



OWNER'S MANUAL

JWS-25CS HD Wood Shaper



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Important Information

**2-YEAR
LIMITED WARRANTY**

**JET offers a two-year limited
warranty on this product**

REPLACEMENT PARTS

Replacement parts for this tool are available directly from JET Equipment & Tools. To place an order, call 1-800-274-6848. Please have the following information ready:

1. Visa, MasterCard, or Discover Card number
2. Expiration date
3. Part number listed within this manual
4. Shipping address other than a Post Office box.

REPLACEMENT PART WARRANTY

JET Equipment & Tools makes every effort to assure that parts meet high quality and durability standards and warrants to the original retail consumer/purchaser of our parts that each such part(s) to be free from defects in materials and workmanship for a period of thirty (30) days from the date of purchase.

PROOF OF PURCHASE

Please retain your dated sales receipt as proof of purchase to validate the warranty period.

LIMITED TOOL AND EQUIPMENT WARRANTY

JET makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follows: 2 YEAR LIMITED WARRANTY ON THIS JET PRODUCT. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities or to a lack of maintenance. JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD SPECIFIED ABOVE FROM THE DATE THE PRODUCT WAS PURCHASED AT RETAIL. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to an authorized service station designated by our Auburn office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, JET will either repair or replace the product or refund the purchase price, if we cannot readily and quickly provide a repair or replacement, if you are willing to accept such refund. JET will return repaired product or replacement at JET's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of JET's warranty, then the user must bear the cost of storing and returning the product. This warranty gives you specific legal rights, and you have other rights, which vary, from state to state.

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WARNING

Wear eye protection.

Be sure keyed washer is directly under the spindle nut and the spindle nut is tight.

Feed the workpiece against the rotation of the cutter.

Do not use awkward hand positions.

Keep fingers away from the revolving cutter. Use fixtures when necessary.

Use the overhead guard when the adjustable fence is not in place.

- **KEEP GUARDS IN PLACE** and in working order.
- **REMOVE ADJUSTING KEYS AND WRENCHES.** Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
- **KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- **DON'T USE IN A DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
- **KEEP CHILDREN AWAY.** All visitors should be kept a safe distance from the work area.
- **MAKE THE WORKSHOP KIDPROOF** with padlocks, master switches, or by removing starter keys.
- **DON'T FORCE THE MACHINE.** It will do the job better and safer at the rate for which it was designed.
- **USE THE RIGHT MACHINE.** Don't force a machine or attachment to do a job for which it was not designed.
- **USE THE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your machine will draw. An undersized cord will cause a drop in the line voltage resulting in power loss and overheating. The table on page two shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge, the heavier the cord.
- **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- **ALWAYS USE SAFETY GLASSES.** Also use face or dust masks if the cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.

- **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate the tool.
- **DON'T OVERREACH.** Keep proper footing and balance at all times.
- **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- **ALWAYS DISCONNECT THE MACHINE FROM THE POWER SOURCE BEFORE SERVICING.**
- **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure the switch is in the off position before plugging in.
- **USE RECOMMENDED ACCESSORIES.** Consult the operator's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
- **NEVER STAND ON A MACHINE.** Serious injury could occur if the machine tipped or if the blade is unintentionally contacted.
- **CHECK DAMAGED PARTS.** Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function - check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
- **DIRECTION OF FEED.** Feed work into the cutter against the direction of rotation of the cutter only.
- **NEVER LEAVE THE MACHINE RUNNING UNATTENDED. TURN POWER OFF.** Don't leave the machine until it comes to a complete stop.

Volts	Total Length of Cord in Feet			
	240V	50	100	200
		AWG		
	14	12		Not Recommended

Specifications:

JWS-25CS

Stock Number.....	708322
Spindle Speeds	8,000 & 10,000 RPM
Table Size	25" x 25"
Table T-Slot.....	3/8" x 3/4" T-slot
Table Opening Diameter.....	7"
Insert Opening Diameter.....	1 5/8", 3", 3 1/2"
Fence Size (2)	9 1/2" x 2 3/4"
Spindle Size	1/2" & 3/4"
Under Nut Capacity	(1/2") 2 3/4", (3/4") 3"
Spindle Travel	3"
Table Height	34"
Overall Dimensions	26"W x 26"D x 44"H
Dust Chute Diameter	4"
Motor	3 HP, 1Ph, 230V Only
Net Weight (approx.)	320 lbs.
Shipping Weight (approx.)	340 lbs.

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The specifications in this manual are given as general information and are not binding. JET Equipment and Tools reserves the right to effect, at any time and without prior notice, changes or alterations to parts, fittings, and accessory equipment deemed necessary for any reason whatsoever.

Unpacking and Cleanup

1. Finish removing all contents from the shipping container. Do not discard any shipping material until the shaper is set up and running.
2. Inspect contents for shipping damage and report any damage to your distributor.
3. Clean all protected parts with kerosene. Do not use gasoline, paint thinner, or any cellulose-based solvent. These will damage painted surfaces and melt plastic.

Contents of the Shipping Container

1. Shaper

Box 1

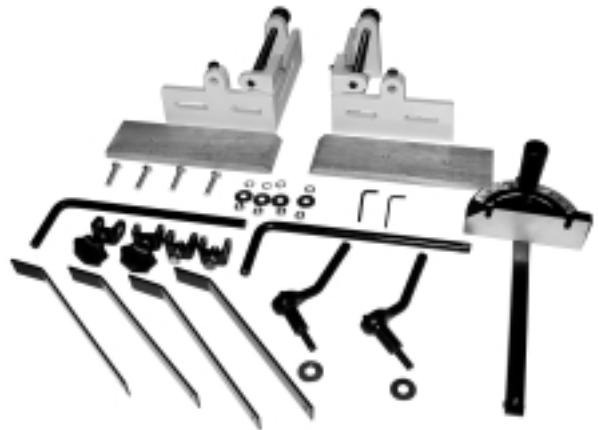
1. Dust Chute
2. Ratcheting Handles
2. Handwheel Handles
2. 1/2" & 3/4" Spindles
2. Knobs
2. Washers
1. Draw Bar & Nut
1. Spindle Guard Assembly
1. Arbor Wrench
1. Open End Wrench



Contents of Box 1

Box 2

2. Fence Assemblies
1. Miter Gauge Assembly
2. Angle Hex Wrenches
2. Hold-down Assemblies
1. Starting Pin (not shown)



Contents of Box 2

Box 3

1. Extension Wing (not shown)

Box 4

1. Rear Door (not shown)
2. Pins (not shown)

Assembly

1. Attach table extension wing to the shaper table using three hex cap bolts and three washers.
2. Attach the rear door to the shaper cabinet using two pins.
3. Attach the chrome handle to the raising and lowering handwheel located on the front of the machine.
4. Attach the plastic handle to the motor bracket plate.
5. Place the dust chute (A, Fig. 1) on the table and secure by threading two ratcheting handles (B, Fig. 1) into the tabletop.
6. Secure the spindle guard assembly to the dust chute using two knobs and two washers (C, Fig. 1). **Note:** You should first attach the wood piece to the two brackets with four wood screws. Then attach the wood and brackets to the plate guard using two screws and washers.
7. Place the fence bracket assembly (A, Fig. 2) on the table and secure by threading ratcheting handle (B, Fig. 2) into dust chute.
8. Tighten hex cap bolt (C, Fig. 2) into the dust chute using a 14mm wrench.
9. Attach the wooden fence (D, Fig. 2) to the fence bracket assembly using two countersink flat head screws (E, Fig. 2), two large flat washer, two lock washers and two hex nuts.
10. Feed the guide support (F, Fig. 2) into the fence assembly and secure with a hex cap screw (G, Fig. 2).
11. Slide the two brackets (H, Fig. 2) onto the guide supports. Place the guide plates (I, Fig. 2) between the brackets and the supports. Tighten knob and hex cap bolt to secure the guide plate in place. **Note:** Repeat for opposite side fence

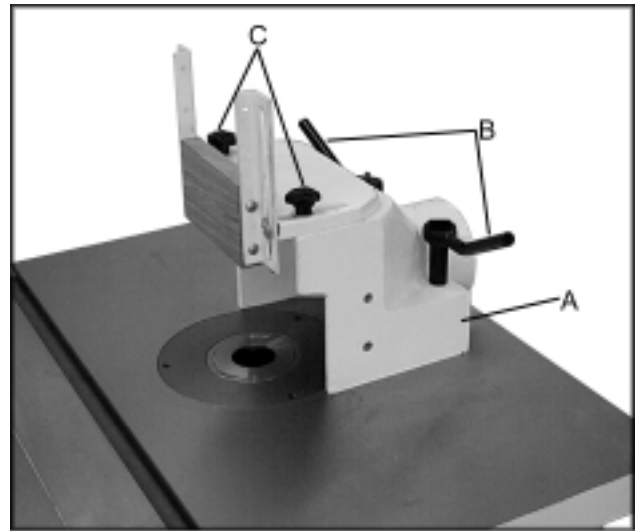


Fig. 1

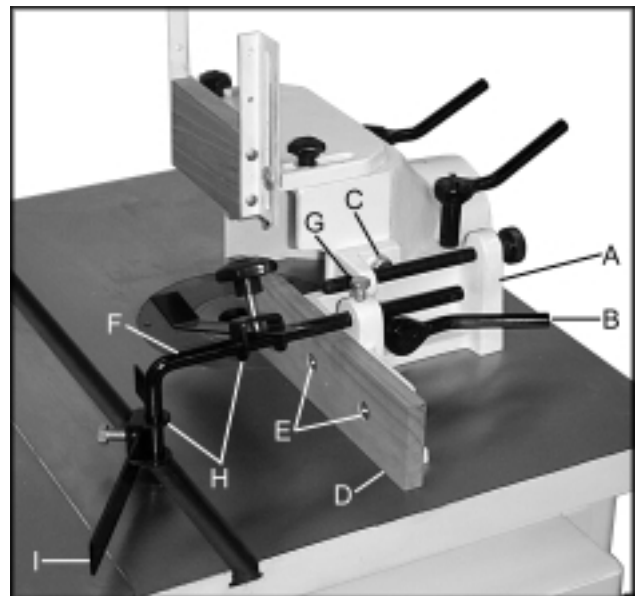


Fig. 2

Electrical Connections

WARNING

**All electrical connections must be done by a qualified electrician!
Failure to comply may cause serious injury and/or damage to property!**

The JWS-25CS is rated at 230V single phase only. The machine must be properly grounded.

Electrical Controls

The shaper is equipped with a push-button control system and reversing switch. The green start and red stop push buttons are mounted in a control enclosure on the front of the machine.

To reverse the rotation of the spindle, shut off the motor, allow motor to come to a complete stop, and rotate the reversing switch.

Spindle Installation and Removal

WARNING

**All adjustments to the machine must be made with the power off and unplugged from the power source!
Failure to comply may result in serious injury!**

To install:

1. The shaper comes with a 1/2" and 3/4" spindle assembly.
2. Raise the spindle fully by turning handwheel clockwise.
3. Clean the spindle and spindle housing.
4. Place the spindle into the spindle housing and line up the cut out portion of the spindle with the raised section of the spindle housing.
5. Completely thread the drawbar (Fig. 4) into the spindle through the bottom of the main spindle housing.
6. Tighten the drawbar nut (B, Fig. 4) while holding the spindle nut, or spindle flat (A, Fig. 3). Make sure the left hand thread safety lock nut is installed above the spindle nut, and tightened.

To remove:

1. Raise the spindle fully.

2. Remove two knobs that hold the guard assembly to the dust chute. Place an adjustable wrench on the spindle nut, or spindle flat (A, Fig. 3).
3. Loosen the draw bar nut (B, Fig. 4) with a 14mm wrench, and tap upward lightly with a block of wood to break the spindle loose.
4. Finish removing the draw bar and lift out the spindle from the top.

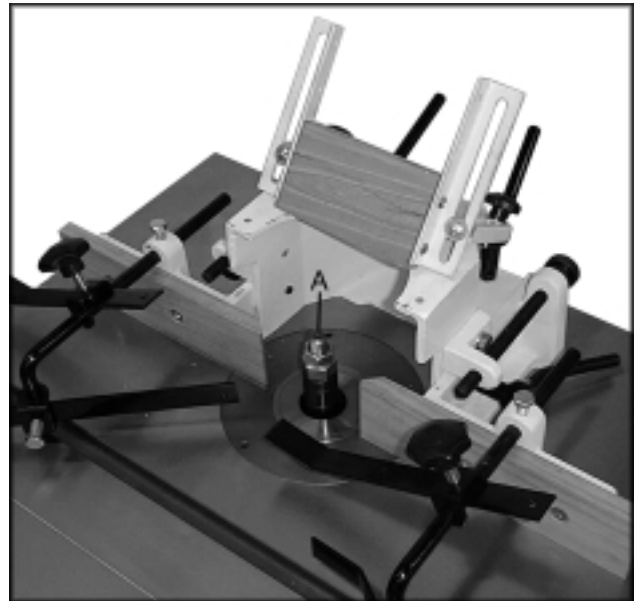


Fig. 3



Fig. 4

Belt Adjustment

WARNING

**All adjustments to the machine must be made with the power off and unplugged from the power source!
Failure to comply may result in serious injury!**

Check the drive belt to insure that the pulleys are accurately aligned. If alignment is required, loosen the setscrew (A, Fig. 5) in the motor pulley and reposition the pulley on the motor shaft.

Speed Change

The JWS-25CS shaper may be operated at 8,000 RPM (lower pulleys) or 10,000 RPM (upper pulleys). To change the spindle speed, loosen the lock handle (B, Fig. 5) and pivot the motor assembly toward the spindle. Reposition the belt to the desired speed and tension the belt.

Squaring the Fence

Periodically the wood fence will have to be squared with the mounting surface and adjusted parallel to each other. To correct, do the following:

1. Check the two ratcheting handles (A, Fig. 6) holding the fence assembly to the table and make sure they are tight.
2. Check the four countersink flat head screws (B, Fig. 6) that secure the wooden fences and make sure they are tight.
3. Take a 2x4 with a jointed edge and clamp it to the shaper table making sure the jointed edge is absolutely on line with the miter groove and close to the fence as shown in figure 6.
4. Loosen the two lock handles (C, Fig. 6) and turn the fence adjustment knobs (D, Fig. 6) to move both fences against the jointed edge of the 2x4. After this adjustment the fences should make flush contact with the jointed edge and square with the table.

Note: Periodically the wooden fences may require resurfacing in order to remain parallel and square with the table.



Fig. 5

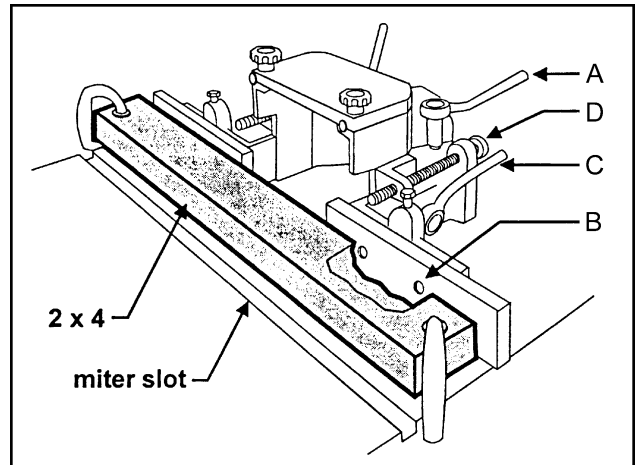


Fig. 6

Fence Adjustments

1. Adjust fences by loosening ratcheting handle (A, Fig. 7), turn knob (B, Fig. 7) to adjust fence in or out, and tighten ratcheting handle.
2. Adjust spindle guard height by loosening two screws (C, Fig. 7), sliding guard up or down to desired height, and then tightening screws.
3. Hold down guides can be adjusted by loosening knob (D, Fig. 7).
4. Hold in guides can be adjusted by loosening hex cap screw (E, Fig. 7).
5. Guide supports can be adjusted by loosening hex cap screw (F, Fig. 7).

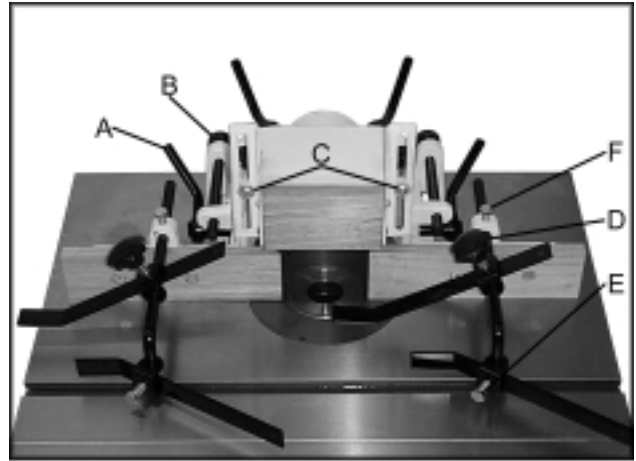


Fig. 7

Changing Cutters

Disconnect the machine from power source, unplug!

Each size spindle is supplied with a safety lock nut with left-hand threads located above the spindle nut. To mount or change cutters, first remove the safety lock nut. Remove the spindle nut by placing one wrench on the spindle nut and another wrench on the flats on top of the spindle. **Always replace the safety lock nut before operating shaper.**

Tool changing must be done with the utmost care keeping in mind the following points.

1. Cutters, collars and spacers mounted on the spindle shaft must have a perfect fit with no room for movement or play between parts.
2. Holes and counterbores of cutters, collars and spacers must be perfectly shaped without rust, dings, nicks or other flaws.
3. Clean all cutters, collars and spacers before installing them on the spindle.
4. Always mount the cutter as low as possible on the spindle.
5. Make sure all parts on the spindle are locked in position before starting the shaper.

Table Ring Removal and Installation

Disconnect the machine from power source, unplug!

The rings should easily lift out of the table insert. The table insert has three setscrews that can raise and lower the insert. The insert should be slightly lower than the table. Keep the rings and insert clean to prevent them from sticking. If the rings are difficult to remove from the insert:

1. Remove any collet or spindle assembly in the spindle.
2. Lower the spindle assembly.
3. Place a scrap piece of wood between the ring to be removed and the spindle.
4. Raise the spindle until the ring lifts out.
5. Clean rings and insert thoroughly.

Operation

Spindle Control

To raise or lower spindle:

1. Loosen spindle lock handwheel found on the left side of the cabinet.
2. Raise or lower spindle to desired height by turning handwheel found on the front side of the cabinet. There is an indicator scale found by the handwheel, which will aid with raising and lowering measurements.
3. Tighten spindle lock handwheel.

Using the Fence as a Guide

Shaping with the fence is the safest and most satisfactory method of working. This method should always be used when work permits. Almost all-straight work can be used with the fence.

1. For most work, where a portion of the edge of the work is not touched by the cutter, both the front and rear fences are in a straight line, as shown in figure 8.

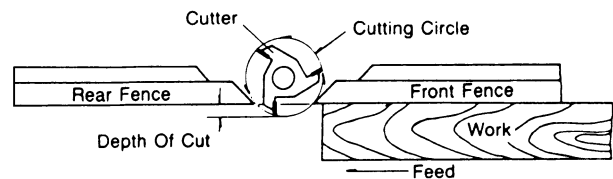


Fig. 8

- When the shaping operation removes the entire edge of the work (i.e. jointing or making a full bead), the shaped edge will not be supported by the rear fence when both fences are in line as shown in Figure 9. In this case, the work piece should be advanced to the position shown in figure 9 and stopped.

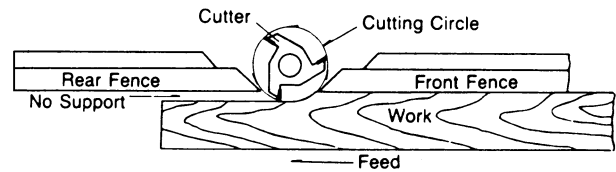


Fig. 9

- The rear fence should be advanced to contact the work as shown in figure 10. The rear fence will then be in line with the cutting circle.

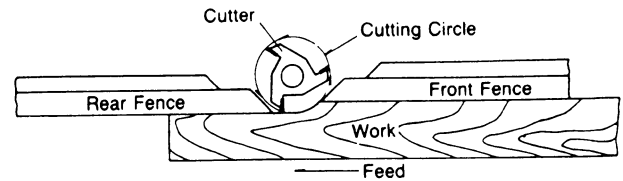


Fig. 10

Shaping with Collars and Starting Pin

Follow these rules when shaping with collars and starting pin for safest operation and best results:

- Collars must be smooth and free from all gum or other substances.
- The edge of the work must be smooth. Any irregularity in the surface, which rides against the collar, will be duplicated on the shaped surface.
- A portion of the work's edge must remain untouched by the cutter so that the collar will have sufficient bearing surface. See figure 11 for an example of **insufficient** bearing surface.

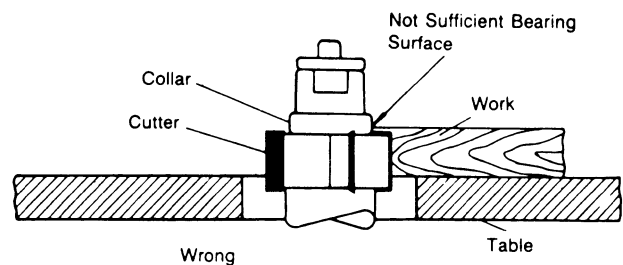


Fig. 11

- Figure 12 illustrates **sufficient** bearing surface.

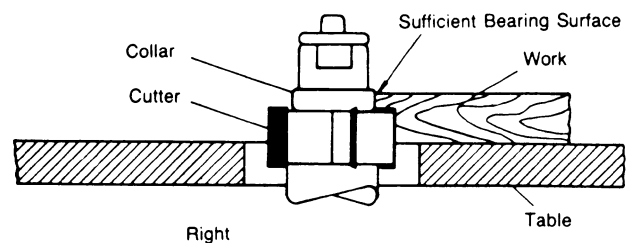


Fig. 12

- Under no circumstances should a small workpiece be shaped against the collars as shown in Figure 13.**

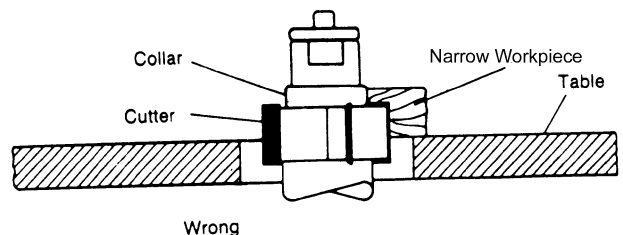


Fig. 13

Collar Positioning

Collars may be positioned above, below, or between two cutters:

1. When using the collar below the cutter, figure 14, the progress of the cut can be observed at all times. A disadvantage of this method is any accidental lifting of the work will gouge the wood and ruin the workpiece.
2. Using the collar above the cutter, figure 15, offers the advantage of the cut not being affected by slight variations in the stock's thickness. However, the cut is not visible during the operation. Another advantage is accidental lifting of the work piece will not gouge the work piece. Simply correct the mistake by repeating the operation.
3. The collar between cutters method, shown in figure 16, has both the advantages and disadvantages of the first two methods. This method is used primarily where both edges of the work are to be shaped.

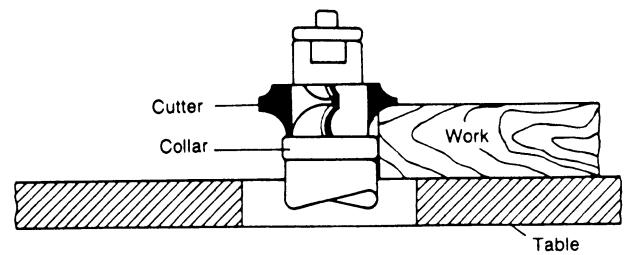


Fig. 14

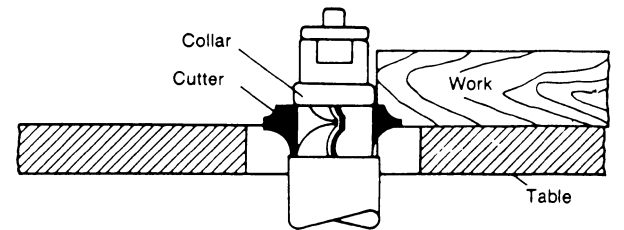


Fig. 15

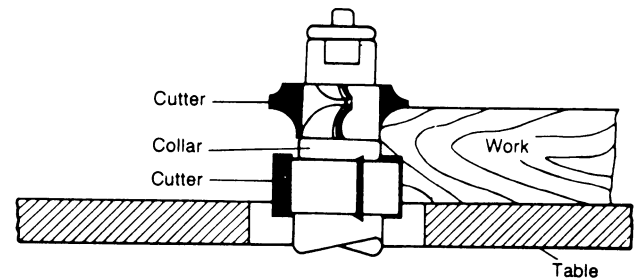


Fig. 16

Starting Pin

WARNING

Using the starting pin should only be attempted by advanced users! If you have never used this method before, it is recommended you get training from a qualified person who is knowledgeable in starting pin shaping! Failure to comply may cause serious injury!

The starting pin is placed in one of the threaded holes in the table:

1. Work should be placed in the first position using the guide pin as support, as shown in figure 17. Then swing the work into the cutter as shown in the second position. The work will now be supported by the collar and starting pin.
2. After the cut has been started, the work is swung free of the starting pin and rides only against the collar as shown in the third position in figure 18. Always feed against the action of the cutter.

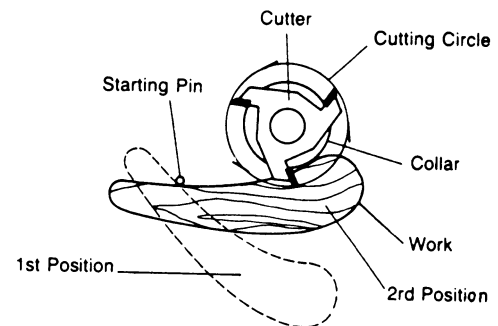


Fig. 17

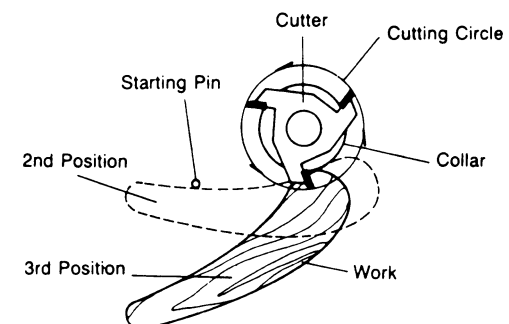


Fig. 18

Troubleshooting

Problem

Possible Causes and Solutions:

Shaper will not start

- *Fuse blown or circuit breaker tripped
Replace fuse or reset circuit breaker
- *Cord damaged
Replace cord
- *Cord unplugged from the power source
Plug in power cord
- *Reversing switch is in the OFF position
Turn switch to forward or reverse

Overload kicks out frequently

- *Extension cord or wiring inadequate size
Replace cord or wiring with proper gauge wiring
- *Feeding stock too fast
Reduce stock feed rate
- *Cutter head is dull
Use only sharp cutters

Cutter does not come up to full speed

- *Shop wire gauge is too small
Replace cord or wiring with proper gauge wire
- *Extension cord too light or too long
Replace with adequate size cord
- *Power source is not adequate
Contact local electrical utility

Cuts are unsatisfactory

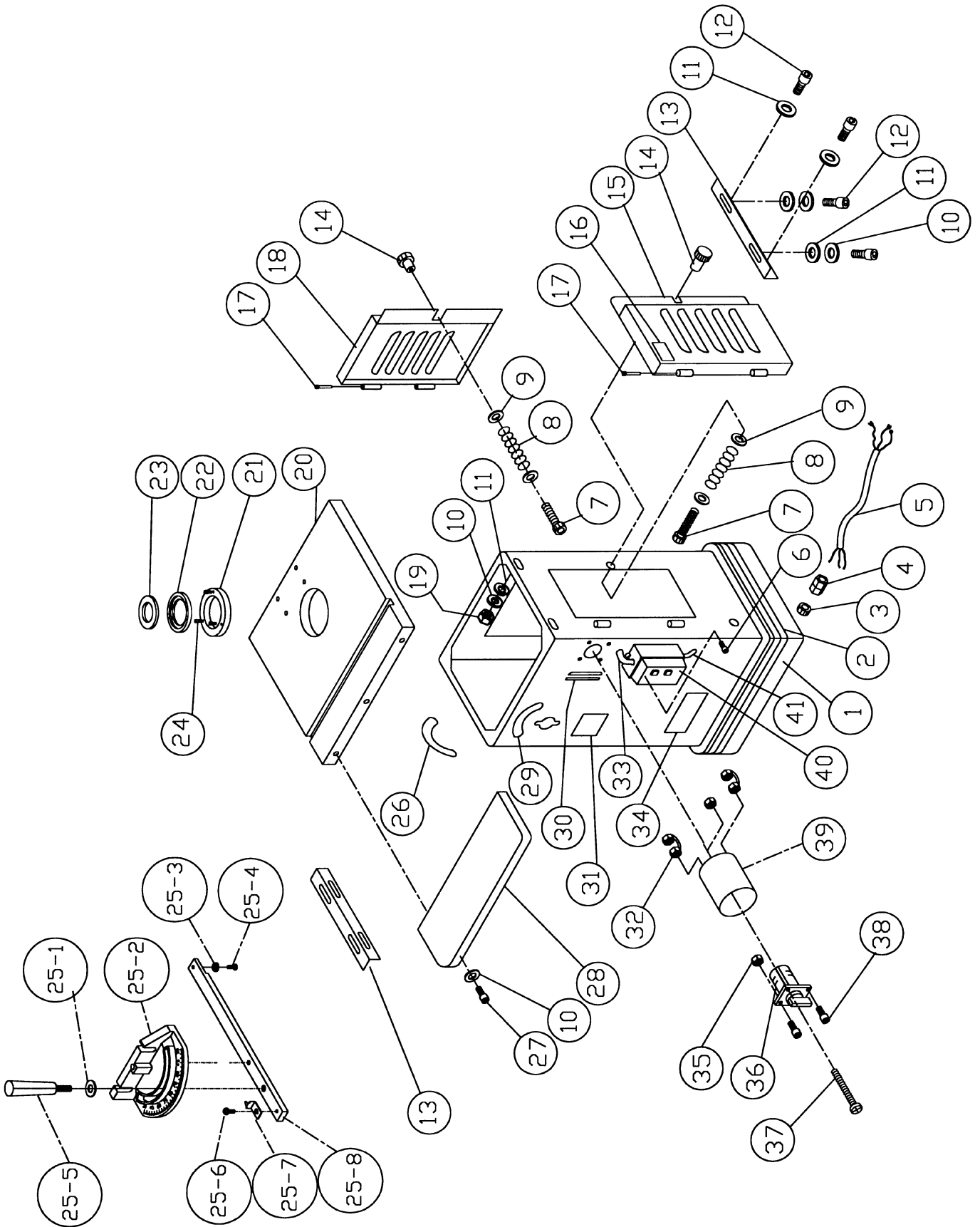
- *Dull cutter
Replace cutter
- *Gum or pitch on cutter
Remove cutter and clean with solvent
- *Cutterhead rotating in the wrong direction
Check for proper rotation at start up
- *Feeding work in the wrong direction
Feed work against the cutter rotation

Machine vibrates

- *Cutterhead damaged
Replace cutterhead
- *Stand on uneven surface
Stand must rest solidly on level surface, bolt to floor if necessary
- *Defective V-belt
Replace V-belt
- *V-belt incorrectly tensioned
Apply proper tension
- *Bent pulley
Replace pulley
- *Motor mounted improperly
Motor must be properly mounted with snug nuts and bolts

Edge splits off on cross grain cut	<ul style="list-style-type: none"> *Characteristic of this type of cut Make cross grain cuts first, then finish cut with the grain Use scrap block to support end of cut
Raised areas on shaped edge	<ul style="list-style-type: none"> *Variation of pressure holding work against cutter Hold work firmly against table and fence Use holddowns
Work pulled from hand	<ul style="list-style-type: none"> *Feeding work in the wrong direction Always feed work against the rotation of the cutterhead
Depth of cut not uniform	<ul style="list-style-type: none"> *Fence misalignment Align outfeed fence *Side pressure not uniform Use holddowns; keep constant pressure against fence
Work burns	<ul style="list-style-type: none"> *Cutting too deep on one pass On hardwoods take light cuts; attain full depth with several passes *Forcing work Feed work slowly and steadily
Cut height not uniform	<ul style="list-style-type: none"> *Variation in pressure holding work to table Keep pressure firm throughout pass Use holddowns Make pass slowly and steadily Keep work under cutter whenever possible
Cuts not smooth	<ul style="list-style-type: none"> *Wrong R.P.M. Use faster speed *Feeding too fast Slow feed speed *Working against the grain Work with the grain whenever possible *Cutting too deep on one pass Take several passes on very deep cuts
Spindle does not raise freely	<ul style="list-style-type: none"> *Sawdust or dirt in raising mechanism Brush or blow out dirt and saw dust

Base Breakdown

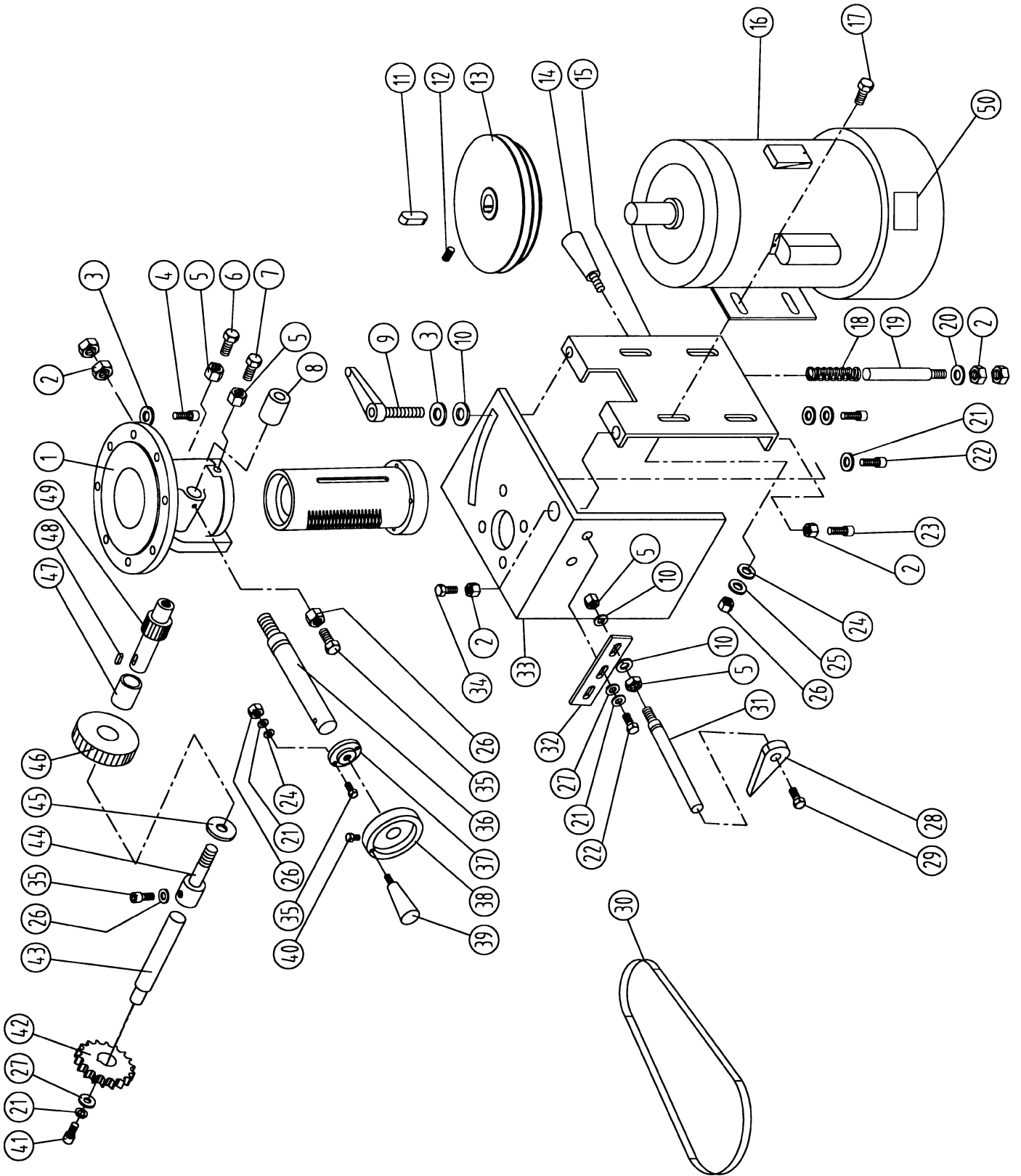


Parts List for the JET JWS-25CS Shaper

Base Assembly

Index No.	Part No.	Description	Size	Qty.
1	JWS25-101	Cabinet		1
2	JWS25-102	JET Stripe		1
3	JWS25-103	Plastic Nut		1
4	JWS25-104	Strain Relief		1
5	JWS25-105	Motor Cord (fwd.-rev. switch to motor)		1
6	JWS25-106	Screw	3/16x3/4	2
7	JWS25-107	Hex Head Bolt	M8x75	2
8	JWS25-108	Spring		2
9	TS-0680031	Washer	5/16	4
10	TS-0720091	Lock Washer	3/8	11
11	TS-0680041	Flat Washer	3/8	12
12	TS-0060051	Hex Head Screw	3/8-16x1	8
13	JWS25-113	Bar		2
14	JWS25-114	Knob		2
15	JWS25-115	Motor Door		1
16	JWS25-116	I.D. Label		1
17	JWS25-117	Door Pin		4
18	JWS25-118	Cabinet Door		1
19	TS-0561031	Hex Nut	3/8-16	4
20	JWS25-120	Table		1
21	JWS25-121	Table Insert		1
22	JWS25-122-1	Table Ring		1
23	JWS25-123-2	Table Ring		1
24	TS-0270061	Socket Set Screw	5/16-18x5/8	3
25	709520	Miter Gauge Assembly (incls. 25-1 – 25-8)		1
25-1	TS-0680031	Flat Washer	5/16	1
25-2	JWS25-125-2	Miter Gauge Body		1
25-3	JWS25-125-3	Washer		1
25-4	JWS25-125-4	Flat Head Screw		1
25-5	JWS25-125-5	Knob		1
25-6	JWS25-125-6	Screw	3/16x1/4	1
25-7	JWS25-125-7	Pointer		1
25-8	JWS25-125-8	Guide Plate		1
26	JWS25-126	Label (spindle lock)		1
27	TS-0060051	Hex Head Bolt	3/8-16x1	3
28	JWS25-128	Extension Wing		1
29	JWS25-129	Label (spindle direction)		1
30	JWS25-130	Scale		1
31	JWS25-131	Warning Label		1
32	JWS25-132	Strain Relief Bushing		2
33	JWS25-133	Power Cord		1
34	JWS25-134	Name Plate		1
35	JWS25-135	Hex Nut		4
36	JWS25-136	Fwd.-Rev. Switch Assembly		1
37	JWS25-137	Screw	5/32x4	2
38	JWS25-138	Flat Head Screw	5/32x3/4	2
39	JWS25-139	Switch Cover		1
40	JWS25-140	Magnetic Switch Assembly		1
41	JWS25-141	Switch Cord (for.-rev. switch to magnetic switch)		1
42	JWS25-142	Starting Pin		1

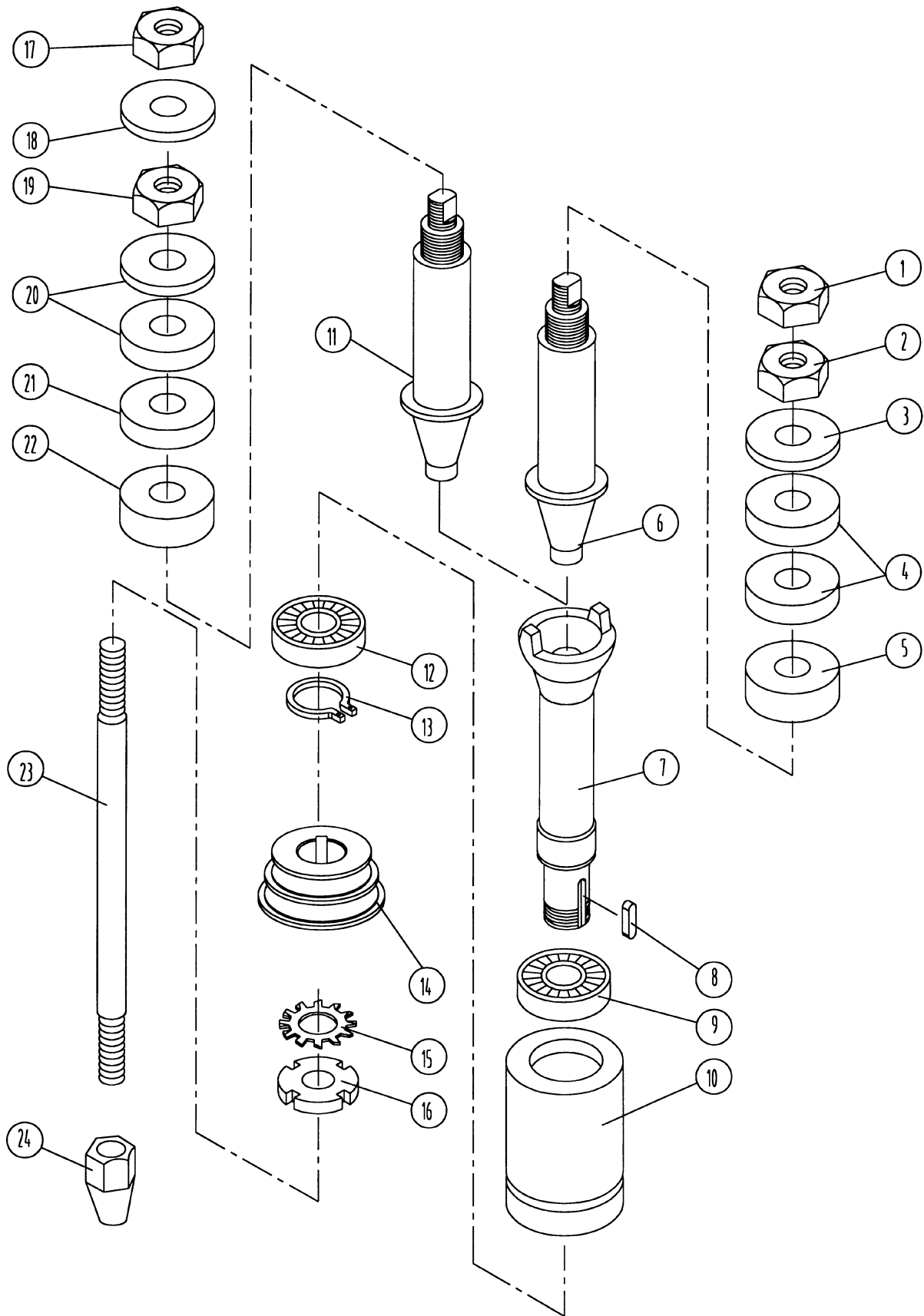
Motor Assembly



Motor Assembly

Index No.	Part No.	Description	Size	Qty.
1	JWS25-201	Spindle Housing		1
2	JWS25-202	Hex Nut	1/2	6
3	TS-0720091	Lock Washer	3/8	5
4	TS-0060051	Hex Head Screw	3/8-16x1	8
5	TS-0561031	Hex Nut	3/8-16	7
6	TS-0090061	Hex Head Bolt	3/8x1-1/4	1
7	TS-0090061	Hex Head Bolt	3/8x1-1/4	1
8	JWS25-208	Collar		1
9	JWS25-209	Lock Handle		1
10	TS-0680041	Flat Washer	3/8	3
11	JWS25-211	Key		1
12	TS-0270032	Socket Set Screw	5/16-24x3/8	1
13	JWS25-213	Motor Pulley		1
14	JWS25-214	Knob		1
15	JWS25-215	Motor Plate		1
16	JWS25-216	Motor	3HP, 1Ph 230V	1
17	JWS25-217	Carriage Bolt	5/16x3/4	4
18	JWS25-218	Spring		1
19	JWS25-219	Shaft		1
20	TS-0680061	Flat Washer	1/2	1
21	TS-0720071	Lock Washer	1/4	7
22	TS-0050031	Hex Head Screw	1/4-20x3/4	6
23	TS-0070031	Hex Head Screw	1/2-13x1-1/2	1
24	TS-0680031	Flat Washer	5/16	6
25	TS-0720081	Lock Washer	5/16	6
26	TS-0561021	Hex Nut	5/16-18	8
27	TS-0680021	Flat Washer	1/4	3
28	JWS25-228	Pointer		1
29	JWS25-229	Flat Head Screw	M5x0.8x10	1
30	VB-K23	V-Belt	K-23	1
31	JWS25-231	Shaft		1
32	JWS25-232	Plate		1
33	JWS25-233	Motor Plate Bracket		1
34	JWS25-234	Hex Cap Screw	1/2	1
35	TS-0051051	Hex Cap Screw	5/16-18x1	4
36	JWS25-236	Shaft		1
37	JWS25-237	Flange		1
38	JWS25-238	Handle Wheel		1
39	JWS25-239	Handle		1
40	TS-0270061	Socket Set Screw	5/16-18x5/8	1
41	TS-0050051	Hex Cap Screw	1/4-20x1	1
42	JWS25-242	Gear		1
43	JWS25-243	Lock Bar		1
44	JWS25-244	Lock Screw		1
45	JWS25-245	Washer		1
46	JWS25-246	Gear		1
47	JWS25-247	Collar		1
48	JWS25-248	Key		1
49	JWS25-249	Gear Shaft		1
50	JWS25-250	Motor Name Plate		1

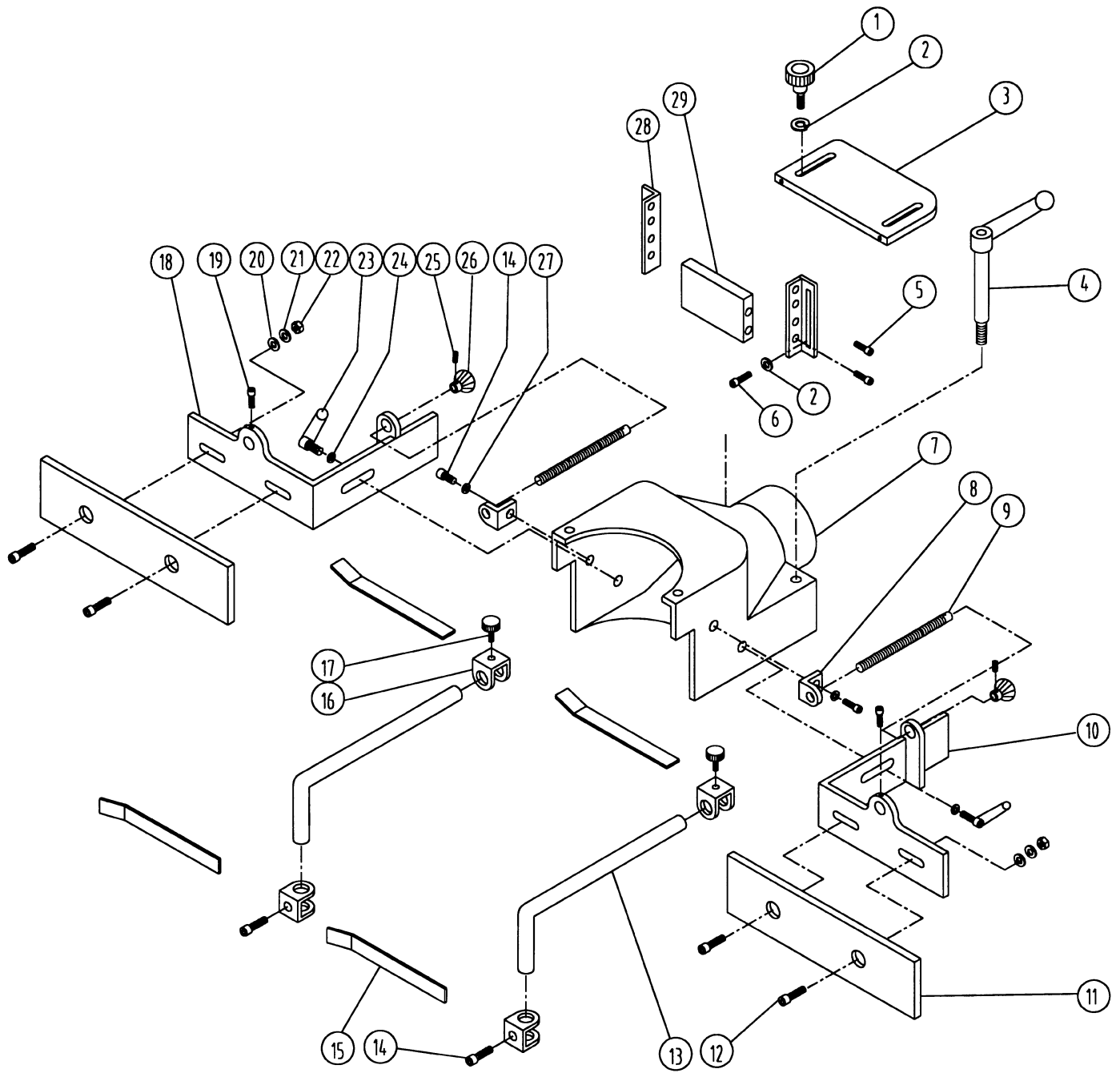
Spindle Assembly



Spindle Assembly

Index No.	Part No.	Description	Size	Qty.
1	JWS25-301	Hex Nut	5/8 L.H.	1
2	JWS25-302	Hex Nut	3/4 R.H.	1
3	JWS25-303	Spacer	3/4x1/2	1
4	JWS25-304	Spacer	3/4x3/4	2
5	JWS25-305	Spacer	3/4x1	1
6	709526	Spindle	3/4	1
7	JWS25-307	Main Spindle		1
8	JWS25-308	Key	M5x16	1
9	JWS25-309	Ball Bearing		1
10	JWS25-310	Spindle Housing		1
11	709527	Spindle	1/2	1
12	JWS25-312	Ball Bearing		1
13	JWS25-313	Snap Ring	S-25	1
14	JWS25-314	Pulley		1
15	JWS25-315	Gear Washer		1
16	JWS25-316	Lock Nut		1
17	JWS25-317	Hex Nut	3/8	1
18	JWS25-318	Washer		1
19	JWS25-319	Hex Nut	1/2	1
20	JWS25-320	Spacer	1/2x1/2	2
21	JWS25-321	Spacer	1/2x3/4	1
22	JWS25-322	Spacer	1/2x1	1
23	JWS25-323	Draw Bar		1
24	JWS25-324	Taper Nut		1
	JWS25-325	Arbor Wrench (not shown)		1

Fence Breakdown



Fence Assembly

Index No.	Part No.	Description	Size	Qty.
1	JWS25-401	Knob		2
2	TS-0680021	Flat Washer	1/4	4
3	JWS25-403	Plate Guard		1
4	JWS25-404	Ratcheting Handle		2
5	JWS25-405	Wood Screw		4
6	JWS25-406	Screw	1/4-20x1/2	2
7	JWS25-407	Dust Chute		1
8	JWS25-408	Bracket Screw Guide		2
9	JWS25-409	Screw Guide		2
10	JWS25-410	Bracket Fence R.H.		1
11	JWS25-411	Fence		2
	709529	Fence Assembly		
12	JWS25-412	Flat Head Screw	5/16x1-1/2	4
13	JWS25-413	Guide Support		2
14	TS-0060051	Hex Cap Bolt	3/8-16x1	4
15	JWS25-415	Guide Plate		4
	709522	Work Hold Down		
16	JWS25-416	Slide Block		4
17	JWS25-417	Knob		2
18	JWS25-418	Bracket Fence L.H.		1
19	JWS25-419	Hex Head Bolt	3/8x3/4	2
20	TS-0680031	Flat Washer	5/16	4
21	TS-0720081	Lock Washer	5/16	4
22	TS-0561021	Hex Nut	5/16-18	4
23	JWS25-423	Ratcheting Handle		2
24	TS-0680041	Flat Washer	3/8	2
25	TS-0267021	Socket Set Screw	1/4x1/4	2
26	JWS25-426	Knob		2
27	TS-0720091	Lock Washer	3/8	2
28	JWS25-428	Angle Fence		2
29	JWS25-429	Guard		1

Optional Accessories

709529 Fence Assembly
 709528 Hardware Kit
 709527 1/2" Spindle
 709526 3/4" Spindle
 709525 1/2" Router Collet
 709524 1/4" Router Collet
 709523 3/8" Router Collet
 709522 Work Hold Down
 709521 1" Spindle
 709520 Miter Gauge

Electrical Schematic

