

# 2-Speed Heavy-Duty Wood Shaper

INSTRUCTION MANUAL



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 **DELTA**

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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.

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## 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 eyeglasses 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.



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.

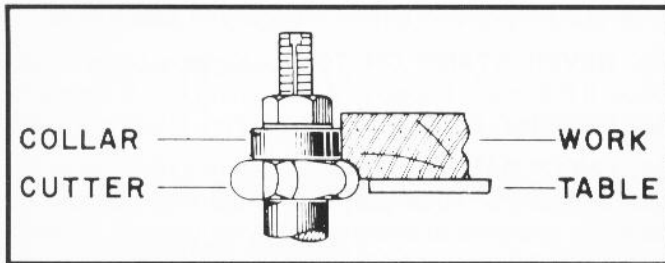


FIG. F

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.

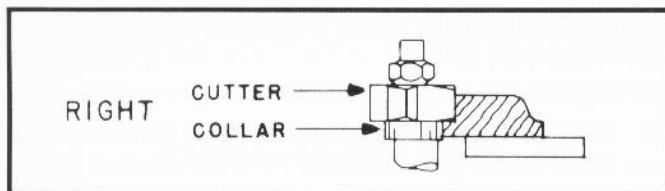


FIG. D

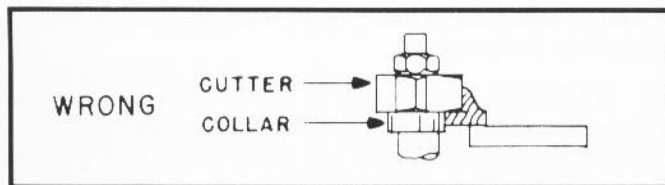


FIG. E

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.

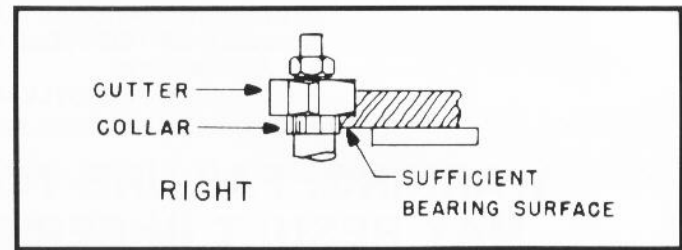


FIG. B

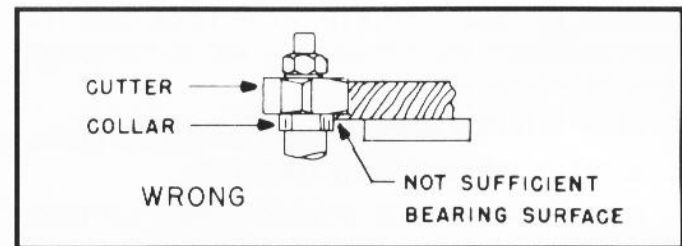


FIG. C

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.

11. **Additional information** regarding the safe and proper operation of this product is available from the National Safety Council, 444 N. Michigan Avenue, Chicago, IL 60611 in the Accident Prevention Manual for Industrial Operations and also in the Safety Data Sheets provided by the NSC. Please also refer to the American National Standards Institute ANSI 01.1 Safety Requirements for Woodworking Machinery and the U.S. Department of Labor OSHA 1910.213 Regulations.

# UNPACKING AND CLEANING

Carefully unpack the shaper and all loose items from the shipping container. Remove the protective coating from the table surface. 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 table surface with a good quality paste wax.

## ASSEMBLY

### ASSEMBLING MOTOR

If your shaper was purchased with the motor and controls factory mounted and wired, disregard the following. However, if installing your own motor, the motor mounting plate is designed to accept a 145 T-Frame motor. In addition, the motor shaft must be 7/8" diameter and you must purchase the 41-106, 7/8" bore, motor pulley and the 49-101, V-belt.

To assemble the motor proceed as follows:

1. Carefully turn the shaper upside down on a flat non-scratch surface. **CAUTION:** If the shaper has a 1" spindle, it will extend above the table and it will be necessary to place the shaper table on pieces of wood thick enough to provide clearance for the spindle.
2. Remove shaper cabinet. **NOTE:** Before attempting to lift the cabinet from the shaper table, you must remove the spindle raising lock, spindle raising handwheel, spindle raising scale, pointer bracket and table mounting screws.
3. Assemble the motor (A) Fig. 2, to the mounting plate (B) as shown.
4. Assemble the 41-106 two-speed motor pulley (C), to the motor shaft. Place a straight edge across motor pulley (C) Fig. 2, and spindle pulley (D), and align the motor pulley to the spindle pulley. Tighten two set screws in the motor pulley (C), against the key in the motor shaft.
5. Assemble V-belt (E) Fig. 3, to the motor pulley (C) and spindle pulley (D).
6. Replace the shaper cabinet and items that were removed in Step 2, and return the shaper to the upright position.

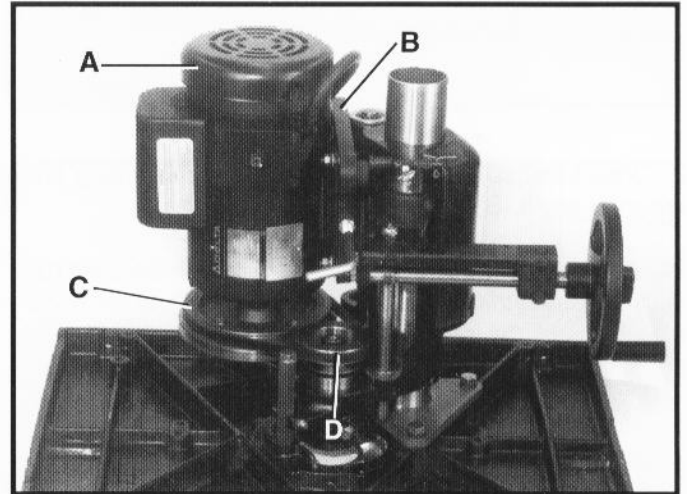


Fig. 2

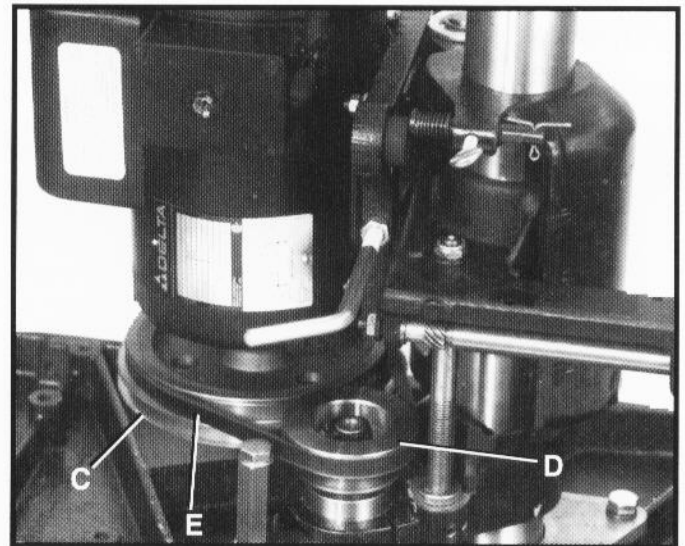


Fig. 3

### ASSEMBLING TABLE EXTENSION

Assemble the table extension to the table. **NOTE:** If the table extension is not level with the table surface, loosen only one bolt at a time and tap extension up or down and retighten the three holding screws.

## ASSEMBLING SPINDLE RAISING AND LOWERING HANDWHEEL

1. Place the fiber washer (A) Fig. 4, supplied with the machine, over the spindle raising and lowering shaft (B).

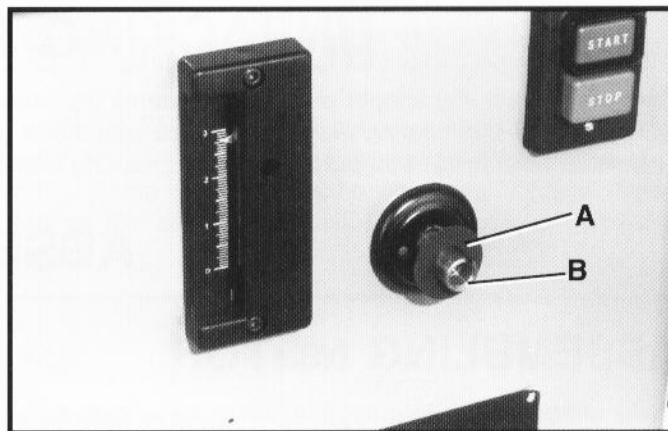


Fig. 4

2. Insert key (C) Fig. 5, into slot in spindle raising and lowering shaft (B).

3. Assemble handwheel (D) Fig. 5, onto spindle shaft (B), making certain the key (C), fits into the slot (E), in the handwheel. Insert the set screw which holds the handwheel to the shaft and tighten screw firmly against key.

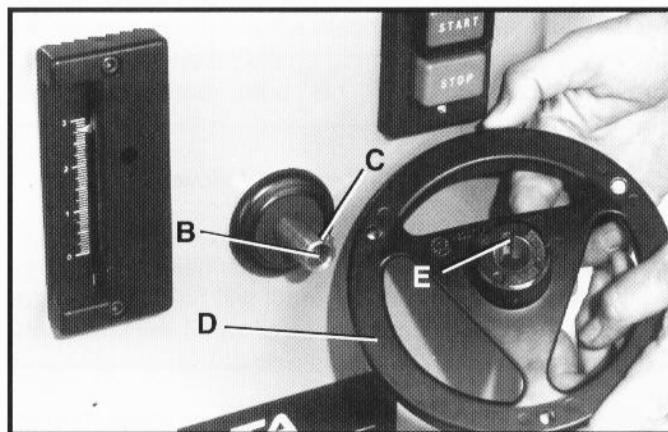


Fig. 5

4. Thread lock knob (F) Fig. 6, into the spindle shaft (B).

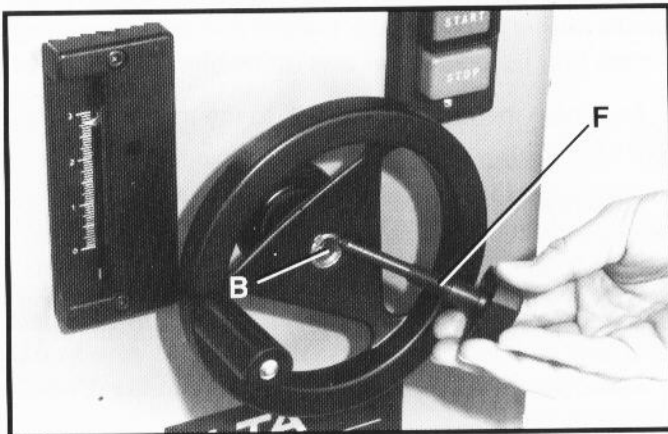


Fig. 6

## ASSEMBLING ELECTRICAL BOX TO CABINET

If you purchased the shaper with motor and controls factory mounted and wired, the machine is shipped with the starter box wired to the switch and motor. However, the starter box must be mounted to the shaper cabinet.

Assemble the starter box to the saw cabinet using 1/2" long hex head screws (A) Fig. 7, with lock washers, thru the rear of the machine and into the three tapped holes (B), on the back of the electrical box.

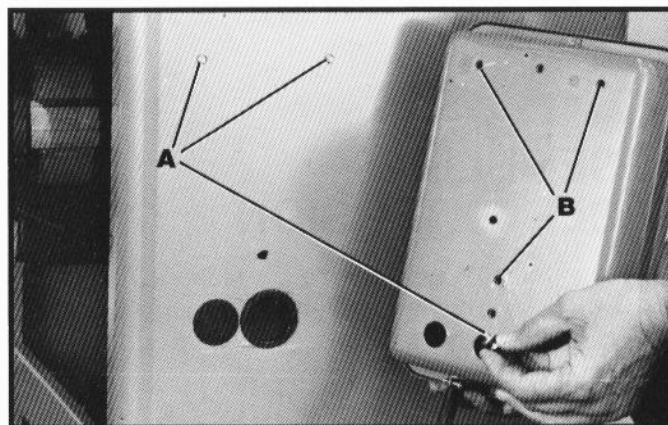


Fig. 7

# ASSEMBLING FENCE TO SHAPER TABLE

1. Thread the small end of the two studs (A) Fig. 8, into the two holes in the shaper table as shown. Threading the studs in this position allows the fence to be mounted parallel to the miter gage slot. The fence also can be mounted so it is 90 degrees to the miter gage slot by threading studs (A), into the holes (F).

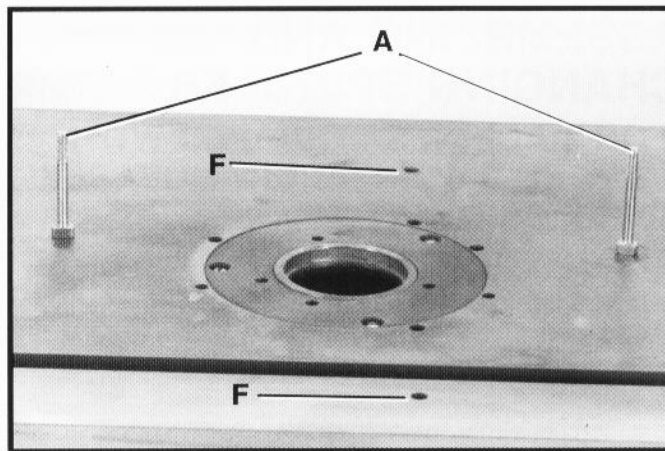


Fig. 8

2. Place the guard assembly (B) Fig. 9, on the table with the two slots in the fence brackets over the two studs and fasten in place using the two washers and knobs (C).

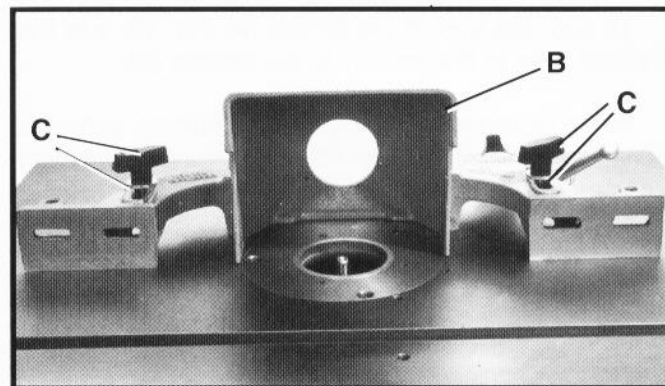


Fig. 9

3. Insert two 1-1/2" round head screws (D) Fig. 10, into two of the holes in the wooden fence (E), and thru the two slotted holes, one of which is shown at (J), in the fence casting (H). Thread the two screws (D), into the threaded holes in strap (G) Fig. 10.

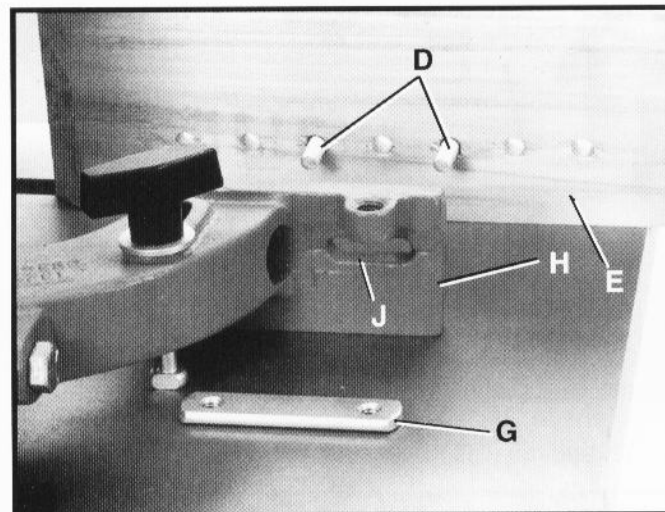


Fig. 10

4. Fig. 11 illustrates one section of the wooden fence (E), fastened to the fence casting. Assemble the other wooden fence section in the same manner.

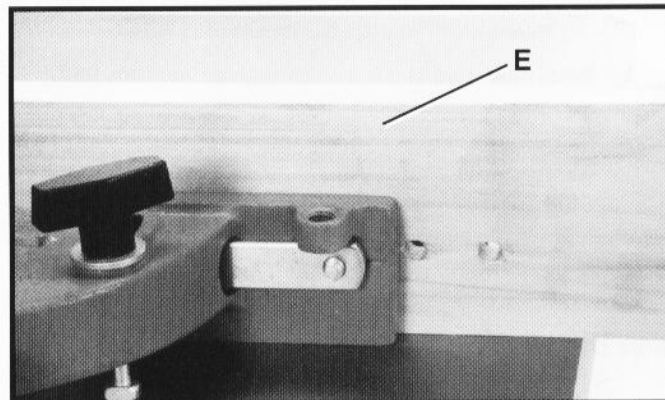


Fig. 11

# ASSEMBLING AND CHANGING SPINDLES (FOR MACHINES EQUIPPED WITH 1/2" AND 3/4" INTERCHANGEABLE SPINDLES ONLY)

If you purchased your machine with the 1" solid spindle, disregard the following instructions as the spindle is an integral part of the spindle cartridge, and is assembled to the machine.

To assemble either the 1/2" or 3/4" spindle, proceed as follows:

1. Thread one end of the tie rod (A) Fig. 12, into the threaded hole in the bottom of the spindle (B).
2. Insert tie rod and spindle into the spindle cartridge making sure the pin (C) Fig. 13, in the spindle cartridge, is engaged with notch (D), in the spindle.

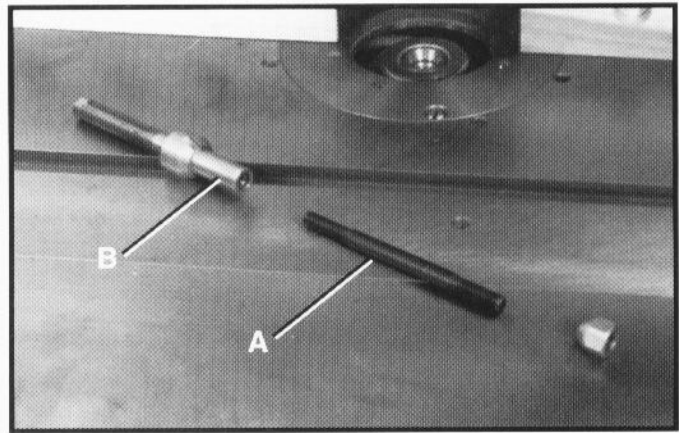


Fig. 12

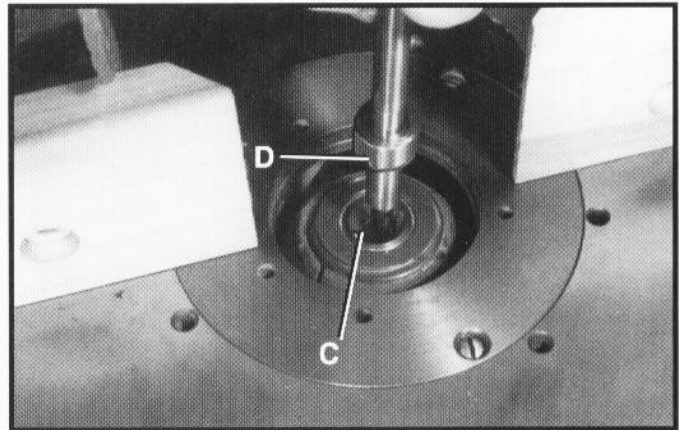


Fig. 13

3. Fig. 14, illustrates the spindle (B), inserted into the spindle cartridge.

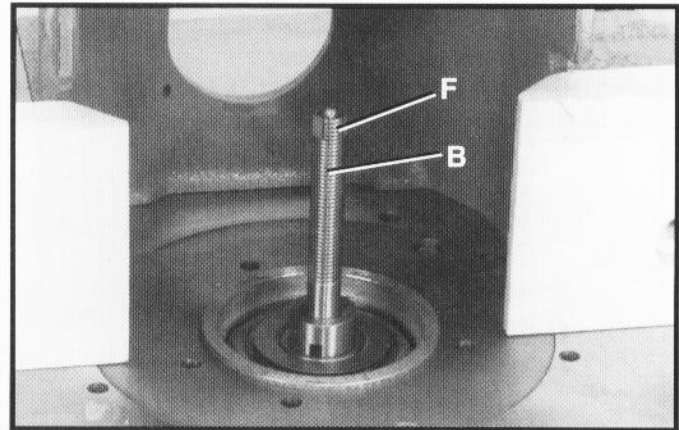


Fig. 14

4. Thread nut (E) Fig. 15, onto bottom end of tie rod (A).
5. Place wrench on flats (F) Fig. 14, on top of spindle and tighten nut (E) Fig. 15, on bottom of tie rod to fasten spindle to spindle cartridge.

NOTE: When changing from 1/2" to 3/4" or 3/4" to 1/2" spindles, the above procedure is followed for removing and installing the spindle.

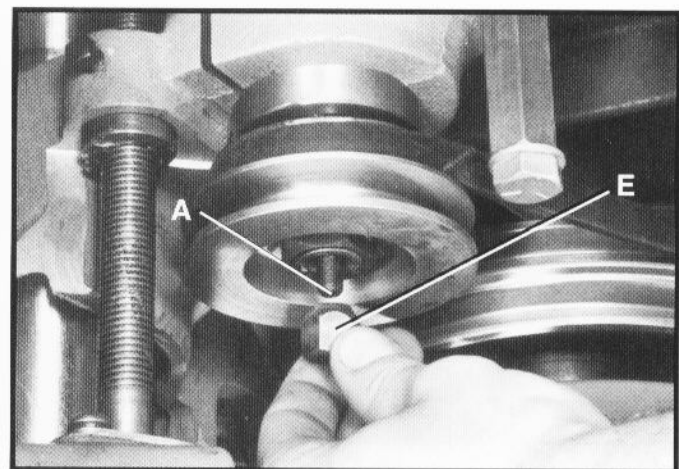


Fig. 15



## ASSEMBLING TABLE INSERTS

Three table inserts are provided for various size cutters, as shown in Fig. 16. The large insert is adjustable and should be set flush with the table as follows:

1. Remove the three slotted head screws (A) Fig. 16.
2. Using a screwdriver, turn the three adjusting screws (B) Fig. 16, until insert is flush with table. Then replace the slotted head screws (A).

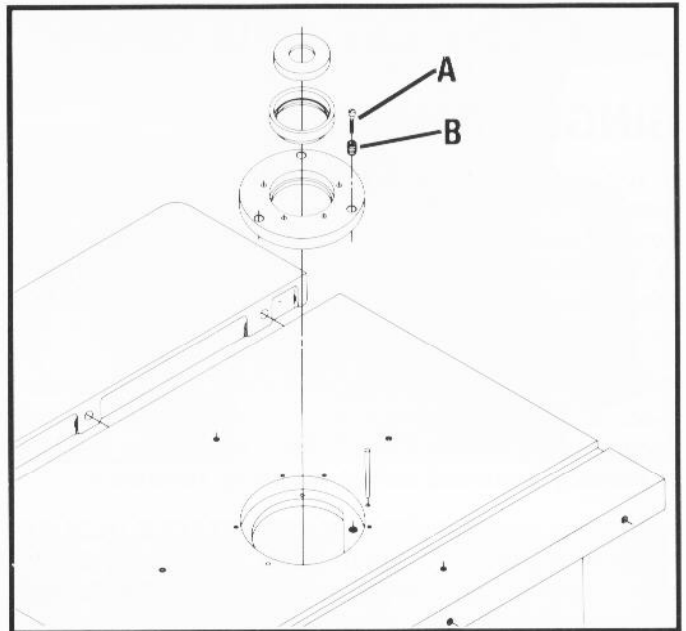


Fig. 16

## ASSEMBLING SPINDLE GUARD

A 4-1/2" diameter spindle guard is supplied as standard equipment on shapers with 1/2" and 3/4" interchangeable spindles and a 6-1/2" diameter spindle guard is supplied on shapers with a 1" solid spindle.

The 4-1/2" diameter spindle guard is supplied with a 1/2" bushing which enables the guard to be used with both the 1/2" and 3/4" spindles.

The 6-1/2" spindle guard is supplied with a 1" bushing which enables the guard to be used on 1" and 1-1/4" spindles.

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

To assemble the spindle guard, proceed as follows:

1. Two 1/2" I.D. and two 3/4" I.D. washers are supplied with the 4-1/2" diameter spindle guard to accommodate 1/2" and 3/4" spindles; two 1" I.D. washers are supplied with the 6-1/2" diameter spindle guard. These washers are to be positioned directly above and below the spindle guard. Place one of the washers (A) on the spindle, over either the cutter or collar, as shown in Fig. 17.
2. Place the spindle guard (B) Fig. 17, on the spindle. The bushing (C), shown in Fig. 17, would be used for 1/2" spindles. Washer (D), is placed on the spindle directly over spindle guard (B).
3. **IMPORTANT:** Always place "keyed" washer (E) Fig. 17, on spindle before screwing on nut (F). The "keyed" washer (E), prevents the nut (F), from loosening when spindle turns counterclockwise.
4. Fig. 18, illustrates the 4-1/2" diameter spindle guard assembled to the spindle.

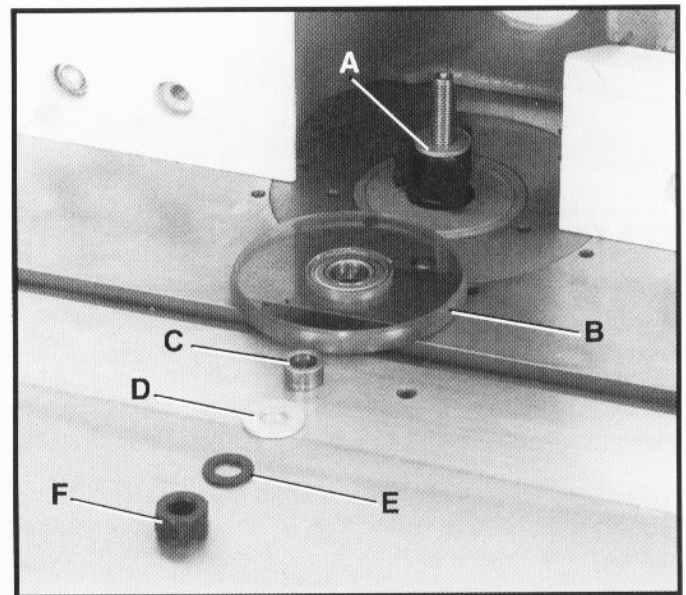


Fig. 17

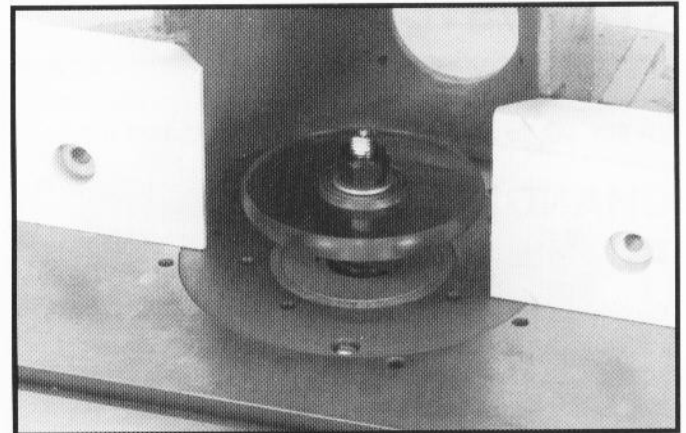


Fig. 18

# CONNECTING SHAPER TO POWER SOURCE

## SINGLE PHASE

If you purchased the 2 H.P., 230 Volt, single phase machine, the power cord is equipped with a plug that has two flat, current-carrying prongs in tandem and one round or "U" shaped longer ground prong. This is used only with the proper mating 3-conductor grounding type receptacle as shown in Fig. 19.

When the three-prong plug is plugged into a grounded 3-conductor receptacle, as shown in Fig. 19, the long ground prong on the plug contacts first so the machine is properly grounded before electricity reaches it.

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

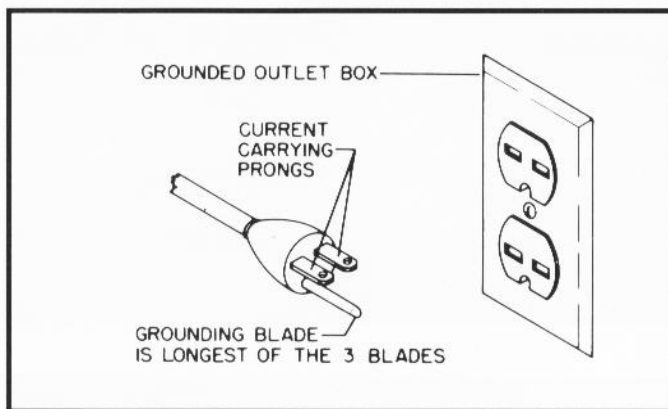


Fig. 19

## THREE PHASE

If you purchased the 3 H.P., or 5 H.P., 200, 230 or 460 Volt, three phase machine, the necessary wiring from the starter to the power source should be completed by a competent electrician.

# OPERATING CONTROLS AND ADJUSTMENTS

## RAISING AND LOWERING SPINDLE

The spindle can be raised or lowered by loosening lock knob (A) Fig. 20, and turning handwheel (B). To raise the spindle height, turn the handwheel (B), clockwise. To lower the spindle height, turn handle (B), counterclockwise.

The scale (C) Fig. 20, indicates the spindle travel range from 0 to 3" and is marked in 1/16" increments. Minor cutter height adjustments can be measured using the pointer along the scale (C). **CAUTION: Always tighten lock knob (A) after adjusting spindle height.**

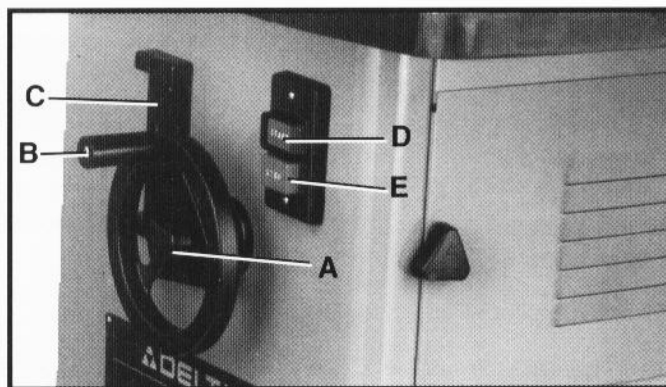


Fig. 20

## START/STOP SWITCH

The Start/Stop switch is mounted on the cabinet for easy accessibility. To start the machine, push the start button (D) Fig. 20; to stop the machine, push button (E).

## CHANGING SPEEDS AND ADJUSTING BELT TENSION

The shaper is supplied with a 2-speed motor pulley and a 2-speed spindle pulley that provides spindle speeds of 7,000 and 10,000 R.P.M. 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 R.P.M. When the belt is on the smallest step of the motor pulley and the largest step of the spindle pulley, the spindle speed will be 7,000 R.P.M.

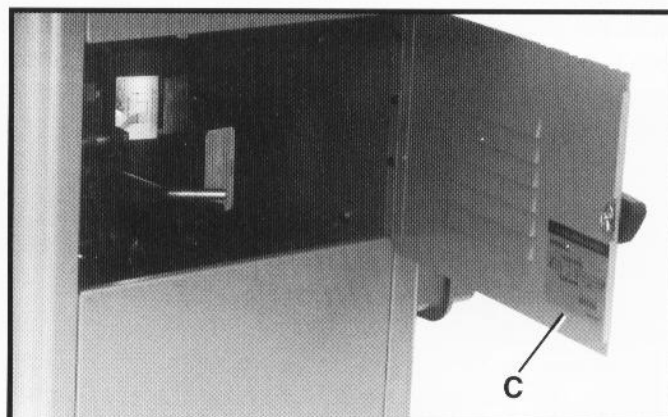


Fig. 21

A chart illustrating the correct belt placement for 7,000 or 10,000 R.P.M. is located on the inside panel of the motor access door as shown in (C) Fig. 21.

To change speeds and adjust belt tension, proceed as follows:

1. Disconnect the machine from the power source and open motor access door, as shown in Fig. 21.
2. Loosen thumb screw lock (A) Fig. 22. Release tension on belt by moving lever (B), to the left. Position belt (C), on the desired steps of the spindle pulley (D), and the motor pulley (E), and apply belt tension by moving lever (B), to the right. When desired belt tension is applied to belt, retighten thumb screw lock (A).

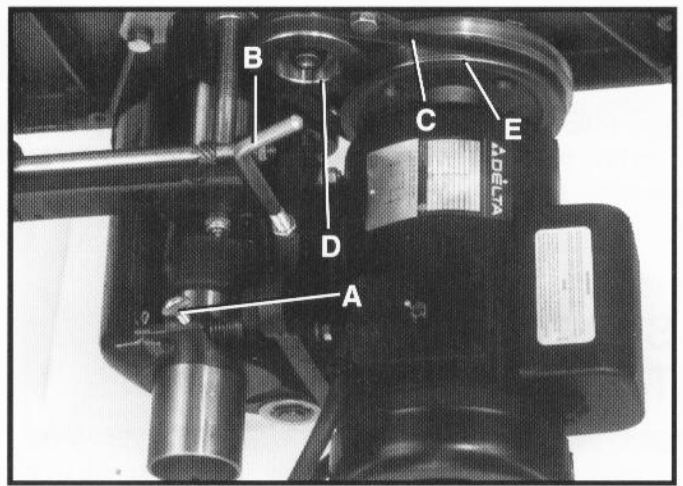


Fig. 22

## REVERSING SPINDLE ROTATION

If the shaper was purchased with a Delta motor, the motor is equipped with a reversing switch (A) Fig. 23, which is located on the motor junction box. **CAUTION:** Never attempt to reverse the rotation of the spindle with the motor running.

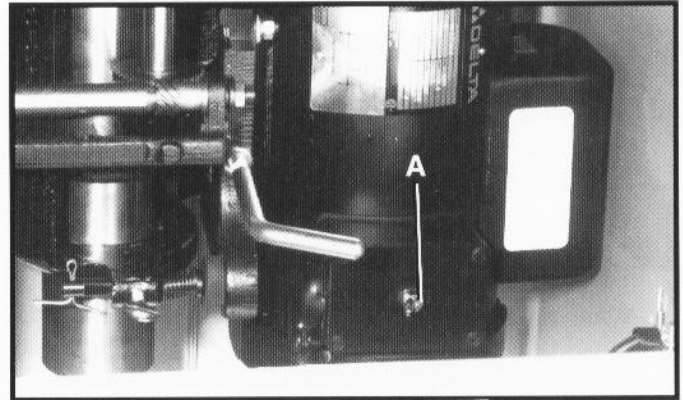


Fig. 23

## ADJUSTING FENCE

**CAUTION:** The wooden fence should be adjusted endwise so the opening is never more than is required to clear the spindle guard.

To adjust the fence endwise, loosen the screws (A), Fig. 24, from each section of the wooden fence. Move the fences to the required positions and tighten the screws (A). If additional adjustment is required, remove the screws (A), and reposition them in different holes in the fence until the desired position is obtained.

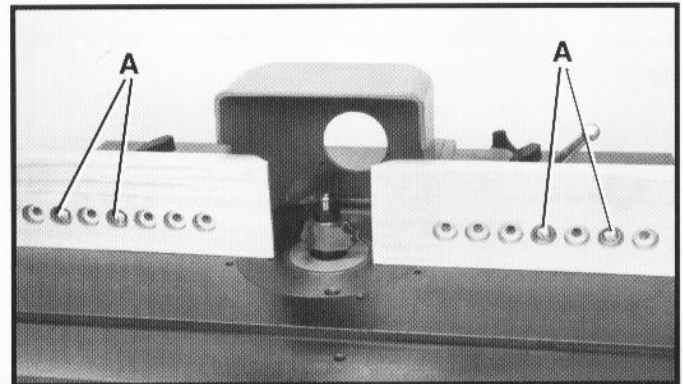


Fig. 24

Each section of the fence can be moved separately, in or out, depending on the type of shaping operation that is being performed. To move the fence, loosen lock handle (B) Fig. 25, and loosen one of the knobs (C), depending on which half of the fence is to be moved. Turn the knob (D), until the correct setting is obtained, then tighten the knob (C) and lock handle (B).

The lock handle (B) Fig. 25, is spring-loaded and can be repositioned by pulling out on the handle and repositioning it on the serrated nut located underneath the handle.

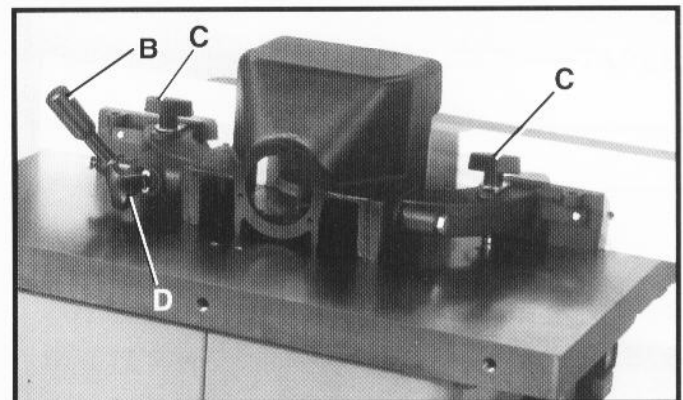


Fig. 25

# OPERATIONS

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. 27.

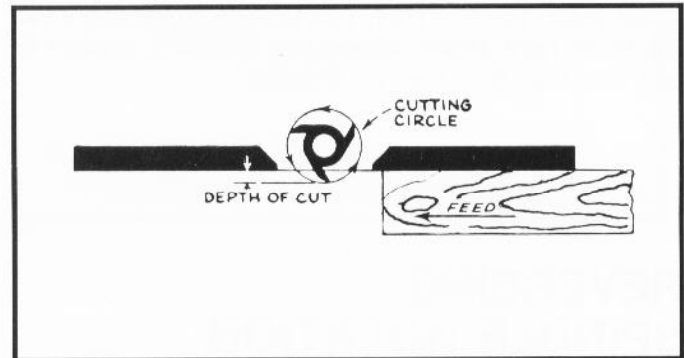


Fig. 27

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. 28. In this case, the work should be advanced to the position shown in Fig. 28 and stopped.

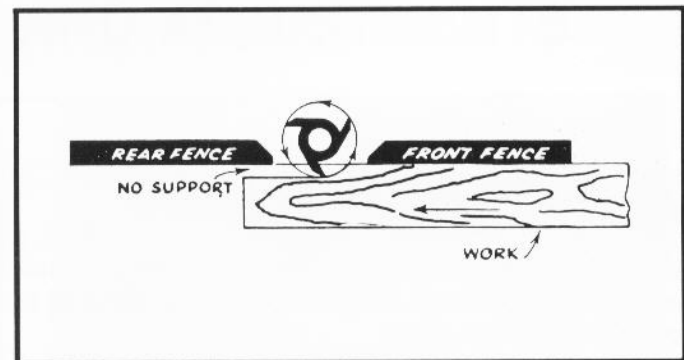


Fig. 28

3. The rear fence should then be advanced to contact the work, as shown in Fig. 29. The rear fence will then be in line with the cutting circle.

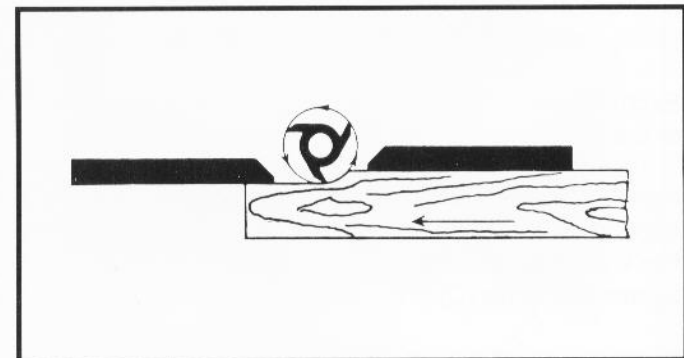


Fig. 29

# 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 of 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. 30 illustrates the **wrong way** for the operation while Fig. 31 illustrates the **right way**.
4. The work **MUST** be fairly heavy in proportion to the cut being made as shown in Fig. 32. Under **NO** circumstances should short work of light body be shaped against the collars as shown in Fig. 33.
5. When shaping with collars and starting pin, the Safe Guard II spindle guard, supplied with your machine, should always be used.

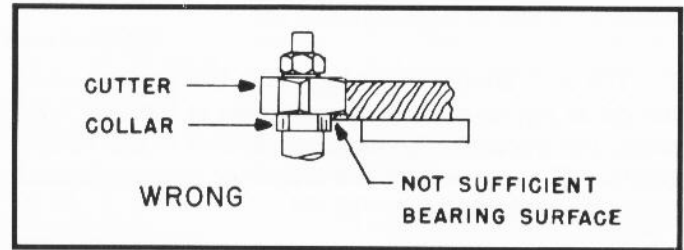


Fig. 30

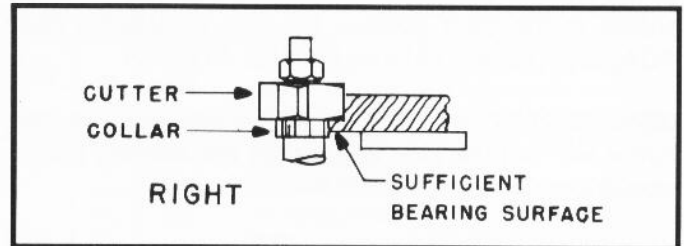


Fig. 31

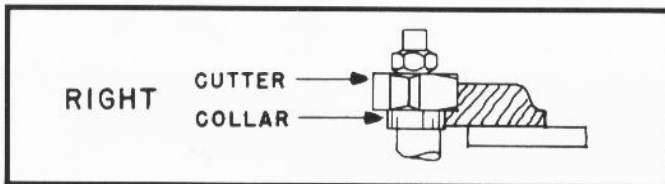


Fig. 32

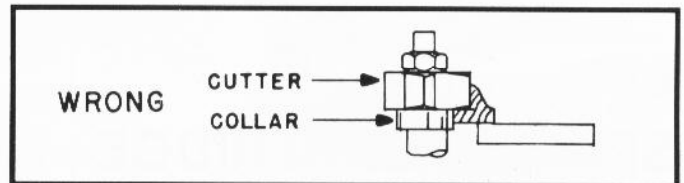


Fig. 33

## 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. 34, 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.
3. When the collar is used above the cutter as shown in Fig. 35, the cut cannot be seen, yet this method offers some advantage in 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. Simply correct the mistake by repeating the operation.
4. The collar between cutters method, as shown in Fig. 36, has both the advantages of the first two methods and is frequently used where both edges of the work are to be shaped.

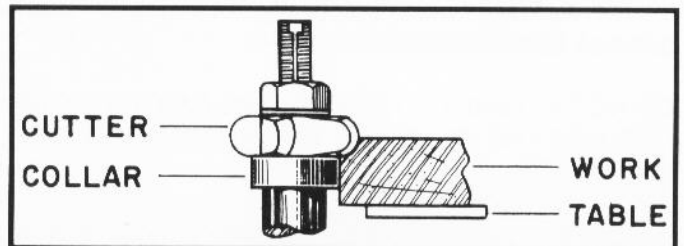


Fig. 34

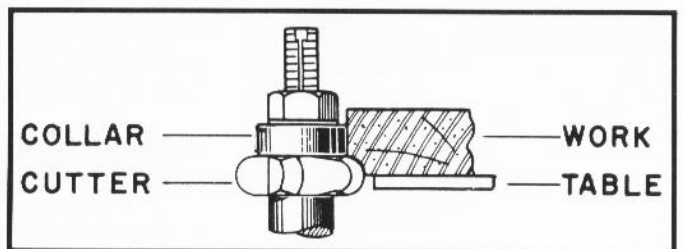


Fig. 35

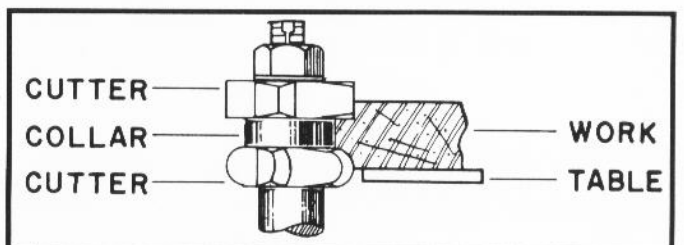


Fig. 36

## 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 on one of the tapered holes in the table.

2. The work should be placed in the first position using the guide pin as a support, as shown in Fig. 37. 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. 37.

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 Fig. 38. ALWAYS FEED AGAINST THE ROTATION 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.

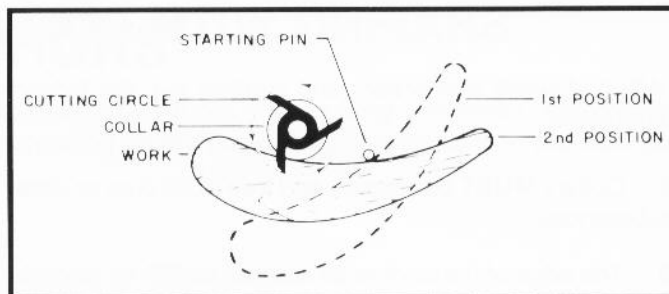


Fig. 37

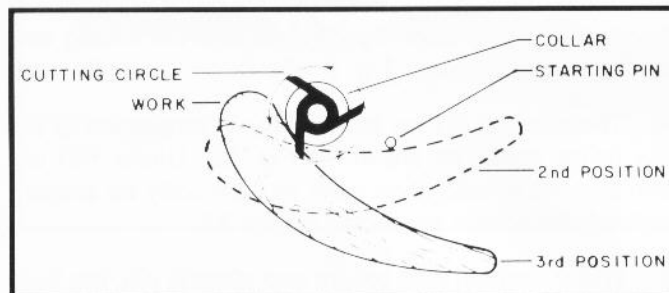


Fig. 38

## REPLACING SPINDLE CARTRIDGE

The spindle cartridge contains ball bearings which are pre-loaded, a process which practically eliminates all "play" between balls and races.

**DO NOT ATTEMPT TO REPAIR THIS CARTRIDGE OR REPLACE THE BEARINGS, BUT PURCHASE A NEW CARTRIDGE.**

**IMPORTANT:** When replacing spindle cartridge, bolt (A) Fig. 39, should only be tightened 7 to 10 foot pounds.

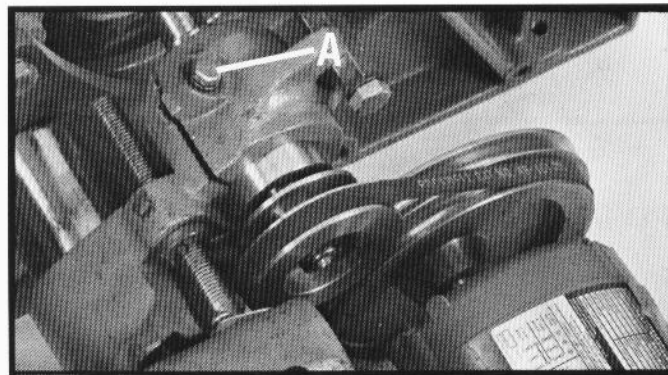
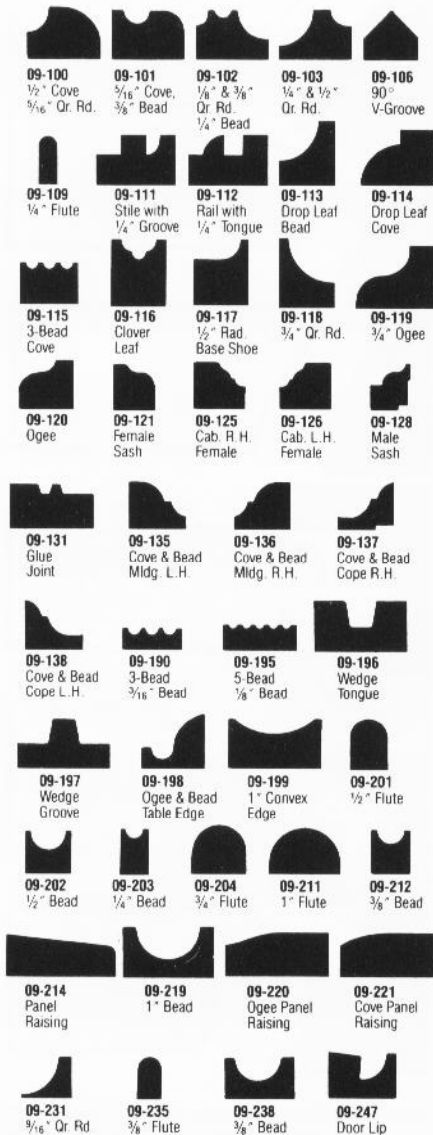


Fig. 39

# Delta Shaper Accessories

## High-Speed Steel 3-Lip Shaper Cuttings

All have 1/8" spindle hole. Involute relief design permits honing of the face without changing the shape. Cutters 09-128 & 09-137 are counterbored to fit Stub Spindle. Cutters are shown 3/8 size. 1/2 Lb. each.



## Straight Cutters—1/2" Hole

Cat. No.	Thick-ness	Dia.	Cat. No.	Thick-ness	Dia.
09-107	1/2"	1 1/8"	09-105	1 1/2"	1 1/8"
09-130	3/4"	1 1/8"	09-108	1/2"	1 1/4"
09-104	1"	1 1/8"	09-127	3/8"	1 1/2"

## Collar Sets 1/2" Hole

**No. 43-210 Set of 7 Collars.** 3/8" to 1 1/8" diameter. Nos. 09-142, 09-143, 09-144, 09-145, 09-171, 09-172, 09-173. 1/2 Lb.

**No. 43-211 Set of 6 Collars.** 1 1/8" to 1 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.** 1 1/8" to 1 1/4" diameter. Nos. 09-149, 09-176, 09-177, 09-178, 09-179, 09-180. 1 1/2 Lbs.

**No. 43-191 Set of 4 Collars for Sash Cutters.** Nos. 09-140, 09-141, 09-150, 09-151. 1/2 Lb.

## Cutter and Collar Sets—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 1/2 Lbs.

**No. 43-213 Cove and Bead Cutter Set.** Consists of Cutters 09-108, 09-127; 09-135 to 09-138 inclusive and collars 09-132 to 09-134. Packed with 43-345 Stub Spindle Assembly and SP-10 Wrench for H.D. Wood Shaper. 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 for H.D. Wood Shaper. 3 Lbs.

## Spacing Collars—1/2", 3/4" and 1" Holes.

Cat. No.	Cat. No.	Cat. No.	Dia.	Thick-ness
09-133			1 1/8"	1/2"
09-150	43-250	43-310	1 3/8"	1 1/8"
09-155			3/4"	
09-217	43-251		1 3/8"	
09-134	43-252		1 3/8"	1/2"
09-140	43-253	43-313	1 3/8"	
09-215	43-254	43-314	1 3/8"	
09-151	43-255	43-315	1 3/8"	
09-142			3/4"	
09-171			1 1/8"	
09-143			3/4"	
09-172			1 1/8"	3/4"
09-144	43-256		1"	
09-173	43-257		1 1/8"	
09-145	43-258		1 1/8"	
09-132	43-259		1 1/2"	
09-141	43-260		1 1/8"	
09-146	43-261	43-321	1 1/8"	
09-174	43-262	43-322	1 1/8"	
09-147	43-263	43-323	1 1/8"	
09-175	43-264	43-324	1 1/8"	
09-148	43-265	43-325	1 1/8"	
	43-266	43-326	1 1/8"	
09-177	43-267	43-327	1 1/8"	
09-178	43-268	43-328	1 1/8"	
09-149	43-269	43-329	1 1/8"	
09-179	43-270	43-330	1 3/8"	
09-180	43-271	43-331	1 1/8"	

## Collar Sets—3/4" and 1" Hole

**No. 43-248 Set of 6 Collars.** 3/4" hole, 1 1/8" to 1 1/2" diameter. Nos. 43-260, 43-261, 43-262, 43-263, 43-264, 43-265.

**No. 43-249 Set of 6 Collars.** 3/4" hole, 1 1/8" to 1 1/2" diameter. Nos. 43-266, 43-267, 43-268, 43-269, 43-270, 43-271.

**No. 43-308 Set of 5 Collars.** 1" hole, 1 1/2" to 1 1/2" diameter. Nos. 43-321, 43-322, 43-323, 43-324, 43-325.

**No. 43-309 Set of 6 Collars.** 1" hole, 1 1/8" to 1 1/2" diameter. Nos. 43-326, 43-327, 43-328, 43-329, 43-330, 43-331.

## For Heavy Duty, Utility and 43-355 Wood Shapers

**3-Knife Safety Cutterhead.** Enables circular saw moulding cutter to be used on the wood shaper.

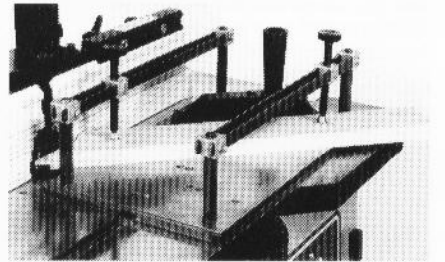
**No. 43-344 Cutterhead.** Includes wrench and bushing for use with 1/2" and 3/4" shaper spindles. Furnished without knives. 1 Lb.

*For actual size and shape of cutters, see Circular Saw Accessories.*

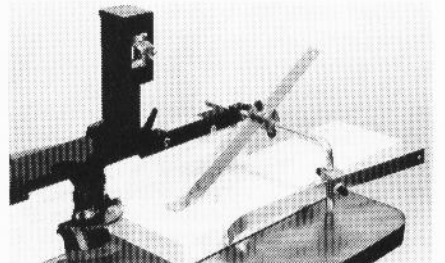
**No. 34-895 Auto-Set® Miter Gage.** For straight and angle shaping. Has 3/8" x 3/4" x 18" guide bar and pivoting work support body with pointer and calibrations reading through 120° swing. Adjustable, positive stops at 90° and 45° positions. Accommodates No. 34-568 Clamp Attachment. 3 1/2 Lbs.

**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 1/2 Lbs.

**No. 34-873 Extra Clamp Screw and Bracket** for clamp attachment. 1/2 Lb.



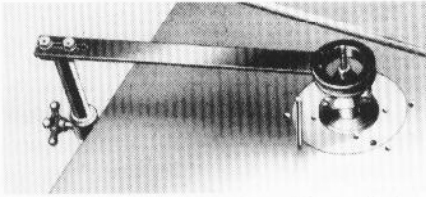
**No. 43-186 Sliding Shaper Jig.** For horizontal shaping operations such as tenon and groove cutting. Securely holds short and narrow work, prevents slipping. 15 Lbs.



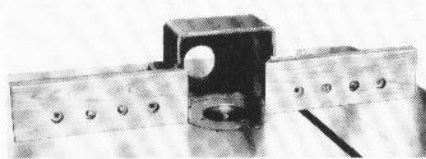
**No. 43-358 Spring Hold Downs.** Used with shaper fence on straight shaping operations. Holds work firmly against fence and table. Accommodates work up to 3/4" thick, any length. 2 Lbs.

## For Heavy Duty Wood Shaper

**No. 50-273 Mobile Base.** For H.D. Shaper. 22 Lbs.



**No. 43-348 Safety Ring Guard.** For added safety and convenience on curved and circular edge shaping operations. Complete with mounting bracket. 9 Lbs.



**No. 43-830 Fence Guard Assembly.** Heavy cast iron construction. Fence halves adjust independently. Has access opening for hookup to dust collection system. Standard equipment with unit.

**No. 43-829 Flange,** 2½" diameter for attaching to 43-830 Fence Guard Assembly for dust collection.

**No. 43-347 ½" Spindle.** Included with basic machine. For 3-lip shaper cutters with ½" hole. 1 Lb.

**No. 43-345 ½" Stub Spindle.** For cope cutters with ½" hole. 1 Lb.

**No. 43-937 ¼" Spindle.** Included with basic machine. For use with cutterheads with ¼" hole. ¾ Lb.

**No. 43-824 Router Spindle.** Accepts ¼" and ½" shank router bits. ¾ Lb.

**No. 43-821 Extra Long ¾" Spindle Cartridge Assembly** with 2-speed spindle pulley for clockwise or counter-clockwise rotation. Provides 4¾" capacity under nut. For use with wide cutters for fluting and reeding.

**No. 43-822 1" Spindle Cartridge Assembly** with spacing collars and 2-speed spindle pulley for use with 1 hole cutters. For clockwise or counter-clockwise rotation.

**No. 43-823 Set of 4 Spacing Collars.** 1" hole—two ¾" thick and two 1" thick. 1 Lb.

## Speed Conversion Parts

Motor and spindle pulleys for converting Heavy Duty Shaper from single to two-speed model.

**No. 41-105 Motor Pulley.** Two-speed. ¾" bore.

**No. 41-106 Motor Pulley.** Two-speed. ¾" bore.

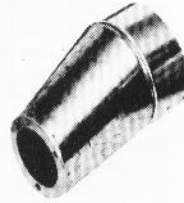
**No. 41-107 Spindle Pulley.** Two-speed. Fits drive spindle of both single and two-speed Heavy Duty Wood Shapers.

**No. 49-101 V-Belt.** 29¼" O.C. ½ Lb.

## Dust Collector Connectors

**No. 50-212 43-355 Shaper Connector.** Attaches to dust chute of shaper fence. 5" dia. outlet.

**No. 50-234 H.D. Shaper Connector.** Attaches to fence guard assembly of shaper. 5" dia. outlet.



For adapters and quick-disconnects, see Dust Collectors.

## Delta Carbide-Tipped Shaper Cutters and Sets



Gives you all the obvious advantages you expect and more:

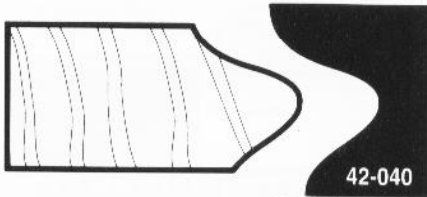
- High quality carbide tips for longer cutting tool life
- Computer aided design to assure optimum cutting performance
- High tech CNC manufacturing equipment for precisely ground profiles; minimal tolerance variations between cutters
- Advanced optical comparitors to guarantee geometric precision in manufacturing process
- Protective permanent packaging to lessen the chance of accidental breakage in shipping or storage
- Broad selection of cutters featuring most all popular patterns to maximize the usefulness of your shaper.



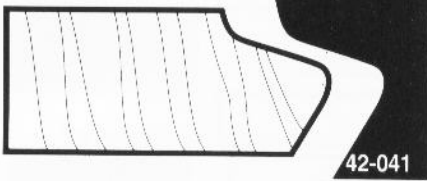
# Delta Shaper Accessories (continued)

## Door Edge Detail

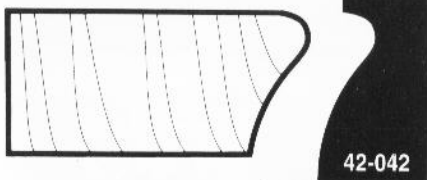
All 215/16" diameter. 3/4" bore, 1/2" T-Bushing.



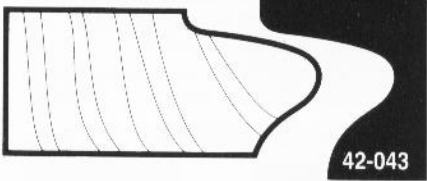
42-040



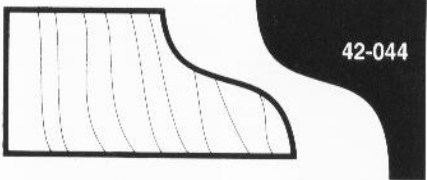
42-041



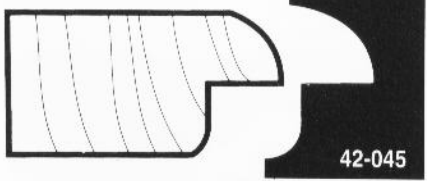
42-042



42-043



42-044



42-045

## Flute or Half Round Convex

All 215/16" diameter. 3/4" bore, 1/2" T-Bushing.

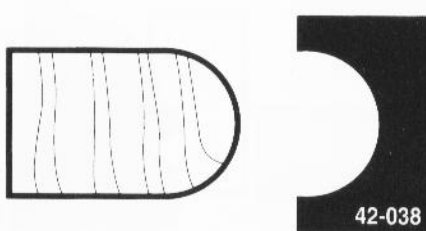


42-073

Width	Cat. No.	Width	Cat. No.
1/4"	42-070	1/2"	42-072
3/8"	42-071	3/4"	42-073
		1"	42-074

## Bead or Half Round Concave

All 215/16" diameter. 3/4" bore, 1/2" T-Bushing.

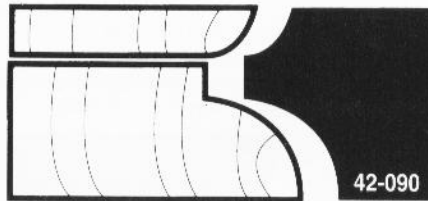


42-038

Width	Cat. No.	Width	Cat. No.
1/4"	42-035	1/2"	42-037
3/8"	42-036	3/4"	42-038
		1"	42-039

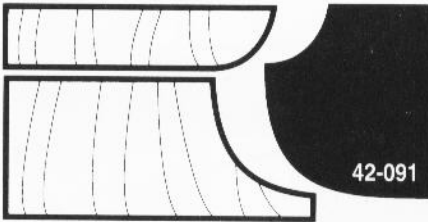
## Corner Round

All 215/16" diameter. 3/4" bore, 1/2" T-Bushing.



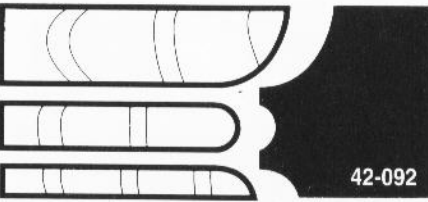
42-090

1/4" and 1/2" Quarter Round



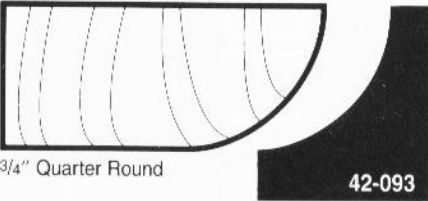
42-091

5/16" Quarter Round and 1/2" Cove



42-092

1/8" and 3/8" Quarter Round and 1/4" Bead

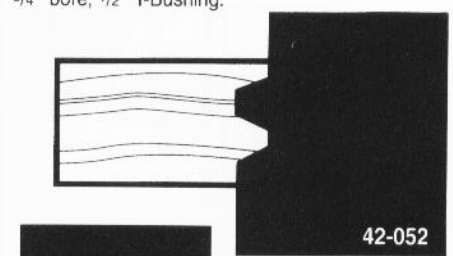


42-093

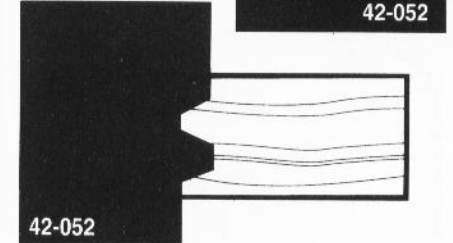
3/4" Quarter Round

## Glue Joint

For cutting 1/2" to 1 1/4" Material. 215/16" dia. 3/4" bore, 1/2" T-Bushing.



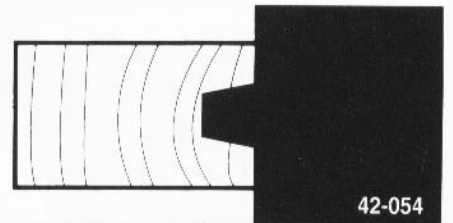
42-052



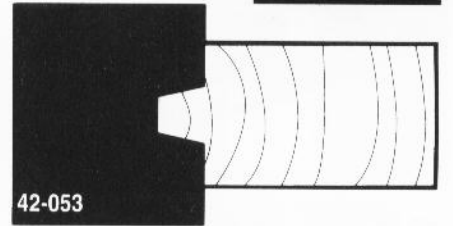
42-052

## Wedge Tongue and Groove

All 215/16" diameter. 3/4" bore, 1/2" T-Bushing.



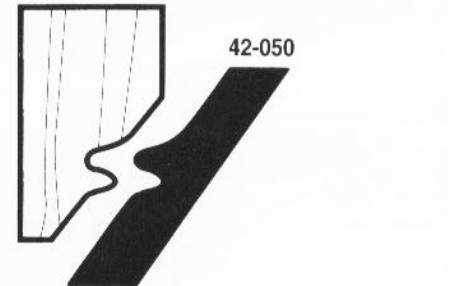
42-054



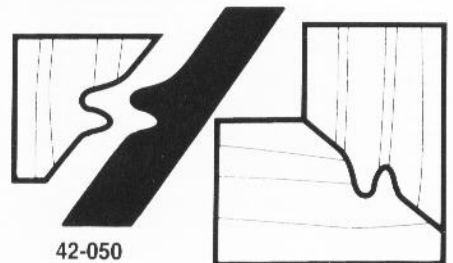
42-053

## Lock Miter Double Tongue and Groove

For cutting up to 1 1/8" material. 4" Diameter, 3/4" bore. Counterclockwise rotation only.



42-050

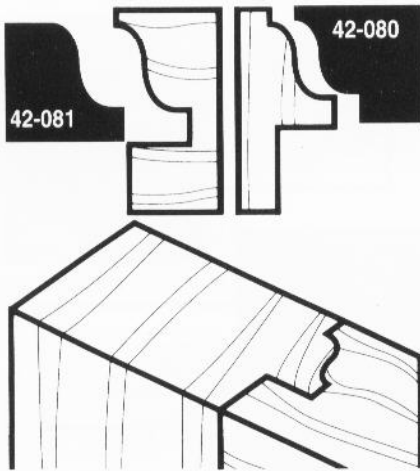


42-050

# Delta Shaper Accessories (continued)

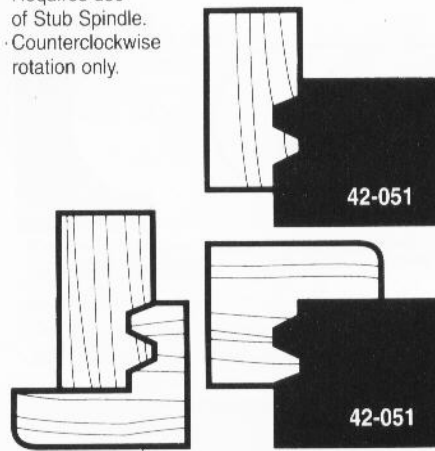
## Male and Female Sash

2 15/16" diameter, 3/4" bore with 1/2" T-Bushing.



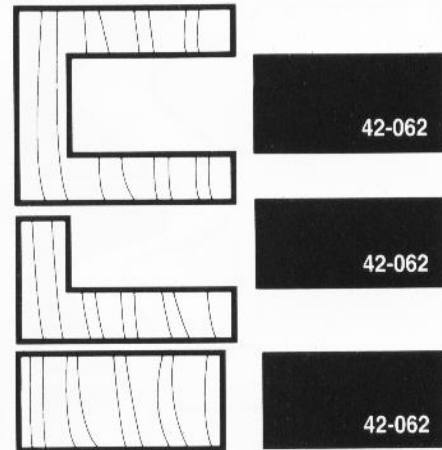
## Drawer Joint

All 2 15/16" diameter, 3/4" bore, 1/2" T-Bushing. Requires use of Stub Spindle. Counterclockwise rotation only.



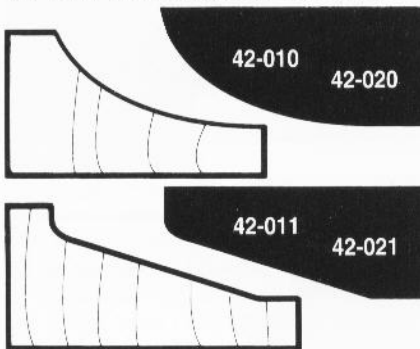
## Straight

All 3/4" bore with 1/2" T-Bushing unless otherwise noted.

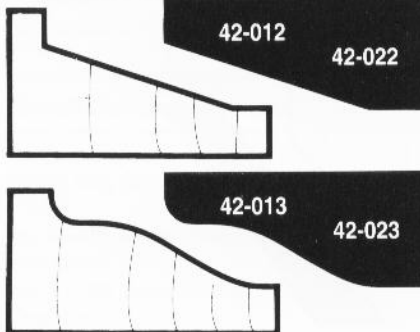


## Horizontal Panel Raising

For cutting 3/4" material. With 15° shear for optimum cutting both with and across the grain. Use 42-120 Rub Bearing with 4 1/2" Dia. Cutters and 42-121 Rub Bearing with 6" Dia. Cutters.



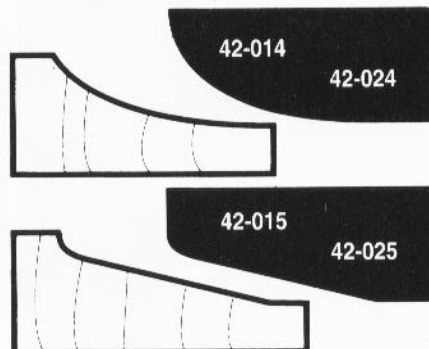
Face Cut	Dia.	Bore	Cat No.
Convex	4 1/2"	3/4" with 1/2" T-Bushing	42-010
	6"	1 1/2"	42-020
Rd. Nose	4 1/2"	3/4" with 1/2" T-Bushing	42-011
17° Bevel	6"	1 1/2"	42-021



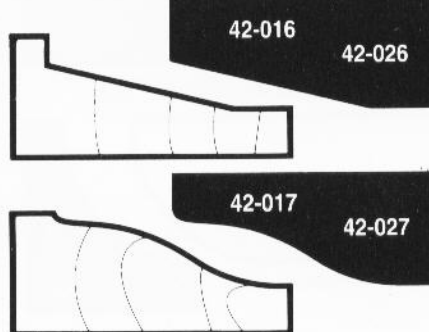
Face Cut	Dia.	Bore	Cat No.
Rd. Nose	4 1/2"	3/4" with 1/2" T-Bushing	42-012
18° Bevel	6"	1 1/2"	42-022
Rd. Nose	4 1/2"	3/4" with 1/2" T-Bushing	42-013
S-Cut	6"	1 1/2"	42-023

## Horizontal Panel Raising

For cutting 5/8" material. With 15° shear for optimum cutting both with and across the grain. Use 42-120 Rub Bearing with 4 1/2" Dia. Cutters and 42-121 Rub Bearing with 6" Dia. Cutters.



Face Cut	Dia.	Bore	Cat No.
Convex	4 1/2"	3/4" with 1/2" T-Bushing	42-014
	6"	1 1/2"	42-024
Rd. Nose	4 1/2"	3/4" with 1/2" T-Bushing	42-015
17° Bevel	6"	1 1/2"	42-025



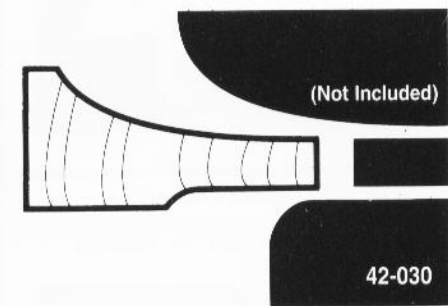
Face Cut	Dia.	Bore	Cat No.
Convex	4 1/2"	3/4" with 1/2" T-Bushing	42-016
	6"	1 1/2"	42-026
Rd. Nose	4 1/2"	3/4" with 1/2" T-Bushing	42-017
18° Bevel	6"	1 1/2"	42-027

Width	Dia.	Cat. No.	Width	Dia.	Cat. No.
1/4"	1 11/16"	42-104*	3/4"	2 15/16"	42-063
	2 3/16"	42-108*	1"	2 15/16"	42-064
	2 15/16"	42-060	1 1/2"	2 15/16"	42-065
3/8"	2 15/16"	42-061			
	1 11/16"	42-105*			
1/2"	2 3/16"	42-109*			
	2 15/16"	42-062			

\* Not supplied with 1/2" T-Bushing.

## Horizontal Panel Raising Back Cutters

With 15° for optimum cutting both with and across the grain. Includes 1/4" tongue spacer. For use with 4 1/2" dia. horizontal panel raising cutters to cut 3/4" material. 3 3/8" diameter, 3/4" bore with 1/2" T-Bushing.



# Delta Shaper Accessories (continued)

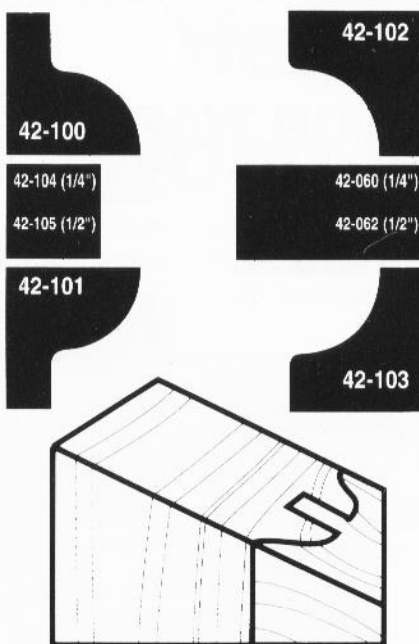
## Double Sided 8-Cutter Cope and Pattern Set

Includes 1/4" and 1/2" wide x 5/8" tongue and groove cutters. All 2<sup>15</sup>/<sub>16</sub>" diameter unless otherwise noted. 3/4" bore. For use with 42-122 rub bearing. For cutting 1<sup>3</sup>/<sub>8</sub>" passage doors and 1<sup>3</sup>/<sub>4</sub>" entry doors.

### Cat. No. 42-000 Set Includes

Cat. No.	Description
42-100	Rail for Concave Stile
42-101	Rail for Concave Stile
42-102	Concave Stile (2 <sup>11</sup> / <sub>16</sub> " Dia.)
42-103	Concave Stile (2 <sup>11</sup> / <sub>16</sub> " Dia.)
42-104	1/4" x 1 <sup>11</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-105	1/2" x 1 <sup>11</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-060	1/4" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)
42-062	1/2" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)

Cutters available separately.



## Ball Bearing Rub Collars

For use with carbide-tipped cope and pattern cutter sets and horizontal panel raising cutters.

Cat. No.	Diameter	Bore	Use with Cutter and/or Sets
42-120	1 <sup>5</sup> / <sub>8</sub> "	3/4"	42-010 to 42-017, 42-030 and 42-031
42-121	3"	1 <sup>1</sup> / <sub>4</sub> "	42-020 to 42-027
42-122	1 <sup>1</sup> / <sub>2</sub> "	3/4"	42-000
42-123	2 <sup>3</sup> / <sub>16</sub> "	3/4"	42-001 to 42-003

## T-Bushings

Set of two. For changing bore diameters on individual carbide tipped cutters and cutter sets.

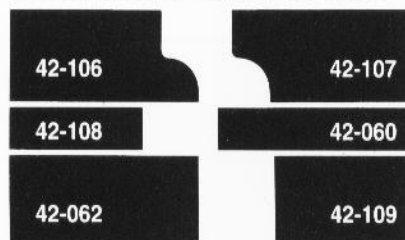
Cat. No.	Bore Change	Use With
42-125	1 <sup>1</sup> / <sub>4</sub> " to 1"	Single Cutters
42-126	3/4" to 1/2"	3 to 6-Piece Cutter Sets*
42-127	3/4" to 1/2"	Single Cutters

\*Includes 1 long and 1 short T-Bushing.

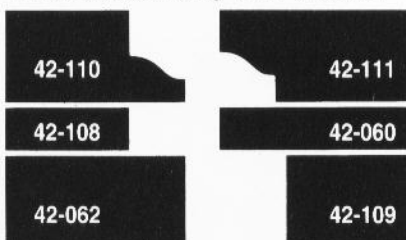
## 6 Cutter Cope and Pattern Sets

Includes 1/4" wide x 3/8" tongue and groove cutters. All 2<sup>15</sup>/<sub>16</sub>" diameter unless otherwise noted. 3/4" bore with 1/2" T-Bushing. For use with 42-123 rub bearing. Cutters available separately.

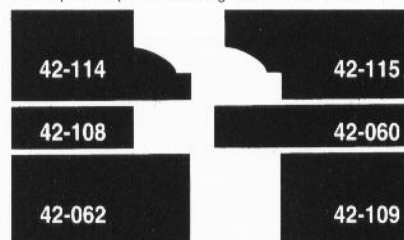
For cope and pattern cutting 3/4" to 1<sup>1</sup>/<sub>8</sub>" material



For cope and pattern cutting 3/4" to 1<sup>1</sup>/<sub>8</sub>" material



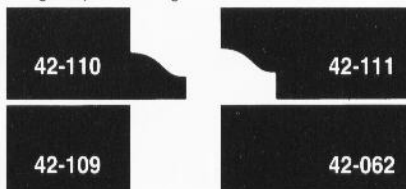
For cope and pattern cutting 3/4" to 1<sup>1</sup>/<sub>8</sub>" material



For glass panel cutting 3/4" to 1" material



For glass panel cutting 3/4" to 1" material



For glass panel cutting 3/4" to 1" material



For tongue and groove cutting 3/4" material



For tongue and groove cutting 3/4" material



For tongue and groove cutting 3/4" material



### Cat. No. 42-001 Set Includes

Cat. No.	Description
42-106	Rail for Concave Stile
42-107	Concave Stile (2 <sup>11</sup> / <sub>16</sub> " Dia.)
42-108	1/4" x 2 <sup>3</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-109	1/2" x 2 <sup>3</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-060	1/4" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)
42-062	1/2" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)

### Cat. No. 42-002 Set Includes

Cat. No.	Description
42-110	Rail for Ogee Stile
42-111	Ogee Stile
42-108	1/4" x 2 <sup>3</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-109	1/2" x 2 <sup>3</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-060	1/4" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)
42-062	1/2" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)

### Cat. No. 42-003 Set Includes

Cat. No.	Description
42-114	Rail for Ovolo Stile
42-115	Ovolo Stile
42-108	1/4" x 2 <sup>3</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-109	1/2" x 2 <sup>3</sup> / <sub>16</sub> " Dia. Straight (Tongue)
42-060	1/4" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)
42-062	1/2" x 2 <sup>15</sup> / <sub>16</sub> " Dia. Straight (Groove)



## PARTS, SERVICE OR WARRANTY ASSISTANCE

All Delta Machines and accessories are manufactured to high quality standards and are serviced by a network of factory service centers and authorized service stations listed in your owner's manual. To

obtain additional information regarding your Delta quality product or to obtain parts, service or warranty assistance, please call or fax Delta's toll-free 'hotline' number.

Delta maintains a modern, efficient Parts Distribution Center, maintaining an inventory of over 15,000 parts located in Memphis, Tennessee.

Highly qualified and experienced Customer Service Representatives are standing by to assist you on weekdays from 7:00 A.M. to 6:00 P.M. Memphis time.



Memphis, TN 38118  
4290 Raines Road  
Phone: (901) 363-8800

**HOTLINE**  
**800-223-7278**  
FAX: 800-535-6488



### Two Year Limited Warranty Delta Machinery

Delta will repair or replace, at its expense and at its option, any Delta machine, machine part, or machine accessory which in normal use has proven to be defective in workmanship or material, provided that the customer notifies his supplying distributor of the alleged defect within two years from the date of delivery to him, of the product and provides Delta Machinery with reasonable opportunity to verify the defect by inspection. Delta Machinery may require that electric motors be returned prepaid to the supplying distributor or authorized service center for inspection and repair or replacement. Delta Machinery will not be responsible for any asserted defect which has resulted from 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 Machinery be liable for incidental or consequential damages resulting from defective products. This warranty is Delta Machinery's sole warranty and sets forth the customers 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.