

OPERATING INSTRUCTIONS AND PARTS LIST FOR **BENCH SAW**

8 INCH

—Model Number 103.23831—

The model number of your Bench Saw will be found on a plate on the rear of the Base. Always mention this model number when communicating with us regarding your Bench Saw or when ordering parts.

—Instructions for Ordering Parts—

All parts must be ordered through a Sears' retail or mail order store. Parts are shipped prepaid. When ordering repair parts, always give the following information:

1. The part number
2. The part name and price
3. The model number 103.23831 which will be found on the rear of the base

This list is valuable. It will assure your being able to obtain proper parts service. We suggest you keep it with other valuable papers.

SEARS, ROEBUCK and CO.

OPERATING INSTRUCTIONS AND PARTS LIST FOR CRAFTSMAN 8 INCH BENCH SAW

Model 103.23831

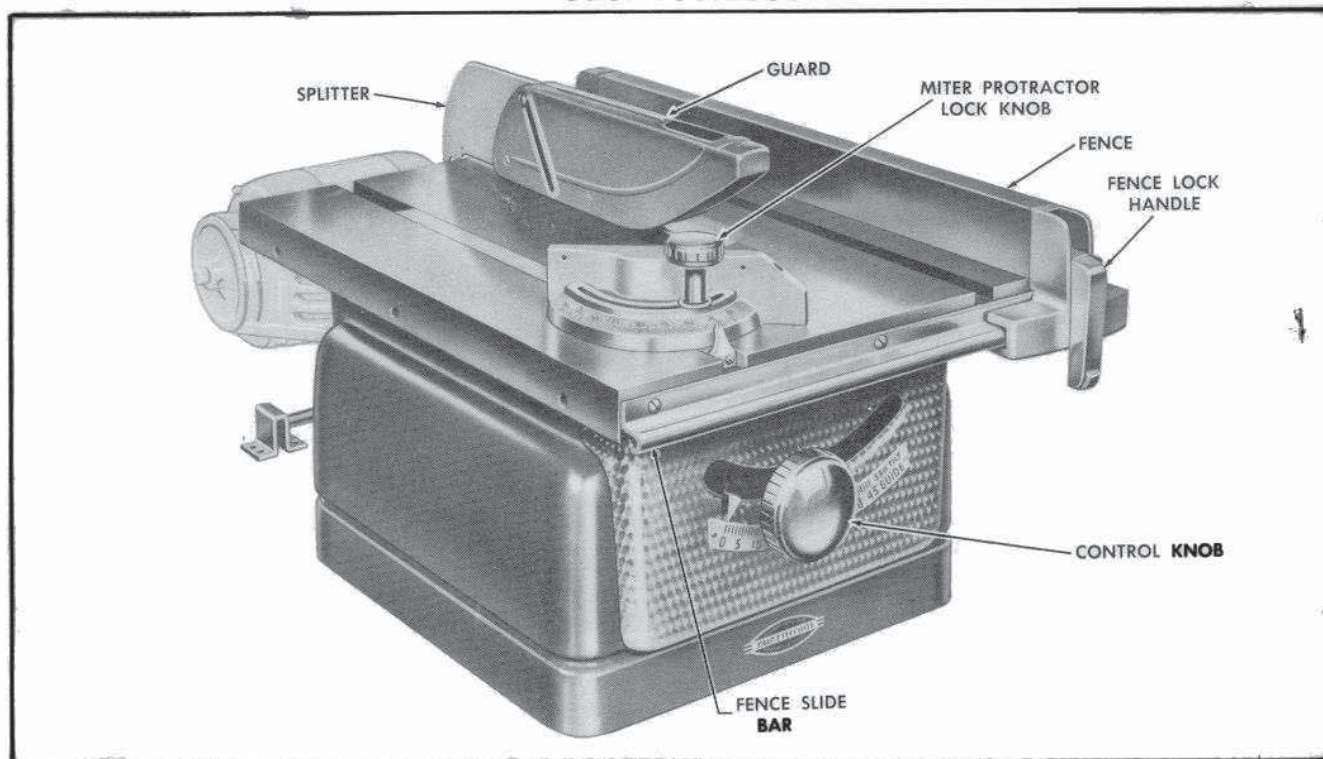


FIGURE 1

ASSEMBLING:

Guard and Splitter

Slide the notched ends of the splitter into position between the face of the splitter bracket No. 37418 and the dished washer No. 18448, and between the splitter spacer No. 37646 and dished washer No. 18448 located just behind the saw blade. Tighten the wing nut X454. When properly installed, the splitter will be held firmly in place and in line with the saw blade.

Fence and Miter Gage

Install as shown in figure 1.

Motor Alignment Rod

The 5/16 x 4 1/2 inch motor alignment rod fits into the hole in the back of the splitter bracket. Insert the rod as far as it will go into the bracket and tighten the set screw.

INSTALLATION OF SAW:

There are four 5/16 diameter holes provided in the base of the saw through which the tool should be fastened securely with screws or bolts to a well built work bench. A large hole in the bench below the blade will allow saw dust to escape.

The Motor Mount Brackets should be installed as shown in figure 2.

1. Set the saw blade at 0 inches elevation and 0 degrees tilt. (See paragraph headed "Controls")
2. Assemble motor rail, motor mount, and brackets as shown.

3. Draw a line on the bench 5 1/4 inches from the rear of the saw base. (Measure at two points 12 inches apart to be sure that the line is parallel to the rear of the base.)

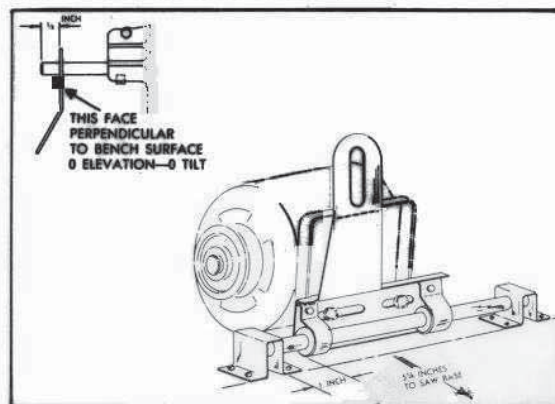


FIGURE 2

4. With the motor alignment rod extending through the motor mount slot, fasten the two brackets securely to the bench with their front edge on the line drawn 5 1/4 inches from the rear of the saw base. Allow one inch clearance at the left hand end of the motor rail as shown.
5. Bolt your motor to the mount so that the motor pulley will be in line with the saw pulley when the motor alignment rod is through the bracket slot.

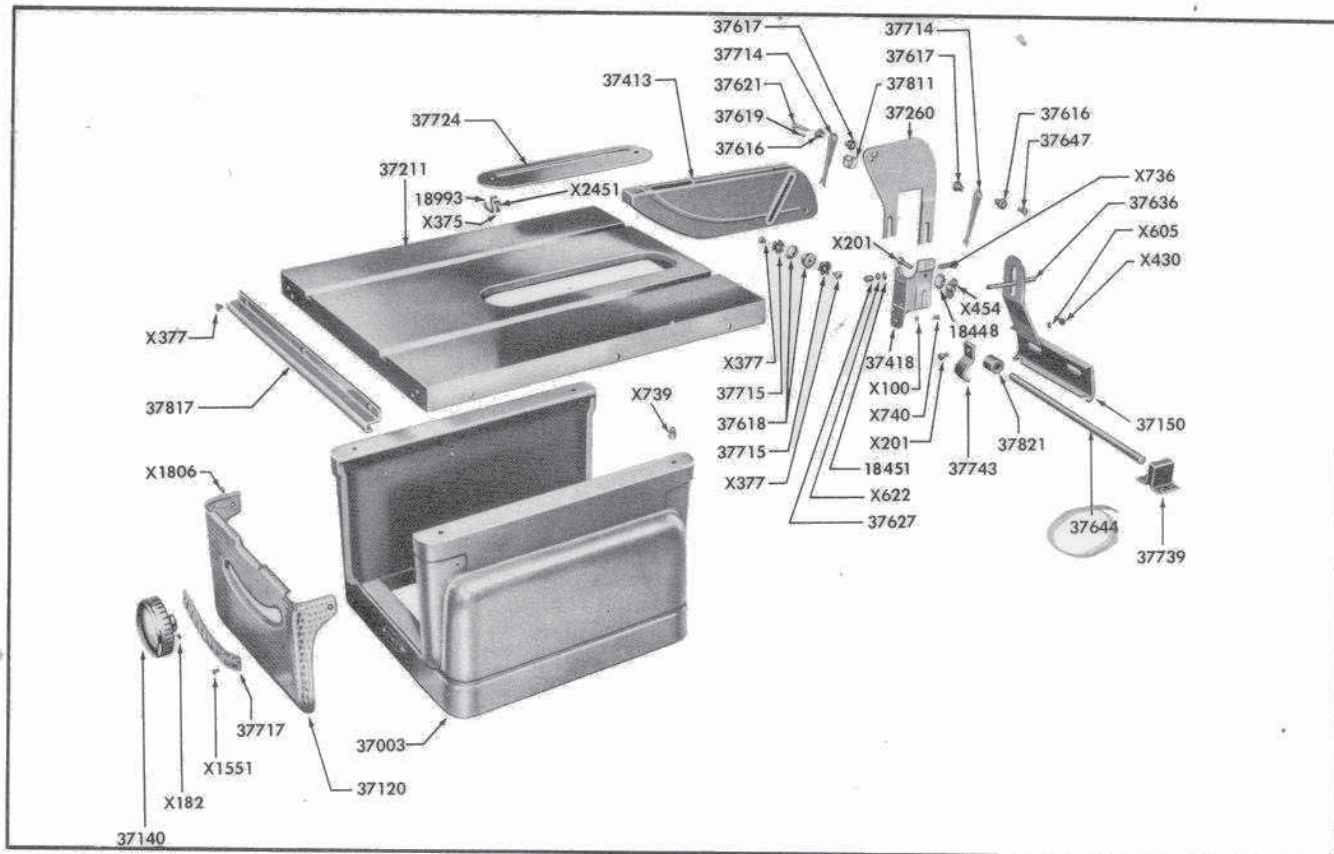
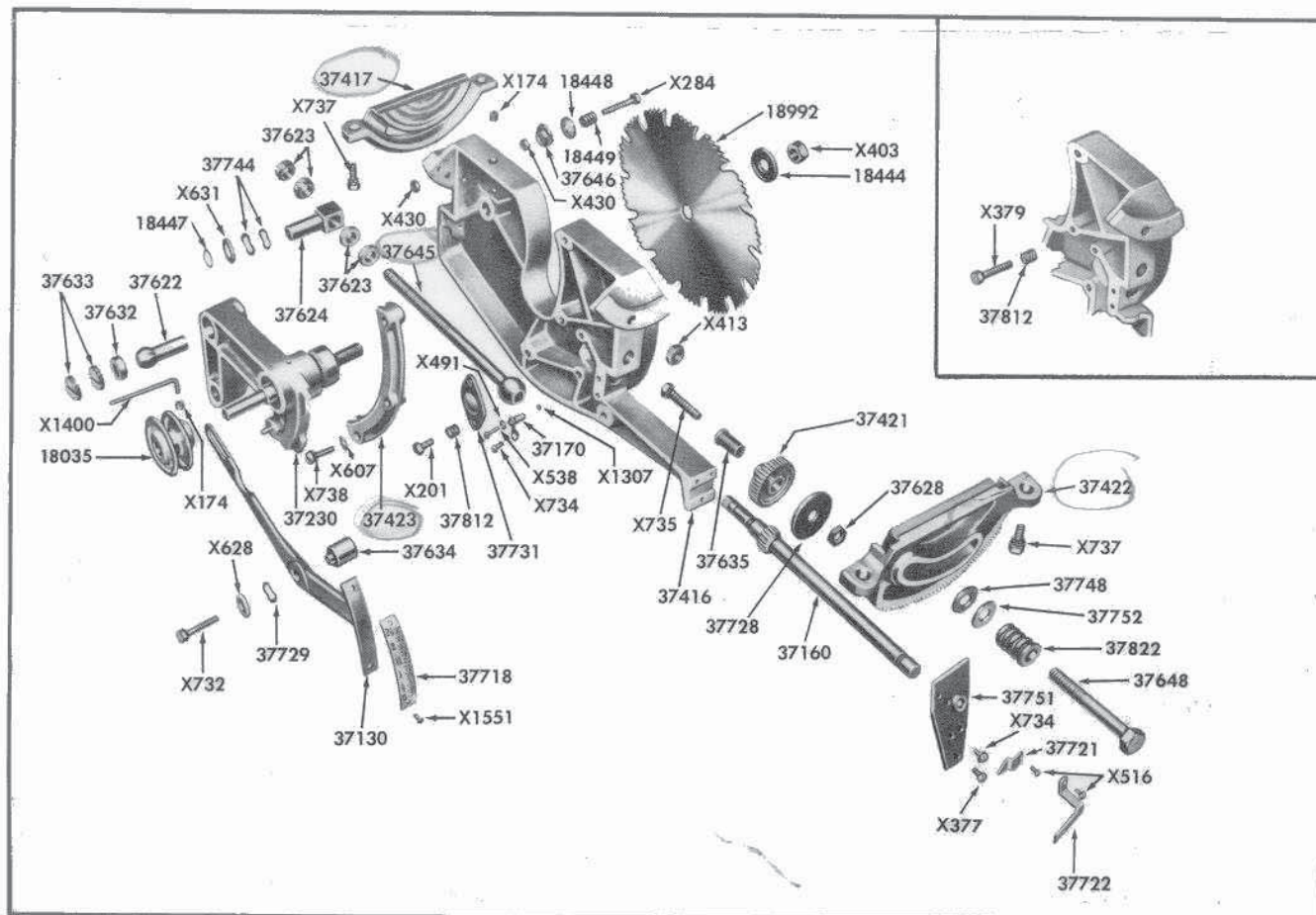


TABLE ASSEMBLY



OPERATING MECHANISM

tion) and low position. The front pair of stops control the high position while the rear pair stop the blade at low position.

The Blade Must Be Parallel with the Miter Slots in the Table to Get a Straight Cut. (See figure 4.) Adjustment, if necessary, may be made as follows:

1. Extend the blade fully and set it at right angles (0 degrees) to the table.
2. Slide the fence to the center of the table until it just touches the blade. (Fence must be parallel to the miter slot when it touches blade.)
3. Lock the fence.
4. Loosen the 2 bolts holding each trunnion No. 37417 and No. 37422 to the lower table surface. (4 bolts total.)
5. Shift the complete mechanism until the blade is flat against the fence.
6. Retighten the four trunnion screws—front pair first.
7. Check this adjustment by measuring again from the marked blade tooth to the miter slot as previously explained.

The Fence Must Lock Parallel with the Miter Slots. Using one hand on the front end of the fence, slide the fence to the edge of the miter slot. Push the lock handle down slowly. If fence isn't parallel to miter slot adjust as follows:

1. Loosen the two screws in the lower surface of the front fence end.
2. Release the fence lock handle.
3. Hold the fence flush with the miter slot edge. Turn both screws up just snug. Then tighten each one securely.
4. Check the adjustment by sliding the fence away from the slot and returning several times to see if it locks parallel each time.

The Fence Must Be Square with the Table Surface. Adjust by loosening the screws holding the fence slide bar to the table. Slide the bar up or down at either end enough to square the face of the fence with the table. Retighten the screws.

The Arbor Tilt Tension Spring No. 37822 provides tension to keep the mechanism tilted at any angle, thus eliminating the need for a manual control lock. After the tool is "broken in," you may find it necessary to increase this tension. Loosen the lock nut X413 and turn the bolt 37648 until enough tension has been applied. Retighten the lock nut.

CARE OF THE BLADE:

Keep the blade teeth sharp and properly set.

To sharpen the blade:

1. Lower the blade until an oil stone laid on the table will just touch the teeth. Rotate the blade **backward** by hand until the ends of all the small cutting teeth have been touched.
2. File the gullets (space between teeth) of all teeth of the same shape to a uniform depth and width. Maintain the original shape, bevels, and dimensions. Avoid sharp corners or nicks in the gullets between the teeth.
3. The top one-quarter of each cutting tooth should be set at an angle of approximately 10

degrees. The set should be uniform and should alternate from left to right on successive teeth. The large raker teeth require no set—they should be kept approximately 1/64 inch shorter than the cutting teeth.

4. File the bevel of each cutting tooth—15 to 20 degree bevel on the inside front face of each tooth. Maintain the original bevel angle and be careful not to shorten the teeth.

Blade Wobble is often noticed at slow speeds when starting or stopping the saw. If this does not disappear at full speed, check the saw blade and clamp washers for dirt or saw dust on the clamping surfaces.

Gummy residue can generally be removed with kerosene.

OPERATION:

The blade provided with this saw may be used for both cross-cutting and ripping. However, if continuous ripping or continuous cross cutting is planned, a rip blade or cross cut blade will operate much more efficiently.

For proper chip clearance and best general results, the blade should project through the work-piece approximately 1/4 inch.

Saw warped stock with the concave or hollow face down.

Support long work as it leaves the rear of the table.

Avoid back tracking on a cut.

Do not force material into the blade too fast. Use a straight, direct, steady feed which does not overtax the cutting capacity of the blade.

SAFETY:

While the bench saw is one of the most widely used woodshop power tools, it is by nature of its general design, one of the most dangerous in the hands of inexperienced or careless operators. The bench saw is not, however, an unsafe tool when used with common sense and good judgment.

Use a push block rather than letting the hands get closer than 3 inches to the blade on narrow cuts.

Keep the splitter and anti-kickback units in place whenever possible. Never hold the hands over the blade when making blind groove type cuts. Stand to one side when completing a cut. A loose piece caught by the blade can fly back with surprising force.

Always stop the saw when removing waste stock from near the blade, when making adjustments, or when changing settings.

Do not wear dangling neck ties, loose baggy sleeves, etc., while operating power tools.

The guard is supplied with this saw for your safety—use it to its best advantage!

ACCESSORIES for this saw will be listed in your catalog or can be obtained from your nearest Sears Retail Store. An interesting and instructive booklet entitled "The Bench Saw and Jointer" is also available. It explains many handy special operations which may be performed on your bench saw.

6. Block the motor in position so that the alignment rod extends through the mount slot $\frac{1}{2}$ inch. Measure around the outside of the pulleys (not in the groove) with a flexible tape to determine the length of belt needed.

Check before Operation!

1. The motor alignment rod must project at least $\frac{1}{4}$ inch through the mount slot with the blade retracted and tilted 45 degrees. This setting should be checked often during operation. As the belt wears or stretches, loosen the set screw and pull the alignment rod out of the bracket the amount needed.
2. The motor mount must not strike the motor mount brackets at either end of the motor rail at 0 or 45 degrees tilt.
3. Be sure that the teeth of the blade point toward the front of the saw and the top of the blade turns toward the front.

MOTOR:

For general home workshop use, a $\frac{1}{2}$ horsepower 3450 R.P.M. motor will provide adequate speed and power. However, to enable you to take full advantage of the rugged performance features and full cutting efficiency of this saw, especially for heavy duty work, a $\frac{3}{4}$ horsepower 3450 R.P.M. motor should be used.

SPEED:

A $2\frac{1}{2}$ inch diameter pulley installed on the 3450 R.P.M. motor will drive the saw at the recommended speed—4500 R.P.M.

BELT:

If your motor shaft is approximately 4 inches from the bottom of the base of the motor, a $\frac{1}{2}$ " x 40" standard V-belt should fit the installation described on p. 2.

LUBRICATION:

The precision ball bearings used on the saw arbor have been packed with lubricant and sealed at the factory. They should require no further attention for the life of the bearings.

To maintain the smooth, easy operation of the controls, oil the following points occasionally:

1. The guide, No. 37423 at the front of the arbor support.
2. The guide ways of the front and rear trunnions, Nos. 37422 and 37417.
3. The elevation screw No. 37645.
4. The motor rail No. 37644.

CONTROLS:

The **Control Knob** raises the saw from 0 to $2\frac{1}{2}$ inches above the table level when **pushed in** and turned. It tilts the saw 0 to 45 degrees when **pulled out** and turned.

CAUTION:

This saw has an extra long spindle for greater dado capacity. If the blade is extended more than $2\frac{3}{8}$

inches according to the depth of cut gage, the spindle will strike the table insert when the saw blade is tilted.

The **Angle of Tilt** is shown by a pointer on the scale just below the control knob.

The **Depth of Cut Gage and Pointer** can be seen through the curved slot to the left of the control knob.

The **Fence Lock Handle** when down clamps the fence at both ends of the table. Raise the handle to unlock and move the fence to any point across the table.

The **Miter Protractor** face is a guide surface for cross cutting or diagonal cutting to a definite angle. The protractor may be used on either side of the blade at any angle or depth of cut setting. The angle is shown by the pointer on the calibrated scale on the protractor head. The lock knob clamps the head in the selected position.

ADJUSTMENTS:

The following items may require adjustment due to rough handling during shipment.

The **Blade Tilt Stop Screw** No. X379 located just behind the front trunnion on the left side of the body casting stops the tilt mechanism when the blade is at right angles to the table.

The **Pointer for the Tilt Scale** should indicate 0 degrees when the blade is at right angles to the table.

The **Depth of Cut Pointer** should be set at 0 when the blade is lowered with the teeth just flush with the table surface.

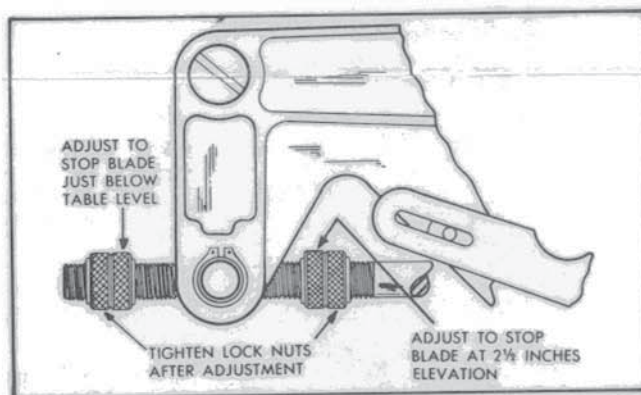


FIGURE 3

The **Elevation Limit Stop Nuts** shown in figure 3 automatically stop the saw at high ($2\frac{1}{2}$ inch project

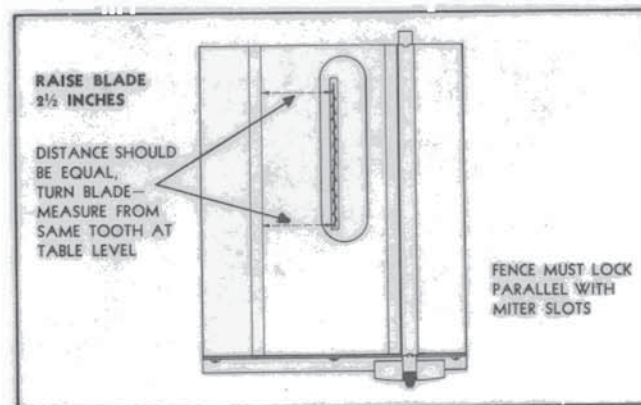
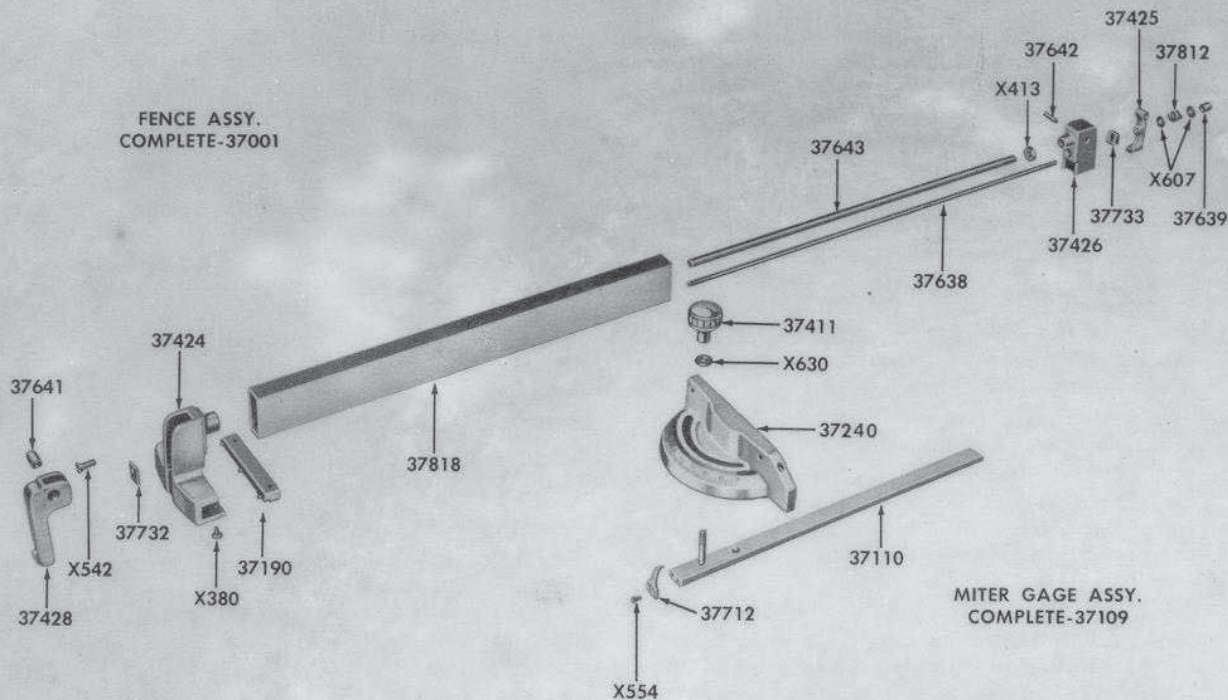


FIGURE 4

FENCE ASSY.
COMPLETE-37001



MITER GAGE ASSY.
COMPLETE-37109

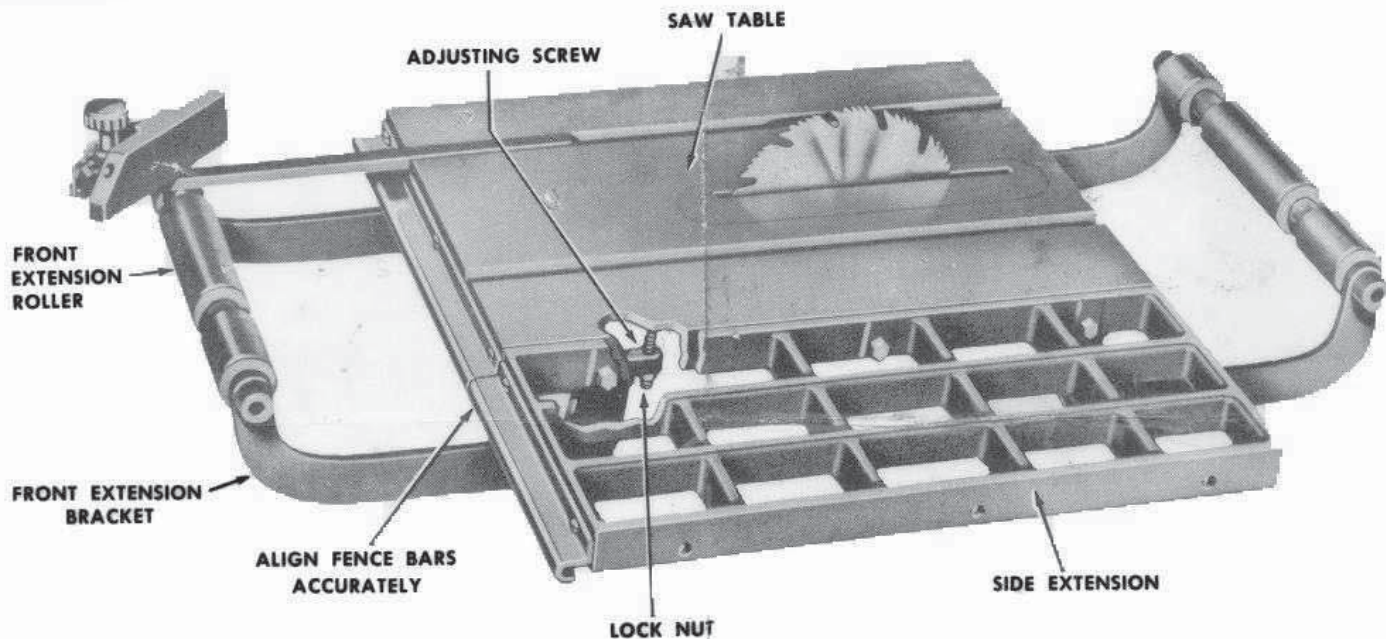
FENCE ASSEMBLY
Parts List

Part No.	PART NAME	Prepaid Selling Price Each	Part No.	PART NAME	Prepaid Selling Price Each	Part No.	PART NAME	Prepaid Selling Price Each
18035	Pulley with set screws.....	.80	37639	Fence lock rod nut.....	.20	X-403	Hex nut 1/2—20 jam nut.....	.10
18444	Saw clamp washer.....	.15	37641	Fence lock handle pivot pin.....	.20	X-413	Hex nut 3/8—16.....	.10
18447	Retaining ring.....	.15	37642	Fence lock clamp pivot pin.....	.15	X-430	Hex nut 1/4—20.....	.10
18448	Dished face splitter washer.....	.15	37643	Fence rod.....	.75	X-454	Wing nut 1/4—20.....	.15
18449	Splitter clamp tension spring.....	.15	37644	Motor rail.....	.75	X-491	Jam nut No. 6—32.....	.10
18451	Spring washer.....	.15	37645	Saw elevation shaft.....	1.50	X-516	Machine screw No. 8—32 x 1/4 round head.....	.10
18992	8 inch diameter combination blade. Purchase from nearest Sears retail or mail order store.....	—	37646	Splitter spacer.....	.20	X-538	Machine screw No. 6—32 x 1/2 round head.....	.10
18993	Table insert clip.....	.15	37647	Guard slide pin screw.....	.15	X-542	Machine screw 1/4—20 x 3/4 flat head.....	.10
37001	Fence assembly, complete.....	10.00	37712	Miter protractor pointer.....	.15	X-554	Machine screw No. 6—32 x 5/16 fillister head.....	.10
37003	Base.....	11.00	37714	Anti-kickback pawl.....	.15	X-605	Lock washer 1/4 inch.....	.10
37109	Miter gage assembly, complete.....	5.00	37715	Saw guard tension cone spring.....	.15	X-607	Plain washer 1/4 I.D. x 19/32 O.D.....	.10
37110	Miter bar.....	2.50	37717	Arbor tilt scale.....	.30	X-622	Plain washer 17/32 I.D. x 3/4 O.D.....	.10
37120	Front panel with tilt scale.....	4.60	37718	Depth of cut scale.....	.15	X-678	Plain washer 3/8 I.D. x 3/8 O.D.....	.10
37130	Elevation indicator arm with scale.....	.60	37721	Depth of cut pointer.....	.15	X-630	Plain washer 25/64 I.D. x 3/4 O.D.....	.15
37140	Handwheel with set screws.....	2.25	37722	Arbor tilt pointer.....	.15	X-631	Plain washer 41/64 I.D. x 1 O.D.....	.10
37150	Motor rail guide.....	1.30	37724	Table insert.....	1.10	X-732	Machine screw 1/4—20 x 1 1/2 hex head with internal lock washer.....	.10
37160	Shaft with gear.....	1.60	37728	Washer.....	.15	X-734	Machine screw No. 10—24 x 3/8 round head with external lock washer.....	.10
37170	Control shaft tension spring with screw.....	.20	37729	Spring washer.....	.15	X-735	Machine screw 3/8—16 x 1 1/2 hex head with external lock washer.....	.15
37190	Fence slide.....	1.00	37731	Tension plate.....	.15	X-736	Machine screw 1/4—20 x 1 1/2 hex head with external lock washer.....	.10
37211	Table.....	26.00	37732	Fence lock handle friction plate.....	.15	X-737	Machine screw 5/16—18 x 3/4 hex head with external lock washer.....	.10
37230	Spindle support with bearing.....	7.50	37733	Fence lock rod tension spring.....	.15	X-738	Machine screw 1/4—20 x 1 round head with external lock washer.....	.10
37240	Miter Protractor.....	3.25	37739	Motor rail bracket.....	.50	X-739	Machine screw 5/16—18 x 1 1/2 hex head with external lock washer.....	.10
37260	Splitter.....	1.30	37743	Motor rail bushing clip.....	.25	X-740	Machine screw 1/4—20 x 1/2 hex head with external lock washer.....	.10
37411	Lock knob.....	.75	37744	Spring washer.....	.15	X-1307	Steel ball 3/16 diameter.....	.10
37413	Guard.....	3.00	37748	Washer fibre.....	.15	X-1400	Allen wrench 5/32.....	.15
37416	Frame.....	14.00	37751	Control shaft spacer plate.....	.60	X-1551	Eyelet 1/8 x 1/4.....	.10
37417	Rear trunnion.....	1.60	37752	Flat washer.....	.15	X-1806	Sheet metal screw No. 7— 16 x 3/8.....	.10
37418	Splitter bracket.....	1.20	37811	Anti-kickback spring.....	.20	X-2451	External tooth lock washer No. 6.....	.10
37421	Control gear.....	.80	37812	Tension plate spring.....	.15			
37422	Front trunnion.....	1.60	37817	Fence slide bar.....	1.20			
37423	Guide.....	.90	37818	Fence body.....	4.00			
37424	Front fence end.....	1.90	37821	Motor rail bushing.....	.15			
37425	Fence lock clamp.....	.35	37822	Arbor tilt tension spring.....	.20			
37426	Fence end rear.....	1.00						
37428	Fence lock handle.....	1.25						
37616	Saw guard slide bearing.....	.25						
37617	Anti-kickback pivot bearing.....	.20						
37618	Guard tension cone.....	.20						
37619	Pin.....	.15						
37621	Guard slide pin.....	.15						
37622	Ball end pivot pin.....	.35						
37623	Knurled stop nut.....	.15						
37624	Saw elevation stud.....	.45						
37627	Spacer.....	.20						
37628	Hexagon lock nut.....	.15						
37632	Pivot bearing.....	.20						
37633	Pivot bearing retaining screw.....	.20						
37634	Depth gage spacer.....	.15						
37635	Spacer.....	.15						
37636	Motor alignment rod.....	.15						
37638	Fence lock rod.....	.35						

THE FOLLOWING PARTS ARE STANDARD
AND MAY BE PURCHASED LOCALLY

X-100	Set screw 1/4—20 x 1/4 slotted hd. cup point.....	.10
X-174	Set screw 5/16—18 x 3/8 socket hd. cup point.....	.10
X-182	Set screw 5/16—18 x 5/16 socket head cone point.....	.10
X-201	Cap screw 1/4—20 x 3/8 hex head.....	.10
X-284	Cap screw 1/4—20 x 1 1/2 hex head.....	.10
X-375	Binding head screw No. 6— 32 x 1/4.....	.10
X-377	Binding head screw No. 10— 24 x 3/8.....	.10
X-379	Replace with fillister head ma- chine screw 1/4—20 x 3/8.....	.10
X-380	Binding head screw No. 10— 24 x 3/8.....	.10

This Sheet is intended for Instruction and Repair Parts only and is not a Packing Slip. The Parts shown and listed may include accessories not necessarily part of this tool. All prices are subject to change without notice. All parts are shipped Prepaid.



INSTRUCTIONS FOR ASSEMBLY OF SIDE TABLE EXTENSION CAT. NO. 2417 TO BENCH SAW, MODEL 103.23830, 103.23831, AND 103.23832

Your Side Table Extension consists of:

- | | |
|--|----------------------------------|
| 1 ea.—table extension | 1 ea.—fence bar extension |
| 3 ea.—table mounting bolts with nuts and washers | 2 ea.—fence bar attaching screws |

Fasten the Table Extension to the side of the saw table using the bolts, nuts and washers provided. The tables should be flush across their surfaces and at the ends. The two holes for attaching fence bar should be to the front of the saw.

- Install the fence bar extension on the front edge of the table extension as shown. The bar must be carefully located to match the saw table fence bar so the fence will slide freely from one bar to the other.
- The saw table and extension have been reinforced to support the weight of normal usage.

INSTRUCTIONS FOR ASSEMBLY OF ROLLER EXTENSION CAT. NO. 2356 TO BENCH SAWS, MODELS 103.23830, 103.23831, 113.1011, 113.22400, 113.22401, AND 103.23832

Your Roller Extension Set consists of:

- | | |
|----------------|--------------------------------------|
| 1 ea.—roller | 2 ea.—bracket attaching bolts |
| 2 ea.—brackets | 2 ea.—adjusting screws and lock nuts |

The Extension Roller Set may be installed on both the front and rear of the 2383 Bench Saw, but only on the front of the 2240 model.

The brackets have been designed to accommodate the difference in the width of the tables on these saws (approx. 1 inch). If you look at the "roller-end" of the bracket you will see that the metal around the bearing hole extends farther on one side than on the other. As you look at the pair of brackets you will also note that they are opposites in this respect.

On the 2383 Bench Saw place the brackets so that this projection of metal is on the **outside** of the brackets.

On the 2240 Bench Saw place the brackets so that this projection of metal is on the **inside** of the brackets.

- Place the roller between the brackets as shown and attach the brackets to the table with the bolts provided. Do not tighten the attaching bolts securely until final adjustment has been made.
NOTE: When the roller is properly installed the undercuts will line up with both the table miter slots. Check by sliding the miter gage out over the roller as in the illustration.
- Check each end of roller with a long straight edge to be sure that the roller is the same height as the table. Each bracket has an adjusting screw and locknut. This screw when turned against the lower table surface controls the height of the roller. Tighten the lock nut on each adjusting screw when the roller is set in the proper position.
- Tighten the bracket attaching bolts securely.