

my Serial 103,21041

2217

OPERATING INSTRUCTIONS AND PARTS LIST FOR

CRAFTSMAN BENCH SAW

8 INCH

MODEL NUMBER 103.21041

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.

HOW TO ORDER REPAIR PARTS

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail from the mail order house which serves the territory in which you live, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST.

- | | | |
|---------------------|----------------------|------------|
| 1. The PART NUMBER. | 3. The MODEL NUMBER. | 103.21041. |
| 2. The PART NAME. | 4. The NAME of item. | BENCH SAW |

COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN POWER TOOLS



SEARS, ROEBUCK AND CO. and SIMPSONS-SEARS LIMITED in Canada back up your investment with quick, expert mechanical service and genuine CRAFTSMAN replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

SEARS, ROEBUCK AND CO. - U.S.A. IN CANADA, SIMPSONS-SEARS LIMITED

OPERATING INSTRUCTIONS AND PARTS LIST FOR 8 INCH BENCH SAW MODEL 103.21041

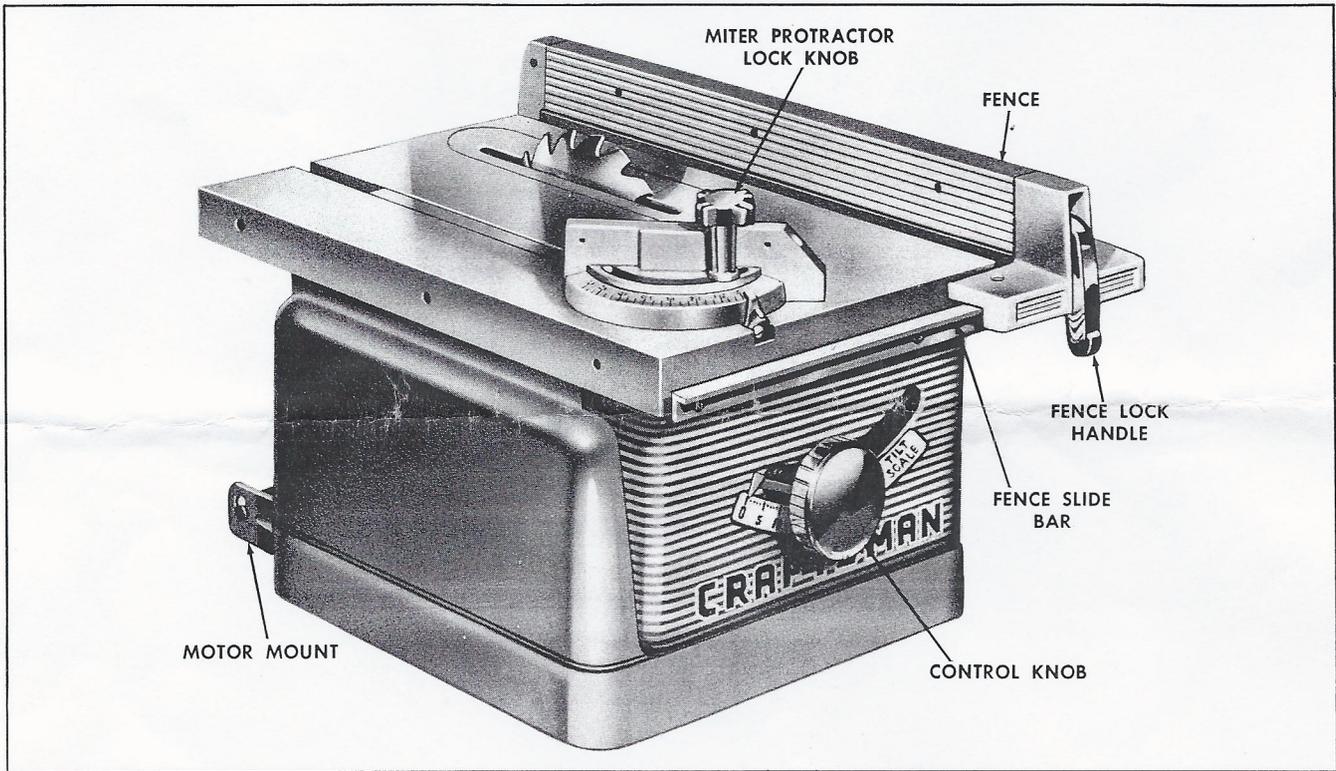


FIGURE 1

Careful planning, precision machining, and rigid inspection have all contributed toward maintaining the high standard of quality found in this tool. We are confident that you will find it satisfactory in every respect.

To increase the versatility of this saw beyond the normal range of bench saw operations, various attachments are readily available.

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. Fence; item 110.
2. Miter gage assembly; item 118.
3. Motor rail bar; item 21.
4. Motor Mount; item 35.
5. Insert with clips; items 13, 14, 15 and 16.
6. Motor pulley; item 63.
7. V-belt; item 61.
8. Bag contains items 8, 9, 10, 11, 18, 19, 22, 23, 25, 26, 27, 28 and 34.
9. Fence Slide Bar; item 7.

ASSEMBLY:

Front Fence Bar

The front fence bar must be fastened to the front edge of the saw table with three (3) slotted head screws, No. 8, spacers, No. 9, lock washers, No. 10, and hex nuts, No. 11. See Fig. 2.

Before tightening the screws securely, the fence bar must be accurately adjusted to the $21/32$ dimension over the entire length.

Motor Mount

Install as shown in Fig. 3 and outlined under "Installation of Saw".

Insert with clips.

Install in opening provided in table top. See Fig. 4.

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 sawdust to escape.

The Motor Mount Bracket should be installed as shown in Fig. 3.

1. Set the saw at 0 inches elevation and 0 degrees tilt. (See paragraph headed "Controls".)

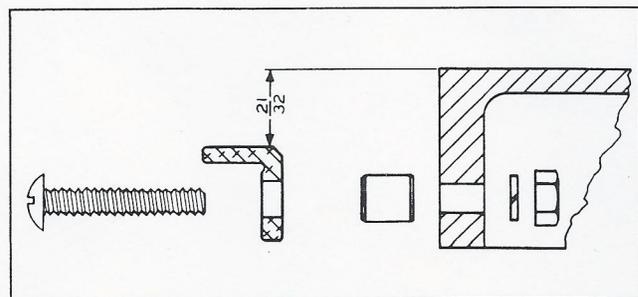


FIGURE 2

2. Fasten the motor rail bracket, No. 20, to the rear of the saw so it is flush with the bottom of the base. Use the two (2) slotted head machine screws, No. 26, lock washers, Nos. 19 and 27 and hex nuts, Nos. 18 and 28 provided.
3. Turn the guide pin, No. 34, into the hole at rear of saw body as shown in Fig. 3.
4. Assemble motor support bracket to the motor rail bracket, as shown. The grooved end of the motor rail, No. 21 MUST be placed in end of bracket with elongated hole.
5. Bolt your motor loosely to the motor support bracket.
6. Slide the motor rail guide, No. 32, over the guide pin.
7. Align the motor and saw pulleys by adjusting the motor on the motor support bracket. Tighten the motor mounting bolts securely.

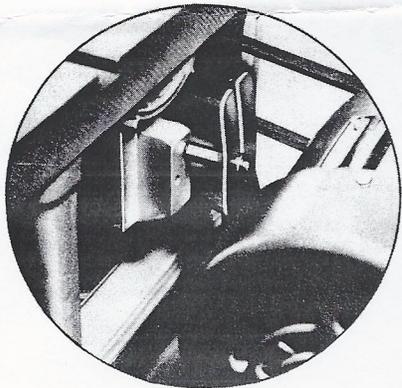


FIGURE 3

Check before Operation!

1. The motor alignment rod must project at least 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 rail 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.

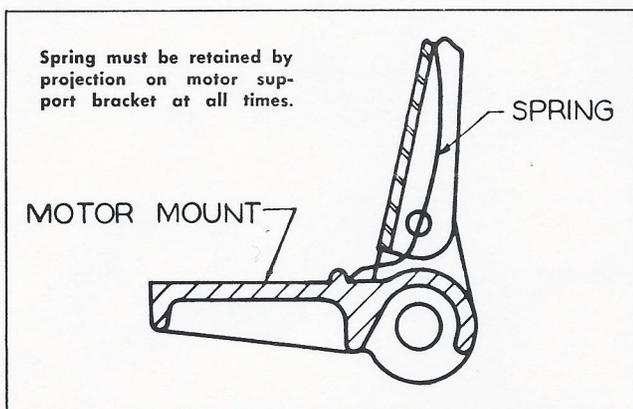


FIGURE 4

MOTOR:

For general home workshop use, a 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 3/4 horsepower 3450 R.P.M. motor should be used. Note: When a 3/4 H.P. motor is used, a 3/8 inch V-belt and a motor pulley with 5/8 bore is necessary.

SPEED:

The motor pulley, No. 63, installed on a 3450 R.P.M. motor with a 5/8 inch diameter shaft will drive the saw at the recommended speed—4500 R.P.M.

BELT:

The saw is driven by a V-belt, No. 61. A replacement may be purchased by ordering under part number given in parts list.

LUBRICATION:

The precision ball bearing assembly used on the saw arbor has been packed with lubricant and sealed at the factory. It should require no further attention for the life of the bearing assembly.

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

1. The guide, No. 52, at the front of the arbor support.
2. The guide ways of the front and rear trunnions, Nos. 80 and 92.
3. The elevation screw, No. 76.
4. The motor rail, No. 21.

CONTROLS:

The **Control Knob** raises the saw from 0 to 2 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.

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

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.

CAUTION:

This saw has an extra long spindle for greater dado capacity. If the blade is extended more than 2 3/8 inches the spindle will strike the table insert when the saw blade is tilted.

The **Fence Lock Handle** when down clamps the fence at both ends of the table. Raise the handle to unlock and by **grasping the front fence end** move the fence to any point across the table. **To make sure that the fence is perpendicular to the table, push down on fence as you lock it.**

ADJUSTMENTS:

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

The **Blade Tilt Stop Screw**, No. 98, 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.

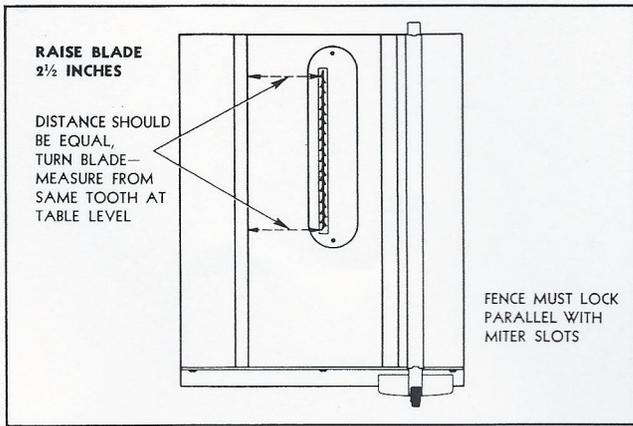


FIGURE 5

The Blade Must Be Parallel with the Miter Slots in the Table to Get a Straight Cut. (See Fig. 5).

Adjustment, if necessary, may be made as follows;

1. Raise the blade to 2 1/2 inches depth of cut and set at right angle (0 degrees) to table.
2. Measure **accurately** from a raker tooth on the blade to an edge of either miter slot, as explained and shown in Fig. 5.
3. Loosen the bolts, Nos. 79 and 93, holding each trunnion, Nos. 80 and 92, to the lower table surface. (4 bolts total.)
4. Shift the complete under-table mechanism until the blade is parallel with the miter slot.
5. Re-tighten the four trunnion screws, front pair first.
6. Check this adjustment as previously explained to be certain it is correct after re-assembly is complete.

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 does not lock parallel to miter slot adjust as follows:

1. Loosen the two screws, No. 108, on top of the fence end.
2. Release the fence lock handle, No. 103.
3. Adjust the two set screws on the front of the fence end until the fence is parallel with miter slot. Turn the two screws, on the top, up 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 lock arm may require occasional adjustment to maintain proper tension.

With the fence lock handle, No. 103, in the unlocked position turn the fence lock rod, No. 112, slightly in a clockwise direction until proper tension is attained when fence lock handle is placed in the lock position.

The Arbor Tilt Tension Spring, No. 99, 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, No. 85, and turn the bolt, No. 98, until enough tension has been applied. Re-tighten the lock nut.

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

OPERATION:

The blade provided with this saw may be used for both cross-cutting and ripping.

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

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

To eliminate creep of your work when making a miter cut, clamp the work piece to the miter gage.

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

When using dado saws, the hex nut, No. 83, will hold saws securely without the use of the saw clamp washer, No. 84, if that is desired.

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.

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.

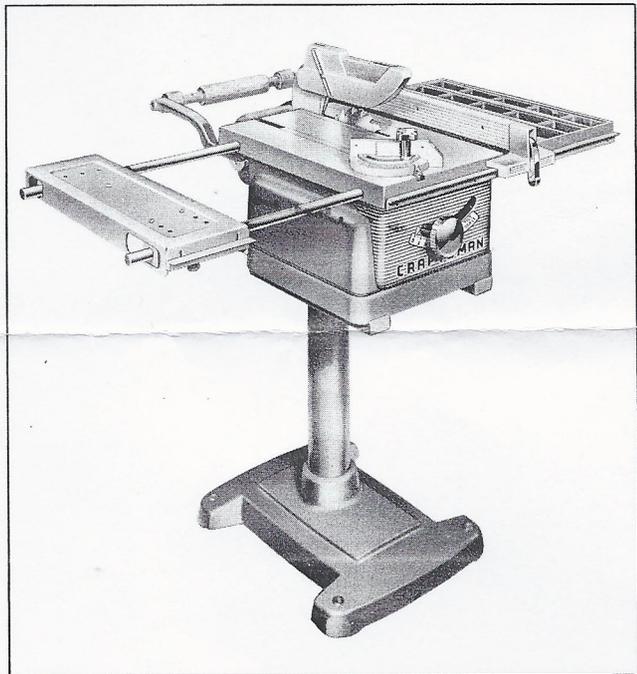
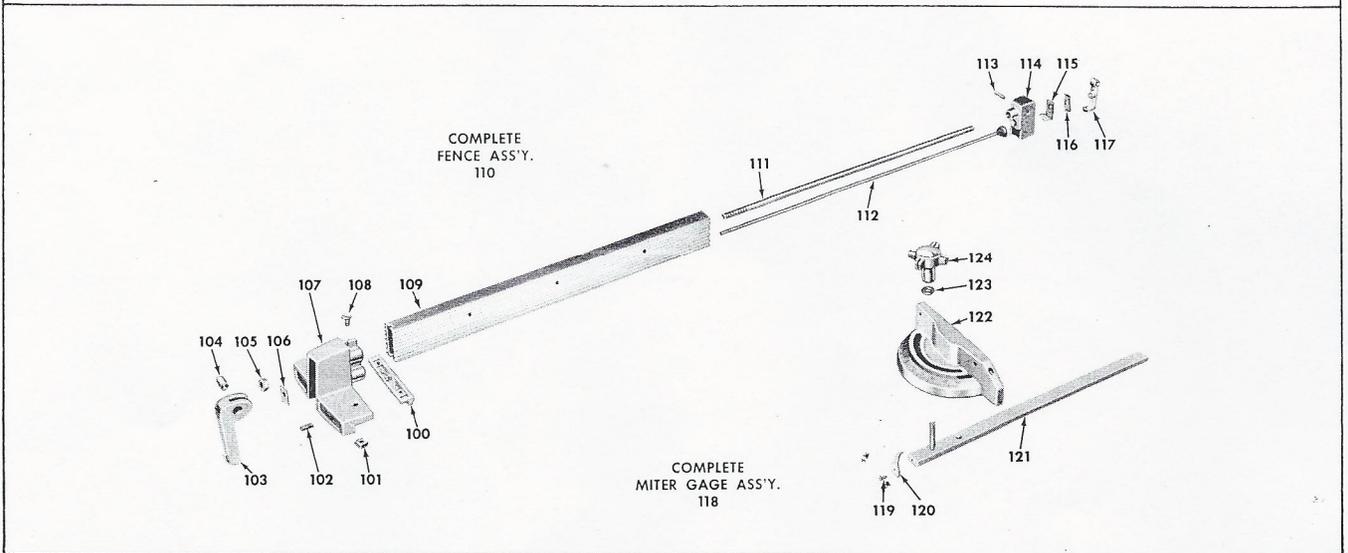
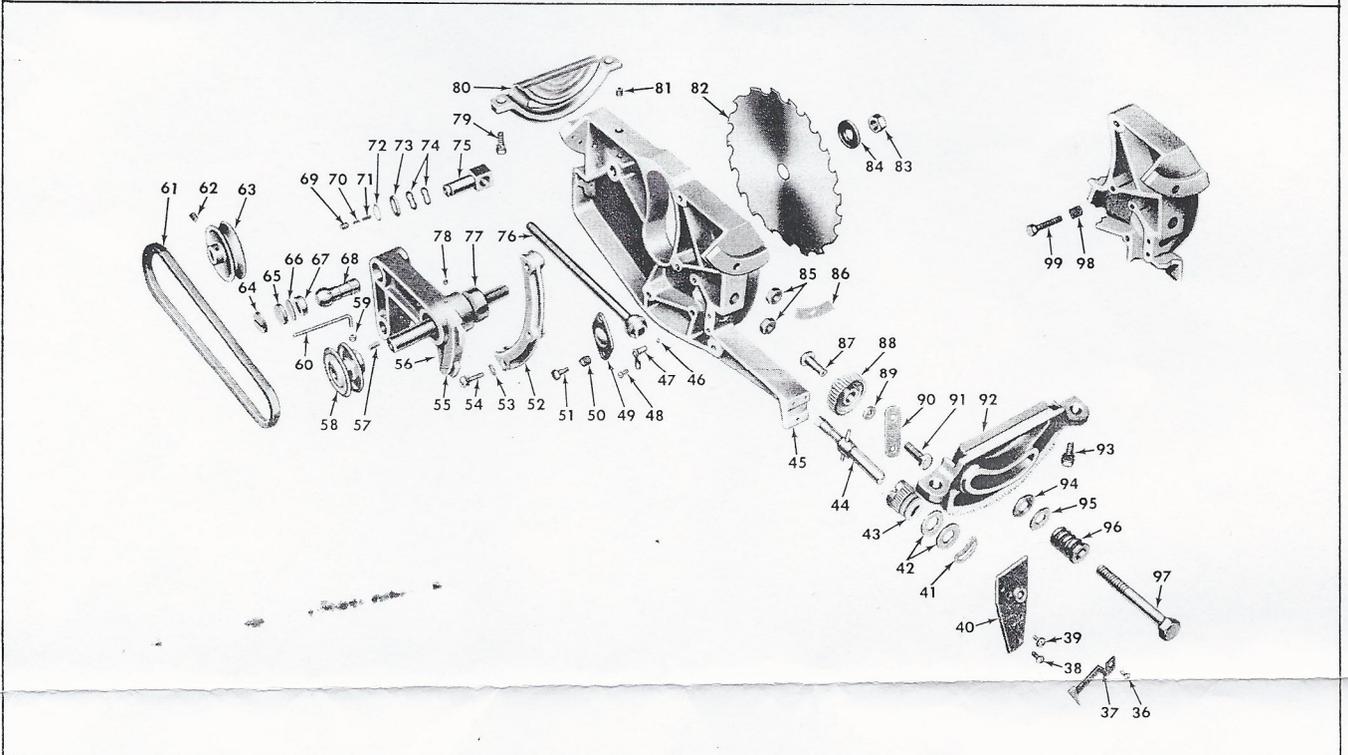
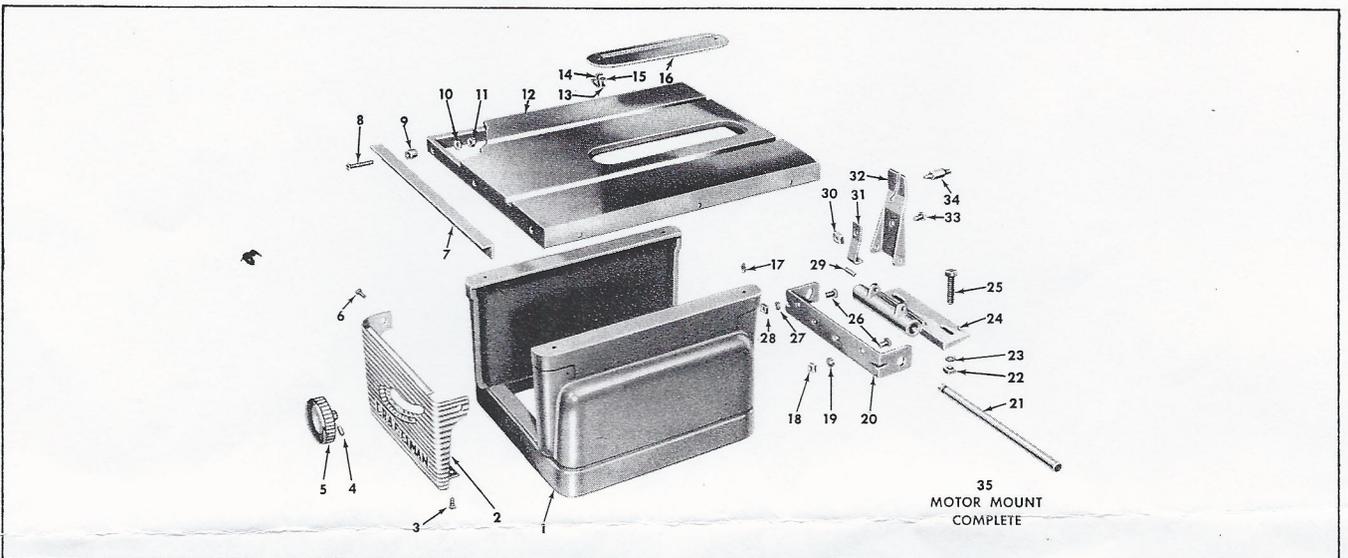


FIGURE 6

ACCESSORIES:

- SAW GUARD—CATALOG No. 9-21046
- TABLE EXTENSION—CATALOG No. 99-21047
- TOOL STAND—CATALOG No. 99-21048
- POWR PANEL—CATALOG No. 9-21205
- TABLE EXTENSION—CATALOG No. 99-2178.



PARTS LIST

Do not use Key Numbers when ordering Repair Parts, always use Part Numbers.

Key No.	Order by Part No.	PART NAME	Key No.	Order by Part No.	PART NAME
1	37440	Base	62	X-179	Socket head set screw $\frac{5}{16}$ -18 x $\frac{5}{16}$ cup point
2	37787	Front Panel	63	**18036-B	Pulley with Set Screw
3	*X-1806	Sheet Metal Screw No. 7-16 x $\frac{3}{8}$	64	38666	Pivot bearing retaining screw
4	*X-179	Socket Head Set Screw $\frac{5}{16}$ -18 x $\frac{5}{16}$	65	38848	Retainer washer
5	38415	Handwheel	66	38766	Disc
6	*X-1806	Sheet Metal Screw 7-16 x $\frac{3}{8}$	67	38665	Pivot socket bearing
7	37833	Fence Slide Bar	68	38664	Pivot Pin
8	*X-398	Truss Head Machine Screw No. 10-24 x $\frac{1}{4}$	69	X-179	Socket head set screw $\frac{5}{16}$ -18 x $\frac{5}{16}$ cup point
9	38676	Spacer	70	38846	Rubber plug
10	*X-608	Washer No. 10 Amer. Std.	71	38847	Nylon plug
11	X-424	Hex Nut No. 10-24	72	18447	Retaining ring
12	37212	Table	73	X-631	Plain washer $\frac{1}{4}$ I.D. x 1 inch O.D.
13	*X-375	Binding Head Machine Screw No. 6-32 x $\frac{1}{8}$	74	38728	Spring washer
14	18993	Table Insert Clip	75	38340	Swivel ass'y
15	X-2451	Internal Tooth Lock Washer No. 6	76	38663	Control screw
16	37724	Table Insert	77	38170	Arbor and bearing unit with key
17	X-741	Machine Screw $\frac{5}{16}$ -18 x $\frac{1}{2}$ Hex Washer Head with External Lock Washer	78	X-181	Socket head set screw No. 10-24 x $\frac{1}{4}$ cone point
18	*X-418	Square Nut $\frac{5}{16}$ -18	79	X-387	Hex head machine screw $\frac{5}{16}$ -18 x $\frac{3}{4}$
19	*X-611	Lock Washer $\frac{5}{16}$ Am. Std.	80	38439	Rear trunnion
20	37830	Motor Rail Bracket	81	X-179	Socket head set screw $\frac{5}{16}$ -18 x $\frac{5}{16}$ cone point
21	37663	Motor Rail Bar	82	**38739	8 inch diameter chisel tooth blade
22	*X-418	Square Nut $\frac{5}{16}$ -18	83	X-403	Hex Jam nut $\frac{1}{2}$ -20
23	*X-601	Plain Washer $\frac{1}{32}$ I.D. x $1\frac{1}{16}$ O.D.	84	18444	Saw clamp washer
24	37213	Motor Support Bracket	85	X-413	Hex jam nut $\frac{3}{8}$ -16
25	*X-322	Square Head Machine Screw $\frac{5}{16}$ -18 x 2	86	38753	Sawdust shield
26	*X-525	Slotted Round Head Machine Screw $\frac{5}{16}$ -18 x $\frac{5}{8}$	87	38669	Spacer
27	*X-611	Lock Washer $\frac{5}{16}$ Am. Std.	88	37429	Control gear
28	*X-418	Square Nut $\frac{5}{16}$ -18	89	X-636	Plain washer $\frac{1}{32}$ I.D. x $\frac{3}{4}$ O.D.
29	38874	Roll Pin	90	37773	Gear plate
30	*X-418	Square Nut $\frac{5}{16}$ -18	91	X-206	Hex. Head cap screw $\frac{3}{8}$ -16 x $1\frac{3}{4}$
31	38765	Flat Spring	92	38438	Front trunnion
32	38764	Motor Rail Guide	93	X-387	Hex. head cap screw $\frac{5}{16}$ -18 x $\frac{3}{4}$
33	*X-525	Slotted Round Head Machine Screw $\frac{5}{16}$ -18 x $\frac{5}{8}$	94	38755	Fibre washer
34	38691	Guide Pin	95	38754	Flat washer
35	37208	Motor Mount Complete	96	38854	Trunnion lock spring
36	X-340	Binding Head Machine Screws 8-32 x $\frac{3}{16}$ Phillips Head	97	38667	Trunnion lock bolt
37	37788	Tilt Pointer	98	38853	Spring
38	X-734	Round Head Machine Screw No. 10-24 x $\frac{3}{8}$	99	X-379	Replace with Fillister Head machine screw $\frac{1}{4}$ -20 x $\frac{3}{4}$
39	X-734	Round Head Machine Screw No. 10-24 x $\frac{3}{8}$ with External Lock Washer	100	37437	Fence lock bar
40	38752	Front Plate	101	X-407	Square nut No. 10-24
41	38849	Retaining Ring	102	X-3801	Slotted head set screw No. 10-24 x $\frac{9}{16}$
42	38748	Plain Washer	103	38442	Fence lock handle
43	38435	Drive Gear	104	38688	Fence swivel
44	37430	Control Shaft with Pin	105	X-420	Hex nut $\frac{1}{4}$ -20
45	37432	Frame	106	38871	Wear plate
46	X-1307	Steel Ball $\frac{3}{16}$ Dia.	107	37436	Front fence end
47	38190	Control Shaft Tension Spring	108	X-378	Slotted oval head machine screw No. 10-24 x $\frac{5}{8}$
48	X-734	Round Head Machine Screw No. 10-24 x $\frac{3}{8}$ with External Lock Washer	109	37832	Fence body
49	38751	Tension Plate	110	37011	Fence Ass'y
50	38853	Tension Plate Spring	111	37661	Fence tie rod
51	X-201	Hex Head Cap Screw $\frac{1}{4}$ -20 x $\frac{3}{4}$	112	37662	Fence lock rod
52	38437	Guide Shoe	113	38674	Fence lock pin
53	X-607	Plain Washer $\frac{1}{64}$ I.D. x $\frac{19}{32}$ O.D.	114	37435	Rear fence end
54	X-738	Round Head Machine Screw $\frac{1}{4}$ -20 x 1 with External Lock Washer	115	37758	Fence shoe
55	37380	Spindle Support with Bearing Key	116	37776	Lock arm spring
56	38434	Spindle Support	117	37425	Fence lock arm
57	38831	Square key	118	37204	Complete miter gage ass'y
58	38160	Tool pulley with set screw	119	X-556	Fillister head machine screw No. 10-24 x $\frac{3}{8}$
59	X-179	Socket head set screw $\frac{5}{16}$ -18 x $\frac{5}{16}$ cup point	120	37774	Miter protractor pointer
60	X-1400	Allen wrench $\frac{5}{32}$	121	37390	Miter bar
61	**X-1477	V-belt $\frac{1}{2}$ x 35 inches long	122	37240	Miter protractor
			123	38647	Washer
			124	38429	Knob
				37988	Instruction sheet and parts list

*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.

**Items are regular stock in Sears Hardware Department and Mail Order Houses. May also be ordered as repair parts by part number provided.