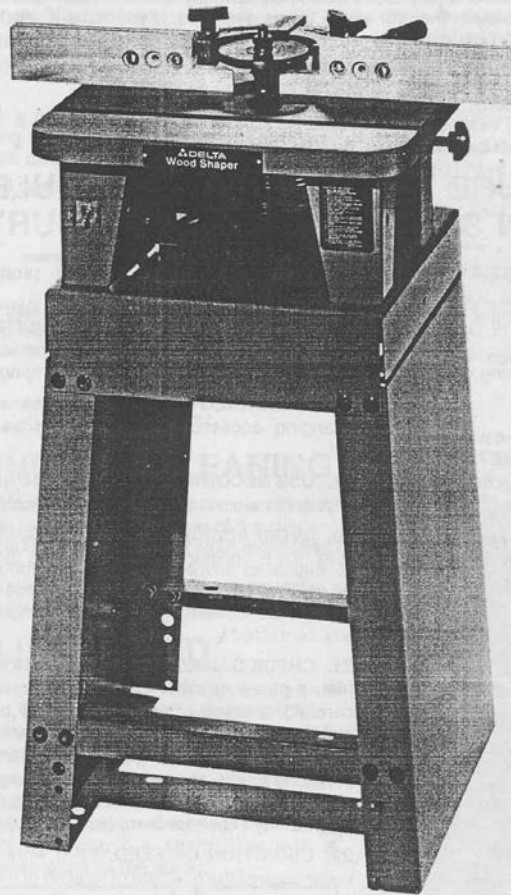


Wood Shaper

INSTRUCTION MANUAL



Model No.: 43-120
Serial No.: IT 303
1976

DATED 6-15-87

PART NO. 432-01-651-0006
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SAFETY RULES

As with all machinery there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. Delta Machinery strongly recommends that this machine 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 machine until you have written Delta Machinery and we have advised you.

DELTA INTERNATIONAL MACHINERY CORP.
MANAGER OF TECHNICAL SERVICES
246 ALPHA DRIVE
PITTSBURGH, PENNSYLVANIA 15238
(IN CANADA: 644 IMPERIAL ROAD, GUELPH, ONTARIO N1H 6M7)

WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

- 1. FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE TOOL.** Learn the tool's application and limitations as well as the specific hazards peculiar to it.
- 2. KEEP GUARDS IN PLACE** and in working order.
- 3. ALWAYS WEAR EYE PROTECTION.**
- 4. GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter lug must be attached to a known ground. Never remove the third prong.
- 5. REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on."
- 6. KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- 7. DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well-lighted.
- 8. KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
- 9. MAKE WORKSHOP CHILDPROOF** - with padlocks, master switches, or by removing starter keys.
- 10. DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
- 11. USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
- 12. WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip foot wear is recommended. Wear protective hair covering to contain long hair.
- 13. ALWAYS USE SAFETY GLASSES.** Wear safety glasses (must comply with ANSI Z87.1). Everyday eye-glasses only have impact resistant lenses; they are not safety glasses. Also use face or dust mask if cutting operation is dusty.
- 14. SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and frees both hands to operate tool.
- 15. DON'T OVERREACH.** Keep proper footing and balance at all times.
- 16. MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- 17. DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.
- 18. USE RECOMMENDED ACCESSORIES.** The use of improper accessories may cause hazards.
- 19. AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.
- 20. NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
- 21. CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure 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.
- 22. DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
- 23. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
- 24. DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drug, alcohol or any medication.
- 25. MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while motor is being mounted, connected or reconnected.
- 26. WARNING:** The dust generated by certain woods and wood products can be injurious to your health. Always operate machinery in well ventilated areas and provide for proper dust removal. Use wood dust collection systems whenever possible.

ADDITIONAL SAFETY RULES FOR WOOD SHAPERS

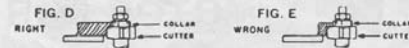
1. **IF YOU ARE NOT** thoroughly familiar with the operation of Wood Shapers, obtain advice from your supervisor, instructor or other qualified person.
2. **KEEP** hands away from cutting tool.
3. **NEVER** run the stock between the fence and the cutter.
4. **ALWAYS** use a miter gage and clamp attachment when edge shaping work less than 6" wide. The fence should be removed during this operation.
5. **ALWAYS** feed against the cutter rotation, as shown in Fig. A.



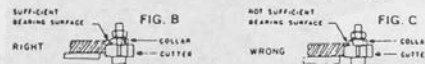
6. **WHEN SHAPING** with collars and starting pin, the cutter should be positioned below the collar whenever possible, as shown in Fig. F.



7. **WHEN SHAPING** with collars and starting pin, the work must be fairly heavy in proportion to the cut being made as shown in Fig. D. **UNDER NO CIRCUMSTANCES** should short work of light body be shaped against the collars as shown in Fig. E.



8. **WHEN SHAPING** with collars and starting pin, the collar **MUST** have sufficient bearing surface, as shown in Fig. B. Fig. C, illustrates the wrong way for this operation as the collar **DOES NOT** have sufficient bearing surface.



9. **THE FENCE** should be adjusted endwise so the opening is never more than is required to clear the cutter.
10. **KEEP** cutters sharp and free from rust and pitch.

UNPACKING AND CLEANING

Remove the machine from the carton and remove the protective coating from the machined surfaces of the shaper. 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 all unpainted surfaces with a good quality paste wax.

ASSEMBLING STAND

Assemble the top shelf and the two braces to the two panels of the stand, as shown in Fig. 2, using the 16 carriage bolts, flat washers, lockwashers and nuts. The 50-513 Steel Stand is shown completely assembled in Fig. 3.

Four rubber feet are supplied with the stand and should be assembled to the stand as illustrated in Fig. 2A. **NOTE:** It is necessary to seat the truss head screw in the recess of the rubber foot by giving it a sharp blow with a hammer before assembling to the stand.

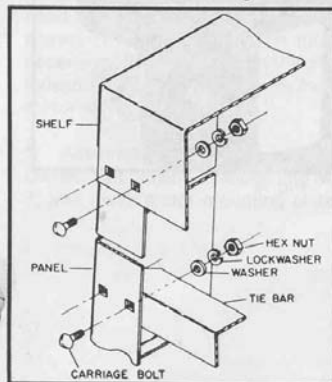


Fig. 2

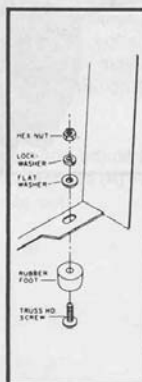


Fig. 2A

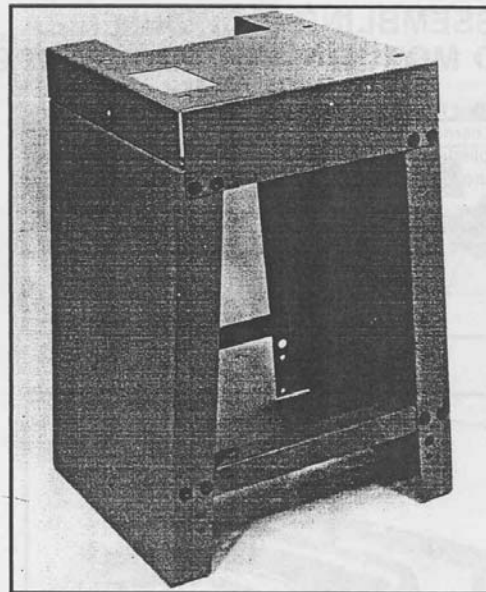


Fig. 3

ASSEMBLING SHAPER TO STAND

Place the shaper on the top shelf of the stand. The back of the shaper is toward the cut out portion of the top shelf. Align the four holes in the shelf with the four holes in the shaper legs and insert the 5/16-18 x 1-1/4" hexagon cap screws down thru the shaper legs. Hold in place with flat washers, lockwashers and hex nuts.

FASTENING STAND OR BENCH TO FLOOR

IF DURING OPERATION THERE IS ANY TENDENCY FOR THE TOOL TO TIP OVER, SLIDE OR WALK ON SUPPORTING SURFACE, THE STAND OR BENCH MUST BE SECURED TO THE FLOOR.

MOTOR FOR YOUR SHAPER

The motor recommended for use with your machine is:

62-103 1 H.P., Heavy Duty Motor with Integral
Reversing Switch, On-Off toggle switch
and 8 foot grounding cord set.

This motor has been specially selected to best supply power to your machine and the relative safety of your machine is enhanced by its use. We therefore strongly suggest that only this motor be used as the use of other motors may be detrimental to the performance and safety of your machine.

ASSEMBLING MOTOR TO MOTOR PLATE

1. Bolt the motor to the motor mounting plate using the four carriage bolts, lockwashers, flat washers, and nuts supplied, as shown in Fig. 4. Do not tighten the nuts securely at this time.
2. Partially insert cap screws (A), lockwashers and flat washers to top of motor mounting plate, as shown in Fig. 4.

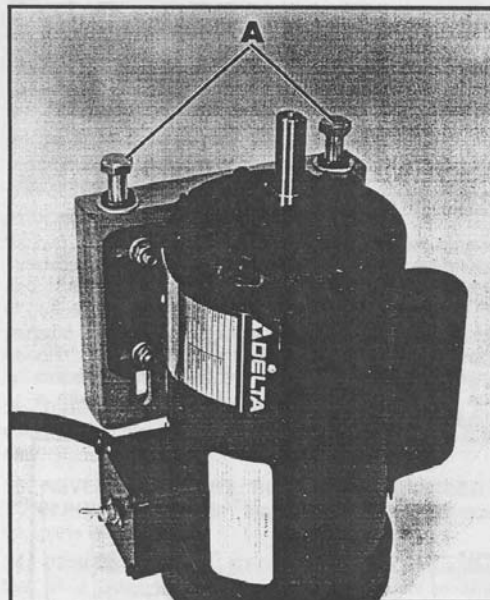


Fig. 4

ASSEMBLING MOTOR AND MOTOR PLATE TO SHAPER

1. Place motor and motor plate on rear of shaper, with cap screws (A) in slots of rear table support, as shown in Fig. 5, and tighten cap screws.

ASSEMBLING MOTOR PULLEY

1. Place motor pulley (C) on motor shaft as shown in Fig. 5, and tighten two set screws (B) in the pulley against the key or flat of motor shaft. If pulley does not readily slip on to motor shaft, do not force it. Check the motor shaft and the hole in the pulley for any burrs or other obstructions which should be removed. If necessary clean up the hole in the pulley by using a round file or piece of sandpaper wrapped around a small dowel rod.

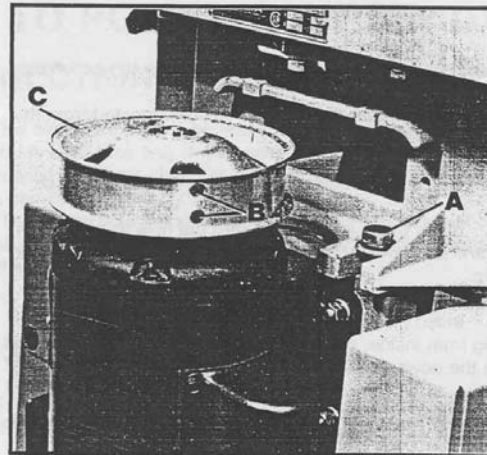


Fig. 5

ALIGNING PULLEYS, ASSEMBLING BELT AND ADJUSTING BELT TENSION

1. Raise the spindle to the top position by loosening lock handle (A) and moving spindle control lever (B) Fig. 6, to the right.

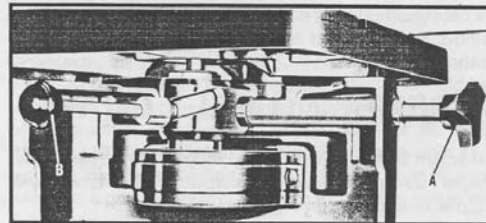


Fig. 6

2. When the spindle is at the top position the top edge of the motor pulley and the top edge of the spindle pulley must be in line. Use a straight edge to align pulleys as shown in Fig. 7, and tighten motor mounting bolts. If necessary, the set screws in the pulley (B) Fig. 5, may be loosened and the pulley can be moved up or down on the motor shaft.

3. Assemble the belt to the two pulleys and adjust for correct belt tension by loosening two cap screws (A) Fig. 7, and move motor mounting plate in or out.

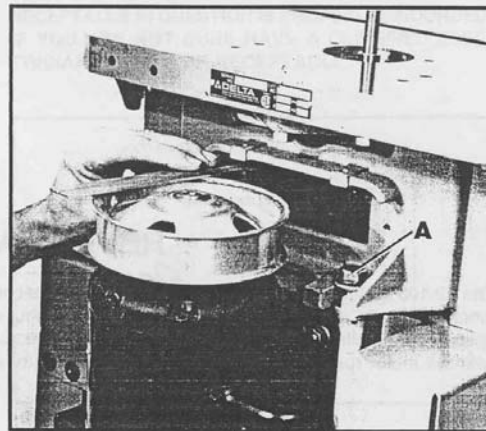


Fig. 7

ASSEMBLING SWITCH TO SHAPER LEG

Assemble the on/off switch to the shaper leg as follows:

1. Make certain the machine is disconnected from the power source.
2. Remove the outer hex nut from the switch stem.
3. Insert the switch box up thru the hole in the shaper stand as shown in Fig. 9, before mounting switch to shaper leg.
4. Insert the switch stem (A) Fig. 9, thru hole in shaper leg from inside, making sure the keyway in the stem is in the down position.
5. Place the switch bracket (B) Fig. 9 on switch stem with the key in switch bracket engaged in keyway of switch stem; fasten in place with hex nut (C) which was removed in Step #2.
6. We suggest that when the machine is not in use, the switch be locked in the "off" position using a padlock as shown in Fig. 10.

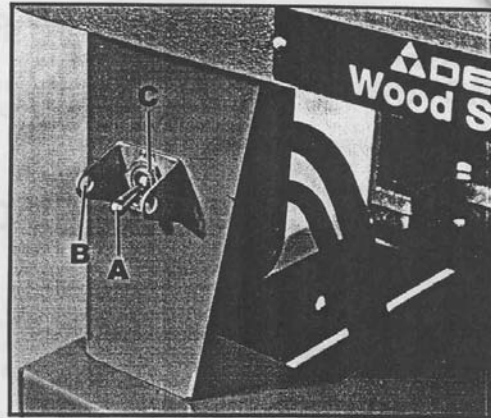


Fig. 9

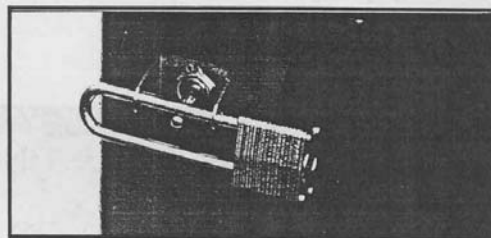


Fig. 10

ASSEMBLING BELT GUARD

Assemble belt guard to the top ledge on the rear of the shaper using the two cap screws and washers (A) supplied, as shown in Fig. 11.

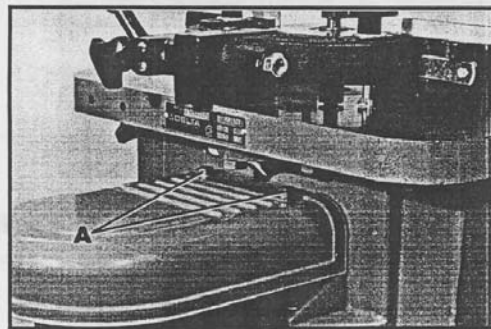


Fig. 11

REVERSING SWITCH

The 62-103 motor recommended for use with your machine is equipped with a reversing switch located in the motor junction box. To reverse the rotation of the spindle, shut off the motor and disconnect it from the power source. Then open motor junction box and push the reversing switch. CAUTION: Never attempt to reverse the rotation of the spindle with the motor running. Always close motor junction box before operating.

CONNECTING SHAPER TO POWER SOURCE

POWER CONNECTIONS

A separate electrical circuit should be used for your tools. This circuit should not be less than #12 wire and should be protected with a 20 Amp time lag fuse. If an extension cord is used, use only 3-wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the tool's plug. For distances up to 100 feet use #12 wire. For distances up to 150 feet use #10 wire. Have a certified electrician replace or repair damaged or worn cord immediately. Before connecting the motor to the power line, make sure the switch is in the "OFF" position and be sure that the electric current is of the same characteristics as stamped on motor nameplate. All line connections should make good contact. Running low voltage will injure the motor.

GROUNDING INSTRUCTIONS

CAUTION: THIS TOOL MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

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 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.

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.

Use only 3-wire extension cords that have 3-prong grounding type plugs and 3-hole receptacles that accept the tool's plug, as shown in Fig. 12.

Repair or replace damaged or worn cord immediately.

This tool is intended for use on a circuit that has an outlet and a plug that looks like the one shown in Fig. 12. A temporary adapter, which looks like the adapter illustrated in Fig. 13, may be used to connect this plug to a 2-pole receptacle, as shown in Fig. 13, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. **THIS ADAPTER IS NOT APPLICABLE IN CANADA.** The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground, such as properly grounded outlet box, as shown in Fig. 13.

CAUTION: IN ALL CASES, MAKE CERTAIN THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE HAVE A CERTIFIED ELECTRICIAN CHECK THE RECEPTACLE.

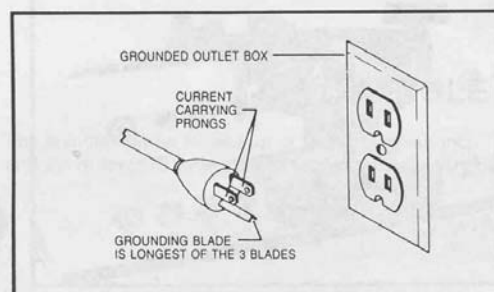


Fig. 12

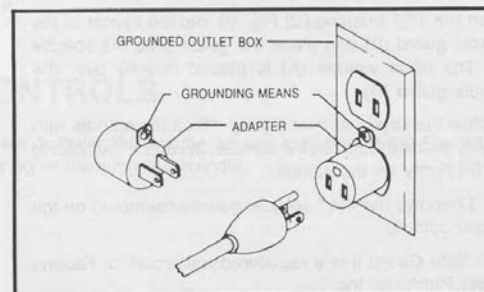


Fig. 13

ASSEMBLING AND INSTALLING SHAPER FENCE

The fence is included as standard equipment with the shaper. To assemble the wooden fence to the fence body, proceed as follows:

1. Place the clamp plate (A) Fig. 14 behind the fence body (B) as shown.
2. Place the wooden fence (C) Fig. 14 against the fence body (B), align the holes and fasten with two 5/16-18 x 1-1/4" screws and washers (D), Fig. 15.
3. Repeat the two steps above and mount the other half of the fence to the fence body.

To install the fence assembly on the shaper table, proceed as follows:

4. Thread the two clamp studs (E) Fig. 15, into the tapped holes in the table.

NOTE: Two additional holes are also provided in the table top for repositioning the fence assembly as needed.

5. Place the fence assembly (F) Fig. 15, over the two clamp studs (E) and fasten with two washers and knobs (G).

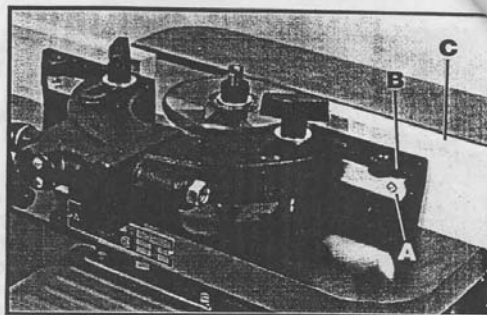


Fig. 14

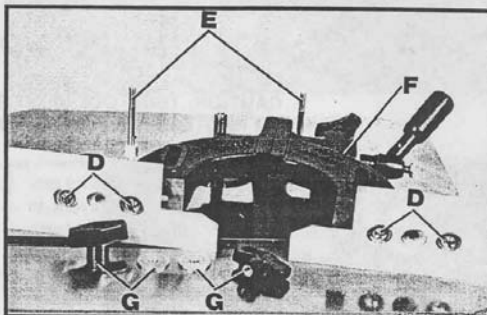


Fig. 15

ASSEMBLING SPINDLE GUARD

The Safe Guard II™ 4 1/2" spindle guard is supplied as standard equipment on the light duty wood shaper. This guard is furnished with a 1/2" bushing and two 1/2" I.D. washers, Catalog No. 43-555, which enable the guard to be used with wood shapers that have 1/2" spindles.

CAUTION: The diameter of the spindle guard should be at least one inch more than the maximum cutting circle of the shaper cutter. The height of the guard should not exceed 1/4" above the work.

To assemble the spindle guard on the shaper, place one of the washers (A) Fig. 16, on the spindle, (B) over either the cutter or collar, as shown.

Insert the 1/2" bushing (C) Fig. 16 into the center of the spindle guard (D) and place the guard onto the spindle (B). The other washer (A) is placed directly over the spindle guard (D).

Position the keyed washer (E) Fig. 16 on the spindle with the key inside the slot on the spindle. Screw on the holding nut (F) firmly on the spindle.

Fig. 17 shows the 4 1/2" spindle guard assembled on the shaper spindle.

TM - Safe Guard II is a registered trademark of Federal Safety Products, Inc.

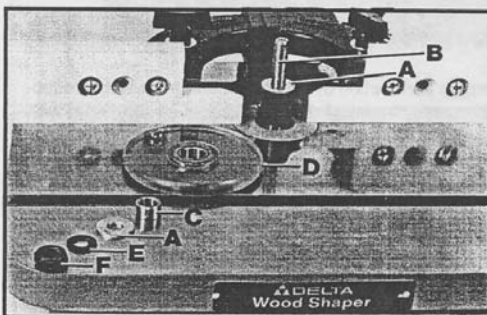


Fig. 16

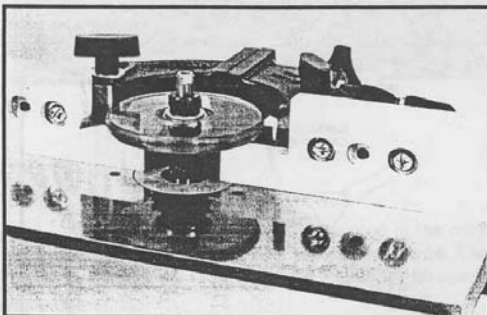


Fig. 17

OPERATING CONTROLS FOR THE FENCE

Either half of the fence (D) can be moved independently depending on the type of work you are doing. To move the fence, loosen the lock handle (A) Fig. 18, and loosen one of the hand knobs (C) depending on which fence half is to be moved. Turn the knob (B) until the correct setting is obtained. Then lock hand knob (C) and lock handle (A).

Each wooden fence half (D) Fig. 18 should be adjusted as close to the cutter as possible. This is done by loosening the round head screws (E) in the counterbored holes in the fence half (D). Once fence adjustments are made, retighten screws (E).

Two extra fence mounting holes are provided in the table for mounting the fence.

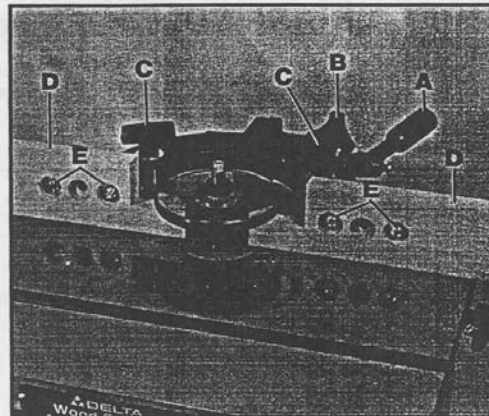


Fig. 18

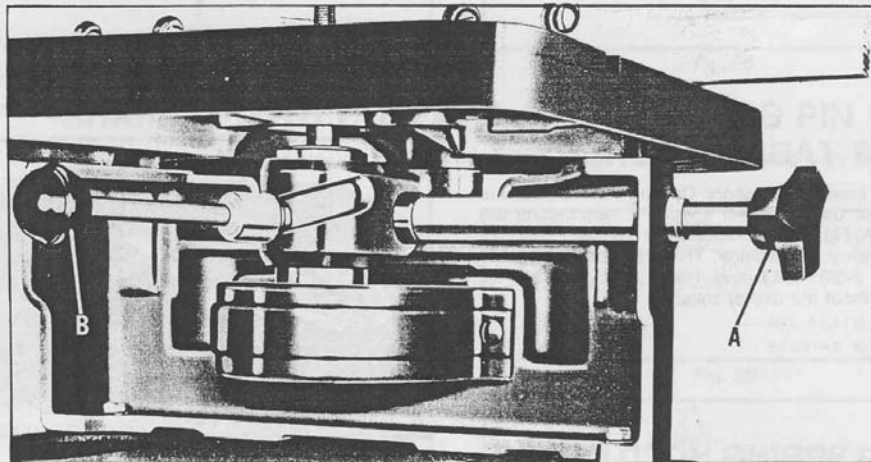


Fig. 19

SPINDLE CONTROLS

The spindle can be moved up or down $7/8$ of an inch. To raise or lower the spindle, loosen lock handle (A) Fig. 19, and move lever (B). Always tighten lock handle (A) after raising or lowering the spindle.

CHANGING SPINDLES

The spindle is held in place with tie rod and nut and is readily interchangeable as follows:

1. Place wrench on flat (G) Fig. 20, on top of the spindle and loosen and remove tie rod nut (B).
2. Remove spindle and tie rod assembly from the spindle cartridge (C) Fig. 20, by lifting straight up.
3. Unscrew and remove tie rod (D) Fig. 20, from spindle (E) and assemble tie rod to new spindle.
4. When installing spindle, align notch (F) Fig. 20, located on the spindle, with pin located inside housing.
5. Always place "keyed" washer (A) Fig. 20, on spindle before screwing on nut (H). The "keyed" washer (A) prevents the nut (H) from loosening when spindle turns counterclockwise.

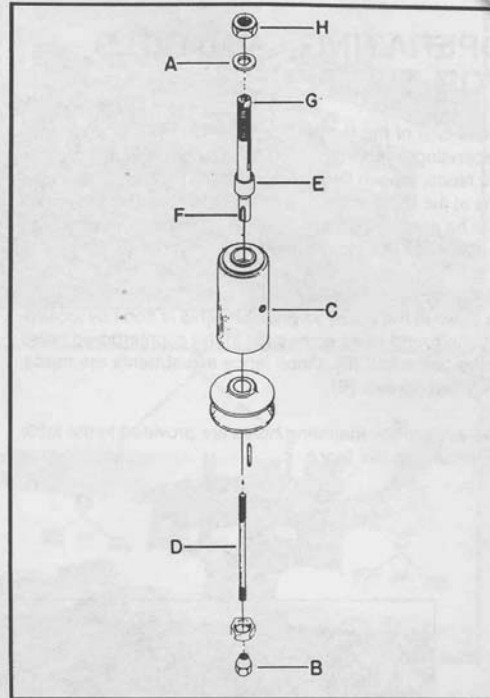


Fig. 20

43-198 TABLE INSERTS

Two table inserts, accessory Catalog No. 43-198, are available for use with your shaper. These inserts are shown at (A) Fig. 21, and replace the standard insert (B) supplied with your machine. These inserts have guide shoulders, 2-3/8" O.D. and 1-5/8" O.D., and are for shaping without the use of collars.

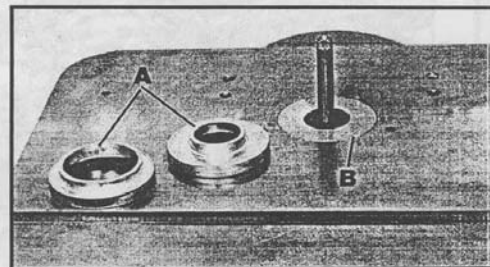


Fig. 21

43-983 SPRING HOLD DOWNS

Available as an accessory for use on the shaper fence for straight shaping operations is the 43-983 Spring Hold Down (A), Fig. 22. This accessory holds the work firmly against the fence and table.

Assemble the 43-983 Spring Hold Down to the shaper fence as shown in Fig. 22.

OPERATION

The following is an explanation of the setting up and operational procedure when using the fence, collars and starting pin. Please study this information carefully before turning on the power to avoid damage to the machine or injury to yourself.

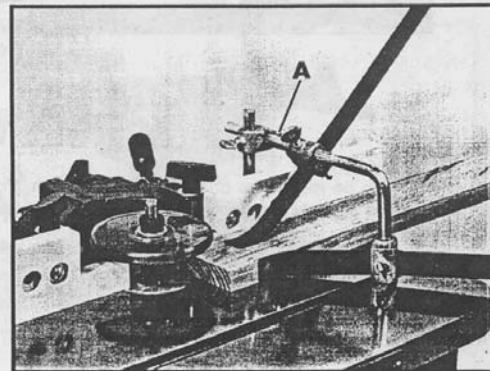


Fig. 22

SHAPING WHEN USING THE FENCE AS A GUIDE

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

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. 23.

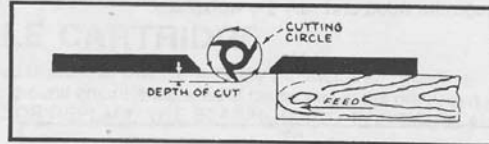


Fig. 23



Fig. 24

3. The rear fence should then be advanced to contact the work, as shown in Fig. 25. The rear fence will then be in line with the cutting circle.



Fig. 25

SHAPING WITH COLLARS AND STARTING PIN

When shaping with collars and starting pin, the following rules must always be followed for good work and safety in operation:

1. Collars **MUST** be smooth and free from all gum or other substances.
2. The edge of the work to be shaped **MUST** be smooth, as any irregularity in the surface which rides against the collar will be duplicated on the moulded surface.
3. A portion of the edge of the work **MUST** remain untouched by the cutters in order that the collar will have sufficient bearing surface. Fig. 26 illustrates the wrong way for this operation while Fig. 27 illustrates the right way.

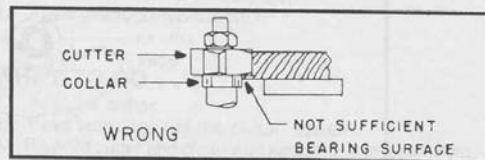


Fig. 26

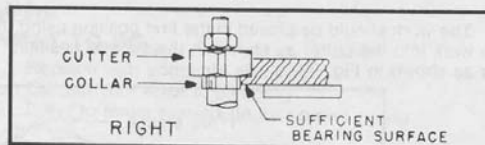


Fig. 27

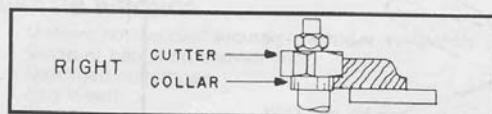


Fig. 28

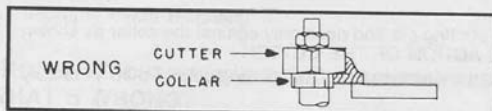


Fig. 29

4. The work **MUST** be fairly heavy in proportion to the cut being made as shown in Fig. 28. Under **NO** circumstances should short work of light body be shaped against the collars as shown in Fig. 29.

5. When shaping with collars and starting pin, we suggest the Spindle Guard always be used.

POSITION OF COLLARS

1. The collars may be used in any of the following positions: above, below or between two cutters.
2. When the collar is used below the cutter, as shown in Fig. 30, the progress of the cut can be observed at all times. However, any accidental lifting of the work will gouge the wood and ruin the workpiece.

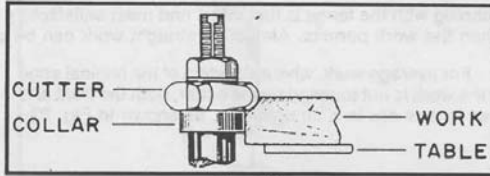


Fig. 30

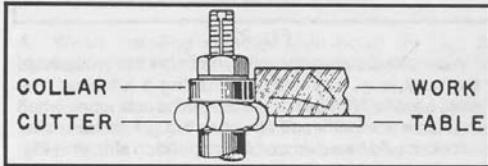


Fig. 31

4. The collar between cutters method, as shown in Fig. 32, has both the advantages and disadvantages of the first two methods and is frequently used where both edges of the work are to be moulded.

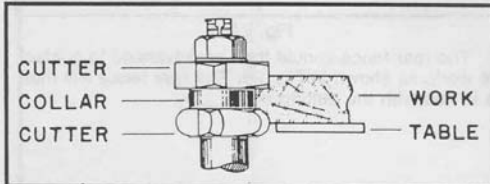


Fig. 32

STARTING PIN

1. Your machine is supplied with a tapered starting pin which is used as a support when starting the cut. The starting pin is placed in one of the tapered holes in the table.

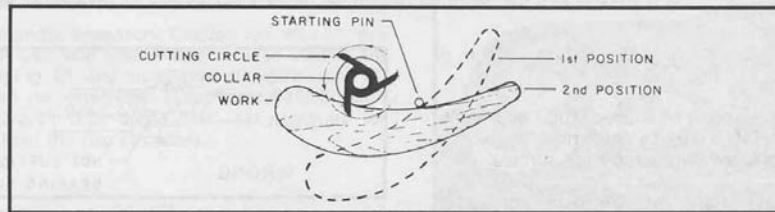


Fig. 33

2. The work should be placed in the first position using the guide pin as a support, as shown in Fig. 33. 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 as shown in Fig. 33.

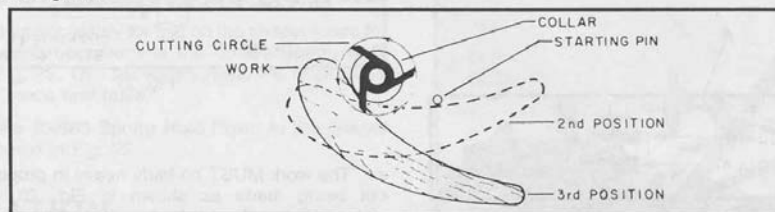


Fig. 34

3. 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 Fig. 34. ALWAYS FEED AGAINST THE ACTION OF THE CUTTER.

IMPORTANT: If the work would be advanced to the cutter without the side support of the starting pin, it would invariably be kicked back.

LUBRICATION

Apply a drop of light oil occasionally on the outside of the spindle cartridge to allow free movement when raising or lowering the spindle.

The bearings inside the spindle cartridge are sealed and require no further lubrication.

REPLACING SPINDLE CARTRIDGE

The spindle cartridge contains ball bearings which are preloaded (a process which practically eliminates all "play" between ball and races). The tapered spindle housing is accurately ground after it is installed at the factory in the preloaded bearings. DO NOT ATTEMPT TO REPAIR THIS CARTRIDGE OR REPLACE THE BEARINGS, BUT PURCHASE A NEW CARTRIDGE.

HOW TO ORDER REPLACEMENT PARTS

Even quality built machines such as the Delta machine you have purchased, may require replacement parts to maintain it in good working condition over the years. To order replacement parts, contact or write your nearest Factory Service Center, Authorized Service Station or Delta Parts Distribution Center listed on the back pages of this manual.

Please give the following information:

1. Model No. (Cat. No.) and Serial No. and all specifications shown on the Model No./Serial No. plate.
2. Part Number(s) as shown in the Replacement Parts list supplied with your machine.
3. A brief description of the trouble with the machine.

TROUBLE SHOOTING GUIDE

TROUBLE!! SHAPER WILL NOT START WHAT'S WRONG?

1. Shaper not plugged in.
2. Fuse blown or circuit breaker tripped.
3. Cord damaged.

WHAT TO DO . . .

1. Plug in shaper. See Power Connections.
2. Replace fuse or reset circuit breaker.
3. Have cord replaced by a Delta Authorized Service Center or Factory Service Center.
4. Push overload reset button.

TROUBLE!! SHAPER MAKES UNSATISFACTORY CUTS WHAT'S WRONG?

1. Dull Cutter.
2. Feeding work in wrong direction.
3. Gum or pitch on cutter.
4. Gum or pitch on table causing erratic feed.

WHAT TO DO . . .

1. Replace cutter.
2. Feed work against the cutter rotation.
3. Remove cutter and clean with kerosene and a soft cloth.
4. Clean table with kerosene and a soft cloth.

TROUBLE!!! CUTTERHEAD DOES NOT COME UP TO SPEED WHAT'S WRONG?

1. Extension cord too light or too long.
2. Low house current.
3. Motor not wired for correct voltage.

WHAT TO DO . . .

1. Replace with adequate size cord.
2. Contact your electric company.
3. Refer to motor nameplate for correct wiring.

TROUBLE!! MACHINE VIBRATES EXCESSIVELY WHAT'S WRONG?

1. Machine not mounted securely to stand or workbench.
2. Stand or bench on uneven floor.
3. Damaged cutterhead.
4. Bad V-belt.
5. V-belt not tensioned correctly.
6. Bent pulley.
7. Improper motor mounting.

WHAT TO DO . . .

1. Tighten all mounting hardware.
2. Reposition on flat level surface. Fasten to floor if necessary.
3. Replace cutterhead.
4. Replace belt.
5. Adjust belt tension by moving motor and motor bracket.
6. Replace pulley.
7. Check and adjust motor mounting.

TROUBLE!! CUTTERHEAD DOES NOT RAISE FREELY WHAT'S WRONG?

1. Sawdust and dirt in raising mechanisms.

WHAT TO DO . . .

1. Brush or blow out loose dust and dirt.



**Profile perfect for
perfect results**

New Carbide- Tipped Shaper Cutters

Delta introduces the superior carbide-tipped shaper cutter. Manufactured to higher quality specifications for increased precision and longer life.

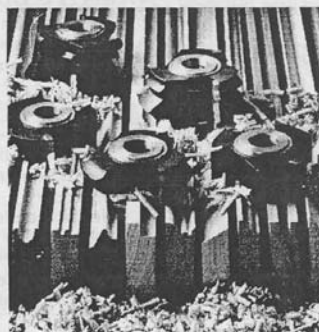
The investment casting (body of the cutter) incorporates added weight for more exact balance and profile integrity. The body design behind the tip clears chips away from the cutting edge for a consistently clean cut.

Composition is critical to the performance of a cutting tool. These cutters feature hi-grade steel bodies with induction-brazed carbide tips. Often the life of the tool can be predicted by the quality of the brazing compound and the density of the carbide tip. Delta utilizes a delicate ratio of silver and copper for a brazing compound. These metals absorb heat to prevent the carbide from cracking during brazing, and buffer mechanical stresses during use. The carbide used by Delta is of the highest density on the market. This means that cutter edges will remain knife sharp longer and can be reground.

Cutters fit 1/2" spindles.

Complete Cabinet Sets Individual cutters and spacers also available separately.

		Cat. No.	O.D.	Description
Cabinet Moulding Set				
	45-909	45-921		Includes:
		45-909	2.53"	Cabinet R.H. Female
		45-918	2.6"	1/4" Straight
		45-910	2.53"	Cabinet L.H. Female
		45-913	2.54"	Cabinet R.H. Male
		45-919	1.83"	Spacer
		45-914	2.54"	Cabinet L.H. Male
Cove and Bead Set				
	45-915	45-922		Includes:
		45-915	2.85"	Cove & Bead Cove R.H.
		45-919	1.83"	Spacer
		45-916	2.85"	Cove & Bead Cove L.H.
		45-908	2.85"	Cove & Bead Moulding R.H.
		45-917	2.91"	1/4" Straight
		45-907	2.85"	Cove & Bead Moulding L.H.
Concave Stile and Rail Set				
	45-941	45-490		Includes:
		45-941	2.85"	Concave Stile
		45-917	2.91"	1/4" Straight
		45-954	2.35"	1/2" Straight
		45-942	2.35"	Rail for Concave Stile
		45-919	1.83"	Spacer
		45-954	2.35"	1/2" Straight
Convex Stile and Rail Set				
	45-946	45-945		Includes:
		45-946	2.85"	Convex Stile
		45-917	2.91"	1/4" Straight
		45-954	2.35"	1/2" Straight
		45-947	2.35"	Rail for Convex Stile
		45-919	1.83"	Spacer
		45-954	2.35"	1/2" Straight
Ogee Stile and Rail Set				
	45-995	45-994		Includes:
		45-995	2.85"	Ogee Stile
		45-917	2.91"	1/4" Straight
		45-954	2.35"	1/2" Straight
		45-996	2.35"	Rail for Ogee Stile
		45-919	1.83"	Spacer
		45-954	2.35"	1/2" Straight



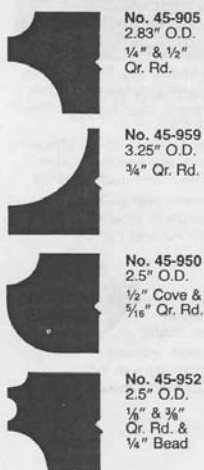
Choose from 60 popular cutting profiles. High quality, carbide-tipped 3-tip cutters especially suited for production shaping operations. Packaged in a durable hard plastic case for protection and convenience.

Wood Shaper Accessories

Door Lip



Quarter Round



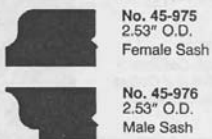
Tongue & Groove



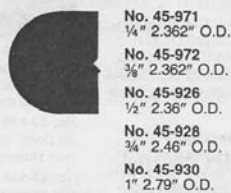
Ogee



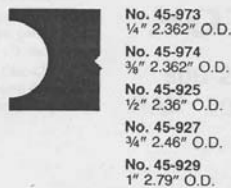
Sash



Flute (Convex)



Bead (Concave)



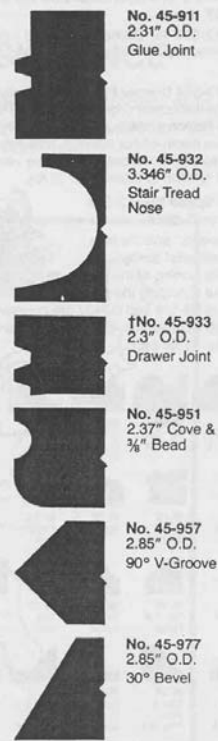
Straight



Vertical Panel Raising



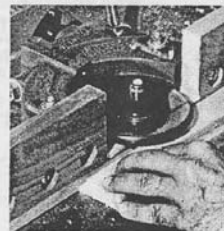
Pattern Detail



†Requires use of No. 43-190 Stub Spindle
Cutters fit 1/2" spindles.

Safe Guard II™ Shaper Spindle Guard

Mounts directly to shaper spindle; helps keep hands away from revolving cutterhead. Protects operator's eyes from flying chips. Allows operator to see work as he shapes it.



SAFE GUARD II is a Registered Trademark of Federal Safety Products, Inc.

Features tough, transparent orange-colored 4 1/2" diameter disc, high-speed, prelubricated ball bearing mount. Requires bushing and washer kit for mounting to vertical shaper with 1/2" diameter spindle.

No. 43-550 4 1/2" Dia. Guard. Supplied with 3/4" I.D. Bearings and Washers. 3 1/2" Max. Cutting Dia. of Shaper Cutter.

No. 43-555 Bushing and Washer Kit. Includes 1/2" I.D. Bushings and Washers for Mounting 43-550 Guard to 1/2" Dia. Spindle Vertical Shaper.

Wood Shaper Accessories

No. 50-118 Retractable Casters for 50-513 Open Steel Stand. 12 lbs.

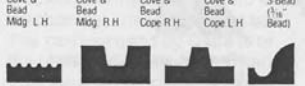
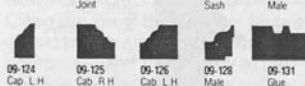
No. 43-190 Stub Spindle. For counterbored $\frac{1}{2}$ " hole 3-lip shaper cutters 09-128 and 09-137. 1 lb.

No. 43-935 $\frac{1}{2}$ " Spindle. Included with basic machine. For $\frac{1}{2}$ " hole 3-lip shaper cutters. 1 lb.

No. 43-354 Shaper Fence. Especially suited for use with small cutters. With two $3\frac{3}{4}$ x $12\frac{3}{4}$ " fence halves that adjust independently for precise depth-of-cut settings, also adjust endwise so that fence opening can be varied in direct relation to cutter size. 12 lbs.

High-Speed Steel 3-Lip Shaper Cutters

All have $\frac{1}{2}$ " spindle hole. Involute relief design permits honing of the face without changing the shape. Cutters 09-128 and 09-137 are counterbored to fit Stub Spindle No. 43-345. Cutters are shown $\frac{3}{8}$ " size. $\frac{1}{2}$ lb. each.



Straight Cutters— $\frac{1}{2}$ " Hole

Number	Thickness	Dia.	Number	Thickness	Dia.
09-107	$\frac{1}{2}$ "		09-108	$\frac{1}{4}$ "	$1\frac{1}{16}$ "
09-130	$\frac{3}{4}$ "		09-127	$\frac{3}{8}$ "	
09-104	1"	$1\frac{1}{8}$ "	09-139	$\frac{1}{4}$ "	$2\frac{1}{32}$ "
09-105	$1\frac{1}{2}$ "		09-129	$\frac{3}{8}$ "	

Spacing Collars— $\frac{1}{2}$ " Hole

Number	Thickness	Dia.	Number	Thickness	Dia.
09-133	$\frac{1}{8}$ "	$1\frac{1}{16}$ "	09-145		$1\frac{1}{8}$ "
09-150	$\frac{3}{16}$ "	$1\frac{1}{8}$ "	09-132		$1\frac{1}{32}$ "
09-155		$\frac{3}{4}$ "	09-141	$\frac{1}{4}$ "	$1\frac{1}{16}$ "
09-217	$\frac{3}{16}$ "	$1\frac{1}{32}$ "	09-146	$\frac{3}{8}$ "	$1\frac{1}{4}$ "
09-134	$\frac{1}{4}$ "	$1\frac{1}{32}$ "	09-174		$1\frac{5}{8}$ "
09-140		$1\frac{1}{16}$ "	09-147		$1\frac{3}{8}$ "
09-215		$1\frac{1}{32}$ "	09-175		$1\frac{1}{2}$ "
09-151		$1\frac{1}{8}$ "	09-148		$1\frac{1}{2}$ "
09-142		$\frac{3}{4}$ "	09-176		$1\frac{5}{8}$ "
09-171	$1\frac{1}{8}$ "		09-177		$1\frac{5}{8}$ "
09-143		$\frac{7}{8}$ "	09-178		$1\frac{1}{16}$ "
09-172		$1\frac{1}{8}$ "	09-149		$1\frac{3}{8}$ "
09-144		1"	09-179		$1\frac{1}{16}$ "
09-173		$1\frac{1}{16}$ "	09-180	$\frac{3}{8}$ "	$1\frac{1}{8}$ "

Collar Sets— $\frac{1}{2}$ " Hole

No. 43-210 Set of 7 Collars. $\frac{1}{2}$ " hole, $\frac{3}{4}$ " to $1\frac{1}{8}$ " diameter. Nos. 09-142, 09-143, 09-144, 09-145, 09-171, 09-172, 09-173. $\frac{1}{2}$ lb.

No. 43-211 Set of 6 Collars. $\frac{1}{2}$ " hole, $1\frac{1}{16}$ " to $1\frac{1}{2}$ " diameter. Nos. 09-141, 09-146, 09-147, 09-148, 09-174, 09-175. 1 lb.

No. 43-212 Set of 6 Collars. $\frac{1}{2}$ " hole, $1\frac{1}{16}$ " to $1\frac{1}{8}$ " diameter. Nos. 09-149, 09-176, 09-177, 09-178, 09-179, 09-180. $1\frac{1}{2}$ lbs.

No. 43-191 Set of 4 Collars for Sash Cutters. $\frac{1}{2}$ " hole. Nos. 09-140, 09-141, 09-150, 09-151. $\frac{1}{2}$ lb.

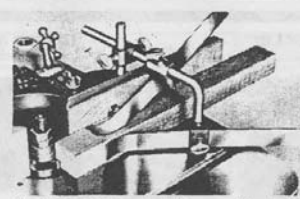
Cutter and Collar Sets— $\frac{1}{2}$ " Hole

No. 43-182 Standard Cutter Set. Consists of Cutters 09-100 to 09-109 inclusive and Collars 09-142 to 09-149 inclusive. Packed in wood box. $3\frac{1}{2}$ lbs.

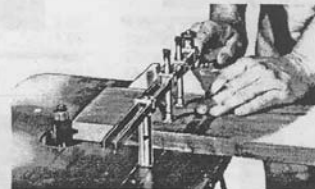
No. 43-213 Cove and Bead Cutter Set. Consists of Cutters 09-129, 09-135 to 09-139 inclusive and Collars 09-132 and 09-134. Packed with 43-345 Stub Spindle Assembly and SP-10 Wrench. 2 lbs.

No. 43-214 Sash and Cabinet Cutter Set. Consists of Cutters 09-108, 09-120, 09-121, 09-123 to 09-128 inclusive and Collars 09-140, 09-141, 09-150 and 09-151. Packed with 43-345 Stub Spindle Assembly and SP-10 Wrench. 3 lbs.

No. 34-895 Auto-Set[®] Miter Gage. For straight and angle finishing. Has $\frac{3}{4}$ x $\frac{3}{4}$ x 18" guide bar and pivoting work support body with pointer and calibrations reading through 120° swing. Adjustable, positive stops at 90° and 45° positions. Accommodates No. 34-568 Clamp Attachment. $3\frac{1}{2}$ lbs.



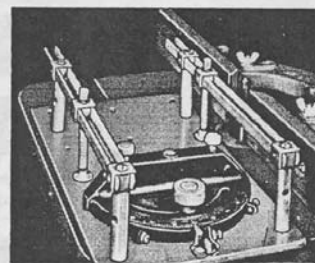
No. 43-983 Spring Hold Downs. Used with shaper fence on straight shaping operations. Holds work firmly against fence and table. Accommodates work up to $3\frac{1}{2}$ " thick, any length. 2 lbs.



No. 34-568 Clamp Attachment for miter gage. Holds work evenly and safely when edge shaping with miter gage. Includes clamp bar, two sliding clamp screws, front and rear posts. $1\frac{1}{2}$ lbs.

No. 43-873 Extra Clamp Screw and Bracket for clamp attachment. $\frac{1}{2}$ lb.

No. 43-185 Router Bit Adapter for mounting $\frac{1}{4}$ " shank router bits.



No. 43-186 Sliding Shaper Jig. For horizontal shaping operations such as tenon and groove cutting. Securely holds short and narrow work, prevents slipping. 15 lbs.

No. 43-170 Tenoner. Use with 43-186 Shaper Jig Base. Simplifies vertical operations as in-face shaping and drawer construction. 19 lbs.

No. 43-198 Table Insert. With guide shoulders. For shaping with template without the use of collars. 3" O.D. and $1\frac{1}{8}$ " I.D.

3-Knife Safety Cutterhead

Enables circular saw moulding cutter knives to be used on the wood shaper.

No. 43-343 Cutterhead. Includes wrench and bushing for use with $\frac{1}{2}$ " shaper spindles. Furnished without knives. 1 lb.

