

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

18 INCH

Model Number 103.23151

This is the model number of your Jig Saw. It will be found on a plate located on the back surface of the base. Always mention this model number when communicating with us regarding your Jig 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 103.23151.

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
JIG SAW
MODEL NUMBER 103.23151**

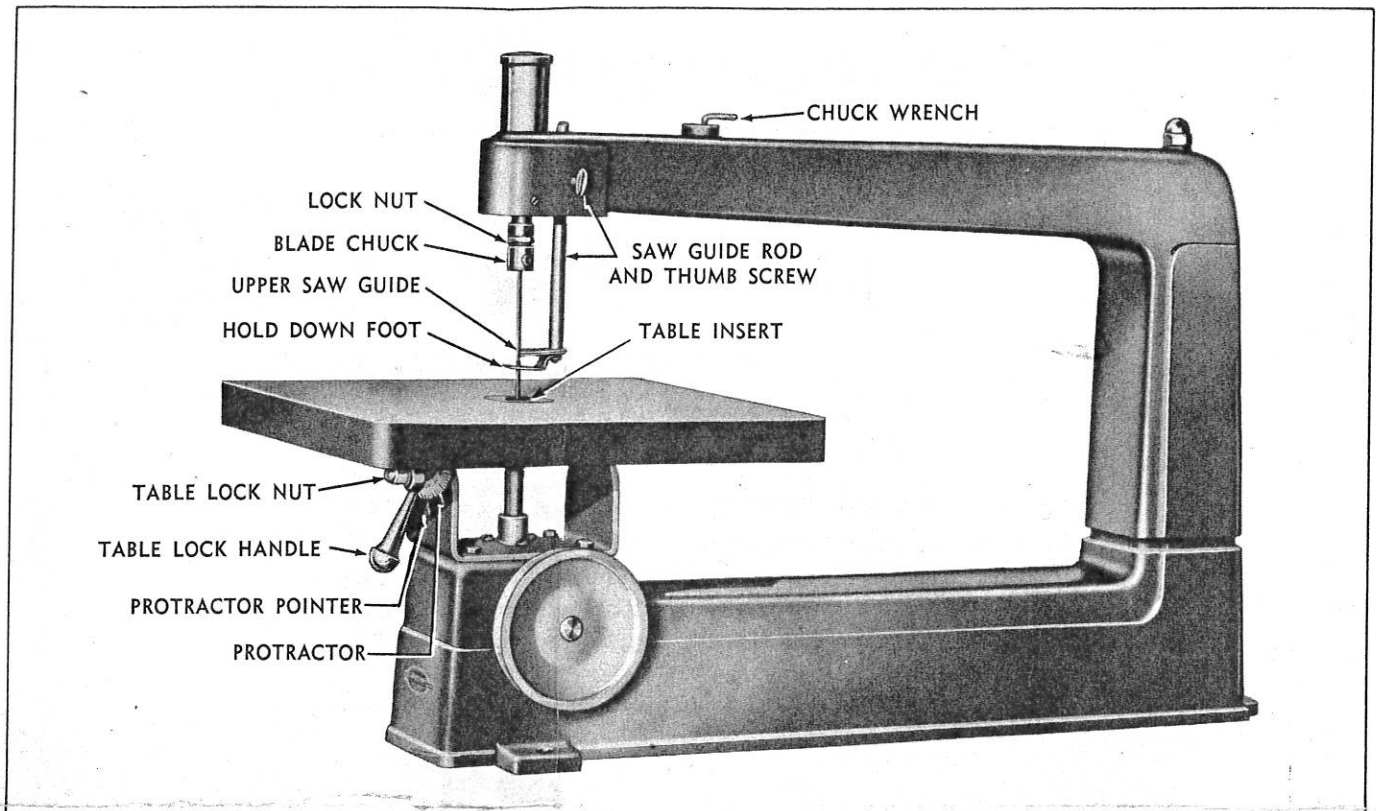


FIGURE 1

You now own a saw with ruggedly constructed, precision machined parts in which the mechanism is soundly designed to give you maximum trouble-free service.

The crankcase contains a modified scotch yoke running in a bath of oil which imparts a smooth stroke with a minimum of vibration.

This saw may be quickly and easily converted to sabre sawing and filing.

Truly a quality tool backed by the experience gained through the production of thousands of saws.

ASSEMBLY:

This tool is completely assembled except for cap, No. 35, which must be inserted in pump tube. A rubber grommet, No. 57, has been placed in the upper arm to hold the Allen wrench, No. 13. Use this wrench for adjusting the chucks.

LUBRICATION:

Before operating this jig saw the crankcase **must be filled** with oil.

Fill the crankcase to the level of the filler plug with any good quality automobile engine oil, S.A.E. No. 30. This will take approximately one pint. The filler plug is located on the left side of the crankcase.

The main bearing is a long-life porous bronze bearing and requires oiling by hand. This bearing is surrounded by a reservoir accessible by removing the oil plug, No. 63, located behind the pulley and

directly over the pulley shaft. To completely fill this reservoir use either a pressure oil can or one with a small spout. Use a good quality automobile engine oil, S.A.E. No. 30. When filled this reservoir feeds oil to the bearing which, in turn, filters and meters the oil to the shaft.

Do not drill holes through this bearing to feed oil to the shaft.

A few drops of oil should be applied occasionally directly to the leather cup washer, No. 5, to maintain pliability. Remove the pump tube cap, No. 35, to do this.

The lower end of the upper pull rod, No. 3, requires oil also, and may be done by pulling the rod down as far as possible by hand and applying oil to the exposed portion.

The lower pull rod, No. 53, should have oil applied to the exposed portion when the stroke is in full up position.

INSTALLATION:

There are three 11/32 inch diameter holes in the base of your jig saw through which bolts or screws may be inserted to securely fasten it to a well constructed bench or table. The motor may be mounted behind or below the saw.

The direction of rotation of the saw pulley is shown by the arrow on the pulley shaft hub on the base. The top of the pulley should turn forward.

SPEED - POWER:

This jig saw is designed to operate most efficiently at 800 to 1000 strokes per minute. For average home shop operations proper operating speed and power may be attained by using a 1/4 horsepower 1750 R.P.M. motor equipped with a 2 inch diameter

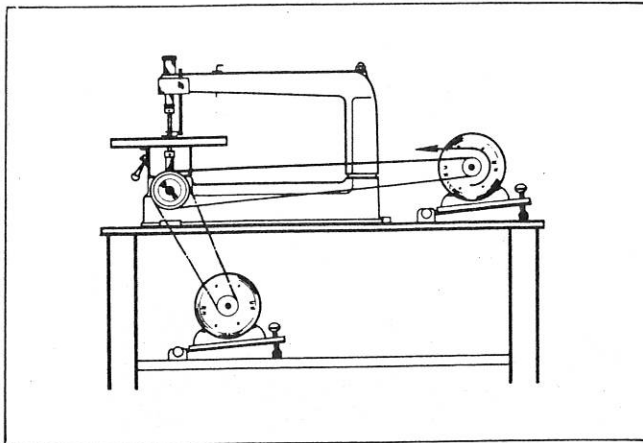


FIGURE 2

pulley. If continuous heavy-duty work is planned, a 1/3 horsepower motor should be used. Be sure to specify the shaft size of your motor when ordering your motor pulley.

The motor should be positioned so that most of its weight will be supported on the bench and not suspended on the belt. Tension on the belt should be just enough to prevent slippage. (See Fig. 2)

BELT:

After the motor has been approximately positioned, the belt length may be determined by measuring around the outside of the pulleys, not in the groove, with a steel tape. Use a standard 1/2 inch V-belt.

CONTROLS:

The table lock handle, No. 22, as shown in Fig. 1, is recessed to fit the table lock nut, No. 23. To tilt the table engage nut with the handle and loosen. The table can then be tilted to any angle. Re-lock the nut and disengage the handle.

The table angle, in relation to the saw blade, is indicated by the pointer on the calibrated portion of the table protractor.

The hold down foot, No. 38, is a spring steel stamping secured to the bottom of the saw guide rod. The foot should contact the work piece lightly, thus holding the work against the table and preventing the work from following the blade on the upstroke. The

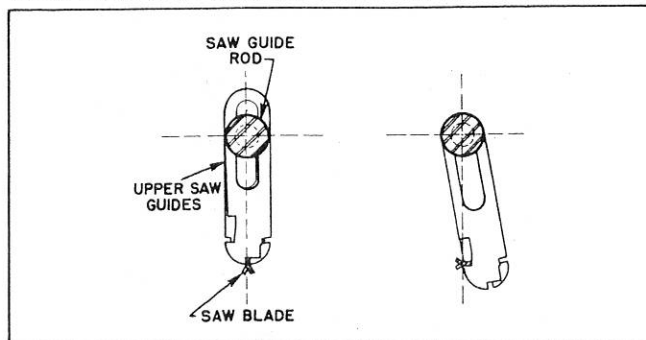


FIGURE 3

hold down foot may be adjusted for different work thicknesses by loosening the thumb screw, No. 60.

Upper and lower saw guides have been incorporated in this tool to keep the blade in line while cutting irregular shapes. (See Fig. 3)

The position of the upper guides, No. 37, may be changed by loosening the hexagon nut on the bottom of the saw guide rod, No. 36. The guides should be set close to the blade, but should never produce a binding action. The lower guide, No. 50, may be shifted to accommodate blades of various widths by loosening the small screw, No. 51, which grips the guide in the holder, No. 25.

The chucks may be turned 90 degrees for straight cuts longer than 18 inches by loosening the lock nut, Nos. 11 and 43, on each chuck, thus allowing the chucks to turn to the desired position. Use the Allen wrench, No. 13, in the socket head set screw as a lever to relieve the twisting action on the pull rods when turning the lock nuts as shown in Fig. 4. Before resuming operations after changing the position of the chucks, check to be sure that the chucks are aligned, that the blade is not twisted when secure in both chucks, that the lock nuts have been securely tightened and that the lower guide is clear of the blade. To provide backing for the blade when the chucks are turned 90 degrees, the relative positions of the two upper guides, No. 37, may be changed by slipping the lower piece back, and the upper piece forward. The slots in sides of the guides will then create a recess which will provide adequate backing for the blade in its new position. (See Fig. 3)

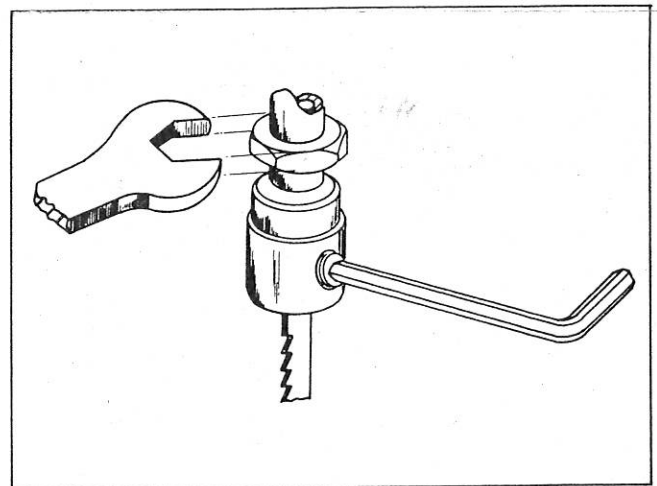


FIGURE 4

ADJUSTMENTS:

Your jig saw was inspected and tested under power at the factory. Shipping hazards may have caused some misalignment during transit. Following are several points which should be checked to insure proper operation.

Blade alignment;

The blade should run in a true vertical line. Check by holding a pencil on the table with the point touching the flat side of the blade. Turn the pulley slowly by hand.

If the blade is not properly centered and is twisted as shown in figure 5, it will not remain in contact

with the pencil point through the entire stroke without moving the pencil, or deflecting the blade.

Adjustment for twist in the blade may be made by loosening the chuck lock nut, Nos. 11 or 43, and making the correction. As mentioned before, use the Allen wrench as a lever to eliminate undue strain on the pull rods whenever loosening or tightening the chuck lock nut as shown in figure 4.

Minor adjustment for recentering the blade may be made, if necessary, by recentering the blade in either or both chucks which may be accomplished by adjusting the set screws, Nos. 72 and 73. The slotted head screw has a serrated face designed for gripping the blade. To prevent scoring the blade, turn the slotted head screw only after the socket head screw has been loosened. Turn only the socket head screw when clamping the blade in the chuck.

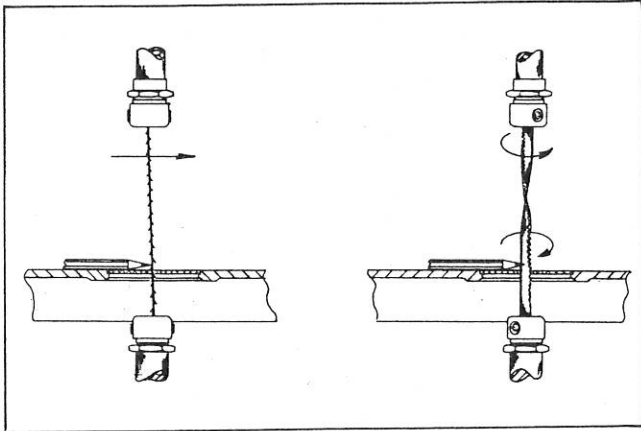


FIGURE 5

If greater adjustment is necessary than is available by recentering the blade in the chucks, the entire upper arm may be pivoted in relation to the base after loosening the acorn nut, No. 65.

Squareness of table with blade;

If after making the "pencil check" and any necessary adjustments the table is not square with the saw blade at a 90 degree protractor setting, lock the table in position square with the blade and reset the pointer on the 90 degree mark.

Proper blade tension may be attained as follows;

With the blade clamped firmly in the lower chuck, rotate the pulley until the chuck is at the top of its stroke. Pull the upper chuck down approximately 1/4 inch to apply tension before clamping the blade. If the blade is sharp, this tension should be sufficient.

Sabre sawing and filing;

To provide full view and greater capacity for sabre sawing or filing, the arm, No. 58, may be either swung to one side or completely removed. This may be done by loosening or removing the acorn nut, No. 65.

To accommodate the larger cutting tools in the lower chuck, remove the blade centering cover, No. 69, and the chuck shoe, No. 70. To remove the cover completely remove the two screws, Nos. 72 and 73. Reinsert the two screws and the cutting tool, either sabre saw or file, to be used.

The lower saw guide, No. 50, must be backed off for filing. This guide will support sabre saws.

The above assemblies should be checked for squareness with the table as previously outlined.

When reassembling the jig saw, for conventional sawing, make sure the chuck is reassembled correctly. (See insert on page 6.) Check and set the blade as outlined in **blade alignment**, and bring the lower saw guide into position.

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

OPERATION:

To minimize blade breakage, always use as wide a blade as is practical for the type of cut intended. For unusually fine cuts a puzzle blade is recommended. A fret saw blade having widely spaced teeth and no set is recommended for use with material which tends to gum the blade. These blades produce a very smooth cut.

When sawing material harder than wood, blades with small teeth should be used. The fine tooth blade should also be used when cutting thin material, for if the tooth spacing is wider than the thickness of the work piece the blade will catch and tear rather than produce a smooth cut.

Do not use excessive force when feeding material to the blade. This increases the frequency of blade breakage and makes it much more difficult to saw on a line. Feed direct to the blade and avoid side thrust.

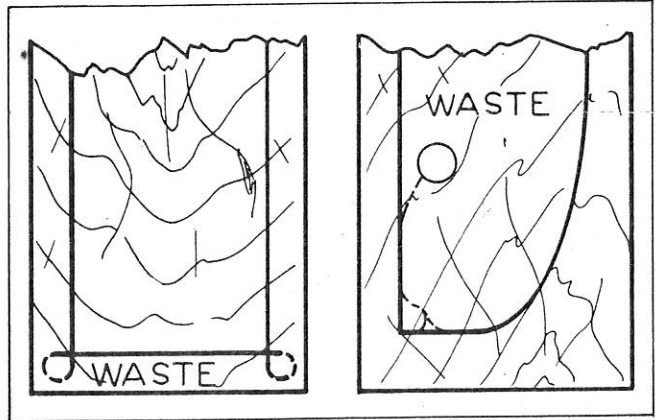


FIGURE 6

Although the jig saw is intended for the cutting of irregular figures, it is advisable to avoid sharp turns whenever possible by cutting into the waste material of the work piece. In this manner sharp clean corners are maintained, and blade distortion and breakage is minimized.

Inside or included holes may be cut by drilling through the work piece, removing the blade from the chucks, and reinstalling it through the drilled hole.

When changes are made in the table angle or when new tools are inserted, it is well to make a trial cut using a scrap piece of material.

SAFETY:

Due to the variety of possible installations, a pulley guard is not furnished for this machine. However, it is advisable that suitable protection be provided for the operator to prevent clothing becoming entangled in the fast turning pulley.

PARTS LIST

Ref. No.	Order Part No.	PART NAME	Prepaid Selling Price Each	Ref. No.	Order Part No.	PART NAME	Prepaid Selling Price Each
1	31101	Pump tube ass'y, complete.....	\$ 3.00	35	31415	Pump tube cap	\$.35
2	31622	Pump tube .....	.70	36	31614	Saw guide rod .....	.30
3	31613	Upper pull rod .....	.70	37	18617	Saw guide .....	.20
4	31713	Pump spring washer .....	.15	38	18932	Hold down foot .....	.12
5	31812	Leather cup washer .....	.15	39	X-613	Plain washer 1 ³ / ₆₄ I.D.x ³ / ₈ O.D.....	.10
6	31713	Pump spring washer .....	.15	40	X-429	Hex. nut No. 10—32 .....	.10
7	31621	Spring .....	.15	41	*X-1005	Carriage bolt 1/4—20x ³ / ₄ .....	.10
8	31414	Upper pull rod support .....	.35	42	31102	Blade chuck—includes items, 69, 70, 71, 72, and 73 .....	.90
9	31813	Rubber bumper ring .....	.15	43	31626	Jam nut .....	.15
10	X-2407	Internal lock washer 3/8 I.D.....	.10	44	*X-511	Machine screw No. 10—24x ³ / ₈ rd. hd.	.10
11	31626	Jam nut .....	.15	45	31615	Table pivot pin .....	.25
12	31102	Blade chuck—includes items, 69, 70, 71, 72, and 73 .....	.90	46	*X-608	Lock washer 1 ³ / ₆₄ I.D. ....	.10
13	*X-1400	Allen wrench 5/32 .....	.15	47	X-2407	Internal lock washer 3/8 I.D.....	.10
14	X-1125	Jig saw blade 6 to 8 1/2 in. long, plain end. Purchase from nearest Sears retail store or mail order house.....	—	48	*X-428	Hex nut 1/4—28 .....	.10
15	18126	Table insert .....	.20	49	X-109	Set screw No. 10—24x ¹ / ₄ slotted hd. cup pt. ....	.10
16	*X-519	Machine screw No. 10—32x ⁵ / ₈ flat hd. ....	.10	50	31625	Lower saw guide .....	.50
17	31213	Table	14.00	51	X-109	Set Screw No. 10—24x ¹ / ₄ slotted hd. cup pt. ....	.10
18	38130	Protractor with item 21 .....	.90	52	31716	Table support	1.10
19	*X-608	Lock washer 1 ³ / ₆₄ I.D.....	.10	53	31624	Lower pull rod .....	.60
20	X-429	Hex. nut No. 10—32 .....	.10	54	31815	Lower pull rod support gasket ....	.15
21	38616	Protractor pivot pin .....	.25	55	18438	Yoke .....	.70
22	18629	Table lock handle .....	.45	56	X-170	Set screw 5/16—18x ¹ / ₂ socket hd. cone pt. ....	.10
23	18517	Table lock nut .....	.25	57	18988	Rubber grommet .....	.20
24	X-607	Plain washer 1 ⁷ / ₆₄ I.D.x ¹⁹ / ₃₂ O.D.....	.10	58	31211	Arm	16.50
25	31413	Lower saw guide support .....	.25	59	X-103	Set screw 1/4—20x ³ / ₈ slotted hd. cup pt. ....	.10
26	*X-209	Cap screw 1/4—20x ¹ / ₂ hex. hd. ....	.10	60	X-2204	Thumb screw 1/4—20x1 .....	.10
27	X-512	Machine screw No. 8—32x ¹ / ₈ rd. hd.	.10	61	31811	Crankcase gasket .....	.15
28	18935	Pointer .....	.15	62	*X-2704	Pipe plug 1/8—27x ³ / ₈ slotted hd. ....	.15
29	X-117	Set screw 5/16x ³ / ₈ sq. hd. cup pt.....	.10	63	18931	Oil hole plug .....	.15
30	18618	Lower pull rod support	1.00	64	31105	Base—with bearing	19.00
31	18312	Yoke pin .....	.35	65	X-1254	Acorn nut 1/8—20 .....	.15
32	31140	Fly wheel and shaft ass'y—includes item 56	1.50	66	31611	Stud .....	.75
33	18027B	Pulley with set screw. Single groove 4 inch dia. V-pulley 5/8 inch bore. Purchase from nearest Sears retail store or mail order house. Ask for catalog No. 9-2804—5/8 inch bore ..	—	67	31715	Dowel .....	.20
34	X-179	Set screw 5/16—18x ³ / ₁₆ soc. hd. cup pt. ....	.10	68	X-805	Bearing .....	.40
				69	18917	Blade centering cover .....	.25
				70	18938	Chuck shoe .....	.20
				71	31617	Chuck body .....	.55
				72	18519	Blade chuck adj. screw .....	.15
				73	18518	Blade chuck set screw .....	.25

*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.

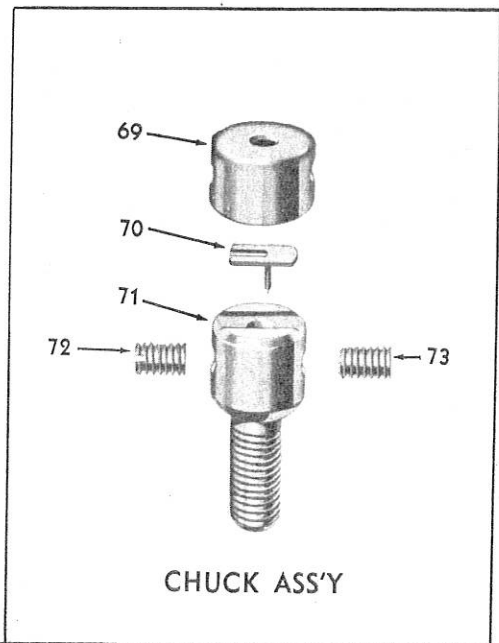
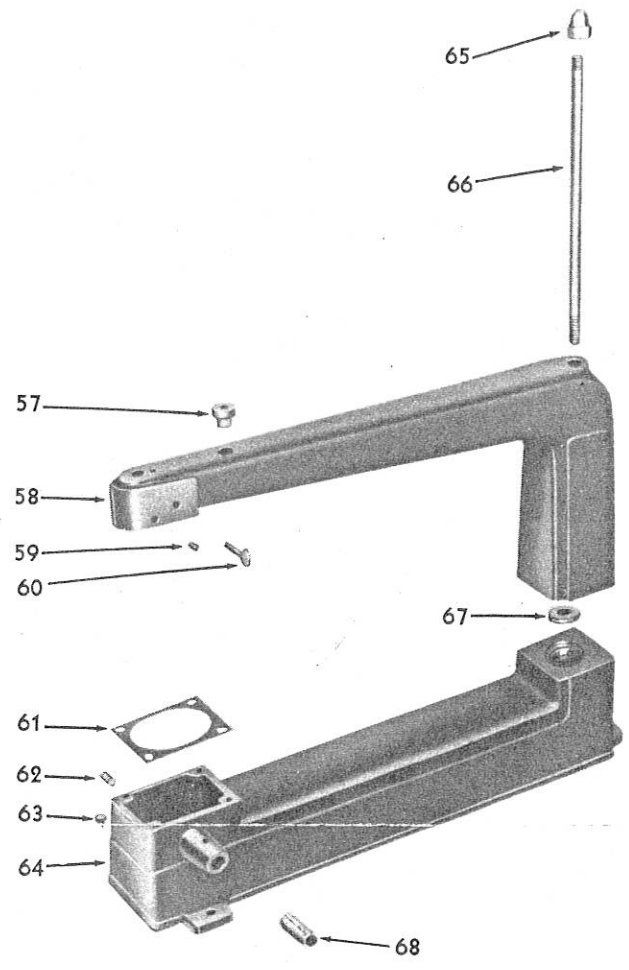
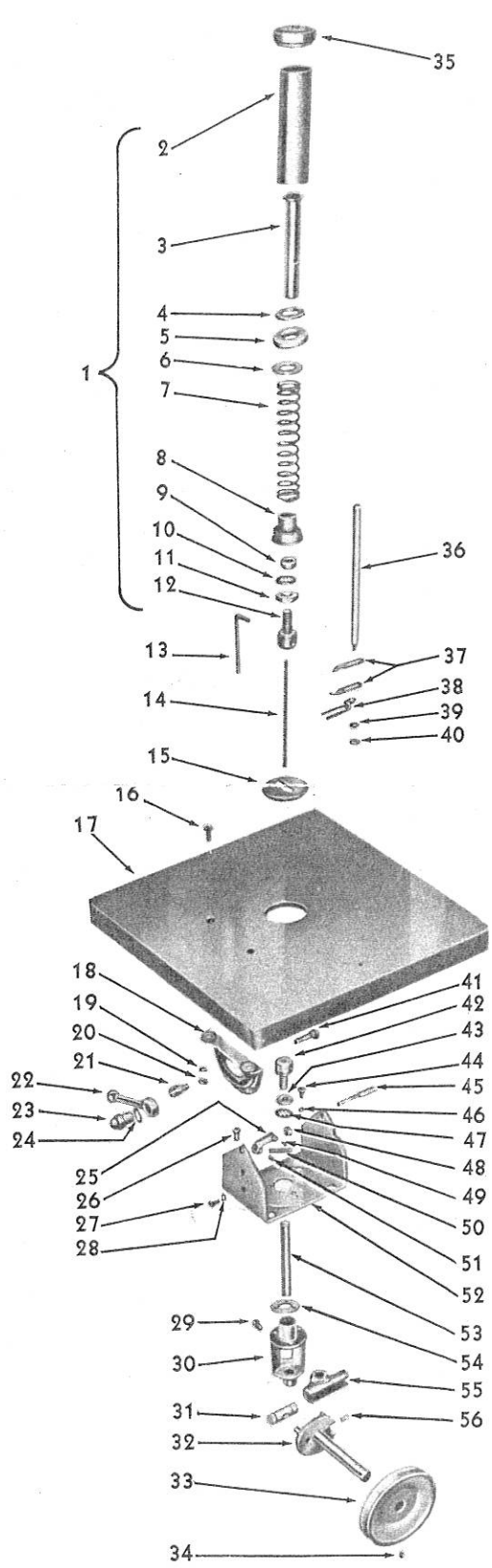


FIGURE 7