

Owner's Guide

ASSEMBLY • MAINTENANCE • REPAIR PARTS LIST



MODEL NO. A-34
ARTICLE NO. 84-3452

JIGSAW



MAGNA ENGINEERING CORPORATION
SAN FRANCISCO, CALIFORNIA • CLEVELAND, OHIO

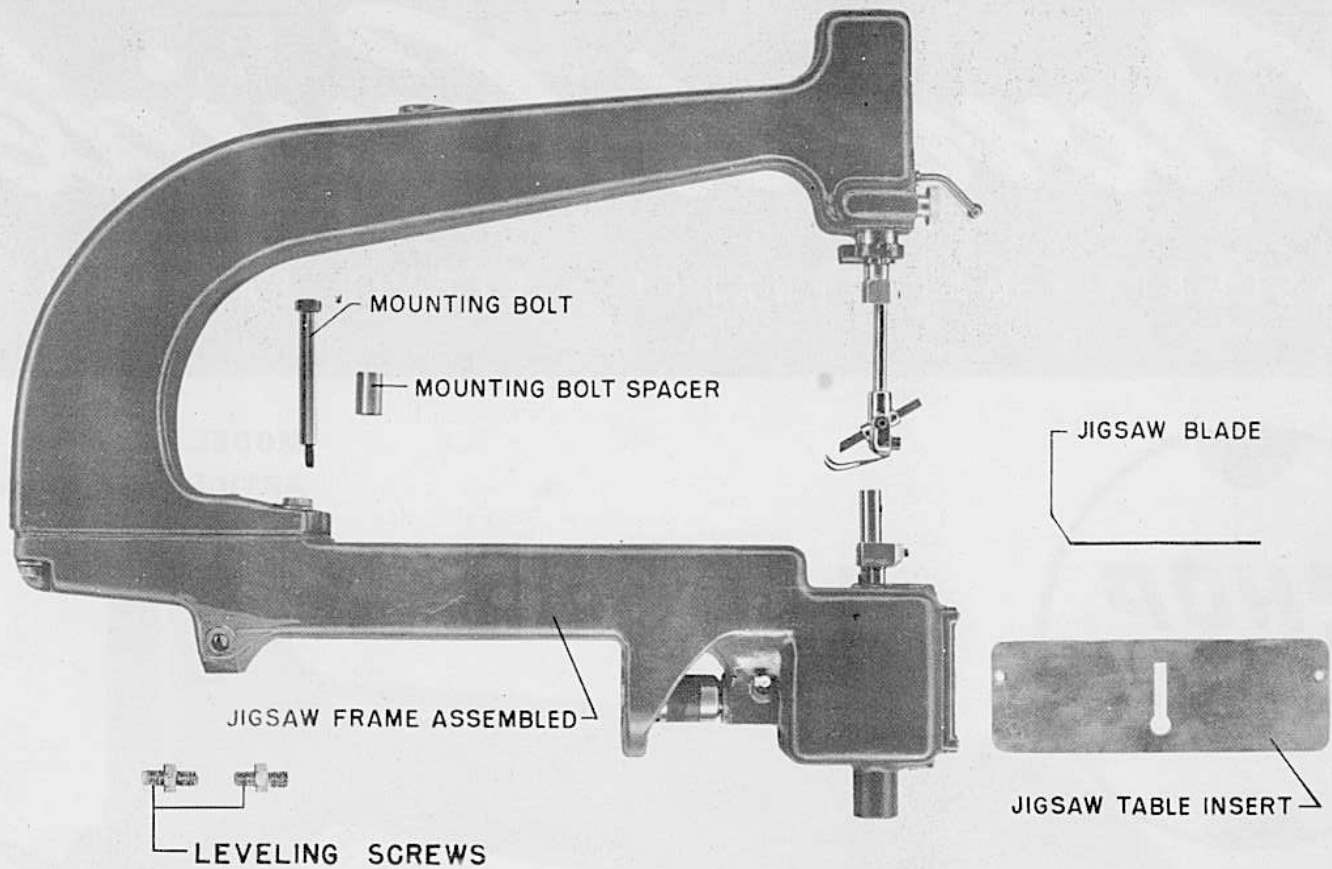


Fig. 1

SHOPSMITH JIGSAW

INTRODUCTION

The jigsaw, also known as scroll saw, is one of the safest and most satisfactory power tools to use. While it cannot perform the heavy cutting jobs which are so easy for the circular saw, it shapes irregular contours with ease and precision. And when the jigsaw blade is replaced with a file or sanding drum, wood, metal or plastic can be fab-

ricated or finished speedily and with little effort.

Even an amateur can use the jigsaw skillfully, but to fully utilize and enjoy the many special features of the **SHOPSMITH JIGSAW**, it is essential that it be correctly set up. Before using your jigsaw, read the following instructions carefully.

INSTALLATION

PACKING LIST—After unpacking your jigsaw check to see if you have all parts, which you can easily identify by checking Fig. 1.

1. Jigsaw frame assembled.
2. Jigsaw table insert.
3. Mounting bolt.
4. Mounting bolt spacer (for saber sawing when upper frame is removed).
5. Setscrew and jam nut leveling screws (2).

PREPARING SHOPSMITH TO MOUNT THE JIGSAW—

1. Facing the **SHOPSMITH**, position the head-stock at extreme left end of the ways and the saw table at the extreme right.
2. Remove the pulley guard and pulley guard screw.
3. **Important:** If your **SHOPSMITH** has a serial number below E 8699, move the gauge collar (102-3) back until the end of the quill protrudes beyond the gauge collar $\frac{3}{8}$ ". **This is not necessary** if the serial number of your **SHOPSMITH** is above E 8699.

4. Loosen the quill lock lever.
5. Remove the table insert plate.
6. Turn the headstock pulley **by hand** until the tapered flat on the spindle tip is facing **downward** toward the ways.

MOUNTING THE JIGSAW—

1. Loosen the setscrew at the open end of the flexible coupling.

(**Never loosen the other setscrew** at the jigsaw end of the coupling, as this screw controls the end-play of the working mechanism.) Position the coupling setscrew so that it faces down.

2. Put in the two leveling screws at the rear end of the lower frame until they protrude 1/4" beyond the lock nuts.

3. Holding the jigsaw with the left hand at the rear end of the lower frame and the right hand at the front near the drive housing cover, slide the flexible coupling carefully over the **SHOPSMITH** spindle tip.

4. Hand tighten the mounting bolt in the headstock hole normally used for the pulley guard screw.

5. Carefully feed out the quill until it seats in the chamfer of the large boss on the lower frame. **Do not use excessive pressure**—about as much as it would take to drill a large hole in a piece of wood—but be certain to seat the quill firmly. Holding the quill pressure against the boss, tighten the quill lock lever.

6. Tighten the setscrew of the flexible coupling firmly on the spindle tip. Make certain the setscrew seats on the spindle tapered flat.

7. Adjust the leveling screws until the jigsaw is perfectly level. Note that this leveling pertains to two directions: up-and-down and sideways. Tighten the nuts to lock the setscrews. (This adjustment need be made only once. In the future eliminate this operation.)

8. Tighten the mounting bolt securely.

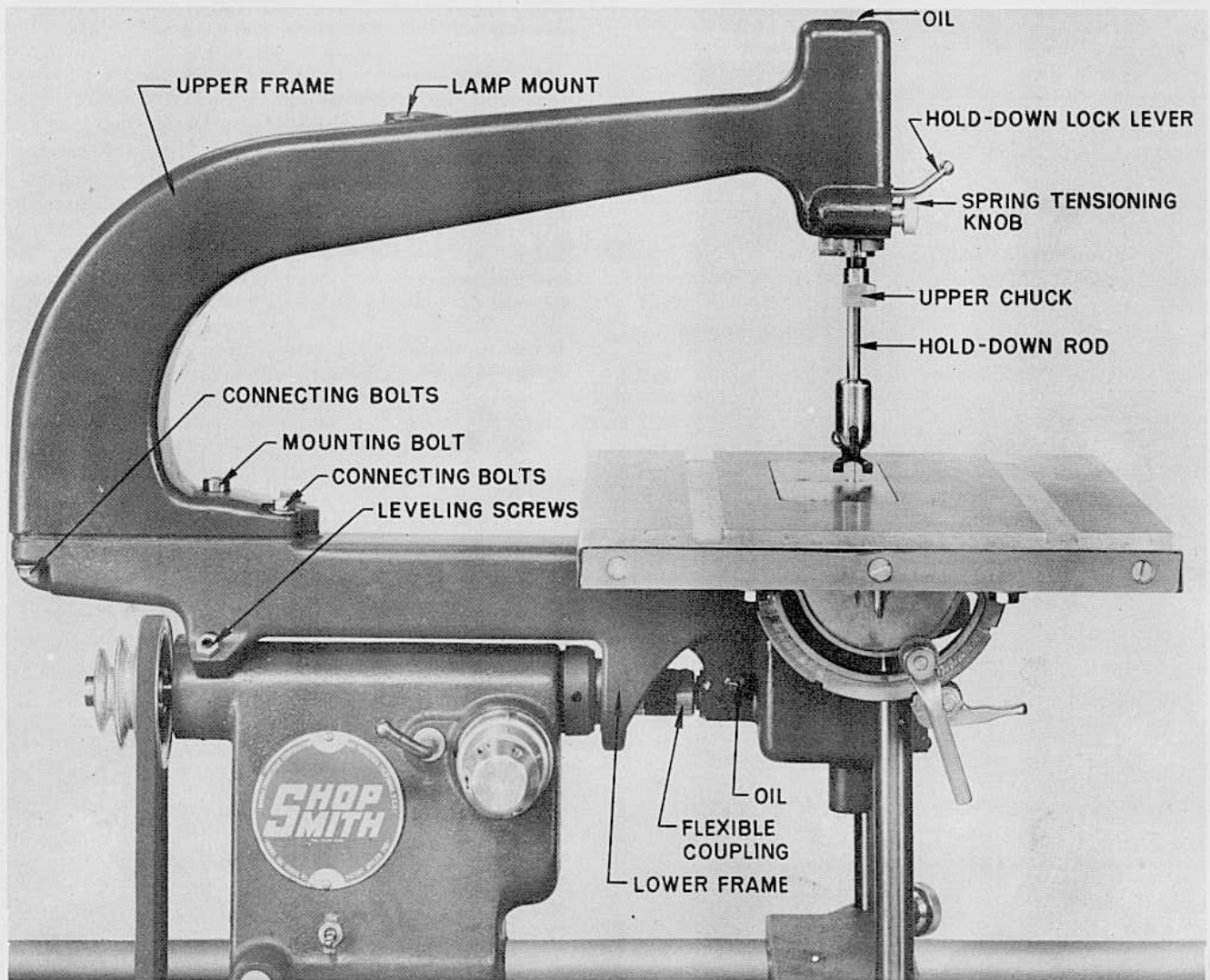


Fig. 2

OPERATION

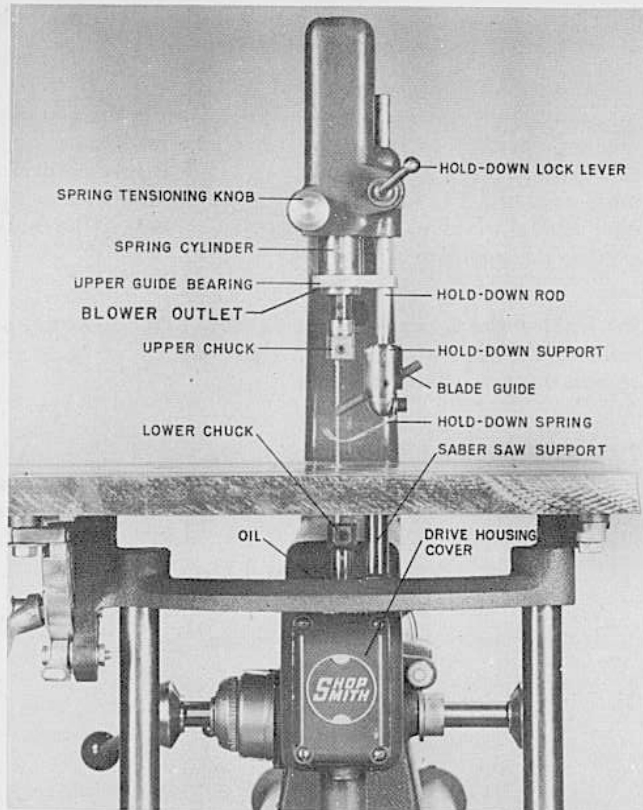


Fig. 3

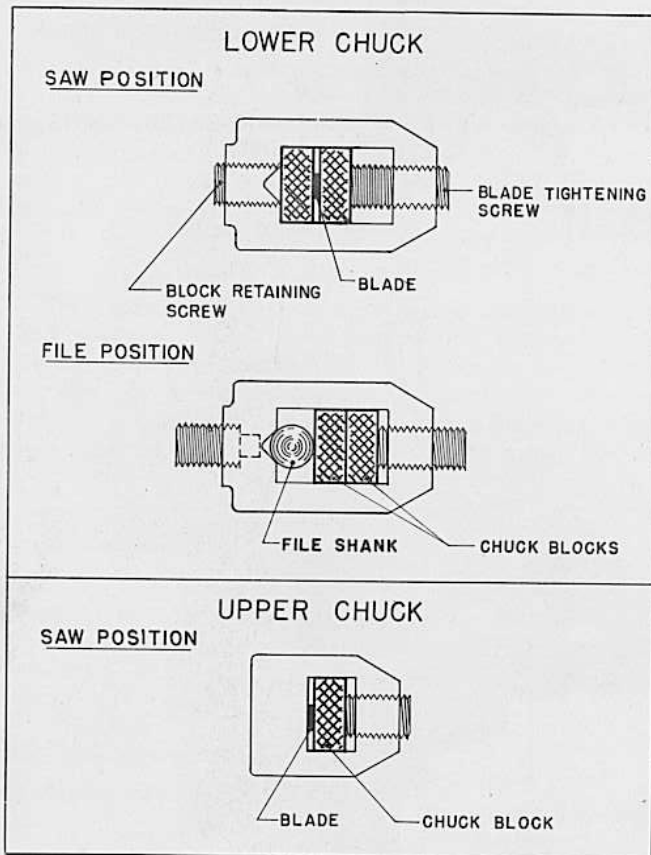


Fig. 4

Because the **SHOPSMITH JIGSAW** is of a completely new design, it is extremely important that you fully understand its operating characteristics. Accordingly, before positioning the table, become acquainted with the principal parts of your jigsaw.

The upper and lower frames are cast of close-grain aluminum alloy to provide a strong and durable machine, yet one light enough to lift without strain.

The upper frame supports the upper chuck mechanism, with a built-in blower, and the hold-down assembly. The lower frame supports the crank shaft mechanism which drives the lower chuck.

The hold-down assembly consists of the hold-down rod and the hold-down support which holds the blade guide and hold-down spring. The blade guide can be adjusted with the small setscrew on the side of the hold-down support. The hold-down spring can be tilted 45 degrees to give full support when the table is tilted.

The blower is built into the spring cylinder which can be lowered by releasing the spring tensioning knob. The air is blown from the slot in front of the upper guide bearing. The air stream is so adjusted that it will always blow all sawdust from the workpiece in front of the blade.

The spring tension of the upper chuck can be adjusted by loosening the spring tensioning knob and positioning the spring cylinder as desired. If you loosen the four screws of the drive housing cover, you will see the crank shaft mechanism. Turn the pulley by hand, and you will see that it operates similar to an automobile piston rod. By using oil-impregnated bronze bearings and ball bearings, the need for an oil bath has been eliminated. This makes it possible for you to store your jigsaw wherever convenient without danger of an oil leak.

Before positioning the table, place a blade in the chuck to see how it is held in the upper and lower chucks.

Fig. 4 is a top view of the lower chuck. The block retaining screw holds the left chuck block. The blade tightening screw indicated on the right holds the right chuck block and is used for securing the blades in place.

Fig. 4 also shows the upper chuck. Blade is held between one wall of the chuck and the chuck block.

It is suggested that you tighten and remove several blades before positioning the table just to get a "feel" of this operation.

Fig. 4 also shows position of the chuck blocks for holding files or other round shank attachments. Back out the block retaining screw until the V groove in the chuck is clear. By backing out the blade tightening screw and moving both blocks toward the right, files or other attachments may be inserted. By retightening the setscrews, first the right and then the left, the file shank will be gripped securely and automatically centered by the V in the chuck housing.

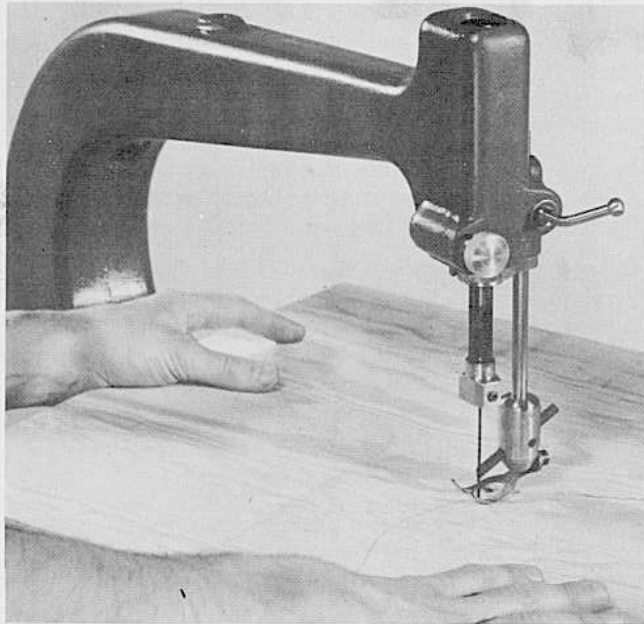


Fig. 5

POSITIONING THE TABLE—Now that the operation of the chucks is understood, the table can be positioned.

1. Raise the table to its highest position. This will be the point at which the carriage knob clamps the front table rod approximately 1/4" from its end.
2. Place the jigsaw insert in the table slot. Tighten in place.
3. Move the table to the left into the jigsaw throat until the round opening of the keyhole-shaped slot of the table insert is directly above the lower chuck.
4. Lower the table until the insert hits the saber saw support. Then raise the table 1/16" and lock the carriage knobs. (Avoid running the jigsaw with the table insert resting on the saber saw support.)
5. Tighten the headstock and carriage on the ways.
6. Insert a blade through the keyhole-shaped slot of the table insert and into the lower chuck. Lightly tighten the blade tightening screw. (Be certain the blade teeth face downward and toward the operator so that the blade will cut on the down stroke.)
7. Loosen the hold-down lock lever and let the hold-down lock assembly drop until the hold-down spring hits the table.
8. Loosen the spring tensioning knob and let the spring cylinder slide down while guiding the blade into the upper chuck. Lock the spring tensioning knob so that it will hold the upper chuck in position while you tighten the blade. By correct positioning of the spring cylinder with respect to the lower chuck, a blade can be easily changed without any spring tension on the chuck.
9. After blade is tightened, push the spring cylinder up by pressing the upper guide bearing. The further up you move the spring cylinder, the greater the blade tension. With a little experience you will discover the proper ten-

sion for various blades and materials to minimize blade breakage.

10. Check the blade by turning the headstock pulley by hand. See that the blade moves straight up and down. If the blade moves back and forth (looking at it from the side), it is clamped too far back or too far forward in either the upper or lower chuck. The blade should either travel straight up and down or move slightly forward on the down stroke. To check alignment of the blade, lay a metal rule or trisquare on the table with the edge against the side (or back) of the blade. When the pulley is turned by hand, any misalignment will be apparent.

11. To adjust the blade guide, loosen the setscrew and slide the guide against the back of the blade until the little slot cradles and supports the blade. Check that the hold-down spring is set level with the table, with each foot equidistant from the blade.

SAFETY CHECKS

Before turning on the switch, always strictly follow these two safety procedures:

1. Check clearances by turning the pulley one full up-and-down stroke by hand to make certain the chucks do not hit the table or the hold-down.
 2. Check belt location to see that it runs at proper speed.
- Always use the slowest speed (large pulley on the headstock).

If you have a speed changer, your jigsaw should run in the **low speed range** at about 900 rpm. Be certain you never start the jigsaw with the speed changer in the high speed range as it is likely your blade will break immediately. The best thing to do when using a speed changer is to check the proper speed before you mount the jigsaw, as adjustments can only be made while the motor runs. Higher speeds give smooth cuts in thin wood.

You are now ready to start your jigsaw project.

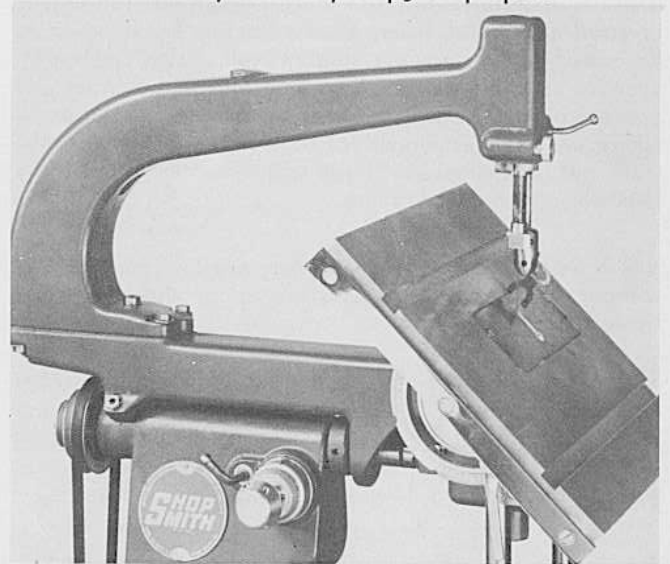


Fig. 6

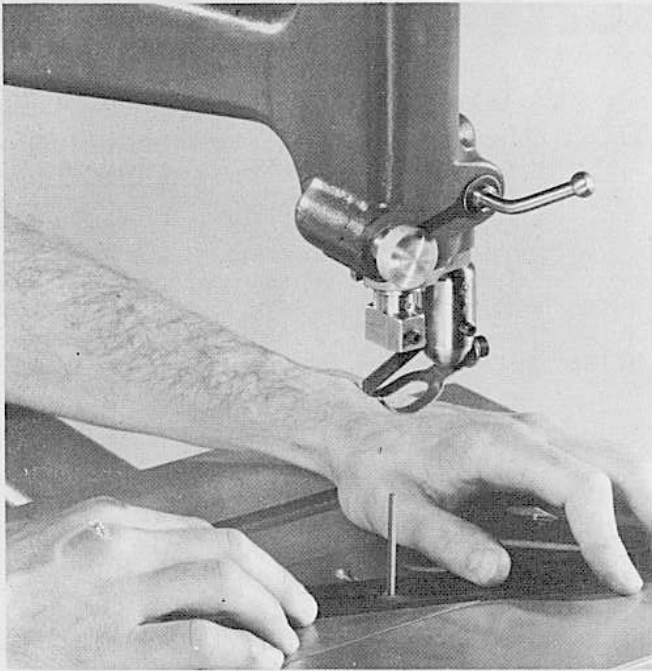


Fig. 7

CUTTING WITH THE JIGSAW

Unless you are already very familiar with jigsaw cutting, it is recommended that you follow these few sample exercises.

Take a piece of soft boxwood or plywood possibly 1/4" to 3/8" thick. Draw some simple lines on it and try to cut these lines. Your hold-down spring should be adjusted so that it holds the work to the table with light pressure.

OTHER USES OF THE SHOPSMITH JIGSAW

AS A FILING MACHINE (Fig. 7)—Available as **SHOPSMITH** accessories are files which are suitable for all jobs in wood and metal. Insert the files in the lower chuck as described above. Always tighten well. Raise the spring cylinder and hold-down rod to their highest positions and you are ready to file. **Do not use excessive speeds in filing.** Do not press workpiece too hard—the file does the work, not your pressure. If you wish, you can also use the hold-down spring while filing.

AS A SABER SAW (Fig. 8)—Any sawing accomplished without securing the blade in the upper chuck is called saber sawing.

You can use almost any regular jigsaw blade for saber sawing if you have "inside" cuts to make. You can use heavy saber blades for rougher work on larger pieces. When saber sawing without removing the upper frame, you can use the hold-down spring and the blade guide.

For large jobs, such as cutting a loudspeaker opening in a large plywood panel, remove the complete upper frame (Fig. 8). To do this loosen the mounting bolt and the four connecting bolts which hold the upper frame to the lower

Feed your work by holding it on each side of the blade (Fig. 5). Do not use much pressure. Most beginners press too hard and thus break the blades. Start with simple lines and curves. Then start cutting sharper angles and smaller curves as you progress.

To make inside cuts (like the center of the letter "O"), drill a hole in the part you want to cut out and then insert the blade through the hole and tighten in the upper chuck.

Do not try to **force** the blade around square corners or very small radii. Instead, back out the blade and start cutting in the other direction. After you have some experience you might try to cut without the hold-down spring. Some operators prefer this.

If your blade guide starts wearing, sand it down a little on your disc sander (30 degrees). Then make a new slot in it by reversing your blade in the chucks.

If you want to cut several parts of the same pattern, you can nail the boards together with wire brads. Check, however, that you nail it so that the work holds together to the last cut.

If you have a brief job to do on your jigsaw, you can usually do it without changing table insert plates. The standard **SHOPSMITH** saw insert will prove very satisfactory for all but very small workpieces.

For angle cuts, tilt the table and the hold-down spring to the desired angle (Fig. 6).

Any material can be cut on the jigsaw if the proper blade and speed are used. As a general rule, the harder the material the slower you should cut.

To cut paper, cardboard, cork, cloth or any similar material, nail several layers between two pieces of 1/4" plywood.

frame. Replace the mounting bolt after slipping the mounting bolt spacer on it.

To support the saber blade when the upper frame is removed, insert the blade guide in the saber saw support on the lower frame.

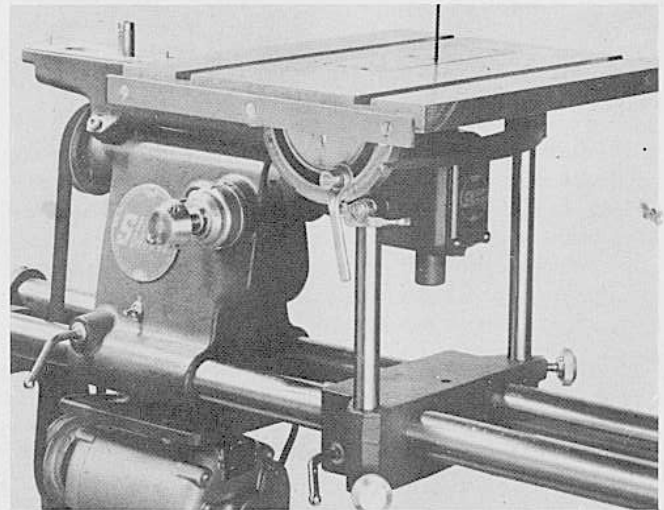


Fig. 8

TAKING CARE OF YOUR JIGSAW

Your jigsaw is furnished oiled and ready for use.

After every two hours of operation, put a few drops of machine oil:

1. On the pump leather seal of the blower (Fig. 2).
2. On the bearing below the lower chuck (Fig. 3).

3. In the oil hole on the front of the lower frame (Fig. 2).

It is of course advisable to keep all exposed steel parts, such as the spring cylinder, oiled to prevent corrosion.

The flexible coupling acts as a shear pin. If for any reason your jigsaw jams; the coupling will probably break.

REPAIRS

Order repair and replacement parts from your **SHOPSMITH** dealer. Be sure to take him the following information:

1. Part Number, Name and Description of part (see list)
2. Model Number

Your **SHOPSMITH** dealer may have to order the part

from the factory. If so, please allow sufficient time for transportation.

IMPORTANT—All prices in this literature are subject to change without notice and are subject to an additional charge to cover any applicable sales tax, use occupation, or other tax affecting our purchase or sale of merchandise.

REPAIR PARTS and ASSEMBLIES

PART OR ASMBLY. NO.	NAME AND DESCRIPTION	NO. REQ.	PRICE EACH	SHIP. WT.	
				LBS.	OZS.
134-1XA	Lower Frame Assembly.....	1	\$12.70	8	8
134-1N	5/16-18 Light Jam Nut.....	2	.05	-	3
134-1S	5/16-18 x 1-5/16 or -1/32 Slot Head Oval Point Set Screw..	2	.10	-	3
134-2	Upper Frame.....	1	12.90	6	8
134-3	Drive Housing Cover.....	1	.40	-	2
134-3S	10-24 x 1/2 Oval hd. machine Screw.....	4	.05	-	3
134-4X	Crank Link Assembly.....	1	3.60	-	4
134-7S	1/4-20 x 3/8 Cone Point Allen Set Screw.....	1	.10	-	3
134-8	Auxiliary Guide Rod Bearing...	1	.20	-	1
134-9	Auxiliary Guide Rod.....	1	.10	-	2
134-9S	10-24 x 7/16 Half Dog Point Allen Set Screw.....	1	.10	-	3
134-12	Crank.....	1	1.50	-	8
134-13	Saber Saw Support.....	1	.25	-	4
134-13N	3/8-16 Light Jam Nut.....	1	.05	-	3
134-13S	1/4-28 x 3/8 Cup Point Allen Set Screw.....	1	.10	-	3
134-14	1/4-20 x 5/8 Full Dog Allen Set Screw.....	1	.10	-	3
134-15	Chuck Block.....	3	.15	-	3
134-17X	Lower Chuck Assembly.....	1	1.55	-	6
134-17S	1/4-20 x 7/16 Full Dog Allen Set Screw.....	1	.10	-	3
134-18X	Upper Chuck Assembly.....	1	1.40	-	7
134-18S	1/4-20 x 3/8 Full Dog Allen Set Screw.....	1	.10	-	3
134-20X	Flexible Coupling.....	1	1.50	-	6

PART OR ASMBLY. NO.	NAME AND DESCRIPTION	NO. REQ.	PRICE EACH	SHIP. WT.	
				LBS.	OZS.
134-20S	1/4-28 x 5/16 Cup Point Allen Set Screw.....	2	.10	-	3
134-21	Mounting Bolt Spacer.....	1	.15	-	2
134-23	Hold Down Lock Lever.....	1	.20	-	2
134-24	3/8-16 x 1-1/4 Reg. Semi-finished Hex Head Cap Screw..	4	.05	-	4
134-24W	3/8 SAE Plain Washer.....	4	.05	-	3
134-25	Mounting Bolt.....	1	.40	-	5
134-27X	Spring Cylinder Assy.....	1	1.40	-	6
134-29	Guide Shaft Screw.....	1	.10	-	3
134-30	Compression Spring.....	1	.20	-	5
134-31	Spring Guide.....	1	.20	-	1
134-32	Pump Leather Seal.....	1	.15	-	3
134-33N	1/4-28 Elastic Stop Nut.....	1	.10	-	3
134-33W	1/4 Mfg. Std. Plain Washer....	1	.05	-	3
134-34	Hold Down Lock Cylinder.....	1	.15	-	2
134-34W	1/4 Mfg. Std. Plain Washer....	1	.05	-	3
134-35	Locking Wedge.....	1	.10	-	4
134-36X	Locking Wedge.....	1	.15	-	5
134-37X	Spring Tensioning Knob Assy....	1	.50	-	5
134-40X	Hold Down Support Assembly....	1	1.10	-	7
134-41	Blade Guide.....	1	.35	-	5
134-42	1/4-20 x 3/8 Cup Point Allen Set Screw.....	1	.10	-	3
134-43	Hold Down Spring.....	1	.15	-	1
134-43S	1/4-20 x 3/8 Socket Head Allen Cap Screw.....	1	.10	-	3
134-43W	1/4 SAE Plain Washer.....	1	.05	-	3
134-45	Jigsaw Table Insert.....	1	.80	-	8

JIGSAW ACCESSORIES

PART OR ASMBLY. NO.	NAME AND DESCRIPTION	NO. PER PKG.	PRICE EACH	SHIP. WT.	
				LBS.	OZS.
134-46	Blades, .028" thick x .250" wide, 7 teeth.....	6	.45	-	1
134-47	Blades, .020" thick x .110" wide, 15 teeth.....	6	.30	-	1
134-48	Blades, .010" thick x .040" wide, 18 teeth.....	6	.35	-	1
179-1	Blades, .012" thick x .023" wide, 20 teeth.....	6	.30	-	1
179-2	Blades, .020" thick x .070" wide, 7 teeth.....	6	.35	-	1

PART OR ASMBLY. NO.	NAME AND DESCRIPTION	NO. PER PKG.	PRICE EACH	SHIP. WT.	
				LBS.	OZS.
179-3	Blades, .010" thick x .070" wide, 14 teeth.....	6	.30	-	1
179-4	Blades, .020" thick x .110" wide, 20 teeth.....	6	.30	-	1
179-5	Blades, .028" thick x .250" wide, 20 teeth.....	6	.45	-	1
180-1X	Machine Files, 1/4" shank.....	6	3.95	-	2
181-1	Lamp Attachment.....	1	3.95	2	-
134-41	Fiber Blade Guide.....	3	1.00	-	1

