



Operating Instructions and Parts Manual

Wood Shaper

Model JWS-25CS



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1.0 Warranty and Service

JET warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

Warranty Period

The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

Who is Covered

This warranty covers only the initial purchaser of the product from the date of delivery.

What is Covered

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

Warranty Limitations

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

How to Get Technical Support

Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

More Information

JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

How State Law Applies

This warranty gives you specific legal rights, subject to applicable state law.

Limitations on This Warranty

JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN 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.

JET sells through distributors only. The specifications listed in JET printed materials and on official JET website are given as general information and are not binding. JET reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by JPW Industries, Inc.

Product Listing with Warranty Period

90 Days – Parts; Consumable items; Light-Duty Air Tools
1 Year – Motors; Machine Accessories; Heavy-Duty Air Tools; Pro-Duty Air Tools
2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes
5 Year – Woodworking Machinery
Limited Lifetime – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools

NOTE: JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.

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3.0 Safety warnings

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 swatches, 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. Table 1 on page 9 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. Nonslip 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.
- Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.

Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
- Do not use this shaper for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
- Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.

Familiarize yourself with the following safety notices used in this manual:

CAUTION This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

WARNING This means that if precautions are not heeded, it may result in serious, or possibly even fatal, injury.

4.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model JWS-25CS Shaper. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide years of trouble-free operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or JET. JET can also be reached at our web site: www.jettools.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

 WARNING Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury!

5.0 Specifications

Model number JWS-25CS
Stock number 708322

Motor and electricals:

Motor type totally enclosed fan cooled, induction, capacitor start
Horsepower 3 HP (2.2 kW)
Phase single
Voltage 230V only
Cycle 60Hz
Listed FLA (full load amps) 16 A
Start capacitor 600MFD, 125VAC
Run capacitor 40 μ F, 300VAC
Power transfer v-belt
On/off switch magnetic, push button
Motor speed 3450 RPM
Recommended circuit and fuse/breaker size¹ 30 A

¹ *subject to local/national electrical codes*

Spindle:

Spindle speeds 8,000 and 10,000 RPM
Spindle size 1/2" and 3/4"
Under-nut capacity (1/2") 2-3/4"; (3/4") 3"
Spindle travel 3"

Table and Fence:

Table size 25"L x 25"W
Table height 34"
Table miter slot 3/8" x 3/4" T-slot
Table opening diameter 7"
Insert opening diameter 1-5/8", 3", 3-1/2"
Fence size (x2) 9-1/2"W x 2-3/4"H

Other:

Overall dimensions 26"W x 26"D x 44"H
Dust chute diameter 4"
Net weight (approx.) 320 lb.
Shipping weight (approx.) 340 lb.

The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.

6.0 Setup and assembly

6.1 Shipping contents

(see Figures 1 and 2)

- 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

Box 2

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

Box 3

- 1 Extension Wing (not shown)

Box 4

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



Figure 1

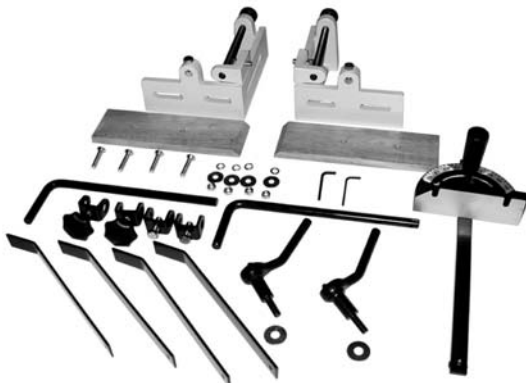


Figure 2

6.2 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.

6.3 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, Figure 1) on the table and secure by threading two ratcheting handles (B, Figure 1) into the tabletop.

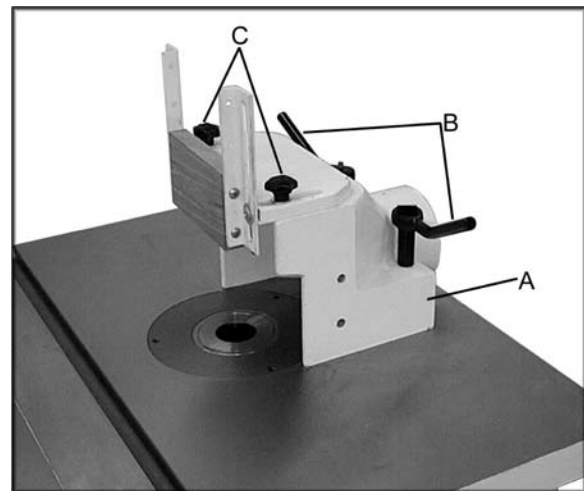


Figure 1

6. Secure the spindle guard assembly to the dust chute using two knobs and two washers (C, Figure 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, Figure 2) on the table and secure by threading ratcheting handle (B, Figure 2) into dust chute.
8. Tighten hex cap bolt (C, Figure 2) into the dust chute using a 14mm wrench.
9. Attach the wooden fence (D, Figure 2) to the fence bracket assembly using two countersink flat head screws (E, Figure 2), two large flat washers, two lock washers and two hex nuts.

10. Feed the guide support (F, Figure 2) into the fence assembly and secure with a hex cap screw (G, Figure 2).
11. Slide the two brackets (H, Figure 2) onto the guide supports. Place the guide plates (I, Figure 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

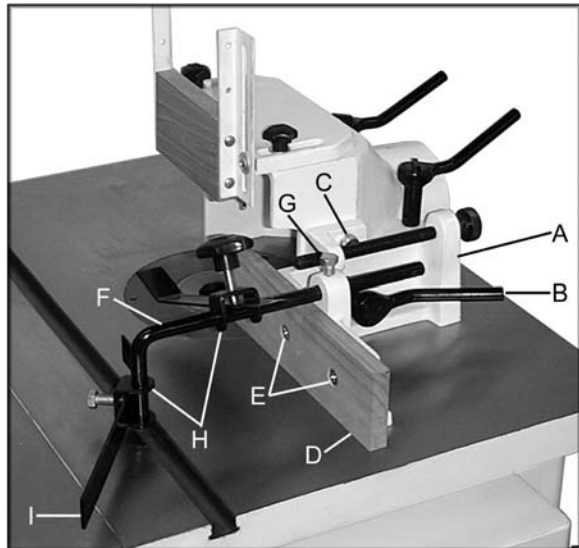


Figure 2

7.0 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 Shaper is rated at 230V single phase only. The machine must be properly grounded.

It is recommended that the shaper be connected to a dedicated 30 amp circuit with a 30 amp circuit breaker or time-delay fuse marked "D". **Local codes take precedence over recommendations.**

7.1 Grounding instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

⚠WARNING Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Failure to comply may cause serious or fatal injury.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

7.2 Extension cords

The use of extension cords is discouraged. Try to position machines within reach of the power source. If an extension cord becomes necessary, make sure it is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Amp Rating		Volts	Total length of cord in feet			
More Than	Not More Than	240	50	100	200	300
			AWG			
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

Extension Cord Recommendations
Table 1

8.0 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.

9.0 Adjustments

⚠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.

9.1 Spindle installation and removal

The shaper comes with a 1/2" and 3/4" spindle assembly.

To install:

1. Raise the spindle fully by turning handwheel clockwise.
2. Clean the spindle and spindle housing.
3. 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.
4. Completely thread the drawbar (Figure 3) into the spindle through the bottom of the main spindle housing.



Figure 3

5. Tighten the drawbar nut (B, Figure 3) while holding the spindle nut, or spindle flat (A, Figure 4). Make sure the left hand thread safety lock nut is installed above the spindle nut, and tightened.

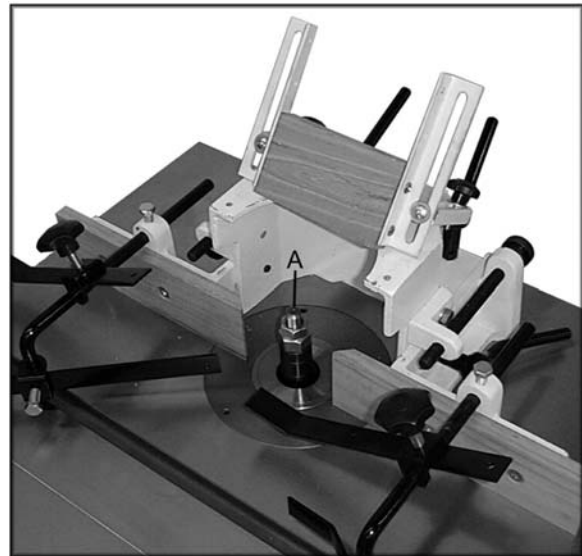


Figure 4

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, Figure 4).
3. Loosen the draw bar nut (B, Figure 3) 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.

9.2 Belt adjustment

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



Figure 5

9.3 Speed Change

Refer to Figure 5.

The JWS-25CS shaper may be operated at 8,000 RPM (lower pulleys) or 10,000 RPM (upper pulleys).

To change spindle speed:

1. Loosen the lock handle (B, Figure 5).
2. Pivot the motor assembly toward the spindle.
3. Reposition the belt to the desired speed.
4. Pivot the motor assembly back to tension the belt. Tighten the lock handle (B).

9.4 Squaring the Fence

Refer to Figure 6.

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, Figure 6) holding the fence assembly to the table and make sure they are tight.
2. Check the four countersink flat head screws (B, Figure 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, Figure 6) and turn the fence adjustment knobs (D, Figure 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.

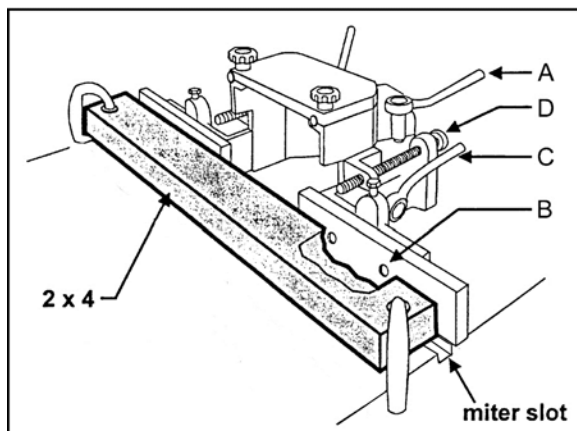


Figure 6

9.5 Fence Adjustments

Refer to Figure 7.

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

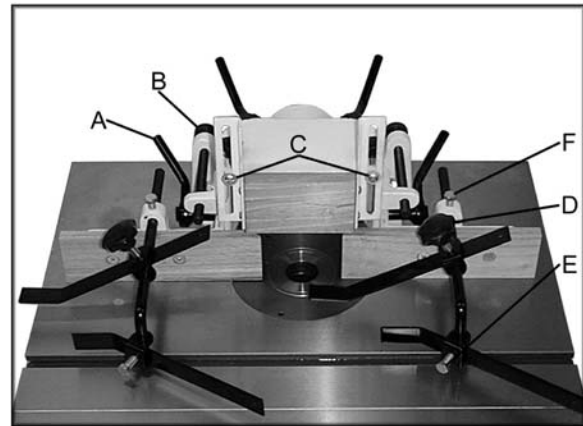


Figure 7

9.6 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 install 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.

9.7 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 of 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.

10.0 Operation

10.1 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.

10.2 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.

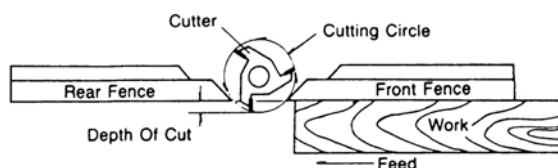


Figure 8

2. 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.

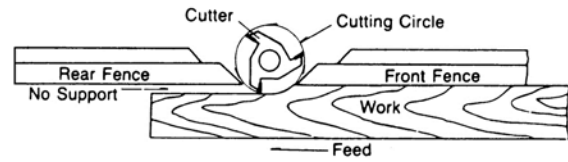


Figure 9

3. 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.

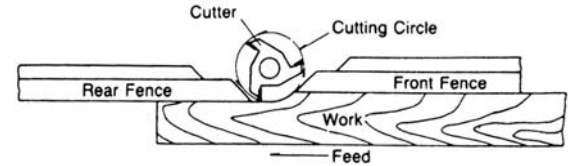


Figure 10

10.3 Shaping with collars and starting pin

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

1. Collars must be smooth and free from all gum or other substances.
2. 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.
3. A portion of the work's edge must remain untouched by the cutter so that the collar will have sufficient bearing surface. Figure 11 shows an example of **insufficient** bearing surface.

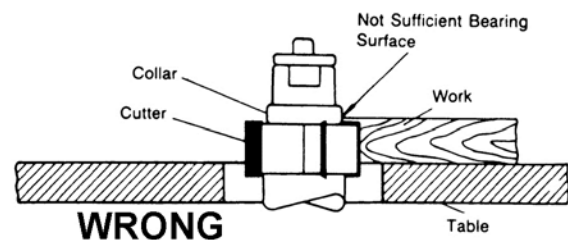


Figure 11

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

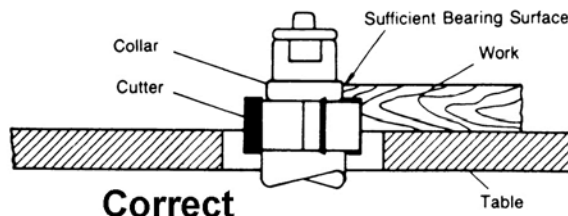
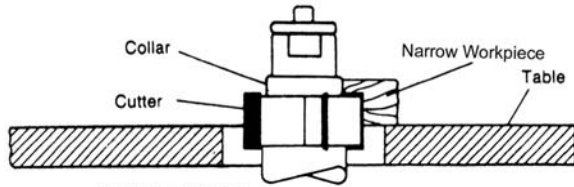


Figure 12

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



WRONG

Figure 13

10.4 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.

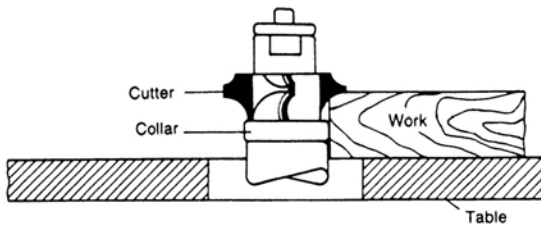


Figure 14

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.

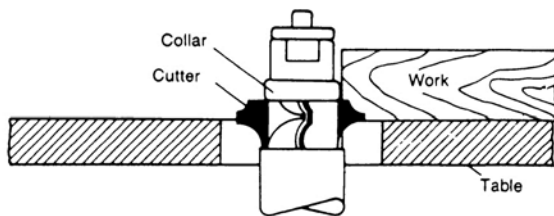


Figure 15

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.

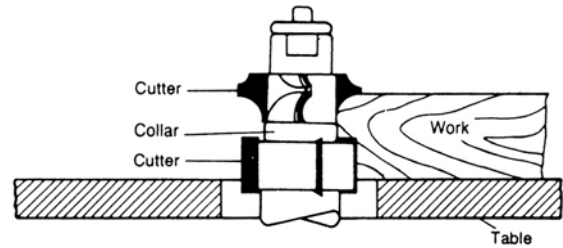


Figure 16

10.5 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.

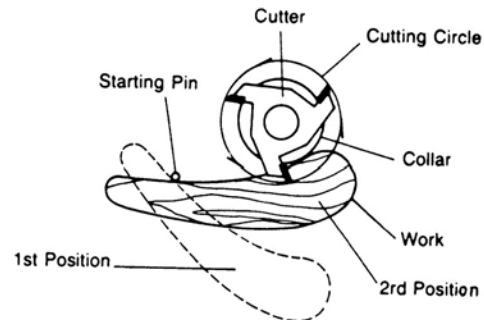


Figure 17

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.

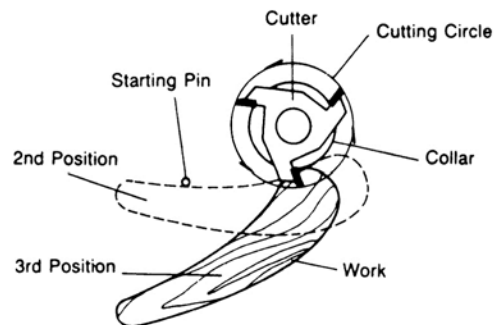


Figure 18

11.0 Troubleshooting the JWS-25CS Shaper

Table 2

Symptom	Possible Cause	Correction
Shaper will not start	Fuse blown or circuit breaker tripped	Replace fuse or reset circuit breaker
	Cord damaged	Replace cord
	Cord unplugged from 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
	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	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	Variation of pressure holding work against cutter	Hold work firmly against table and fence. Use hold-downs.
Work pulled from hand	Feeding work in the wrong direction	Always feed work against the rotation of the cutterhead
Depth of cut not uniform	Fence misalignment	Align outfeed fence
	Side pressure not uniform	Use holddowns; keep constant pressure against fence
Work burns	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	Variation in pressure holding work to table	Keep pressure firm throughout pass. Use hold-downs. Make pass slowly and steadily. Keep work under cutter whenever possible.

Symptom	Possible Cause	Correction
Cuts not smooth	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 rise freely	Sawdust or dirt in raising mechanism	Brush or blow out dirt and saw dust

12.0 Optional accessories

These accessory items are purchased separately. Contact your dealer to order, or call JET at the phone number on the cover.

709527 1/2" Spindle

709526 3/4" Spindle

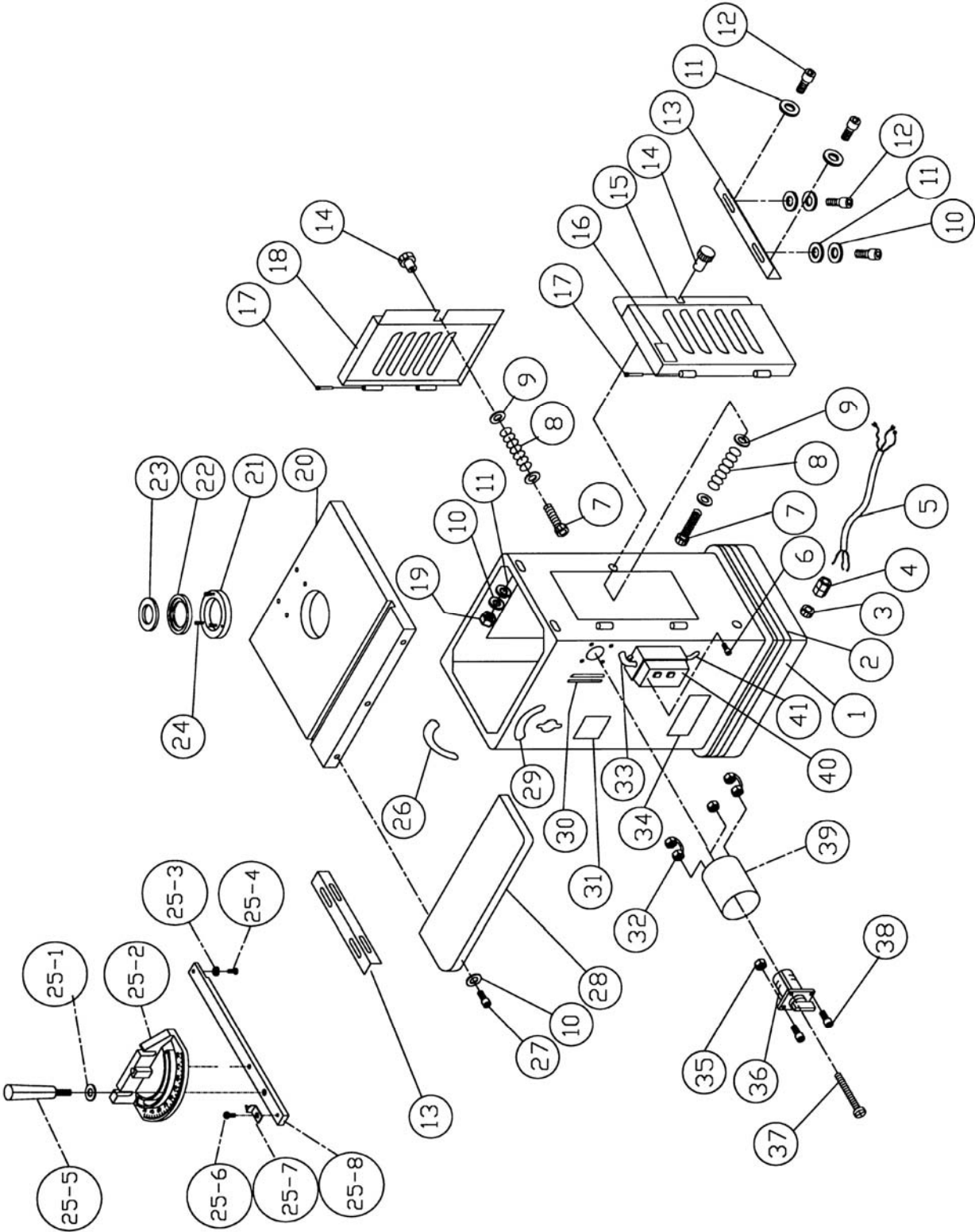
709525 1/2" Router Collet

709524 1/4" Router Collet

13.0 Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

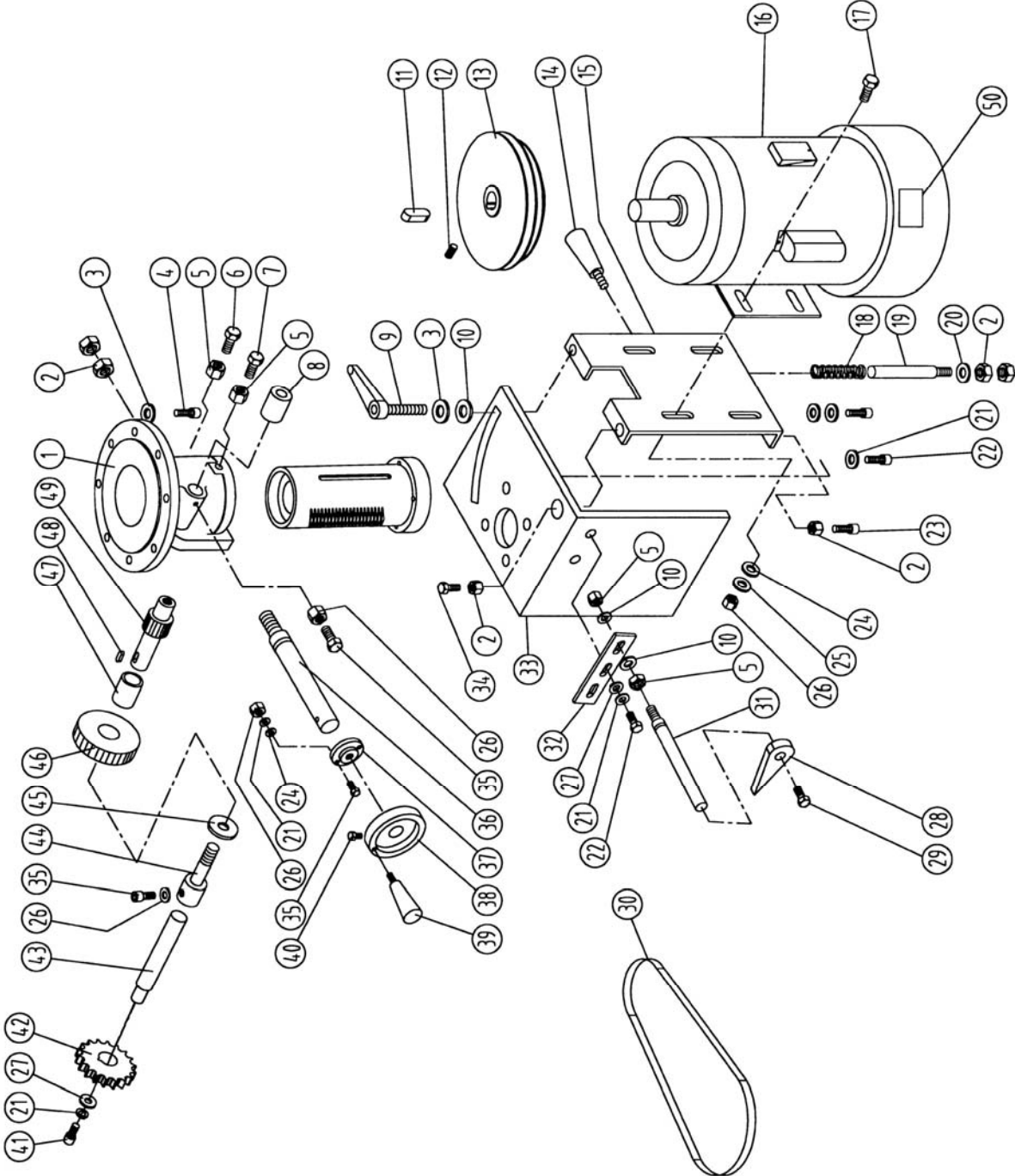
13.1.1 JWS-25CS Base Assembly – Exploded View



13.1.2 JWS-25CS Base Assembly – Parts List

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 (Fwd/Rev switch to magnetic switch ...		1
42	JWS25-142	Starting Pin		1

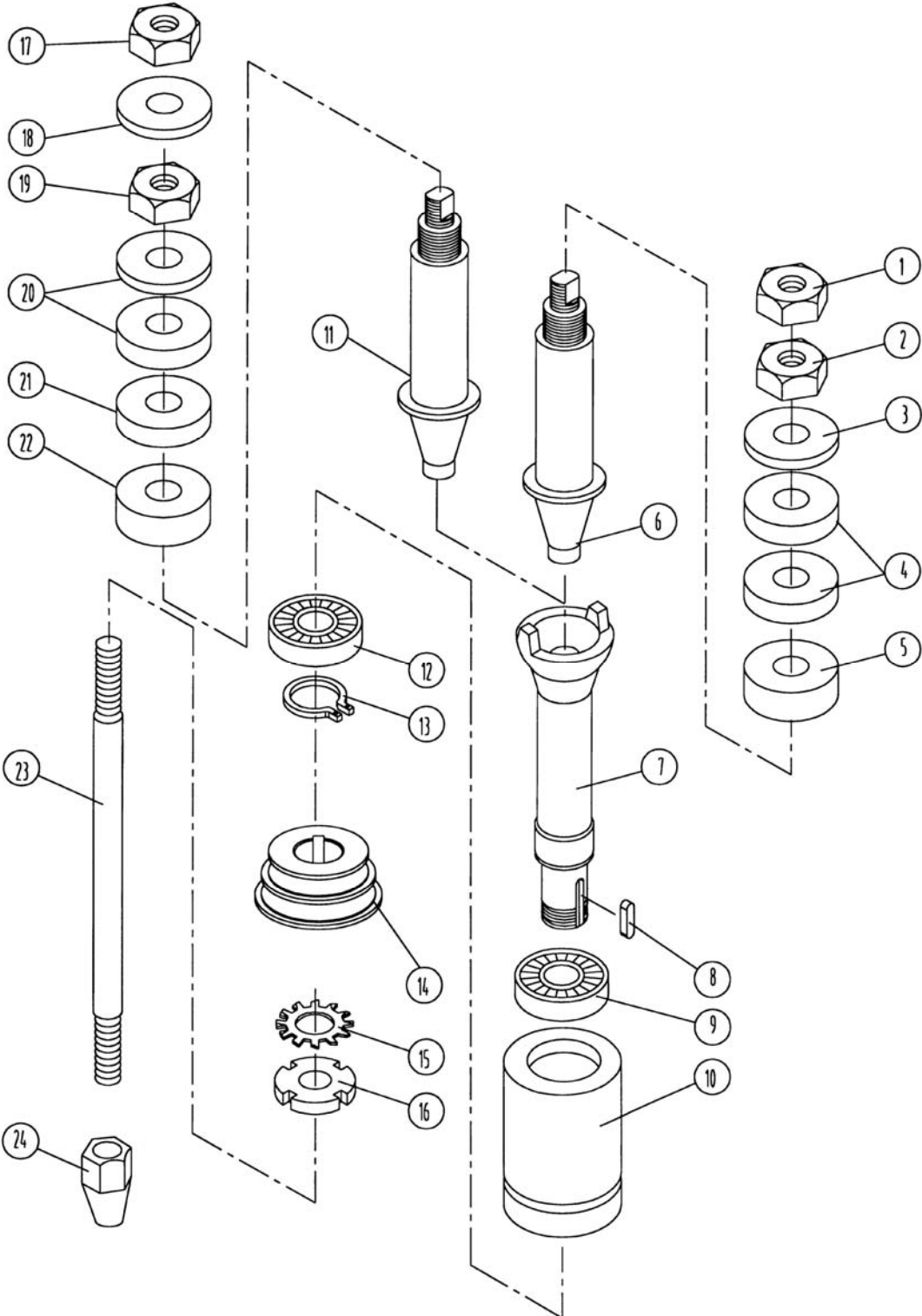
13.2.1 Motor Assembly – Exploded View



13.2.2 Motor Assembly – Parts List

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

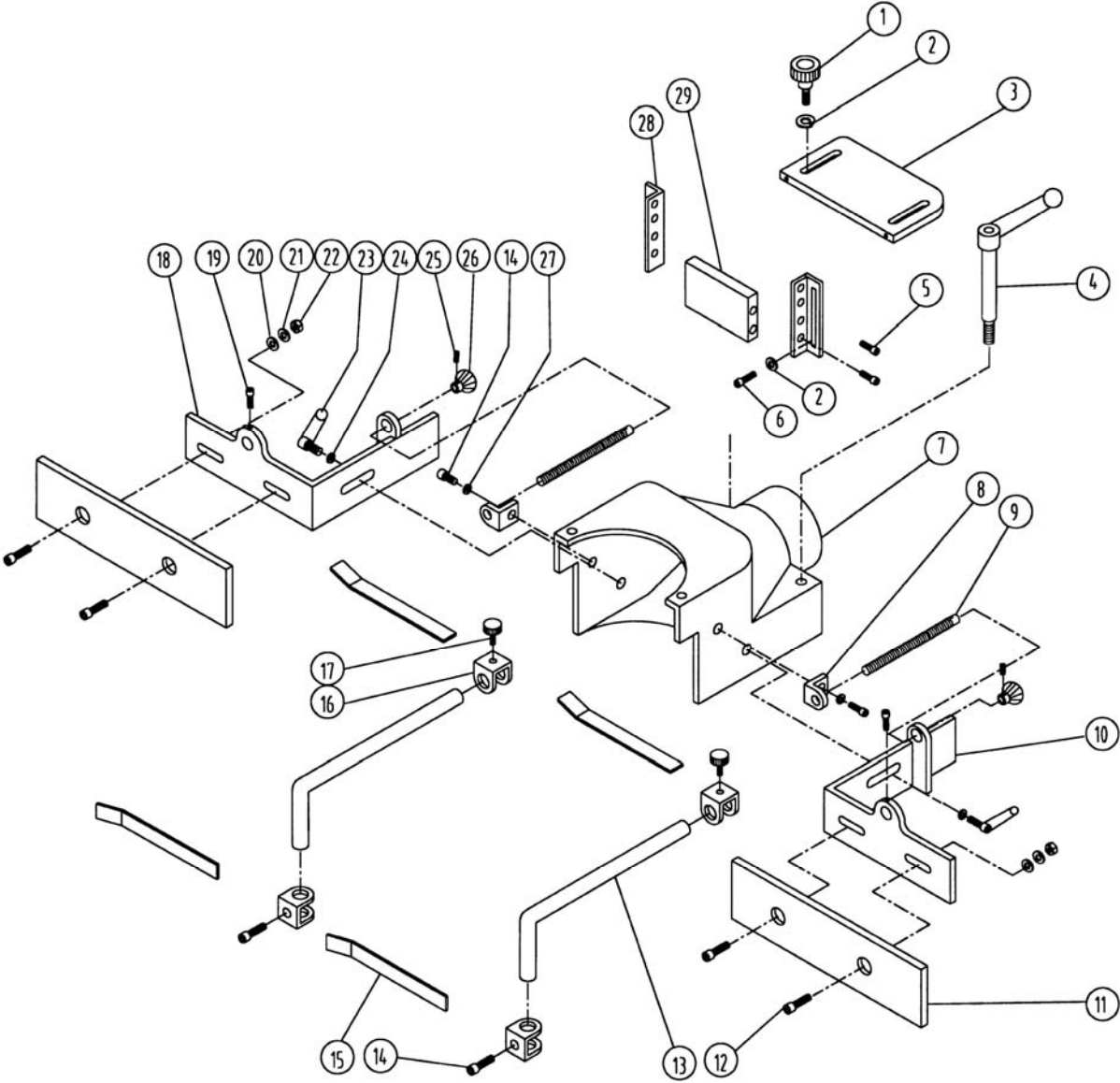
13.3.1 JWS-25CS Spindle Assembly – Exploded View



13.3.2 JWS-25CS Spindle Assembly – Parts List

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	BB-6205VV	Ball Bearing	6205VV	1
10	JWS25-310	Spindle Housing		1
11	709527	Spindle	1/2	1
12	BB-6205Z	Ball Bearing	6205Z	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

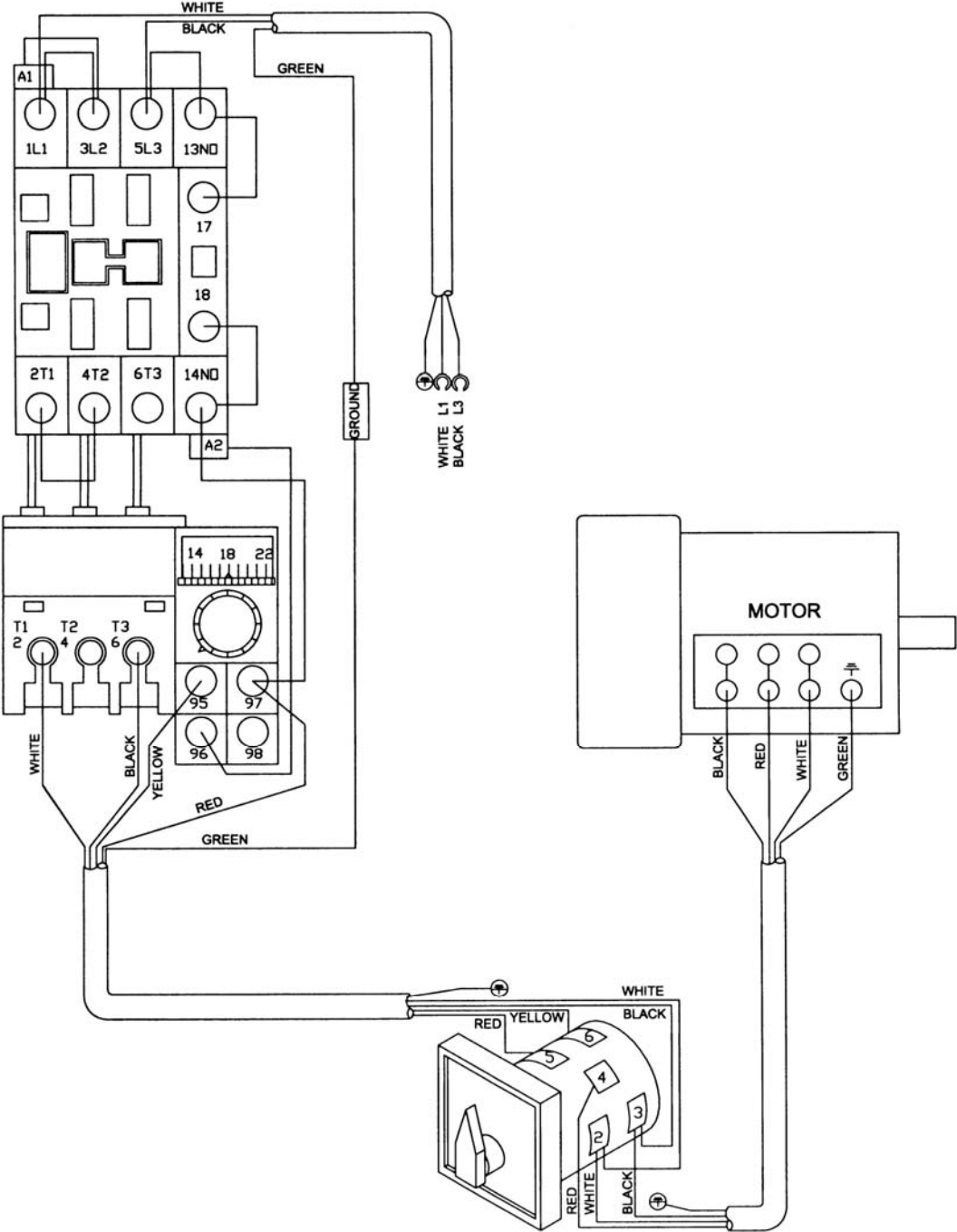
13.4.1 JWS-25CS Fence Assembly – Exploded View



13.4.2 JWS-25CS Fence Assembly Assembly – Parts List

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
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
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

14.0 Electrical Connections for JWS-25CS Shaper



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