OPERATING INSTRUCTIONS AND PARTS LIST FOR

BAND SAW

12 INCH

Model Number 103.24280

This is the model number of your Band Saw. It will be found on a plate on the back cover. Always mention this model number when communicating with us regarding your Band Saw or when ordering parts.

Instructions for Ordering Parts

All parts listed herein must be ordered through a Sears retail store or mail order house. 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 103.24280.

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.

LITHOGRAPHED IN U.S.A.

SOURCE FORM 41919

OPERATING INSTRUCTIONS AND PARTS LIST FOR BAND SAW MODEL NUMBER 103.24280

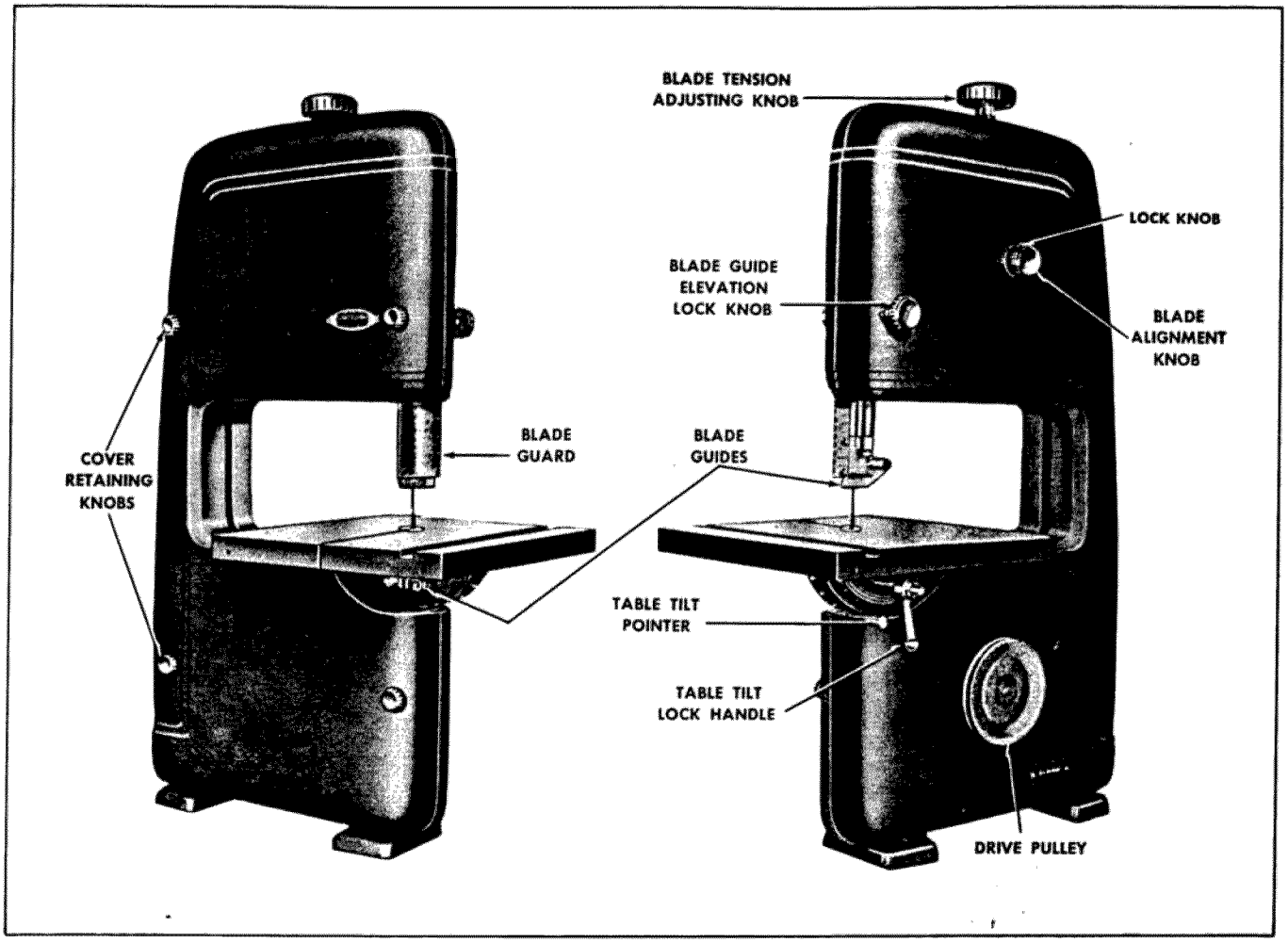

FIGURE 1

You now own a Band Saw which is the product of extensive engineering research and thorough testing. Accurately machined parts built to high inspection standards are carefully assembled to make sure this Band Saw will deliver top quality performance. These features have all been combined with an attractive appearance to create a tool that is a pleasure to operate and a welcome addition to your shop. This Band Saw can be used for cutting curves, circles, or any irregular shape as well as straight ripping or cutoff.

To prevent damage in shipment some of the parts were disassembled from the tool. These parts are listed below. Be sure they are all accounted for before discarding any of the packing material.

1. Saw Blade; item 3 see page 5.
2. Table and Mounting Bracket Assembly complete; items 4, 6, 7, 11 (4), 12, 13, 14, 15, 16, 17, 18, 19 (2), 20 (4), 31, 32, 33, 34, 36, 73, 74, 77, 78 and 79.
3. Bag of miscellaneous small parts consisting of items 5, 30, 38 (4), 49 and 76.

ASSEMBLY:

Remove the 4 **cover retaining knobs** and slide the cover off studs, see Fig. 1.

IMPORTANT; Place the 4 **mounting bolts,** No. 38, in the four holes of the **trunnion support bracket** and mount the **table** and **support bracket assembly** to the **frame** as shown in Fig. 2. Leave these 4 bolts **loose** enough to allow the entire assembly to be shifted. Place the **blade thrust rollers,** Nos. 30 and 49, in tool as shown in Fig. 2.

Before proceeding with assembling be sure the table is locked so that the **90° stop screw,** No. 4, is resting on the **trunnion support bracket,** No. 14. Locking of the table is accomplished with the **table tilt lock handle** as shown in Fig. 1.

Install the saw blade with the teeth pointing **down,** and **away** from the saw blade guides. Apply enough tension to the blade to take up the slack by turning the **blade tension adjusting knob,** see Fig. 1.

With an accurate square resting on the table surface, see Fig. 2, square the table and mounting

bracket assembly with the saw blade, and finish tightening the **mounting bolts,** No. 38.

Place the knurled screw, No. 5, in the table saw slot.

Before replacing the cover check the blade for "Tension" and "Tracking" as explained under "Adjustments".

INSTALLATION:

Securely bolt the Band Saw to a solidly built bench checking each foot and adding spacers if necessary to provide good contact with the bench. It is suggested that the bench be of sufficient height to bring the saw table about elbow level.

Three holes have been provided to secure Band Saw to bench. There are two holes in the front foot on the outside of the tool. The rear foot has one hole accessible from inside the cover.

We suggest that a 3-inch square hole be cut in the bench top directly back of the front foot to prevent the accumulation of saw dust.

The motor may be installed behind or below tool.

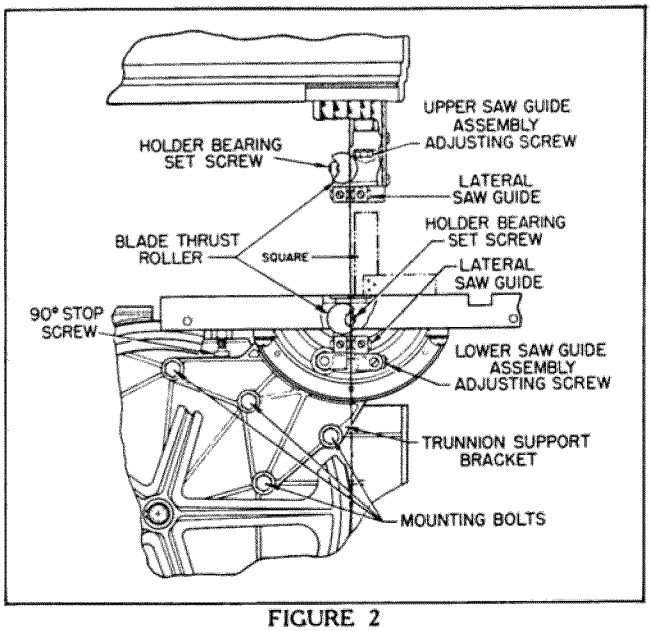

FIGURE 2

MOTOR:

A 1/3 horsepower 1750 R.P.M. motor is recommended for general usage.

Install the motor so that the direction of rotation of the **drive pulley,** see Fig. 1, is counter-clockwise when viewed from the **drive pulley** side of the tool.

SPEED:

The above motor equipped with a 2-inch diameter pulley will give an arbor speed of approximately 640 R.P.M. This is recommended for general use with wood and similar material.

When purchasing the motor pulley be sure to specify the shaft diameter of your motor and that the pulley is for a 1/2-inch V-belt.

BELT:

The drive pulley is designed for use with a standard ½-inch V-belt. The length of this belt may be determined after the motor position has been selected by measuring with a steel tape around the outside of the pulleys, not in the grooves.

LUBRICATION:

A special double row ball bearing built into the drive shaft and the two single row ball bearings in the idler wheel have been packed with lubricant and sealed at the factory. They require no further attention.

The **blade thrust rollers,** as shown in Fig. 2, should be lubricated occasionally. Other moving and sliding parts such as the guide slide bar, No. 46, and table trunnions, Nos. 12 and 16, may require occasional lubrication to maintain smooth operation.

CONTROLS:

The **table tilt lock handle** locks the table in any position from 90° to 45° with saw blade.

The **table tilt pointer** indicates the table angle on the calibrated trunnion scale.

The **blade guides** back up the blade for both lateral and direct thrust.

The **blade guide elevation lock knob** controls the upper assembly in relation to table surface for various work piece thicknesses.

The **blade alignment knob** provides a means of tilting the upper wheel for correct saw blade tracking.

ADJUSTMENTS:

This tool was completely checked and tested under power at the factory. Rough handling in shipment may have caused some misalignment. Check the following points to insure proper operation.

TENSION;

Proper **blade tension** may be set by raising or lowering the upper wheel assembly. This is done by turning the **blade tension adjusting knob** as shown in Fig. 1. When properly adjusted the blade should depress the rubber facings on the wheels slightly and also may be deflected by thumb pressure exerted between the first two fingers.

TRACKING;

The saw blade must run consistently on the approximate center of the wheels. The wheels are crowned to accomplish this, with the upper wheel being tiltable. Rotate the mechanism by hand and if the saw blade tends to ride off the wheels loosen the **lock knob,** as shown in Fig. 1. Turn the **blade alignment knob** slightly in or out until the blade returns to its proper position.

When blade tracks consistently tighten the **lock knob.**

GUIDES;

Saw guide assemblies are provided both above and below the table to support the blade against lateral and direct thrust.

The **upper saw guide assembly,** Fig. 3, must operate so that the distance from the back of the saw blade to the thrust roller remains the same throughout the entire up and down movement of the assembly. If

adjustment is necessary remove the cover and turn the **upper saw guide bar adjusting screw,** Fig. 3, either in or out as required. When adjustment is completed lock the **adjusting screw lock nut,** Fig. 3, to maintain adjustment.

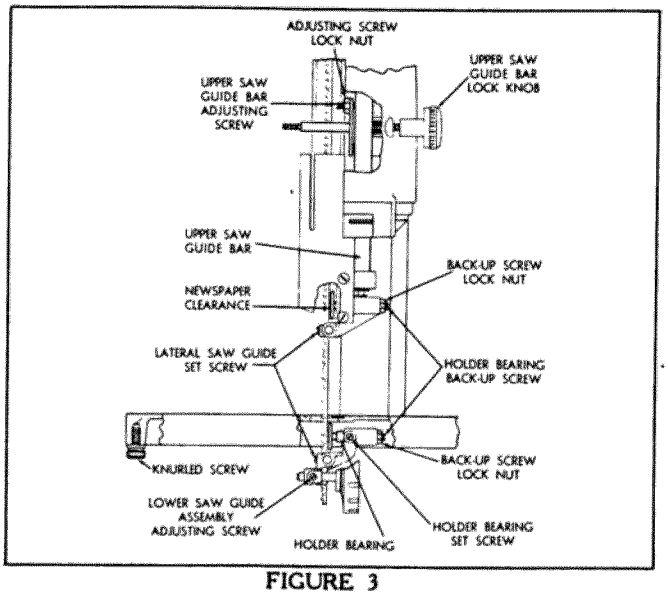

FIGURE 3

Adjust the saw guide assemblies so that the **lateral saw guides,** see Fig. 2, when adjusted, will contact the blade on the solid portion only, not on the teeth or valleys between teeth. To do this loosen the **saw guide assembly adjusting screws** (Fig. 2) and move the saw guide assemblies forward or backward as necessary. Lock the saw guide assemblies in position.

The **lateral saw guides** must be set as close as possible to the blade without binding it at any point or deflecting it sideways. Lock the set screws securing the lateral saw guides.

The **blade thrust** rollers as shown in Fig. 2 should be set the thickness of a piece of newspaper, see Fig. 3, from the back edge of the blade. Adjustment of the blade thrust rollers may be accomplished by loosening the **holder bearing set screws** (Fig. 2) and moving both the holder bearing and thrust roller in or out by turning the **back up screws,** Fig. 3, until the roller is in the correct position. Re-lock the holder bearing set screws and the **back up screw lock nuts.** The blade should touch these rollers only when cutting, not when saw is running free. CAUTION: tighten the **holder bearing set screws,** see Fig. 2, only slightly in both the upper and lower saw guide brackets as any undue pressure may cause the thrust roller to bind.

The above adjustments should result in a free running saw blade when no cutting is being done.

The table should be square with the blade and at the same time the pointer indicate zero on the scale. If correction is necessary it may be made with an accurate square resting on the table surface and against the saw blade. Adjust the **90° stop screw,** see Fig. 2, until correction has been made.

The **table tilt pointer,** as shown in Fig. 1, may now be readjusted to the zero mark on the scale by loosening the screw which holds the pointer to the tool.

After making adjustments on the Band Saw, check carefully by turning the mechanism by hand several revolutions before applying power.

NOTE: After a few hours of operation tighten all pulley set screws.

BLADE:

Following are several common causes of Band Saw blade breakage. Avoid these situations by frequently checking adjustments and by exercising care in operation, and you will be rewarded by an increased life and service from your blade.

Vibration of the blade, while running, indicates excessive tension which greatly shortens blade life.

Failure to bring the upper guide assembly down close to the work allows distortion of the blade which encourages breakage.

Excessive feed pressure causes the blade to ride hard on the thrust rollers causing cracking and eventual breakage. A dull blade, or one that has been improperly set or sharpened will require much greater feed pressure than a good, sharp, properly set blade.

If the lateral guides are set too close to the blade and rubbing constantly or causing blade deflection, the blade life and service are definitely shortened.

Both of the guides and the blade will be damaged if the guides touch the teeth rather than the smooth sides of the blade.

A poor weld where the blade ends are joined, or a weld that is improperly dressed leaving a bump, is often a cause of short blade life.

If the blade is allowed to rust, either on the tool or in storage, pitting caused by rust may be severe enough to cause breakage. Oil all blades before storing—wipe oil off before installing on Band Saw.

Finally, one of the most common causes of blade difficulty is the practice of cutting too sharp a radius or turning the work piece too fast when cutting a radius thus binding or twisting the blade. Following is a table showing the approximate minimum diameters which should be cut with various width blades.

BLADE WIDTH INCHES	MINIMUM DIAMETER INCHES
1/8	1/2
1/4	2
3/8	3
1/2	5

OPERATION:

Hold the work piece firmly against the table surface during cutting operations.

Do not force the work against the blade beyond the cutting capacity of the blade as this will make the following of the pattern extremely difficult.

A few practice cuts is advisable to get the feel of Band Sawing.

SAFETY:

Always keep the upper blade guide and guard as close to the work as possible for when in this location blade breakage will be held to a minimum and the operator protected. It is a good practice to stop the tool before raising or lowering the upper blade guide.

ACCESSORIES for this tool are a fence for ripping and a miter gage for angular cuts. These accessories are listed in our catalog and may be purchased from your nearest Sears retail store or mail order house.

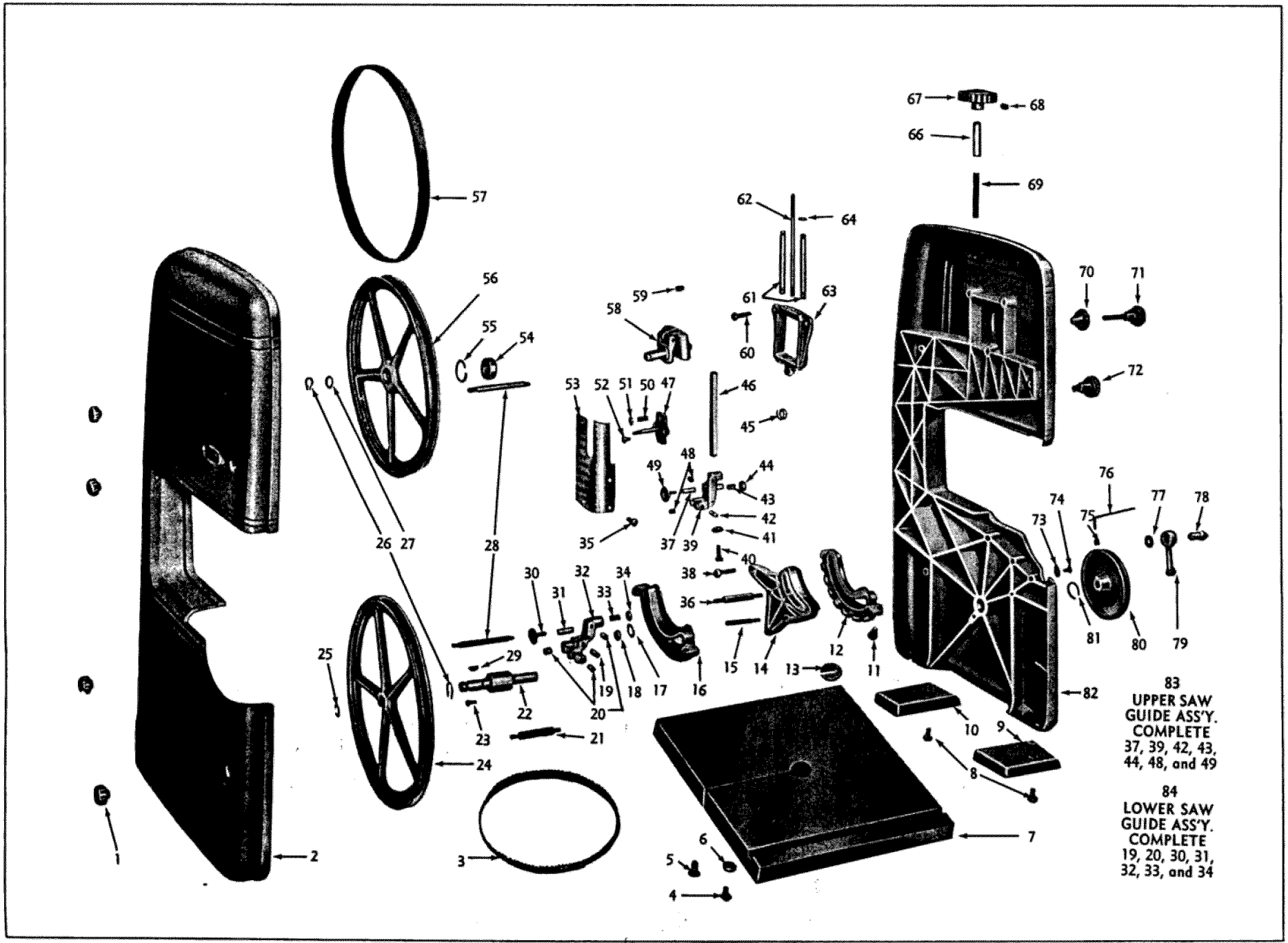
83
UPPER SAW GUIDE ASS'Y. COMPLETE 37, 39, 42, 43, 44, 48, and 49
84
LOWER SAW GUIDE ASS'Y. COMPLETE 19, 20, 30, 31, 32, 33, and 34

FIGURE 4

PARTS LIST

Illustration No.	Order Part No.	PART NAME	Prepaid Selling Price Each
1	18619	Knob	$ .45
2	41230	Cover	14.00
3	41716	Band Saw Blade—available in widths of 1/8", 1/4", 3/8", and 1/2" x 80" long. Purchase from nearest Sears retail store or mail order house. Ask for catalog No. 9-2623. State width wanted.	—
4	*X-309	Machine Screw 5/16-18x1 square head	.10
5	41628	Knurled screw	.15
6	*X-417	Hex. nut 5/16-18	.10
7	41260	Table	14.50
8	X-737	Machine screw 5/16-18x3/4 hex. head with external lock washer	.10
9	41214	Right foot	1.20
10	41215	Left foot	1.20
11	X-746	Machine screw 5/16-18x3/4 round head with external lock washer	.10
12	41150	Table trunnion with scale	1.50
13	38416	Table insert	.15
14	41421	Trunnion support bracket	2.50
15	41616	Guide holder stud	.20
16	41417	Table trunnion plain	1.30
17	X-606	Plain washer 3/8 I.D. x 7/8 O.D.	.10
18	X-432	Hex. nut 3/8-24	.10
19	41813	Saw guide	.15
20	X-100	Set screw 1/4-20x1/4 slotted head cup point	.10
21	41625	Cover stud—lower right	.20
22	41220	Bearing and key assembly—drive wheel	5.00
23	*X-383	Machine screw 1/4-20x3/8 slotted truss head	.10
24	41213	Lower wheel	8.00
25	41718	Lower wheel retaining ring	.15
26	38716	Retaining ring	.15
27	41711	Spring washer	.15
28	41624	Cover stud left	.15
29	38812	Drive shaft key	.15
30	18232	Blade thrust roller	.35
31	41130	Holder bearing	.25
32	41416	Lower saw guide bracket	.60
33	X-162	Set screw 1/4-20x5/8 slotted head half dog point	.10
34	*X-420	Hex. nut 1/4-20	.10
35	*X-377	Mach. screw No. 10—24x3/8 slot'd binding hd.	.10
36	41621	Trunnion lock screw	.30
37	41130	Holder bearing	.25
38	X-745	Mach. screw 5/16-18x1 hex. hd. with ext. lock washer	.10
39	41414	Upper saw guide bracket	.65
40	X-736	Mach. screw 1/4-20x1 1/4 hex. hd. with external lock washer	.10
41	X-607	Plain washer 17/64 I.D. x 19/32 O.D.	.10
42	41813	Saw guide	$ .15
43	X-162	Set screw 1/4-20x5/8 slotted hd. half dog point	.10
44	*X-420	Hex. nut 1/4-20	.10
45	41816	Guide bar tension spring	.15
46	41617	Upper saw guide bar	1.10
47	41050	Cover stud assembly—upper right	.40
48	X-100	Set screw 1/4-20x1/4 slotted head cup point	.10
49	18232	Blade thrust roller	.35
50	X-193	Set screw 1/4-20x1/2 slotted hd. round point	.10
51	*X-420	Hex nut 1/4-20	.10
52	*X-382	Mach. screw 1/4-20x3/8 slotted binding hd.	.10
53	41712	Blade guard	.35
54	18211	Bearing—upper wheel	1.80
55	41812	Bearing spacing ring	.15
56	41270	Upper wheel and bearing assembly	12.00
57	41815	Wheel tire	.75
58	41020	Upper wheel fulcrum assembly	1.85
59	*X-417	Hex. nut 5/16-18	.10
60	X-745	Mach. screw 5/16-18x1 hex. hd. with external lock washer	.10
61	41612	Upper wheel guide rod	.20
62	41611	Upper wheel tensioner rod	.25
63	41419	Upper wheel bracket	1.50
64	38715	Upper wheel guide rod retaining ring	.15
66	41619	Tension knob bushing	.35
67	38120	Hand wheel with set screw	2.25
68	X-182	Set screw 5/16-18x5/16 socket head cone point	.10
69	41811	Saw blade tension spring	.35
70	41413	Wheel adj. lock knob	.40
71	41250	Upper wheel adj. knob with stud	.85
72	41210	Upper saw guide lock knob	.75
73	18922	Protractor pointer	.15
74	*X-516	Mach. screw No. 8—32x1/4 slotted round hd.	.10
75	X-179	Set screw 5/16-18x5/16 socket head cup point	.10
76	*X-1403	Allen wrench—5/32	.15
77	X-606	Plain washer 3/8 I.D. x 7/8 O.D.	.10
78	38417	Trunnion lock nut	.35
79	38414	Table tilt lock handle	.75
80	41140	Pulley with set screw—5 inch single groove V-pulley 5/8 inch bore. Purchase from your nearest Sears retail store or mail order house. Ask for Catalog No. 9-2805—5/8 inch bore.	—
81	41715	Drive wheel bearing retaining ring	.20
82	41030	Frame	25.00
83	41004	Upper saw guide assembly complete consisting of: 37, 39, 42, 43, 44, 48, and 49	1.50
84	41005	Lower saw guide assembly complete consisting of; 19, 20, 30, 31, 32, 33, and 34	1.40

*Parts marked in this manner may be purchased locally.

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 parts are shipped prepaid. All prices are subject to change without notice.