

18" Scroll Saw



DATED 1-2-91

PART NO. 430-03-651-0005
©Delta International Machinery Corp. 1991

 **DELTA**

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 SCROLL SAWS

1. **WARNING:** Do not operate your scroll saw until it is completely assembled and installed according to the instructions.
2. **IF YOU ARE NOT** thoroughly familiar with the operation of Scroll Saws, obtain advice from your supervisor, instructor or other qualified person.
3. **YOUR** Scroll Saw **MUST** be securely fastened to a stand or workbench. If there is any tendency for the stand or workbench to move during operation, the stand or workbench **MUST** be fastened to the floor.
4. **THIS SCROLL SAW** is intended for indoor use only.
5. **MAKE SURE** blade is properly tensioned before operating saw.
6. **MAKE SURE** the blade teeth point downward toward the table.
7. **NEVER** turn the saw "ON" before clearing the table of all objects (tools, scraps of wood, etc.).
8. **DO NOT** cut material that is too small to be safely supported.
9. **AVOID** awkward hand positions where a sudden slip could cause a hand to move into the blade.
10. **ALWAYS** keep hands and fingers away from blade.
11. **DO NOT** attempt to saw material that does not have a flat surface, unless a suitable support is used.
12. **MAKE** "relief" cuts before cutting long curves.
13. **ALWAYS** hold the work firmly against the table.
14. **DO NOT** feed the material too fast while cutting. Only feed the material fast enough so that the blade will cut.
15. **WHEN CUTTING** a large workpiece make sure the material is supported at table height.
16. **USE CAUTION** when cutting material which is irregular in cross section which could pinch the blade before the cut is completed. A piece of moulding for example must lay flat on the table and not be permitted to rock while being cut.
17. **USE CAUTION** when cutting round material such as dowel rods or tubing. They have a tendency to roll while being cut causing the blade to "bite."
18. **NEVER** perform layout, assembly or set-up work on the table while the saw is operating.
19. **TURN OFF** the saw before backing material out of an uncompleted cut.
20. **STOP** the saw before removing scrap pieces from the table.
21. **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 saw and all loose items from the shipping carton. Remove the protective paper (A) Fig. 3 from the table surface. Clean the table 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.

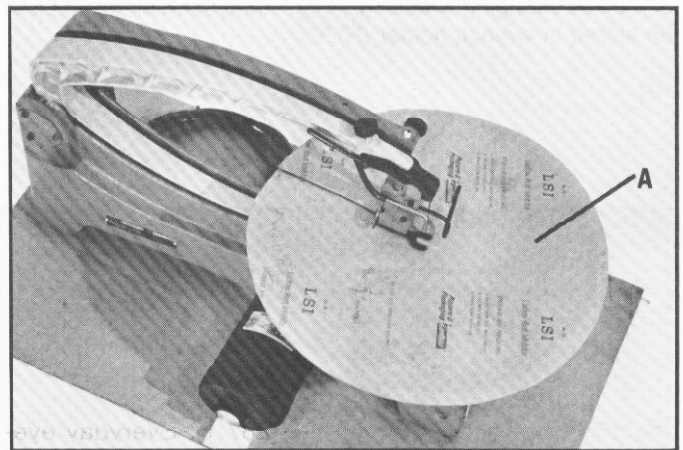


Fig. 3

ASSEMBLING STAND

If you purchased your scroll saw complete with stand, assemble the stand as follows:

1. Lay top shelf (A) upside down on floor, as shown in Fig. 4, and assemble one rear leg (B) and two front legs (C) to top shelf using the fourteen 5/16-18 x 3/4" hex head screws, 5/16" lockwashers, and 5/16"-18 hex nuts (D). NOTE: All three legs are to be positioned inside the top shelf, as shown.
2. Assemble the three tie bars (E) to the legs, as shown in Fig. 4, using the twelve 5/16-18 x 3/4" hex head screws and 5/16"-18 hex nuts (F).
3. Place stand in upright position.
4. The two holes (G) Fig. 5, in right front stand leg (C) are used for mounting the blade wrench holder to the stand.
5. Line up the holes in right front leg with the two holes in blade wrench holder (H) Fig. 6, and fasten with two 3/8" long socket hex head screws (J) and hex nuts.

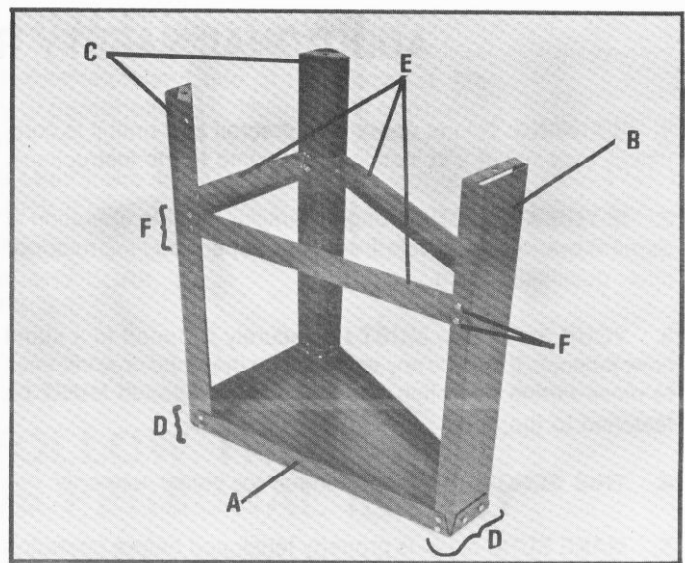


Fig. 4

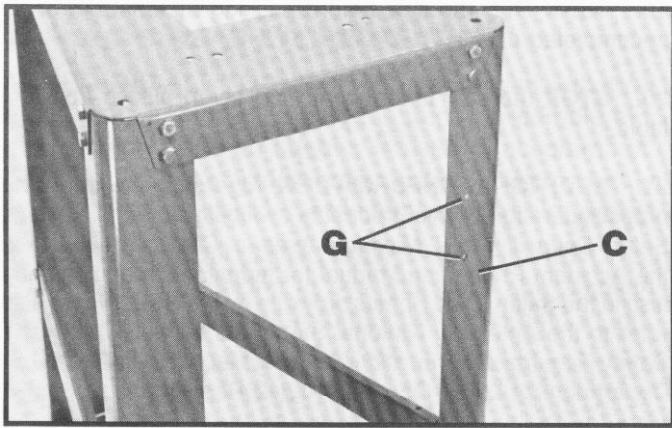


Fig. 5

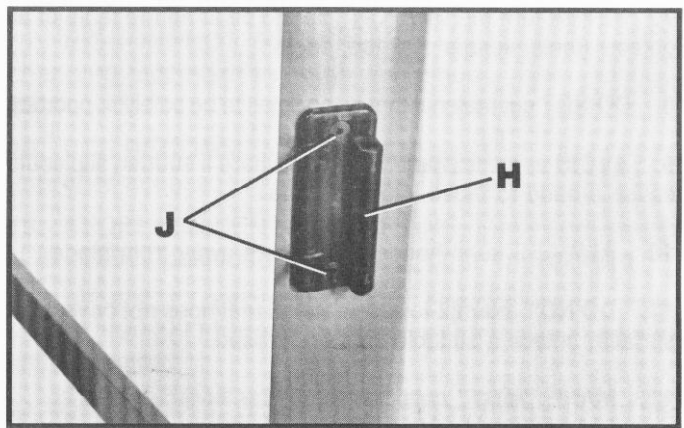


Fig. 6

5. Blade changing wrench (K) Fig. 7, and extra blades (L) can be stored in wrench holder (H).

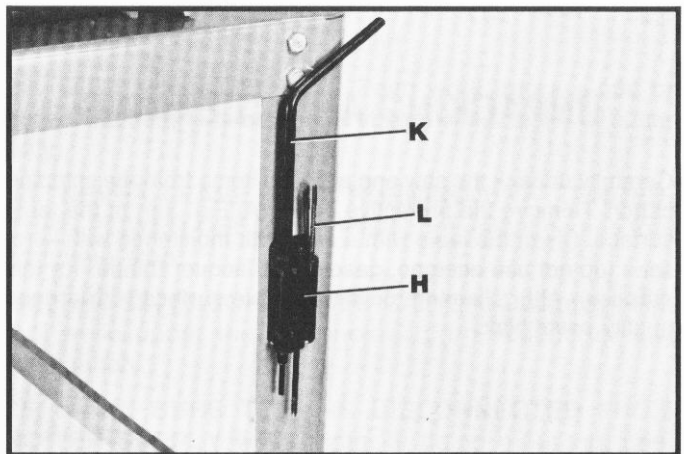


Fig. 7

ASSEMBLING SAW TO STAND

1. Place a piece of cardboard (A) on the top shelf of stand, as shown in Fig. 8.
2. Place the rear end of the saw on the cardboard and while one person holds the saw, remove the three screws (B) as shown in Fig. 8.

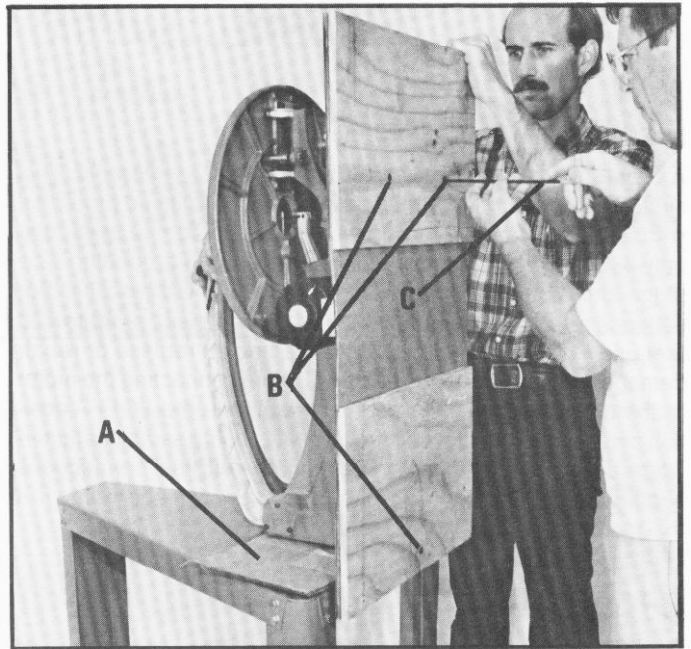


Fig. 8

3. Remove the mounting board (D), as shown in Fig. 9.
4. Make sure motor cord (E) and power cord (F) Fig. 9, are not crossed and assemble the saw to the three holes in the top shelf using the three 1/4-20 x 1/2" button head screws and 1/4" lockwashers, supplied.

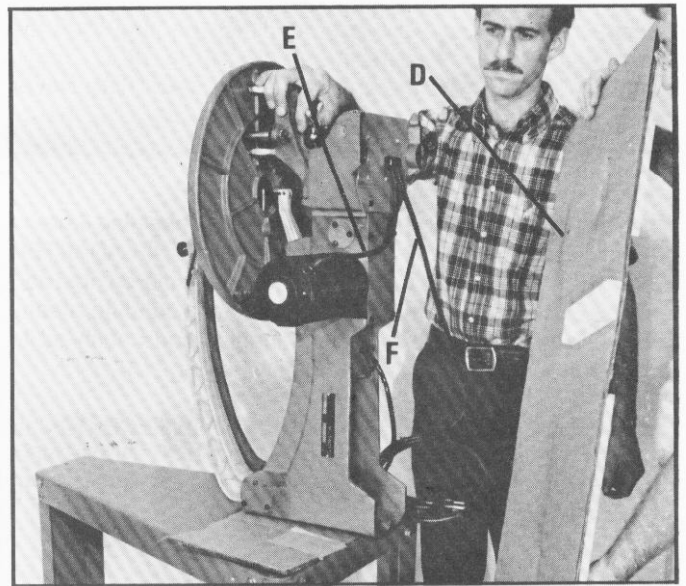


Fig. 9

ASSEMBLING TABLE INSERT

1. MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

2. Assemble table insert (A) Fig. 10, onto the table top from behind the saw blade (B) so slot (C) is toward the front of the machine. NOTE: Make certain the table insert fits flush with the table surface.

3. A table insert blank (D) Fig. 11, is supplied as standard equipment with your scroll saw and can be used when cutting very small workpieces to give added support to the bottom of the workpiece. Simply cut a slot into the blank and replace the standard insert (A) with the blank (D). The slot cut into the blank (D) will only be as wide as the blade giving maximum support to the bottom of the workpiece.

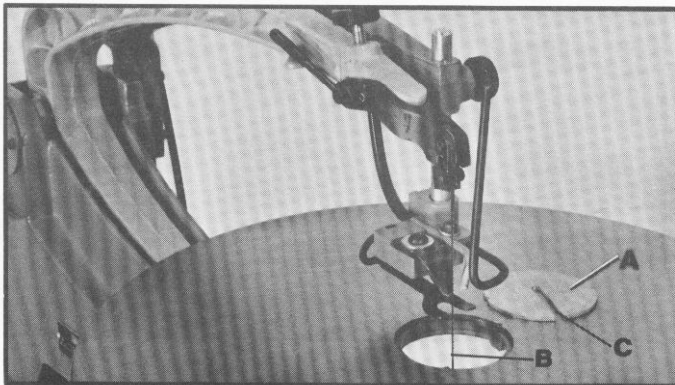


Fig. 10

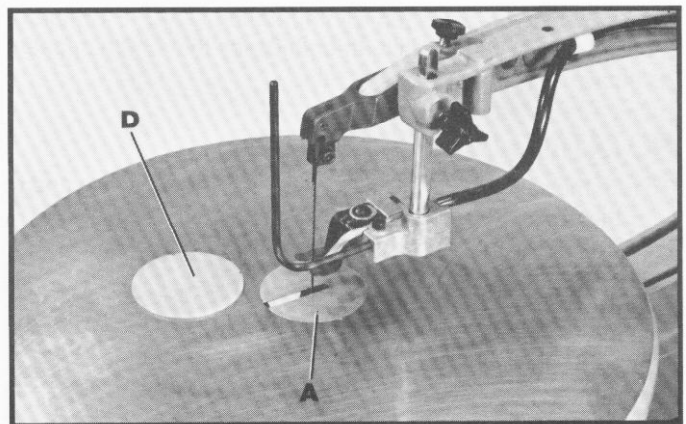


Fig. 11

CONNECTING SAW 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 tools 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 on low voltage will injure the motor.

GROUNDING INSTRUCTIONS

CAUTION: This tool must be grounded while in use to protect the operator from electric shock. The motor is shipped wired for 115 Volt, Single Phase and is equipped with an approved 3-conductor cord and 3-prong grounding type plug to fit the proper grounding type receptacle, as shown in Fig. 12. The green conductor in the cord is the grounding wire. **CAUTION: Never connect the green wire to a live terminal.**

An adapter, shown in Fig. 13, is available for connecting 3-prong grounding type plugs to 2-prong receptacles. THIS ADAPTER IS NOT APPLICABLE IN CANADA. The green-colored rigid ear, lug, etc., extending from the adapter is the grounding means and must be connected to a permanent ground such as to properly grounded outlet box, as shown in Fig. 13.

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

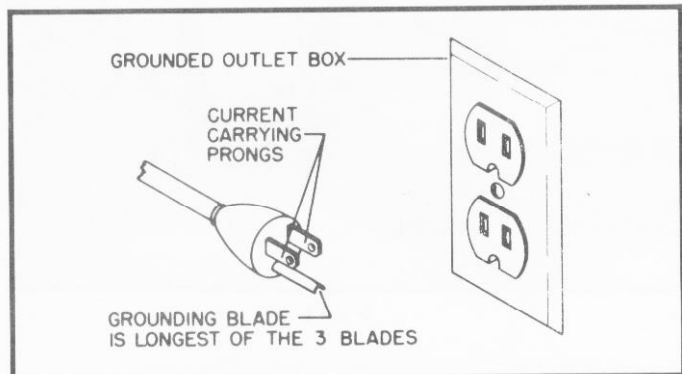


Fig. 12

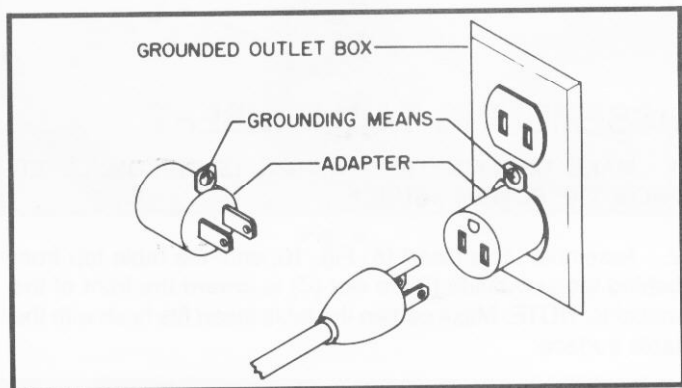


Fig. 13

SWITCH

Your saw may be equipped with a rotating ON-OFF Switch or a push/pull ON-OFF Switch. In both cases the switch appears as shown at (A) Fig. 14.

ROTATING ON-OFF SWITCH

To turn the saw ON, rotate switch (A) Fig. 14, clockwise and to turn the saw OFF, rotate switch (A) counterclockwise.

PUSH/PULL ON-OFF SWITCH

To turn the saw ON, pull out switch (A) Fig. 14 and to turn the saw OFF, push in switch (A).

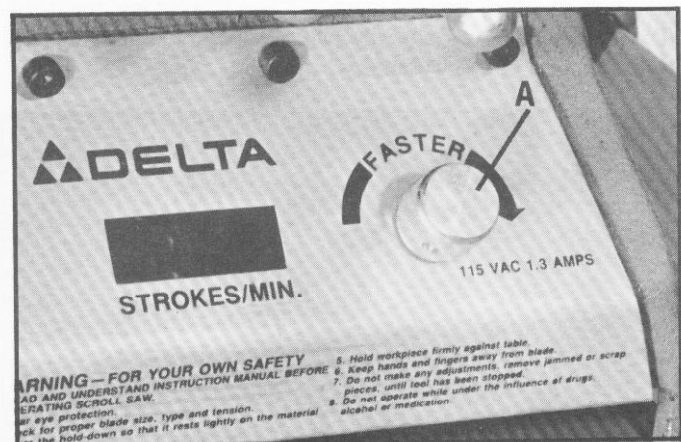


Fig. 14

SPEED CONTROL

Your scroll saw can be operated at speeds of 50 to 2000 strokes per minute. The strokes per minute is indicated by the digital readout shown at (B) Fig. 15. To increase the strokes per minute, rotate switch (A) clockwise and to decrease the strokes per minute, rotate switch (A) counterclockwise.

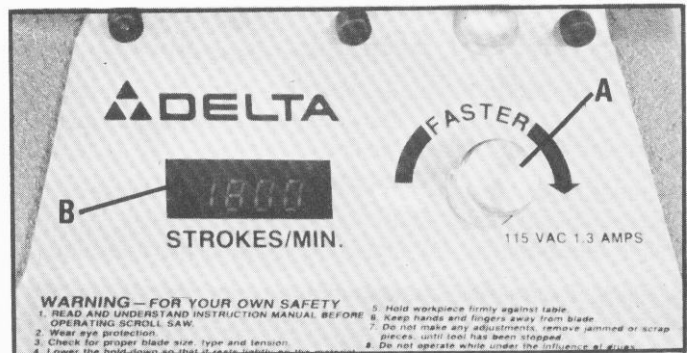


Fig. 15

CHANGING BLADES

1. **IMPORTANT: MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

2. Remove table insert and release blade tension by pulling tension lever (A) Fig. 16, forward as shown.

3. Insert long end of blade changing wrench (B) Fig. 16, into hole in upper blade holder (C). This will automatically align wrench (D) with blade holder screw (E).

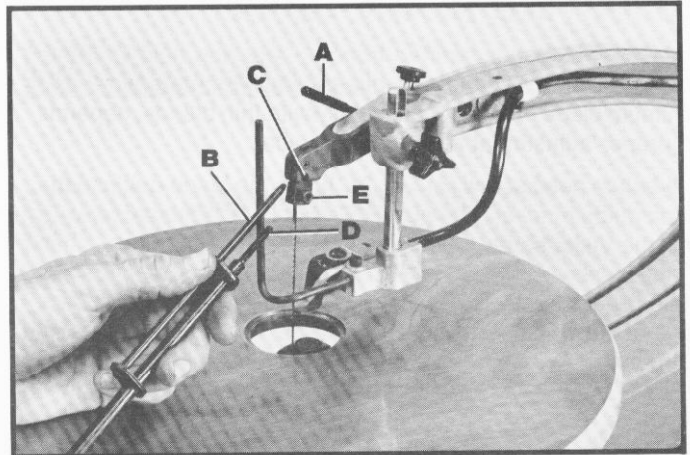


Fig. 16

4. Turn handle (F) Fig. 17, of blade changing wrench counterclockwise to loosen blade holder screw and remove blade (G).

5. Repeat this operation in the lower blade holder and remove blade.

6. Insert new blade into the lower and upper blade holders in the same manner, making certain the blade teeth are pointing down toward the table.

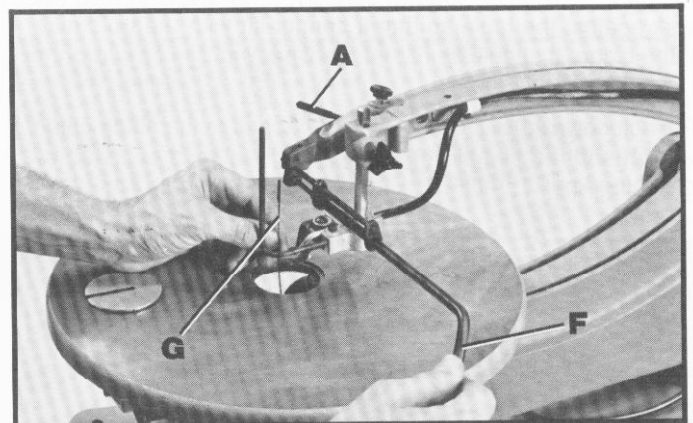


Fig. 17

7. Apply blade tension by moving tension lever (A) Fig. 18, to the rear.

8. Replace table insert (H) Fig. 18.

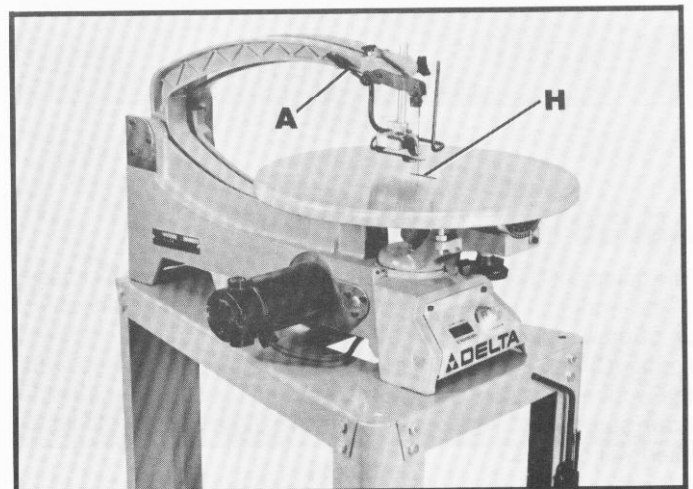


Fig. 18

ADJUSTING BLADE TENSION

Tension is applied to the blade when the blade tension lever (A) is in the rear position, as shown in Fig. 20. When the lever (A) is moved forward, blade tension is released.

To increase blade tension, turn knob (B) Fig. 20, clockwise and to decrease blade tension, turn knob counterclockwise. When adjusting tension, lever (A) should be in the forward position.

CAUTION: Excessive blade tension may cause blade breakage.

ADJUSTING BLADE GUIDE

The blade may be supported from the rear and held in line to prevent excessive bending while cutting. Accurate work and minimum blade breakage, especially with thin blades, depends on proper adjustment of the blade guide.

The button head screw (A) Fig. 21, holds the blade guide to the blade guide bracket. The guide (B) should be adjusted forward until the V-slot barely touches the rear edge of the blade. Then tighten screw (A) Fig. 21. The blades should not rub in the slot while running free. Excessive friction work hardens the back edge of the blade and reduces blade life. Pressure on the work will push the blade back against the guide while cutting.

ADJUSTING HOLDDOWN SPRING

The purpose of the holddown spring (C) Fig. 21, is to hold the work against the table so that it cannot lift with the up stroke of the blade. It should lie flat on the work with the front prongs straddling the blade.

The holddown spring (C) Fig. 21, is attached to the blade guide bracket and the height of the holddown spring is adjusted by loosening knob (F) and moving the guide post up or down.

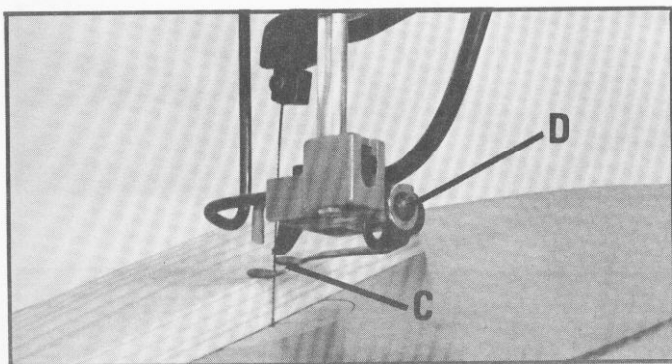


Fig. 22

ADJUSTING GUIDE POST

The guide post (E) Fig. 23, is adjusted according to the thickness of the work by loosening knob (F) and moving the guide post up or down accordingly. Then tighten knob (F). The holddown spring (C) Fig. 23, should always be brought down as close to the work as possible. The maximum capacity under the hold-down spring is 2". The capacity which can be cut with the table tilted will be less.

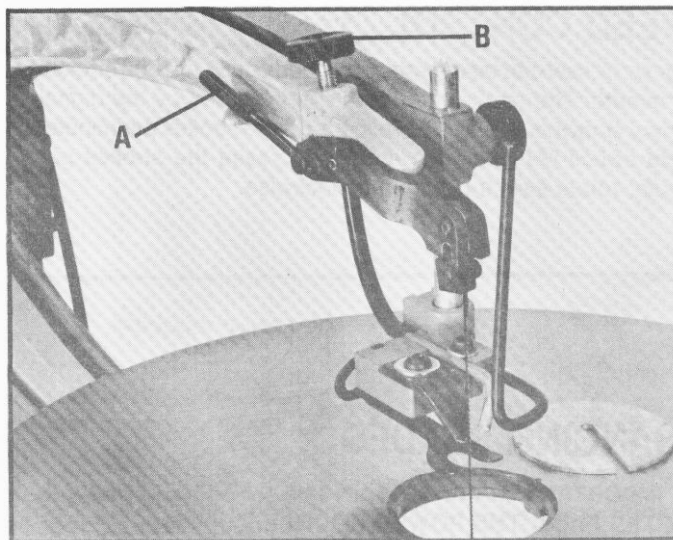


Fig. 20

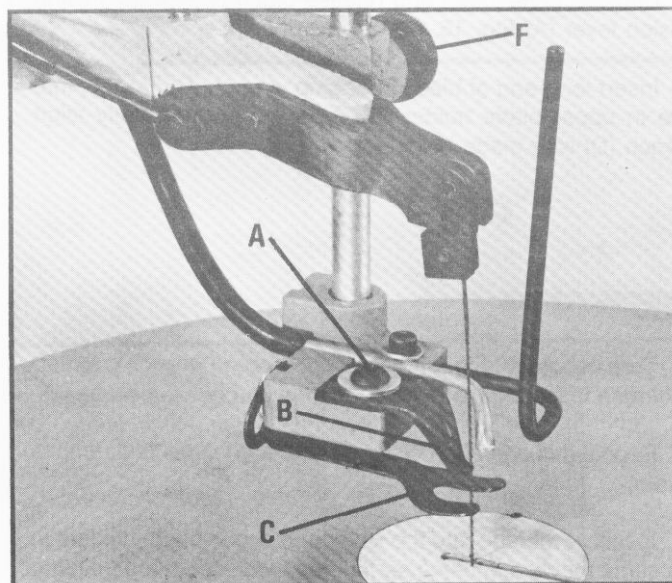


Fig. 21

When the table is tilted, the holddown spring (C) Fig. 22, can be adjusted by loosening screw (D), to the same angle as the table, so it lies flat on the work.

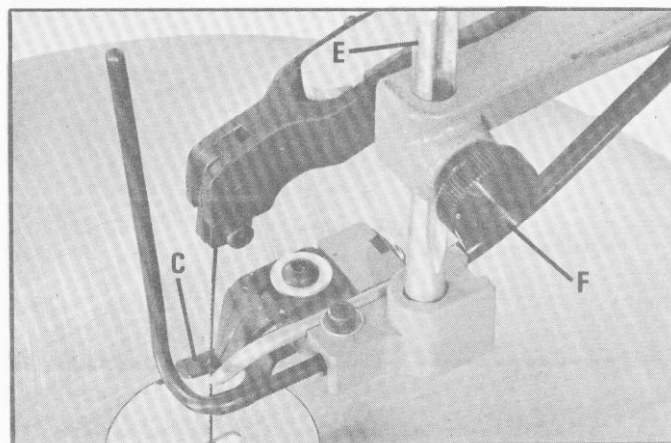


Fig. 23

ADJUSTING DUST BLOWER

The dust blower (G) Fig. 24, may be moved to direct air to the most effective point on the cutting line by loosening screw (H).

ADJUSTING BLADE GUARD

The blade guard (J) Fig. 24, should always be adjusted so it is in line with the saw blade by loosening screw (H).

LEVELING THE TABLE

A table stop (A) Fig. 25, is provided to accurately position the table at 90 degrees with the saw table. Thread nut (B) on table stop (A), loosen lock knob (C) and tilt table (D). Insert table stop (A) Fig. 25, into hole in casting (E) and lower table (D) until it contacts top of table stop (A) as shown.

Using a square as shown in Fig. 26, check to see if the table is 90 degrees with the saw blade.

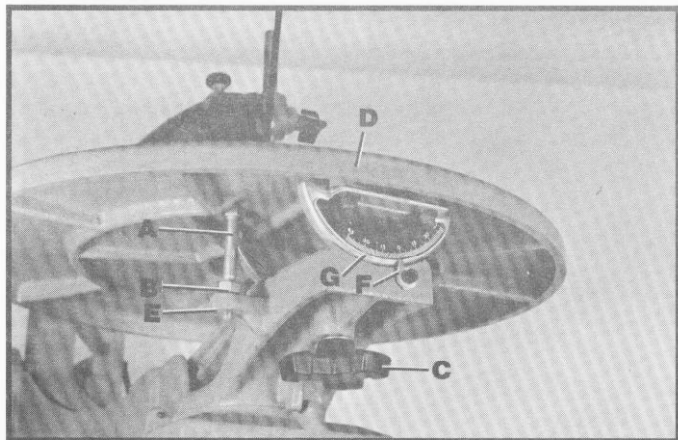


Fig. 25

To adjust, turn nut (B) Fig. 25, right or left as needed until table is 90 degrees with the saw blade. Tighten lock knob (C) and adjust indicator (F) until it points to zero on angle-of-tilt scale (G).

TILTING THE TABLE

The table on your scroll saw can be tilted 45 degrees to the right and 30 degrees to the left. To tilt the table to the right, loosen lock knob (A) Fig. 27, and move the table to the desired angle of tilt. NOTE: To tilt the table to the left, it is necessary to remove table stop (B). Tighten lock knob (A) when table is at desired angle of tilt.

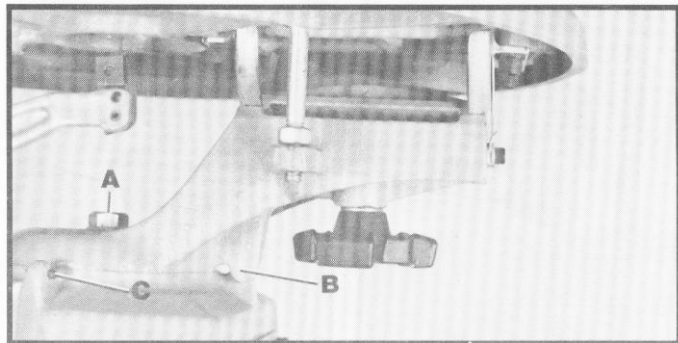


Fig. 28

ROTATING THE TABLE

The table can be rotated 90 degrees by loosening screw (A) Fig. 28, and rotating the complete table bracket assembly to the left until stop (B) contacts set screw (C). Then tighten screw (A). This enables you to tilt the table forward, as shown in Fig. 29, for special cutting operations.

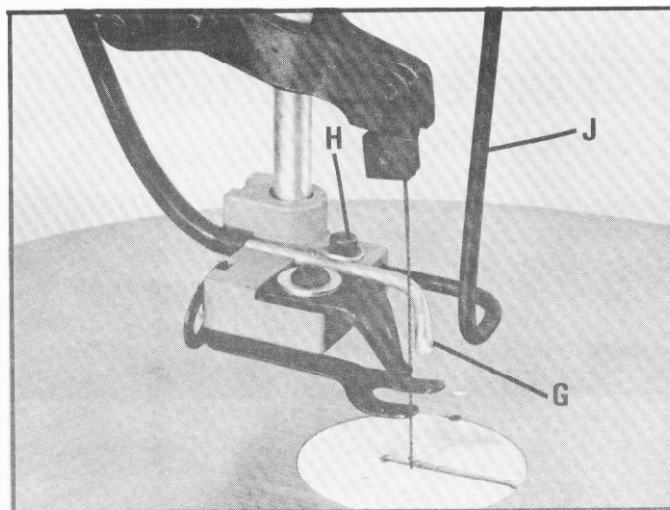


Fig. 24

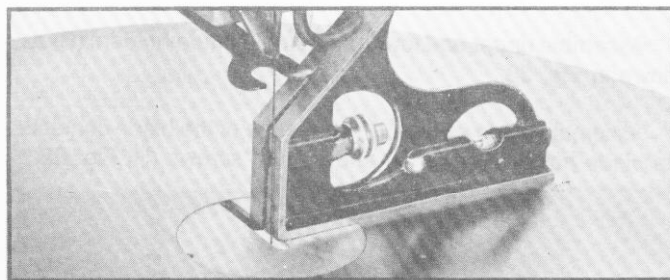


Fig. 26

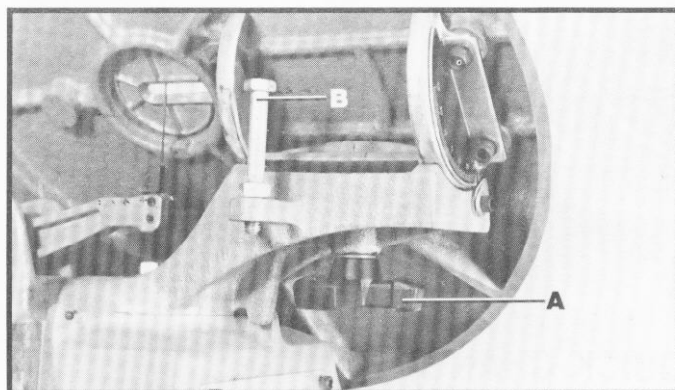


Fig. 27

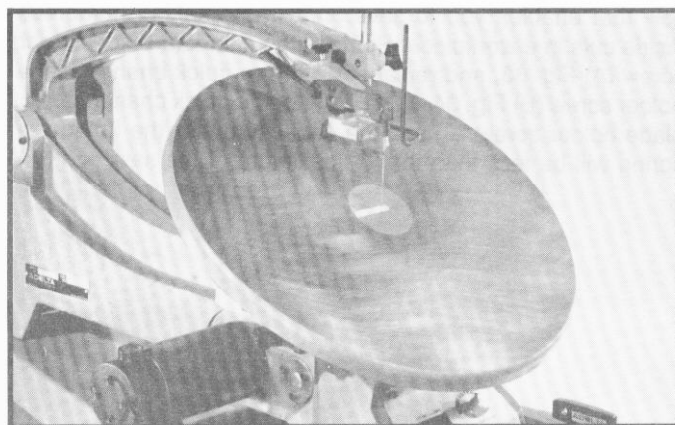


Fig. 29

ASSEMBLING ACCESSORY 40-603 RIGHT ANGLE BLADE ATTACHMENT

1. Disconnect machine from power source.
2. Loosen screw (A) Fig. 30, and remove blade guard assembly (B).
3. Loosen knob (C) Fig. 30, and remove guide post (D).
4. Remove table insert.

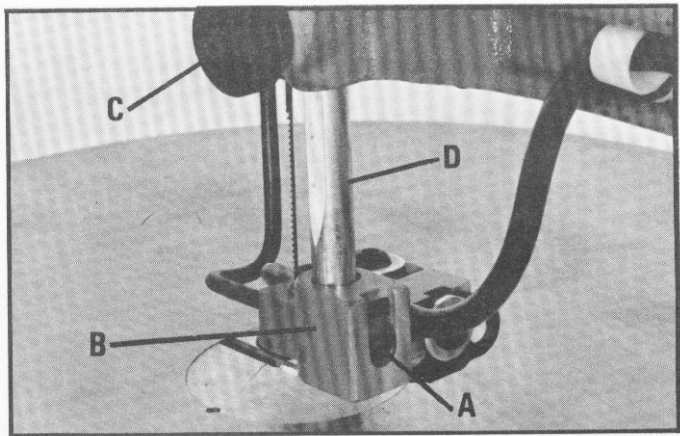


Fig. 30

5. Remove saw blade, upper blade holder (E) Fig. 31, and lower blade holder (F).
6. Assemble upper and lower right angle blade holders (G) as shown in Fig. 32.
7. Assemble blade so that the front edge of the blade contacts the blade holder screws (H) and tighten screws (H) Fig. 32.
8. Replace table insert.

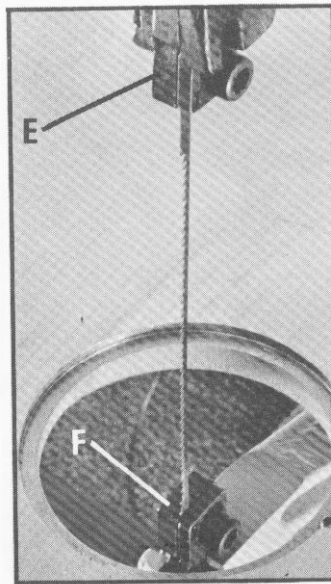


Fig. 31

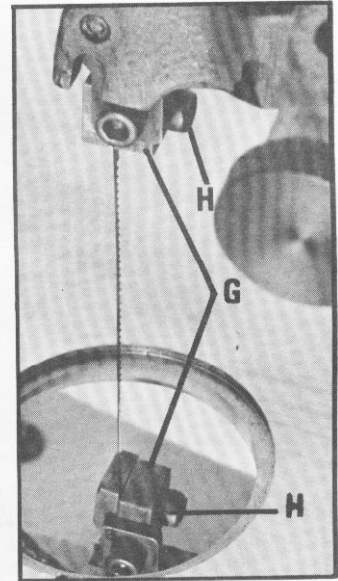


Fig. 32

QUICK CHANGE UPPER BLADE HOLDER SCREW

A quick change upper blade holder screw is supplied with your saw that enables you to save time when making numerous inside cuts in a workpiece. Remove the standard blade holder screw (A) Fig. 33, and replace it with the quick change blade holder screw (B) Fig. 34. NOTE: When the quick change upper blade holder screw is used the capacity under the holddown spring will be less than the 2" maximum of the saw.

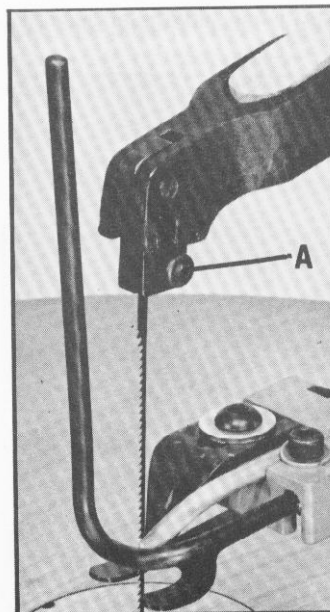


Fig. 33



Fig. 34

REMOVING SPEED CONTROLLER

Should it become necessary to remove the speed controller of your saw for service or replacement, it can be removed as follows:

1. Disconnect machine from power source.
2. Remove three screws (A) Fig. 35.

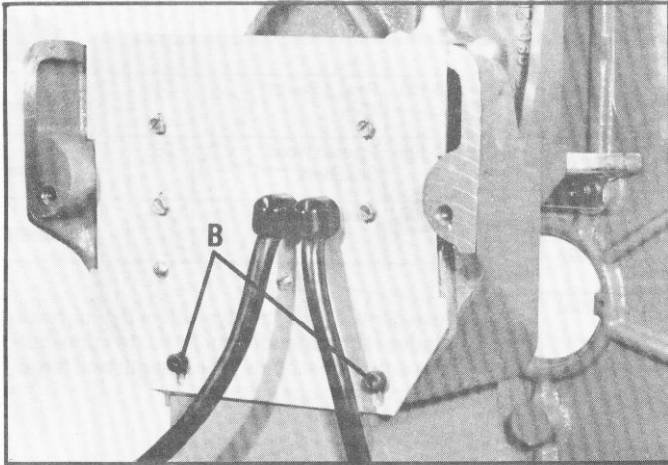


Fig. 36

3. Remove two screws (B) Fig. 36.
4. Remove grounding screw (C) Fig. 37, and disconnect two ground leads (D).
5. Disconnect two motor leads (E) Fig. 37. NOTE: Always replace black and white motor leads (E) as shown in Fig. 37.
6. Disconnect two power leads (F) Fig. 37.
7. Disconnect speed sensor leads (G) Fig. 37.
8. The complete speed controller can then be serviced or replaced.



Fig. 35

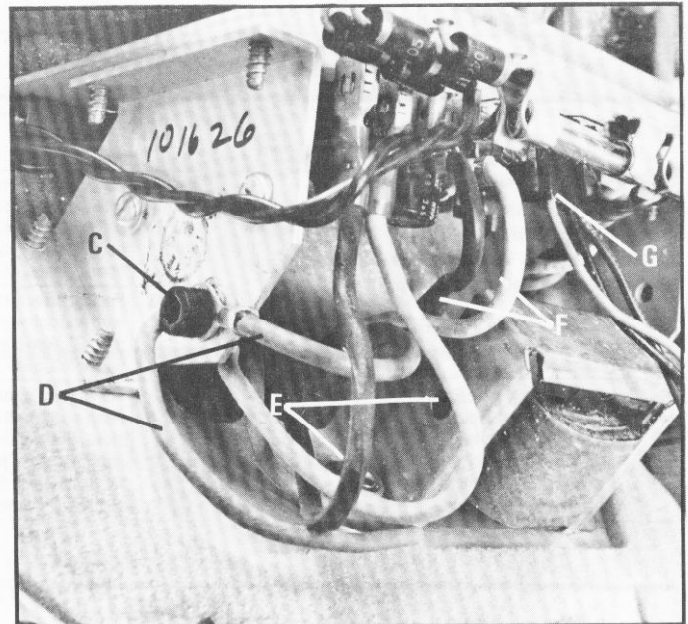


Fig. 37

ACCESSORIES

Scroll Saw Blades

A proper blade for every job. All are 5" long with accurately spaced teeth. Heat treated for extra long life. Have $\frac{3}{8}$ " blank ends for fastening into chuck. $\frac{1}{2}$ dozen to a package.

Catalog Number	Material Cut	Width Inch	Thickness Inch	Teeth Per Inch
40-058	Steel • Iron Lead • Copper Aluminum	.070	.018	26
40-159	Pewter • Paper Asbestos • Felt	.075	.018	20
40-160	Steel • Iron Lead • Copper Brass	.078	.022	15
40-161	Aluminum Pewter Asbestos	.085	.022	15
40-164	Sheet Metal Iron • Aluminum Copper • Brass Pewter • Lead Wood • Asbestos	.110	.018	20

40-165	Asbestos • Mica Brake Lining • Steel • Iron Lead • Copper Brass • Pewter Aluminum	.250	.028	20
40-184	Wood Veneer Also Plastics • Celluloid Hard Rubber Bakelite • Ivory Extremely Thin Materials	.029	.012	20
40-185	Plastics Celluloid	.035	.015	15
40-187	Bakelite	.090	.022	7
40-188	Ivory • Wood	.110	.022	7
40-191	Wall Board Pressed Wood Wood • Lead Bone • Felt Paper • Copper Ivory Aluminum	.110	.022	15

40-192	Hard and Soft Wood	.110	.022	10
40-193	Hard and Soft Wood	.187	.025	10
40-194	Hard and Soft Wood	.250	.028	7
40-195	Pearl • Pewter Mica	.041	.019	30
40-196	Pressed Wood Sea Shells	.065	.023	20
40-198	Hard Leather	.085	.022	12

As a general rule, always select the narrowest blades recommended for intricate curve cutting and widest blades for straight and large curve cutting operations.

Skip Tooth Blades

All blades have skip teeth for fast cutting and greater chip clearance. All blades are 5" long and are supplied 12 blades per package.

Catalog Number	Material Cut	Width Inch	Thickness Inch	Teeth Per Inch
40-605	For extremely intricate sawing. Very thin cuts in $\frac{1}{16}$ " to $\frac{3}{32}$ " materials. Excellent for cutting wood veneer, plastics, hard rubber, pearl, etc.	.022	.010	27

40-607	For close radius cutting in materials $\frac{1}{8}$ " or thicker. Great for sawing hard/soft wood, bone, horn, plastics, etc.	.037	.015	12.5
40-608	Popular sizes for cutting hard and soft woods $\frac{3}{16}$ " up to 2". Also plastics, paper, felt, bone, etc.	.043	.016	11.5
40-609		.053	.018	12
40-610	For smooth, splinter-free finish on top and bottom sides. Excellent for hard/soft wood, plywood, etc., with thickness of $\frac{1}{4}$ " or more.	.100	.022	9 with 3 reverse teeth

40-611	Wood, plastic, for extremely thin cuts on materials $\frac{3}{32}$ " to $\frac{1}{2}$ " thick.	.070	.010	18.5
40-615	Great for sawing thin materials up to $\frac{1}{4}$ ". Wood veneer, wood, bone, fiber, ivory and plastic.	.070	.023	17
40-616	For cutting hard and soft woods $\frac{3}{16}$ " up to 2". Also cuts plastic, paper, felt, bone, etc.	.062	.024	9.5

Metal Piercing Blades

These premium quality blades are made of hardened and tempered steel for sawing metal and other hardened materials. All blades are 5" long, have regular teeth and are supplied 6 blades per package.

Catalog No.	Width In.	Thickness In.	Teeth Per In.
40-617	.023	.012	48
40-618	.034	.016	36
40-619	.051	.022	25

For 18" Electronic Variable Speed Scroll Saw

No. 25-858 Lamp Attachment, for 115V. Includes 9" flexible gooseneck, reflector and 8-foot cord with plug. Uses standard bulb (*not included*) up to 40 watts. 2 lbs.

No. 40-603 Blade Holders. For ripping to the center of 36" stock, with unlimited length. 4 ozs.



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 infor-

mation 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 8:00 A.M. to 5:00 P.M. Memphis time.

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

~~HOTLINE~~

800-223-PART
FAX: 800-535-6488



Delta Building Trades and Home Shop Machinery Two Year Limited Warranty

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