

**OPERATING INSTRUCTIONS  
AND PARTS LIST FOR  
Craftsman Bench Saw  
8-Inch Tilting Arbor**

**Model Number**

**113.22401**

The above Model Number will be found on a plate attached to your saw, at the back, near the bottom of the base. Always mention the Model Number when communicating with us regarding your saw or when ordering parts.

**Instructions for Ordering Parts**

All parts listed herein must be ordered through a Sears retail or mail order store. Parts are shipped prepaid. When ordering repair parts, always give the following information:

1. The part number in the list.
2. The part name and price in the list.
3. The model number which is 113.22401

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.**

# Instructions for Assembling and Operating Your Saw

## Uncrating

Your Craftsman Saw is shipped complete (without motor) in one crate. To uncrate, remove lid, unfold sides, and unbolt saw from wood base. Before discarding packing material and paper, examine them carefully for loose parts.

## Assembling

Clean all loose parts carefully. Adjustments are carefully checked before the saw is shipped, but rough handling in transit may occasionally make a readjustment necessary. The best results will be obtained by assembling and checking in the following order:

1. Remove two screws (part S-1241, Fig. No. 3) and insert (part 6151, Fig. No. 3), check tightness of saw arbor nut, using the arbor wrench (part 3540, Fig. No. 4). Replace insert and screws.

The saw blade should be parallel to the mitre gage slots in the table. If realignment of the saw blade is necessary, loosen the screws (part S-860, Fig. No. 3) which secure the table trunnions (part 13, Fig. No. 3) to the table. Shift the trunnions until the saw blade is parallel with the slots, and retighten the screws.

2. Place the Rip Fence "F" on the saw table as illustrated in Fig. No. 1. The Rip Fence Knob "G" must be pulled out to permit the guide to slide over the Rack "J". A slight pressure must be exerted upon the rip fence to cause it to seat properly on the rack. This pressure is necessary to overcome a pressure exerted by the two alignment bar springs (part S-1230, Fig. No. 3) which act on the inner lip of the rack to hold the fence in continuous alignment. If any part of the Rip Fence (other than the sliding pad at the rear) drags on the top of the table, or if the clearance between the Rip Fence and the top of the table varies appreciably as the fence is moved across the table, the Rack "J" should be readjusted parallel with the table top to provide the proper clearance. This adjustment may be made by loosening the four screws (part S-203, Fig. No. 3) which secure the rack to the table. Retighten after the proper adjustment has been made. Place the Rip Fence next to either of the mitre gage slots and clamp in place by pushing down on cam clamp lever "H". If the Rip Fence is out of line with the mitre gage slot, the fence may be adjusted by loosening the four screws (parts S-659 and S-739, Fig. No. 3) which secure the guide to the fence. Retighten when the desired adjustment has been obtained.

3. Mount the Guard Assembly "X" on the saw, as illustrated in Fig. No. 1, by inserting the pin at the rear of the splitter blade into the hole in the splitter blade bracket (part 72, Fig. No. 3) at the rear of the saw. Press the Guard Assembly down firmly so that the semi-circular notch in the splitter blade slips between the two splitter blade clamp washers (part 69, Fig. No. 4) mounted on the cradle. The splitter blade and guard may be adjusted by loosening the two screws (part S-203, Fig. No. 3) which secure the splitter blade bracket to the cradle. Retighten when the desired adjust-

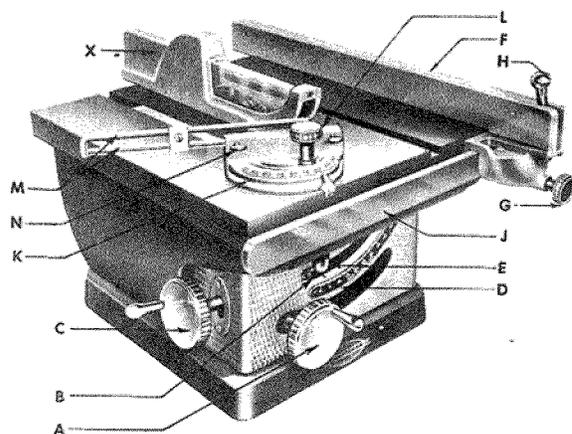


FIG. No. 1

ment has been obtained. The pressure on the splitter blade clamp washers may be increased or decreased by tightening or loosening the cap screw (part S-1090, Fig. No. 4) which secures the washers to the cradle. The position of the splitter blade clamp washers may be changed, if necessary, by varying the number of flat washers (parts S-970 and S-1066, Fig. No. 4) mounted between the clamp washers and the cradle. The splitter blade must be directly in line with the saw blade.

4. Mount motor on Motor Support Assembly (also see Motor Specifications), and slide the two pins on the Motor Support Assembly into the mounting holes at the rear of the cradle. Place pulley on motor shaft and line up with pulley on saw arbor. Install "V" belt over pulleys and adjust belt tension by moving the motor support either in or out until the belt is snug, keeping in mind that the motor should be allowed to fall back against the belt to obtain the automatic belt tightening feature. When the adjustment is satisfactory, clamp the motor support in place by tightening the two square head set screws (part S-207, Fig. No. 3). Operate the saw by hand in all positions to make sure that there is no interference and that the belt remains tight.

If the saw is to be driven by a very large motor which cannot be mounted on the motor support provided, the motor should be mounted on a floating rail, and a 1/2-inch wide belt with a minimum length of 80 inches should be used. The position of the motor should be adjusted until the belt clears all obstructions through all positions of the saw blade.

If the saw is to be driven from a line-shaft, use a belt at least 100 inches long.

5. Place the Mitre Gage Assembly "K" in either of the mitre gage slots in the table as illustrated in Fig. No. 1.

## Motor Specifications

This saw is designed to be used with a 3450 r.p.m., alternating-current motor of a repulsion-induction or capacitor type, or a 3450 r.p.m., compound-wound, direct-current motor. A 1/2 h.p.

## Operating Instructions--Continued

motor is recommended for light duty, and a  $\frac{3}{4}$  h.p. for heavy duty. The motor shaft center should be approximately four inches above the bottom of the base of the motor. If this dimension varies appreciably from four inches, it may be necessary to obtain a belt of a different length. If a 1750 r.p.m. motor is used, a six-inch motor pulley and a longer belt must be purchased. These may be ordered through any Sears Retail or Mail Order Store.

The arbor has been made extra long to accommodate a second pulley to provide for double belt operation, although the single belt is sufficient to carry the loads normally encountered. The extra motor pulley, arbor pulley, and belt may be ordered through any Sears Retail or Mail Order Store. The arbor key can be obtained locally or ordered as a part by referring to the part in this list.

**Caution:** under no circumstances should a six-inch motor pulley be used with a 3450 r.p.m. motor. The saw blade speed resulting from such a pulley ratio would be dangerous. Do not use a three-inch motor pulley with a 1750 r.p.m. motor. Such a pulley ratio will not give satisfactory saw performance.

### Static Electricity

Occasionally a slight shock may be experienced upon touching a machine tool. This is usually due to a static electrical charge built up by the friction between moving parts, such as the V-belt and pulley. It is not necessarily indicative of a grounded motor or faulty electrical connections. To eliminate this condition, as well as guard against the effects of a grounded motor or faulty connections, the saw should be grounded to a water or steam pipe.

### Adjustments

1. All pointers may be readily adjusted to the zero position by loosening the lock screw, resetting the pointer and retightening the screw.
2. Both rip fence indicators (part 135, Fig. No. 3) should be adjusted to zero by placing the rip fence first to the right and then to the left of the saw blade. The teeth of the saw blade should touch the rip fence lightly when the adjustment to zero is made.

### Operating—Controls

The following controls should be tested until the operator is thoroughly familiar with their use.

1. Elevation Hand Wheel "A", on the front of saw, controls elevation of the blade or depth of cut as indicated on the Depth Dial "B". The Depth Dial should read zero, with the saw blade just flush with the surface of the table. Correction of this setting may be made by sliding the Lift Dial Tape. This adjustment will be necessary after the blade has been filed or sharpened, reducing the original diameter, or when a saw blade of a diameter other than 8 inches is used. If an extremely accurate depth of cut is required the height of the saw blade above the table should be measured or, preferably, a test cut should be made on a piece of scrap and the actual depth of cut measured. Under

no circumstances should a saw blade with a diameter greater than 10 inches be used with this saw. If a 10-inch saw blade is used, the present 3-inch motor pulley should be replaced with a 2 $\frac{1}{2}$ -inch size.

2. Tilt Hand Wheel "C", on the left side of the saw, controls the angle of tilt. The saw blade may be tilted from 0 degrees to 45 degrees. The angle of tilt is indicated on the Tilt Gage "D". If the angle of the cut (tilt) must be extremely accurate, the angle of the saw blade should be checked with a protractor or with a board which is known to be cut at the exact angle required.

3. The tilt mechanism may be locked in any position by means of Clamp Screw Handle "E" which operates like a socket wrench. The tilt mechanism should always be locked before starting work through the saw and should always be unlocked before attempting to change the angle of tilt.

4. Rip Fence "F" is operated by pushing in Rip Fence Knob "G" which engages a pinion gear with the teeth on Rack "J". Turning knob "G" after engagement of the gear will cause the rip fence to move easily across the table. When the pinion gear is disengaged by pulling out knob "G", the rip fence may be moved across the table by hand. After the rip fence has been adjusted to the position desired, it is clamped in place by pushing down on Cam Clamp Lever "H". If the clamping action is too tight or too loose it may be adjusted by increasing or decreasing the effective length of the rip fence clamp rod (part 6100, Fig. No. 3). This is accomplished by loosening the sleeve nut (part 140, Fig. No. 3) and readjusting the hex nut (part S-108, Fig. No. 3) on the end of the clamp rod at the back of the fence. The sleeve nut, which is employed as a jam nut, should be retightened after the adjustment has been obtained. A sticky or dirty table or rip fence may prevent the rip fence from maintaining proper alignment. Keeping the saw table and rip fence clean and tapping the rip fence lightly to assist the fence to find its natural position will be found to help maintain the alignment of the rip fence with the saw blade.

### Cross Cutting

Before performing cross cutting operations, the alignment of the mitre gage slots with the saw blade should be checked and corrected, if necessary, as described in paragraph 1 under Assembling.

Mitre Gage "K" is graduated in degrees from the 90 degree position to the 30 degree position, both left and right. The Mitre Clamp Knob "L" locks the mitre gage in any position desired. The Mitre Extension Rods "M" are locked to the mitre gage by Thumb Screws "N". These rods are provided for use when it is desired to cut several pieces of work to the same length.

To perform accurate work with the mitre gage the Mitre Gage Pointer (part 6285, Fig. No. 3) must be properly adjusted. The mitre gage should be set on a true 90 degree angle by use of a square or by use of the 90 degree relationship between the mitre gage slots and the front table edge. The mitre

gage pointer should then be adjusted to 90 degrees by loosening the two screws (part S-655, Fig. No. 3) which secure the pointer to the mitre gage clamp and retightening when the adjustment has been obtained. This adjustment should be checked frequently. For extremely accurate work the mitre gage setting should be checked with a protractor or with a board which is known to be cut at the exact angle required.

Two holes are provided in the face of the mitre gage to facilitate attachment of a board if an increase in the length of the mitre gage working face is desired.

**Caution:** When using the saw blade in a tilted position, the mitre gage cannot be used in the left hand slot as it will not clear the saw blade. The left hand slot is located close to the saw blade to improve simple cross cuts and mitre cuts on thin stock where no bevel is involved. Being close to the blade results in better stability and rigidity on small thin pieces.

### Ripping

Before performing any ripping operations, the Rip Fence Indicators should be checked for accuracy as described in paragraph 2 under Adjustments. The top face of the Rack "J" is provided with a scale graduated in inches, and the desired width of cut may be obtained quickly by use of this scale. If an extremely accurate width of cut is required, the width should be checked with a scale before completing the entire cut. The saw blade should be high enough at all times to readily throw out the sawdust. When ripping a narrow piece, a second piece of wood should be used to push the work through as the end of the piece approaches the saw blade. Pushing narrow pieces through with the hand is dangerous.

Your saw is a fine machine and should be given the best of care. If kept clean and properly lubricated, it will give many years of trouble-free service.

### Greasing

The saw arbor ball bearings are lubricated by means of a grease cup (part 3514, Fig. No. 4) which is accessible from the back of the saw. The bearings are lubricated at the factory and will operate for approximately 3,000 hours before re-lubrication is necessary. To lubricate the bearings, remove and fill the grease cup with a good grade of light ball bearing grease. Turning the cup, after replacement, forces grease into the bearings. Do not over-lubricate or pack these bearings.

### Oiling

For points requiring oiling refer to Fig. No. 2. The following parts should be oiled frequently with SAE 20 or 30 automobile engine oil:

1. Table Trunnions "P" in which cradle tilts.
2. Lift Screw Block, Lift Screw Thread and Lift Nut "Q".
3. Tilt Screw Block, Tilt Screw Thread and Tilt Nut "R".
4. Depth Dial Bearing, Gear and Rack "S".
5. Friction points in Saw Guard "T".
6. Spindle Arm Pin and Saw Arbor Housing Guide Bosses "V".
7. Saw Tilt Clamp Screw "W".

### Disc Sanding

An 8" sanding disc (Cat. No. 9-2272, 5/8" bore) is available for converting the saw into a disc sander, with provision for tilting to 45 degrees. Purchase of a special Sanding Insert (Cat. No. 9-2283) for use with the disc, is also necessary, as the table opening provided by the insert (part 6151, Fig. No. 3) furnished with the saw, is too narrow for the sanding disc.

To set up the saw for disc sanding, replace the saw blade with the sanding disc and replace the insert furnished with the saw with the sanding insert. Craftsman Disc Cement (Cat. No. 9-2219) should be used for applying discs. Abrasive discs (Cat. No. 9-2273) may be ordered through any Sears Retail or Mail Order Store.

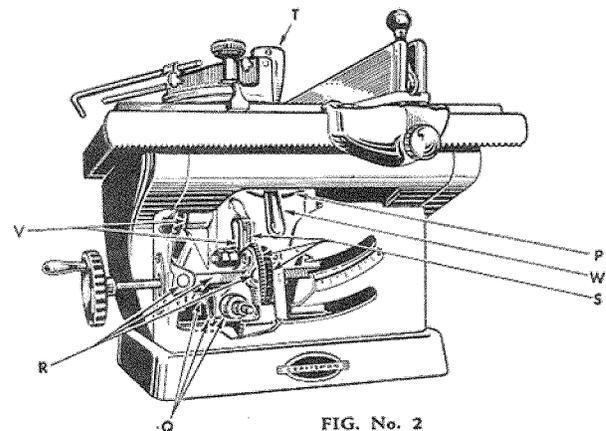
### Dadoing and Rabbeting

For dado work it is necessary to use a special Dado Insert (Cat. No. 9-2212). To use a dado head remove the insert (part 6151, Fig. No. 3) and saw blade. Place one outside dado blade on the arbor first; next to this place the number of chipper blades required to obtain the desired thickness, and on the outside of the chipper blades place another outside dado blade. Replace the loose collar and tighten the saw arbor nut firmly.

When dado heads wider than 5/8" are to be used, the loose collar can be left off and the arbor nut firmly tightened directly against the outside dado blade. If a dado cut is to be made with the saw arbor tilted (to notch a board or group of boards) it may be necessary to remove the Dado Insert (Cat. No. 9-2212) from the table entirely to provide sufficient clearance for the cutters in the tilted position.

**Caution:** Do not use the chipper blades by themselves without both outside dado blades.

## Lubrication



8. All other points where friction between two or more moving surfaces exists or where a slip fit is necessary for adjusting purposes.
9. Special attention should be given to the moving parts in the Rip Fence and Mitre Gage.

To prevent the saw table from rusting, it should be kept covered with a film of our "stop Rust" when not in use and wiped off with a cloth before using. A similar procedure should be followed for other unpainted and unplated parts and surfaces.

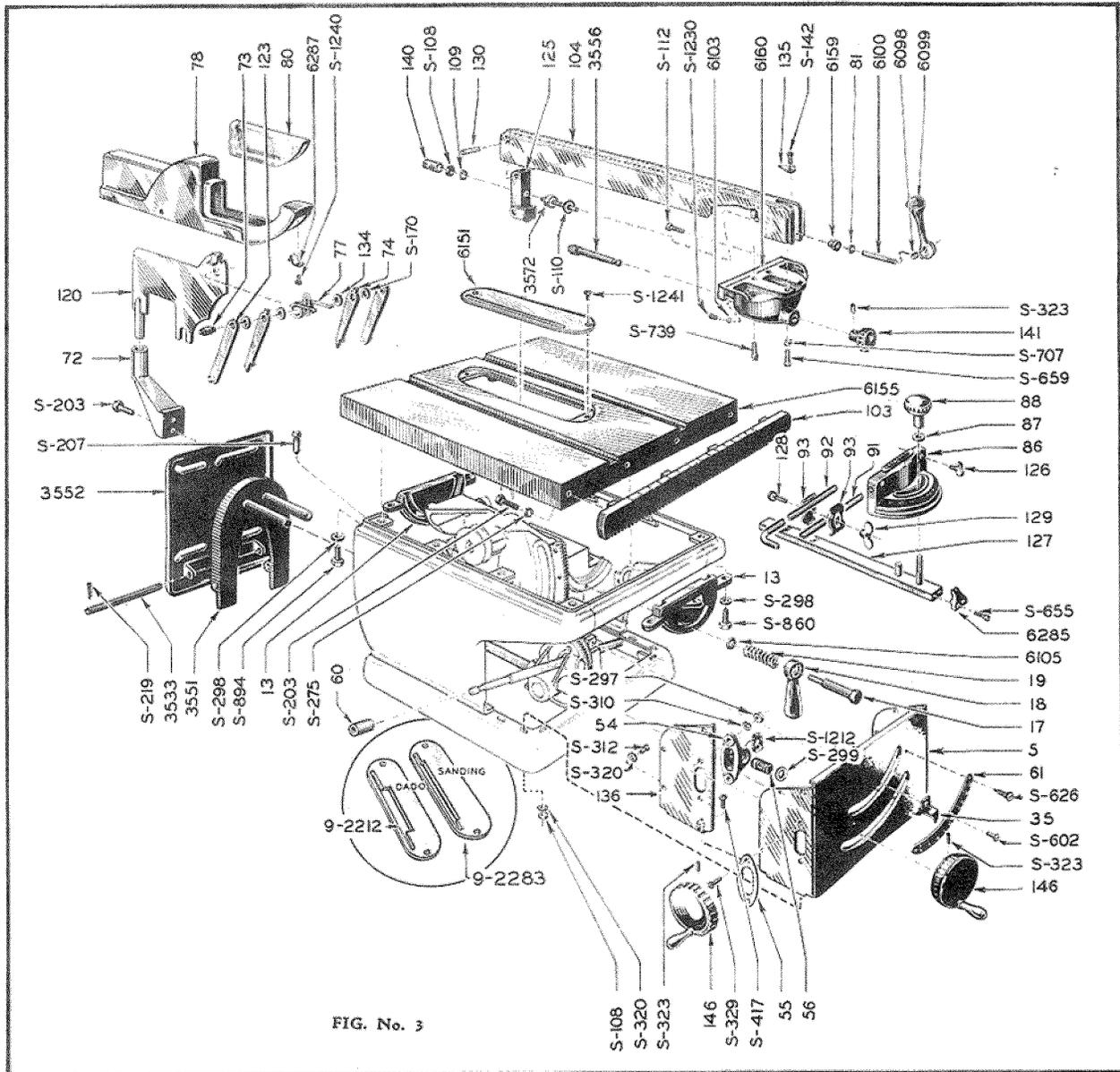
# Instructions For Ordering Parts

All parts illustrated in Figures No. 3 and No. 4 and listed on the following pages under part numbers must be ordered through a Sears Retail or Mail Order Store. Screws, nuts, washers, etc., are standard items and may be purchased locally by noting the specifications listed for these parts. In several instances part numbers and prices are listed

for COMPLETE ASSEMBLIES. The part numbers of the COMPLETE ASSEMBLIES, however, do not appear on the illustrations.

All parts are shipped prepaid within the limits of the continental United States.

All prices are subject to change without notice.



## FIGURE 3 PARTS LIST

Part No.	NAME OF PART	Prepaid Price Each	Part No.	NAME OF PART	Prepaid Price Each	Part No.	NAME OF PART	Prepaid Price Each
82	MITRE GAGE ASSY.	6.24	120	Splitter (8" Saw)		5	Front Panel	2.32
86	Mitre Gage	2.90		Blade Assembly	1.40	13	Table Trunnion	1.94
87	Mitre Gage Washer	.10	123	Link Pin Assembly	.24	17	Clamp Screw	.24
88	Mitre Clamp Knob	.40	134	Pawl Spring Spacer	.14	18	Clamp Screw Handle	.44
91	Mitre Exten. Rod (Straight)	.40	6287	Guard Insert Spring Clip	.10	19	Clamp Screw Spring	.10
92	Mitre Extension Rod	.42	6161	RIP FENCE ASSEMBLY	12.20	35	Tilt Lift Pointer	.14
93	Mitre Rod Clamp	.10	81	Cam Thrust Washer	.12	54	Tilt Bearing Bracket	.78
126	Mitre Thumb Screw	.12	104	Rip Fence	6.94	55	Tilt Gearing Plate	.16
127	Mitre Gage Clamp Assy.	1.66	109	Rip Fence Clamp Washer	.10	56	Tilt Screw Block	.50
128	Carriage Bolt (3/16" Dia. x 3/4")	.10	125	Rip Fence Arm Assembly	.42	60	Tilting Screw Sleeve	.20
129	Wing Nut 10-24	.12	130	Rip Fence Clamp Pin	.14	61	Tilt Gage	.30
6285	Mitre Gage Pointer	.22	135	Rip Fence Indicator	.12	72	Splitter Blade Bracket	1.66
3553	MOTOR SUPPORT ASSY.	5.86	140	Rip Fence Clamp Sleeve Nut	.20	103	Fence Slide Gear Rack	2.68
3533	Motor Support Hinge Rod	.32	141	Rip Fence Knob	.44	136	Front Panel Stiffener	.92
3551	Motor Base Support Assy.	3.40	3556	Rip Fence Pinion	.46	146	3 1/2" Hand Wheel Assy.	1.82
3552	Motor Base Bracket Assy.	2.58	3572	Rip Fence Clamp Cushion	.12	6105	Clamp Screw Washer	.10
66	GUARD ASSEMBLY	6.16	6098	Cam Clamp Lever Insert	.22	6151	Insert	1.20
73	Splitter Pivot Pin	.18	6099	Cam Clamp Lever	.68	6155	Table	23.88
74	8" Saw Pawl	.12	6100	Rip Fence Clamp Rod	.50	S-298	.380 x 7/8 x 1/16 Steel Washer	.10
77	Pawl Spring	.16	6103	7/32 Dia. Steel Ball	.10	S-299	.758 x 1 x .047 Steel Washer	.10
78	Guard	3.76	6159	Rip Fence Bushing	.12	S-1212	Spring Washer	.10
80	Guard (8" Saw) Insert	.78	6160	Rip Fence Guide Assembly	1.70			
			S-1230	Alignment Bar Spring	.10			

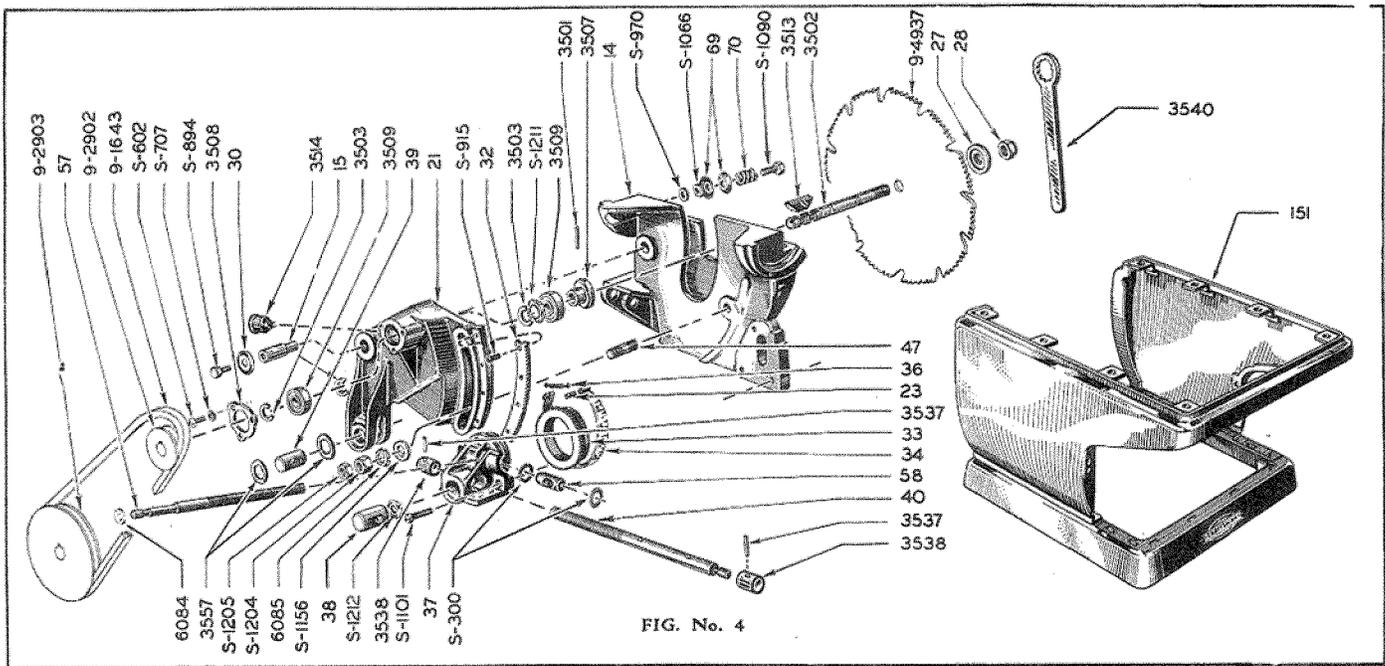


FIG. No. 4

### FIGURE 4 PARTS LIST

Part No.	NAME OF PART	Prepaid Price Each	Part No.	NAME OF PART	Prepaid Price Each	Part No.	NAME OF PART	Prepaid Price Each
67	DEPTH DIAL ASSEMBLY	0.78	3501	Tight Collar Pin	.12	37	Tilt Lift Nut Bracket	1.68
23	Lift Dial Tape Pin	.10	3502	Saw Arbor	1.12	38	Lift Screw Block	.80
33	Dial Gear	.54	3503	Saw Arbor Shaft Snap Ring	.12	39	Lift Nut	.60
34	Lift Dial Tape	.32	3507	Tight Collar	.34	57	Lift Screw	1.02
36	Lift Dial Tape Spring	.14	3509	Saw Arbor Bearing	1.18	58	Tilt Nut	.52
3505	SAW ARBOR HOUSING ASSEMBLY	13.44	3539	LIFT SCREW ASSEMBLY	1.78	69	Splitter Blade Clamp Washer	.10
21	Saw Arbor Housing	7.90	40	Lift Screw	1.42	70	Splitter Blade Clamp Spring	.12
27	Loose Collar	.26	3537	Pin	.10	151	Saw Base Assembly	11.52
28	Saw Arbor Nut	.24	3538	Lift Screw Collar	.26	3540	Arbor Wrench	.36
3508	Arbor Bearing Retainer	.14	3570	CRADLE ASSEMBLY	15.20	3557	Lift Nut Washer	.10
3513	Saw Arbor Key	.12	14	Cradle	14.64	6084	Tilting Screw Spacer	.12
3514	Grease Cup	.20	15	Spindle Arm Pin	.32	6085	Saw Arbor Retaining Stud	.12
S-1211	Spring Washer	.10	47	Saw Arbor Retaining Stud	.20		Washer	.12
3506	SAW ARBOR ASSEMBLY	2.98	30	Spindle Arm Pin Retaining Washer	.12	S-300	3/4 x 1 1/16 x 1/32 Fibre Washer	.12
			32	Depth Dial Rack	.36	S-1212	Spring Washer	.12

THE FOLLOWING PARTS SHOWN ON FIGURES 3 AND 4 ARE STANDARD AND CAN BE PURCHASED LOCALLY:

Part No.	NAME OF PART	Prepaid Price Each	Part No.	NAME OF PART	Prepaid Price Each	Part No.	NAME OF PART	Prepaid Price Each
S-108	10—32 x 1/8 Hex Nut	.10	S-320	13/64 x 7/16 x 1/32 Steel Washer	.10	S-860	3/8—16 x 1 Hex. Hd. Cap Screw	.10
S-110	SAE No. 10 Washer	.10	S-323	1/4—20x1/4 Cup Pt. Set Screw	.10	S-894	3/8—16 x 1/2 Hex. Hd. Cap Screw	.10
S-112	10—32 x 1/2 Fil. Hd. Machine Screw	.10	S-329	1/4—20 x 1 Rd. Hd. Machine Screw	.10	S-915	8/32 x 3/8 Rd. Hd. Machine Screw	.10
S-142	10—32 x 5/16 Rd. Hd. Machine Screw	.10	S-417	10—32 x 1/2 Rd. Hd. Machine Screw	.10	S-970	7/16 x 3/4 x .024 Steel Washer	.10
S-170	17/32x3/4x1/16 Steel Washer	.10	S-602	10—32 x 3/8 Rd. Hd. Machine Screw	.10	S-1066	7/16 x 3/4 x .030 Steel Washer	.10
S-203	5/16—18 x 3/4 Hex. Hd. Cap Screw	.10	S-626	8—5/16 Style Z Sheet Metal Screw	.10	S-1090	3/8—16 x 1 1/4 Hex. Hd. Cap Screw	.10
S-207	5/16—18x7/8 Sq. Hd. Set Screw	.10	S-655	6—32 x 3/8 Fil. Hd. Machine Screw	.10	S-1101	5/16—18x1 Fil. Hd. Cap Screw	.10
S-219	3/32x1/2 Cotter Pin	.10	S-659	10—32 x 7/8 Rd. Hd. Machine Screw	.10	S-1156	9/16 x 1 3/8 x 7/64 Steel Washer	.10
S-275	5/16 SAE Med. Lockwasher	.10	S-707	3/16 SAE Med. Lockwasher	.10	S-1204	1/2—13 Semi-Fin. Hex. Jam Nut	.10
S-297	1/4—20x3/16 Hex. Nut	.10	S-739	10—32 x 5/8 Fil. Hd. Machine Screw	.10	S-1205	1/2—13 Semi-Fin. Hex. Jam Nut	.10
S-310	1/4 SAE Med. Lockwasher	.10				S-1240	8-32x3/16 Rd. Hd. Machine Screw	.10
S-312	10—3/8 Style Z Rd. Hd. Sheet Metal Screw	.10				S-1241	8-32x5/16 Fl. Hd. Machine Screw	.10

THE FOLLOWING PARTS SHOWN ON FIGURES 3 AND 4 MAY BE ORDERED THROUGH ANY SEARS RETAIL OR MAIL ORDER STORE:

Stock No.	NAME OF PART
9-2212	Dado Insert
9-2283	Sanding Insert
9-2272	Sanding Disc, 3/8" bore (not illustrated)
9-2902	2 1/2" x 3/8" bore Hubless Arbor Pulley
9-2903	3" x 3/8" bore Hubless Motor Pulley
9-1643	4 3/4" x 1/4" V Belt
9-4937	8" x 3/8" bore Comb. Tooth Saw Blade