighten.

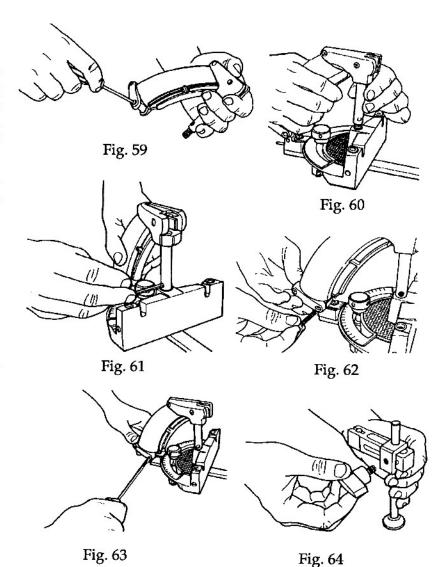


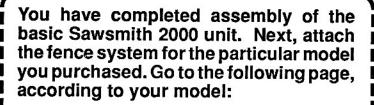
ASSEMBLE THE MITER GAUGE SAFETY GRIP

- **68.** Use a small Phillips screwdriver to remove the screw (349) located at the butt of the miter gauge safety grip, as in Fig. 59. Save the very small, thin washer (346) held in place by the screw.
- **69.** Fit the safety grip on the miter gauge and with your fingers, start the post into the top of the miter gauge, as shown in Fig. 60.
- **70.** Insert a 5/32" Allen wrench through the hole in the post (350), and use the wrench like a lever to tighten the post in the hole, as seen in Fig. 61.
- **71.** Re-install the screw and thin washer, as demonstrated in Fig. 62. The washer can go on either side of the indicator mount. Use a small Phillips screwdriver to re-tighten the screw, as shown in Fig. 63.

Do the following two steps, if the quick clamp assembly is not already attached to the safety grip:

- **72**. Screw in the clamp knob (354), as illustrated in Fig. 64.
- **73.** Use a 5/32" Allen wrench to attach the quick clamp to the safety grip, as shown in Fig. 65.





- · Standard Model go to page 25.
- Pro Model go to page 25.
- · Deluxe Model go to page 30.
- Ultra Model go to page 30.

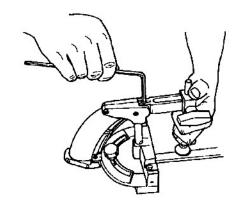


Fig. 65

• Standard Model and Pro Model owners, resume assembly instructions below.

INSTALL THE FENCE TUBES

- 1. Open the fence box and remove its contents.
- **2.** Attach a thumb screw (392) to the threaded hole located in the left infeed edge of the table, as demonstrated in Fig. A-1.
- **3.** Attach a thumb screw to the hole located in the right outfeed edge of the table, directly opposite the one just installed. See Fig. A-2.
- **4.** Loosen the carriage lock, let the carriage travel to the back of the cabinet, then re-tighten the carriage lock.
- **5.** Orient yourself facing the front of the Sawsmith 2000. Line up the fence tube (390) holes with the mounting holes in the table. Make sure that the large holes are facing out (toward you) and the small holes are facing the table.
- **6.** Insert a screw (394)) through the first left hand hole in the fence tube, as shown in Fig. A-3.
- 7. Hold the screw in place with a medium Phillips screwdriver, and place a spacer (393) on the screw, as demonstrated in Fig. A-4.

NOTE

If you have problems doing this step, try on of the following:

- Use a magnet-tipped screwdriver.
- Use small strips of masking tape to help hold the screw in place.
- Bend a paper clip to fit around the screw threads to help hold the screw in place.
- The correct sized rubber O-ring can be rolled onto the screw to help hold the screw in place.
- **8.** Hold the screw and spacer in place while inserting the screw through the far left hole in the front edge of the table, as seen in Fig. A-5. Let the other end of the tube rest on the floor.

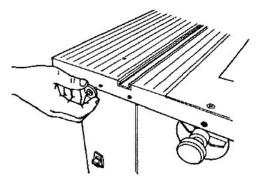


Fig. A-1

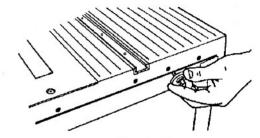


Fig. A-2

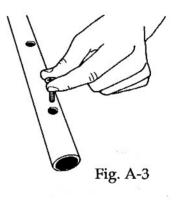


Fig. A-4

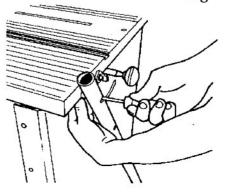


Fig. A-5

- **9.** Place an internal tooth washer (395) and hex nut (396) on the screw. Finger tighten.
- **10.** Repeat Steps 6 -9 to attach the fence tube to the right front edge of the table, as illustrated in Figs. A-6 and A-7.
- 11. For the remaining three holes in the fence tube which line up with holes in the table edge, place a spacer between the table and tube, as illustrated in Fig. A-8. The spacer should stay in position by itself. If it moves, slightly tighten the previously attached hex nuts. This will pull the tube closer to the table. Hold a screw on a Phillips screwdriver and insert the screw through the tube and spacer, then into the hole in the table. (If you drop the screw in the tube, retrieve it with a magnet, dowel rod or long stick.)
- **12.** Attach the screws with internal tooth washers and nuts. Finger tighten.
- **13.** Repeat Steps 5 -12 to install the fence tube on the outfeed side of the table. The middle nut can be a little difficult to install if the carriage is not set to 0° , as seen in Fig. A-9.
 - Standard Model owners, go to page 27 and resume with Step 14.
 - Pro Model owners, go to page 28 and resume with Step 20.

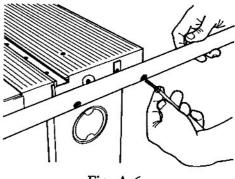


Fig. A-6

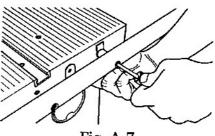


Fig. A-7

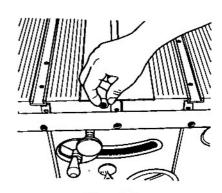


Fig. A-8

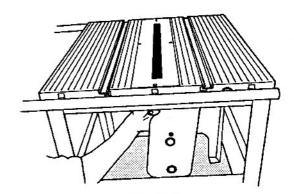


Fig. A-9

 Standard Model owners, resume assembly instructions with Step 14 below.

INSTALL THE TUBE BRACE

- 14. For the fence tube on the infeed side of the table, place a medium Phillips screwdriver in the head of a Phillips screw (394), as illustrated in Fig. A-10.
- **15.** While holding the screw to the screwdriver, insert the screw through the far right hole of the front fence tube, as illustrated in Fig. A-11.
- **16.** Place a spacer on the screw, as seen in Fig. A-12.
- **17.** While holding the screw in place with the screwdriver, attach the tube brace and tighten it, as shown in Fig. A-13.
- **18.** For the fence tube on the outfeed side of the table, place a spacer between the fence tube and the brace, as demonstrated in Fig. A-14.
- 19. While holding the screw to the screwdriver, insert the screw through the hole in the fence tube, as shown in Fig. A-15. (If the screw falls into the fence tube, retrieve it with a magnet.) Thread in the screw, as seen in Fig. A-16, and tighten.

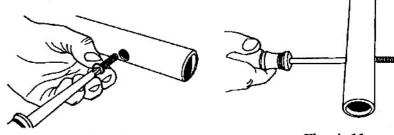


Fig. A-10

Fig. A-11

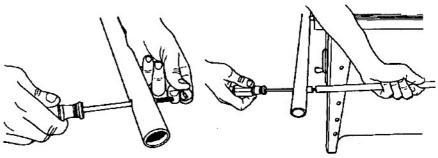


Fig. A-12

Fig. A-13

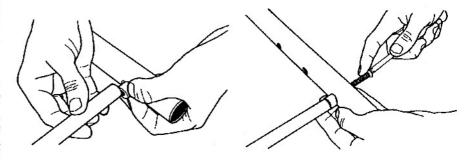


Fig. A-14

Fig. A-15

You have now completed assembly of your Standard Sawsmith 2000 unit. Now go to the Alignment section.

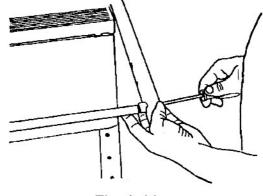


Fig. A-16

 Pro Model owners, resume assembly instructions with Step 20 below.

INSTALL A FIXED EXTENSION TABLE AT THE END OF THE FENCE TUBES

NOTE

Although the instructions and illustrations show only one person performing the steps, we recommend having a helper assist you.

- **20.** Fig. A-17 illustrates how your Sawsmith 2000 Pro Model should look now. Screw a thumb screw (401) into the middle hole on each end of both fixed extension tables (410), as illustrated in Fig. A-18.
- 21. Place a fixed extension table between the fence tubes and insert a thumb screw into the next to last hole, for both fence tubes. The fixed extension table should rest between the fence tubes. If it doesn't, slightly screw out each thumb screw. (It would be best if a helper held the extension table in place.) See Figs. A-19 and A-20.



It is up to you which way you wish to orient the extension tables' miter gauge slot.

- **22.** Insert a spacer between the extension table and fence tube. Hold the spacer in place while you insert a screw through the fence tube and spacer and into the extension table, as seen in Fig. A-21.
- **23.** Attach the screw with an internal tooth washer and nut.
- **24.** To install the remaining three screws, repeat Steps 22 and 23. Finger tighten only. Fig. A-22 shows one of the fixed extension tables installed.

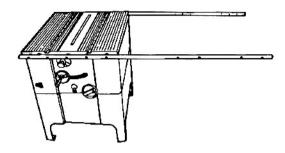


Fig. A-17

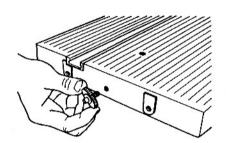


Fig. A-18

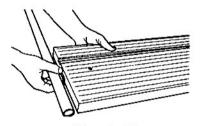


Fig. A-19

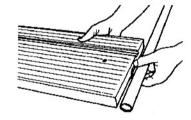


Fig. A-20

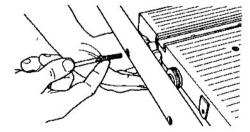


Fig. A-21



Fig. A-22

INSTALL A FIXED EXTENSION TABLE IN THE MIDDLE OF THE FENCE TUBES

- **25.** If you don't have a helper, place a chair (shown in Fig. A-23) or some other device on which to rest the fixed extension table during the following steps.
- **26.** Install a thumb screw in both ends of the fixed extension table, as illustrated in Fig. A-18.
- **25.** Place the fixed extension table between the fence tubes. Insert the thumb screws in the middle hole between the two screw holes, as shown in Fig. A-24. If needed, slightly screw out each thumb screw to help hold the table extension between the tubes.
- **27.** Insert a spacer between the extension table and fence tube. Hold the spacer in place while you insert a screw through the fence tube and spacer and into the extension table, as seen in Fig. A-25.
- **28.** Attach the screw with an internal tooth washer and nut.
- **29.** To install the remaining three screws, repeat Steps 27 and 28. Finger tighten only. Fig. A-26 shows the middle fixed extension table installed.

INSTALL THE TELESCOPING LEGS

- **30.** Insert a connector tube (409) in the end of the front fence tube. Adjust the thumb screw so the tube can glide past it. Install a T-joint fitting on the open end of a telescoping leg and tighten it with a 5/32" Allen wrench.
- **31.** Install a telescoping leg (407) on the tube. Adjust the connector tube so it flush with the collar (408) on the telescoping leg, then tighten the thumb screw against the connector tube.
- **32.** Use a 5/32" Allen wrench to tighten the collar's setscrew, as seen in Fig. A-27.
- **33.** Adjust the telescoping leg, as in Fig. A-28.
- **34.** Repeat Steps 30 33 to install the other telescoping leg. Fig. A-29 shows the assembled Pro Model.

You have completed assembly of the *Pro Model*. Now go the Alignment section.

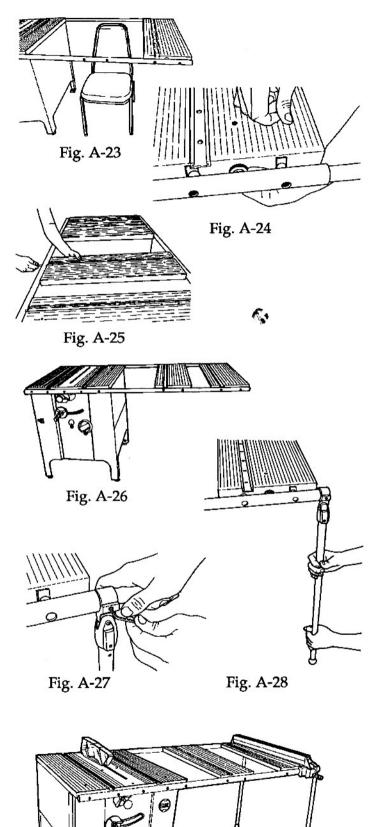


Fig. A-29

· Deluxe Model and Ultra Model owners, resume assembly instructions with Step 35 below:

INSTALL THE LOCKING PLATES

- 35. Open the Excalibur box and find the hardware.
- 36. Insert a carriage bolt through the square hole of a locking plate, as shown in Fig. A-30.
- 37. Insert the carriage bolt into the first hole on the left front edge of the table, as demonstrated in Fig. A-31.
- 38. Loosely attach the bolt with a flat washer (see Fig. A-32), lock washer (shown in Fig. A-32a) and a nut (shown in Fig. A-33). The bolt and locking plate should protrude beyond the table edge about 1/2" to 3/4".
- **39.** Repeat Steps 36 38 to install three other locking plates, carriage bolts, washers and nuts along the front edge of the table at locations, as illustrated in Fig. A-34. DO NOT attach one in the center hole of the table.
- 40. Repeat Steps 36–39 to install four locking plates, carriage bolts, washers and nuts on the outfeed side of the table.

INSTALL THE RAILS

- 41. Hold a rail (it doesn't matter which onethey are exactly alike) parallel with the front edge of the table. Starting with the locking plate on the right front edge of the table, insert the locking plate in the T-channel of the rail, as demonstrated in Fig. A-35.
- 42. Working from right to left, insert all four locking plates in the T-channel of the rail until the rail's end is flush with the left side of the table, as shown in Fig. A-36.

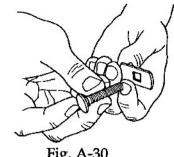


Fig. A-30

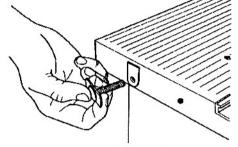


Fig. A-31

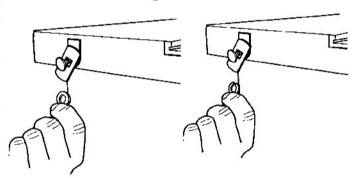


Fig. A-32

Fig. A-32a

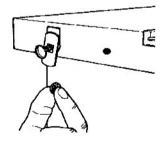


Fig. A-33



Fig. A-34

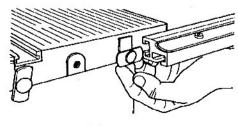


Fig. A-35

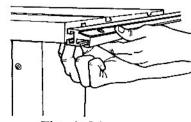
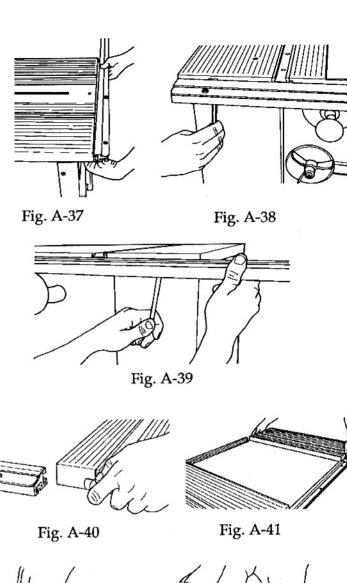


Fig. A-36

- **43.** Adjust the rail so it is even with the left edge of the table, then finger tighten the nuts attaching the locking plates and carriage bolts, as shown in Fig. A-37.
- 44. Repeat Steps 41-43 for the outfeed rail.
- **45.** Double check that both rails are flush with the left edge of the table. Adjust the rail so that it is 1/32" below the bottom of the miter slot. Use a 7/16" wrench to tighten the nut attaching the first locking plate, as shown in Fig. A-38.
- **46.** Look to see that the top of the rail is about 1/32" below the bottom of **both** miter slots in the table. (Find something you can use as a "gauge" which is 1/32" thick—like a cabinet scraper or piece of cardboard.) Use a 7/16" wrench to tighten the nut at the right end of the table, as shown in Fig. A-39. Re-check for the 1/32" spacing.
- **47.** Repeat Step 46 for the rail on the outfeed side of the table. Double check to see that both rails are 1/32" below the bottom of both miter slots. Then tighten all the remaining locking plate nuts.
- **47a.** Re-install the shipping brace. (Refer again to page 23, Step 58.)
- **48.** Install four locking plates and carriage bolts on the ends of the extension table. (For Ultra Model owners, do this for two extension tables.) Loosely attach them with flat washers, lock washers and nuts. Re-attach the shipping brace.
- **49.** Slide the locking plates into the T-channels of the rails, as shown in Figs. A-40 and A-41. (For Ultra Model owners, do this for each of the two extension tables, positioning one in the middle of the rails and the other one at the end of the rails.)

ASSEMBLE THE FENCE

- **50.** Use a 5/32" Allen wrench to loosen the screw on the top right hand side of the fence base, as shown in Fig. A-42.
- **51.** Insert the cursor holding plate and cursor lens. Align the scribed line on the cursor lens with the center of the cursor screw, as seen in Fig. A-43. The scribed line must be on the bottom side of the cursor lens.
- **52.** Tighten the screw, as in Fig. A-44, then set aside the fence base.



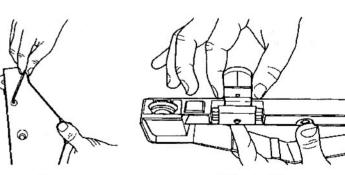


Fig. A-43

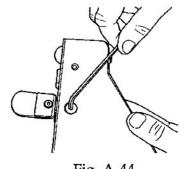


Fig. A-42

Fig. A-44

- 53. Turn the fence body upside down so that the dual T-slots are facing down.
- 54. Remove the cap screws and washers from the fence body mount, as illustrated in Figs. A-45 and A-46.
- 55. Use a 5/32" Allen wrench to loosen the setscrews on both sides of the fence body mount, as shown in Fig. A-47.
- **56.** Place the fence base over the tapered stud projecting from the bottom, as seen in Fig. A-48.
- 57. Re-install the capscrews and washers removed in Step 54, then finger tighten. See Figs. A-49 and A-50.
- **58.** Fig. A-51 shows the completely assembled Deluxe Model.
 - Deluxe Model owners have completed assembly instructions. Now go to the Alignment section.
 - · Ultra Model owners, go to Step 59 on page 33.

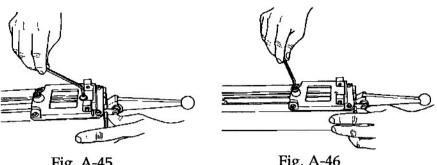


Fig. A-45

Fig. A-46

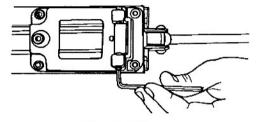


Fig. A-47

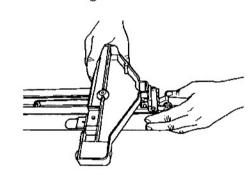


Fig. A-48

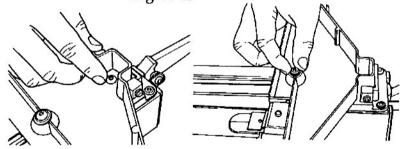
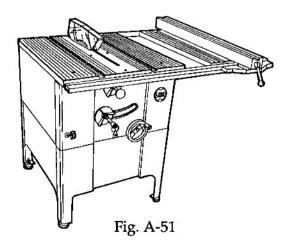


Fig. A-49

Fig. A-50



· Ultra Model owners, go to Step 59.

INSTALL THE TELESCOPING LEGS

- **59.** Thread a setscrew into a connector bracket, as shown in Fig. A-52.
- **60.** Insert the leg connector bracket in the end of the front rail. It should be located in the vertical T-slot of the rail.
- **61.** Use a 5/32" Allen wrench to tighten the setscrew against the rail.
- **62.** Install a T-joint fitting on the open end of a telescoping leg. Use a 5/32" Allen wrench to secure it to the leg.
- **63.** Install the telescoping leg on the leg adaptor, as seen in Fig. A-53. Use a 5/32" Allen wrench to tighten the setscrew, locking the telescoping leg onto the leg connector bracket.
- **64.** Repeat Steps 59-63 to install the leg adaptor and telescoping leg on the other rail. Fig. A-54 shows the completely assembled Ultra Model.
 - You have completed assembly of the Ultra Model. Now go to the Alignment section.

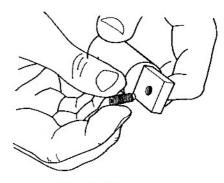


Fig. A-52

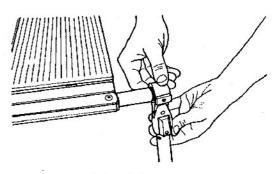
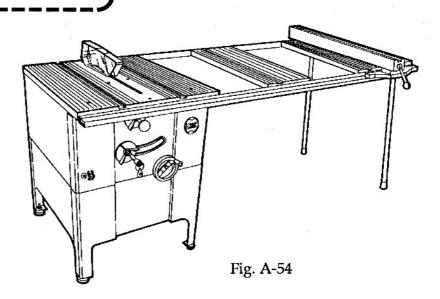


Fig. A-53



Alignment

Tools Needed:

- 5/32" Allen wrench (provided)
- Two 9/16" wrenches
- 7/16" wrench
- Adjustable wrench (optional)
- Medium Phillips screwdriver
- Medium blade screwdriver
- An accurate carpenter's level
- Precision square
- Precision 45° measuring device (optional)
- Precision combination square (recommended)
- Miter gauge stop rod or 1/4" dowel

NOTE

The following illustrations show the Standard Model, but the alignment instructions apply to ALL models. Special instructions for each model will be clearly marked.

WARNING

Before performing any Alignment procedures, turn off and unplug the machine.

ADJUST THE LEVELING FEET

1. Move the machine where you will use it most and mark it for future reference. For most accurate results and performance, always operate the unit where it was aligned. If the unit is operated in another location, you must re-check the alignment. Place a carpenter's level along the table's front edge, as shown in Fig. B-1.

NOTE

All Sawsmith tables are precision manufactured, assembled and inspected for flatness. However, you may notice areas of daylight or small gaps between the level and table (1/32" or less). This condition is normal and will not affect cutting accuracy for woodworking.

- **2.** If the table is not level, determine which side of the table is low. You want to lengthen the leveling foot on the low side. To lengthen the low leveling foot, do these steps:
 - a. Use a 9/16" wrench to loosen the top nut, as shown in Fig. B-2.
 - **b.** Use the same wrench to turn the bottom nut **counter-clockwise** to lengthen the leveling foot, as seen in Fig. B-3.
- **c.** Double check the carpenter's level. Adjust the leveling foot's length until the table is level.
- **d.** When the table is level, use a 9/16" wrench to hold the bottom nut in place and another 9/16" wrench to securely tighten the top nut, as shown in Fig. B-4. Tighten the top nut on the other front leveling foot.

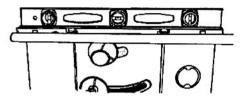


Fig. B-1

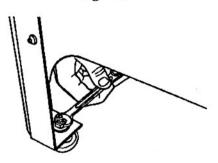


Fig. B-2

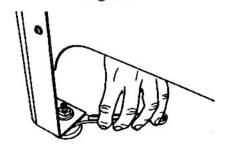


Fig. B-3

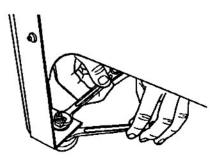


Fig. B-4

- **3.** Place the carpenter's level along the table's back edge, as illustrated in Fig. B-5.
- **4.** Repeat Step 2 for adjusting the rear leveling feet. The table should now be level in the left–right plane.
- **5.** To check the table's levelness in the front-back plane, place the level along the left edge (shown in Fig. B-6) and then the right edge (shown in Fig. B-7). If the table is not level, re-adjust the front and back edges again. Make adjustments as needed until the table is level in both planes.

ADJUST THE CARRIAGE BUMPER

- **6.** Install the table insert (the end marked "front" goes toward the infeed side of the table). With the carriage all the way to the back of the machine and unlocked, raise the blade about 1" above the table surface. Insert the upper saw guard's riving knife between the plate clamp and lower saw guard, as demonstrated in Fig. B-8. Raise the anti-kickback cams to their highest setting.
- 7. Adjust the riving knife (166) so it about 1/8" above the blade teeth, as seen in Fig. B-9. Tighten the riving knife knob.
- **8.** Check to see that the back of the riving knife does **not** touch the back of the table insert and has about 1/16" clearance, as shown in Fig. B-10.
- **9.** If the back of the riving knife touches the table insert, or there is less (or more) than a 1/16" gap, adjust the carriage bumper according to the following steps:
 - **a.** Loosen the carriage lock (if not already done).
 - **b.** Use a 7/16" wrench to loosen the bumper's outer nut, as shown in Fig. B-11.
 - **c.** While holding the outer nut in place, use a 7/16" wrench to adjust the bumper's inside nut.
 - Tighten the inside nut a few turns to widen the gap between the riving knife and the table insert.

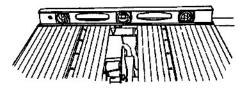


Fig. B-5

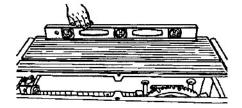


Fig. B-6

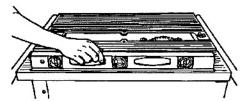
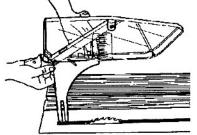


Fig. B-7



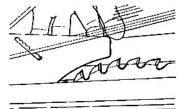


Fig. B-8

Fig. B-9

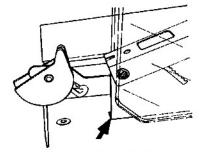


Fig. B-10

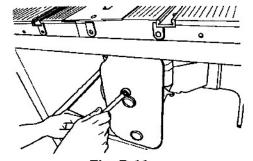


Fig. B-11

- Loosen the inside nut a few turns to narrow the gap between the riving knife and the table insert.
- **d.** Continue to gauge the gap between the back of the riving knife and table insert while making adjustments.
- **e.** When you have properly adjusted the bumper, use a 7/16" wrench to hold the inside nut and tighten the bumper's outside nut.

ADJUST THE MITER SLOT EXTRUSION

NOTE

The miter gauge should move snugly but freely through the miter gauge slot without binding.

- 10. Remove the upper saw guard and table insert.
- 11. Place the miter gauge in the right miter slot. Use a medium Phillips screwdriver to tighten or loosen the first screw in the slot extrusion, as shown in Fig. B-12. Loosen the screw to allow freer movement of the miter gauge. Tighten the screw to "snug" the extrusion on the miter gauge bar.
- **12.** Move the miter gauge through the miter slot, adjusting the screws as you go, as demonstrated in Fig. B-13.
- **13.** Repeat Steps 11 and 12 for the left miter gauge slot.



NOTE

This alignment is preset at the factory and should not need realigned. However, the following steps allow you to check and adjust this alignment, if needed or desired.

Tolerance specifications allow for .012" (this is 1/80") variation from the blade's *back-to-front* travel. Translated to your paper gauge, which is about .004", you may see a variation of three paper thicknesses—versus one paper thickness on *front-to-back* travel. This is normal and extremely accurate for woodworking.

- **14.** Slowly raise the blade until the handle meets resistance (this is the maximum height of the blade), as shown in Fig. B-14. Do **not** try to raise the blade beyond this point because it may affect alignment.
- **15.** If not already loose, loosen the carriage lock, as seen in Fig. B-15, and make sure the carriage is all the way back to the outfeed side of the table. Tighten the carriage lock.
- 16. Place the miter gauge in the right miter slot.
- 17. Use a pencil to mark the spot on the blade, as shown in Fig. B-16. This will be your reference point throughout the alignment.

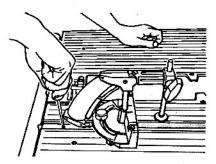


Fig. B-12

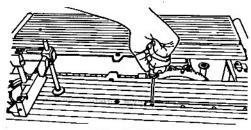


Fig. B-13

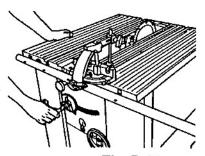


Fig. B-14

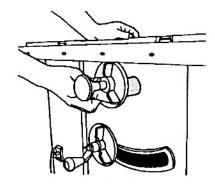


Fig. B-15

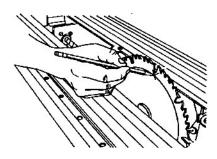


Fig. B-16

- 18. Move the miter gauge so its face is even with the center of the blade. Insert a 1/4" dowel- or the long rod form the Miter Gauge Stop Rod accessory (available from Shopsmith, Part. No. 505629) - through the miter gauge face, as shown in Fig. B-17.
- 19. Insert an ordinary piece of notebook paper between the saw blade and the rod at the "X" mark on the blade, as shown in Fig. B-18.
- 20. Gently press the rod against the paper and blade, then use a 5/32" Allen wrench to tighten the setscrew in the miter gauge body, locking the rod in place. Make sure the miter gauge knob is secured. See Fig. B-19. You should be able to remove and insert the piece of paper from between the rod and blade with minimal resistance.
- 21. Remove the miter gauge, as seen in Fig. B-20.
- **22.** Place the miter gauge toward the infeed side of the table, as in Fig. B-21.
- 23. Loosen the carriage lock and pull the carriage knob so the blade is as close to the infeed side of the table as it can go. Do not rotate the saw blade. Tighten the carriage lock. Move the rod in the miter gauge past the blade teeth, as in Fig. B-22.
- **24.** Move the miter gauge so the rod is located at the marked spot on the blade.
- **25.** Try to insert the piece of paper between the blade and the rod, as shown in Fig. B-23. If it doesn't fit as before, do one of the following:
- If the paper will not slip between the rod and the blade, the carriage track needs adjusted to the left (as you stand on the infeed side). Do these steps
 - a. Use a 5/32" Allen wrench to slightly loosen the two capscrews (shown in Figs. B-24 and B-25) located in the front of the carriage.

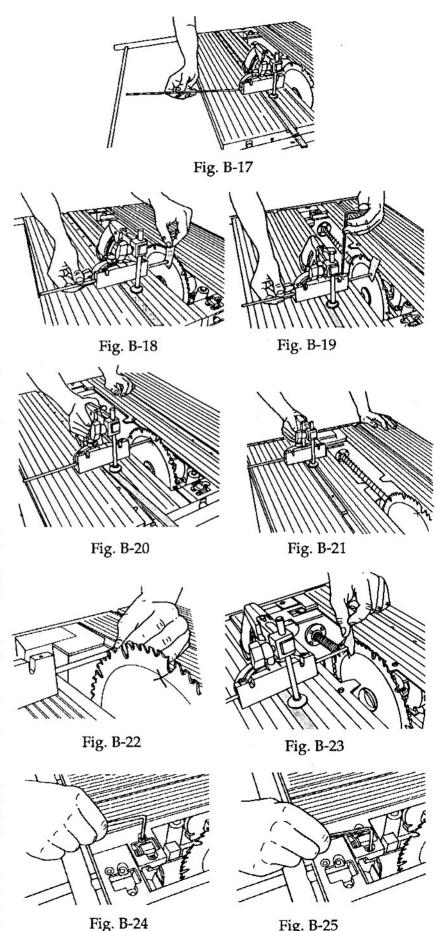


Fig. B-25

- **b.** Use a medium screwdriver to gently pry the pillow block to the left, as illustrated in Fig. B-26. It should move only far enough to get the paper to slip between the rod and blade with the same resistance as set at the outfeed side.
- **c.** Tighten the capscrews.
- If the paper too easily slips between the rod and the blade, the carriage track needs adjusted to the right (as you stand on the infeed side). Do these steps
 - **a.** Use a 5/32" Allen wrench to slightly loosen the two capscrews (shown in Figs. B-24 and B-25) located in the front of the carriage.
 - **b.** Use a medium screwdriver to gently pry the pillow block to the right, as illustrated in Fig. B-27. It should move only far enough to get the paper to slip between the rod and blade with the same resistance as set at the outfeed side.
 - c. Tighten the capscrews.

NOTE

If there is not enough adjustment in the front pillow block to accurately align, the back pillow block can also be loosened and adjusted, as needed.

• After making the proper adjustments, re-check the carriage track alignment at the infeed and outfeed sides of the table.

ALIGN THE SAW BLADE

NOTE

Also, this alignment is pre-set at the factory and should not need to be re-aligned. However, the following steps allow you to check and adjust this alignment, if needed or desired.

- **26.** Unlock the carriage and move the saw blade to the middle of the table, as seen in Fig. B-28. Lock the carriage. Rotate the saw blade so the "X" mark is located toward the back side of the blade.
- **27.** As before, insert the paper between the saw blade and the rod at the marked "X", as illustrated in Fig. B-29. (You may need to reset the rod adjustment.)
- **28.** Remove the paper and rotate the blade toward you so that the "X" is on the infeed side of the blade.
- **29.** Slide the miter gauge toward the "X", as shown in Fig. B-30. Try to insert the paper at the "X" .If the fit is **different** between the blade and rod, do the following:

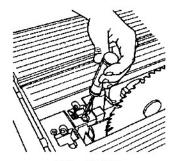


Fig. B-26

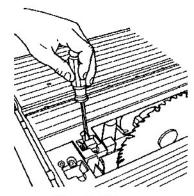


Fig. B-27



Fig. B-28

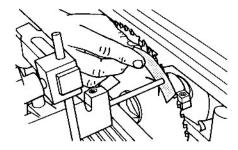


Fig. B-29

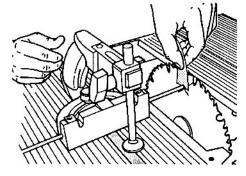


Fig. B-30

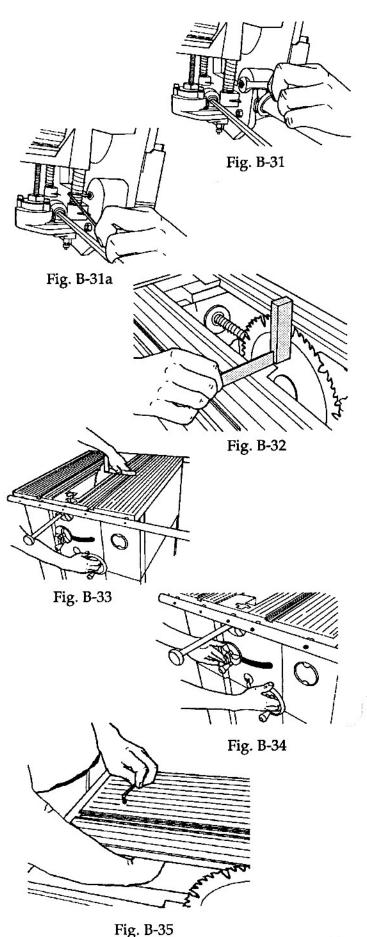
- **a.** Use a 9/16" wrench to loosen the adjuster hex nut located in the front part of the carriage, as shown in Fig. B-31.
- **b.** Use a 5/32" Allen wrench to adjust the setscrew located in the middle of the adjuster hex nut located about 3" directly below the pull rod. See Fig. B-31a.
- If the fit is too loose at the infeed side of the blade, turn the setscrew **counter-clockwise**.
- If the fit is **too tight** at the infeed side of the blade, turn the setscrew **clockwise**.
- **c.** When the blade is aligned, hold the setscrew in place with the 5/32" Allen wrench while at the same time tightening the adjuster hex nut with the 9/16" wrench.

ADJUST THE TABLE'S 90° STOP

- **30.** Make sure the blade is in the middle of the table and at 90° ("0" on the tilt indicator), or as far as it will go toward a 90° setting. The blade height should be at its highest setting. Check the carriage lock and bevel lock for tightness, then remove the miter gauge.
- **31.** Place the precision square against the table and the saw blade, as seen in Fig. B-32. (Make sure the square rests in a gullet of the blade and not on a saw tooth.)
- **32.** While holding the square to the side of the saw blade, slightly loosen the bevel lock and adjust the blade bevel until the precision square is perfectly square to the table, as demonstrated in Fig. B-33. When it is perpendicular, tighten the bevel lock, as shown in Fig. B-34.

If you cannot get the blade square to the table, loosen the setscrew jam nut under the table with a 9/16" wrench and loosen the 90° adjusting setscrew slightly until a squareness of the blade can be achieved. Also, the 90° stop may already be adjusted properly. If you find this to be the case on your initial check, skip to Step 34.

33. Reach underneath the 90° adjusting setscrew the setscrew located on the front left side of the table top, and loosen the jam nut with a 9/16" wrench, as shown in Fig. B-35. Adjust the setscrew with a 3/16" Allen wrench (provided) until it touches the carriage. Re-check the 90° stop with the precision square and re-adjust it, if necessary. Once adjusted properly, lock the jam nut with a 9/16" wrench.



34. Use a medium Phillips screwdriver to loosen the screw attaching the tilt indicator. Set the pointer on "0" and re-tighten the screw. See Fig. B-36.

ADJUST THE TABLE'S 45° STOP

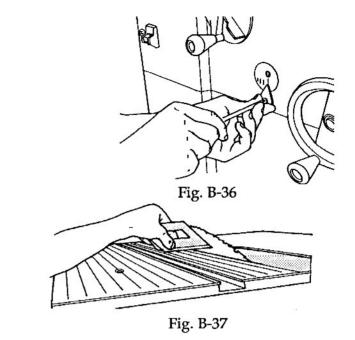
- **35.** Loosen the blade bevel lock and crank the saw blade to 45°, or as far as it will go in that direction. Tighten the blade bevel lock.
- **36.** Place a precision 45° miter square against the table and saw blade, as shown in Fig. B-37.
- **37.** Slightly loosen the blade bevel lock. Adjust the saw blade until it is 45° to the table, then tighten the blade bevel lock. See Fig. B-38.

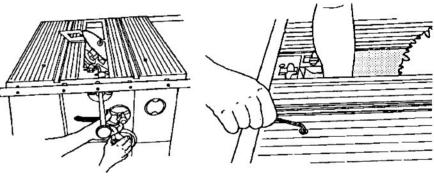
If you cannot get the blade set 45° to the table, loosen the setscrew jam nut under the table with a 9/16" wrench and loosen the 45° adjusting setscrew slightly until the blade setting can be achieved. Also, the 45° stop may already be adjusted properly. If you find this to be the case on your initial check, skip to Step 39.

38. Reach underneath the 45° adjusting setscrew and loosen the setscrew jam nut with a 9/16" wrench, as demonstrated in Fig. B-39. Adjust the setscrew with a 3/16" Allen wrench (provided) until it touches the carriage. Re-check the 45° stop with the precision 45° miter square and re-adjust it, if necessary. Once adjusted properly, lock the jam nut with a 9/16" wrench.

ALIGN THE MITER GAUGE FACE

- **39.** Use a 5/32" Allen wrench to loosen the miter gauge knob, as shown in Fig. B-40.
- **40.** Use a medium screwdriver to back out the 90° stop screw 2 to 3 turns, as shown in Fig. B-41.





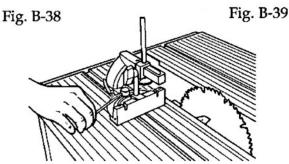


Fig. B-40

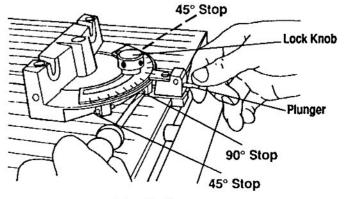


Fig. B-41

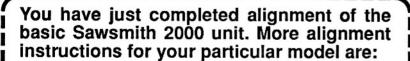
- **41.** Place a precision square against the miter gauge and the just-aligned saw blade, as seen in Fig. B-42.
- **42.** Adjust the miter gauge so it is square to the saw blade, then use the Allen wrench to tighten the miter gauge knob, as shown in Fig. B-43.

ADJUST THE MITER GAUGE'S 90° POSITIVE STOP

- **43.** Depress the plunger, as in B-41, then turn the stop screw until you feel it touches the plunger.
- **44.** To re-check the stop setting, repeat Steps 41–42.

ADJUST BOTH 45° STOPS OF THE MITER GAUGE

- **45.** See Fig. B-41. Loosen the lock knob and pull out the plunger. Then, at the same time, rotate the miter gauge and push in the plunger until it hits the left 45° stop (there is one on each side of the 90° stop).
- **46.** Place a straight, precision-cut board against the miter gauge. Use a 45° miter square to set the miter gauge face at 45° to the saw blade, as seen in Fig. B-44. If the 45° stop needs adjustment, use a medium screwdriver to back out the 45° screw 2 to 3 turns.
- **47.** Depress the plunger, then turn the stop screw until you feel it touch the plunger.
- 48. To re-check the stop setting, repeat Steps 45-47.
- **49.** To adjust the other 45° stop, see Fig. B-41, and repeat Steps 45–48. Fig. B-45 shows this adjustment.
- 50. Re-install the table insert.



- For the Standard Model go to page 42
- For the Pro Model go to page 42
- For the Deluxe Model go to page 46
- For the Ultra Model go to page 46.

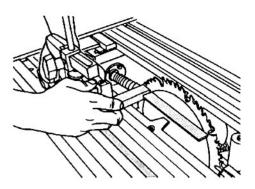


Fig. B-42

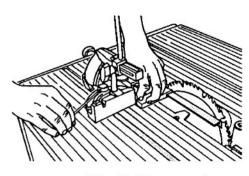


Fig. B-43

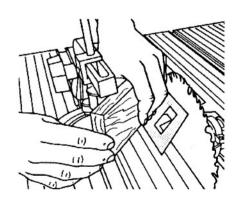


Fig. B-44

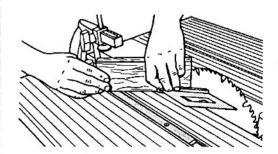
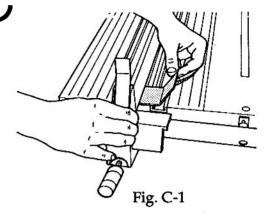


Fig. B-45

•Standard Model and Pro Model owners, resume alignment instructions below.

ALIGN THE FENCE TUBES

- 1. Mount the rip fence on the left side of the table by first placing the fence base on the front tube, then lowering the fence. Do not tighten the base knob yet.
- 2. Insert the fence shim (the angled piece of steel) between the bottom of the fence and the table, as seen in Fig. C-1.
- 3. Tighten the base knob only. Make sure that the fence base does not cover the left hand tube hole. Also make sure the shim fits snugly, or has some pressure against it. If it does not, push down on the fence.
- **4.** Use a 7/16" wrench and medium Phillips screwdriver to tighten the screw and hex nut attaching the fence tube to the left front side of the table, as illustrated in Fig. C-2.
- 5. Loosen the fence base knob and re-mount the fence on the right side of the table. Place the fence shim between the bottom of the fence and table, then tighten the base knob only, as in Fig. C-3. Make sure the shim fits snugly or has some pressure against it. If it does not, push down on the fence.
- **6.** Use a 7/16" wrench and medium Phillips screwdriver to tighten the screw and hex nut attaching the fence tube to the right front side of the table, as illustrated in Fig. C-4.
- 7. Loosen the fence base knob, turn the fence around, and mount the fence on the table with the fence base located at the back –or outfeed–side of the table. Repeat Steps 2- 4 for the left back side of the table.
- **8.** Move the fence to the other end of the back. Repeat Steps 5 and 6. Once all four corners are secured, tighten the remaining screws and nuts with a 7/16" wrench and medium Phillips screwdriver.
- **8a.** Re-install the shipping brace with a 1/2" socket and ratchet wrench. (Refer again to page 23, Step 58.)



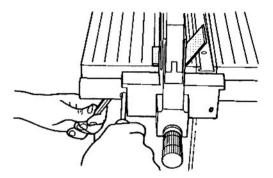


Fig. C-2

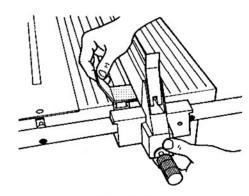


Fig. C-3

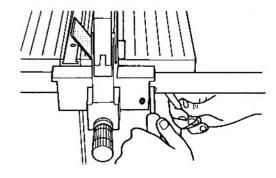


Fig. C-4

ALIGN THE FENCE

- **9.** Remove the rip fence and the fence shim. Remount the fence on the table, as normal, with the base at the infeed side of the table. Do not tighten the fence handle or base knob.
- **10.** Check to see if the fence rest fully contacts the outfeed table tube, as shown in Fig. C-5.
- **11.** If it doesn't, adjust the fence rest by doing the following:
 - **a.** Raise the outfeed end of the rip fence and use a medium screwdriver to loosen the two screws attaching the fence rest just enough to move it with firm pressure. See Fig. C-6.
 - **b.** Place the rip fence back on the table and lock the fence handle. This should align the fence rest directly on top of the tube.
 - **c.** If needed, use your fingers to adjust the fence rest until it fully contacts the outfeed table tube. Refer again to Fig. C-5.
 - **d.** Unlock the fence handle and carefully raise the fence. Tighten the fence rest's screws, as demonstrated in Fig. C-6.
- **12.** Return the fence to the table. Tighten the base knob and lock the clamp handle.
- **13.** If the fence clamp is too **tight** (hard to push down), or too **loose** (allows slippage when it is locked), it needs adjusting. To adjust the outfeed clamp, do the following:
 - **a.** If too **tight**, use a 1/2" socket and ratchet wrench to loosen the lock nut. Loosen the lock nut 1/8 turn or less and re-check the fence clamp. See Fig. C-7.
 - **b.** If too **loose**, use a 1/2 socket and ratchet wrench to tighten the lock nut. Tighten the lock nut 1/8 turn or less and re-check the fence clamp. See Fig. C-7.
- **14.** Remove the rip fence and turn it upside down on the table. Use a medium Phillips screwdriver to tighten the two screws near the base, as seen in Fig. C-8. Once they are tight, loosen them only enough to allow movement with firm pressure.

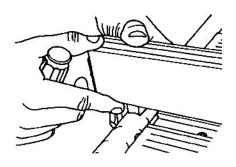


Fig. C-5

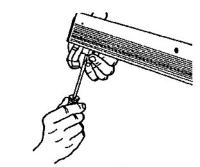


Fig. C-6

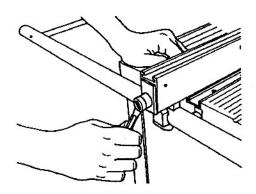


Fig. C-7

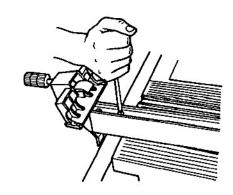


Fig. C-8

- **15.** Mount the fence on the table and align the front section of the fence with the edge of the miter slot so they are even or flush, as illustrated in Fig. C-9.
- **16.** Once aligned, tighten the base knob, as in Fig. C-10. (Do not lock the fence handle.)
- 17. Move the back section of the fence in alignment with the miter slot, as demonstrated by the left hand of Fig. C-11. When the entire length of the fence is aligned with the miter slot, use a medium Phillips screwdriver to tighten the screw nearest the fence base, as illustrated by the right hand in Fig. C-11.
- **18.** Slightly loosen the base knob. Rotate the rip fence upward and then securely tighten both base screws, as shown in Fig. C-12.
- **19.** Lower the rip fence and again align it with the right miter slot.
- **20.** Tighten the base knob and re-check the fence alignment. The fence should now be aligned with the miter gauge slots. If it is not, repeat Steps 14–20.
 - This completes the alignment procedures for the *Standard Model*.

 Now go to the Operations section.
 - Pro Model owners, go to page 45 Step 21.

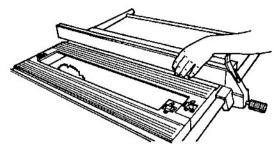


Fig. C-9

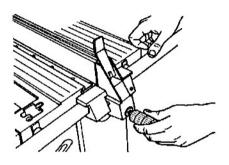


Fig. C-10

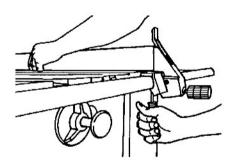


Fig. C-11

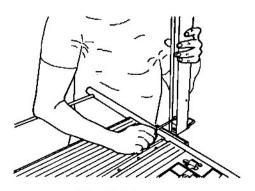


Fig. C-12

Pro Model owners continue with Step 21.

ALIGN THE MIDDLE FIXED EXTENSION TABLE

- 21. Mount the fence on the middle fixed extension table, and align the fence base with the miter slot, as shown by the right hand in Fig. C-14. When it is aligned, tighten the base knob, as shown by the left hand in Fig. C-13.
- **22.** Grab the extension table, as illustrated in Fig. C-14, and move it until the miter slot is aligned with the fence along its entire length.

As an extra check, you can also use a tape measure to measure the distance between miter slots.

- 23. When aligned, use a medium Phillips screwdriver and a 7/16" wrench to tighten each nut only enough to allow it to move with firm pressure, as demonstrated in Fig. C-15.
- **24.** Place a long level or straightedge across the front edge of both the main table and middle extension table, as shown in Fig. C-16. Make any adjustments necessary to the middle extension table to get it level with the main table. When it is level, securely tighten the nuts, as seen in Fig. C-18. Double check the miter slot alignment with the fence.

ALIGN THE END FIXED EXTENSION TABLE

- **25.** Mount the fence on the end fixed extension table, as shown in Fig. C-18. Align the fence as described in Step 21.
- **26.** Repeat Steps 22 23.
- **27.** Fig. C-18 shows the level (or straightedge) across the just-aligned middle extension table and the end extension table. Repeat Step 23.
- **28.** Adjust the telescoping legs to their proper height so that the fixed extension tables are level with the main table.
 - You have completed alignment of the *Pro Model*. Now go to the Operations section.

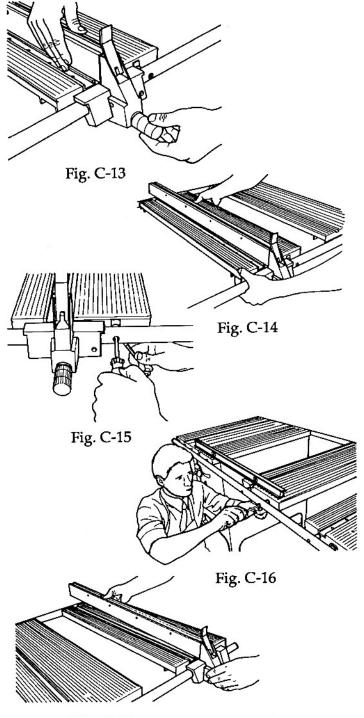


Fig. C-17

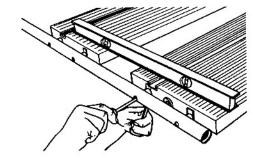


Fig. C-18

• Deluxe Model and Ultra Model owners start with Step 28 below.

ALIGN THE FIXED EXTENSION TABLE

- **28.** If not already completed, finish aligning the fence rails. Make sure the top of each rail is 1/32" below the miter slots. Tighten all locking plate nuts, firmly attaching the rails to the main table.
- **29.** Place a level or straightedge across the front of the main table and extension table, as demonstrated in Fig. C-19. When the extension table is level with the main table, tighten the nuts attaching the locking plates only enough to hold the table in place.

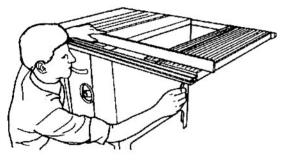


Fig. C-19

- **30.** Repeat Step 29 for the back of the table. (For Ultra Model owners, repeat Step 29 for the end fixed extension table, placing the level or straightedge across the middle and end fixed extension tables.)
- 31. Use a tape measure to measure the distance between miter slots on the main table and extension table(s). To double check alignment use your Excalibur Fence (once it is aligned, following Steps 32-40). Align the extension table(s) by making sure the miter slot is parallel to the fence. (For Ultra Model owners, adjust the telescoping legs so the extension tables are level with the main saw table.)

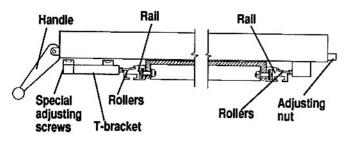


Fig. C-20

ALIGN THE EXCALIBUR FENCE

NOTE

All alignment adjustments to the Excalibur fence must be made with the locking handle in the HORIZONTAL position ONLY.

- **32.** Refer to Fig. C-20. With the locking handle in the up position, place the fence on the table.
- **33.** Push the two front suspension rollers against the "working edge" (it's black) of the front rail.
- **34.** Move the handle to its horizontal position. Use a 5/8" wrench to turn the adjusting nut (located at the outfeed end of the fence) clockwise until the fence is locked on the rails (the rear roller fully contacts the "working edge").
- **35.** Turn the adjusting nut **clockwise to ease**—or **counter-clockwise to tighten** the locking pressure on the guide rails, so that the fence is not "sloppy" when it is moved to the left or right. It should easily move parallel to itself.
- **36.** With the locking handle in the horizontal position, the two protrusions beside the two front rollers should just clear the "working edge" of the front guide rail. This clearance is controlled by the tension adjustment of the two special screws located in the front edge of the base. These screws should not be altered.
- **37.** Check that the fence just clears the top surface of both the saw and extension tables.

NOTE

It may be necessary to adjust the height of the front and/ or rear rails, to make sure that the "working edges" of the rails remain parallel, and that the fence clears the table top. The fence should move easily and smoothly when properly adjusted.

- **38.** With the locking handle in the down position, the front and rear suspension rollers are compressed and the fence should lock firmly on the front and rear rails. There should be firm tension on the locking handle when locking the fence.
- **39.** Raise the locking handle to the horizontal position. Move the fence beside the miter slot and gauge it so it is parallel with the miter slot. Adjust the fence to be parallel with the miter slot by turning the two setscrews in the fence body mount. Turn one setscrew out and the other one in until the fence is parallel to the miter slot.

- **40.** Lock the locking handle. The fence should stay aligned. If not, repeat Step 39.
- 41. Once the fence is aligned, tighten the two capscrews in the fence body mount with a 5/32" Allen wrench. Make several rip cuts with scrap material. If the back of the blade is dragging (where the wood is "wedged" between the blade and the fence), adjust the fence again. The body of the fence must be exactly parallel to the blade and miter slot.

INSTALL THE MEASURING TAPE

- **42.** Use a dry paper towel to wipe the top flat surface of the front rail. If there is any grease or oil, use denatured alcohol on the paper towel to clean it.
- **43.** Move the carriage to the middle of the table and lock it in place.
- **44.** Place a straightedge along the right side of the blade, making sure it touches a tooth on both the front and back end of the blade. Be careful not to deflect the blade with the straightedge.
- **45.** Use a very fine pencil or pen to draw a line (at the left edge of the straightedge) on the top of the front rail. This line marks the blade's cut line.
- **46.** Use an accurate ruler to measure and draw another line exactly 4-1/4" to the right of the cut line.
- 47. Remove about 5" of backing from the measuring tape (provided with the fence), as demonstrated in Fig. C-21. Position the start line of the tape ("0" inches) in line with the 4-1/4" pencil mark. With the tape about 1/8" out from the edge of the saw table, keep the tape straight, and carefully press the first few inches of the tape to the top of the rail.

Fig. C-21

- **48.** Remove the remaining paper backing from the tape and complete the installation by pressing the tape down hard against the surface of the rail. Take extra precaution so the tape is applied squarely on the 4-1/4" pencil mark. Once applied, cut off the excess tape. Also, peel off the top, clear protective coating.
- **49.** Mount the fence on the table and put the handle in the horizontal position. Measure 2" from an inside blade tooth to the fence and lock the fence.
- **50.** Peel the protective paper from the cursor. Align the cursor with the measuring tape by first using the 5/32" Allen wrench to loosen the screw holding the cursor in place. Align the cursor line directly over the 2" mark on the scale, then tighten the screw.

For both *Deluxe* and *Ultra Model* owners, now go to the
 Operation section.

NOTES

Operations

The Sawsmith 2000 combines the advantages of a radial arm saw and table saw. The radial arm saw mode is best for cross cutting stock up to 12" wide. The table saw mode cross cuts also, but is best for ripping cuts. Fig. D-1 shows a typical radial arm saw operation on the Sawsmith 2000 and Fig. D-2 illustrates a typical table saw operation.

The saw blade tilts up to 45° and can still cut through a 2" thick board in either mode of operation. Standard with the Sawsmith 2000 are the upper and lower saw guards, rip fence, feather board, miter stop, stop pin, push stick, fence straddler, arbor wrench, arbor, 10" carbide-tipped saw blade and dust chute elbow. This section of the manual will describe how to use each with the Sawsmith 2000.

How to Use The Operations Section

Read this entire section to become familiar with the Sawsmith 2000's capabilities, then return to **General Operation Instructions.**

WARNING

Before performing any operation on the Sawsmith 2000, read, understand and follow the Safety Rules found in the front of this instruction manual and in this Operations section. Failure to follow all safety rules could result in serious bodily injury and damage to the equipment.

After following those steps, next determine if you want to rip cut or cross cut.

- If you wish to make a *rip cut*, you should refer to the **Table Saw Mode**.
- If you wish to *cross cut* boards wider than 12" refer to the Table Saw Mode.
- If you wish to *cross cut* boards up to 12" wide, refer to either the Table Saw Mode or the Radial Arm Saw Mode.
- At all times, understand and follow the **Safety Rules** found in the front of this instruction manual, and the additional safety rules listed below.

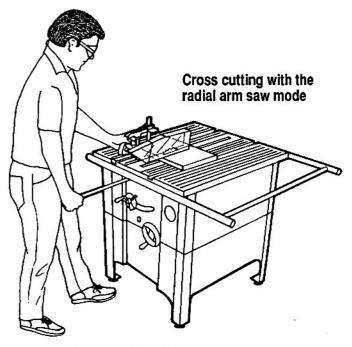


Fig. D-1

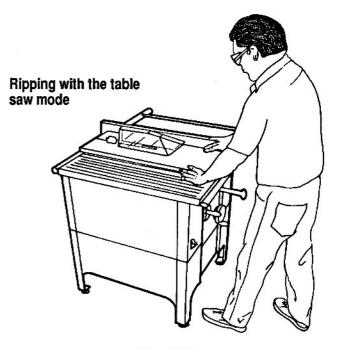


Fig. D-2

Additional Safety Rules for Operations

To protect yourself from injury and operate the Sawsmith 2000 safely and efficiently, follow these Operations Safety Rules below (as well as the Safety Rules listed in the front of this manual).

WARNING

- Unless this instruction manual indicates otherwise, before crosscutting or ripping in the table saw mode the carriage should be adjusted so that the saw blade is centered in the table, and the carriage lock should be tightened.
- Read, understand and follow the General Safety Rules found in the beginning of this instruction manual. Failure to follow all safety rules could result in serious bodily injury and damage to the equipment.
- Use the molding head and knives only in the table saw mode and with the special molding insert. Never use the molding head and knives in the radial arm saw mode.

Table Saw Mode

- When operating the Sawsmith 2000 in the table saw mode, always securely tighten the carriage lock and blade bevel lock.
- Always turn off and unplug the Sawsmith 2000 before you place your hands or a tool below the table and/or inside the Sawsmith 2000 cabinet.
- Make sure the bevel lock and carriage lock are securely tightened if, for some reason, you must lay the machine on its side.
- Never raise or lower the saw blade while the machine is turned on. Always wait for the blade to stop before raising or lowering the saw blade.
- Never intentionally let anything slip through the table insert's slot. It could jam or catch the blade, causing bodily injury or damage to equipment.
- Make sure the table insert is securely installed in the table before turning on and operating the Sawsmith 2000.
- Always use the upper saw guard when cutting all the way through the workpiece (through-cuts).
- Make sure the anti-kickback cams are properly adjusted in the lower position when making cuts in the table saw mode.

- When making dado and other non-through cuts, always use a push stick or push block, and keep your hands in front or behind the saw blade. Never place your hand directly over the saw/dado blade, even if the saw/dado blade is covered by the workpiece.
- Always make sure the workpiece is fully supported on both sides of the blade.
- Always make sure the workpiece is fully supported on both the infeed and outfeed ends of the table. If necessary, use extra support tables, roller stands and an experienced helper.
- When ripping narrow stock, temporarily tape, clamp or glue (never nail or staple) the thin board to a wider scrap board before ripping the narrow board.

Radial Arm Saw Mode

- Always make sure the workpiece is fully supported on both sides of the saw blade, unless using the miter gauge and quick clamp.
- Never move the workpiece while pulling the carriage pull rod during a radial arm saw operation. The workpiece must remain stationary and fully supported at all times.
- After making the cut, always allow the carriage to return to its natural resting position at the outfeed side of the table.
- Always use the upper saw guard when cross cutting through a board.
- When making dado or other non-through cuts, never attempt to lift the workpiece or otherwise check on the progress of the cut while you are making the cut. Always return the carriage to its natural resting position at the outfeed side of the table before inspecting the workpiece.
- Always keep the carriage and its path free of dust, scrap, and other obstacles to its free travel.
- Always pull the carriage rod in a steady motion and do not force the blade into the workpiece. If the blade should become jammed in the workpiece, immediately turn off the Sawsmith 2000.
- Make sure the anti-kickback cams are raised to the highest position and secured in the notch when making cuts in the radial arm saw mode.

General Operating Instructions

Even though the illustrations show the Standard Model of the Sawsmith 2000, these General Operating instructions apply to all models.

Install the Upper Saw Guard

If you will be making a through cut, do these steps:

- 1. Make sure the Sawsmith 2000 is turned off and unplugged. Insert the riving knife in the guard clamp, as in Fig. D-3, and adjust it so it is approximately 1/8" above the blade teeth, as indicated in Fig. D-4.
- **2.** Tighten the riving knife knob, as indicated in Figs. D-5 and D-6.
- **3.** See Fig. D-7. Adjust the anti-kickback cams.

Adjust the Anti-Kickback Cams

If you will be using the Sawsmith 2000 in the radial arm saw mode, lift the anti-kickback cams and secure them in the notch so they will not engage the workpiece during the cutting operation. See Fig. D-7.

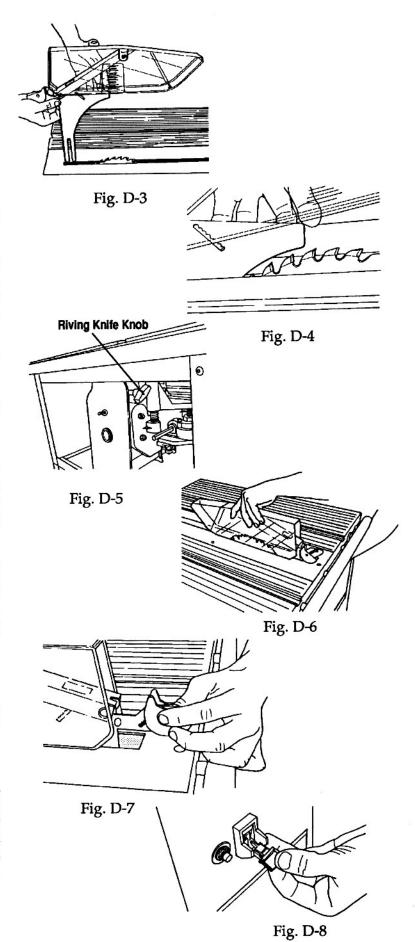
If you will be using the Sawsmith 2000 in the **table saw mode**, adjust the anti-kickback cams to the lowest position so they will engage the workpiece during the cutting operation. This includes all through cuts and ripping operations.

WARNING

When adjusting the anti-kickback cams, always make sure the Sawsmith is turned off and unplugged.

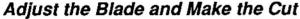
Insert/Remove the Switch Key

If you have children or otherwise wish to prevent unauthorized use of the Sawsmith 2000, remove the switch key from the safety switch, as shown in Fig. D-8. Place it in a secure location and insert it in the switch when you are ready to operate the machine.



Install the Dust Chute Elbow and Dust Collection Hose

You should always use dust collection with the Sawsmith 2000. Remove the back panel. Insert the dust chute elbow in the lower saw guard, as illustrated in Fig. D-9. Then bring the dust collection hose through the bottom "leg" opening (Do not bring the hose through the opening in the back). Attach the hose to the elbow, as shown in Fig. D-10. Re-install the back panel.



Here is the usual sequence you should follow when setting up the Sawsmith 2000 in either the **table saw** mode or the **radial arm saw mode** (when applicable):

- 1. Make sure the machine is turned off and unplugged.
- 2. Install the upper saw guard (see previous page), if you will be making a through cut.
- **3.** Place the saw blade and anti-kickback cams in proper position (see the information in each mode's section). If using the radial arm saw mode, leave the carriage all the way to the back of table and unlocked. If using the table saw mode, position the blade at the center of the table and tighten the carriage lock.
- **4.** Loosen and adjust the blade bevel crank to set the blade at the proper angle of cut.
- **5.** Tighten the blade bevel lock.
- **6.** Turn the blade height adjustment handle to set the blade at the proper depth of cut, as seen in Fig. D-11. (There is no "blade height lock". The blade remains at the same height unless you turn the height handle.) Always adjust the blade height to be a maximum 1/4" above the workpiece.
- 7. If ripping a board, install the rip fence and feather board (as needed) on the table. If cross cutting in either mode, install the miter gauge in the miter slot. For the radial arm saw mode, you must install the miter stop behind the miter gauge. You can also use the stop pin. (See **Radial Arm Saw Mode** for instructions).
- **8.** Double check that all adjustments have been made for height, bevel, carriage position, and the appropriate locks are tightened.
- 9. Plug in and turn on the machine. Make the cut (see more information in the **Table Saw Mode** or the **Radial Arm Saw Mode**).
- After you have made the cut, turn off the machine.

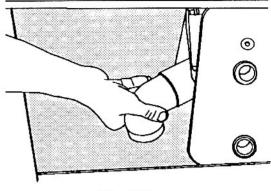
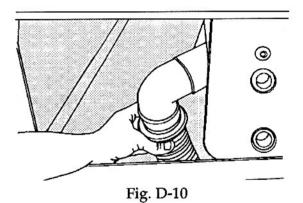


Fig. D-9



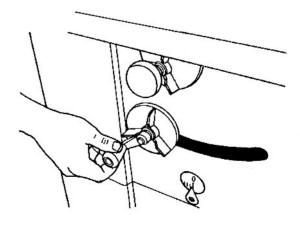


Fig. D-11

Table Saw Mode

Cross Cutting

For most cross cutting operations, set the saw blade in the center of the table insert, then tighten the carriage lock. Fig. D-12 shows the saw blade located in the middle of the insert during a non-through cut with the upper saw guard removed. Note the quick clamp firmly grasping the board against the miter gauge. The right hand is aiding in supporting the board. Because the operator is grasping the miter gauge handle with his left hand, he is clear of the saw blade's path.

Fig. D-13 is similar to Fig. D-12, except the saw blade is set at an angle and the upper saw guard is installed for making a through cut.

Fig. D-14 shows the carriage all the way to the back of the table and unlocked. The upper saw guard is installed and the anti-kickback cams are adjusted to their highest setting. Since the size of the board is wide, the operator is cross cutting it by pushing the miter gauge and board past the blade for slightly more than 1/2" of the cut. Then the cut will be finished by pulling the carriage rod, bringing the blade through the remaining uncut portion.

A unique feature of the Sawsmith 2000 is the ability to perform a "duel" cross cut. The table saw mode (with the blade located at the back of the table) is used first, then the cut is completed by using the radial arm saw mode's method of pulling the blade through the uncut stock. This dual crosscut operation combines the table saw mode and the radial arm saw mode, and is a unique and useful feature of the Sawsmith 2000.

WARNING

When combining table saw and radial arm saw modes (a dual cross cut), use extra care to keep the workpiece straight in order to avoid kickback. Also, never begin a "dual cross cut operation" using the radial arm saw mode, and then try to finish the cut be feeding the workpiece into the blade. Always begin the "dual cross cut operation" in the table saw mode, finishing the cut using the radial arm saw mode. Starting a cut using the radial arm saw mode, then finishing the cut using the table saw mode reduces operator control, increases the likelihood of kickback, and provides insufficient support of the workpiece.

Rip Cutting

How you rip cut a board with the Sawsmith 2000 is virtually the same as with a conventional table saw. The only difference is that you should place the carriage so the blade is in the center of the table, and then tighten the carriage lock. Fig. D-15 shows a typical configuration: the blade is in the center of the table, the upper saw guard is installed, the anti-kickback cams are adjusted to their lowest setting, and the rip fence supports and guide the board for a straight cut.

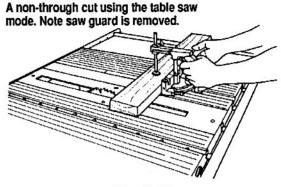


Fig. D-12

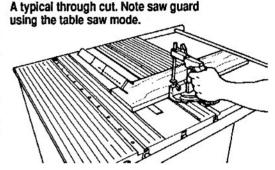


Fig. D-13

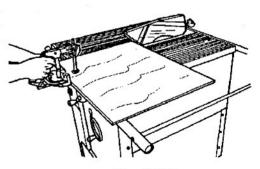


Fig. D-14

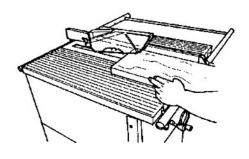


Fig. D-15

Fig. D-16 demonstrates the same configuration being used to rip a large sheet of plywood. Notice that the rip fence is extended to the end of the fence tubes and the plywood sheet will be fully supported on both sides of the blade.

Fig. D-17 shows the operator ripping a narrow board with the blade set at an angle to make a bevel cut. He is finishing the cut with a push stick.

Fig. D-18 shows using the fence straddler to finish the cut. The fence straddler should be used to push narrow stock past the blade when the push stick will not fit.



The feather board comes fully assembled. To mount it on the table:

- 1. Loosen the knobs and slide the front T-nut in the miter slot, as seen in Fig. D-19. Then slide the other T-nut in the miter slot.
- 2. Place the feather board in **front** of the saw blade, as in Fig. D-20.

WARNING

If the feather board is positioned too close to the blade, it will pinch the workpiece against the saw blade, and a kickback will result.

- 3. Tighten the knobs to lock the T-nuts in place.
- **4.** Place the workpiece in the same position it will be for the actual cut.
- **5.** Move the feather board so the fingers gently deflect about 1/8" while pressing the workpiece against the rip fence, then tighten down the feather board with the knobs.

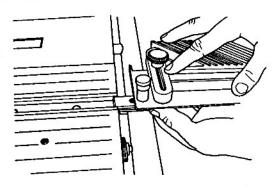


Fig. D-19

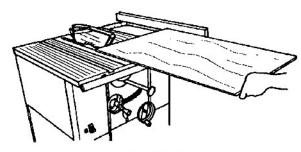


Fig. D-16

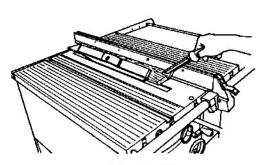


Fig. D-17

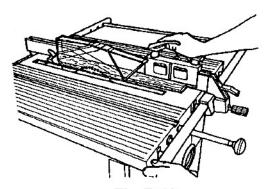


Fig. D-18

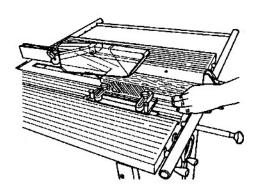


Fig. D-20

Radial Arm Saw Mode

Here are several guidelines for using the Sawsmith 2000 in the radial arm saw mode:

WARNING

Always fully support the workpiece on both sides of the blade, even when are using a miter gauge and quick clamp hold down.

- 1. Always keep the carriage path clear except for the workpiece to be cut.
- **2.** When making the cut, pull the carriage rod in a smooth consistent motion.
- 3. Never move the board or allow it to move during the cut (unless doing the dual crosscut operation).
- **4.** Always let the blade come to a complete stop on its own before lifting the upper saw guard.

Fig. D-21 illustrates a typical setup. The workpiece is firmly gripped by the safety grip's quick clamp and the miter gauge is fixed in place by the miter stop.

To install the miter stop:

- 1. Loosen the knob and place the T-nut in the miter slot behind the miter gauge, as seen in Fig. D-22.
- **2.** Place the miter stop behind the miter gauge and tighten the knob, as in Fig. D-23.

Fig. D-24 demonstrates a setup when the workpiece is supported on one side of the saw blade by the miter gauge and the other side by the **stop pin**, shown in Fig. D-25. Install the stop pin in the same manner as the miter stop. The stop pin can be used to help support boards during cross cutting operations. It helps support the board at two points rather than one (the miter gauge). It can be adjusted in either miter slot to help support boards being cut at any angle.

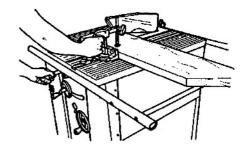


Fig. D-21

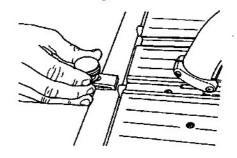


Fig. D-22

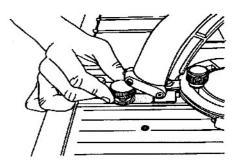


Fig. D-23

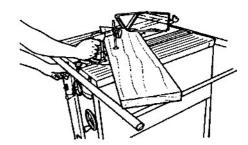


Fig. D-24

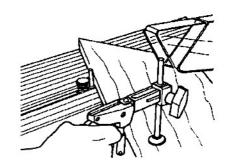


Fig. D-25

Fig. D-26 illustrates a non-through cut. The upper saw guard is removed because the riving knife would otherwise stop the workpiece.

Fig. D-27 shows a workpiece wider than 12" being cut most of the way in the table saw mode and the cut finished by using the radial arm saw mode. This is called the *dual crosscut operation*.

WARNING

Perform the dual crosscut operation by starting the cut using the table saw mode, and then finishing the cut using the radial arm saw mode. DO NOT start a cut using the radial arm saw mode, then finishing the cut using the table saw mode.

Starting a cut using the radial arm saw mode, then finishing the cut using the table saw mode reduces operator control, increases the likelihood of kickback, and provides insufficient support of the workpiece.

A non-through cut using radial arm saw mode. Note upper saw guard removed.

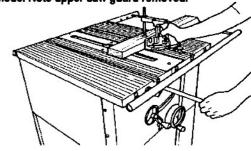


Fig. D-26

A through cut using radial arm saw mode. Note upper saw guard installed.

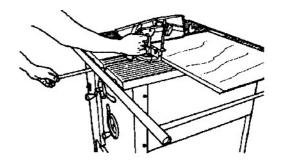


Fig. D-27

More Operations for the *Deluxe Model* and *Ultra Model*

The Excalibur Precision Saw Fence System is featured in both the Deluxe and Ultra Models of the Sawsmith 2000. This section has important information which will help you get the most out of your system. See Fig. D-28.

The Excalibur Precision Saw Fence

The **locking mechanism** for the Excalibur Saw Fence locks on the saw rails at both the front and back of the saw. The locking pressure is adjusted by the operator.

The accuracy of the Excalibur Saw Fence relative to the saw blade depends on the **front** and **rear guide rails** that are provided with the fence. These guide rails must be mounted on the saw's table so that the full length of the "working edge" of both rails are parallel with each other.

The ball bearing suspension rollers in the fence are held in place by spring-loaded "clevises." Two rollers ride on the front guide rail and one roller rides on the rear guide rail. The triangulated position of the Excalibur's suspension rollers moving on the parallel "working edges" of the front and rear guide rails ensures that when the fence body is moved, it remains parallel to its original setting.

If you intend to use a **wooden auxiliary fence** that will be attached to the left and/or right-hand side of the Excalibur fence, we recommend that you make one before using the fence. An auxiliary fence made from a piece of hardwood cut to a size you want can be attached to the side of the Excalibur fence body. Using a metal cutting drill (preferably a drill press), drill a 5/16" hole through both sides of the fence body, 3/4" down from the top (T-slotted) surface. Use 1/4" threaded rod, or appropriate bolts, to attach the auxiliary fence.

Positioning the Excalibur Saw Fence

The locking handle can be placed in 1 of 3 positions:

1. With the handle in the "down" position, the fence locks and fastens on the "working edge" of both the front and rear rails. Do NOT make adjustments with the locking handle in the "down" position.

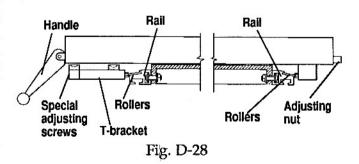
- 2. With the handle in the "horizontal" position, the fence can be moved to the left or right on the 3-point suspension rollers and the fence will remain parallel to the operator's original setting. Alignment adjustments to the fence are made with the locking handle in the "horizontal" position ONLY.
- **3.** With the handle in the "up" position, the fence will be released from the rails and can be lifted and removed from the saw table.

WARNING

Do not put the handle in the "up" position when moving the fence from left to right on the rails. It could fall off the rails.

Maintaining the Excalibur Fence

- Keep the fence free from the accumulation of sawdust and other debris.
- After installing the fence on the saw table, periodically apply a drop of oil to the surface of the locking handle where it seats against the extrusion mount.
- If the fence body becomes chipped, any rough edges can be removed with a very fine, smoothing file.



Note: The manufacturer of the Excalibur Saw Fence reserves the right to make changes in design or improve the product at any time without notice, and without obligation to make such changes to previously manufactured products.

Maintenance and Troubleshooting

This section of the Sawsmith 2000 manual contains maintenance information and a trouble-shooting guide. It covers topics and answers most questions you may have for normal maintenance and problem solving. Follow the maintenance schedule below for as long as you own your Sawsmith 2000. Regular maintenance is essential for any tool and machine to perform at its best.

The maintenance intervals shown here are based on normal operation. If you work the machine unusually hard, you'll need to maintain it more often. To estimate "running time", use this rule of thumb: The average woodworker will use his power tools only 20% of the total time spent in the shop—at the most. If you work in your shop for 25 hours, you've probably logged 4–6 hours on you Sawsmith 2000. Average out the time you spend in your shop to determine the proper maintenance interval for your machine.

MAINTENANCE SCHEDULE

Routinely, and as needed	 Clean the saw guards. Clean and sharpen saw blades Inspect and tighten the arbor setscrew, leveling feet and all hardware.
Every 5 hours of running time	Clean the Sawsmith. Refer to Cleaning.Wax the Sawsmith. Refer to Waxing.
When the blade brake time exceeds 15 seconds	Reverse or replace the friction material on the blade brake. Refer to Maintaining the Blade Brake.

Preparation

WARNING

Turn off and unplug the Sawsmith 2000 BEFORE you begin any maintenance procedure

Before you begin a maintenance procedure, remove the blade which is mounted on the machine. Set the motor in the 45° position and secure the blade bevel lock. Finally, move the carriage as far to the back of the machine as it will go.

Cleaning

As you work, sawdust will accumulate on and in your Sawsmith 2000. This residue can affect its performance. To prevent problems, clean your Sawsmith 2000 thoroughly inside and out once every 5 hours of running time. Remove the back cover, then use an air compressor or dust collector to clear the sawdust from inside and outside the Sawsmith cabinet. Clear the following parts: blade bevel gear, pull rod, elevation shaft and elevation screw, carriage tubes, carriage posts, motor and lower blade guard, worktable surface, miter slots, upper blade guard, table insert, fence tubes, and extension tables (if your Sawsmith 2000 model has one or more).

Brushing Off

Give the entire machine a good going over with a soft brush to remove any remaining sawdust or dirt. If you find any grease or grime on the carriage tubes, or any other part, clean it off with mineral spirits.

Maintaining the Blade Brake

The blade brake for the Sawsmith 2000 is designed to stop the rotation of the saw blade in 10–15 seconds from when the machine is turned off. When the stopping time exceeds 15 seconds, it will be necessary for you to reverse the working side of the friction material – or even replace the friction material. This process is needed for safe operation of the Sawsmith 2000. To do this, follow these steps:

- 1. Turn off and unplug the Sawsmith 2000.
- 2. Tilt the blade to 45° and tighten the bevel lock.
- **3.** Make sure the blade is all the way to the back of the machine and lock the carriage.
- Remove the back panel.
- **5.** Rotate the motor shaft so the two setscrews on the brake activator collar are visible.
- **6.** Use a 3/32" Allen wrench to loosen the setscrews enough to remove the brake activator assembly from the motor shaft. Note: it isn't necessary to remove the black brake drum from the motor end bell.
- 7. Remove the cork friction material from the motor shaft and re-install it on its reverse side (if it has not already been reversed) or install a new friction material disc (Part No. 517326) on the motor shaft and seat it completely onto the black brake drum.

NOTE

It is not necessary to remove the black brake drum from the motor end bell.

- **8.** Insert a .047" feeler gauge between the cork friction material and the brake actuator. Install the brake actuator and fully compress.
- **9.** Use a 3/32" Allen wrench to securely tighten the two setscrews on the brake activator collar.

- **10.** Plug in and turn on the Sawsmith 2000 to test the blade stopping time.
 - •If it exceeds 15 seconds, turn off and unplug the Sawsmith and repeat Steps 5–10.
 - If the stopping time is less than 15 seconds, you have successfully adjusted the blade brake. Re-install the back panel and continue operating the Sawsmith 2000.

Lubricating the Sawsmith 2000

All the bearings are shielded and permanently lubricated so they do not need lubrication.

Waxing

Wax and buff the following parts:

- Carriage tubes, pull rod, elevation shaft, carriage elevation screw
- Worktable surface and miter gauge slots
- Miter gauge bar
- Table insert
- Upper blade guard, including the riving knife
- Rip fence (both sides)
- Fence tubes / fence rails (depending on model)

CAUTION

Use paste floor or furniture wax. Do not use car wax or spray furniture polish. The Sawsmith 2000 needs wax for both protection and lubrication. Car wax offers good protection for metal, but it is extremely hard and has little value as a lubricant. Furniture polish isn't hard enough. Paste floor or furniture wax protects and lubricates.

Apply the wax sparingly and buff it thoroughly. If you apply too much wax or don't buff it out, the wax will mix with sawdust, impede moving parts, and leave residue on the wood.

Storing

In normal use, regular cleaning, lubrication, and waxing will prevent the ferrous parts of the Sawsmith 2000 from rusting. However, if the machine is to be stored for an extended period or under unusually humid or corrosive conditions, spray the carriage tubes, saw blades, pull rod and any other ferrous parts and accessories with a rust-inhibiting light oil. Remove this oil with mineral spirits and re-wax the Sawsmith 2000 before using it again.

NOTES

Correcting Problems with the Troubleshooting Guide

Power tool problems usually have simple solutions—under normal use, you should rarely have to service your Sawsmith 2000. Most problems can be corrected by maintenance, alignment, adjustment, or a change in work habits. To help diagnose and remedy any problem that may arise when using your Sawsmith 2000. Use this Troubleshooting Guide.

How to Use the Troubleshooting Guide-

- **1.** Consider where the origin of the problem may be.
- **2.** Refer to the Table of contents below and go to the appropriate page.
- **3.** Once you have identified the possible cause, follow the solution prescribed.
- 4. Consult the back cover of this manual for information on warranties. If your equipment is out of warranty and needs service, see your Shopsmith Showroom or call Customer Services for instructions how you can have the part re-

paired at our Showroom or Factory for a fee. We will help you diagnose the problem, give you an estimate of the cost, and instruct you where to send the part or equipment for repair.

WARNING

Never operate power equipment that is not working properly. Turn off and unplug the machine before making adjustments or performing maintenance or repair procedure.

Use only Shopsmith recommended parts and accessories on your Sawsmith 2000.

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Problem	Possible Cause	Solution
Drive Train		
Turn on the Sawsmith	Machine unplugged.	Plug in machine.
and nothing happens.	Switch defective.	Replace switch.
	Wires disconnected.	Check wire. If disconnected, call Factory for directions.
	Power cord defective.	Replace power cord.
3	Capacitor defective.	Replace capacitor.
	Motor defective.	Replace motor.
Motor only hums.	Bearings worn and binding.	Replace bearings.
	Capacitor defective.	Replace capacitor.
4	Start relay defective.	Replace relay.
Sawsmith starts up and/or runs slowly.	Starting windings in motor defective.	Repair or replace motor.
and/or runs slowly.	Bearings worn and binding.	Replace bearings.
	Capacitor or relay defective.	Replace capacitor or relay.
Sawsmith loses power or stalls.	Work being forced.	Take your time. Let the machine do the work.
0	Blade or cutters dull.	Touch up or sharpen blade or cutters.
	Rip fence or miter gauge misaligned, blade cutters bind.	Align rip fence or miter gauge.
	Extension cord too long or wire gauge too small.	Replace with shorter, fatter cord. See Electrical Requirements.
	Low line voltage.	Contact an electrician.
	Motor defective.	Repair or replace motor.
Excessive vibration.	Accessory improperly mounted on spindle.	Mount accessory properly.
	Accessory out of balance or misaligned.	Repair accessory or check alignment.
	Accessory installed improperly.	Properly install accessory.

Problem	Possible Cause	Solution
Electrical		
Motor fails to start or stop.	Switch defective.	Replace switch.
or stop.	Motor defective.	Repair or replace motor.
Fuses blow or	Capacity of circuit too small.	Use circuit rated at least 15 amps.
breakers trip.	Standard or "fast blow" fuses used.	Install "slow blow" fuses or breakers.
	Circuit overloaded.	
		Plug Sawsmith into its own circuit.
	Work being forced.	Take your time. Let the machine do the work.
	Rip fence or miter gauge misaligned, blade binds.	Align rip fence or miter gauge.
	Capacitor defective.	Replace capacitor.
	Short in motor.	Repair or replace motor.
:	Blade brake adjusted improperly.	Re-adjust blade brake.
Switch hard to operate.	Switch defective.	Replace switch.
	Switch key improperly installed.	Properly install switch key.
Touching Sawsmith	Switch disconnected.	Reconnect switch.
causes shock.	Machine improperly grounded.	Ground the plug.
		Attach grounding wire to motor.
	Defective wiring.	Overhaul wiring.
Miter gauge binds in slots.	Miter slot extrusion improperly adjusted.	Properly adjust miter slot extrusion.
III SIOIS.	Miter gauge bar bent.	Replace bar.
	Miter slot extrusion warped.	Replace miter slot extrusion.
	Burrs in table slots or bar.	Remove burrs with fine file.
	Foreign material in table slot.	Clean, wax and buff table slots.
Miter gauge rocks side to side.	Glides improperly adjusted.	Adjust glides.
Wood teeters on miter gauge protractor.	Protractor face warped.	Replace protractor.
Miter gauge does not cut	Angle stops inaccurately set.	Reset Stops.
indicated angle.	Tool used to set angle not accurate.	Use precision tool.
	Scale improperly adjusted.	Adjust scale.

Problem	Possible Cause	Solution
	Protractor face warped.	Replace protractor.
	Wood not being held firmly against miter gauge.	Hold wood firmly. Use safety grip whenever possible.
Safety grip makes marks on wood.	Too much hand grip pressure.	Use less pressure.
	Burr on shoe.	Remove burr with fine file.
Rip Fence		
Rip fence won't lock in place.	Handle improperly adjusted.	Adjust handle.
	Clamp assembly broken.	Replace clamp assembly.
Rip fence won't line up	Rip fence improperly aligned.	Align rip fence.
properly.	Excessive pressure on fence during cut.	Use less pressure.
	Screws or bolts in base loose.	Align and tighten screws or bolts.
Rip fence aligns with one slot on worktable, but not the other (or wood teeters on rip fence).	Rip fence extrusion bowed.	Replace rip fence extrusion.
Saw blade, dado, or molder cuts into rip fence.	Improper setup.	Use wood extension fence bolted to rip fence.
Rip fence won't disengage easily.	Spring on lock rod broken.	Replace spring.
Saw Blades		
Saw blade wobbles.	Saw blade improperly mounted on arbor.	Mount saw blade properly.
	Saw blade not secure on arbor.	Tighten blade on arbor.
	Arbor not secure on spindle.	Tighten arbor on spindle.
	Foreign material between arbor and blade.	Remove blade from arbor and clean.
4	Blade warped.	Slight warps are normal and will straighten as machine reaches cutting speed. If warped more than 1/16", replace blade.
Saw blade loads up with pitch or resin.	Saw blade dull.	Touch up or sharpen blade.
	Normal buildup due to certain woods.	Clean blade with saw pitch remover or resin remover.

Problem	Possible Cause	Solution
	Rip fence improperly aligned.	Align rip fence.
	Blade out of alignment.	Align Blade.
	Blade mounted backwards.	Mount blade correctly.
	Wrong blade for job.	Use proper blade.
Upper and Lower Saw Guards		
Wood hits or binds	Riving knife improperly aligned.	Align riving knife.
on splitter.	Riving knife bent.	Bend riving knife slightly. If this doesn't work, replace knife.
Upper guard hits blade.	Guard improperly aligned.	Align guard.
Upper guard hard to mount.	Riving knife fastening system not secure.	Secure fastening system.
	Foreign material in mounting slots.	Clean slots with mineral spirits or turpentine. Do not use lacquer thinner.
Upper guard cloudy.	Impacted sawdust on guard.	Remove insert and clean with mineral spirits or turpentine. Do not use lacquer thinner.
Anti-kickback cams don't grab wood.	Cams not activated.	Activate cams.
3	Contaminated anti-kickback system.	Clean system.
Table Sawing Cut not square or not at the indicated angle.	Blade improperly aligned with table.	Align blade.
	Rip fence not parallel to blade.	Align rip fence.
	Miter gauge improperly adjusted.	Adjust miter gauge.
	Blade bevel not adjusted and /or locked properly.	Properly adjust and lock blade bevel.
	Protractor face warped.	Replace protractor.
	Work shifts as you cut.	Hold the work firmly against the table, rip fence and/or miter gauge.
	Square not square.	Use precision square.

Problem	Possible Cause	Solution
Wood binds when cutting.	Work shifts as you cut.	Hold the work firmly against the table, rip fence and/or miter gauge.
	Wrong blade for job.	Use proper blade.
	Blade improperly aligned.	Align blade.
	Rip fence not parallel to blade.	Align rip fence and/or blade.
	Rip fence extrusion bowed.	Replace rip fence extrusion.
	Riving knife not aligned with blade.	Align riving knife to blade.
	Blade shifts.	Secure all locks.
	Wood improperly seasoned.	Use only dry, seasoned wood.
Blade binds in radial	Blade not properly aligned.	Properly align blade.
arm saw mode.	Carriage rollers not able to travel freely on carriage tubes.	Clean and wax carriage assembly and carriage tubes.
	Carriage lock is not loosened completely.	Loosen carriage lock completely.
	Miter gauge shifts position.	Lock miter lock knob and/or secure the miter stop.
	Blade angle changes during cut.	Secure blade bevel lock.
	Wrong blade for the job.	Use proper blade.
	Work shifts as you cut.	Hold work firmly against the miter gauge.
	Riving knife not aligned with blade.	Align riving knife to blade.
New 2000 (1900 1900 1900 1900 1900 1900 1900	Wood not properly seasoned.	Use properly seasoned wood.
Wood stops or sticks during cut.	Mounting screws in table insert tightened improperly.	Tighten screws properly.
	Table needs wax.	Wax and buff table.
Wood burns.	Blade dull and/or dirty.	Touch up or sharpen and/or clean blade.
	Blade improperly aligned.	Align blade properly.
	Rip fence improperly aligned.	Align rip fence.
	Blade mounted backwards.	Mount blade correctly.
	Wrong blade for job.	Use proper blade.

Problem	Possible Cause	Solution
Black marks appear on wood.	Table and/or rip fence need wax.	Wax and buff table and rip fence.
Cut edge is ripples or uneven.	Work shifts as you cut.	Hold the work firmly against the table, rip fence, and/or miter gauge.
a .	Blade and/or fence shifts.	Secure all locks.
	Blade not secure on arbor.	Tighten blade on arbor.
	Arbor not secure on spindle.	Tighten arbor on spindle.
	Foreign material between arbor and blade.	Remove blade from arbor and clean.
	B lade warped.	Replace blade.
*	Set of the teeth on blade worn or incorrect.	Reset teeth at professional saw shop.
	Feed rate too fast.	Feed work slower.
	Blade improperly aligned.	Align blade properly.
E	Rip fence improperly aligned.	Align rip fence and/or table.
	Wrong blade for job.	Use proper blade.
Wood hard to cut.	Blade dull.	Touch up or sharpen blade.
	Blade shifts.	Secure all locks.
	Blade improperly aligned.	Align blade properly.
	Rip fence improperly aligned.	Align rip fence.
	Feed rate too fast.	Feed work slower.
	Blade mounted backwards.	Mount blade correctly.
	Wrong blade for job.	Use proper blade.
	Very hard wood.	Take your time. Don't force work.
	Wood improperly seasoned.	Use only dry, seasoned wood.
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Serving Your Needs

Your Shopsmith equipment is covered by the Shopsmith **Gold Medal Buyer Protection Plan**. This plan includes a 30day money-back guarantee, a full oneyear warranty, and a lifetime reconditioning program.

30-Day Money-Back Guarantee

We guarantee your complete satisfaction! You can try the equipment for 30 days at no risk before you decide whether to keep it or not. Use it to make as many projects as you like. Compare it, feature for feature, with other equipment. Then, if the equipment isn't everything we say, go to your nearest Shopsmith Showroom or call Customer Services and we'll advise you how to return it for a prompt and compete refund. We'll even pay for shipping.

Full One-Year Warranty

Your equipment is guaranteed against all defects in parts and workmanship for a period of ONE FULL YEAR from the date of receipt. Here are the details:

Shopsmith warrants to the owner of Shopsmith woodworking equipment that the equipment will be free of manufacturing defects in materials and workmanship for a period of one year from the date of receipt. All claims must be submitted in writing within one month after expiration of the one-year warranty period. Shopsmith shall, by repair of, or at its option replacement, remedy any defect or malfunctions covered by this warranty. This warranty excludes and does not cover defects, malfunctions, or failures of your Shopsmith equipment which are caused by damage while in your possession or that of a previous owner or by unreasonable use, including your failure or the failure of any previous owner to provide reasonable and necessary maintenance.

Personal injury or property damage may result if equipment is interchanged with non-Shopsmith brand parts and equipment. Therefore, Shopsmith, Inc. disclaims all liability and excludes all warranties of merchantability and fitness for a particular purpose if this equipment is used with non-Shopsmith brand parts or

equipment.



THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IN NO EVENT SHALL SHOPSMITH BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES. Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation of consequential or incidental damages 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.

Lifetime Reconditioning Program

Our equipment is designed for years of constant, rugged, uninterrupted operation. However, to ensure the continued usefulness of your unit, we offer a unique Lifetime Reconditioning Program.

If at any time, regardless of the age of your equipment, you can take it to a Shopsmith Showroom or send it to us (round trip shipping at owner's expense), and we'll re-build it and touch up the paint. We'll replace wearing parts such as bearings, seals, and belts. You reconditioned equipment will come back to you with a new 90-day full warranty. Reconditioning or repair will be done for a cost that will not exceed one-third of the current list price of equipment at the time of repair. If parts other than normal wearing parts need replacement, an estimate will be submitted to the owner for approval.

Warranted Service

To repair or replace a part in the equipment while its still under warranty, go to your nearest Shopsmith Showroom or Customer Services. They will instruct you where to send the part of your equipment. If the warranty is applicable, the part will be repaired at no charge.

Out-of-Warranty Service

If your equipment is out of warranty and needs service, see your Shopsmith Showroom or call Customer Services for instructions how you can have the part repaired at our Showroom or Factory for a fee. We will help you diagnose the problem, give you an estimate of the cost, and instruct you where to send the part or equipment for repair.

Shopsmith Showrooms carry a limited number of replacement parts and can perform some repairs. Call ahead to see if they can provide the part or service you need.

How to Order Parts

To order replacement parts, first consult the Parts List in this manual. Then write or call for current price information.

How to Return Parts

Should you need to return the equipment, see your shopsmith Showroom or call Customer Services for packing and shipping information.

Customer Services

Where to Write – Send inquiries to: Shopsmith, Inc. Customer Services 3931 Image Drive Dayton, Ohio 45414

Where to Phone – Shopsmith maintains toll-free telephone numbers during normal business hours.

For service, call:

1-800-762-7555 (Continental U.S., Hawaii, Alaska, Puerto Rico and U.S. Virgin Islands

Ĭ-513-898-6070 (Dayton area)

1-416-858-2400 (Toronto, Canada area) 1-514-739-8854 (Montreal, Canada area) 1-604-270-6327 (Vancouver, Canada area)

To place an order, call:

1-800-543-7586 (Continental U.S., Hawaii, Alaska, Puerto Rico and U.S. Virgin Islands

1-513-898-6070 (Dayton area)

1-416-858-2400 (Toronto, Canada area) 1-514-739-8854 (Montreal, Canada area) 1-604-270-6327 (Vancouver, Canada area)

When you write or call, tell us your Customer Number and the Date code of your equipment. (Your customer number appears on the invoice and the mailing labels of the literature we send you. The date code is stamped on the equipment.) Please write the numbers in the space provided here.

Customer No	10
Date Code	

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