

# RBI Hawk Precision Scroll Saw

Operators Manual



Models: 214BT, 216VS, 220VS, 226VS





# Table of contents

<u>Subject</u>	<u>Page</u>
<i>Set up</i>	2
<i>Maintenance</i>	3
<i>Safety</i>	3
<i>Pattern transfer methods</i>	4
<i>Sawing techniques</i>	4
<i>Practice exercise</i>	4
<i>First project how-to</i>	5
<i>Blades, blades, blades</i>	5
<i>Fret sawblades</i>	5
<i>Diamond blades</i>	6
<i>Jeweler's blades</i>	6
<i>Blade changing (220 VS and 226 VS)</i>	6
<i>Blade changing (214 BT and 216VS)</i>	8
<i>Advanced scrolling techniques</i>	9
<i>Bevel sawing</i>	9
<i>Stack cutting</i>	10
<i>Inside cuts</i>	10
<i>Compound sawing</i>	11
<i>Troubleshooting</i>	11
<i>Accessories</i>	13

## Warranty

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We guarantee each Hawk Scroll Saw to be free from defects in material and workmanship for 3 years from date of delivery to original user. This warranty does not cover damage sustained in transit or from misuse of this piece of equipment.

**This warranty does not obligate us to bear the cost of labor or transportation charges in connection with the replacement or repair of defective parts, nor shall it apply to any saw upon which repairs or alterations have been made unless authorized by us.**

We make no warranty in respect to components not of our manufacture, including motors, such being subject to the warranties of their respective manufacturers.

We shall in no event be liable for consequential damages or contingent liabilities arising out of the failure of any saw to operate properly.

No express, implied or statutory warranty other than herein set forth is made or authorized to be made by us.

**ENCLOSED WARRANTY REGISTRATION CARD MUST BE RETURNED TO VALIDATE YOUR WARRANTY.**

**TO VALIDATE WARRANTY, customers must mail in warranty card on receipt of machine.**

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# Setting up Your New Hawk

Your new Hawk has been completely assembled and factory tested before being prepared for shipment. All adjustments have been made except for a few minor adjustments. After a few simple assembly procedures you'll be on your way to scrolling in no time!

The Hawk is shipped in two separate cartons.

\*If you have the Hawk model 214BT, your shipment may arrive in a single carton, because it has no leg assembly. It is a bench mount machine.

Carton #1 contains the saw, manual, and extra blades (if applicable).

Carton #2 contains the leg set, assembly hardware, and glides (rubber feet).

\*We often ship additional items in each carton if ordered. Be sure to compare the items received with the packing list attached to each shipment. There will be one packing list for an entire shipment. If your shipment contains more than one carton, the packing list will be attached to the largest carton.

While removing all items from their cartons be sure to inspect each one closely for shipping damage. If you feel your shipment may have been damaged, contact the local office of the transportation carrier. You will find their local number in the yellow pages under Shipping Carriers.

Tools you'll need to put your Hawk together:

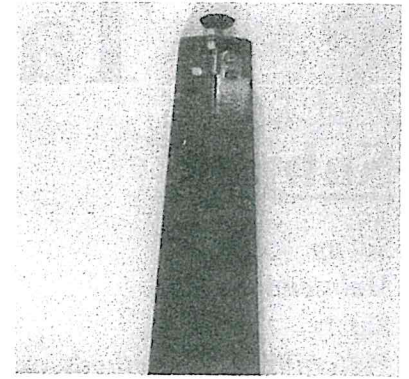
- 7/16" wrench or ratchet
- 9/16" open end wrench
- A pair of standard pliers

## Step #1

Remove the assembly hardware from the plastic pouch and install the 3/8" hex nuts on the glides (the rubber feet). Screw them all the way down until they are next to the rubber.

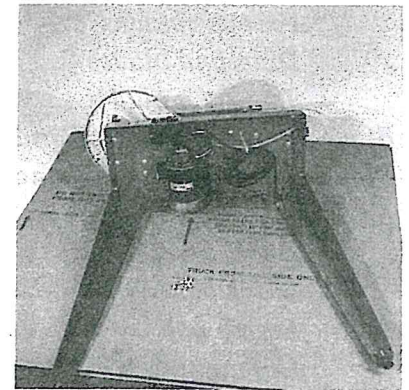
## Step #2

Insert the glides through the hole in the bottom of each leg. Install another 3/8" hex nut on the glide to hold it in place. Tighten the nut down securely. By tightening down securely, machine vibration will be considerably reduced.



## Step #3

Completely break down the saw carton and lay it flat on the floor. Turn the saw completely on its side and carefully lay it down on the opened carton. Install one leg on each corner of the base, using the 1/4" whiz nuts. Do not tighten completely. The carriage bolts should be able to freely move in the slots—we will tighten these with a wrench when making final adjustments. Be sure the top of the leg is inside the base and the carriage bolt head is on the outside with the whiz nut to the inside of the base.



## Step #4

With the legs installed, stand your new Hawk upright and tighten the carriage bolts on the legs securely with a 7/16" wrench or ratchet. For best operation of your saw be sure to get it on a solid level floor.

## Step #5

Model 214BT, 216VS: Remove the rubber band from the cam handle on the rear of the upper arm and flip the cam. This will put tension on the blade.

Model 220VS, 226VS: Remove the rubber band from the cam handle on the rear of the upper arm and flip the cam. This will put tension on the blade. On the left hand side of the front section of the upper arm there is a small black tension adjustment handle. Push the handle backwards and you should feel tension begin to tighten.



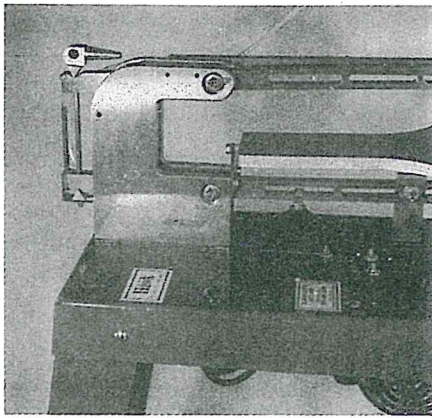
## Step #6

The final adjustment that you will want to make is to direct the dust blower hose. The dust blower hose is connected to the hold down arm with a rectangular red painted metal bar. Using your pliers, clamp the metal bar and slowly twist the bar until the end of the blower hose is pointed directly at the hole in the center of the saw table. When adjusting your dust blower, it should keep an area the size of a half dollar directly around the blade clear of dust.

# Maintenance...

There's a few more things you'll want to do before we begin to saw. Don't forget about these handy tips. Later they should be done about every 20 hours of use.

**Tip #1** Using light machine oil (3-in-1 brand oil is good), put a few drops under the pivot wedge at the rear tension bar. You will also need to put a drop of oil to each side of the pivot point bearings. (This is where the bolts that hold the arm on are located.)



**Tip #2** Use a cake of beeswax or paraffin and rub it on the round underside of the cam to keep friction from building up under the cam.

**Tip #3** Although we hand polish each Hawk table here at the factory, after about 200 hours of usage you may want to go ahead and apply a coat of wax to the table for protection. Apply Minwax Clear Wood Wax or Johnson Paste Wax with light pressure in a circular motion. Polish with a clean dry cloth. Be sure to remove all wax from the table top or it will coat your wood as you cut, and make finishing difficult.

## Let's go over a few safety tips...

**Tip #1** Never allow anyone without proper training to use your Hawk. Children should always be carefully supervised while sawing.

**Tip #2** A clean workshop is a safe workshop. Keep your work area clean and uncluttered and especially keep others clear of running machinery. Be sure to remove all tools and wood scraps before starting the machine.

**Tip #3** Keep your hands away from all moving parts. Never try to make any adjustments to your Hawk while it's running. The electrical power should be disconnected before making adjustments on the machine.

**Tip #4** Dress for the occasion. Loose clothing and jewelry can be a hazard around working tools. Avoid loosely fitting clothes, long sleeves, gloves, neckties, jewelry, rings, watches, etc. If you have long hair, be sure to pull it back. Always wear safety goggles, ear protection, and a mask in dusty operations.

**Tip #5** To avoid electrical shock, do not operate your Hawk in a wet or damp area. Always keep safety guards in place, and never leave your saw running unattended.

**Tip #6** Be sure to use good materials for a top notch job. When cutting wood, be sure that it has no loose knots or splintered surfaces.

## Let's try it out!

After we have tested each Hawk we leave the "test run" blade installed. This blade is a #7 size fret saw blade. (There are several different sizes and types of blades available but we will talk about them later.) This blade will work very well for our beginning exercises. The most important thing to remember is to relax. Don't be afraid of the saw--it's a very safe tool--but it must be respected.

**For this project you will need:**

1 - 1"x9"x11" piece of clear soft wood (pine)



Before we begin you will need to get the pattern of the jumping dolphin puzzle located in the RBI Pattern Pak enclosed with your saw. There are several ways to transfer patterns to your project material. Here are a couple of our favorites:

**1. Carbon method** - Using a sheet of carbon paper (available at the local stationery shop), place it directly on the surface you plan to cut. Lay the original pattern or a photocopy directly on top of the carbon paper and carefully trace the pattern using a sharp pencil or a ballpoint pen. Lift the pattern and carbon paper from the surface and you're ready to cut. **Warning:** Depending on the material you plan to cut, the carbon from the paper is very difficult to remove from the surface. Be sure to carefully sand away all carbon or it will tend to bleed when finishing later.

**2. Stick it** - This is our favorite. Make a photocopy of the original pattern and put the original away for safe keeping. Using the photocopied pattern, carefully spray aerosol adhesive directly to the backside of the pattern. Place the pattern face-side-up on the surface to be cut and rub gently to make sure all edges will be secure while cutting. **Note:** When choosing a spray glue, repositionable glue (like the type intended for photographs) is best. Our favorite is the Duro brand spray adhesive available in the paint section of the local home improvement store. After cutting is complete, remove the pattern from the surface and lightly sand to remove and glue residue before finishing. (Some folks tell us that they use the same technique with rubber cement or a craft glue stick instead of the spray adhesive.)

For your first project it's better to choose a soft wood to cut. We recommend sugar pine or ponderosa pine if it's available. Take the pattern of the jumping dolphin puzzle and prepare your project to be cut by attaching the pattern by the method you think will work best.

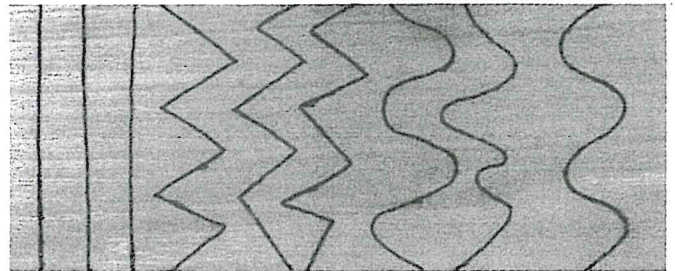
Now it's time to adjust the "hold down" foot of your Hawk to fit the thickness of the lumber you will be cutting. The "hold down" foot is the black nylon (plastic) piece that surrounds the blade of your saw. Using the knob on the right hand side of the saw located next to the upper arm loosens the knob and raises the "hold down" foot. Now place the project you plan to cut on the table and bring the "hold down" foot back down until it gently rests on the surface of your project. Tighten the knob.

You are now ready to get started on your first project.

## Sawing techniques the professionals use

It is best to always start your cut at a point or corner of the project. Even for a pro it's almost impossible to blend starting and ending cuts on a straight part. If your pattern doesn't have a corner, then start sawing into the pattern line cutting across the grain. By cutting across the grain you will have a better chance of the blade not wandering with the grain.

(When you have to start a cut on a long curve, try to cut just a little outside the line -- you can sand off the resulting bump.)



## Here's a practice exercise for technique

Over the years we've learned of several ways to help folks enjoy working with their new Hawks right away. Here's a technique- building tip that has helped many get started.

### Step #1

Take a piece of paper (or draw directly on the wood with a felt tip or ball point pen) and draw a series of straight and zig zag lines like the ones in the diagram.



## Step #2

After your wood is covered with lines, start cutting using the techniques above. After you've completed this project and you're comfortable with making sharp turns and straight lines you'll be ready to go.

**Cutting corners and sharp turns** - This is the most exciting part of having a Hawk-- the flexibility to make a cut as intricate or as simple as you want. Your new Hawk can make a complete 360° cut in a project with less than 1/64" turning radius. When cutting a project that requires sharp turns and points, here's a few pointers:

**#1** Start by making your cut all the way to the point where you want to make a sharp turn.

**#2** Now without feeding your project into the blade, slowly spin the wood around the blade in its own kerf. If you're used to using a bandsaw or jigsaw, you may be tempted to "set" the blade. Don't. If you find that while cutting you tend to break blades often, or there is smoke while you are trying to make a turn, you're not alone. Many people have that problem--here's an easy way to remedy your case: don't lean side to side on the blade.

**#3** If your project clatters on the table or it tries to pull from your hands while making turns, you may want to go to a smaller size blade. The smaller the blade size, the smaller the turning radius will be. For very intricate projects, the smallest size blade you are comfortable with is best. (See our recommendation chart on page 5.)

## Let's make a project

Now it's time to put all that know how to work for you! Remember, begin at a corner in your pattern and cut across the grain when you first start out. Follow the line around; if you're right-handed you will probably be most comfortable feeding your project counter clockwise (vice versa for a left-handed scroller). It doesn't really matter which direction you cut, just go in the direction that you feel most comfortable with. Start at the outside of the pattern and work your way inward.

Some folks say scrolling is a lot like driving a car--we'd have to agree. When cutting along the line you can go as fast or slow as you'd like by adjusting the variable speed knob. If you're cutting along and you start to wander from the line of the pattern, don't try to jerk back onto the line--you'll just end up with a bumpy project. The best technique is the "near hit" method. In most cases you will have to do more than wander 1/8" from your pattern line to make an elephant look like a mushroom.

Always remember that the blade of your new Hawk is stationary and you drive your project. You must spin the wood--the blade will not turn. This is how most folks break blades when getting started. Always remember to feed directly into the blade--never lean to the side. Let the blade do the cutting.

After you've completed your test project, step back and take a look at your first success...CONGRATULATIONS! Look at the sides of the project and inspect for burn marks. If there are burn marks on your projects, you've got room for improvement on feeding straight into the blade. If your line seems a little bumpy, you'll want to concentrate on the "near hit" technique. Now you're ready to finish your project and get going again.

Be sure to read over the Sawing Techniques section for all the tips and techniques on all types of cuts.

## Blades for every occasion

There are literally hundreds of types and styles of blades available for cutting most any material you choose. On the next page is a chart that will help you better understand the most popular types and sizes of blades for your saw.

### *Fret Sawblades*

Originally designed for a hand fret saw, these blades are ideal for the power scroll saw. This is the best blade for general cutting. It is recommended for wood, plastics, fabric, paper, and most other non-metal materials.



### FRET SAW BLADES

REF. #	TEETH PER IN.	CUTTING THICKNESS	APPLICATIONS
2/0	29	.016"	For extremely intricate sawing of 1/16" to 3/8" materials; wood veneer, plastic, hard rubber, etc.
2	24	.022"	For light radius work in thin materials 3/32" to 5/8"; wood, bone, fiber, plastic, etc.
5	20	.028"	For close radius cutting in materials 1/8" or thicker; hard or soft wood, plastic, etc. Popular sizes for cutting hard and soft woods 3/16" up to 2".
7	18	.030"	
9	14	.030"	
12	11	.031"	

Blade Length 5"

### METAL (JEWELER'S) SAW BLADES

REF. #	TEETH PER IN.	CUTTING THICKNESS	APPLICATIONS
6/0	72	.007"	Cutting of gold, silver, bronze, precious metals, etc. For thin veneers and metals up to 1/16" thick. For metal 1/32" to 1/8" thick.
4/0	64	.009"	
2/0	56	.011"	
1	51	.013"	Cutting of harder and thicker metals; iron, steel, etc. For metal 1/8" to 1/4" thick. For metal 1/8" to 3/8" thick.
3	43	.016"	
5	36	.022"	
8	28	.028"	
12	20	.028"	

Blade Length 5"

## Diamond Blades

The diamond encrusted blade is the newest and most unique blade yet. This blade is manufactured by impregnating a round rod with diamonds. For folks that enjoy making stained glass projects or do large amounts of ceramic and marble cutting, the diamond blade is the answer. The diamond blade must be used with the dripper system to keep it from loading up with glass particles.

### DIAMOND BLADES

REF.#	DIA.	LENGTH	APPLICATIONS
1	3/4 MM	5"	Recommended for cutting precious gems, glass, and tile.

## Jeweler's Sawblades

These blades are designed for use in the hand jewelers still used frequently among jewelry designers. Its hardened steel composition and teeth configuration make it ideal for cutting both ferrous and non-ferrous metals such as gold, silver, brass, and aluminum. The jeweler's sawblade is also ideal for cutting other dense materials like marble and ceramic tile. When cutting materials with the jeweler's blades we recommend that you use a dripper system to lubricate the cut and keep the blade cool.

## How to change a blade

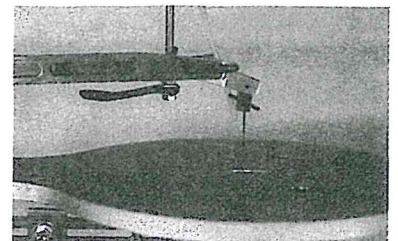
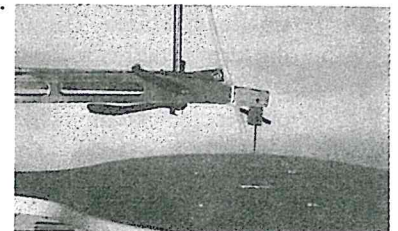
### Front cam benefits

With the front cam, the blade can be changed without getting off of the stool or stretching to reach the back of the saw. This feature is great when making inside cuts or for someone that isn't able to get around easily.

Here's an easy step-by-step method for changing the blade on your Hawk (models 220VS and 226VS).

#### Step #1

The front cam has two positions: the release position (for changing blades), and the tensioned position (for sawing). The blade tension is still adjustable with the cam-over at the back of the saw. Begin by releasing the front cam (black tension adjuster on the front left side of the upper saw arm). By flipping the bar in the complete forward position your tension will be released. Loosen the knob on the upper bladeholder to release the old sawblade.





## Step #2

Choose the size and type of blade you will be using. (Make your selection from the blade chart located on page 7. ) Located in the "v" notch of the lower arm there will be a chuck that looks like a barrel. Holding the blade holder at both ends (with your index finger and thumb), remove the chuck by sliding the blade holder forward. Now let's mount the blade in the bottom blade chuck. (The bottom blade chuck looks like a metal barrel with a split through it. Place the blade chuck on its side in the slot of your saw base.)

If you have the Hawk Model 220VS the slot is located on the left side midway back of the base.

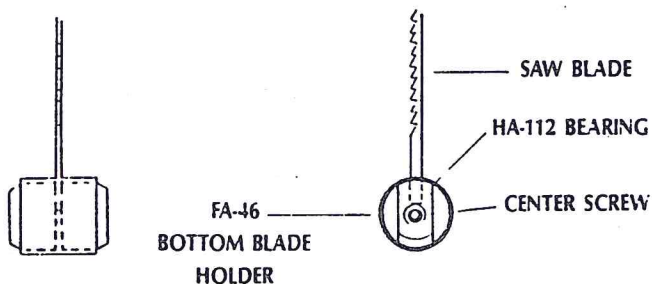
The Hawk Model 226VS's slot is located on the left side just in front of the black rubber grommet.

## Step #3

Using the slotted portion of the "H" wrench (HA-178) lay the open slot over the squared arc of the blade chuck. Turning the wrench counterclockwise, the chuck will unscrew and release the blade. You may also use a 5/16" wrench instead of the "H" wrench to unscrew the blade chuck. (The allen screw is just used as a set screw and unscrewing it will not help you to change the blade.)

## Step #4

Remove the remaining portion of the blade in the chuck. Make sure that all broken blade pieces are cleared away. Now lay the blade flat with the teeth pointing down towards the chuck and the bottom of the blade touching the set screw running through the middle of the chuck. The blade must come straight out of the chuck. (See diagram.)



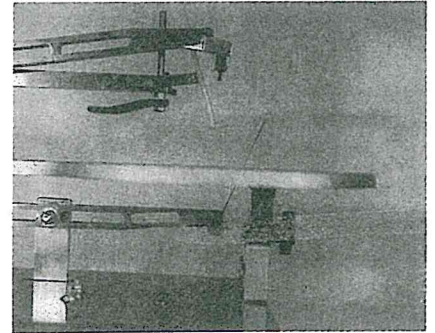
CENTER OF THE BLADE ON THE CENTER SCREW.

## Step #5

Using the "H" wrench, tighten the new blade in the chuck. Be careful not to overtighten the chuck--more is not better. When the blade is overtightened you will crimp the blade and weaken it at the point where the blade and chuck meet.

## Step #6

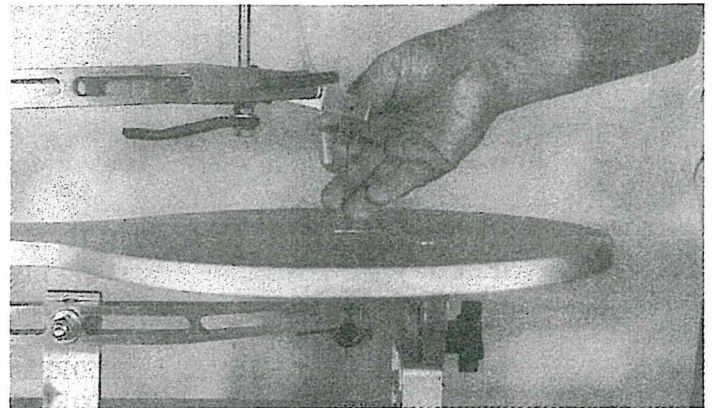
Remove the blade from the base slot and feed it through the hole in the table, sliding the chuck under the lower arm in the wedge-type slot designed for it to rest. Be sure the teeth on the blade are facing towards you.



## Step #7

Using your index finger, bring the upper arm down while pinching the blade between your thumb and second finger. Push the blade back into the slot in the front of the upper blade holder. Make sure the blade is completely to the back of the blade holder and the top of the blade is touching the stop pin. Tighten the blade holder knob with your right hand.

## Step #8



Now it's time to begin re-tensioning the blade. Most every different blade size requires a little alteration in the tension put on the blade. A good rule of thumb to remember is this: when moving to a smaller blade, lighten the tension--when moving to a larger blade, increase the tension slightly.

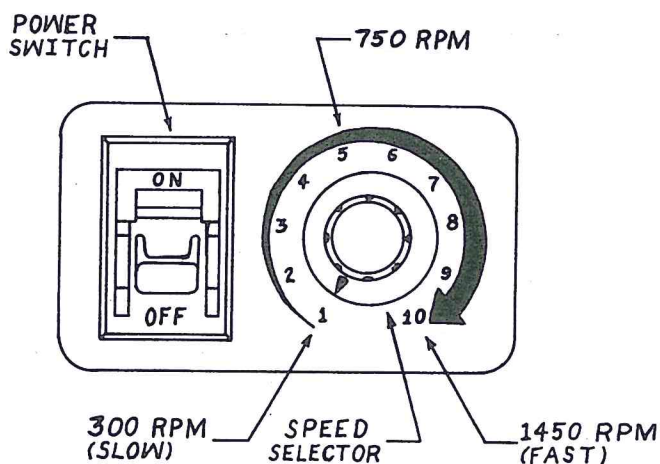
## Step #9

Begin the tensioning process by flipping the front cam back to the tensioned position. Now begin tensioning the blade with the rear cam by slowly moving the rear camover handle back to the original position. Final tension is done with rear cam. Stop tensioning when the blade makes a clear *ping* when plucked like a guitar string.

## Step #10

**You're finished changing the blade! Yea!** Put your tools away and you're ready to get started sawing. Each time you change the blade it will get easier. Soon you'll be changing a blade in seconds.

**Note:** If you break a blade, simply place the front cam handle in the released position (to release the blade tension) and change the blade. Return the front cam handle to the tensioned position. The tension should be correct and should not need adjusting.



**SPEED CORRELATION CHART**

NO.	SPEED	NO.	SPEED
1.....	300RPM	6.....	900RPM
2.....	350RPM	7.....	1000RPM
3.....	400RPM	8.....	1150RPM
4.....	600RPM	9.....	1300RPM
5.....	750RPM	10.....	1450RPM

# Blade Changing For Models 214BT and 216VS

## Step #1

Begin by releasing the flip cam located on the rear of the upper arm. The cam will be in the released position when the long arm is laying flat on the upper arm.

## Step #2

Insert the "H" wrench into the top of the upper bladeholder to lock it in place. Using the T-handle allen wrench, loosen the upper bladeholder to release the blade.

## Step #3

Choose the style and size of blade you will be using. Make your selection from the blade chart located on page 7.

## Step #4

Located in the "v" notch of the lower arm there will be a round barrel-style chuck. Holding the blade holder at both ends (with your index finger and thumb), remove the chuck by sliding the blade holder forward. Now mount the blade in the bottom blade chuck. The bottom blade chuck looks like a split barrel. Place the blade chuck on its side in the slot of the saw base.

If you have a Hawk Model 214BT, the slot is located on the right hand side of the base, one third of the way back, directly behind the yellow caution label.

If you have a Hawk Model 216VS, the slot is right in front of the serial tag on the left hand side of the base of your saw.

## Step #5

Using the slotted portion of the "H" wrench (HA-178), lay the open slot over the squared area of the blade chuck. Turning the wrench counterclockwise, the chuck will unscrew and release the blade. You may also use a 5/16" wrench instead of the "H" wrench if you prefer. Many people are tempted to use an allen wrench to unscrew the allen screw in the end of the chuck. The allen screw is used as a set screw, and unscrewing it will not help you change the blade.

## Step #6

After unscrewing the blade chuck, make sure that all broken pieces of the blade are removed from the chuck. Slide the blade, with teeth facing downward, through the hole in the brass bushing and insert the blade until it rests against the set screw.



### Step #7

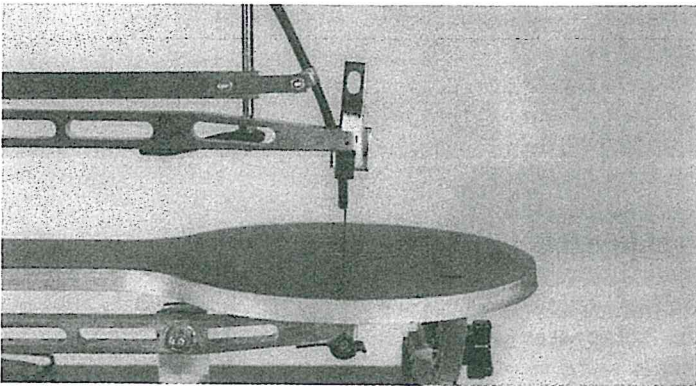
Using the "H" wrench, tighten the blade in the chuck. Be careful not to overtighten the new blade in the chuck--more is not better. When the blade is overtightened you will crimp the blade and weaken it at the point where the blade and chuck meet.

### Step #8

Remove the chuck from the base slot and feed it through the hole in the table, sliding the chuck under the lower arm in the wedge-shaped slot designed for it to rest in. Be sure the teeth on the blade are facing out.

### Step #9

Place the "H" wrench over the upper arm with the two legs laying over the upper blade chuck. This will help to keep the blade stationary while you are installing the blade in the chuck.



### Step #10

Using your left index finger, bring the upper arm down while pinching the blade between your thumb and second finger. Push the blade back into the slot in the front of the upper blade holder. Make sure the blade is resting in front of the set screw and touching the roll pin in the upper chuck. Tighten the blade with your "T" handle allen wrench supplied with your saw.

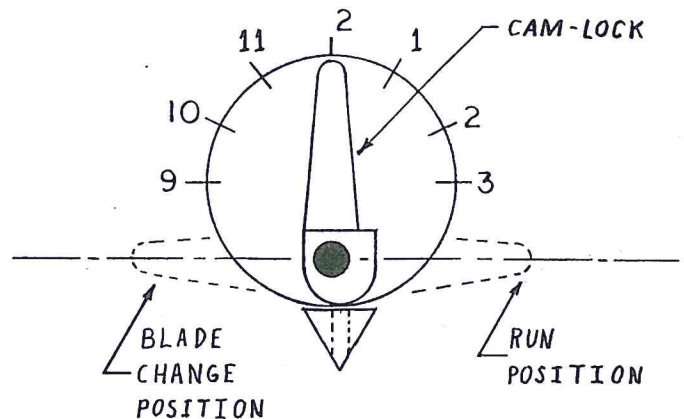
### Step #11

Now it's time to begin re-tensioning the blade. Most every different size blade requires a little alteration in the tension of the blade. A good rule of thumb to remember is: when you are changing to a smaller blade, lighten the tension--when moving to a smaller blade, increase the tension slightly.

### Step #12

To re-tension the blade to the same position as before, simply flip the cam over into the tensioned position. If you want to adjust the tension, release the cam, reach to the tension rod (the rod that holds the two parallel arms together at the back), and hold it firmly while turning the cam like a knob. Then re-tension the cam and check your blade tension.

Here's a chart that will help you check your tension and blade sizes:



### Step #13

You're finished changing the blade! Congratulations again! Put your tools away and you are ready to begin sawing. Each time you change the blade it will become easier and take less time.

## Advanced scrolling techniques

### *Bevel sawing*

Bevel sawing is a fun way to add another dimension to a project. To make a bevel cut you simply tilt the table of your Hawk and begin cutting. Many folks use the bevel sawing technique to create inlays, dovetail joints, and the 3-D pictures like the one we'll make for this project.



Make a copy of the desert pattern from your Pattern Pak and attach it to a piece of 1/2" wood--just about any kind of wood will work. Now beginning with the most inside line (in this case it's the desert floor and cactus), tilt the saw table at 3 degrees to the right and make the first cut in a clockwise direction.

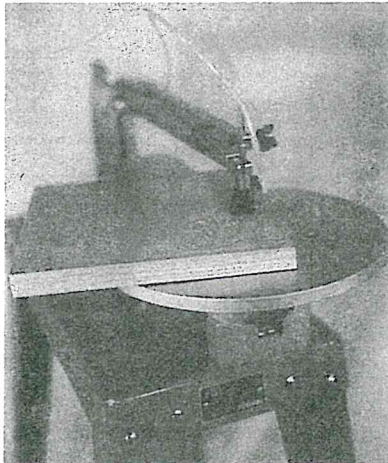
Now tilt the table 3 degrees to the left and follow the next pattern line (the ground and mountains). For the final cut, you will need to tilt the table to the right at 4 degrees and follow the last line. Now push each piece into position to make a fun 3-D project.

The bevel cutting techniques may also be used for making all types of inlays. There is a detailed project pattern in your RBI Pattern Pak for complete instruction for making inlays.

## Stack cutting

This is a technique most pros use when they are making several projects with the same pattern. Remember your Hawk has the ability to cut up to a full 2" thick material, so you can stack most projects at least 2 high. There are many ways to keep the projects from slipping while cutting. Here's a few of our favorites:

**Hot melt glue** - Many times when pros are cutting they use a hot glue gun to glue pieces all together. They put the pieces together in a stack (remember, not more than 2") and run a bead of glue in a zig zag down two sides of the project material. By making a zig zag, the material will hold together when cutting in any direction.



**Double sided tape** - Some Hawk owners tell us that they think the glue gun is a mess and they prefer to use carpet layer's double stick tape. To hold your project together with tape you just sandwich a couple of strips between each layer and you're ready to go.

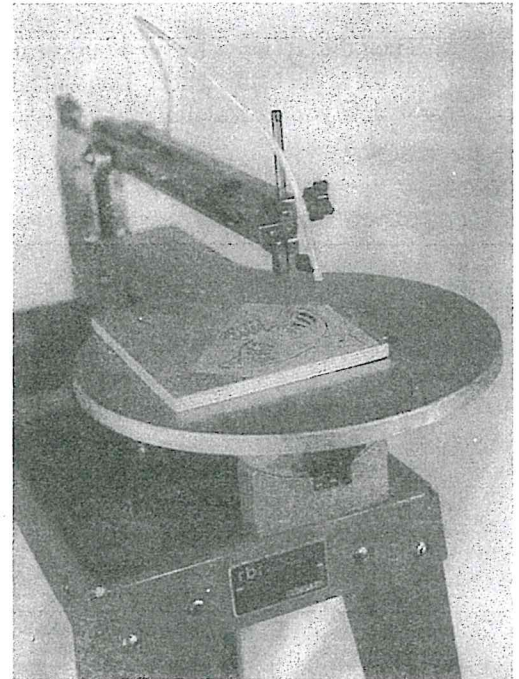
**Nails** - We've even talked to some real purists that prefer to stick with traditional woodworking items and just stack 'em up and nail 'em. If you use this method, be sure your nails are not sticking out of the projects or they will scratch and mar the table surface. This is the best way to hold your stack together. Make sure your nails are in waste area of your project.

To practice the technique of stack cutting we will make a pair of identical shelf support brackets. For this project you will need two pieces of 1" x 8" lumber. Any kind will do--hard or soft wood. Make sure both pieces are the same size. Stack them up and hook them together the way you like the best. Now put your project to the side--we've got another technique to learn before we can start cutting your project.

**Note:** Always make sure your table top is completely square before making a stack cut project or you will find that the projects will be smaller on the bottom than they are at the top.

## Inside cuts

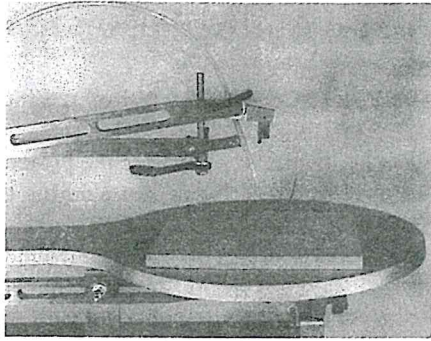
Making an inside cut is simply cutting an opening in your project without making an entry cut. Making inside cuts is impossible with the bandsaw, but the Hawk can make them in a snap! First, begin by drilling a hole in the scrap area that is to be removed. Make sure the hole is big enough for the blade to fit through.



Now you will need to release the tension on your blade. Remember the front cam tensioner? (It's the little black bar on the left front side of the upper arm.) Flip the front cam tensioner all the way to the front. This should release the tension on your blade. Now remove the blade from the upper blade holder by unscrewing the knob on the right side of the upper blade chuck.



Tilt the blade forward to the front of the slot in the table and thread the blade through the hole you drilled. You're now ready to replace the blade in the upper blade chuck and put your front tension cam back in its tensioned position.



After you have made your cut, release the blade tension again, remove the top end of the blade from the top blade holder, and remove the workpiece. You did it!

Here's where your project comes in--there's a few inside cuts. You need to drill a hole in the shaded area of the pattern and follow the instructions above for technique. Be sure to cut out all shaded sections in the pattern. Now you've made the brackets into a beautiful ginger bread-style shelf! These are great to use as shelf brackets, or you might even want to finish them and put them in a window or doorway just to add a warm touch.

## Compound sawing

This is probably the toughest technique to learn for most folks, but making a compound cut can certainly be rewarding when you finally master it. By cutting all four sides of a project you add a completely new dimension to a simple project. Some people say it looks like you've been carving. We've enclosed a pattern for one of our favorite Christmas tree ornaments for you to try.

To begin your compound cut project you will need a 2"x2"x4" piece of softwood. Our favorite is basswood. Begin by taking the face pattern (the one that looks like you're looking at a reindeer head on), and attach the pattern (the one that looks like the profile of a reindeer) and glue it on the adjoining side. Now using the cutting techniques you've already learned, cut out the face pattern. Be sure to keep all the pieces if they separate.

After you have made the entire face cut, carefully put all of the pieces together and tape them securely back in their original place with masking tape. Now take the profile pattern and cut it out in the same way you did the face pattern. After you take all the pieces apart you will find a perfectly dimensioned reindeer inside. (This is a fun way to make brain teaser puzzles.) Some wood carvers tell us they like to cut out their blanks first by compound cutting, then they finish them with carving tools.

# Troubleshooting

If you're getting a little frustrated, here's some troubleshooting tips that might help.

## *Excessive blade breakage*

If you think you're breaking a lot of blades, here's a few tips.

A. Be sure you are using the right size and type of blade for the material you are trying to cut. You can make sure by checking the blade recommendation chart on page 5.

B. If the blade tends to break right above the bottom blade chuck, your blade is not installed in the lower blade chuck correctly. Helpful hint: be sure the blade is coming straight out of the blade chuck as pictured on page xx. Remember--when tightening the blade, don't overtighten. If you tighten the chuck too tightly you'll crimp the blade and weaken it just above the blade chuck. This will cause the blade to break.

C. If the blade is breaking just below the upper blade chuck, chances are that you are not getting it in the upper blade chuck correctly. Remember--the blade must be all the way to the back of the slot and the top of the blade must be touching the roll pin.

D. If the blade is breaking in the middle, your blade is probably installed just fine. After you've been sawing for a while you'll find your blade life will get longer and longer. Some folks call us and say that they've cut for so many hours they wore the teeth right off the front of the blade. If you're like most sawers starting out, you should expect about 15 to 30 minutes cutting time for a blade. After the first few weeks you'll find that time increasing. To get the longest possible life from the blade, here are a few tips:

1. Always remember to drive the wood, not the blade. If you have trouble getting your saw to turn and it smokes while cutting, often that signifies that you need to practice your technique. Feed straight into the blade.
2. If you have poor control of your blade and it seems to wander and respond very slowly, you might not have quite enough tension on the blade.



**Here's a test:**

Install a #5 blade in your saw. Take a 1" thick piece of lumber and slide it across the table of your saw. When the blade touches the wood, draw a line across the saw table 1" on both sides of the blade. Now applying about 15 lbs. of pressure, push evenly into the blade with the wood. Draw another line parallel to the first one. There should be 3/16" between the two parallel lines. If there is more or less than that distance, adjust the tension with the rear cam by releasing it and turning it like a knob.

***Blade is burning the wood***

1. Make sure you're using the right size and type of blade for the project. See blade selection chart on page 5.
2. It may take a little practice, but you're leaning on the blade side to side when cutting. Remember that it's the project that moves--not the blade. Your cutting surface is on the front side only.
3. Some woods just seem to be more prone to burning than others. Of course, hard wood like oak and walnut will burn if cut at too high of a speed. Take advantage of your variable speed saw and slow it down. Cherry and mahogany are difficult woods to cut without burning because of their resin content.

***Blade keeps bending back and twisting***

1. If your blade is bending backwards farther than you feel it should, check your tensioning by doing the test listed under Excessive Blade Breakage.
2. You might be using the wrong size blade for the project. If your blade seems to be twisting when making sharp turns, go to the next smaller blade.

***Blade is cutting too large a radius***

When most folks first get started they have a little difficulty making the sharp turns. A few pointers you'll want to keep in mind:

- A. Feed your project right to the point where you want to make the point and stop feeding. Now without feeding the wood into the blade, spin the project around in the sawblade radius.
- B. If your blade tends to "swing" out when attempting a sharp point, you may have to add a little more tension to the blade.

***Wood is jumping on table***

1. Constant down pressure must be applied always while cutting. In most cases the weight of your hands is more than enough to keep the project on the table, but you must maintain the pressure during the entire cutting process.
2. If you prefer, every Hawk saw comes complete with a hold down foot that surrounds the blade and keeps the project securely to the table. (Be sure you have lowered the hold down foot to touch the top of the surface.)
3. You may find that you are using a blade that is too large for the type of cutting you are doing. If the blade is too coarse, the project will lift from the worktable when making turns.

*(Brenda Griffin)*

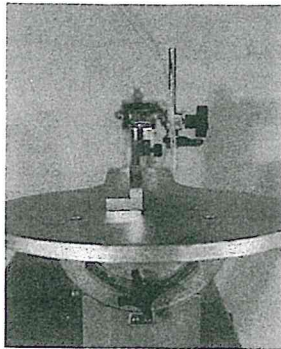
**Remember--we are only a phone call away. If you ever have a question regarding your Hawk or its operation, just give us a call at 1-800-788-1929. Our customer service representatives are on call from 8a.m. to 5p.m. (Central time), Monday through Friday.**



# Accessories for your new Hawk

## Precision blade square

For the precision scroller, the blade square is a must. Because the kerf of a scroll saw blade is so small, your worktable must be perfectly square when working in thick materials or a tapered cut will occur. By using this precision made machinist's square you can quickly check your table alignment with complete confidence.

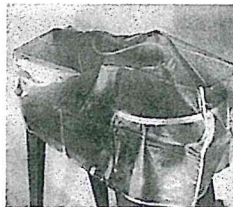


865-0700

**\$15.95**

## Dust cover

This handy all-weather dust cover protects your Hawk saw from the harmful effects of workshop dust. Made from high-tech polycarbonate materials, it's designed for a lifetime to keep your Hawk from harm's way. One size fits all models.



865-0900

**\$16.95**

## Apron

Protect your clothes from sawdust and chips and let folks know you're a proud member of the RBI family with this RBI signature work apron. Made from heavy-duty polyester poplin, this apron is machine washable and stain resistant. Adjustable neck and waist straps make this a perfect fit for any crafter.

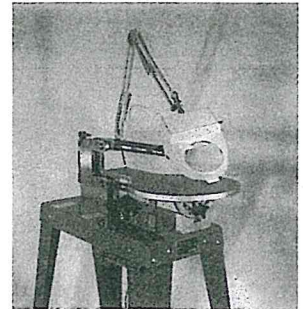


865-0600

**\$24.95**

## Magnifier light

This premium quality magnifier light is a must for those who make small, intricate projects with their Hawks. This optical quality lens clearly magnifies your project 2:1 (or twice its actual size), so you can see every detail while cutting. Mounts right to your saw or a benchmount clamp is included for other uses.

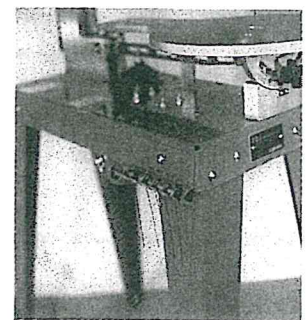


865-0210

**\$79.00**

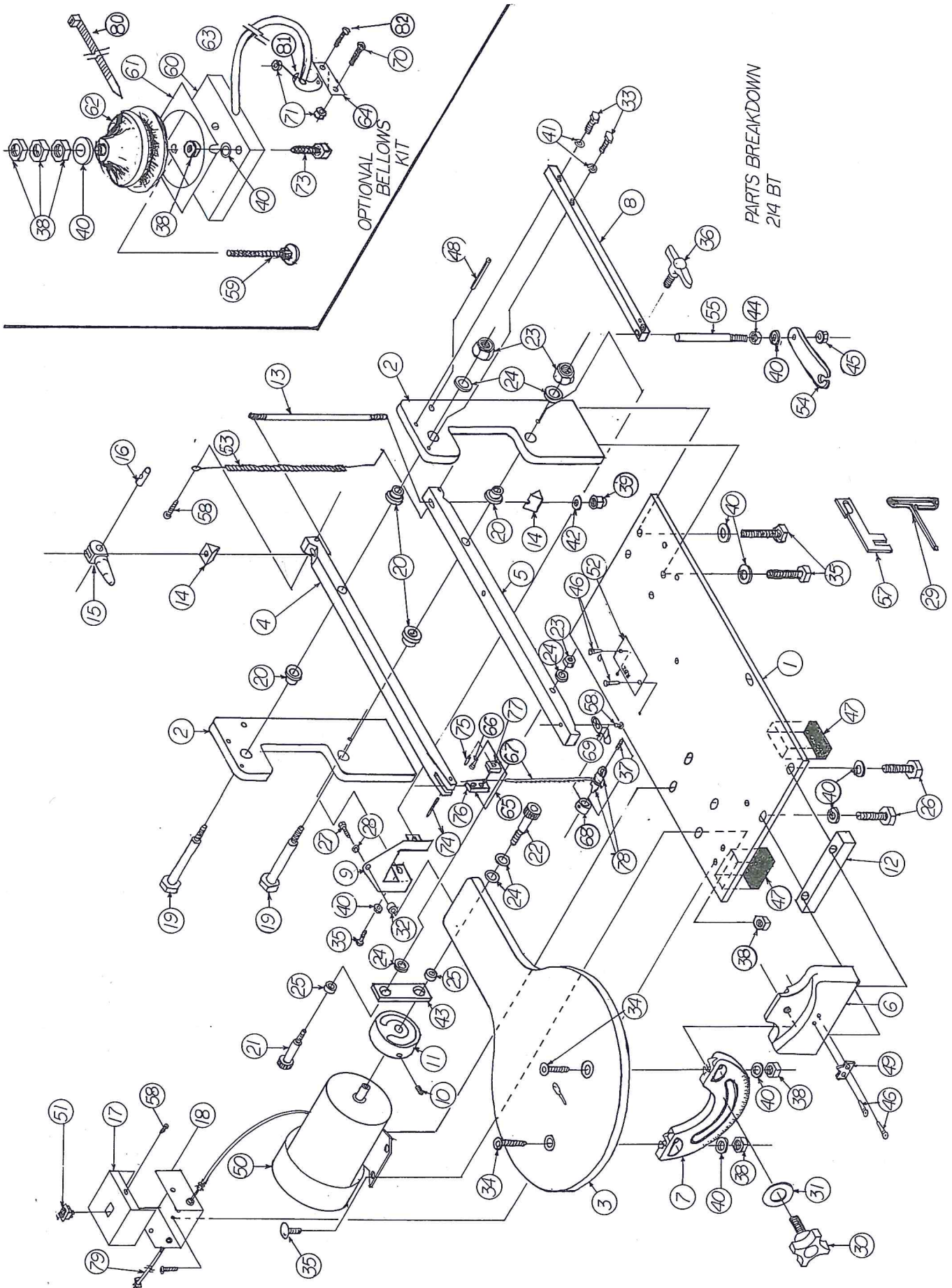
## Blade rack

Oh no--you've broken another saw blade. That's all right--there's no extra stretching or effort involved thanks to your handy RBI blade rack. This little device mounts easily on one of the table legs of your Hawk, and lets you choose from one of six of the extra blades that it holds.



965-0200

**\$10.95**



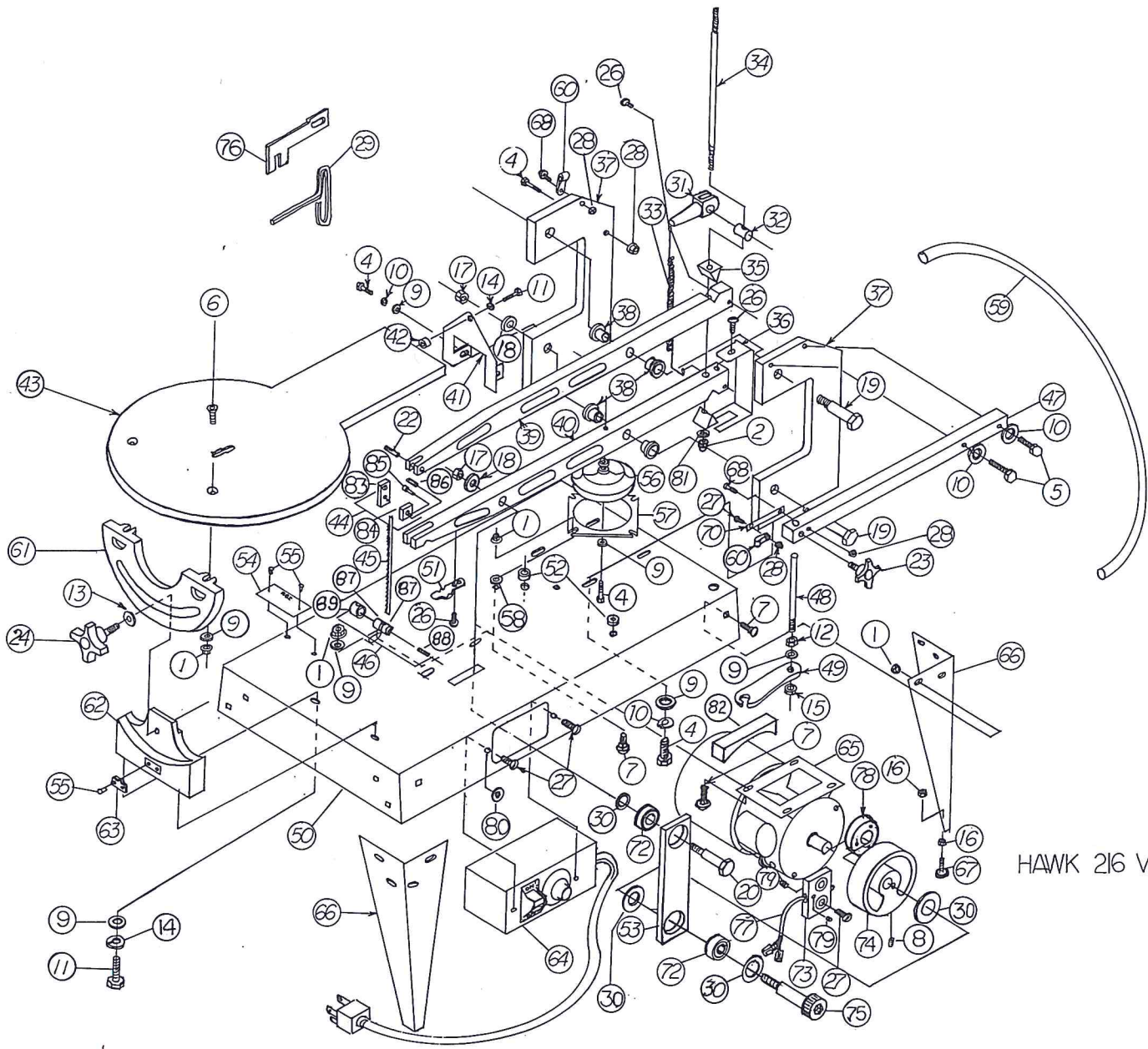


## Scroll Saw Model 214BT Specifications

Key #	Part #	Description	Quantity	Key #	Part #	Description	Quantity
1	613-0001	BT-01 Base 214BT	1	53	710-1036	FA-36Z Saw Spring	1
2	613-0002	BT-02 Arm Support 214BT	2	21	713-0009	3/8 - 16 x 1.75 Socket HD Cap Screw	1
4	613-0003	BT-03 Top Arm 214BT	1	26	713-0010	5/16 - 18 x 1.75 HHB (partial THD)	2
5	613-0004	BT-04 Bottom Arm 214BT	1	52	713-0014	BT-14 Serial Tag 214BT	1
8	613-0005	BT-05 Hold-Down Arm 214BT	1	79	715-0060	HA60 Saw Power Cord	1
43	613-0006	BT-06 Pitman Arm 214BT	1	51	715-0061	HA61 Corvette Switch 4 x 846	1
12	613-0008	BT-08 214BT Base Tilt Extension	1	19	715-0071	1/2 x 1 3/4 Shoulder Bolt	2
47	613-0012	B-1/2 x 1 x 2 Rubber Feet	4	34	715-0072	HA-72 1/4 - 20 x 1 Flat HD Cap Screw	2
7	615-0020	HA-20P Table Tilt	1	16	715-0077	HA-77 Round Cam-Over Pivot	1
14	615-0075	HA-75 AL Wedge Pivot	2	39	715-0078	HA78 1/4 - 20 Nylon Lock Hex Nut	1
9	615-0113	HA-113 Rear Table Support	1		715-0091	HA-91 Decal Scroller's Hotline	1
36	615-0183	HA-183 1/4 - 20 x 1/2 "T" Knob	1		715-0092	Decal - RBI Hawk	1
6	615-1027	HA-27P Long Base Tilt	1		715-0094	Decal - Caution All Guards In . . .	1
15	615-1074	HA-74Z Cam-Over Handle	1	49	715-0101	HA101 Saw Pointer	1
3	615-3004	HA-04X Small Saw Table	1	54	715-0104	HA104 Nylon Saw Hold Down Foot	1
18	620-0022	HH-22 Electrical Box Bottom	1	68	715-0112	HA112 RND BL Holder Bronze Bushing	1
17	620-0023	HH-23 Electrical Box Top	1	57	715-0137	HA-137 "F" Wrench	1
11	620-1012	HH-12Z Counterweight	1	31	715-1120	HA120Z 5/16 ID x 7/8 OD x 1/8 Spacer	1
13	685-0001	SH01 Tension Rod	1	69	715-2138	HA138B Plastic Lower Blade Holder Clip	1
55	685-0012	SH12 Hold Down Foot Rod	1	25	720-0015	HH15 3/8 x 3/4 x 1/4 Bearing	2
	702-0002	DC-02 Decal - RBI Made In USA	1	22	720-0019	HH19 3/8 x 3/8 SKT HD Shoulder Bolt	1
	702-0011	DC11 Decal-Keep Fngrs Frm Udr Arm	1	24	720-0020	HH-20 3/8 ID x 3/4 OD x 14 GA Washer	6
	702-0025	DC25 Decal - Saw Patent Numbers	1	33	735-0080	PS80 1/4 - 20 x 1 1/4 Hexhead Bolt	2
	703-0729	Manual, Saws	1	41	740-0207	RBZ207 1/4 Split Lock Washer	6
50	704-0002	Motor 1/8 HP Robbins & Meyers	1	20	740-0369	R369 1/2 ID Bronze Bushing	4
78	705-0022	ES22 Round Blade Holder 1 Side	2	32	745-0158	RB158 5/16 ID x 1/2 OD x 3/16 Spacer	1
37	705-0068	1/4 - 20 x 3/4 Socket Set Screw Cup Pt	1	40	745-0177	RB177 1/4 Flat Washer	14
29	705-0086	9/64 x 3 T-Handle Allen Wrench	1		745-0205	RB205 Decal - Flag Made In USA	1
66	705-0090	8 - 32 x 1/2 Socket Head Cap Screw	1	38	745-0223	RB223 1/4 - 20 Whiz Nut	6
30	705-1042	ES42Z 5/16 - 18 x 1 1/4 Square Knob	1	35	750-0206	RBZ206 1/4 - 20 x 3/4 Hex Head Bolt	6
46	710-0012	FA-12 #7 x 5/16 RD Hard Drive Screw	4	23	770-0051	RZ51 3/8 - 16 Nylon Lock Hex Nut	3
58	710-0035	FA35 10 - 32 x 1/4 RH Machine Screw	3	48	770-0059	RZ59 1/4 x 1 1/8 Large Roll Pin	1
76	710-0040	FA40 Upper Blade Holder Big Side	1	44	770-0081	RZ81 5/16 - 18 Hex Nut	1
77	710-0041	FA41 Upper Blade Holder Small Side	1	42	770-0094	RZ94 1/4 Internal Lockwasher	1
74	710-0042	FA-42 1/8 x 3/4 Roll Pin	1	10	770-0095	RZ95 1/4 - 20 x 1/4 SSS Knurled Pt	1
75	710-0043	FA-43 1/8 x 1/2 Roll Pin	1	28	770-0178	RZ178 5/16 Split Lock Washer	1
45	710-0047	FA-47 5/16 - 18 Flanged Lock Nut	1	27	770-0181	RZ181 5/16 - 18 x 1 Hex Head Bolt	1

## Bellows Kit For 214BT Specifications

Key #	Part #	Description	Quantity	Key #	Part #	Description	Quantity
64	605-1082	ES-82-Z Hose Clip Bracket	1	70	745-0106	RB106 10 - 32 x 1/2 Machine Screw	1
61	615-1025	HA25Z Bellow Bracket	1	71	745-0107	RB107 10 - 32 Hex Nut	2
60	620-1031	HH31Z Bellow Block (manifold)	1	40	745-0177	RB177 1/4 Flat Washer	1
81	705-0081	ES-81 1/4 Nylon Hose Clamp	1	38	745-0223	RB223 1/4 - 20 Whiz Nut	5
62	715-0024	HA-24 Rubber Blower Bellows	1	59	750-0213	RBZ213 1/4 - 20 x 2 Carriage Bolt	1
63	715-0037	1/4 OD Tubing (by the inch)	51	73	770-0090	RZ90 1/4 - 20 x 1 1/4 Hex Head Bolt	2
40	715-0103	HA-103 1/4 ID x 3/4 OD x 1/16 Spacer	2	82	780-0019	SA19 10 - 32 x 1 RD HD Machine Screw	1
80	715-0107	HA107 Cable Ties	1				

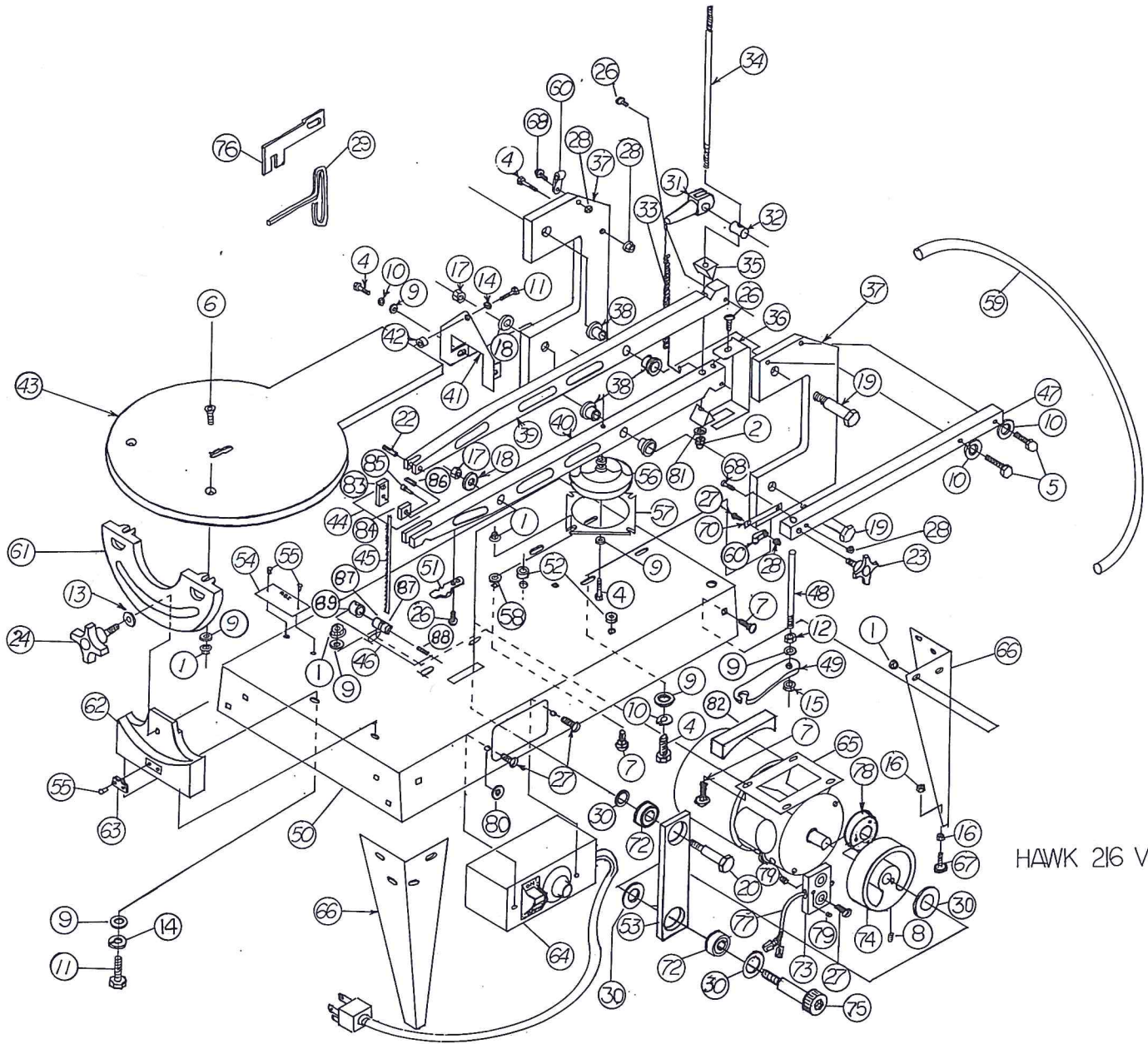


HAWK 216 VS



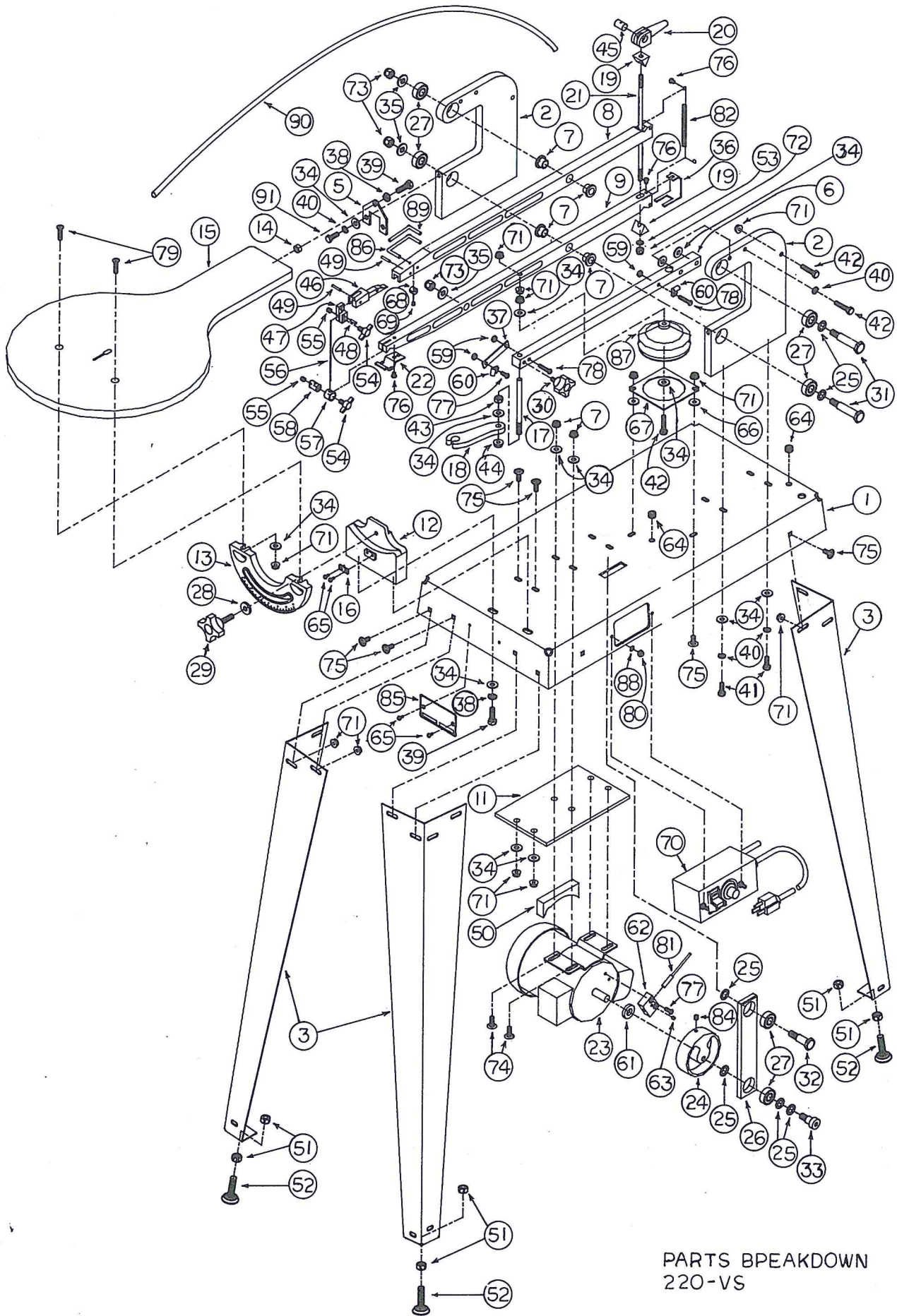
# Scroll Saw Model 216VS Specifications

Key #	Part #	Description	Quantity	Key #	Part #	Description	Quantity
66	600-0007	CD07 Saw Legs	4	56	715-0024	HA-24 Rubber Blower Bellows	1
70	605-1082	ES-82-Z Hose Clip Bracket	1	59	715-0037	1/4 OD Tubing (by the inch)	51
61	615-0020	HA-20P Table Tilt	1	19	715-0071	1/2 x 1 3/4 Shoulder Bolt	2
35	615-0075	HA-75 AL Wedge Pivot	2	6	715-0072	HA-72 1/4 - 20 x 1 Flat HD Cap Screw	2
41	615-0113	HA-113 Rear Table Support	1	32	715-0077	HA-77 Round Cam-Over Pivot	1
37	615-0115	HA115 216 Arm Support	2	2	715-0078	HA78 1/4 - 20 Nylon Lock Hex Nut	1
73	615-0169	HA169 Sensor Block	1		715-0091	HA-91 Decal Scroller's Hotline	1
82	615-0170	HA-170 Motor Cradle	1		715-0092	Decal - RBI Hawk	1
53	615-0174	HA-174 216 Pitman Arm	1		715-0094	Decal - Caution All Guards In . . .	1
62	615-1021	HA-21P Short Base Tilt	1	63	715-0101	HA101 Saw Pointer	1
57	615-1025	HA25Z Bellow Bracket	1	58	715-0103	HA-103 1/4 ID x 3/4 OD x 1/16 Spacer	2
31	615-1074	HA-74Z Cam-Over Handle	1	49	715-0104	HA104 Nylon Saw Hold Down Foot	1
47	615-1106	HA-106-Z 216 Holddown Arm	1	20	715-0109	HA109 1/2 x 1 Shoulder Bolt	1
74	615-1156	HA-156-Z 216 Counterweight	1	66	715-0112	HA112 RND BL Holder Bronze Bushing	1
50	615-2111	HA-111-Y 216VS Base	1	13	715-0120	HA120 Spacer 1/8 x 5/16 ID x 3/4 OD	1
39	615-3001	HA-01 x 216V Upper Arm	1	76	715-0137	HA-137 "F" Wrench	1
43	615-3004	HA-04X Small Saw Table	1		715-0163	HA163 10 - 32 Acom Cap Nut	2
40	615-3006	HA06X 216 Lower Arm	1	79	715-0180	HA-180 8 - 32 x 1/8 Flat PT Set Screw	1
36	615-3141	HA141X Wedge Hold Bracket	1	80	715-0191	HA-191 3/16 Internal Lock Washer	6
78	615-7710	16 Pole Rotor Magnet	1	54	715-1122	216VS Serial Tag	1
34	685-0001	SH01 Tension Rod	1	51	715-2138	HA138B Plastic Lower Blade Holder Clip	1
48	685-0012	SH12 Hold Down Foot Rod	1	77	715-6020	Speed Sensor (mini, TR20-101)	1
	702-0002	DC-02 Decal - RBI Made In USA	1	64	715-8017	Motor Control Variable Speed	1
	702-0011	DC11 Decal-Keep Fngrs Frm Udr Arm	1	75	725-0033	JM33 1/2 x 1/2 Stripper Bolt	1
	702-0025	DC25 Decal - Saw Patent Numbers	1	72	735-0007	PS07 1/2" ID Ball Bearing, General	2
	703-0729	Manual, Saws	1	5	735-0080	PS80 1/4 - 20 x 1 1/4 Hexhead Bolt	2
65	704-0006	Motor, 1/6 HP Fasco #7188-0200	1	10	740-0207	RBZ207 1/4 Split Lock Washer	8
87	705-0022	ES22 Round Blade Holder 1 Side	2	38	740-0369	R369 1/2 ID Bronze Bushing	4
23	705-0037	ES40 1/4 - 20 x 1/2 Square Knob	1	7	745-0099	RB99 1/4 - 20 x 5/8 Carriage Bolt	18
67	705-0057	ES-57 Glides	4	27	745-0106	RB106 10 - 32 x 1/2 Machine Screw	4
88	705-0068	1/4 - 20 x 3/4 Socket Set Screw Cup Pt	1	28	745-0107	RB107 10 - 32 Hex Nut	4
60	705-0081	ES-81 1/4 Nylon Hose Clamp	2	9	745-0177	RB177 1/4 Flat Washer	17
29	705-0086	9/64 x 3 T-Handle Allen Wrench	1		745-0205	RB205 Decal - Flag Made In USA	1
85	705-0090	8 - 32 x 1/2 Socket Head Cap Screw	1	1	745-0223	RB223 1/4 - 20 Whiz Nut	21
24	705-1042	ES42Z 5/16 - 18 x 1 1/4 Square Knob	1	42	745-0517	RB-517 5/16 ID x 1/2 OD x 1/4 Spacer	1
55	710-0012	FA-12 #7 x 5/16 RD Hard Drive Screw	4	4	750-0206	RBZ206 1/4 - 20 x 3/4 Hex Head Bolt	8
26	710-0035	FA35 10 - 32 x 1/4 RH Machine Screw	3	18	770-0050	RZ50 3/8 Flat Washer	3
83	710-0040	FA40 Upper Blade Holder Big Side	1	17	770-0051	RZ51 3/8 - 16 Nylon Lock Hex Nut	3
84	710-0041	FA41 Upper Blade Holder Small Side	1	16	770-0058	RZ58 3/8 - 16 Hex Nut	8
22	710-0042	FA-42 1/8 x 3/4 Roll Pin	1	12	770-0081	RZ81 5/16 - 18 Hex Nut	1
86	710-0043	FA-43 1/8 x 1/2 Roll Pin	1	81	770-0094	RZ94 1/4 Internal Lockwasher	1
15	710-0047	FA-47 5/16 - 18 Flanged Lock Nut	1	8	770-0095	RZ95 1/4 - 20 x 1/4 SSS Knurled Pt	1
33	710-1036	FA-36Z Saw Spring	1	14	770-0178	RZ178 5/16 Split Lock Washer	3
30	715-0014	1/2 ID x 3/4 OD x 18 GA Washer	4	11	770-0181	RZ181 5/16 - 18 x 1 Hex Head Bolt	3
52	715-0016	HA16 Rubber Grommet	3	68	780-0019	SA19 10 - 32 x 1 RD HD Machine Screw	1



HAWK 216 VS



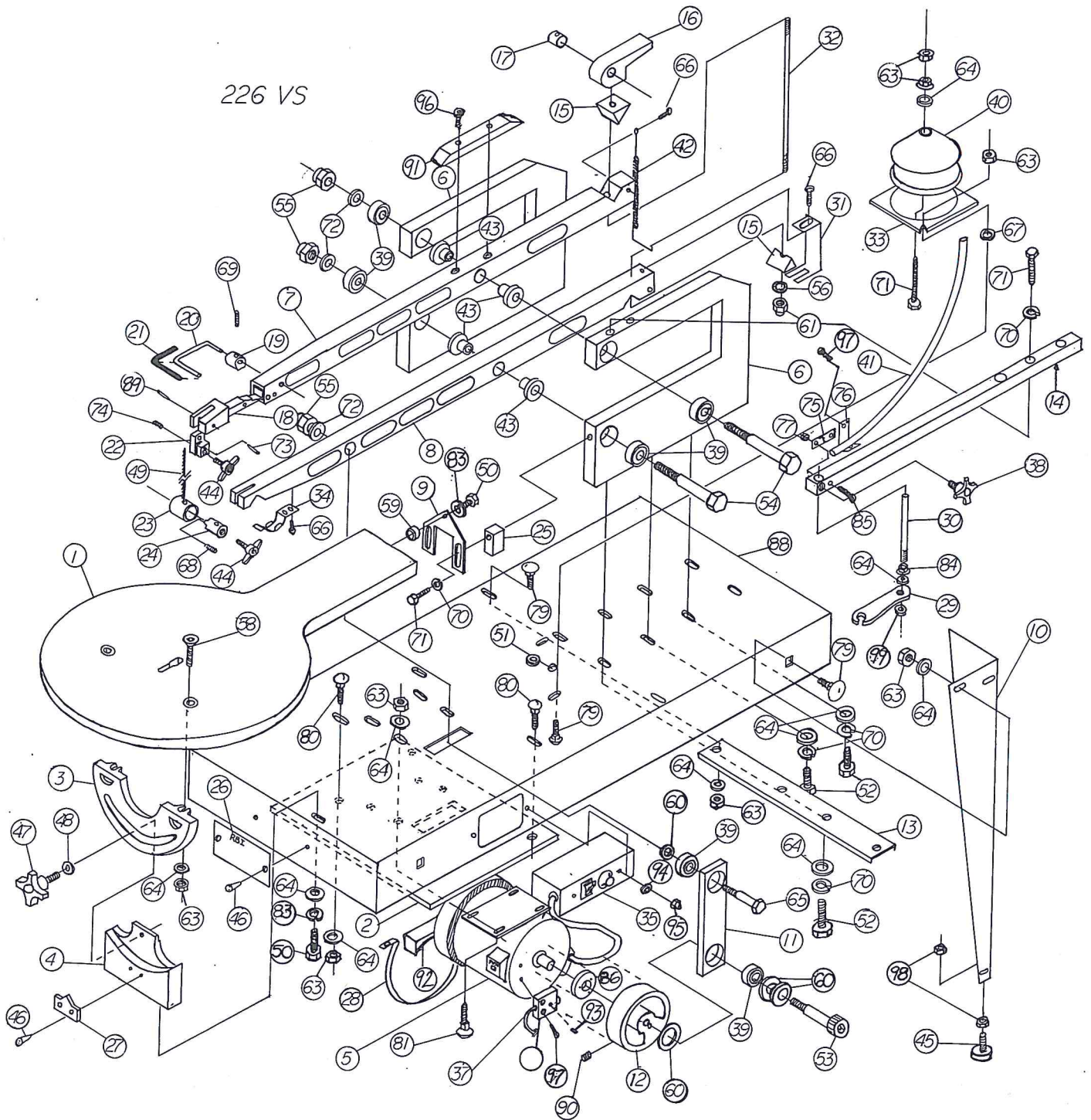


# Scroll Saw Model 220VS Specifications

Key #	Part #	Description	Quantity	Key #	Part #	Description	Quantity
3	600-0007	CD07 Saw Legs	4	79	715-0072	HA-72 1/4 - 20 x 1 Flat HD Cap Screw	2
37	605-1082	ES-82-Z Hose Clip Bracket	1	45	715-0077	HA-77 Round Cam-Over Pivot	1
15	605-3005	ES-05X Large Saw Table	1	72	715-0078	HA78 1/4 - 20 Nylon Lock Hex Nut	1
13	615-0020	HA-20P Table Tilt	1		715-0091	HA-91 Decal Scroller's Hotline	1
19	615-0075	HA-75 AL Wedge Pivot	1		715-0092	Decal - RBI Hawk	1
46	615-0153	HA153 Top Blade Holder Bracket	1		715-0094	Decal - Caution All Guards In . . .	1
24	615-0155	HA-155 Counter-Weight	1	16	715-0101	HA101 Saw Pointer	1
86	615-0168	HA-168 Front Cam Handle	1	66	715-0103	HA-103 1/4 ID x 3/4 OD x 1/16 Spacer	2
62	615-0169	HA169 Sensor Block	1	18	715-0104	HA104 Nylon Saw Hold Down Foot	1
50	615-0170	HA-170 Motor Cradle	1	32	715-0109	HA109 1/2 x 1 Shoulder Bolt	1
54	615-0183	HA-183 1/4 - 20 X 1/2 "T" Knob	1	57	715-0112	HA112 RND BL Holder Bronze Bushing	1
26	615-0193	HA-193 Pitman Arm 220	1	68	715-0154	HA-154 Front Cam	1
67	615-1025	HA25Z Bellow Bracket	1	80	715-0163	HA163 10 - 32 Acorn Cap Nut	2
12	615-1027	HA-27P Long Base Tilt	1	89	715-0164	HA164 Cap, Black Rubber 3" Long	1
2	615-1050	HA-50Z Arm Support	2	63	715-0180	HA-180 8 - 32 x 1/8 Flat PT Set Screw	1
9	615-1053	HA53Z 220 Lower Arm	1	47	715-0181	HA181 1 Piece Top Blade Holder	1
20	615-1074	HA-74Z Cam-Over Handle	1	88	715-0191	HA-191 3/16 Internal Lock Washer	2
5	615-1089	HA-89Z Rear Table Support	1	85	715-1070	HA-70Z Serial Tag 220VS	1
8	615-1152	HA52Z 220VS Upper Arm	1	28	715-1120	HA120Z 5/16 ID x 7/8 OD x 1/8 Spacer	1
11	615-1158	HA-158Z 10 GA Motor Brace 220VS	1	22	715-2138	HA138B Plastic Lower Blade Holder Clip	1
36	615-3141	HA141X Wedge Hold Bracket	1	81	715-6020	Speed Sensor (mini, TR20-101)	1
1	615-4064	HA66W 220VS Base	1	70	715-8017	Motor Control Variable Speed	1
6	615-5066	HA-66V Holddown Arm 220VS	1	33	725-0033	JM33 1/2 x 1/2 Stripper Bolt	1
61	615-7710	16 Pole Rotor Magnet	1	91	725-0043	JM-43 1/4 - 20 x 1/2 Hex Head Bolt	2
21	685-0001	SH01 Tension Rod	1	27	735-0007	PS07 1/2" ID Ball Bearing, General	6
17	685-0012	SH12 Hold Down Foot Rod	1	74	735-0029	PS29 1/4 - 20 x 3/4 Carriage Bolt	4
	702-0002	DC-02 Decal - RBI Made In USA	1	42	735-0080	PS80 1/4 - 20 x 1 1/4 Hexhead Bolt	3
	702-0011	DC11 Decal-Keep Fngrs Frm Udr Arm	1	7	740-0369	R369 1/2 ID Bronze Bushing	4
	702-0025	DC25 Decal - Saw Patent Numbers	1	75	745-0099	RB99 1/4 - 20 x 5/8 Carriage Bolt	19
	703-0729	Manual, Saws	1	77	745-0106	RB106 10 - 32 x 1/2 Machine Screw	3
23	704-0006	Motor, 1/6 HP Fasco #7188-0200	1	59	745-0107	RB107 10 - 32 Hex Nut	3
	705-0022	ES22 Round Blade Holder 1 Side	2	34	745-0177	RB177 1/4 Flat Washer	17
30	705-0040	ES40 1/4 - 20 x 1/2 Square Knob	1		745-0205	RB205 Decal - Flag Made In USA	1
52	705-0057	ES-57 Glides	4	71	745-0223	RB223 1/4 - 20 Whiz Nut	29
	705-0068	1/4 - 20 x 3/4 Socket Set Screw Cup Pt	1	14	745-0517	RB-517 5/16 ID x 1/2 OD x 1/4 Spacer	1
60	705-0081	ES-81 1/4 Nylon Hose Clamp	2	41	750-0206	RBZ206 1/4 - 20 x 3/4 Hex Head Bolt	6
29	705-1042	ES42Z 5/16 - 18 x 1 1/4 Square Knob	1	40	750-0207	RBZ-207 1/4 Split Lock Washer	8
65	710-0012	FA-12 #7 x 5/16 RD Hard Drive Screw	4	35	770-0050	RZ50 3/8 Flat Washer	3
76	710-0035	FA35 10 - 32 x 1/4 RH Machine Screw	3	73	770-0051	RZ51 3/8 - 16 Nylon Lock Hex Nut	3
49	710-0042	FA-42 1/8 x 3/4 Roll Pin	2	51	770-0058	RZ58 3/8 - 16 Hex Nut	8
48	710-0043	FA-43 1/8 x 1/2 Roll Pin	1	43	770-0081	RZ81 5/16 - 18 Hex Nut	1
44	710-0047	FA-47 5/16 - 18 Flanged Lock Nut	1	53	770-0094	RZ94 1/4 Internal Lockwasher	1
82	710-1036	FA-36Z Saw Spring	1	84	770-0095	RZ95 1/4 - 20 x 1/4 SSS Knurled Pt	1
25	715-0014	1/2 ID x 3/4 OD x 18 GA Washer	6	38	770-0178	RZ178 5/16 Split Lock Washer	2
64	715-0016	HA16 Rubber Grommet	2	39	770-0181	RZ181 5/16 - 18 x 1 Hex Head Bolt	3
87	715-0024	HA-24 Rubber Blower Bellows	1	78	780-0019	SA19 10 - 32 x 1 RD HD Machine Screw	2
90	715-0037	1/4 OD Tubing (by the inch)	55	69	790-0031	RP31 10 - 32 x 3/16 Socket Set Screw	1
31	715-0071	1/2 x 1 3/4 Shoulder Bolt	2	55	791-0153	RT53 1/4 - 20 x 1/4 Flat PT SS Screw	1



226 VS



# Scroll Saw Model 226VS Specifications

*Serial # 1684*

Key #	Part #	Description	Quantity	Key #	Part #	Description	Quantity
10	600-0007	CD07 Saw Legs	4	41	715-0037	1/4 OD Tubing (by the inch)	61
16	600-0031	CD-31 Cam-Over Handle 226	1	54	715-0071	1/2 x 1 3/4 Shoulder Bolt	2
91	600-0037	CD-37 226 Top Arm Reinforcement	1	58	715-0072	HA-72 1/4 - 20 x 1 Flat HD Cap Screw	2
6	600-1002	CD-02-Z Arm Support	2	17	715-0077	HA-77 Round Cam-Over Pivot	1
9	600-1013	CD-13Z Rear Table Support	1	61	715-0078	HA78 1/4 - 20 Nylon Lock Hex Nut	1
88	600-2029	CD-29Y Base 220VS	1		715-0091	HA-91 Decal Scroller's Hotline	1
7	600-3004	CD-04X Top Arm 226VS	1		715-0092	Decal - RBI Hawk	1
8	600-3005	CD-05X Bottom Arm 226	1		715-0094	Decal - Caution All Guards In ...	1
75	605-1082	ES-82-Z Hose Clip Bracket	1	27	715-0101	HA101 Saw Pointer	1
1	605-3005	ES-05X Large Saw Table	1	67	715-0103	HA-103 1/4 ID x 3/4 OD x 1/16 Spacer	2
3	615-0020	HA-20P Table Tilt	1	29	715-0104	HA104 Nylon Saw Hold Down Foot	1
15	615-0075	HA-75 AL Wedge Pivot	2	65	715-0109	HA109 1/2 x 1 Shoulder Bolt	1
25	615-0124	HA-124 Table Support Spacer	2	23	715-0112	HA112 RND BL Holder Bronze Bushing	1
18	615-0153	HA153 Top Blade Holder Bracket	1	19	715-0154	HA-154 Front Cam	1
12	615-0155	HA-155 Counter-Weight	1	95	715-0163	HA163 10 - 32 Acorn Cap Nut	2
2	615-0159	HA159 226 1/4" Plate Brace	1	21	715-0164	HA164 Cap, Black Rubber 3" Long	1
13	615-0160	HA-160 Base Brace	1	93	715-0180	HA-180 8 - 32 x 1/8 Flat PT Set Screw	1
20	615-0168	HA-168 Front Cam Handle	1	22	715-0181	HA181 1 Piece Top Blade Holder	1
87	615-0169	HA169 Sensor Block	1	94	715-0191	HA-191 3/16 Internal Lock Washer	6
92	615-0170	HA-170 Motor Cradle	1	48	715-1120	HA120Z 5/16 ID x 7/8 OD x 1/8 Spacer	1
28	615-0171	HA171 226 Motor Strap	1	34	715-2138	HA138B Plastic Lower Blade Holder Clip	1
44	615-0183	HA-183 1/4 - 20 X 1/2 "T" knob	1	37	715-6020	Speed Sensor (mini, TR20-101)	1
11	615-0194	HA-194 Pitman Arm 226	1	35	715-8017	Motor Control Variable Speed	1
33	615-1025	HA25Z Bellow Bracket	1	53	725-0033	JM33 1/2 x 1/2 Stripper Bolt	1
4	615-1027	HA-27P Long Base Tilt	1	39	735-0007	PS07 1/2" ID Ball Bearing, General	6
31	615-3141	HA141X Wedge Hold Bracket	1	96	735-0017	PS17 1/4 - 20 x 3/4 SKT HD Cap Screw	2
14	615-4066	HA-66W Hold Down Arm 226	1	80	735-0029	PS29 1/4 - 20 x 3/4 Carriage Bolt	6
86	615-7710	16 Pole Rotor Magnet	1	71	735-0080	PS80 1/4 - 20 x 1 1/4 Hexhead Bolt	3
32	685-0001	SH01 Tension Rod	1	70	740-0207	RBZ207 1/4 Split Lock Washer	12
30	685-0012	SH12 Hold Down Foot Rod	1	43	740-0369	R369 1/2 ID Bronze Bushing	4
26	700-1034	CD-34Z Serial Tag 226VS	1	79	745-0099	RB99 1/4 - 20 x 5/8 Carriage Bolt	17
	702-0002	DC-02 Decal - RBI Made In USA	1	97	745-0106	RB106 10 - 32 x 1/2 Machine Screw	5
	702-0011	DC11 Decal-Keep Fngs Frm Udr Arm	1	77	745-0107	RB107 10 - 32 Hex Nut	7
	702-0025	DC25 Decal - Saw Patent Numbers	1	64	745-0177	RB177 1/4 Flat Washer	21
	703-0729	Manual, Saws	1		745-0205	RB205 Decal - Flag Made In USA	1
5	704-0006	Motor, 1/6 HP Fasco #7188-0200	1	63	745-0223	RB223 1/4 - 20 Whiz Nut	29
	705-0022	ES22 Round Blade Holder 1 Side	2	59	745-0517	RB-517 5/16 ID x 1/2 OD x 1/4 Spacer	1
38	705-0037	ES 40 1/4 - 20 x 1/2 Square Knob	1	52	750-0206	RBZ206 1/4 - 20 x 3/4 Hex Head Bolt	10
45	705-0057	ES-57 Glides	4	72	770-0050	RZ50 3/8 Flat Washer	3
	705-0068	1/4 - 20 x 3/4 Socket Set Screw Cup Pt	1	55	770-0051	RZ51 3/8 - 16 Nylon Lock Hex Nut	3
76	705-0081	ES-81 1/4 Nylon Hose Clamp	2	98	770-0058	RZ58 3/8 - 16 Hex Nut	8
47	705-1042	ES42Z 5/16 - 18 x 1 1/4 Square Knob	1	84	770-0081	RZ81 5/16 - 18 Hex Nut	1
46	710-0012	FA-12 #7 x 5/16 RD HD Drive Screw	4	56	770-0094	RZ94 1/4 Internal Lockwasher	3
66	710-0035	FA35 10 - 32 x 1/4 RH Machine Screw	3	90	770-0095	RZ95 1/4 - 20 x 1/4 SSS Knurled Pt	1
89	710-0042	FA-42 1/8 x 3/4 Roll Pin	2	83	770-0178	RZ178 5/16 Split Lock Washer	2
73	710-0043	FA-43 1/8 x 1/2 Roll Pin	1	50	770-0181	RZ181 5/16 - 18 x 1 Hex Head Bolt	3
99	710-0047	FA-47 5/16 - 18 Flanged Lock Nut	1	85	780-0019	SA19 10 - 32 x 1 RD HD Machine Screw	2
42	710-1036	FA-36Z Saw Spring	1	69	790-0031	RP31 10 - 32 x 3/16 Socket Set Screw	1
60	715-0014	1/2 ID x 3/4 OD x 18 GA Washer	4	74	791-0153	RT53 1/4 - 20 x 1/4 Flat PT SS Screw	1
51	715-0016	HA16 Rubber Grommet	2				
40	715-0024	HA-24 Rubber Blower Bellows	1				



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