

# ASSEMBLY, OPERATING INSTRUCTIONS AND PARTS LIST FOR CRAFTSMAN SHAPER

## MODEL NUMBER 113.23940

The Model Number will be found on a plate attached to your shaper. Always mention the Model Number in all correspondence regarding the CRAFTSMAN SHAPER or when ordering repair parts.

Carefully read the instructions provided, observe the simple safety precautions and you will have many hours of satisfactory use from your new Craftsman tool.

## 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 catalog 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 113.23940
4. The NAME of item — SHAPER

## COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN SHAPER



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**



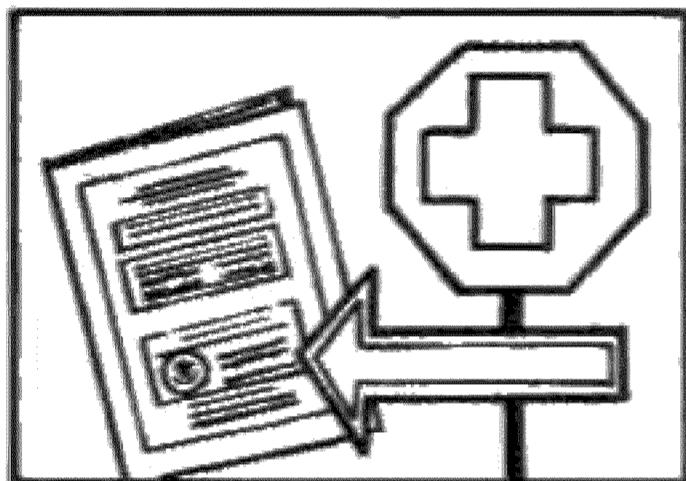
# POWER TOOL SAFETY...AND YOU

**3 MINUTES** of required reading for the home Craftsman... whether this is your first purchase or you're an old hand at power tools.

YOU'VE JUST BOUGHT A QUALITY SEARS TOOL, designed to give you many years of top performance and trouble-free operation. It's also designed with

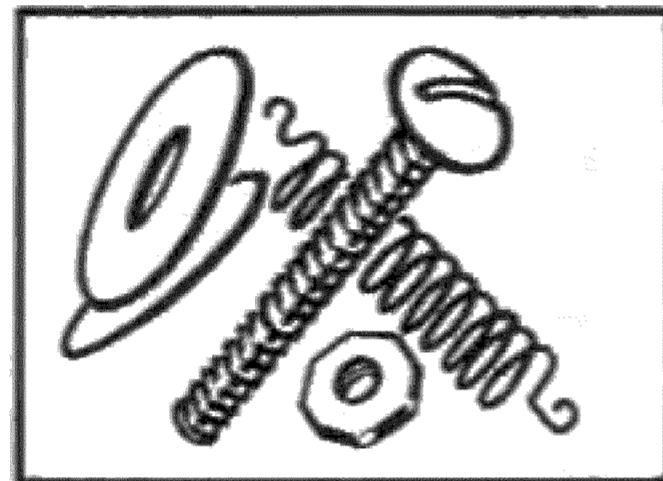
**safety in mind**, permitting you to use the tool without concern so long as certain basic rules are observed.

We'd like to call particular attention to some of the more **important rules** to follow for maximum enjoyment of your Sears power tools.



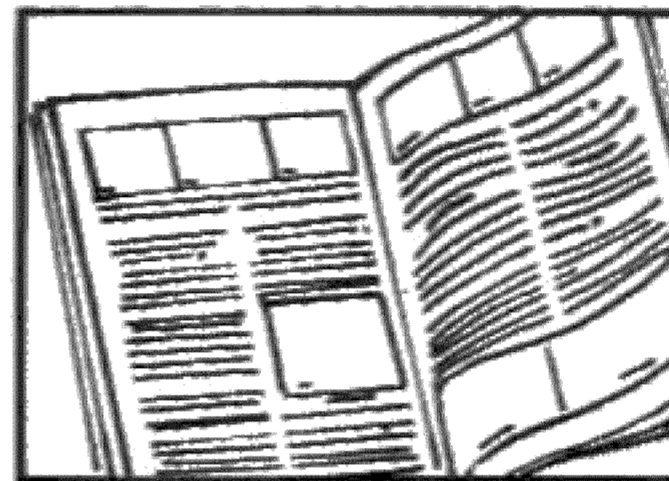
### 1. READ THE INSTRUCTION MANUAL ...

completely • accurately. Pay special attention to safety precautions and use of safety features.



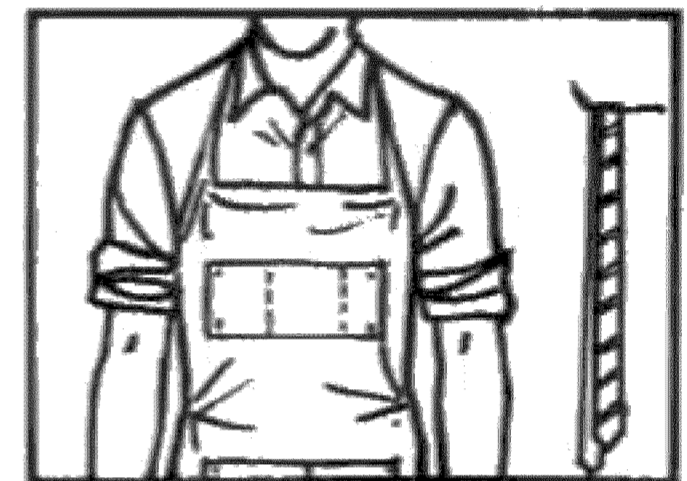
### 2. INSPECT THE POWER TOOL THOROUGHLY

Set up the machine according to instructions. Make certain all parts are included.



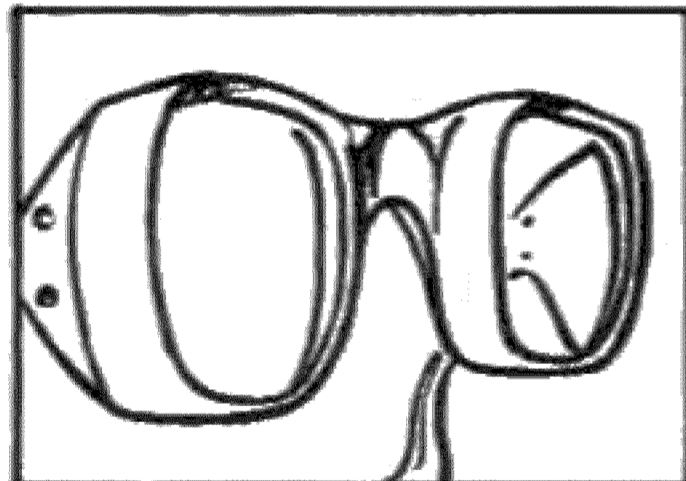
### 3. FOLLOW OPERATING INSTRUCTIONS CAREFULLY

They have been developed to insure correct procedure and prevent accidents.



### 4. DRESS PROPERLY FOR THE WORKSHOP

Get rid of loose clothing, roll up sleeves, remove your tie, wear a snug-fitting shop apron.

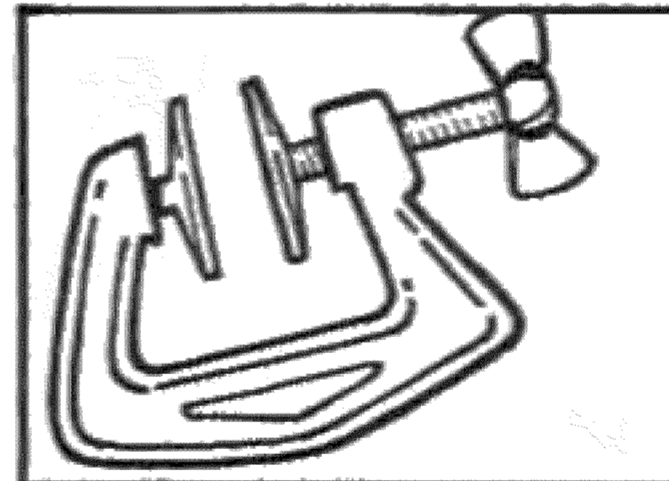


### 5. WEAR SAFETY GLASSES

Safety glasses or eye shields are recommended for all power tool operations.

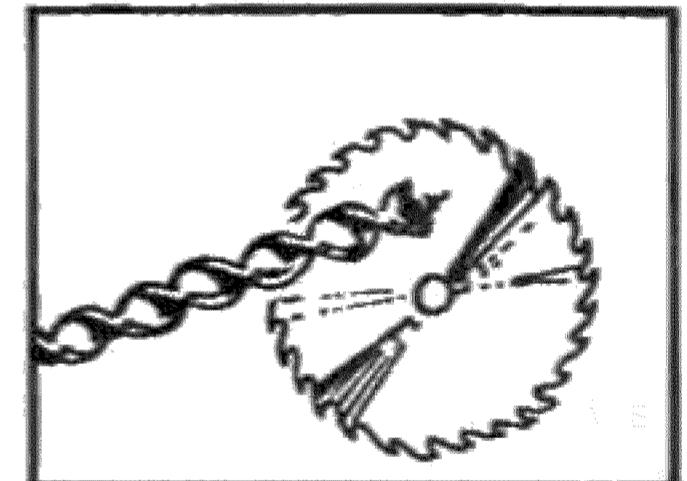
### 6. USE PROPER ELECTRICAL CONNECTIONS

Make certain proper voltage (110 or 220) is used. USE A GROUND WIRE; AND A SUITABLE PLUG, IF REQUIRED. Check fusing requirements of the tool as outlined in the instruction manual.



### 7. DOUBLE-CHECK HOLDING FIXTURES

Lock all clamps tightly. Spin parts by hand to check against misalignment or looseness before turning on tool.



### 8. KEEP CUTTING TOOLS SHARP

Make certain blades, drills, cutters, etc., are in top shape. Dull tools can cause rough cuts, excessive chipping... and accidents.



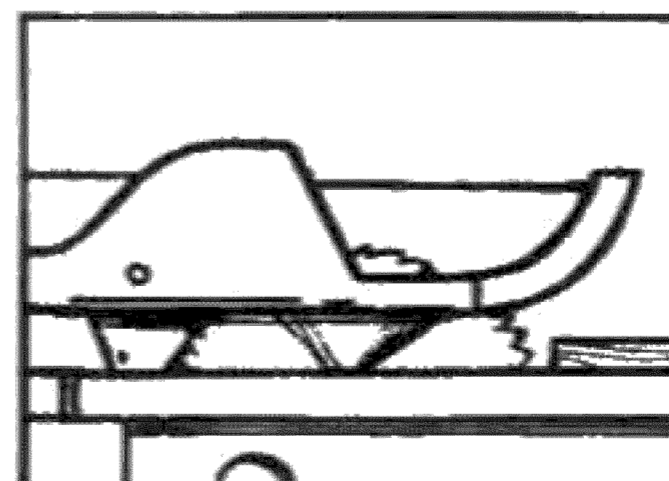
### 9. DON'T EXCEED THE LIMITS OF THE POWER TOOL

Abusing the power tool by doing work beyond its capacity reduces its life and increases the chance of injury to the operator. Watch especially the sizes of the work and feed rate.



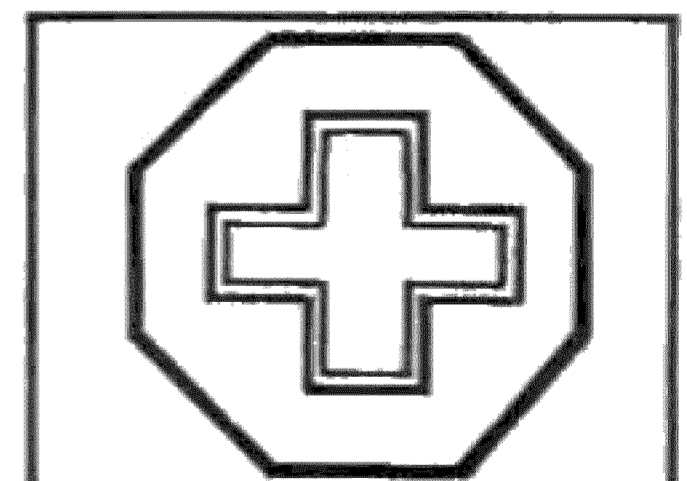
### 10. KEEP SPECTATORS AWAY

Curiosity and interest on the part of the family is fine, but avoid inspections when the power tool is running.



### 11. SAFETY GUARDS

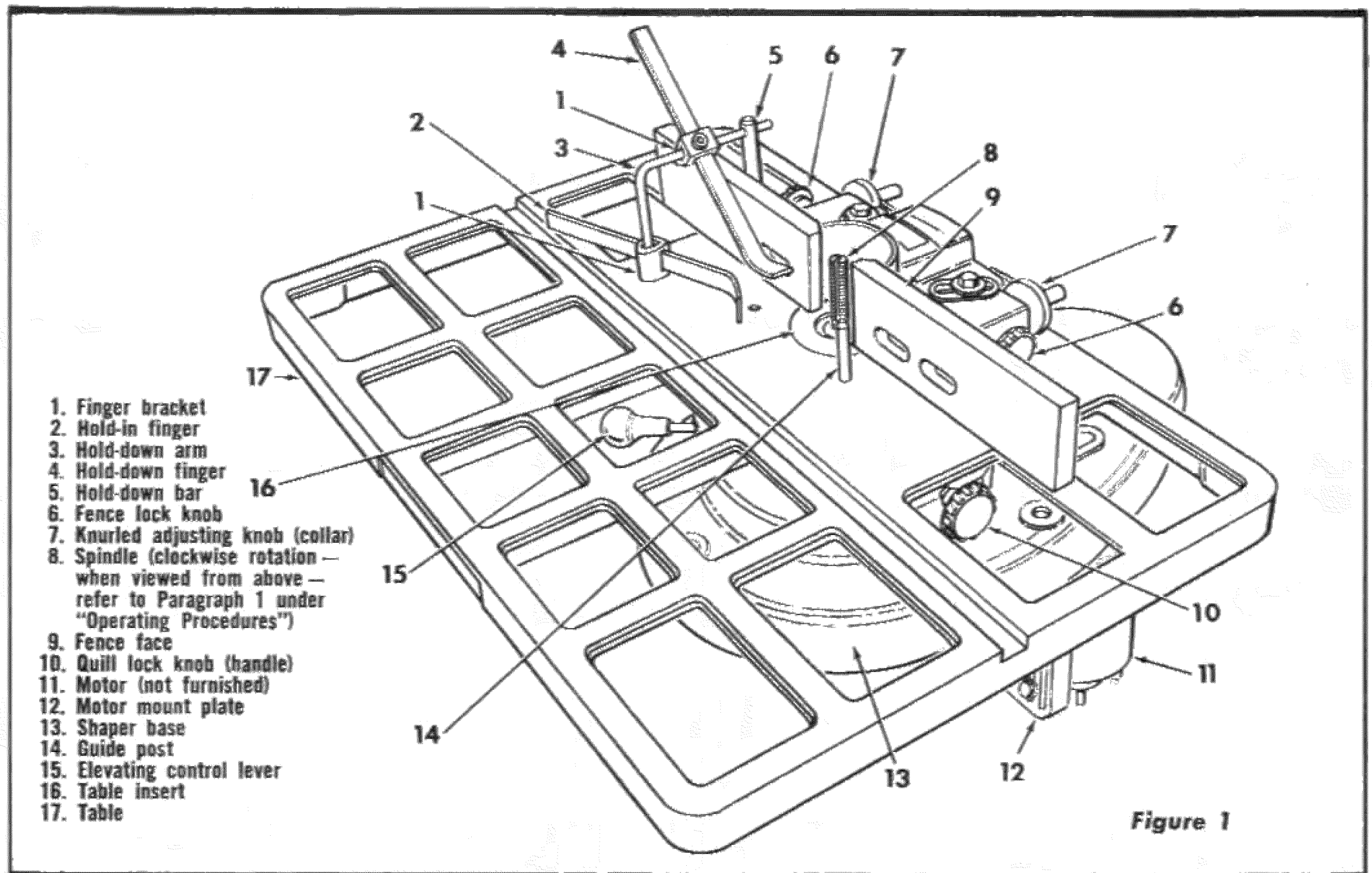
Accessory safety guards are available for most tools. Use of these guards is highly recommended.



### 12. THINK SAFETY

Carefully plan each operation before turning on tool.

## ASSEMBLY AND OPERATING INSTRUCTIONS FOR CRAFTSMAN SHAPER MODEL No. 113.23940



This Craftsman Wood Shaper is designed to produce accurate, top-quality work with maximum versatility. (See figure 1.) The variety of shapes that can be produced is virtually unlimited — depending only upon available cutter shapes. Cutters are available for almost any desired pattern from your nearest Sears Retail Store or Mail Order House.

The shaper features an extra large work table, readily accessible controls, fully enclosed motor pulley and drive belt, exceptionally rugged construction and many other features, all designed for maximum safety of operation and production of high quality work.

### CHECKING LOOSE ITEMS

This wood shaper has been completely assembled, inspected and tested at the factory. To prevent damage and misalignment of parts during shipment, certain items have been removed and packed separately.

**NOTE:** Before discarding any of the packing materials, make sure all parts are accounted for.

These parts are listed as follows, and may be identified by referring to the parts list section of this Instruction Manual.

ITEM	QTY.
Motor mount plate .....	1
Motor pulley .....	1
V-belt .....	1
Spindle assembly .....	1
Fence assembly .....	1

The following small parts are contained in a plastic bag:

Elevating control knob .....	1
Elevating control rod .....	1

ITEM	QTY.
Hold-down bar .....	1
Table dowel pin .....	1
Hold-down bracket .....	2
Allen wrench (1/8-inch) .....	1
Allen wrench (5/32-inch) .....	1
Spindle-nut wrench .....	1
Motor plate mounting bolts (3/8-16 x 1-inch)	2
Motor plate mounting washers (1-1/8 O.D. x 25/64 I.D.) .....	2
Motor mounting bolts (5/16-18 x 1-inch, square-head) .....	4
Motor mounting washers (11/16 O.D. x 11/32 I.D.) .....	8
Motor mounting nuts (5/16-18, hex) .....	6
Base mounting screws (5/16-18 x 3/4-inch) ..	3
Table insert .....	1
Hold-down arm .....	1
Hold-down clamp .....	2
Hex-nut (3/8-24) .....	1
Socket-head set screws (1/4-20 x 5/16-inch)	5
Fence mounting hex-head cap screws (5/16-18 x 2-inch) .....	2
Fence mounting washers (1-1/6 O.D. x 11/32 I.D.) .....	2

### MOTOR REQUIREMENTS

For general use a 1/2-horsepower, 3450 rpm motor is recommended.

### SPEED

The motor pulley, used with the recommended motor, provides a spindle speed of approximately 9000 rpm, which is suitable for smooth, accurate shaping.

## LUBRICATION

The ball bearings used on the cutter spindle have been packed with lubricant and sealed at the factory and require no further attention.

To maintain smooth and easy operation of the controls, occasionally add a few drops of oil to the outside of the quill. Also, wipe table top surface occasionally with an oily rag to prevent rust.

## ASSEMBLY

1. Coat the spindle assembly with cup grease, being sure to wipe some of the grease into the elevating slot milled in the quill. (See figure 2.)
2. Install the elevating rod (3/8-24) jam nut on short end of elevating rod and screw the rod into the threads in the side of spindle housing.
3. Insert the spindle assembly into the table support, position the long angle of the elevating rod straight down and tighten jam nut securely. (See figure 3.) The angle portion of elevating rod must be parallel with spindle assembly.
4. Install knob on end of elevating rod.
5. Rotate the set screw into the table support, while moving the elevating rod back and forth, until the dog point on end of set screw enters the elevating slot in spindle housing. (See figure 3.) This can be felt as the set screw and quill are rotated. Tighten the set screw, then back it off 1/4 turn. This should allow enough clearance for the quill slot to slide on dog-point end of set screw.
6. Check operation of spindle several times, by moving elevating control lever back and forth in order to make sure it has no lost motion, yet slides effectively on the dog-point end of screw. Readjust set screw slightly, if required, for smooth operation without lost motion.
7. With the table upside down on a bench or the shipping carton, position shaper base on table support casting so the three mounting holes are aligned. Install and tighten the three 5/16-18 x 3/4-inch hex-head screws. (See figure 4.)
8. Attach the motor to be used on the shaper to the motor mount plate. (See figure 5.) Use the four square-head motor-mount bolts (5/16-18 x 1-inch) and eight washers. (One washer is placed under the head and one under the nut of each bolt. Leave these bolts finger tight for final motor positioning later.)
9. Install motor pulley (flat-faced pulley) on motor shaft, with closed end of pulley facing downward. Tighten pulley set screw securely.
10. Position motor on motor mount plate to provide a distance of 3/16-inch from mounting edge of motor mount plate. (See figure 5.) Tighten the four motor mount bolts securely and recheck for correct positioning.
11. Place V-belt on motor pulley and attach motor mount plate to shaper base with two motor plate mounting bolts (3/8-16 x 1-inch) and washers. (See figure 6.) Leave bolts finger tight only.
12. Roll the belt onto spindle pulley, pull motor mount plate toward end of base until belt is tight enough to prevent slipping and tighten the two bolts. Each bolt should be in approximately the same position in the base slots.

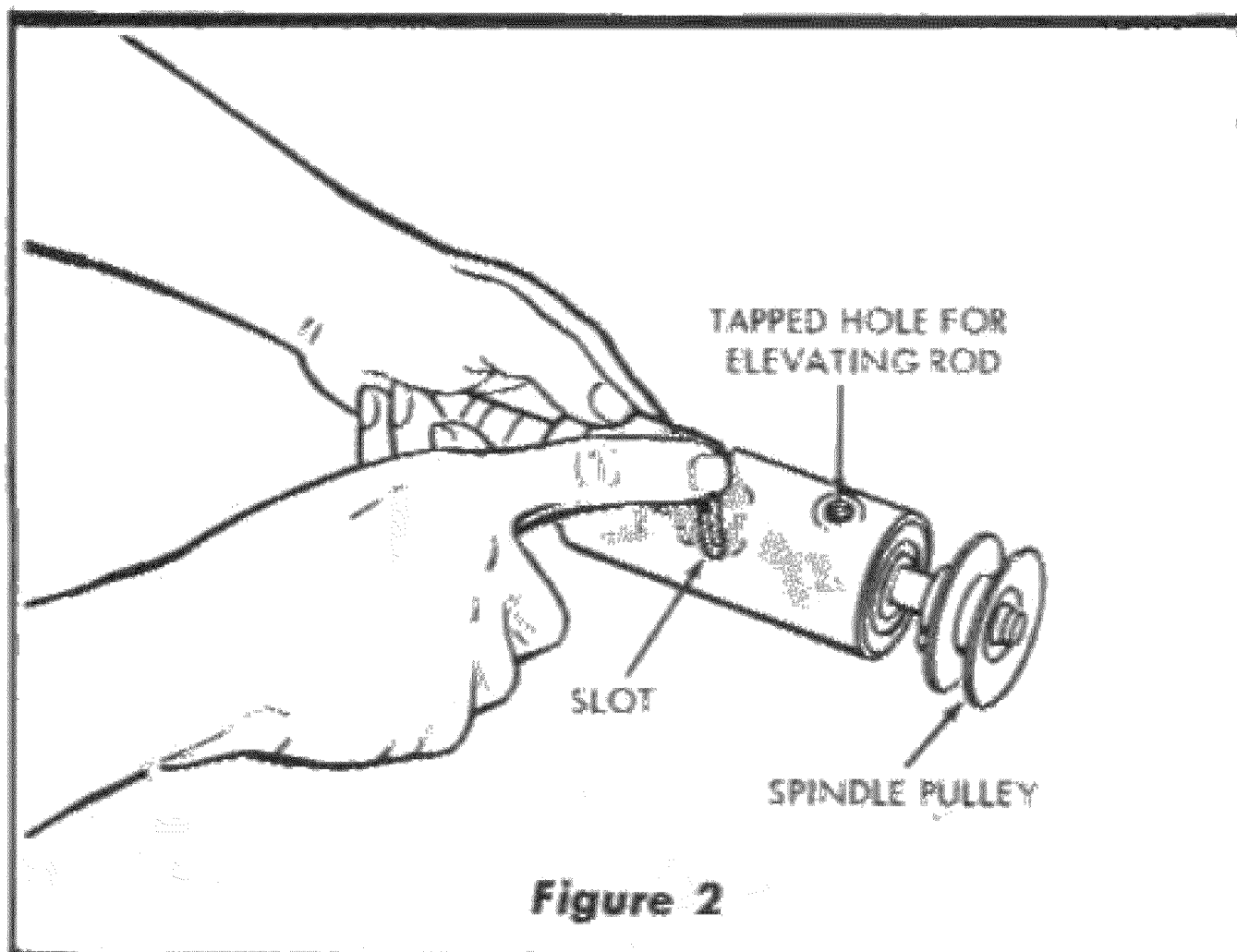


Figure 2

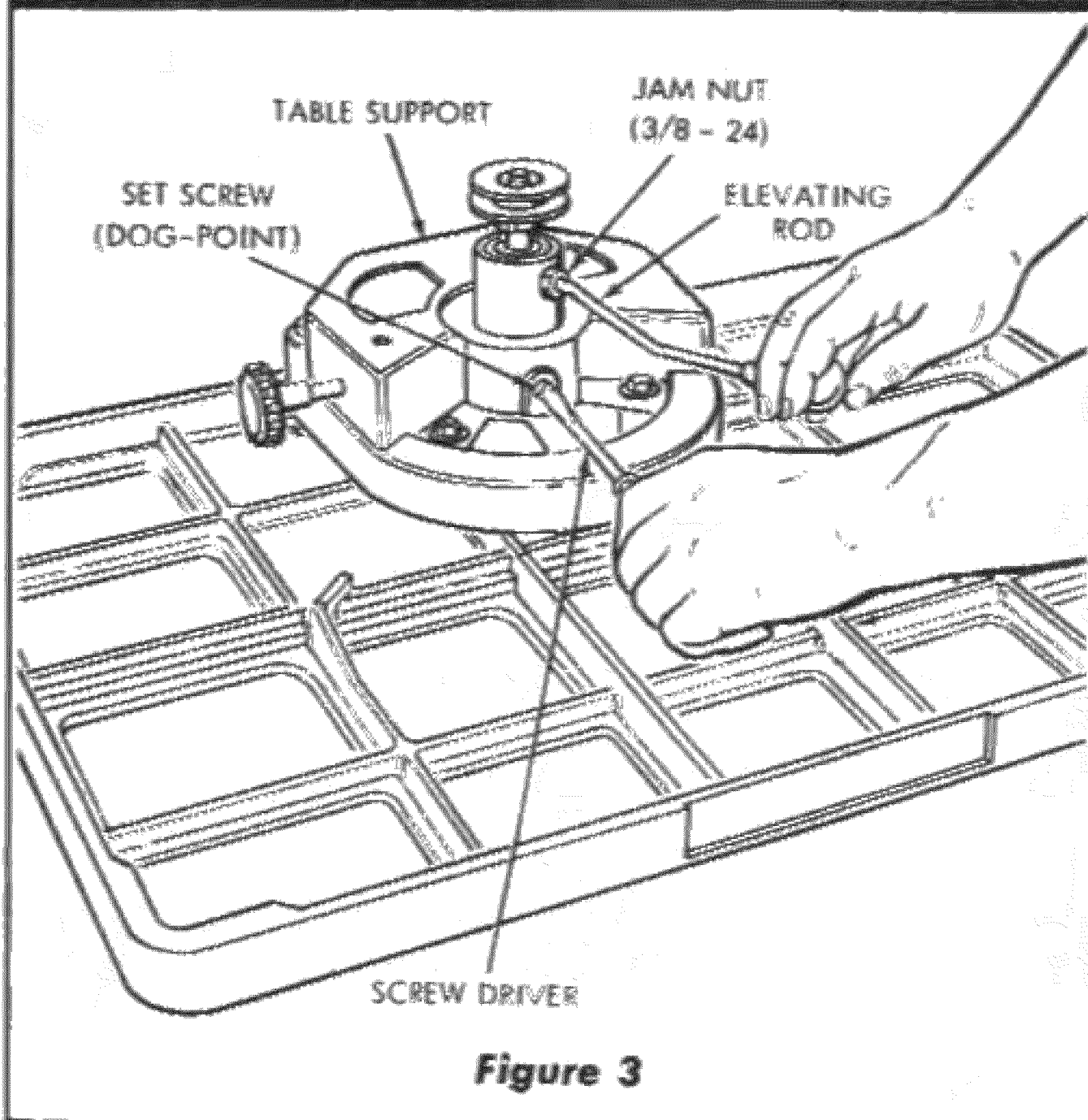


Figure 3

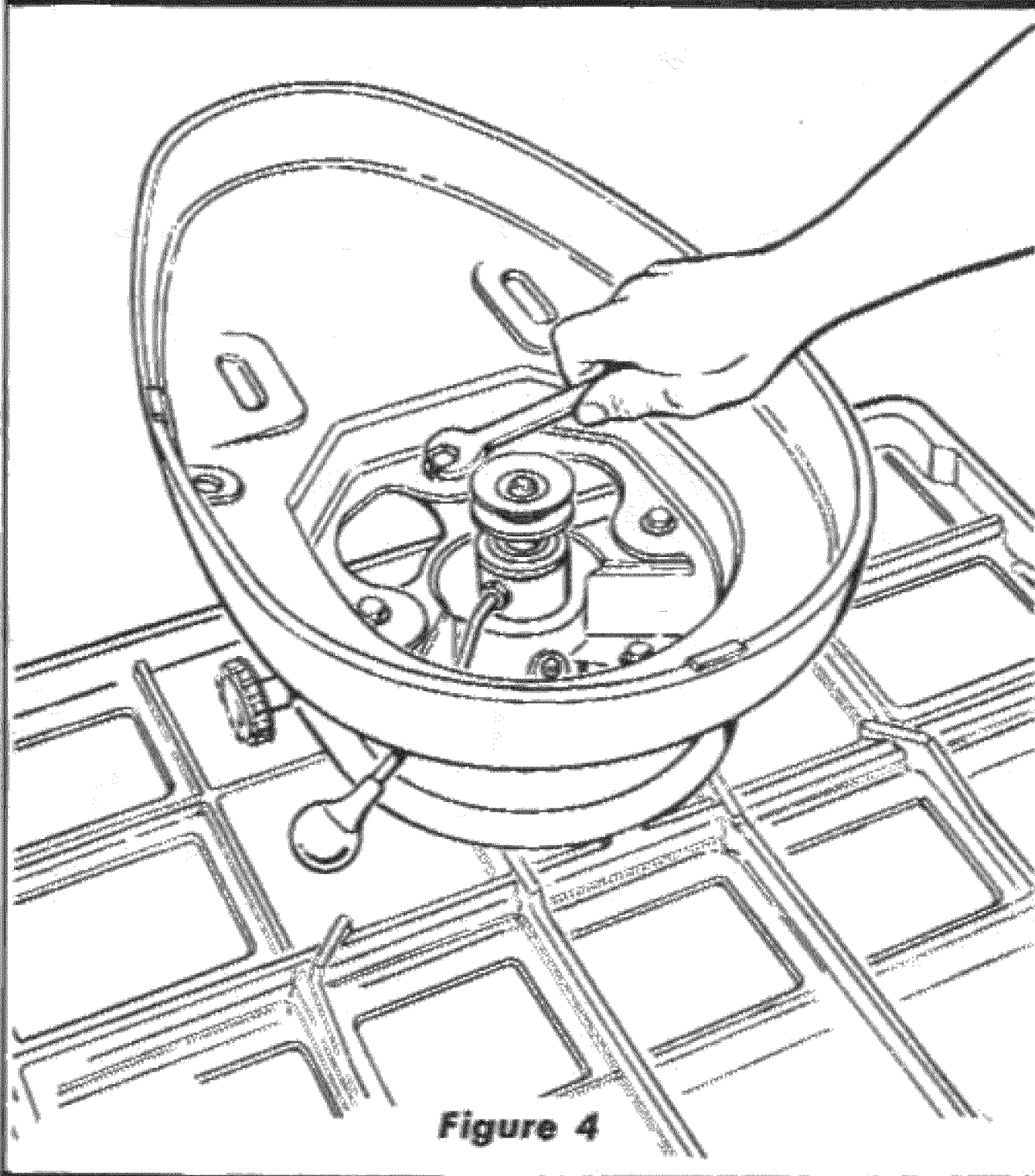


Figure 4

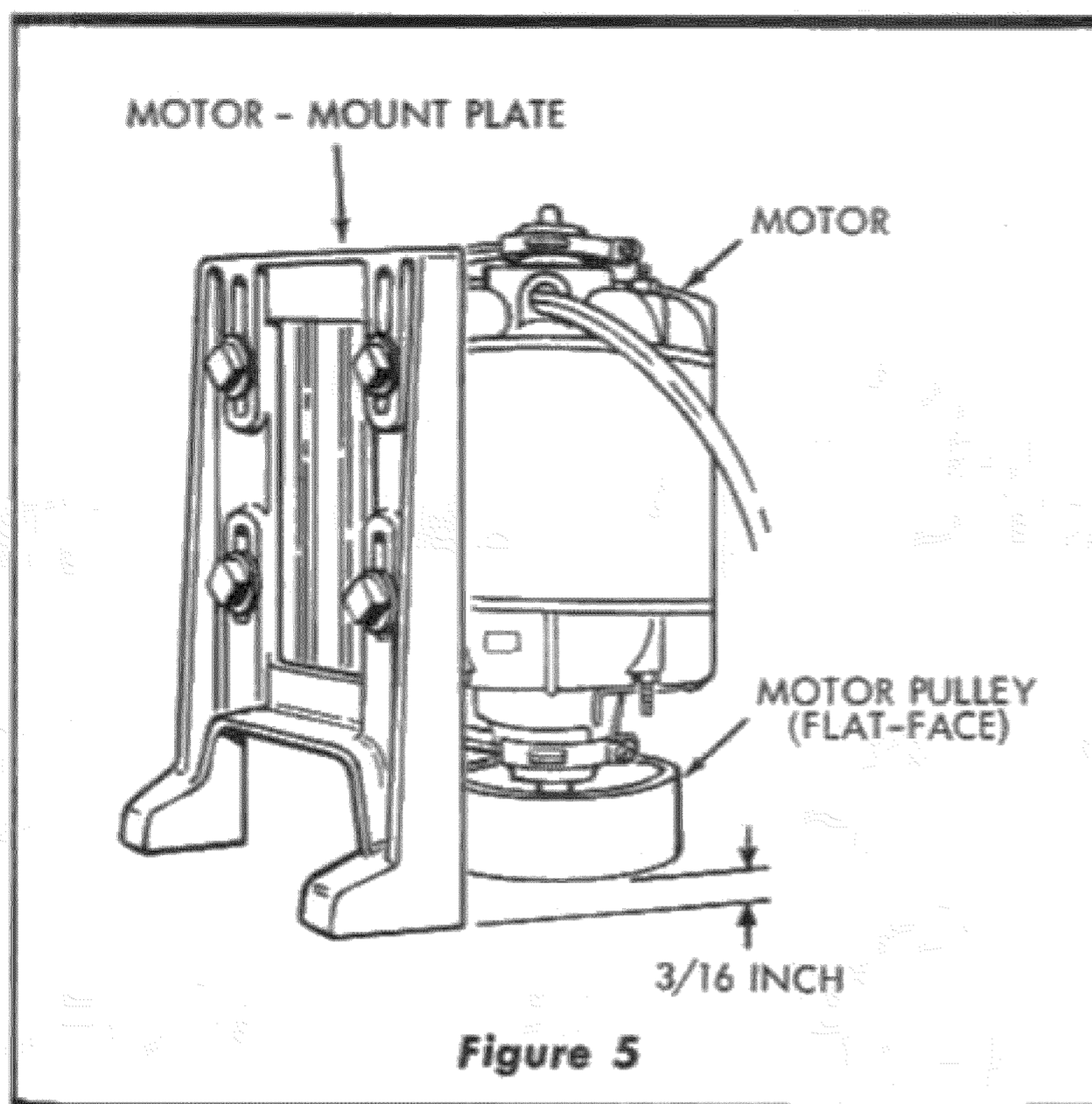


Figure 5

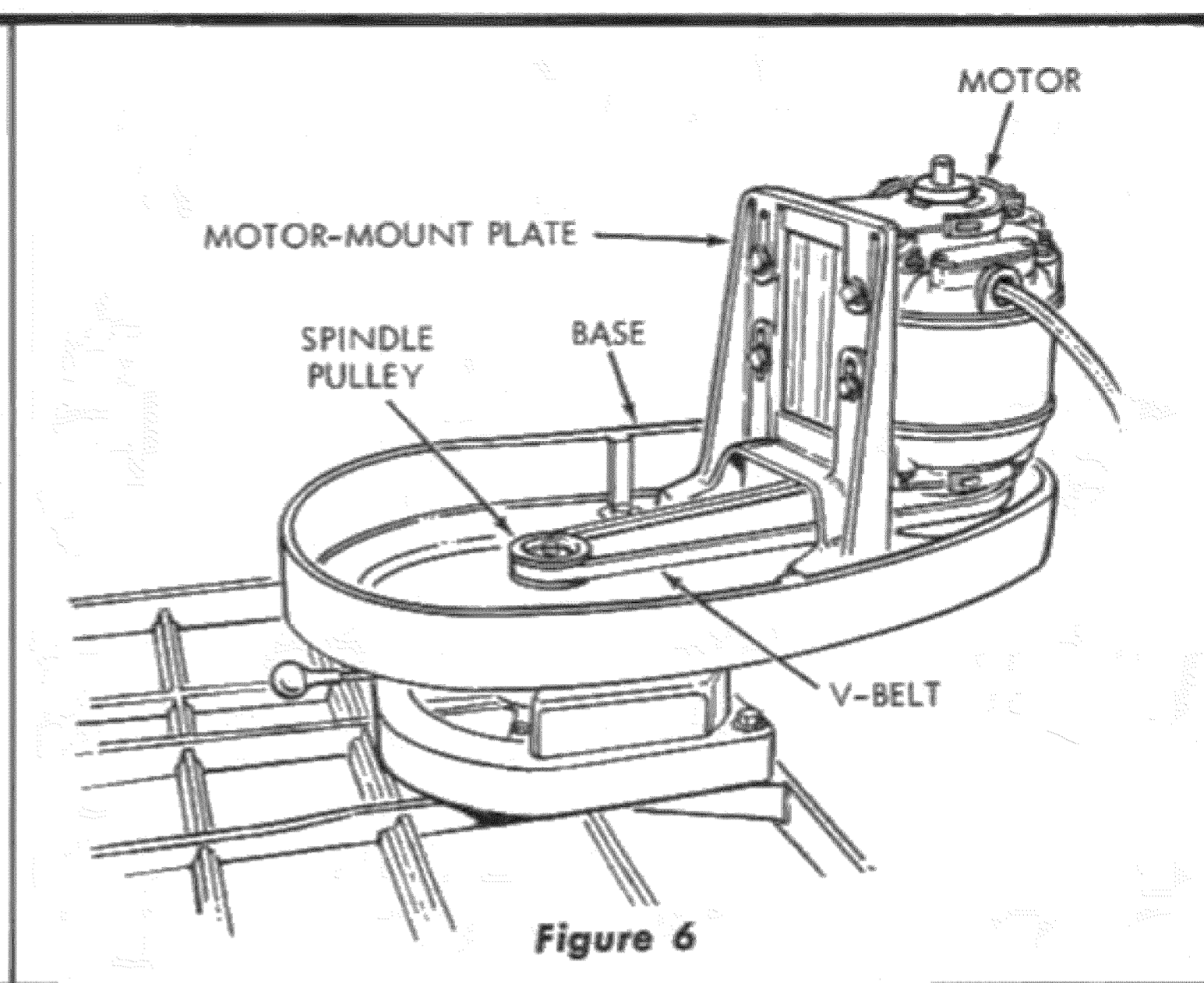


Figure 6

13. Position elevating rod in approximate mid position and turn spindle pulley by hand several times to see that the bolt rides in the approximate mid position of motor pulley. If not, recheck assembly. The belt should change positions on motor pulley as the lever position is changed (while the spindle pulley is rotated by hand).
14. Place the shaper in an upright position on a bench and install the fence with two 5/16-18 x 2-inch hex-head cap screws and two plain washers. These cap screws thread into tapped holes in the table. (See figure 1.) Adjust the fence as outlined under "OPERATION."
15. Install the guide post, fence hold-down bar, hold-down arm and fingers. (See figure 1 for location of these items.) The guide post is used when the fence is not used for making irregular cuts. Therefore, it should be removed when performing operations that require use of fence.
16. Place the table insert over the spindle and into the table recess.

### MOUNTING THE SHAPER

1. Three mounting holes are provided in the base of the shaper for the purpose of mounting it securely on a substantial bench or tool stand with screws or bolts.
2. The bench should be high enough so the top surface of the shaper table will be waist high to operator, or slightly higher. The shaper must be mounted to allow the motor to overhang rear edge of work-bench or stand.

**CAUTION:** The shaper must be mounted on a substantial support and secured so there is no possibility of it becoming loose during operation.

### OPERATION

#### OPERATING CONTROLS (See figure 1.)

1. **Elevating rod** — moves the spindle vertically a distance of 7/8-inch to locate the cutter at the desired vertical position.
2. **Quill lock knob** — used to lock the spindle and quill assembly after the desired height has been determined.
 

**CAUTION:** Always release the quill lock knob before attempting to change the position of spindle and tighten the knob securely before starting operation.

3. **Fence faces** — each face may be moved forward or backward simply by releasing the fence lock knob and turning the knurled adjusting knobs. Each fence face operates independently of the other, by means of the simple micrometer-type adjusting mechanism. After the desired fence face position has been selected, it may be secured by tightening the fence lock knob. The fence faces will close in from a maximum three-inch opening down to as little as one-inch for small diameter cutters. This setting is accomplished by loosening the two screws in the front of each face and sliding the face to the desired position. The screws should be tightened securely after each setting.

**NOTE:** The opening between inner ends of fence faces should never be larger than required to just clear the particular cutter being used. Always rotate the spindle by hand before starting the shaper motor to make sure cutter does not strike fence faces.

4. **Hold-down and hold-in fingers** — are held tightly in position by a single socket-head set screw in the small bracket with which each finger is secured. (See figure 1.) To change the angle, projection or location of the fingers, loosen the socket-head set screws with the proper size Allen wrench provided. Both fingers may be located at right or left-hand side of table, depending upon direction of cutter rotation.

### OPERATING PROCEDURES

**NOTE:** This shaper is designed for use with cutters having a 1/2-inch diameter bore.

1. Many shaper operators prefer to use a motor that rotates clockwise (facing pulley end) which would drive the spindle in a clockwise direction. With this combination, the work would be fed into the cutter from the left-hand side of table, with holding fingers on left-hand side. If the motor used rotates counter-clockwise, the cutter would have to be turned over and work would be fed into the cutter from right-hand side of table. Holding fingers would also have to be moved to the right-hand side. For irregular work the guide post must be located in either the left or right-hand threaded hole, depending upon direction of rotation.

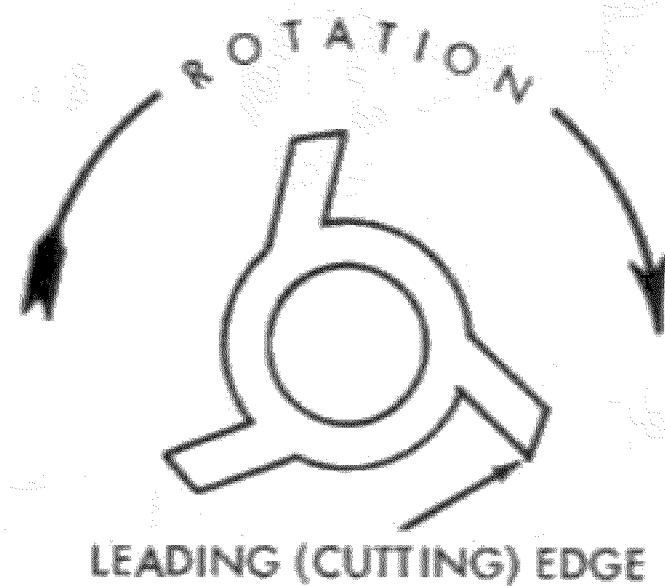


Figure 7

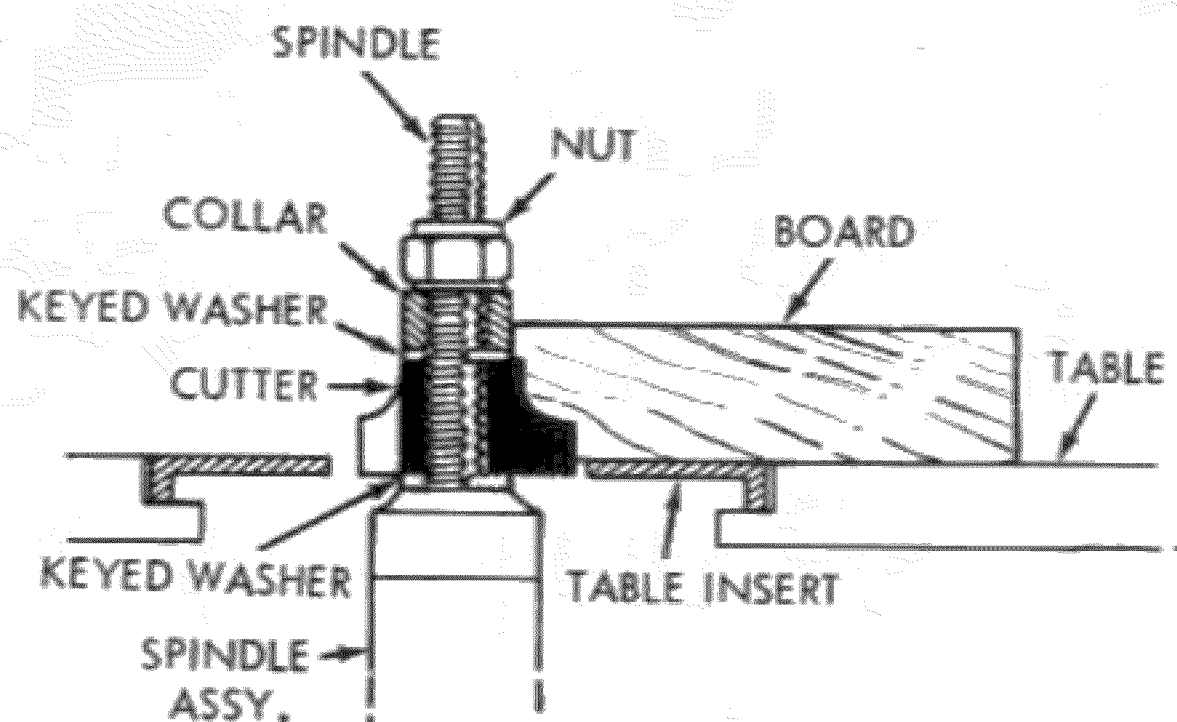


Figure 8

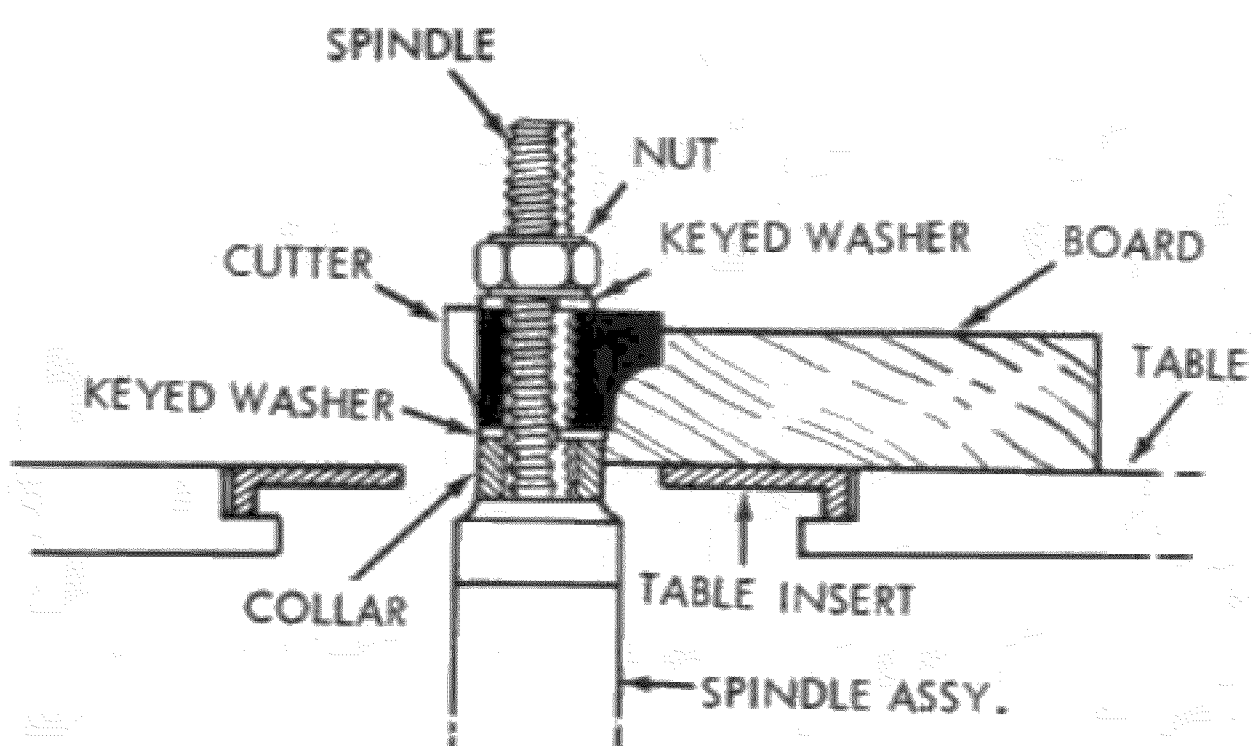


Figure 9

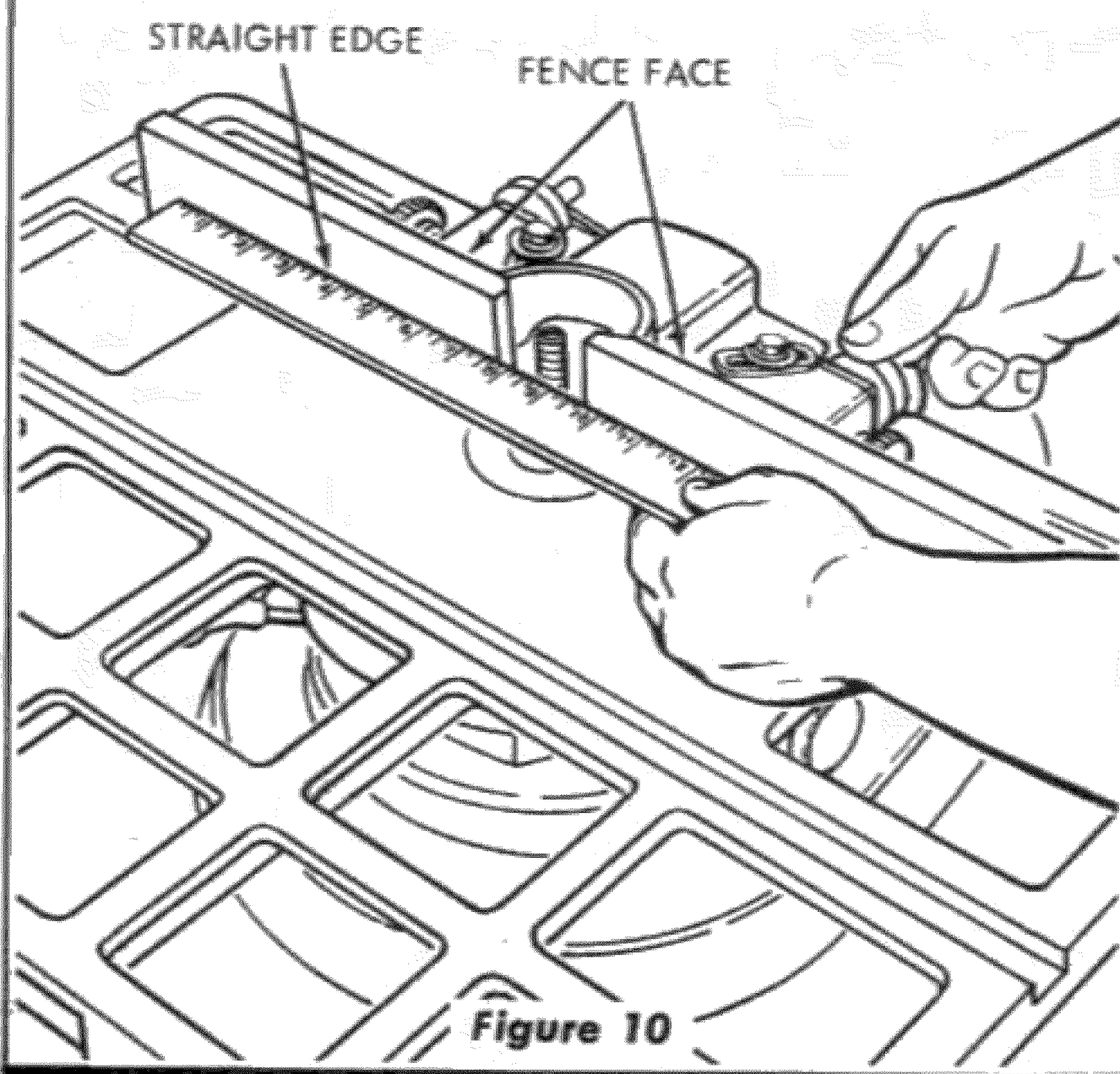


Figure 10

It should be remembered (when mounting the cutter) that the cutting edge of cutter must lead into the direction of rotation. (See figure 7.) Figure 8 shows the cutter set up with a collar mounted above cutter, which would produce the desired "shape" on the lower edge of board. This same cutter could be mounted to produce the same shape with board fed through in the opposite direction. (See figure 9.) Notice how the collar provides a bearing surface for the uncut edge of board, in addition to its use as a spacer in vertical positioning of the cutter.

2. **Mount the desired cutter on the spindle** on one of the keyed washers provided, followed with a second keyed washer on top of cutter. Install necessary collars and lock the cutter securely on spindle with the hex nut, by holding the spindle with a screwdriver and tightening the hex nut with the wrench provided.
3. **Adjust spindle height**, with elevating control lever, to cut the "shape" at desired position on work piece and tighten elevating lock knob.

4. **Cut the work-piece to size**, so the shaping cut will be as light as possible to produce the desired pattern.

**CAUTION:** Do not attempt to use the shaper for sizing a work piece.

5. **Set the fence faces** so the cutter projects far enough beyond them to produce the desired depth of cut. If the cutter is set to remove only a portion of the edge of the work piece, the two fence faces should be set even with each other. (See figure 10.)

6. **If the cut removes material over the entire edge**, thus reducing the width of the work piece, set the out-feed fence face ahead of the in-feed face enough to provide a contact surface for the work after it passes the cutter. This setting is necessary to produce a straight cut.

7. **Slide each fence face in as close to the cutter as possible**, but do not permit the cutter to strike fence faces.

8. **Set the hold-down and hold-in fingers** in proper position to press the work against both the table and fence, as it is being fed into the cutter.

**NOTE:** It is very good practice to make a trial cut on a piece of scrap wood as a double check on the set-up before using the actual work piece.

9. **Feed work piece against rotation of cutter**, using a smooth, even pressure. Experience will soon reveal the best rate of feed for producing the smoothest cut.

10. **An unlimited variety of shapes** may be produced with the shaper by changing the height of cutter in relation to the work-piece, and by using various combinations of cutters on successive passes.

11. **To make irregular shaping cuts**, remove the fence assembly, select the collar that will position the cutter to obtain the desired pattern, and lock the collar and cutter on the spindle.

**NOTE:** A collar may be located above, below or between the two cutters selected.

12. **The guide post should be used as a pivot** to support the work until it has been fed into the collar. The guide post may be located in either of the two threaded holes next to the table opening, depending upon the direction of rotation. Swing the work away from the post after the cut is started.

13. A miter gauge attachment available as an accessory (which slides in the table slot) should be used to hold the work when shaping ends of narrow stock.
14. In addition to the above, the following operations are some which can be performed on the shaper — shaping with a pattern, tongue and groove joints, reeding and fluting, planing, etc.

### ADJUSTMENTS FOR USE OF MITER GAUGE

**NOTE:** After a few hours of operation, tighten both pulley set screws securely with the Allen wrenches provided. When using a miter gauge, the fence must be positioned parallel with the miter slot in the table. Adjustment (if necessary) may be made as follows:

1. Position fence faces in the same plane by using a straightedge and adjusting the knurled adjusting knob. (See figure 10.)
2. Loosen fence attaching bolts and shift the complete fence assembly until both fence faces are the same distance from the miter slot. These measurements must be made accurately. (See figure 11.)
3. Tighten fence attaching bolts after fence has been correctly positioned.
4. Check this adjustment to make sure it did not change after tightening bolts.
5. Lock all controls securely after desired settings have been completed.

### SAFETY HINTS

1. A keyed washer should always be placed immediately below and on top of the cutter.
2. Always use a push block rather than allowing the hands to get closer than three inches to the cutter on narrow and irregular cuts.
3. Be sure to stop the shaper when making adjustments, or when changing settings.
4. Do not wear dangling neck ties, loose baggy sleeves, etc., while operating the shaper.

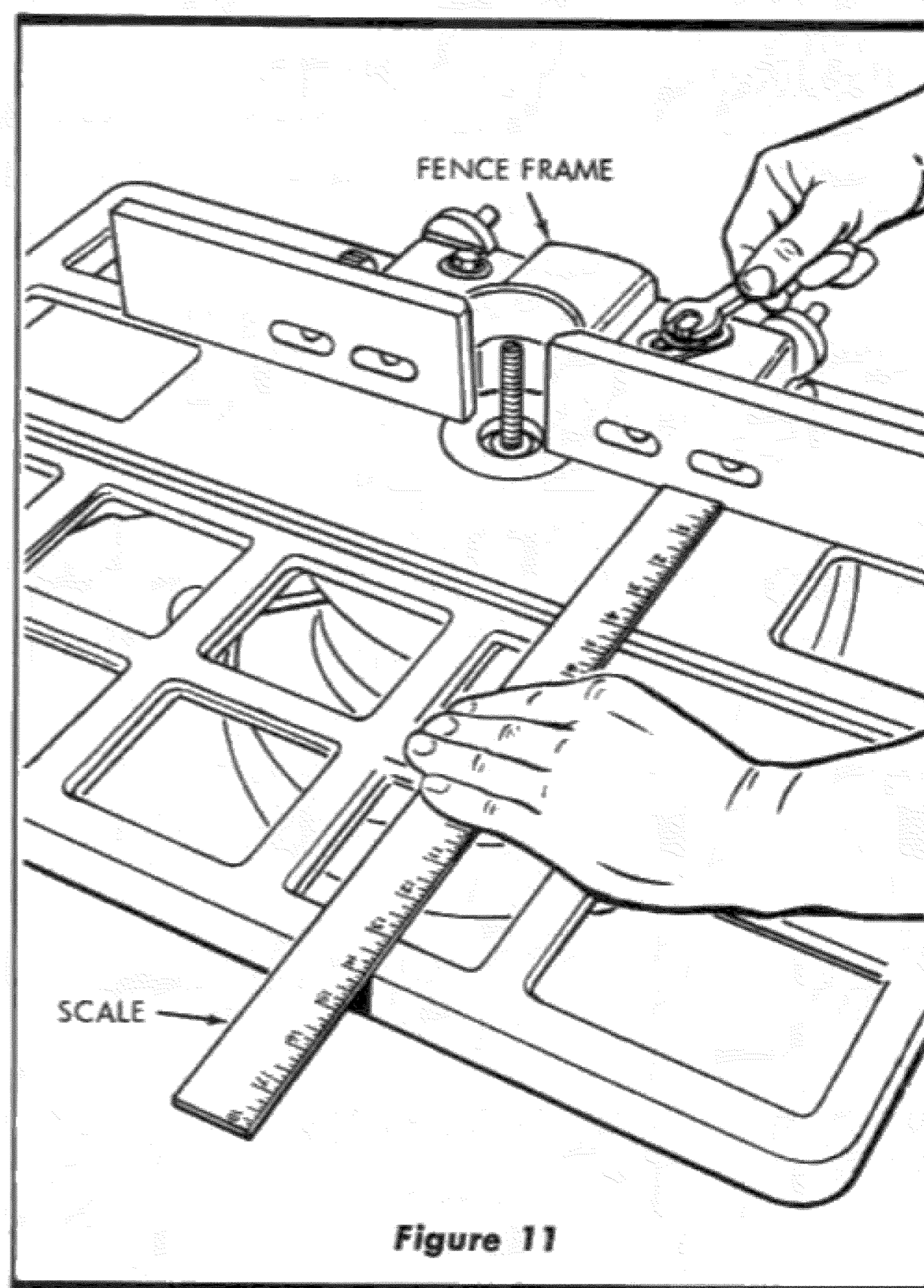


Figure 11

### CRAFTSMAN BENCH POWER TOOL GUARANTEE

We guarantee all Craftsman Shapers to be free from defects in material and workmanship. When properly used, cared for and maintained, we will replace or repair at our option and install without cost to you, for a period of one (1) year from date of sale, any part which proves, upon our examination, to be defective under normal use. This guarantee doesn't apply to Shapers used in rental service.

**SEE PAGE 10 FOR TROUBLE SHOOTING CHART**

**PARTS LIST FOR CRAFTSMAN SHAPER  
MODEL No. 113.23940**

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN ON THIS LIST:

1. THE PART NUMBER
2. THE PART NAME

3. THE MODEL NUMBER — 113.23940
4. THE NAME OF ITEM — SHAPER

Always order by Part Number — not by Key Number

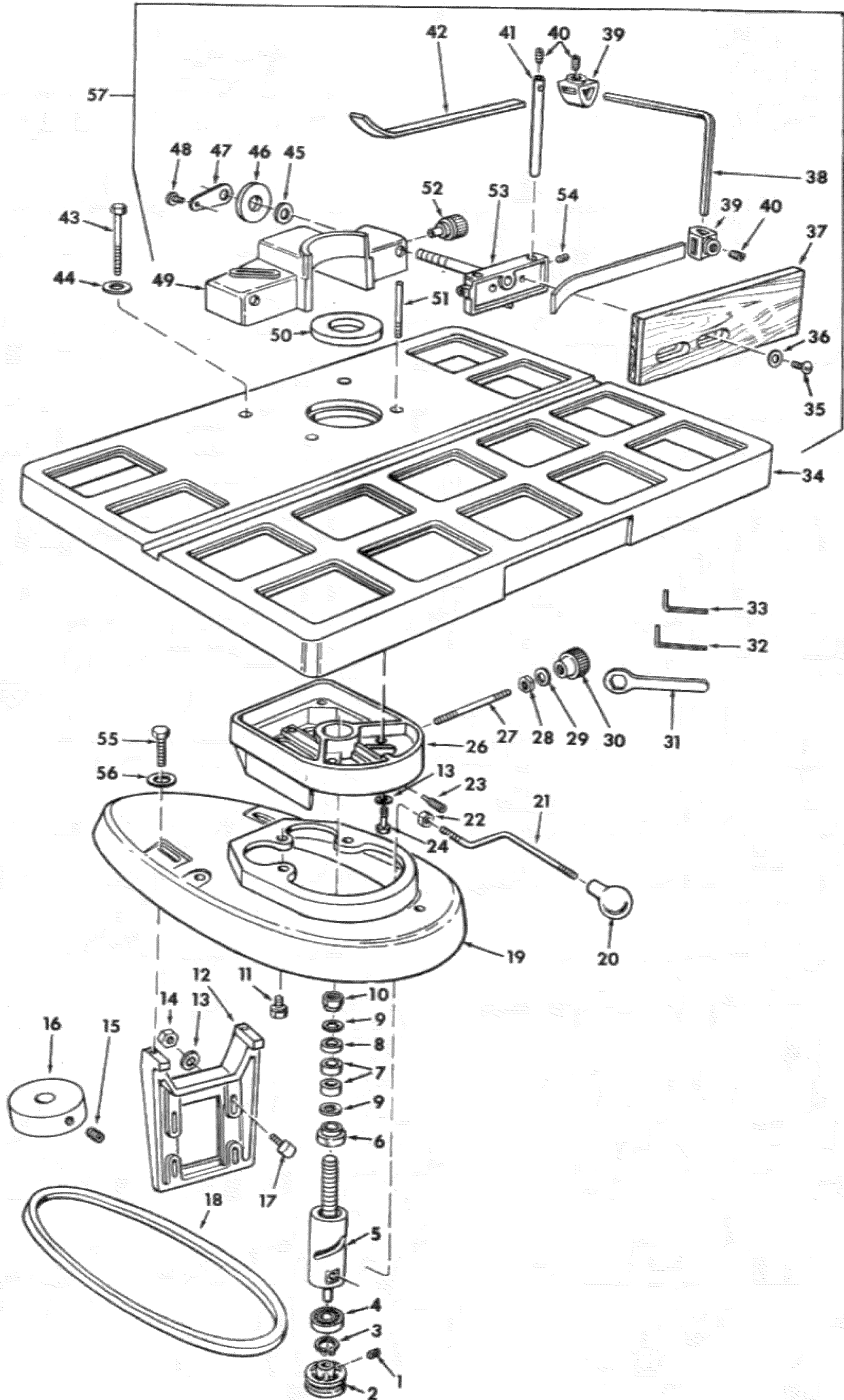
Key No.	Part No.	Description	Key No.	Part No.	Description
1	115321	*Screw, Set 5/16-18 x 5/16, Soc. Hd. Cup Pt.	31	38713	Wrench
2	18035-A	†Pulley, 2 Inch Tool, (w/Set Screw)	32	37837	*Wrench, Hex., 5/32
3	39814	Ring, Retaining	33	37887	*Wrench, Hex., 1/8
4	39815	Bearing, Ball	34	39290	Table (Includes Name Plate)
5	39310	Spindle Assy.	35	132266	*Screw, 1/4-20 x 3/4, Fil. Hd.
6	39627	Shield, Retaining	36	60106	*Washer, Plain, 19/32 O.D. x 17/64 I.D.
7	39617	Spacer	37	38533	Face, Fence (Right Hand)
8	39616	Spacer		38532	Face, Fence (Left Hand)
9	39711	Washer, Keyed	38	38615	Arm, Hold Down
10	39615	Nut, Spindle	39	38412	Bracket
11	453068	Screw, Mach., 5/16-18 x 3/4, Hex. Hd. w/Lockwasher	40	179117	*Screw, Set, 1/4-20 x 5/16, Soc. Hd.
12	39217	Plate, Motor Mount	41	38614	Bar, Hold Down
13	118774	*Washer, Plain, 11/32 I.D. x 11/16 O.D. x 1/16	42	38712	Clamp, Hold Down
14	118614	*Nut, Hex., 5/16-18	43	451188	*Screw, 5/16-18 x 2, Hex. Hd. Cap
15	115321	*Screw, Set, 5/16-18 x 5/16, Soc. Hd., Cup Pt.	44	60167	*Washer, Plain, 1-1/16 O.D. x 11/32 I.D.
16	39230	Pulley, Motor (w/Set Screw)	45	18451	Washer, Spring
17	109165	*Bolt, 5/16-18 x 1, Sq. Hd.	46	38612	Knob, Adjusting
18	60166	†Belt, V, 1/2 x 33	47	38711	Bracket, Retaining
19	39215	Base	48	9417636	*Screw, Self-Tapping, No. 10 x 3/8
20	38546	Knob	49	38413	Frame, Fence
21	39628	Rod, Elevating	50	39411	Insert, Table
22	118625	*Nut, Hex. Jam, 3/8-24	51	39613	Pin, Table Dowel
23	38799	Screw, Set, 3/8-24 x 3/4 Dog Pt.	52	38531	Knob
24	60101	*Screw, 5/16-18 x 1-3/4, Hex. Hd. Cap	53	38110	Shoe Assy., Fence
26	39216	Support Table	54	179117	*Screw, Set, 1/4-20 x 5/16, Soc. Hd.
27	39629	Stud, Lock	55	9415838	*Screw, 3/8-16 x 1, Hex. Hd. Cap
29	9419234	*Washer, Plain, 3/4 O.D. x 13/32 I.D.	56	60121	*Washer, Plain, 1-1/8 O.D. x 25/64 I.D.
30	39512	Knob, Lock	57	39300	Fence Assy., Complete
			Not Shown	72000	Instruction Sheet and Parts List

\* Standard Hardware Item — May be Purchased Locally.

† Stock Item — May be secured through the Hardware Departments of most Sears or Simpsons-Sears Retail Stores or Catalog Order Houses.



**PARTS LIST FOR CRAFTSMAN SHAPER  
MODEL No. 113.23940**



## TROUBLE SHOOTING CHART

TROUBLE	PROBABLE CAUSE	REMEDY
<b>Quill and Spindle Assembly actuates too hard.</b>	Set screw engaging slot in quill too tight.	Tighten screw then back it off 1/2 turn. Adjust until action is smooth without end play.
<b>Cutter comes loose during operation.</b>	Keyed washers not properly assembled.	A keyed washer must always be used directly over and under the cutter.
<b>Cutter slow down during operation.</b>	<ol style="list-style-type: none"> <li>1. Work being fed too rapidly.</li> <li>2. Insufficient belt tension.</li> </ol>	<ol style="list-style-type: none"> <li>1. Feed work through more slowly to allow cutter to remove stock smoothly.</li> <li>2. Loosen motor mount plate bolts and move motor slightly toward rear of shaper until belt tension is correct, tighten bolts.</li> </ol>
<b>Binding of Fence Boards when adjusting in or out.</b>	Bottoms of fence faces striking table.	Loosen the two screws through front of face, raise it slightly and tighten screws.
<b>Shaper produces ragged or ripple cuts.</b>	<ol style="list-style-type: none"> <li>1. Work piece not being held firmly against fence.</li> <li>2. Dull cutter.</li> <li>3. Belt slipping — causing cutter speed to vary.</li> <li>4. Cutter blades not concentric. (Blade segments have uneven lengths.)</li> <li>5. Work being fed too rapidly.</li> <li>6. Quality of wood not sufficient to produce desired results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set hold-in and hold-down fingers.</li> <li>2. Sharpen or replace cutter.</li> <li>3. Adjust belt for proper tension.</li> <li>4. Replace or resharpen cutter.</li> <li>5. Feed work through slow enough to produce smooth cut.</li> <li>6. Use a better grade of material.</li> </ol>
<b>Shaper produces a smooth cut, but does not hold a straight edge.</b>	<ol style="list-style-type: none"> <li>1. Fence faces improperly set.</li> <li>2. Quill lock knob not tight.</li> <li>3. Work piece not held snugly against fence.</li> <li>4. Work piece not held snugly against table.</li> <li>5. Work being fed too rapidly.</li> <li>6. Attempting to remove more material than required to produce desired shape.</li> <li>7. Fence loose on table.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust fence faces.</li> <li>2. Tighten quill lock.</li> <li>3. Increase tension on hold-in finger.</li> <li>4. Increase tension on hold-down finger.</li> <li>5. Feed work through more slowly.</li> <li>6. Saw boards to proper width before shaping edges.</li> <li>7. Tighten fence.</li> </ol>
<b>Width of board varies when using Miter Gauge.</b>	<ol style="list-style-type: none"> <li>1. Fence not properly aligned with miter gauge groove in table.</li> <li>2. Work not held securely in miter gauge.</li> </ol>	<ol style="list-style-type: none"> <li>1. Align fence with table groove.</li> <li>2. Hold work firmly against miter gauge.</li> </ol>



