

5-Speed Shaper (Model 43-791) 5-Speed Sliding Table Shaper (Model 43-792)



Model 43-791
5-Speed Shaper



Model 43-792
5-Speed Sliding Table Shaper

PART NO. 1346959 06-17-05
Copyright © 2005 Delta Machinery



To learn more about DELTA MACHINERY
visit our website at: www.deltamachinery.com.

For Parts, Service, Warranty or other Assistance,
please call **1-800-223-7278** (In Canada call **1-800-463-3582**).

TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS	2
SAFETY GUIDELINES	3
GENERAL SAFETY RULES	4
ADDITIONAL SPECIFIC SAFETY RULES	5
FUNCTIONAL DESCRIPTION	6
CARTON CONTENTS	7
ASSEMBLY	10
OPERATION	19
TROUBLESHOOTING	28
MAINTENANCE	28
SERVICE	29
ACCESSORIES	29
WARRANTY	29
SERVICE CENTER LOCATIONS	back cover

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING Read and understand all warnings and operating instructions before using any tool or equipment. When using tools or equipment, basic safety precautions should always be followed to reduce the risk of personal injury. Improper operation, maintenance or modification of tools or equipment could result in serious injury and property damage. There are certain applications for which tools and equipment are designed. Delta Machinery strongly recommends that this product NOT be modified and/or used for any application other than for which it was designed.

If you have any questions relative to its application DO NOT use the product until you have written Delta Machinery and we have advised you.

Online contact form at www.deltamachinery.com

Postal Mail: Technical Service Manager
Delta Machinery
4825 Highway 45 North
Jackson, TN 38305

(IN CANADA: 125 Mural St. Suite 300, Richmond Hill, ON, L4B 1M4)

Information regarding the safe and proper operation of this tool is available from the following sources:

Power Tool Institute
1300 Sumner Avenue, Cleveland, OH 44115-2851
www.powertoolinstitute.org

National Safety Council
1121 Spring Lake Drive, Itasca, IL 60143-3201

American National Standards Institute, 25 West 43rd Street, 4 floor, New York, NY 10036 www.ansi.org
ANSI 01.1 Safety Requirements for Woodworking Machines, and

the U.S. Department of Labor regulations www.osha.gov

SAVE THESE INSTRUCTIONS!

SAFETY GUIDELINES - DEFINITIONS

It is important for you to read and understand this manual. The information it contains relates to protecting YOUR SAFETY and PREVENTING PROBLEMS. The symbols below are used to help you recognize this information.



⚠ DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

CALIFORNIA PROPOSITION 65

⚠ WARNING **SOME DUST CREATED BY POWER SANDING, SAWING, GRINDING, DRILLING, AND OTHER CONSTRUCTION ACTIVITIES** contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures 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, always wear **NIOSH/OSHA** approved, properly fitting face mask or respirator when using such tools.

GENERAL SAFETY RULES



⚠ WARNING **READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT.** Failure to follow all instructions listed below, may result in electric shock, fire, and/or serious personal injury or property damage.

IMPORTANT SAFETY INSTRUCTIONS

1. **FOR YOUR OWN SAFETY, READ THE INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learning the machine's application, limitations, and specific hazards will greatly minimize the possibility of accidents and injury.
2. **WEAR EYE AND HEARING PROTECTION. ALWAYS USE SAFETY GLASSES.** Everyday eyeglasses are NOT safety glasses. USE CERTIFIED SAFETY EQUIPMENT. Eye protection equipment should comply with ANSI Z87.1 standards. Hearing equipment should comply with ANSI S3.19 standards.
3. **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.
4. **DO NOT USE THE MACHINE IN A DANGEROUS ENVIRONMENT.** The use of power tools in damp or wet locations or in rain can cause shock or electrocution. Keep your work area well-lit to prevent tripping or placing arms, hands, and fingers in danger.
5. **MAINTAIN ALL TOOLS AND MACHINES IN PEAK CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories. Poorly maintained tools and machines can further damage the tool or machine and/or cause injury.
6. **CHECK FOR DAMAGED PARTS.** Before using the machine, check for any damaged parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, and any other conditions that may affect its operation. A guard or any other part that is damaged **should be properly repaired or replaced.** Damaged parts can cause further damage to the machine and/or injury.
7. **KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
8. **KEEP CHILDREN AND VISITORS AWAY.** Your shop is a potentially dangerous environment. Children and visitors can be injured.
9. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure that the switch is in the "OFF" position before plugging in the power cord. In the event of a power failure, move the switch to the "OFF" position. An accidental start-up can cause injury.
10. **USE THE GUARDS.** Check to see that all guards are in place, secured, and working correctly to reduce the risk of injury.
11. **REMOVE ADJUSTING KEYS AND WRENCHES BEFORE STARTING THE MACHINE.** Tools, scrap pieces, and other debris can be thrown at high speed, causing injury.
12. **USE THE RIGHT MACHINE.** Don't force a machine or an attachment to do a job for which it was not designed. Damage to the machine and/or injury may result.
13. **USE RECOMMENDED ACCESSORIES.** The use of accessories and attachments not recommended by Delta may cause damage to the machine or injury to the user.
14. **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 product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. See the Extension Cord Chart for the correct size depending on the cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
15. **SECURE THE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. Loss of control of a workpiece can cause injury.
16. **FEED THE WORKPIECE AGAINST THE DIRECTION OF THE ROTATION OF THE BLADE, CUTTER, OR ABRASIVE SURFACE.** Feeding it from the other direction will cause the workpiece to be thrown out at high speed.
17. **DON'T FORCE THE WORKPIECE ON THE MACHINE.** Damage to the machine and/or injury may result.
18. **DON'T OVERREACH.** Loss of balance can make you fall into a working machine, causing injury.
19. **NEVER STAND ON THE MACHINE.** Injury could occur if the tool tips, or if you accidentally contact the cutting tool.
20. **NEVER LEAVE THE MACHINE RUNNING UNATTENDED. TURN THE POWER OFF.** Don't leave the machine until it comes to a complete stop. A child or visitor could be injured.
21. **TURN THE MACHINE "OFF", AND DISCONNECT THE MACHINE FROM THE POWER SOURCE** before installing or removing accessories, before adjusting or changing set-ups, or when making repairs. An accidental start-up can cause injury.
22. **MAKE YOUR WORKSHOP CHILDPROOF WITH PADLOCKS, MASTER SWITCHES, OR BY REMOVING STARTER KEYS.** The accidental start-up of a machine by a child or visitor could cause injury.
23. **STAY ALERT, WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE. DO NOT USE THE MACHINE WHEN YOU ARE TIRED OR UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR MEDICATION.** A moment of inattention while operating power tools may result in injury.
24. **⚠ WARNING** **USE OF THIS TOOL CAN GENERATE AND DISBURSE DUST OR OTHER AIRBORNE PARTICLES, INCLUDING WOOD DUST, CRYSTALLINE SILICA DUST AND ASBESTOS DUST.** Direct particles away from face and body. Always operate tool in well ventilated area and provide for proper dust removal. Use dust collection system wherever possible. Exposure to the dust may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. Allowing dust to get into your mouth or eyes, or lay on your skin may promote absorption of harmful material. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

ADDITIONAL SPECIFIC SAFETY RULES

⚠ WARNING FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS INJURY.

1. **DO NOT OPERATE THIS MACHINE UNTIL** it is assembled and installed according to the instructions.
2. **OBTAIN ADVICE from your supervisor, instructor, or another qualified person** if you are not familiar with the operation of this machine.
3. **FOLLOW ALL WIRING CODES** and recommended electrical connections.
4. **USE THE GUARDS WHENEVER POSSIBLE.** Check to see that they are in place, secured, and working correctly.
5. **NEVER TURN THE MACHINE "ON"** before clearing the table of all objects (tools, scraps of wood, etc.).
6. **AVOID AWKWARD OPERATIONS AND HAND POSITIONS** where a sudden slip could cause a hand to move into the cutter.
7. **KEEP ARMS, HANDS AND FINGERS** away from the cutter.
8. **NEVER START THE MACHINE** with the workpiece contacting the cutter.
9. **NEVER REACH UNDER THE TABLE** while the machine is running.
10. **KEEP CUTTERS SHARP** and free from rust and pitch.
11. **NEVER ADJUST THE FENCE** while the machine is running.
12. **ADJUST THE FENCE HALVES** so that the cutter opening is never more than is required to clear the cutter.
13. **LOCK THE FENCE** hardware after making fence adjustments.
14. **PROPERLY SECURE THE CUTTERS** before starting the machine.
15. **DO NOT PERFORM ANY OPERATION FREE-HAND.** Use the fence for straight-shaping, a miter gauge for end-shaping, and the starting pin and rub collars for curve-shaping.
16. **KEEP THE FRONT MOTOR ACCESS PANEL CLOSED** while the machine is running.
17. **DO NOT FEED A WORKPIECE** that is warped, contains knots, or is embedded with foreign objects (nails, staples, etc.).
18. **NEVER RUN A WORKPIECE** between the fence and the cutter.
19. **USE A MITER GAUGE** and a clamp attachment for end shaping a workpiece whenever possible. Remove the fence during this operation.
20. **PROVIDE SUFFICIENT BEARING SURFACE** when shaping with a starting pin and collar(s) Figs. B and C.

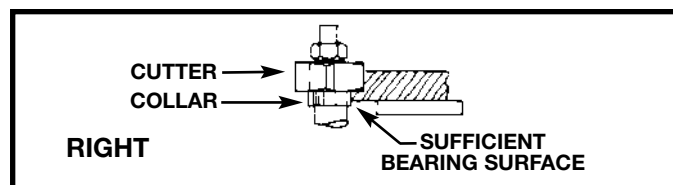


Fig. B

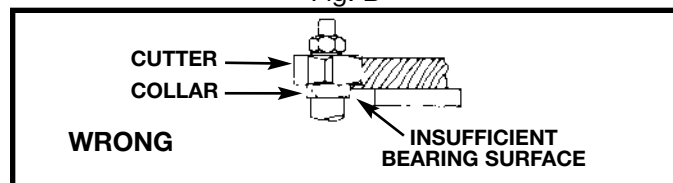


Fig. C

21. **ONLY SHAPE LARGE WORKPIECES** when using starting pin and collar(s). **DO NOT SHAPE** short or light workpieces when using starting pin and collar(s). (Figs. D and E).

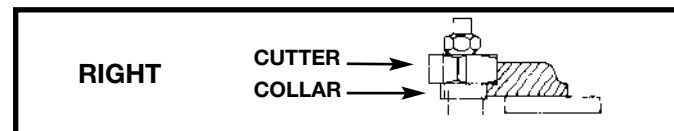


Fig. D

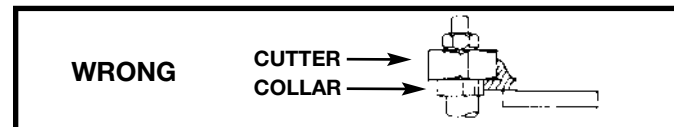


Fig. E

22. **POSITION THE CUTTER** below the collar(s) when shaping with starting pin and collar(s) (Fig. F).

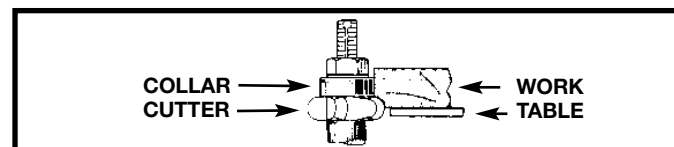


Fig. F

23. **FEED WORKPIECE** against cutter rotation (Fig. G).

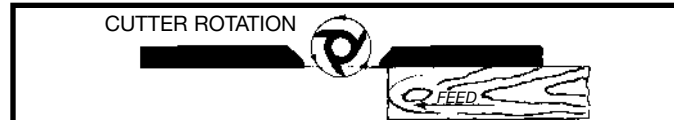


Fig. G

24. **NEVER PERFORM LAYOUT**, assembly or set-up work on the table/work area when the machine is running.
25. **TURN THE MACHINE "OFF" AND DISCONNECT THE MACHINE** from the power source before installing or removing accessories, before adjusting or changing set-ups, or when making repairs.
26. **TURN THE MACHINE "OFF"**, disconnect the machine from the power source, and clean the table/work area before leaving the machine. **LOCK THE SWITCH** IN THE "OFF" POSITION to prevent unauthorized use.
27. **ADDITIONAL INFORMATION** regarding the safe and proper operation of power tools (i.e. a safety video) is available from the Power Tool Institute, 1300 Sumner Avenue, Cleveland, OH 44115-2851 (www.powertoolinstitute.com). Information is also available from the National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201. Please refer to the American National Standards Institute ANSI O1.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor OSHA 1910.213 Regulations.

SAVE THESE INSTRUCTIONS.

**Refer to them often
and use them to instruct others.**

POWER CONNECTIONS

A separate electrical circuit should be used for your machines. This circuit should not be less than #12 wire and should be protected with a 20 Amp time lag fuse. Before connecting the machine to the power line, make sure the switch (s) is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the machine. All line connections should make good contact. Running on low voltage will damage the machine.

⚠ DANGER DO NOT EXPOSE THE MACHINE TO RAIN OR OPERATE THE MACHINE IN DAMP LOCATIONS.

MOTOR SPECIFICATIONS

The 43-791 and 43-792 each have a 7 1/2 HP three phase motor that comes wired at 220 volts and 60 HZ alternating current. The motor is also capable of being wired for 440 volt operation, but this connection must be done by a qualified electrician and conform to the National Electric Code and all local codes and ordinances. Also, a separate controller must be purchased if the machine is to be rewired for 440 volts.

GROUNDING INSTRUCTIONS

⚠ DANGER THIS MACHINE MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

These machines are not supplied with power cords and they are intended to be permanently connected to the building's electrical system. All wiring must be done by a qualified electrician and conform to the National Electric Code and all local codes and ordinances. For wiring instructions, see section "ELECTRICAL CONNECTIONS" in this manual.

LVC MAGNETIC MOTOR CONTROL: If you purchased a machine that has a Low Voltage Magnetic Motor Control System, refer to its instruction manual for installation guidance.

FUNCTIONAL DESCRIPTION

FOREWORD

The Delta Industrial Model 43-791 is a 5-Speed Shaper with a 7 1/2 HP, 3450 rpm three phase motor with automatic brake, 5-speed belt and pulley system, cast-iron table, 3/4" and 1 1/4" spindles, three steel insert rings, work hold-down and cutterhead guard assembly, fence assembly and tools. The cutter capacity under nut for the 43-791 is 3 7/8" (98mm) for a 3/4" spindle and 4 7/8" (124mm) for a 1 1/4" spindle. The 43-792 is the same, except it comes with a sliding table.

NOTICE: The photo on the manual cover illustrates the current production model. All other illustrations contained in the manual are representative only and may not depict the actual labeling or accessories included. These are intended to illustrate technique only.

CARTON CONTENTS

Figures 1, 2, 3, 4 and 5 illustrate all the loose items supplied with the 43-791 5-Speed Shaper and Figures 1, 2, 3, 4 and 6 illustrate all the loose items supplied with the 43-792 5-Speed Sliding Table Shaper.

FIGURE 1

For all machines

- 1 - Fence Assembly

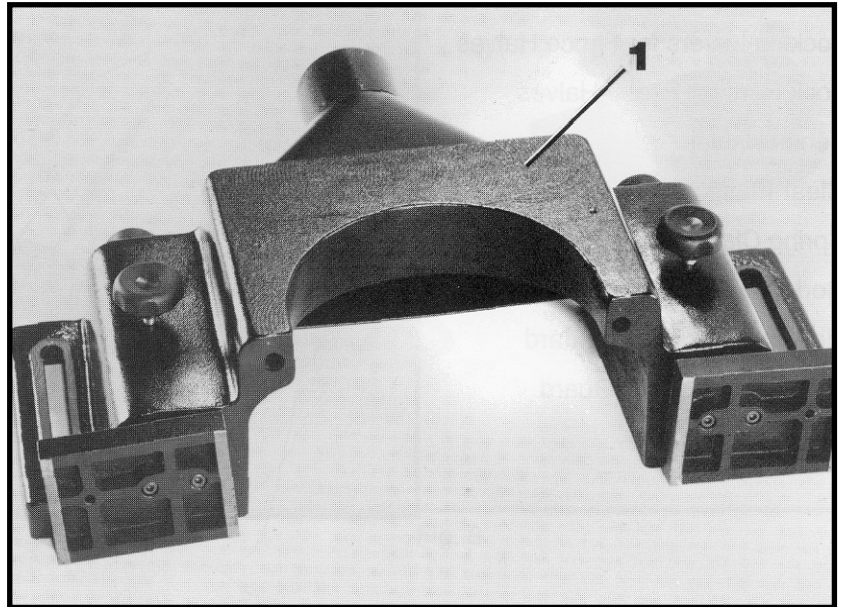


Fig. 1

FIGURE 2

For all machines

- 3 - Gray touch-up paint
- 4 - Black touch-up paint
- 5 - Tool Box
- 6 - Spanner Wrench
- 7 - 1-1/4" Spindle Nut Wrench
- 8 - 3/4" Spindle Nut Wrench
- 9 - 8 and 10mm Open End Wrench
- 10 - 10 and 12mm Open End Wrench
- 11 - 11 and 13mm Open End Wrench
- 12 - 14 and 17mm Open End Wrench
- 13 - 17 and 19mm Open End Wrench
- 14 - 22 and 24mm Open End Wrench
- 15 - Grease Gun
- 16 - Grease Gun Nozzle
- 17 - Ten-Piece Hex Key Set
- 18 - Cabinet Handle

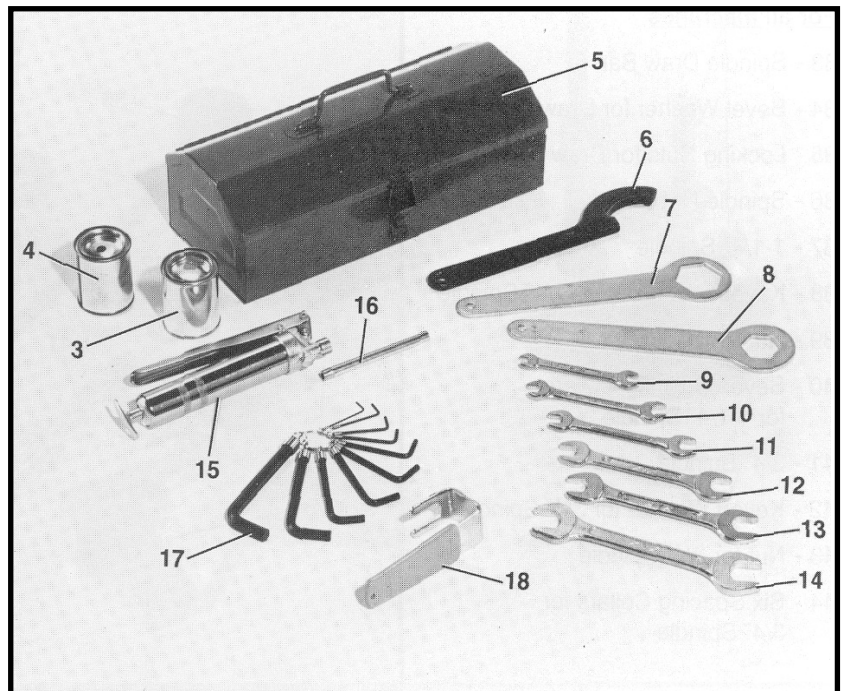


Fig. 2

FIGURE 3

For all machines

- 20 Miter Gage Stop Rod
- 21 Miter Gage Stop
- 22 Lock Knobs for Fence Cover
- 23 Fence Locking Handles
- 24 Locking Levers for Fence Halves
- 25 Lock Bars for Fence Halves
- 26 Fence Halves
- 27 Clear Plastic Guard
- 28 Spring Clamp for Fence Guard
- 29 Rod for Fence Guard
- 30 Holddown for Fence Guard
- 31 Brackets for Fence Guard

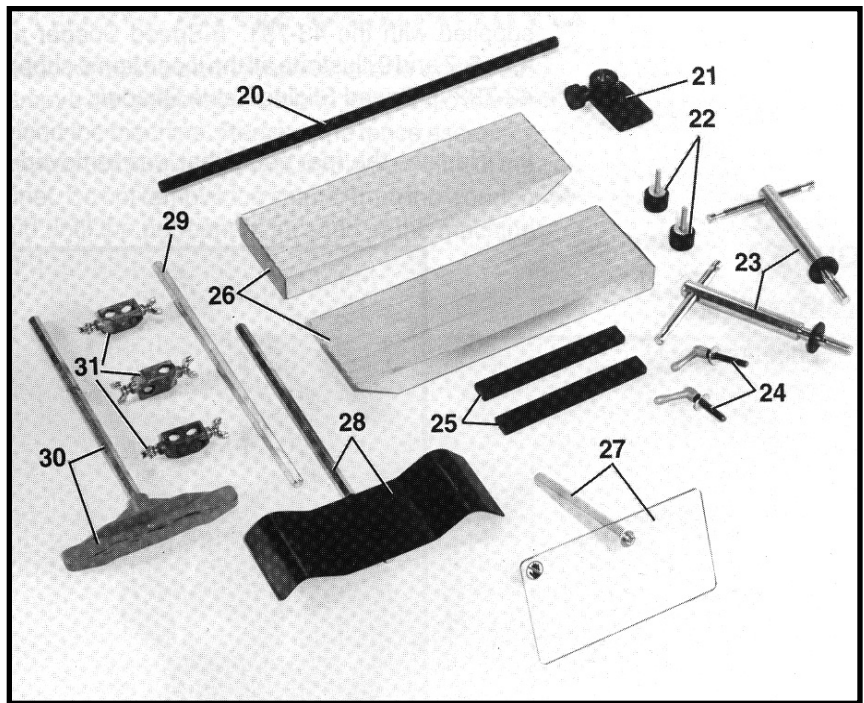


Fig. 3

FIGURE 4

For all machines

- 33 Spindle Draw Bar
- 34 Bevel Washer for Draw Bar
- 35 Locking Nuts for Draw Bar
- 36 Spindle Nut
- 37 1-1/4" Spindle
- 38 Keyed Washer for 1-1/4" Spindle
- 39 Nut for 1-1/4" Spindle
- 40 Seven Spacing Collars for 1-1/4" Spindle
- 41 3/4" Spindle
- 42 Keyed Washer for 3/4" Spindle
- 43 Nut for 3/4" Spindle
- 44 Six Spacing Collars for 3/4" Spindle

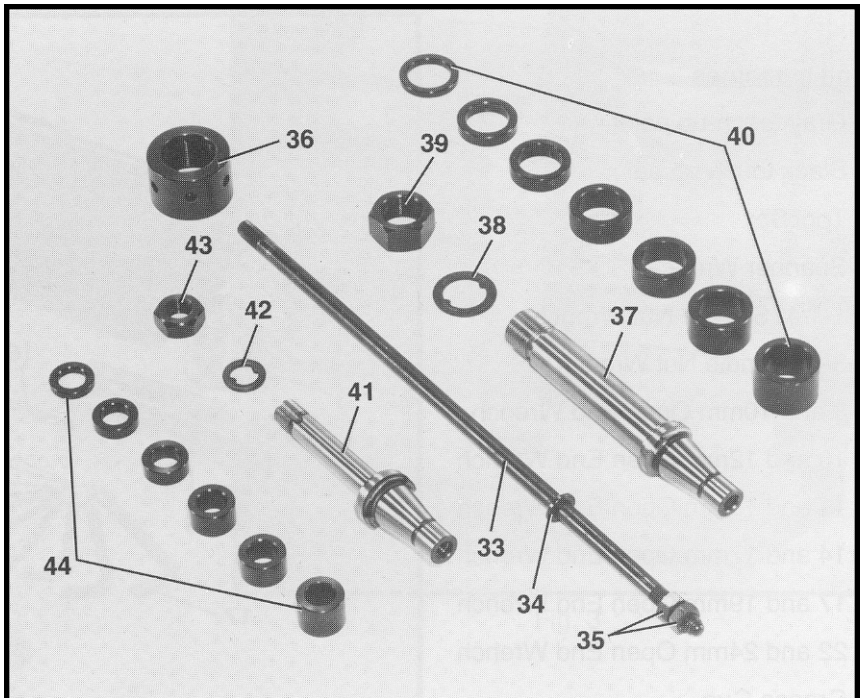


Fig. 4

FIGURE 5

For 43-791 5-Speed Shaper Only

46 - Dust Chute for Shaper

47 - Miter Gage and
Clamp Attachment

48 - Miter Gage Bar and Lock Knob

49 - Top Cover for Fence

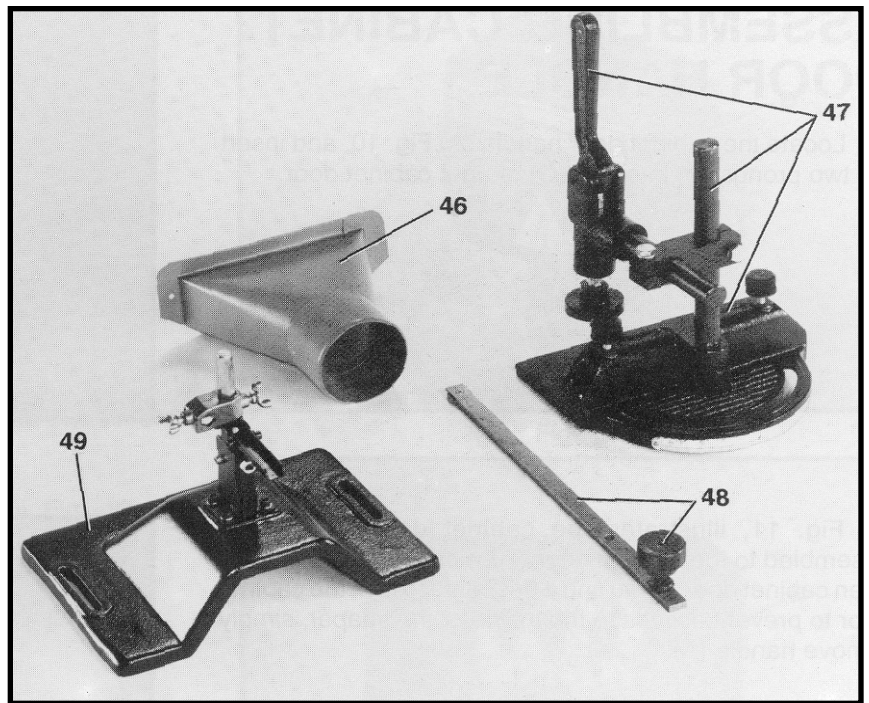


Fig. 5

FIGURE 6

For 43-792 5-Speed Sliding Table
Shaper Only

51 - Dust Chute for Shaper

52 - Miter Gage and
Clamp Attachment

53 - Lock Knob and Washer for
Miter Gage

54 - Top Cover for Fence

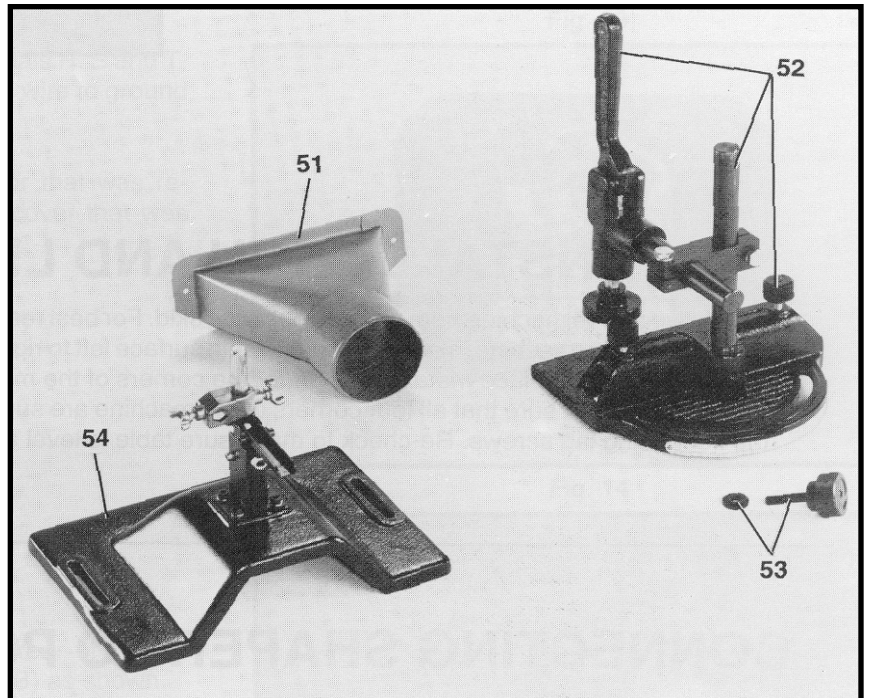


Fig. 6

UNPACKING AND CLEANING

Carefully unpack the machine and all loose items from the shipping container(s). Remove the protective coating from all unpainted surfaces. This coating may be removed with a soft cloth moistened with kerosene (do not use acetone, gasoline or lacquer thinner for this purpose). After cleaning, cover the unpainted surfaces with a good quality household floor paste wax.

ASSEMBLY

ASSEMBLY TOOLS REQUIRED

- * Spanner Wrench
- * 1-1/4" Spindle Nut Wrench
- * 3/4" Spindle Nut Wrench
- * 8 and 10mm Open End Wrench
- * 10 and 12mm Open End Wrench
- * 11 and 13mm Open End Wrench
- * 14 and 17mm Open End Wrench
- * 17 and 19mm Open End Wrench
- * 22 and 24mm Open End Wrench
- * Ten-Piece Hex Key Set
(All included)

ASSEMBLY TIME ESTIMATE

Assembly for this machine takes approximately 2-3 hours.

⚠ WARNING FOR YOUR OWN SAFETY, DO NOT CONNECT THE MACHINE TO THE POWER SOURCE UNTIL THE MACHINE IS COMPLETELY ASSEMBLED AND YOU READ AND UNDERSTAND THE ENTIRE INSTRUCTION MANUAL.

GETTING STARTED

1. Remove the fence assembly which is fastened to the shipping skid on the right side of the shaper cabinet. Do not remove the shaper from the wooden shipping skid until the permanent location of the machine is determined.

2. Remove the four screws (A) Fig. 7, and rear panel (B) from the machine.

3. Loosen handwheel lock (C) Fig. 7, and raise spindle by turning spindle raising and lowering handwheel (D) counterclockwise.

4. Carefully remove and unpack boxes from inside shaper cabinet.

5. Remove the motor and spindle support block (E) Fig. 8, located inside the shaper cabinet.

6. Replace the rear panel that was removed in STEP 2.

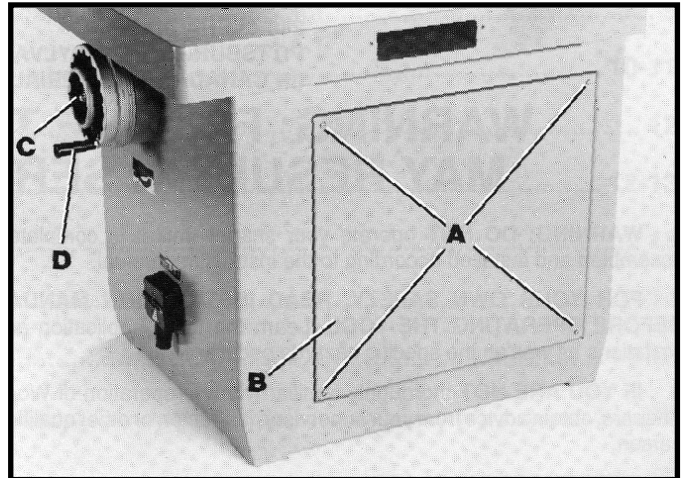


Fig. 7

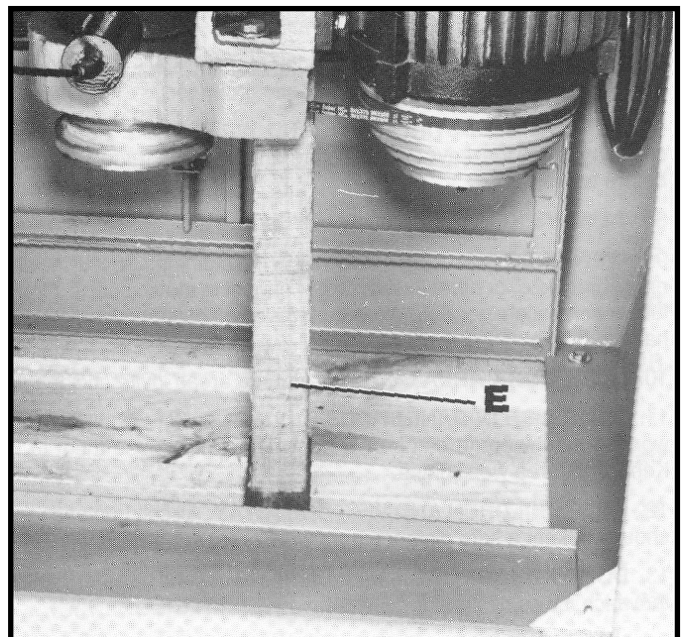


Fig. 8

ASSEMBLING CABINET DOOR HANDLE

1. Locate the cabinet door handle (A) Fig. 10, and insert the two prongs (B) into hub (C) of right cabinet door.

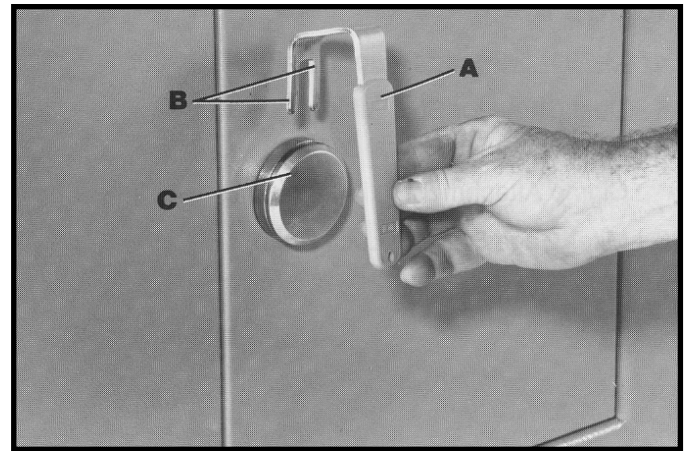


Fig. 10

2. Fig. 11, illustrates the cabinet door handle (A) assembled to the cabinet door. Turn handle to the right to open cabinet door. If you find it desirable to lock the cabinet door to prevent access to the inside of the shaper, simply remove handle (A).



Fig. 11

INSTALLATION AND LEVELING

⚠ CAUTION THIS MACHINE IS HEAVY. A FORKLIFT OR SIMILAR DEVICE SHOULD BE USED TO MOVE MACHINE IN PLACE.

Carefully remove machine from wooden shipping skid. For best results, locate shaper on a solid, level foundation. With machine in position, check table surface left to right and front to back with a machine level. If necessary, place metal shims under the corners of the machine to insure that the shaper is level. Check to be sure that all four corners of the machine are supported and fasten the machine to the floor using lag screws. Re-check to make sure table is level and re-adjust if necessary.

ASSEMBLING DUST CHUTE

Assemble dust chute (A) Fig. 15, to rear of shaper table, using the two screws and washers (B) as shown.

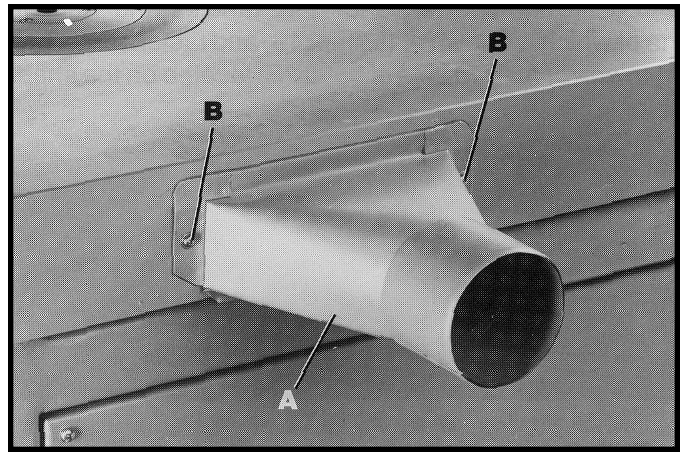


Fig. 15

ASSEMBLING FENCE

1. Place fence body (A) Fig. 16, on the table as shown, and locate the two fence locking levers with washers (B) and fence lock bars, (C).

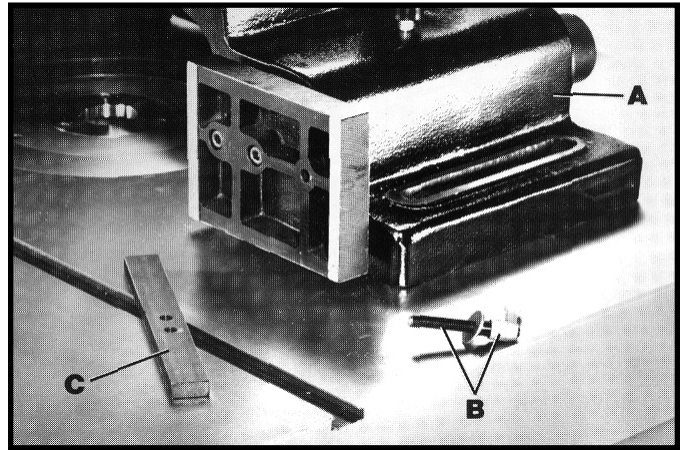


Fig. 16

2. Fasten bar (C) to the front of the fence half using the locking lever and washers (B), as shown in Figs. 17 and 18. Assemble the remaining bar to the other fence half in the same manner. **NOTE:** Locking levers (B) are spring-loaded and can be repositioned by pulling out the handle and repositioning it on the nut located underneath the hub of the handle.

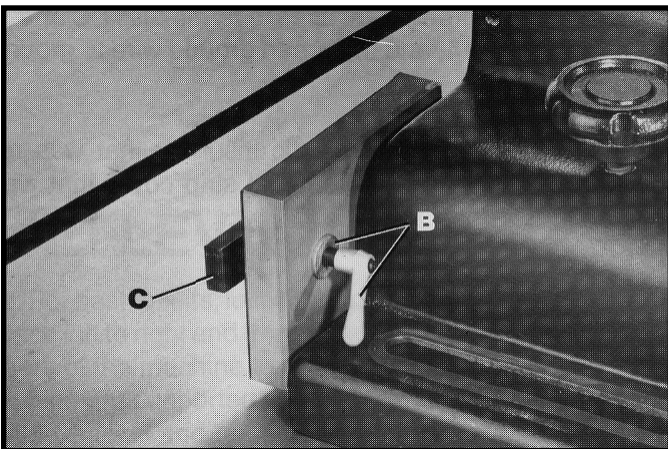


Fig. 18

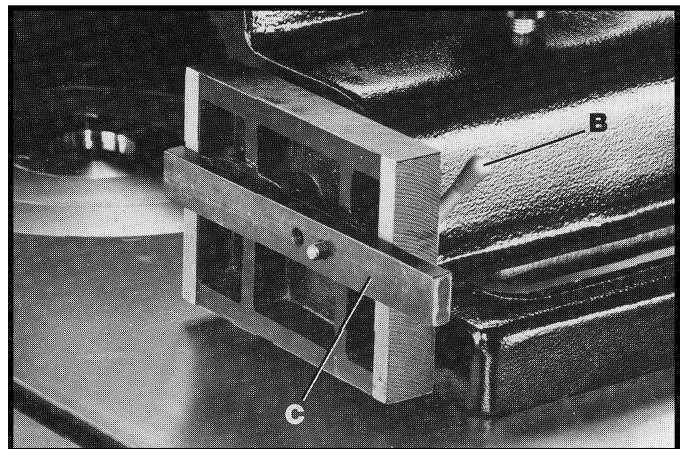


Fig. 17

3. Locate the two fence locking handles and washers, one of which is shown at (E) Fig. 19, and fasten fence body (A) to one of the two sets of holes (F) located on the shaper table.

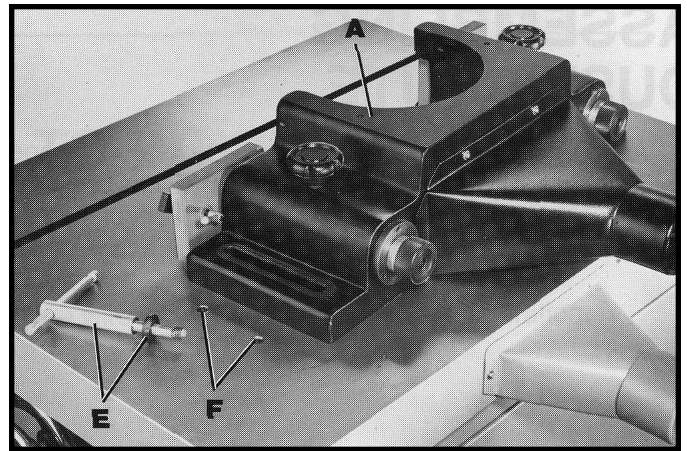


Fig. 19

4. Figure 20, illustrates fence body (A) fastened to the table with the two fence locking handles (E).

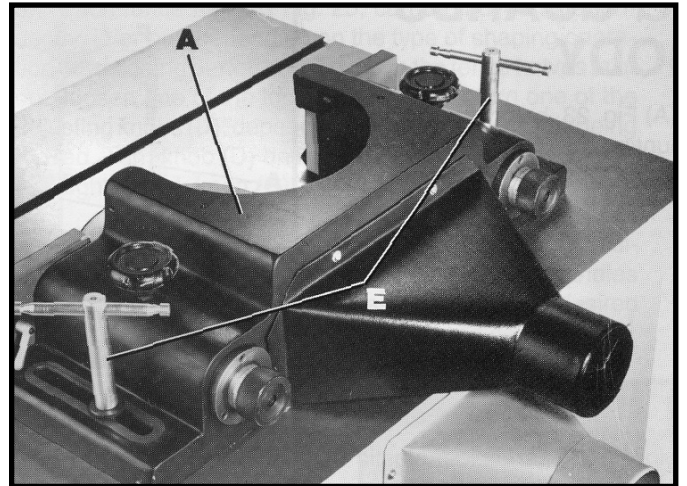


Fig. 20

5. Loosen locking lever (B) Fig. 21, and slide rear of fence half (F) onto locking bar (C). Assemble remaining fence half in the same manner. Then tighten locking lever (B).

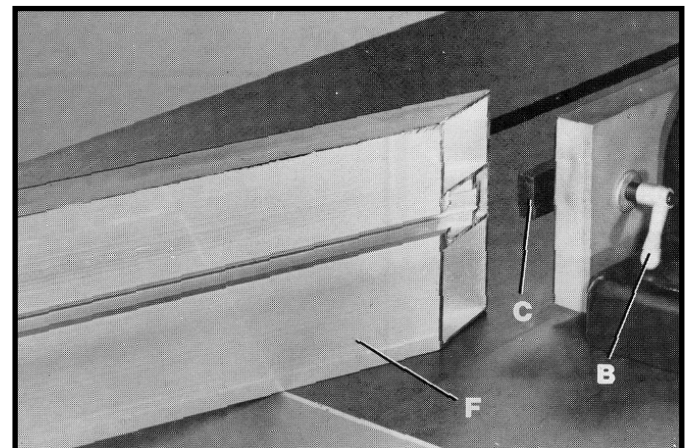


Fig. 21

6. Assemble top cover (G) Fig. 22, to top of fence body using the two locking knobs and washers (H) as shown.

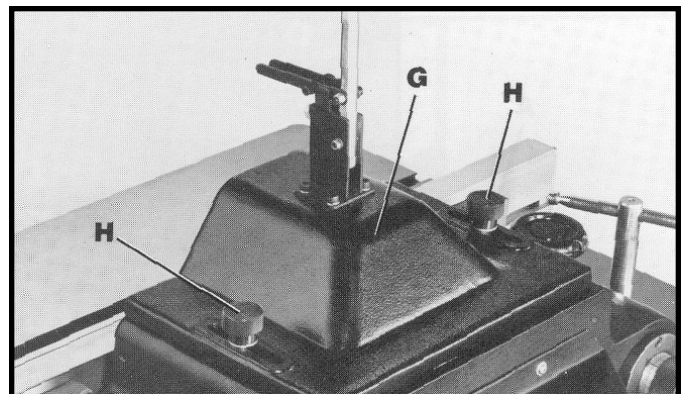


Fig. 22

ASSEMBLING GUARDS TO FENCE BODY

1. Assemble spring guard (A) Fig. 23, holddown (B) and clear plastic guard (C) to mounting rod (D) located on top of fence cover using rod (E) and clamps (F) as shown.

2. The spring guard (A), holddown (B) and clear plastic guard (C) can be flipped up out of the way, as shown in Fig. 24, when not in use or when making adjustments.

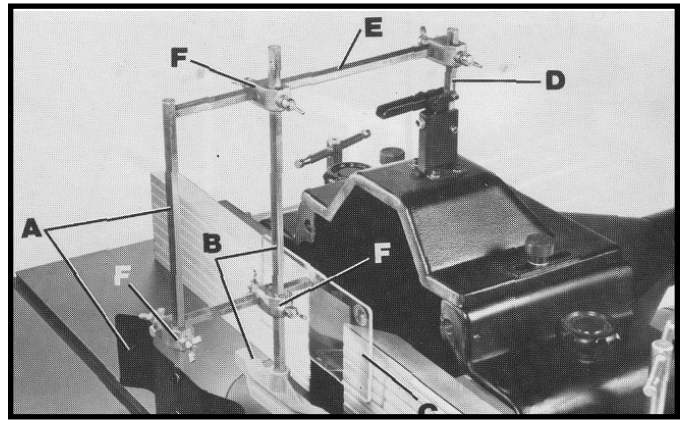


Fig. 23

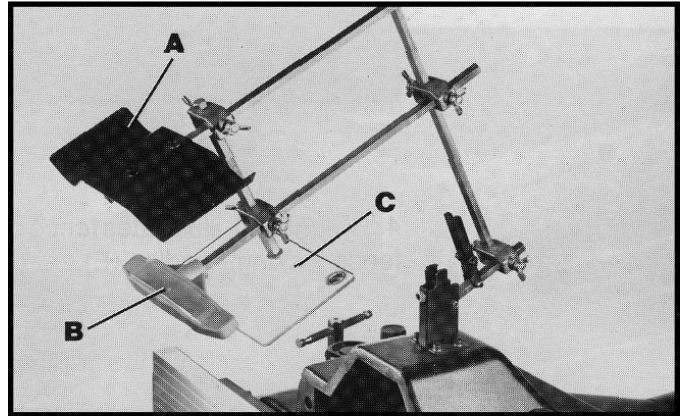


Fig. 24

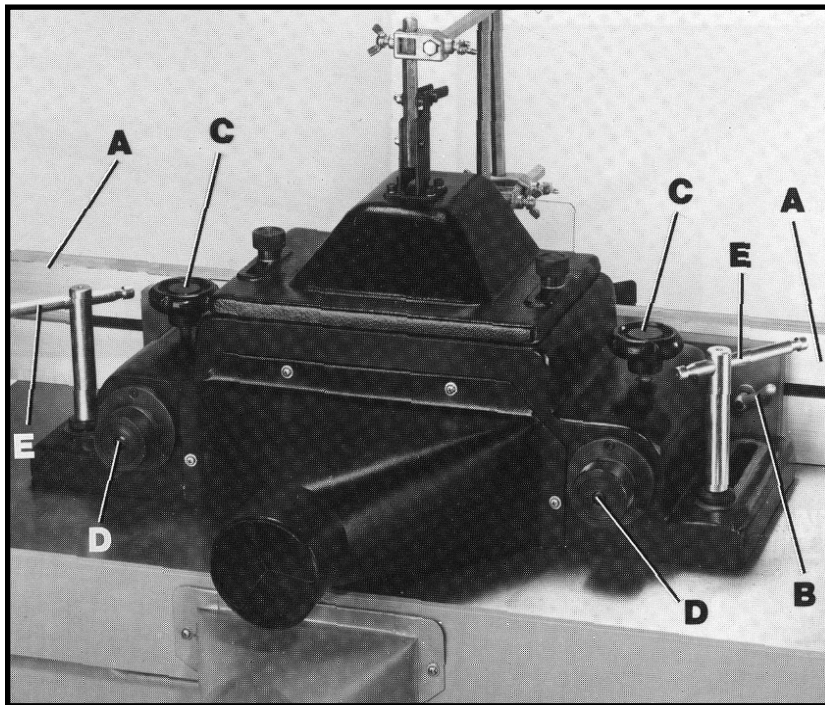


Fig. 25

FENCE CONTROLS AND ADJUSTMENTS

1. **IMPORTANT:** The fence halves (A) Fig. 25, should be adjusted endwise so the opening at the spindle is never more than is required to clear the cutter.
2. To adjust the fence halves (A) Fig. 25, endwise, loosen the two fence locking levers, one of which is shown at (B), slide the fence halves to the required positions and tighten locking levers (B).

3. Each fence half (A) Fig. 25, can be moved independently, in or out, depending on the type of shaping operation that is being performed. To move the fence halves in or out, loosen one of the lock knobs (C) and turn one of the adjusting knobs (D), depending on which fence half is being moved. Turn knob (D) until the correct setting is obtained and tighten lock knob (C).

4. The complete fence assembly can be rapidly positioned on the table by loosening two clamp handles (E) Fig. 25, moving the fence assembly to the desired position and tightening the two clamp handles (E).

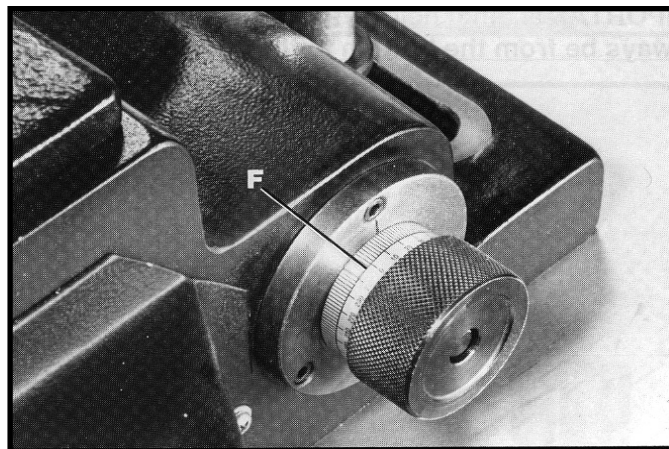


Fig. 26

5. Indicator collars (F) Fig. 26, are supplied to give the exact dimension each fence half is moved.

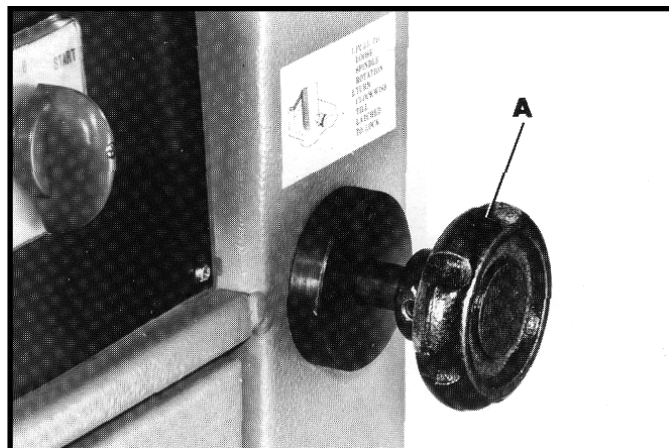


Fig. 27

SPINDLE LOCK

1. A spindle lock is provided with your shaper to assist you when changing spindles or installing and removing cutters. To position the spindle in "loose spindle" (where the spindle will rotate freely), pull out knob (A) Fig. 27, and turn it clockwise. The knob (A) will then be latched in "loose spindle." Figure 27 illustrates the knob (A) pulled out in the loose spindle position.

2. To engage the spindle lock, turn knob (A) Fig. 27, counterclockwise and push in to the locked position, as shown in Fig. 28. With the spindle in the locked position, the spindle will not turn, allowing you to change cutters or spindles.

⚠ WARNING MAKE SURE SPINDLE LOCK KNOB IS IN THE LOOSE SPINDLE POSITION BEFORE TURNING "ON" THE MACHINE.

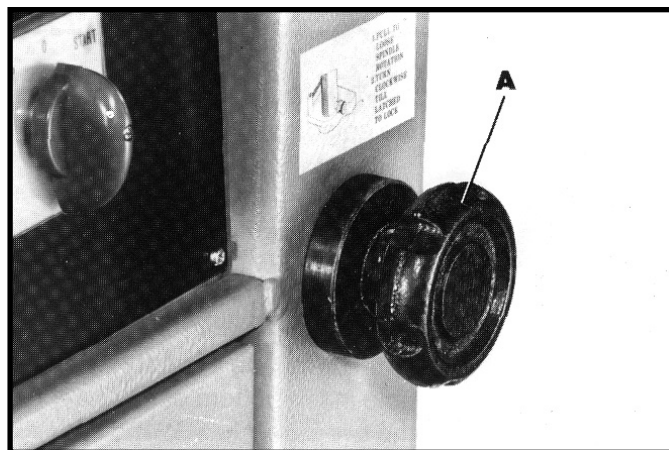


Fig. 28

RAISING AND LOWERING SPINDLE

The spindle can be raised or lowered by loosening handwheel lock (A) Fig. 29, and turning handwheel (B). To raise the spindle, turn handwheel (B) counterclockwise and to lower the spindle, turn handwheel (B) clockwise. Tighten handwheel lock (A) Fig. 29, when desired spindle height is obtained. NOTE: Each revolution of the handwheel (B) Fig. 29, will raise or lower the spindle approximately 1/10". The indicator (C) Fig. 29, serves as a handy reference point when making minor spindle height adjustments. IMPORTANT: Final height setting of the cutter should always be from the bottom to the up position.

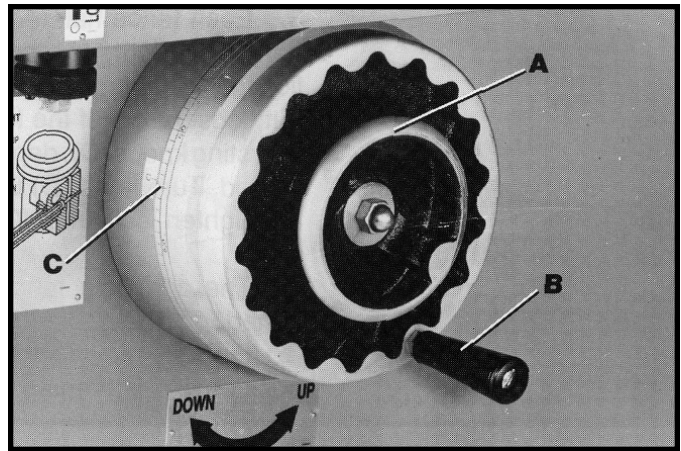


Fig. 29

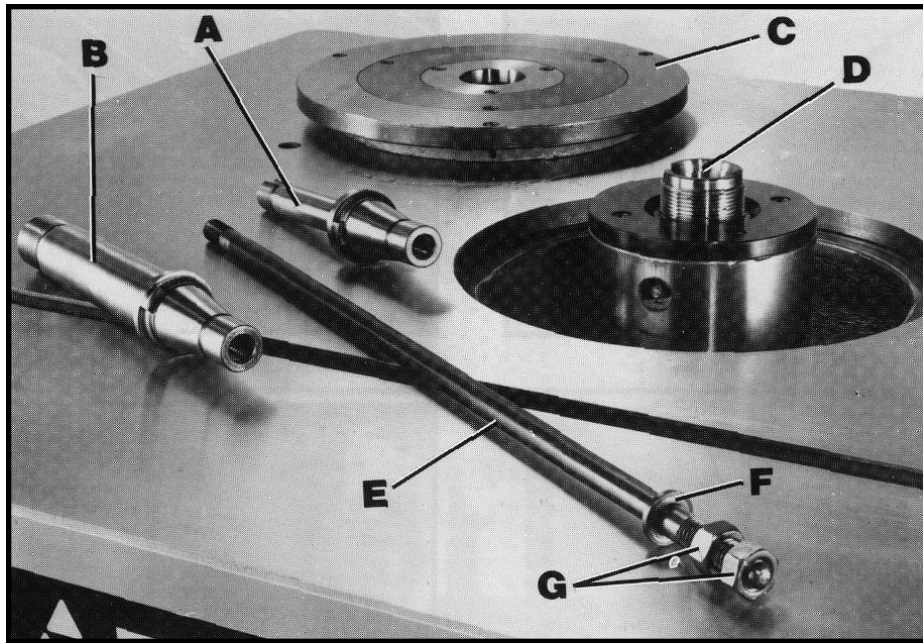


Fig. 30

INSTALLING SPINDLES

Your shaper is supplied with a 3/4" diameter spindle (A) Fig. 30, and a 1-1/4" diameter spindle (B). To install the spindle to your shaper, proceed as follows:

1. Remove the table inserts (C) Fig. 30.
2. Turn the spindle raising and lowering handwheel and raise the lower half of the spindle all the way to the top.
3. The taper of the 3/4" or 1-1/4" diameter spindles (A) and (B) Fig. 30, and the internal taper of the lower spindle (D) must be cleaned thoroughly using a cloth moistened with kerosene or mineral spirits. DO NOT USE GASOLINE OR LACQUER THINNER FOR THIS PURPOSE.
4. Thread the short threaded end of the draw bar (E) Fig. 30, into the threaded hole in the bottom of the 3/4" or 1-1/4" diameter spindles (A) and (B) and remove the two lock nuts (G) and special bevel washer (F) from the other end of the draw bar (E).

5. Very carefully insert the draw bar and spindle (H) Fig. 31, down through the lower spindle as shown. Make sure the tang (J) Fig. 32, on the spindle, is engaged with the notch (K) as shown, and thread spindle nut (L) onto threads (M).

6. Engage spindle lock as explained in the section "SPINDLE LOCK."

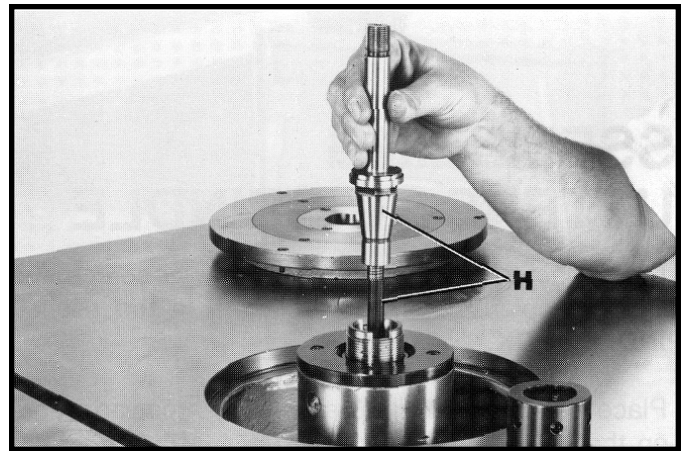


Fig. 31

7. Using the special spanner wrench (N) Fig. 33, supplied, tighten spindle nut (L) as shown.

8. Open the cabinet door and assemble the special bevel washer (F) to the bottom of the draw bar (E), as shown in Fig. 34. The bevel washer (F) was removed from the draw bar in STEP 4.

9. Assemble and securely tighten the two lock nuts (G) Fig. 35, as shown. The two lock nuts (G) were removed from the draw bar (E) in STEP 4.

10. Disengage the spindle lock.

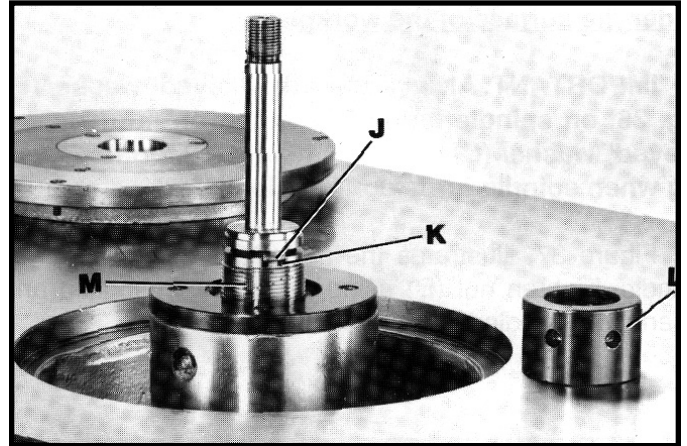


Fig. 32

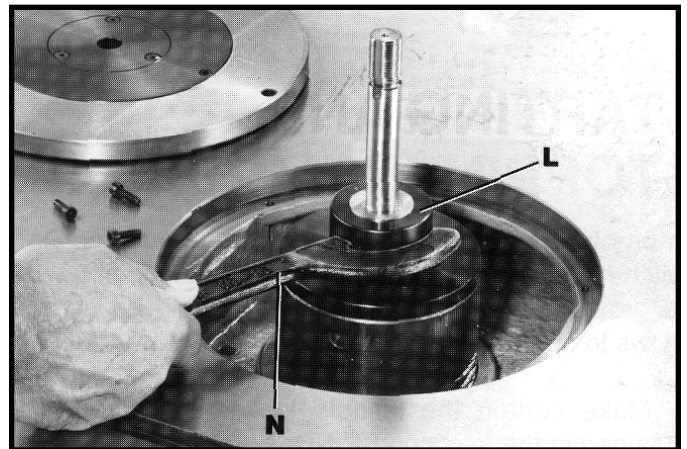


Fig. 33

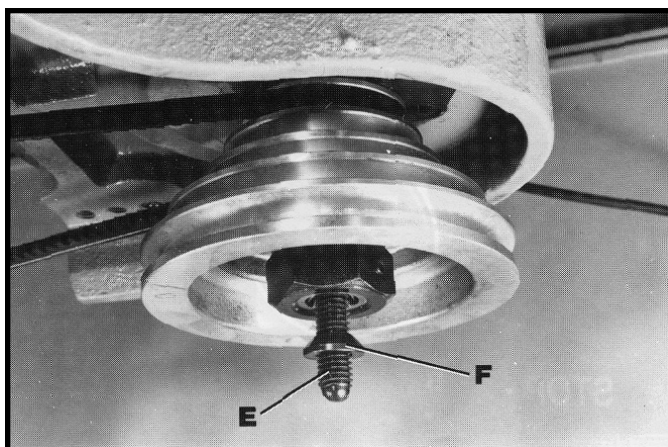


Fig. 34

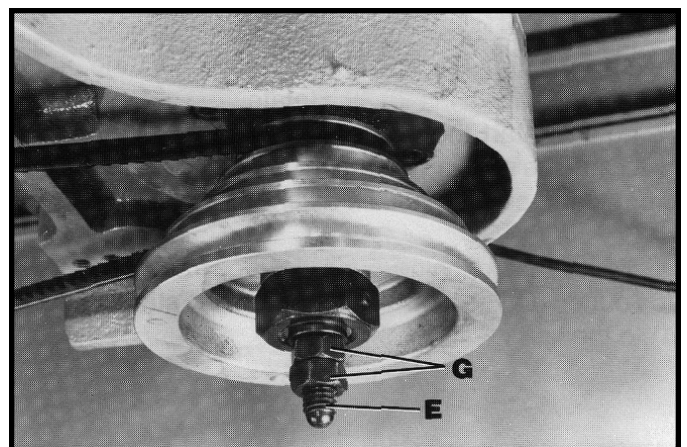


Fig. 35

ASSEMBLING CUTTERS TO SPINDLE

1. Engage the spindle lock as explained in the section "SPINDLE LOCK."
2. Place the cutter (A) Fig. 36, and desired spacing collars (B) on the spindle as shown. **IMPORTANT:** Whenever possible, the cutter should be positioned on the spindle in such a way that the cut is being performed from under the surface of the workpiece.
3. **IMPORTANT:** Always place the "keyed" washer (C) Fig. 36, on spindle before threading on nut (D). The "keyed" washer (C) prevents the nut (D), from loosening when spindle turns counterclockwise.
4. Figure 37, illustrates the nut (D) threaded onto the spindle. Tighten nut (D) using the wrench supplied and disengage spindle lock.

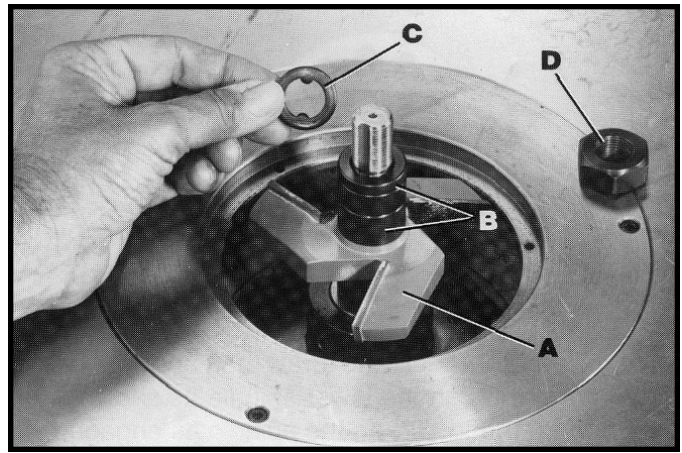


Fig. 36

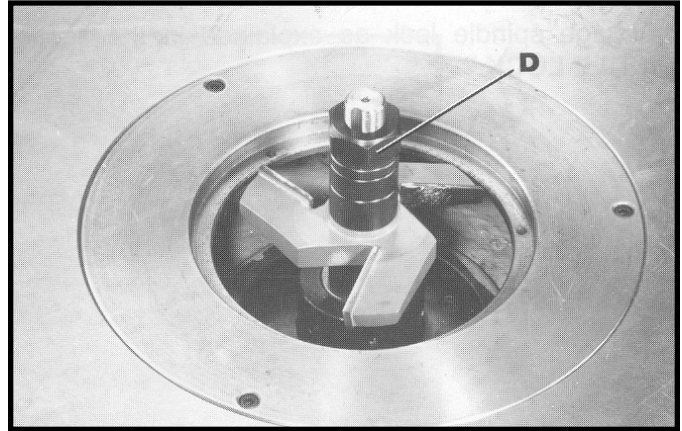


Fig. 37

CONNECTING SHAPER TO POWER SOURCE

Before connecting your shaper to the power source, make certain the electric current of the power source is of the same characteristics as the electrical system supplied with your machine.

The motor and controls supplied with these shapers are wired for 230 Volt, three phase operation. To connect power to the shaper, proceed as follows:

1. Remove two screws (A) Fig. 38, and remove terminal strip cover (B).

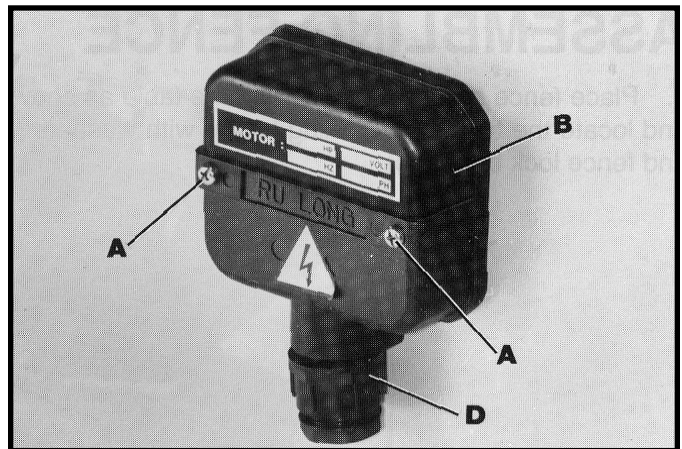


Fig. 38

1. Remove two screws (A) Fig. 38, and remove terminal strip cover (B).
2. Remove clear plastic insulator (C) Fig. 38A, that covers the terminals.
3. Insert power line through opening (D) Fig. 38, of terminal strip cover (B).

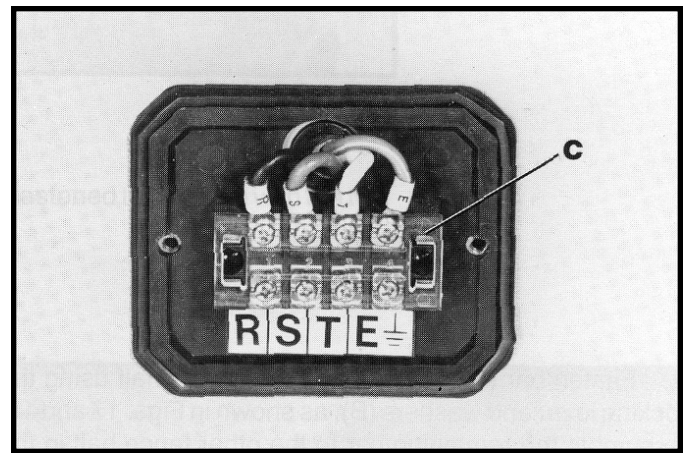


Fig. 38A

4. Connect the three power lines to terminals R, S and T, shown at (E) Fig. 38B, and the green ground wire to ground terminal (F).
5. Reassemble the clear plastic insulator that was removed in STEP 2 and the terminal strip cover that was removed in STEP 1.

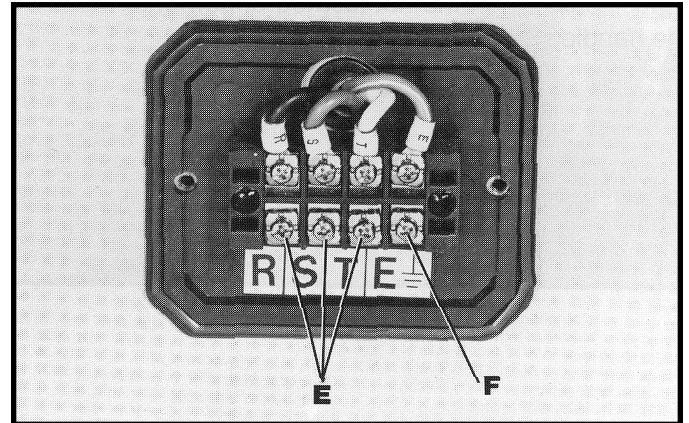


Fig. 38B

OPERATION

OPERATIONAL CONTROLS AND ADJUSTMENTS

STARTING AND STOPPING SHAPER

An on-off switch (A) Figs. 39 and 39A, a forward/reverse switch (B) and a large mushroom shaped stop button (C) are provided with your shaper and should be used as follows to operate your machine.

1. Make certain the spindle lock is disengaged as explained in the section "SPINDLE LOCK" and that the cabinet door is in the closed position.
2. Rotate the forward/reverse switch (B) to either the forward rotation, as shown in Fig. 39, or the reverse rotation, as shown in Fig. 39A. Turn switch knob (A) right to the "START" position. Switch (A) is a magnetic switch and as soon as the machine is started the switch will return to the center position as shown.
3. To stop the machine, push the large mushroom shaped stop button (C) Figs. 39 and 39A, or turn switch (A) left to the "STOP" position.

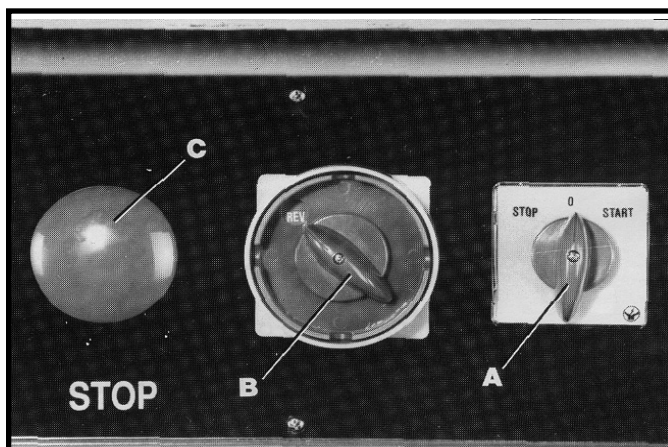


Fig. 39

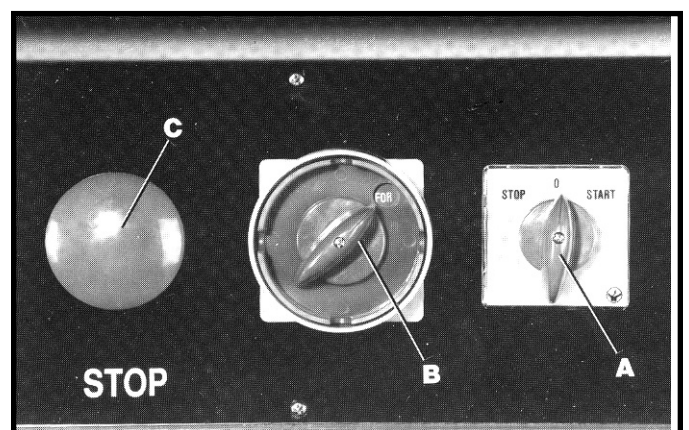


Fig. 39A

CHANGING SPEEDS

Your machine is supplied with a 5-step motor pulley and a 5-step spindle pulley that provides spindle speeds of 3000, 4000, 6000, 8000 and 10,000 RPM. A large speed chart (A) Fig. 40, is located on the inside of the cabinet door for easy reference of the belt position on the pulleys for the five speeds available. For example, when the belt is on the smallest stop of the motor pulley and the largest step of the spindle pulley the spindle speed will be 3000 RPM; and when the belt is on the largest step of the motor pulley and the smallest step of the spindle pulley the spindle speed will be 10,000 RPM. To change speeds, proceed as follows:

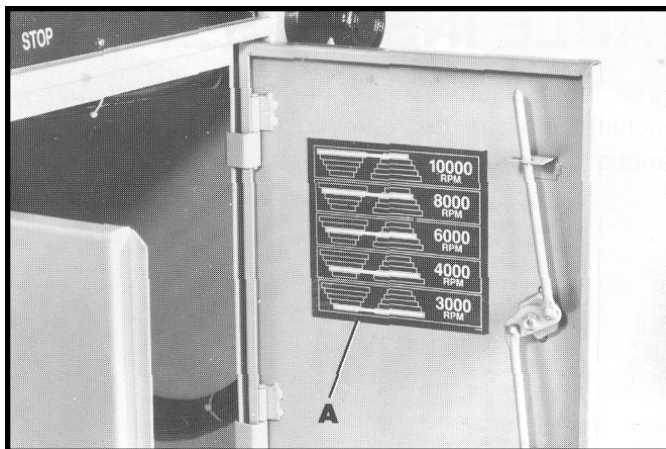


Fig. 40

⚠ WARNING DISCONNECT MACHINE FROM POWER SOURCE

1. Open the cabinet door. **NOTE:** A limit switch (B) Fig. 41, is provided which prevents the machine from being turned on when the right hand cabinet door is in the open position.

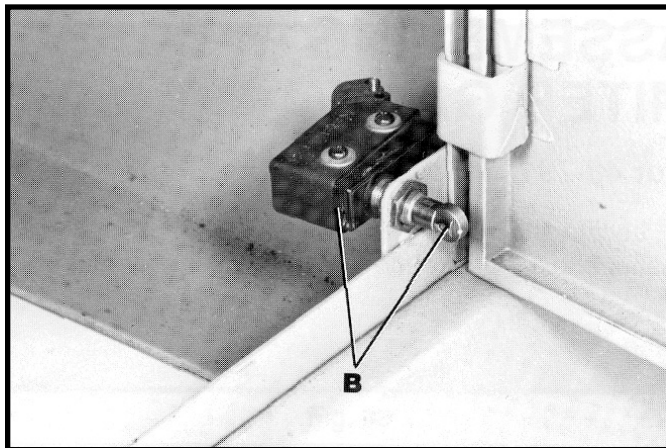


Fig. 41

2. Move belt tension lever (C) Fig. 42, to the right as shown, to loosen belt tension. The belt (D) can then be moved to the desired steps of the motor pulley (E) and spindle pulley (F).

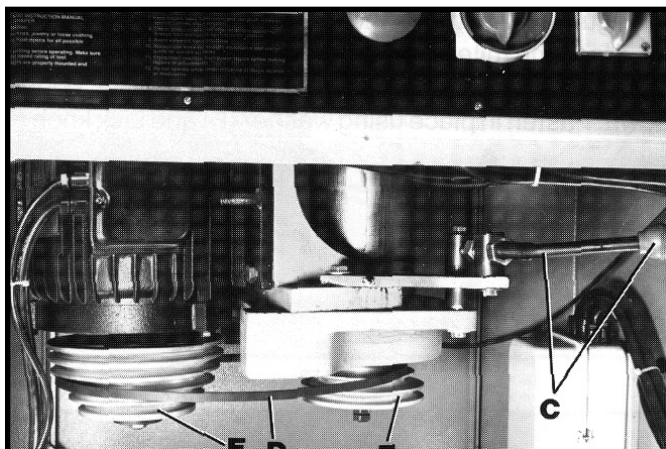


Fig. 42

3. After the belt (D) Fig. 43, is positioned on the desired steps of the motor pulley (E) and spindle pulley (F), move tension lever (C) to the left to apply belt tension as shown.

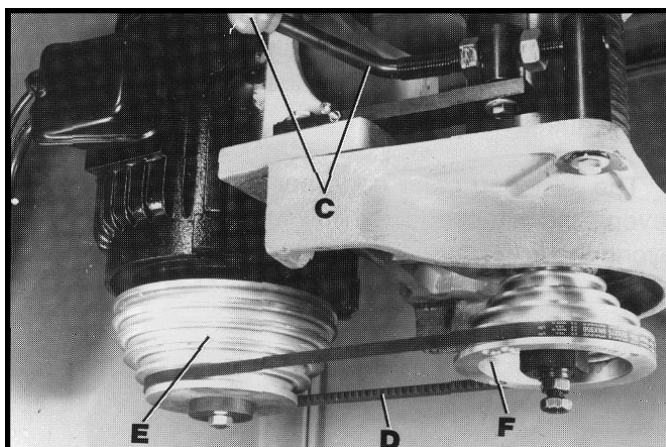


Fig. 43

TABLE INSERTS

⚠ WARNING DISCONNECT MACHINE FROM POWER SOURCE

Three table inserts (A) Fig. 44, are supplied with your machine and can be removed individually for use with various size cutters.

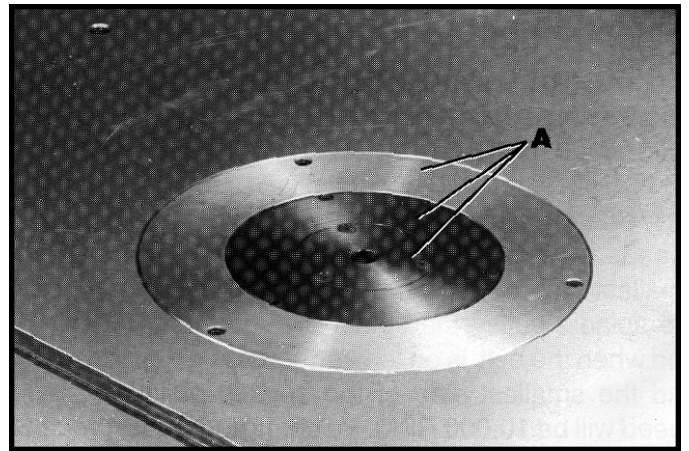


Fig. 44

USING MITER GAGE

(For 43-791 5-Speed Shaper Only)

⚠ WARNING DISCONNECT MACHINE FROM POWER SOURCE

1. Locate the miter gage bar (A) Fig. 45, and insert washer end (B) of bar into T-slot (C) of shaper table.

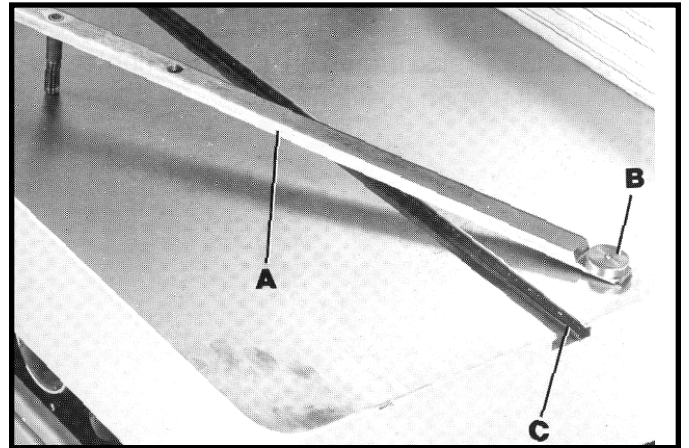


Fig. 45

2. Figure 46 illustrates the miter gage bar (A) in the table slot. Place the miter gage (D) on the bar with stud (E) of bar protruding up through opening in miter gage body as shown. Fasten in place using washer (F) and lock knob (G).

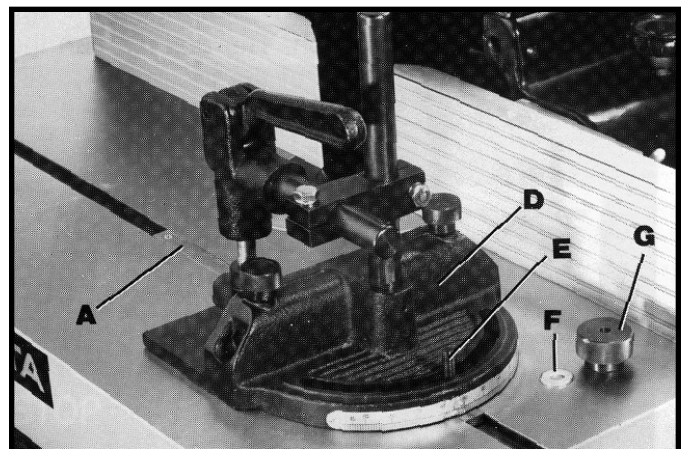


Fig. 46

3. **NOTE:** The miter gage is adjustable from 90 degrees to 40 degrees right and left. To rotate the miter gage, loosen lock knob (G) Fig. 47, and move the miter gage body to the desired angle.

4. The T-slotted miter gage bar (A) Fig. 47, and table prevents the miter gage from falling when it is extended out beyond the table surface as shown.

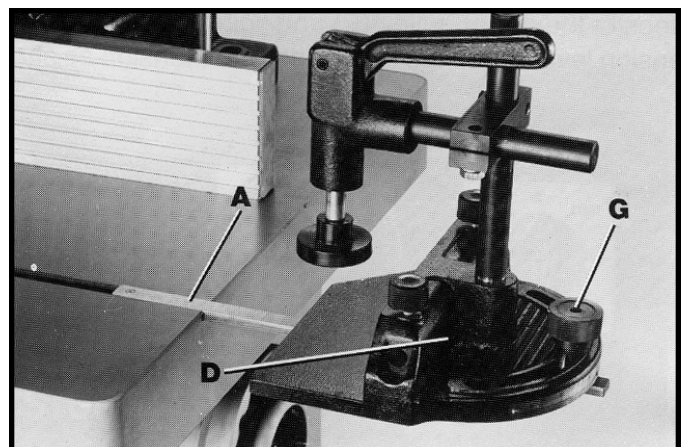


Fig. 47

USING MITER GAGE

(For 43-792 5-Speed Sliding Table Shaper Only)

⚠ WARNING DISCONNECT MACHINE FROM POWER SOURCE

1. Position the miter gage body (A) Fig. 48, on the sliding table with the protrusion (B) on bottom of miter gage body engaged into hole (C) of table. Place washer (D) on shaft of lock knob (E) and insert shaft of lock knob (E) down through opening (F) of miter gage and thread shaft into hole (G) of sliding table.

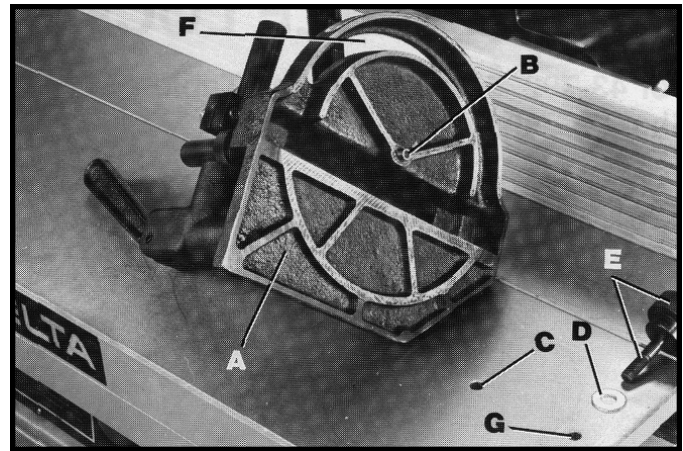


Fig. 48

2. Figure 49, illustrates miter gage (A) and lock knob (E) assembled to the sliding table.

3. **NOTE:** The miter gage is adjustable from 90 degrees to 40 degrees right and left. To rotate the miter gage, loosen lock knob (E) and move the miter gage body (A) to the desired angle.

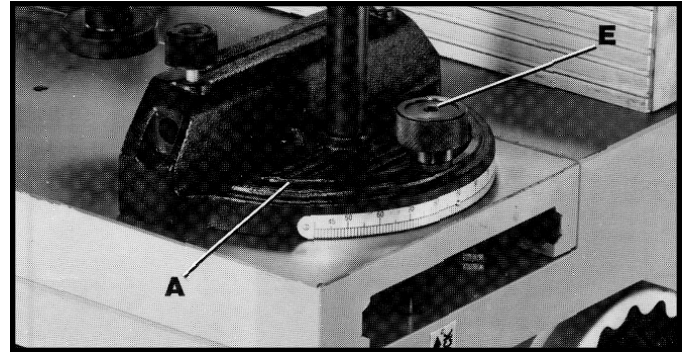


Fig. 49

USING STOP ROD AND STOP WITH MITER GAGE

⚠ WARNING DISCONNECT MACHINE FROM POWER SOURCE

1. Insert stop rod (A) Fig. 50, into hole on side of miter gage body and lock in place with lock knob (B).

2. Assemble stop (C) Fig. 50, to stop rod (A) as shown, and tighten lock knob (D).

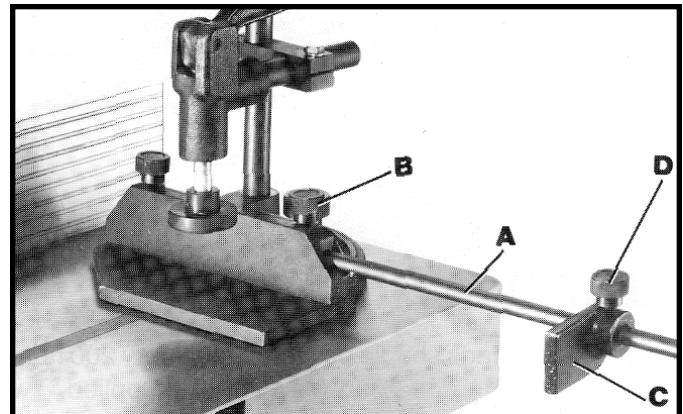


Fig. 50

MITER GAGE CLAMP

A clamp (A) Fig. 51, is supplied with your miter gage to securely hold workpieces when shaping small pieces across the grain. The clamp (A) can be moved up or down as required on post (B).

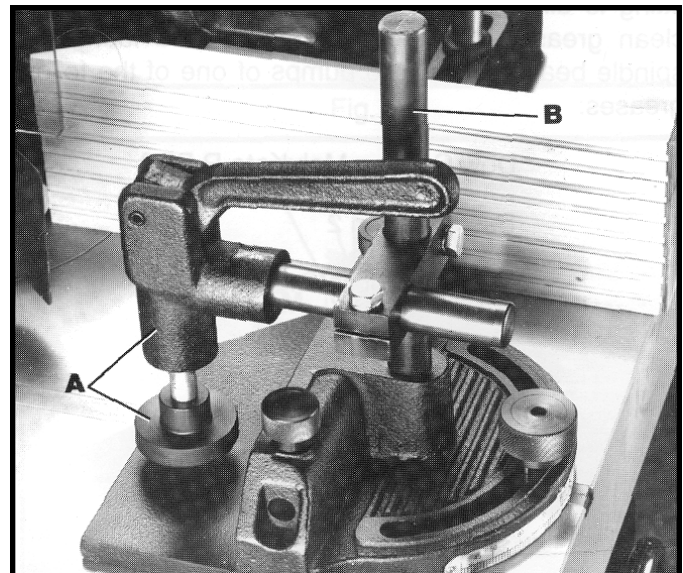


Fig. 51

SLIDING TABLE LOCK

(For 43-792 5-Speed Sliding Table Shaper Only)

⚠ WARNING **DISCONNECT MACHINE FROM POWER SOURCE**

1. To operate the sliding table (A) Fig. 52, pull out and rotate knob (B) until it stays in the out position as shown. The sliding table can then be moved back and forth.

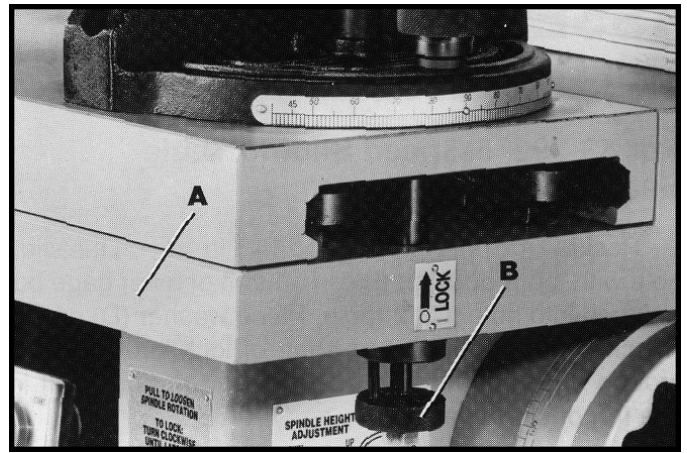


Fig. 52

2. To lock the sliding table, preventing it from moving, simply rotate knob (B) Fig. 53, until knob (B) moves to the up position and the pin on the other end of the knob engages a hole underneath the table.

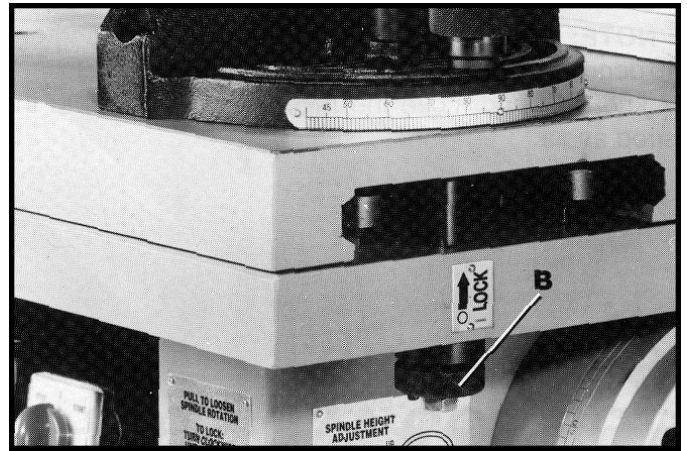


Fig. 53

GUARD CONTROLS AND ADJUSTMENTS

⚠ WARNING DISCONNECT MACHINE FROM
POWER SOURCE

The spring clamp (A) Fig. 55, holddown (B), and clear plastic guard (C) are fully adjustable to provide safe protection for most applications. **NOTE: For certain applications, a Delta Wood Shaper Spindle guard may need to be used, or a custom guard may need to be fabricated.**

1. Using a square (not shown), check to see if shaft (D) Fig. 55, on spring clamp (A) is 90 degrees to the table surface. If an adjustment is necessary, proceed as follows:

Lift up on guard locking handle (E) Fig. 56, loosen lock nut (F), and turn screw (G) until shaft (D) is 90 degrees to the table surface, then tighten lock nut (F).

Push down on guard locking handle (E) Figs. 56 and 57, until it locks in place as shown in Fig. 57. If the locking action is too loose or tight, loosen screw (H) and adjust cam washer (J), then tighten screw (H). Repeat this adjustment on the screw and cam washer located on the other side of guard locking handle (E).

2. Adjust holddown (B) Fig. 58, by placing a piece of material which will be used on the table as shown. Loosen thumb screws on guard mounting bracket (K) and adjust holddown (B) over top of workpiece to provide some down-ward pressure and tighten thumb screws.

3. Adjust clear plastic guard (L) Fig. 58, by loosening thumb screws on guard mounting bracket (M) and locating the guard so it will deflect the wood chips and provide protection from reaching the cutter, then retighten thumb screws.

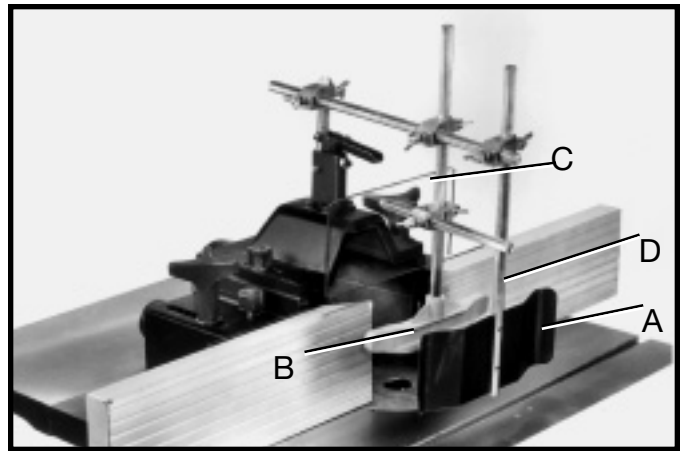


Fig. 55

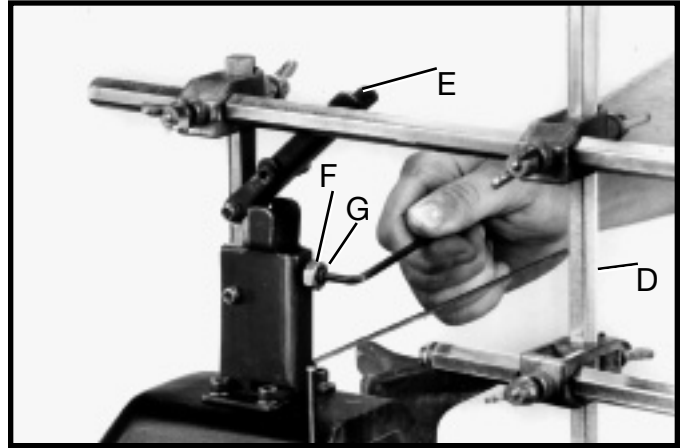


Fig. 56

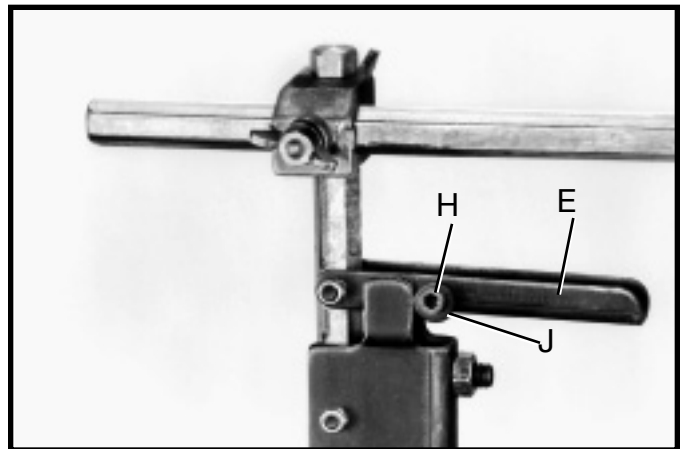


Fig. 57

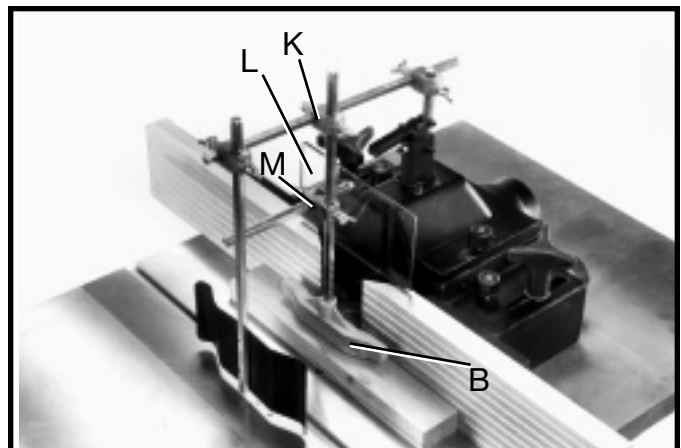


Fig. 58

4. Loosen thumb screws on guard mounting bracket (P) Fig. 59, and adjust spring clamp (N) so it will provide inward pressure on workpiece, then tighten thumb screws. NOTE: Thumb screws on guard mounting bracket (R) Fig. 59, can be loosened to permit extension of guard assembly.

⚠ WARNING TURN THE CUTTER BY HAND TO MAKE CERTAIN CUTTER DOES NOT CONTACT ANY OF THE GUARDING OR FENCE HALVES BEFORE CONNECTING THE SHAPER TO POWER SOURCE.

⚠ WARNING ALWAYS MAKE CERTAIN GUARD LOCKING HANDLE (E) FIG. 59, IS IN THE LOCKED POSITION AS SHOWN AND ALL THUMB SCREWS ON GUARD ASSEMBLY ARE TIGHT BEFORE TURNING SHAPER ON.

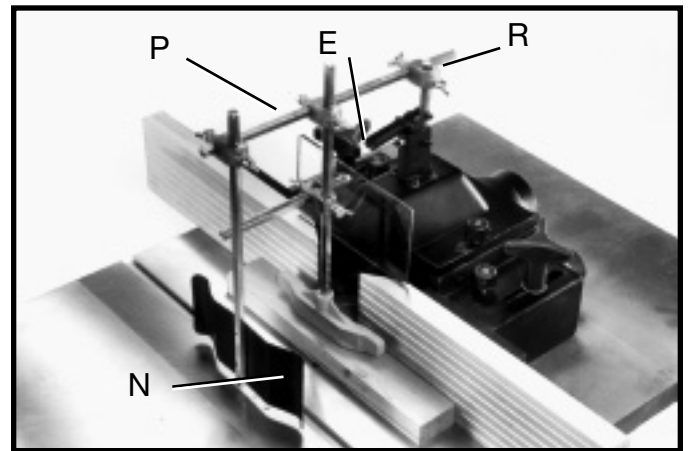


Fig. 59

MACHINE USE

The following is an example of the setting-up and operational procedures when using the fence, collars and starting pin. Please review this information carefully before turning on the power to avoid damage to the machine or personal injury.

SHAPING WHEN USING THE FENCE AS A GUIDE

Using the fence is the safest and most satisfactory method of shaping, and this method should always be used when the work permits. Almost all straight work can be shaped using the fence as follows:

1. For average work, where a portion of the original edge of the work is not touched by the cutter, both the front and rear fences are in a straight line, as shown in Fig. 60.

2. When the shaping operation removes the entire edge of the work, e.g., in 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 Fig. 61. In this case, the work should be advanced to the position shown in Fig. 61 and stopped.

3. The rear fence should then be advanced to contact the work, as shown in Fig. 62. The rear fence will then be in line with the cutting circle.

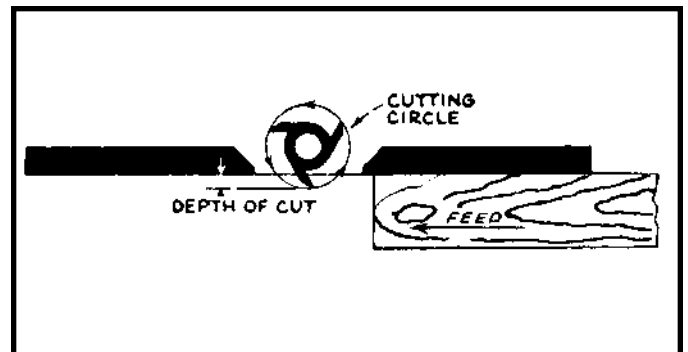


Fig. 60

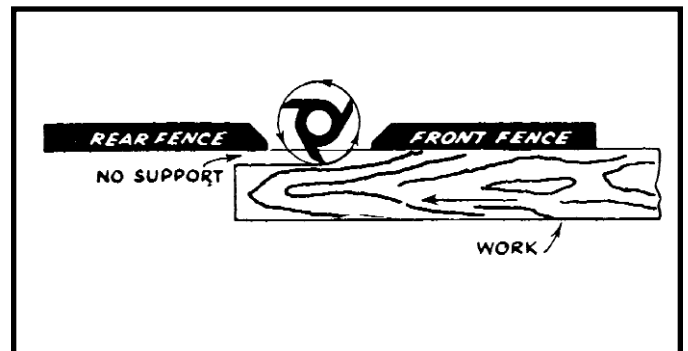


Fig. 61

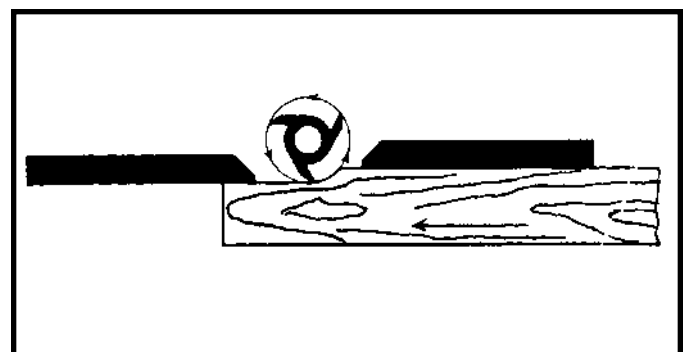


Fig. 62

SHAPING WITH COLLARS AND STARTING PIN

When shaping with collars and starting pin, follow the rules below for superior finishing and safety in operation.

1. Free the collars of **ALL** gum or other substances, and confirm that they are smooth.
2. Confirm that the edge of the work is smooth. **ANY** irregularity in the surface that rides against the collar will be duplicated on the molded surface.
3. A portion of the edge of the work **MUST** remain untouched by the cutters in order for the collar to have sufficient bearing surface. The right method is shown in Fig. 63, while Fig. 64 illustrates the wrong method.
4. The work **MUST** be fairly heavy in proportion to the cut being made (Fig. 65). Under **NO** circumstances should short work of light body be shaped against the collars (Fig. 66).
5. When shaping with collars and starting pin, use the spindle guard supplied with the machine.

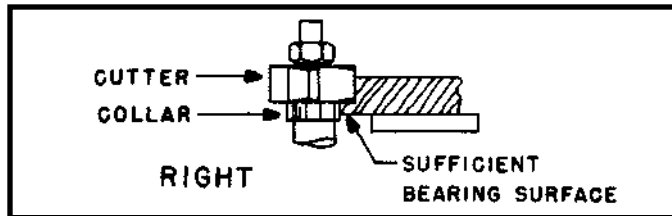


Fig. 63

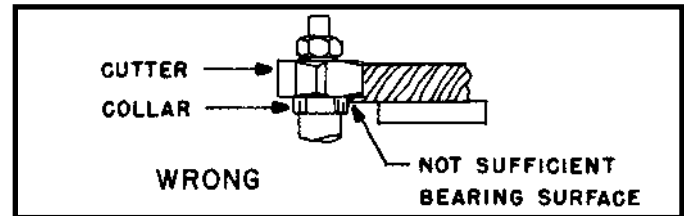


Fig. 64

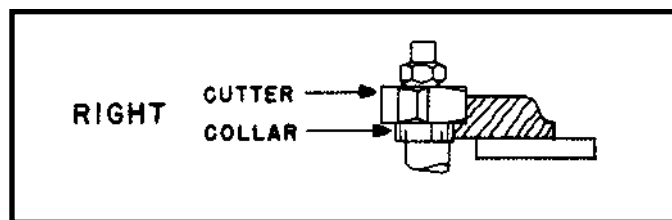


Fig. 65

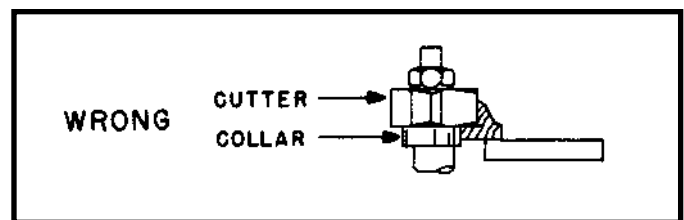


Fig. 66

POSITION OF COLLARS

1. The collars may be used in any of three positions: above, below, or between two cutters.
2. When the collar is used below the cutter (Fig. 67), the operator can see the progress of the cut. **NOTE:** Any accidental lifting of the work will gouge the wood and ruin the workpiece.
3. When the collar is used above the cutter (Fig. 68), the operator will be unable to see the cut. However, the advantage in this method is that the cut is not affected by slight variations in the thickness of the stock. Also, accidental lifting of the work will not gouge the workpiece. Simple correction for the mistake is to repeat the operation.
4. The collar between cutters method (Fig. 69) utilizes the advantages of the first two methods and is frequently used when both edges of the workpiece are to be shaped.

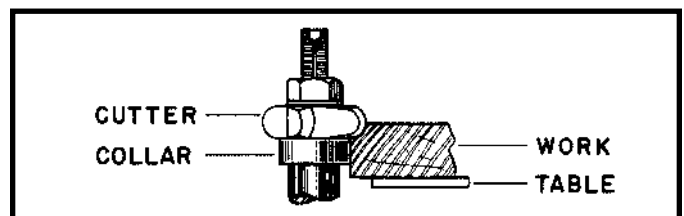


Fig. 67

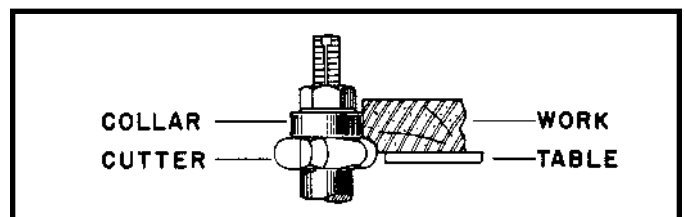


Fig. 68

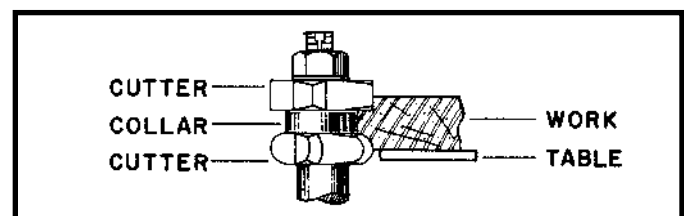


Fig. 69

END SHAPING

Maintain sufficient support of the workpiece during all shaping operations. **USE A MITER GAUGE OR BACK-UP BLOCK** (Figs. 70 and 71) when end shaping a workpiece that is too short to be sufficiently supported halfway through the cut.

⚠ WARNING Shaping a narrow workpiece without sufficient support could result in serious injury.

The infeed fence assembly must be parallel to the miter slot when using the miter gauge. Adjust the outfeed fence so that it will not contact the workpiece after it has passed the cutter. Place the workpiece firmly against the miter gauge and the infeed fence, and feed the cutter by pushing the miter gauge.

⚠ WARNING Failure to hold the workpiece firmly against the miter gauge during the cut could result in slippage of the workpiece, causing serious personal injury and/or damage to the workpiece.

CROSS GRAIN SHAPING

Shaping across the grain will usually cause some splitting at the end of the cut. Feeding the workpiece slowly across the cutter at the end of the cut can minimize the splitting. Shape the cross-grain cuts first. Shaping with the grain last will usually remove the splintered end.

SHAPING NARROW MATERIAL

Clamp a support (Fig. 72) to the machine when shaping narrow material (less than 3" wide) Feed the workpiece under this support with a push stick. **NOTE:** The push stick should be slightly narrower and thinner than the workpiece.

⚠ WARNING Shaping narrow material without proper support and push stick could result in serious injury.

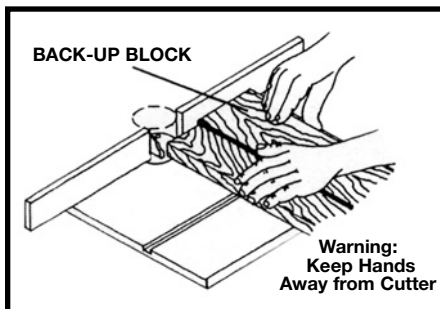


Fig. 70

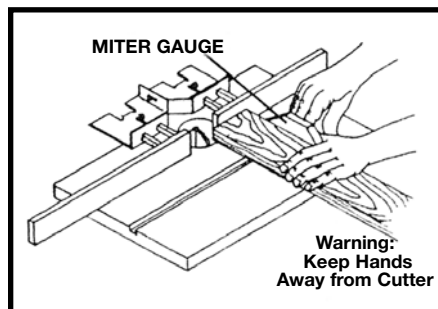


Fig. 71

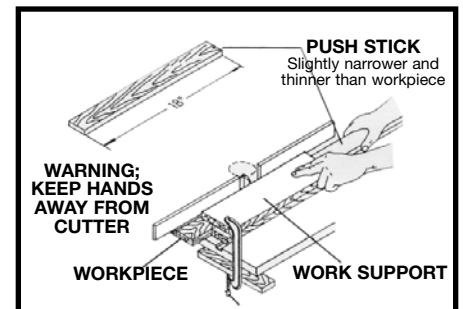


Fig. 72

STARTING PIN

1. The machine is supplied with a tapered starting pin (A) Fig. 73, which is used as a support when starting the cut. The starting pin (A) is placed in one of the tapered holes (B) in the table.
2. Place the work in the first position using the guide pin as a support (Fig. 74). Swing the work into the second position (Fig. 75). The work will be supported by the collar and starting pin (Fig. 75).
3. After the cut has started, swing the work free of the starting pin and let it ride only against the collar (third position, Fig. 75). **ALWAYS FEED THE WORKPIECE AGAINST THE ROTATION OF THE CUTTER.**

⚠ WARNING Advancing the work to the cutter without the side support of the starting pin will provide serious kickback. **ALWAYS USE THE STARTING PIN.**

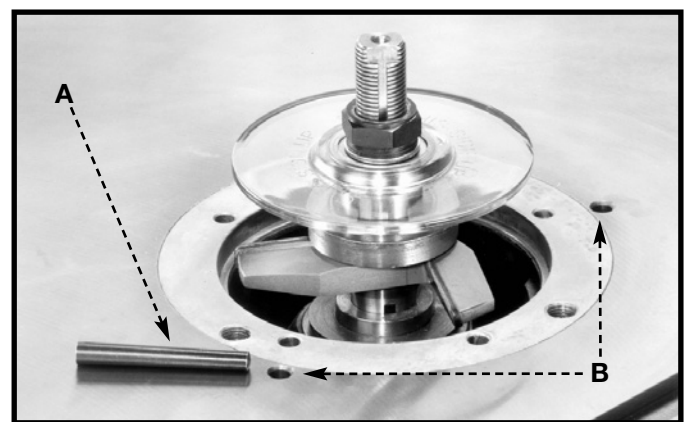


Fig. 73

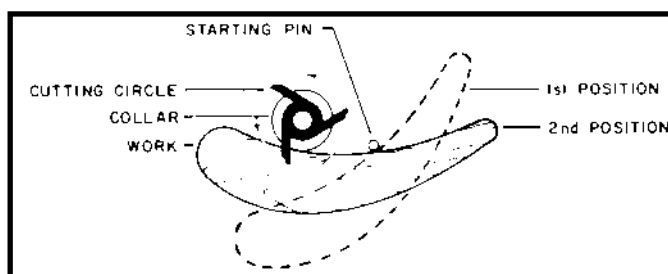


Fig. 74

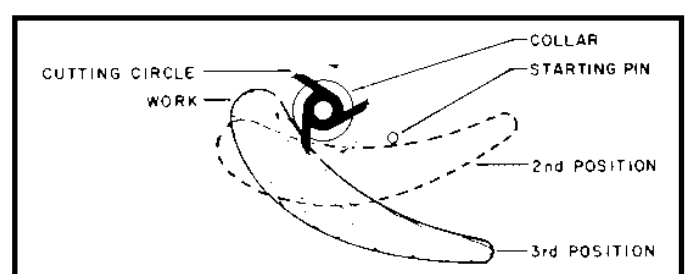


Fig. 75

TROUBLESHOOTING

For assistance with your machine, visit our website at www.deltamachinery.com for a list of service centers or call the DELTA Machinery help line at 1-800-223-7278 (In Canada call 1-800-463-3582).

MAINTENANCE

LUBRICATION

⚠ WARNING **DISCONNECT MACHINE FROM POWER SOURCE.**

The spindle bearings should be lubricated every 200 hours of use using the grease gun (A) Fig. 54, supplied. Two grease fittings, one of which is shown at (B), are supplied on the spindle housing for this purpose. The other grease fitting is directly opposite fitting (B). Before lubricating, clean grease fittings (B) thoroughly and lubricate the spindle bearings with two pumps of one of the following greases, or their equivalent: Dow Corning MolyKote R BR2; Esso - Becon 2; Mobile - Mobilplex 47; Texaco - Startex 2.

KEEP MACHINE CLEAN

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

⚠ WARNING **Wear ANSI Z87.1 safety glasses while using compressed air.**

FAILURE TO START

Should your machine fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check for blown fuses or open circuit breakers in the line.

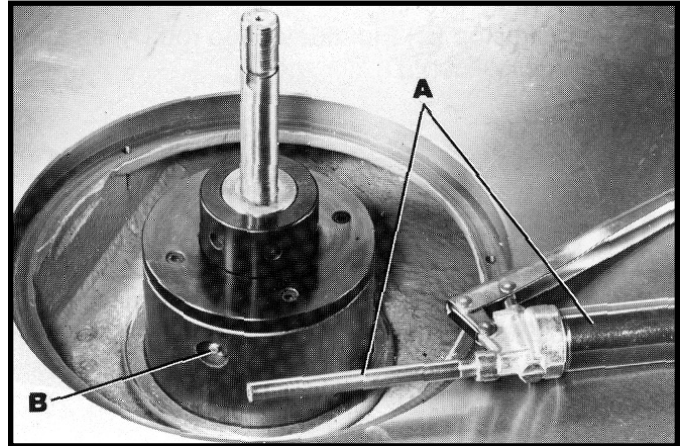


Fig. 54

LUBRICATION

Apply household floor paste wax to the machine table and extension table or other work surface weekly.

PROTECTING CAST IRON FROM RUST

To clean and protect cast iron tables from rust, you will need the following materials: 1 pushblock from a jointer, 1 sheet of medium Scotch-Brite™ Blending Hand Pad, 1 can of WD-40®, 1 can of degreaser, 1 can of TopCote® Aerosol. Apply the WD-40 and polish the table surface with the Scotch-Brite pad using the pushblock as a holdddown. Degrease the table, then apply the TopCote® accordingly.

SERVICE



PARTS, SERVICE OR WARRANTY ASSISTANCE

All Delta Machines and accessories are manufactured to high quality standards and are serviced by a network of Porter-Cable • Delta Factory Service Centers and Delta Authorized Service Stations. To obtain additional information regarding your Delta quality product or to obtain parts, service, warranty assistance, or the location of the nearest service outlet, please call 1-800-223-7278 (In Canada call 1-800-463-3582).

ACCESSORIES

A complete line of accessories is available from your Delta Supplier, Porter-Cable • Delta Factory Service Centers, and Delta Authorized Service Stations. Please visit our Web Site www.deltamachinery.com for a catalog or for the name of your nearest supplier.

⚠ WARNING Since accessories other than those offered by Delta have not been tested with this product, use of such accessories could be hazardous. For safest operation, only Delta recommended accessories should be used with this product.

WARRANTY



Two Year Limited New Product Warranty

Delta will repair or replace, at its expense and at its option, any new Delta machine, machine part, or machine accessory which in normal use has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to a Delta factory service center or authorized service station with proof of purchase of the product within two years and provides Delta with reasonable opportunity to verify the alleged defect by inspection. For all refurbished Delta product, the warranty period is 180 days. Delta may require that electric motors be returned prepaid to a motor manufacturer's authorized station for inspection and repair or replacement. Delta will not be responsible for any asserted defect which has resulted from normal wear, misuse, abuse or repair or alteration made or specifically authorized by anyone other than an authorized Delta service facility or representative. Under no circumstances will Delta be liable for incidental or consequential damages resulting from defective products. This warranty is Delta's sole warranty and sets forth the customer's exclusive remedy, with respect to defective products; all other warranties, express or implied, whether of merchantability, fitness for purpose, or otherwise, are expressly disclaimed by Delta.

NOTES

NOTES

PORTER-CABLE • DELTA SERVICE CENTERS (CENTROS DE SERVICIO DE PORTER-CABLE • DELTA)

Parts and Repair Service for Porter-Cable • Delta Machinery are Available at These Locations
(Obtenga Refaccion de Partes o Servicio para su Herramienta en los Siguientes Centros de Porter-Cable • Delta)

ARIZONA

Phoenix 85013-2906
4501 N. 7th Ave.
Phone: (602) 279-6414
Fax: (602) 279-5470

CALIFORNIA

Ontario 91761 (Los Angeles)
3949A East Guasti Road
Phone: (909) 390-5555
Fax: (909) 390-5554

San Diego 92111
7290 Clairemont Mesa Blvd.
Phone: (858) 279-2011
Fax: (858) 279-0362

San Leandro 94577 (Oakland)
3039 Teagarden Street
Phone: (510) 357-9762
Fax: (510) 357-7939

COLORADO

Denver 80223
700 West Mississippi Ave.
Phone: (303) 922-8325
Fax: (303) 922-0245

FLORIDA

Davie 33314 (Miami)
4343 South State Rd. 7 (441)
Unit #107
Phone: (954) 321-6635
Fax: (954) 321-6638

Tampa 33634
4909 West Waters Ave.
Phone: (813) 884-0434
Fax: (813) 888-5997

GEORGIA

Forest Park 30297 (Atlanta)
5442 Frontage Road,
Suite 112
Phone: (404) 608-0006
Fax: (404) 608-1123

ILLINOIS

Addison 60101 (Chicago)
400 South Rohlwing Rd.
Phone: (630) 424-8805
Fax: (630) 424-8895

KANSAS

Overland Park 66214
9201 Quivira Road
Phone: (913) 495-4330
Fax: (913) 495-4378

MARYLAND

Elkridge 21075 (Baltimore)
7397-102 Washington Blvd.
Phone: (410) 799-9394
Fax: (410) 799-9398

MASSACHUSETTS

Franklin 02038 (Boston)
Franklin Industrial Park
101E Constitution Blvd.
Phone: (508) 520-8802
Fax: (508) 528-8089

MICHIGAN

Madison Heights 48071 (Detroit)
30475 Stephenson Highway
Phone: (248) 597-5000
Fax: (248) 597-5004

MINNESOTA

Eden Prairie 55344
9709 Valley View Road
Phone: (952) 884-9191
Fax: (952) 884-3750

MISSOURI

St. Louis 63146
11477 Page Service Drive
Phone: (314) 997-9100
Fax: (314) 997-9183

NEW YORK

Flushing 11365-1595 (N.Y.C.)
175-25 Horace Harding Expwy.
Phone: (718) 225-2040
Fax: (718) 423-9619

NORTH CAROLINA

Charlotte 28270
9129 Monroe Road, Suite 115
Phone: (704) 841-1176
Fax: (704) 708-4625

OHIO

Columbus 43229
1948 Schrock Road
Phone: (614) 895-3112
Fax: (614) 895-3187

Parma Heights OH 44130
6485 Pearl Road
Phone: (440) 842-9100
Fax: (440) 884-3430

OREGON

Portland 97230
14811 North East Airport Way
Phone: (503) 255-6556
Fax: (503) 255-6543

PENNSYLVANIA

Willow Grove 19090
(Philadelphia)
520 North York Road
Phone: (215) 658-1430
Fax: (215) 658-1433

TEXAS

Carrollton 75006 (Dallas)
1300 Interstate 35 N, Suite 112
Phone: (972) 446-2996
Fax: (972) 446-8157

Houston 77022-2122
536 East Tidwell Rd.
Phone: (713) 692-7111
Fax: (713) 692-1107

WASHINGTON

Auburn 98001 (Seattle)
3320 West Valley HWY, North
Building D, Suite 111
Phone: (253) 333-8353
Fax: (253) 333-9613

Authorized Service Stations are located in many large cities. Telephone **800-438-2486** or **731-541-6042** for assistance locating one. Parts and accessories for Porter-Cable-Delta products should be obtained by contacting any Porter-Cable-Delta Distributor, Authorized Service Center, or Porter-Cable-Delta Factory Service Center. If you do not have access to any of these, call **800-223-7278** and you will be directed to the nearest Porter-Cable-Delta Factory Service Center. Las Estaciones de Servicio Autorizadas están ubicadas en muchas grandes ciudades. Llame al **800-438-2486** ó al **731-541-6042** para obtener asistencia a fin de localizar una. Las piezas y los accesorios para los productos Porter-Cable-Delta deben obtenerse poniéndose en contacto con cualquier distribuidor Porter-Cable-Delta, Centro de Servicio Autorizado o Centro de Servicio de Fábrica Porter-Cable-Delta. Si no tiene acceso a ninguna de estas opciones, llame al **800-223-7278** y le dirigirán al Centro de Servicio de Fábrica Porter-Cable-Delta más cercano.

CANADIAN PORTER-CABLE • DELTA SERVICE CENTERS

ALBERTA

Bay 6, 2520-23rd St. N.E.
Calgary, Alberta
T2E 8L2
Phone: (403) 735-6166
Fax: (403) 735-6144

BRITISH COLUMBIA

8520 Baxter Place
Burnaby, B.C.
V5A 4T8
Phone: (604) 420-0102
Fax: (604) 420-3522

MANITOBA

1699 Dublin Avenue
Winnipeg, Manitoba
R3H 0H2
Phone: (204) 633-9259
Fax: (204) 632-1976

ONTARIO

505 Southgate Drive
Guelph, Ontario
N1H 6M7
Phone: (519) 767-4132
Fax: (519) 767-4131

QUÉBEC

1515 ave.
St-Jean Baptiste, Suite 160
Québec, Québec
G2E 5E2
Phone: (418) 877-7112
Fax: (418) 877-7123

1447, Begin
St-Laurent, (Montréal),
Québec
H4R 1V8
Phone: (514) 336-8772
Fax: (514) 336-3505

The following are trademarks of PORTER-CABLE • DELTA (Las siguientes son marcas registradas de PORTER-CABLE • DELTA S.A.) (Les marques suivantes sont des marques de fabricant de la PORTER-CABLE • DELTA): Auto-Set®, BAMMER®, B.O.S.S.®, Builder's Saw®, Contractor's Saw®, Contractor's Saw II™, Delta®, DELTACRAFT®, DELTAGRAM™, Delta Series 2000™, DURATRONIC™, Emc²™, FLEX®, Flying Chips™, FRAME SAW®, Grip Vac™, Homecraft®, INNOVATION THAT WORKS®, Jet-Lock®, JETSTREAM®, 'kickstand', LASERLOC®, MICRO-SET®, Micro-Set®, MIDI LATHE®, MORTEN™, NETWORK™, OMNIJIG®, POCKET CUTTER®, PORTA-BAND®, PORTA-PLANE®, PORTER-CABLE®&(design), PORTER-CABLE®PROFESSIONAL POWER TOOLS, PORTER-CABLE REDEFINING PERFORMANCE™, Posi-Matic®, Q-3®&(design), QUICKSAND®&(design), QUICKSET™, QUICKSET II®, QUICKSET PLUS™, RIPTIDE™&(design), SAFE GUARD II®, SAFE-LOC®, Sanding Center®, SANDTRAP®&(design), SAW BOSS®, Sawbuck™, Sidekick®, SPEED-BLOC®, SPEEDMATIC®, SPEEDTRONIC®, STAIR EASE®, The American Woodshop®&(design), The Lumber Company®&(design), THE PROFESSIONAL EDGE®, THE PROFESSIONAL SELECT®, THIN-LINE™, TIGER®, TIGER CUB®, TIGER SAW®, TORQBUSTER®, TORQ-BUSTER®, TRU-MATCH™, TWIN-LITE®, UNIGUARD®, Unifence®, UNIFEEDER™, Unihead®, Uniplane™, Unirip®, Unisaw®, Univise®, Versa-Feeder®, VERSA-PLANE®, WHISPER SERIES®, WOODWORKER'S CHOICE™.

Trademarks noted with ™ and ® are registered in the United States Patent and Trademark Office and may also be registered in other countries. Las Marcas Registradas con el signo de ™ y ® son registradas por la Oficina de Registros y Patentes de los Estados Unidos y también pueden estar registradas en otros países.