

**OPERATING INSTRUCTIONS
AND PARTS LIST FOR**

CRAFTSMAN

BELT AND DISC SANDER

6 INCH

Model Number 103.22500

This is the model number of your Sander. It will be found on a plate on the base. Always mention this model number when communicating with us regarding your Sander 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**.
2. The **PART NAME**.
3. The **MODEL NUMBER**.
4. The **NAME** of item.

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.—U.S.A.
SIMPSONS, SEARS LIMITED—CANADA

LITHOGRAPHED IN U. S. A.

OPERATING INSTRUCTIONS AND PARTS LIST FOR SANDER Model Number 103.22500

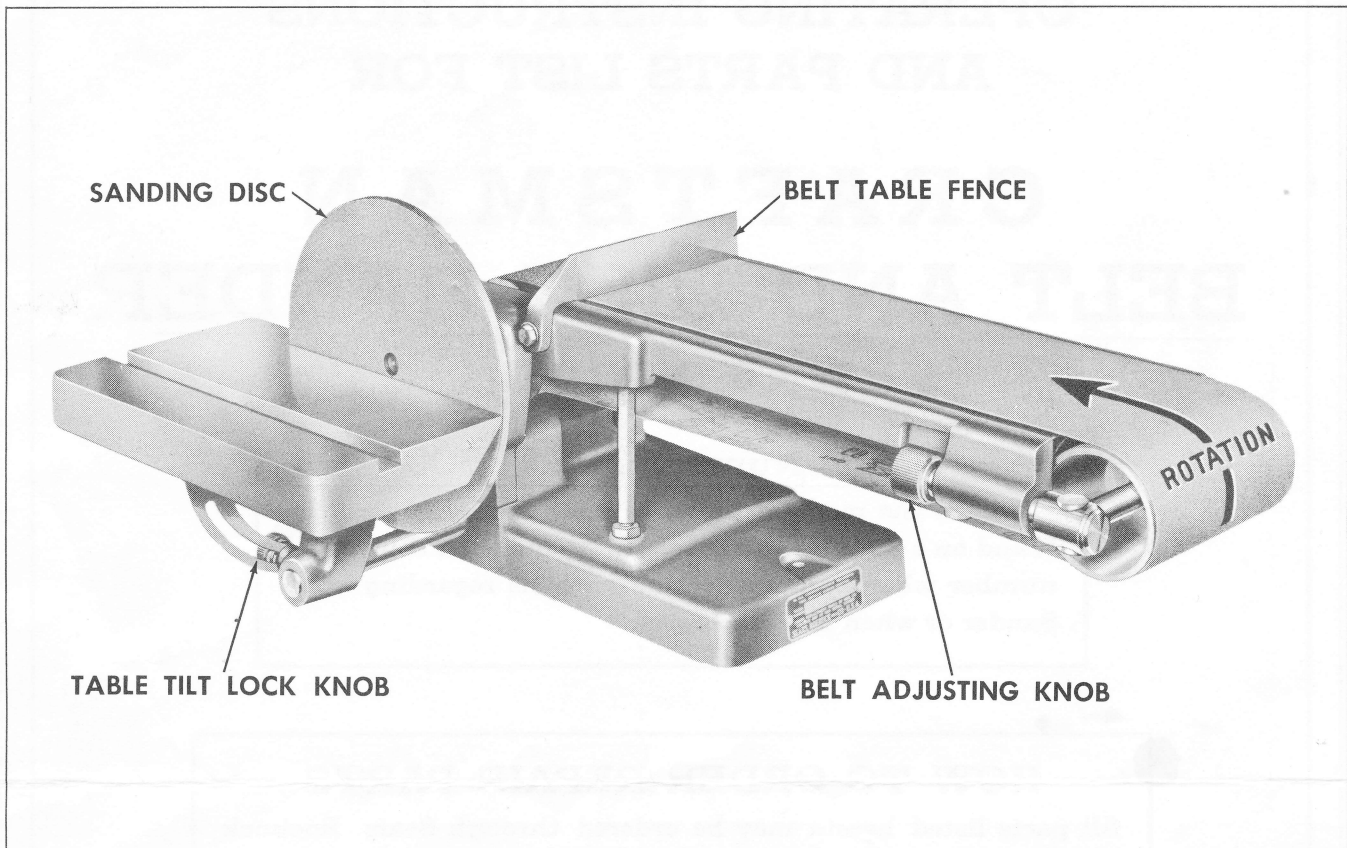


FIGURE 1

You now have a versatile tool incorporating the multiple advantages of belt, drum, disc and flexible belt sanding. The design features the variable positioning of work surfaces, both for ease of operation and for the sanding of nearly all types of cuts.

Rigid cast iron construction provides the necessary stability to produce accurate and precise sanding operations.

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 materials.

1. Disc assembly consisting of:
Item No. 2, Sanding plate.
Item No. 1, Abrasive Sanding disc.
Item No. 43, Set screw.
2. Item No. 61, Work table assembly.
3. Item No. 15, Belt table fence.

ASSEMBLY

Place the disc assembly on the end of the shaft, No. 9, being sure that the set screw, No. 43, contacts the flat on the shaft. Tighten the set screw securely.

The work table may now be assembled to the tool in position for use with either the sanding disc or the

sanding belt, by placing the support rod, No. 52, into one of the holes provided in the base, No. 34, and locking with either hex head screw, No. 35, or No. 37, which are already assembled into the base. It is suggested, however, that the work table first be installed for use with the sanding disc until the work table stop screws are adjusted, as explained under ADJUSTMENTS.

INSTALLATION

There are two $\frac{3}{8}$ diameter holes in the base of the sander through which bolts may be inserted to mount the tool securely to a well constructed bench or tool stand. The bench should be constructed to bring the top surface of the belt table to approximately 36 inches from the floor.

The motor should be mounted below the tool to allow complete freedom of operation.

MOTOR

A $\frac{1}{2}$ horsepower, 3450 R.P.M. motor will provide adequate power for general use. For continuous heavy duty operation a $\frac{3}{4}$ horsepower, 3450 R.P.M. motor is recommended.

Rotation must be counter-clockwise when facing the sanding disc.

3450 RPM MOTOR w/ 2" PULLEY = 2760 RPM w/ 2 1/2" PULLEY ON TOOL

SPEED

For best performance this tool should run at approximately 2700 R.P.M. This speed is attained by using a 2 inch diameter motor pulley with a 1/2 inch V-groove.

Be sure to specify the shaft diameter of your motor when ordering the motor pulley.

BELT

Use a standard 1/2 inch V-belt. To determine the belt length place motor and tool in operating position and measure around the **outside** of the pulleys with a steel tape. Do not measure in the grooves.

LUBRICATION

This sander is equipped with precision type, sealed ball bearings. These bearings were packed with grease at the factory and require no additional lubrication for the life of the bearing.

To maintain smooth and easy operation of the controls, oil the following parts occasionally with any good grade machine oil:

1. Belt adjusting knobs Nos. 23 and 33 where they enter the casting.
2. Pulley support pins Nos. 25 and 29 where they enter the casting.

CONTROLS

The sanding belt may be raised from horizontal to vertical position after loosening the two **belt table pivot lock bolts**, No. 10. Always tighten these bolts securely before operation in any position.

The **belt adjusting knobs** align the idler pulley, No. 27, to keep the sanding belt running true over the pulleys and centered on the belt table. These knobs also control the tension of the sanding belt.

The **table tilt lock knob** locks the work table at any desired degree of tilt from 0° to 45°.

The **belt table fence** provides a backup for the work piece when using the sanding belt.

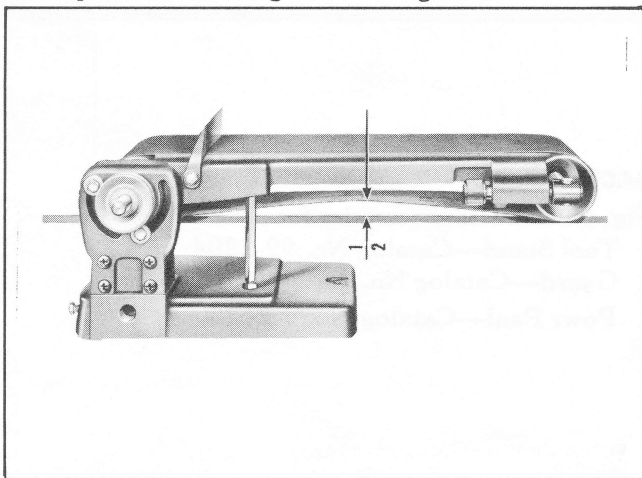


FIGURE 2

ADJUSTMENTS

Tension the sanding belt before operating, as follows:

1. Face the end of the tool with rotation arrow, see Fig. 1, pointing away from you.

2. Apply belt tension by turning the two belt adjusting knobs clockwise. While applying tension keep the idler pulley approximately parallel with the drive pulley. When proper tension has been applied you should be able to deflect the belt, as shown in Fig. 2, approximately 1/2 of an inch.

Align the sanding belt so that it will track on the approximate centers of the two pulleys and remain in one position on the pulleys, as follows:

1. Rotate the belt by hand in the correct direction, as shown in Fig. 1.
2. If the belt tends to run off to the **right**, turn the **right** hand knob clockwise. If the belt tends to run off to the **left**, turn the **left** hand knob clockwise.
3. Recheck the belt tension and adjust if necessary by turning both knobs an equal amount.
4. The tool should now be ready to operate. If, under power, the belt does not track properly, make very minor adjustment of the knobs while the tool is in operation.

When installing new sanding belts follow the above steps. Be sure the arrow on the inside of the belt points in the same direction as the rotation arrow shown in Fig. 1.

NOTE: Tighten all pulley set screws after a few hours of operation.

The **work table stop screws** may require adjustment to obtain the 90° and 45° settings. If adjustment is necessary, it may be accomplished as follows:

1. Loosen the table tilt lock knob, No. 53, and using a combination square set the work table exactly square with the sanding disc. Re-tighten knob.
2. Loosen hex nut, No. 50, and turn the square head set screw, No. 51, until it contacts the rib on the underside of the table. Re-tighten the hex nut, while holding screw in this position.
3. Repeat the above procedure for the 45° stop screw, No. 59.

CAUTION: In placing the work table assembly on the tool, keep the edge of the table as close as possible to the sanding surface to eliminate the danger of thin work becoming wedged between the table and the sanding surface.

The **socket head set screw**, No. 55, secures the table support, No. 49, to the support rod, No. 52, and also serves as the lock stud for the table tilt lock knob. If adjustment of this stud is necessary loosen the tilt knob and tighten securely with the Allen wrench provided.

The **sanding belt table** when used in the vertical position should be set square with the work table, as follows:

1. After the work table has been installed for use with the belt, loosen the two belt table pivot lock bolts, No. 10.
2. Place a combination square on the work table and pivot the belt table until the two tables are 90° to each other.
3. Re-tighten pivot lock bolts.

This procedure must be repeated each time the position of the belt table has been changed.

Note: A miter gage, which can be purchased as an accessory, may be used for square or angular sand-

ing operations. For extreme accuracy the protractor head should be set in relation to the sanding disc or belt table each time a new position is desired.

OPERATION

The **sanding belt** and **sanding disc** furnished with this tool are for general use. They are suitable for use on materials such as metal, wood, or plastics.

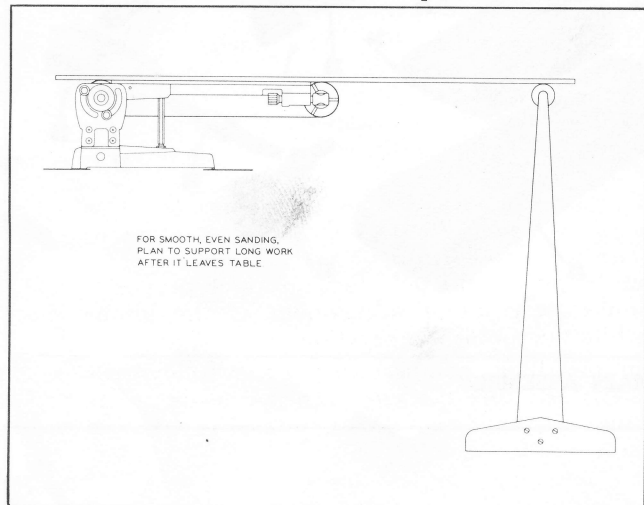


FIGURE 3

Surface sanding is best accomplished by holding the work piece firmly, but not applying too much pressure to the sanding surface.

The work piece should be moved back and forth over the sanding belt to maintain even belt wear and eliminate grooving.

Wood should be sanded with the grain.

Use the **belt table fence**, See Fig. 1, to back up the work. If the work piece is longer than the belt surface, remove the fence to allow full use of the belt.

Extra long work should be supported as shown in Fig. 3, to eliminate sag.

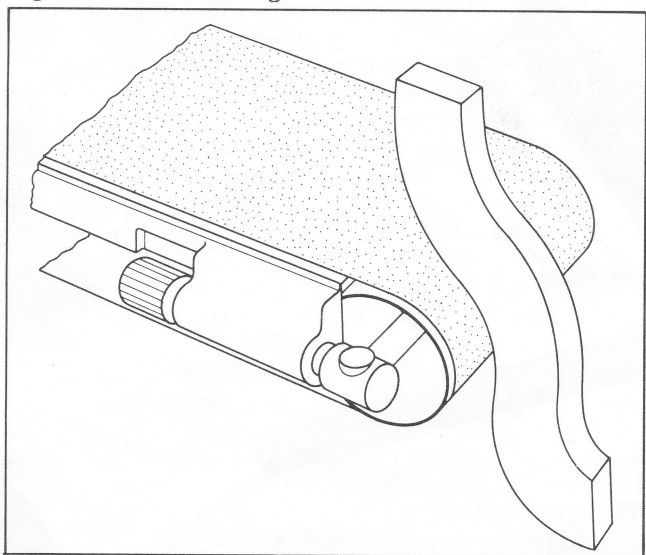


FIGURE 4

Disc sanding has its greatest usage in truing the rough ends of wood.

Since a non-hardening type of disc cement has been used to fasten the abrasive paper to the sanding plate, the abrasive disc may be quickly replaced with one of a different grit.

Drum sanding may be done at either end of the sanding belt table. See Fig. 4 for a typical application.

Flexible belt sanding may be done on the back of the belt with the belt table in vertical position, as shown in Fig. 5. Release the belt tension to suit the curve of the work piece.

Quality of finish depends entirely upon the abrasive grit and the handling of the work. Highest quality is obtained by first rough sanding with the coarser grits, then changing to finer grits and making several light passes.

Abrasives are available in three grits—fine, medium and coarse. The belt and disc furnished are both medium grit.

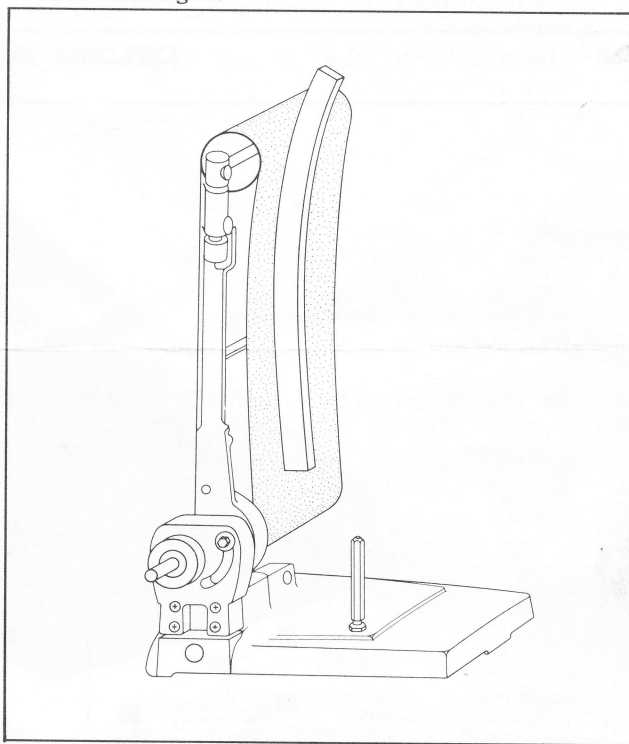


FIGURE 5

SAFETY

Due to the functions of this tool the revolving parts must remain exposed. **Be careful!** Hold the work firmly so that it may not be driven from your hands allowing them to come in contact with the abrasive surfaces.

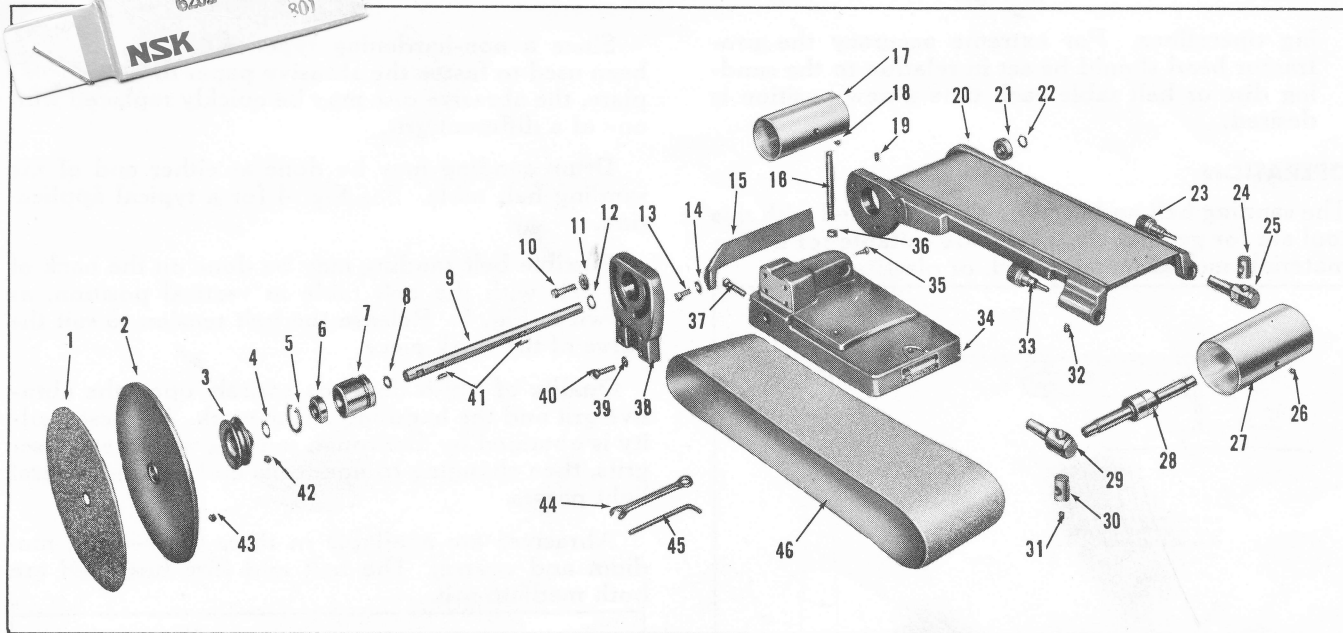
Use the belt fence whenever possible.

Be sure the rotation is correct.

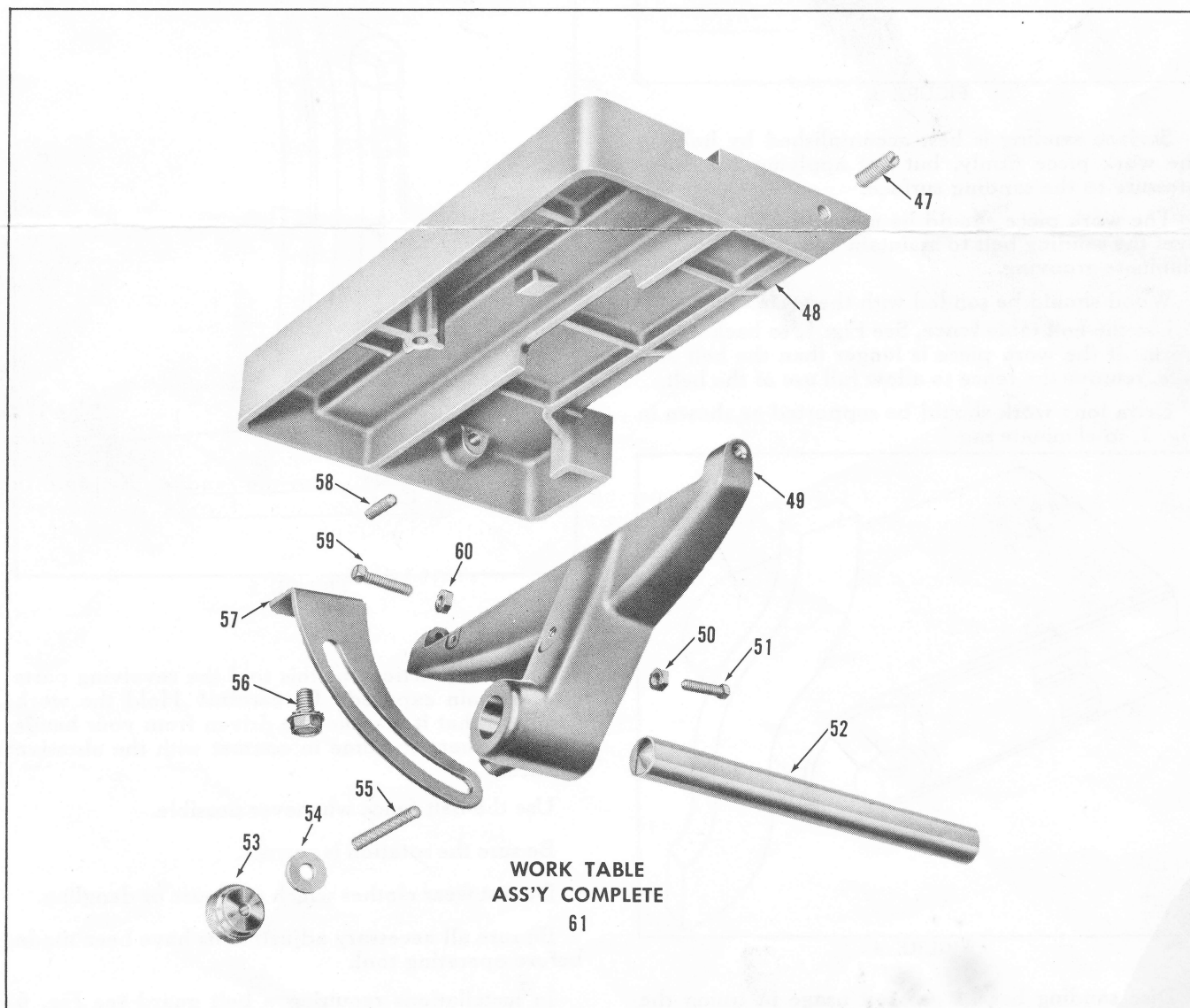
Do not wear clothes which are loose or dangling.

Be sure all necessary adjustments have been made **before** operating tool.

In installations requiring a belt guard see Fig. 6 for further information.



EXPLODED VIEW—MAIN ASSEMBLY



WORK TABLE
ASS'Y COMPLETE
61

EXPLODED VIEW—WORK TABLE ASS'Y

PARTS LIST

Item No.	Order by Part No.	PART NAME
1	38834	9 In. dia. sand paper disc. Purchase from your nearest Sears retail store or mail order house. Ask for Catalog No. 9-2526. State grit wanted
2	38180	Sanding plate with set screw
3	47170	Tool pulley with set screw <i>2 1/2"</i>
4	18447	Retaining ring
5	47812	Retaining ring
6	38832	Ball bearing
7	47616	Belt table bushing
8	38833	Retaining ring
9	47617	Drive shaft <i>NOT AVAILABLE</i>
10	*X-281	Cap screw 5/16-18 x 1 1/2 hex. hd.
11	X-623	Plain washer 21/64 I.D. x 7/8 O.D.
12	18447	Retaining ring
13	*X-208	Cap screw 5/16-18 x 1 hex. head
14	X-601	Plain washer 11/32 I.D. x 11/16 O.D.
15	38224	Belt table fence
16	47615	Belt table support post
17	47190	Drive pulley with set screw
18	X-173	Set screw 1/4-20 x 5/16 socket head with cup point
19	X-170	Set screw 5/16-18 x 1/2 socket head with cone point
20	47211	Belt table
21	38832	Ball bearing
22	38833	Retaining ring
23	47618	Belt adjusting knob
24	47613	Swivel
25	47614	Pulley support pin
26	X-172	Set screw 1/4-20 x 5/16 socket head with cone point
27	47180	Idler pulley with set screw
28	47611	Idler bearing
29	47614	Pulley support pin
30	47612	Retaining swivel
31	X-3605	Set screw 5/16-18 x 5/16 socket head self locking with flat point
32	47811	Set screw 5/16-18 x 1/2 socket head self locking with dog point

Item No.	Order by Part No.	PART NAME
33	47618	Belt adjusting knob
34	47120	Base
35	*X-205	Cap screw 5/16-18 x 3/4 hex. head
36	X-456	Hex jam nut 7/16-14
37	X-236	Cap screw 5/16-18 x 2 1/4 hex. head
38	47212	Table support bracket
39	*X-611	Lock washer 5/16 inch
40	X-338	Machine screw 5/16-18 x 1 3/8 Phil-lips round head
41	38812	Key
42	X-179	Set screw 5/16-18 x 5/16 socket head with cup point
43	X-179	Set screw 5/16-18 x 5/16 socket head with cup point
44	38737	Wrench
45	*X-1403	Allen wrench 5/32
46	47813	Sanding belt 6 x 48 inches. Purchase from your nearest Sears retail store or mail order house. Ask for Catalog No. 9-2167. State grit wanted.
47	38835	Set screw 5/16-18 x 3/4 slotted head self locking with cone point
48	38225	Work table
49	38226	Work table support
50	*X-420	Hex nut 1/4-20
51	*X-116	Set screw 1/4-20 x 1 square head
52	38653	Work table support rod
53	38654	Work table tilt lock knob
54	X-601	Plain washer 11/32 I.D. x 11/16 O.D.
55	X-3606	Set screw 5/16-18 x 1 3/4 socket head with half dog point
56	X-741	Machine screw 5/16-18 x 1/2 hex. hd. with external tooth lock washer
57	38738	Work table lock arm
58	38835	Set screw 5/16-18 x 3/4 slotted head self locking with cone point
59	*X-116	Set screw 1/4-20 x 1 square head
60	*X-420	Hex nut 1/4-20
61	38102	Work table assembly complete

*Standard hardware items—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.



ACCESSORIES

Fig. 6 illustrates accessories for your sander.

Tool Stand—Catalog No. 99-2204

Guard—Catalog No. 9-2251

Power Panel—Catalog No. 9-2120