



Operator's Manual

Smithy Co.
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Ann Arbor, MI 48103

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Congratulations on your purchase of the SuperShop Model 720 and welcome to the Smithy Community of Craftsmen!

This ultimate shop tool is the result of years of research and design. No other quality multifunction system gives you the accuracy and versatility that SuperShop does. Go from 32 to 7,200 rpm with its powerful motor. Set up for table sawing, then with a quick and easy changeover, you'll be using the drill press with all the advantages available in every other function.

Your SuperShop will pay for itself many times over by:

- saving space in your workshop
- saving your money by having many tools in one
- offering years of woodworking pleasure
- helping you make keepsakes, gifts and heirlooms for friends and family
- cutting home repair and replacement costs
- making money by designing and manufacturing your own items for sale

How to use this manual

We have tried to make it as easy as possible to use the SuperShop. That includes keeping assembly and alignment to a minimum, though some of both is required.

Please follow these suggestions on how to use this manual:

1. Before you do anything else with your new SuperShop, read this manual thoroughly in the order presented. You will quickly develop a familiarity with terms, parts of the machine, and a general understanding of how all the functions work- and how to work safely.
2. Perform the steps for assembly, followed by alignment, then on to the function you wish to perform (like table sawing or lathe turning).
3. Re-read the safety section.

This manual should give the woodworker – beginning or advanced, the information needed to operate the SuperShop. If you don't understand how your machine works, stop and take the time and energy to find out. Re-read this manual carefully, and seek books from your library and bookstore. There are probably woodworking classes available to you nearby.

If you have any questions not covered in this manual, please call Smithy. Our trained technicians will help you with any problems you may have. When you call, please have this manual handy by the phone—especially concerning parts replacement. Dial our toll-free number: 1-800-476-4849, Monday through Friday 8am to 5pm Eastern time or fax anytime to 1-734-913-6663.

Do you have suggestions to improve our products and services? How about any projects made on your SuperShop that you would like to share with us and other owners? Also, do you have comments about this manual? Feel free to contact us by phone or in writing: SuperShop Operator's Manual, Smithy Co., 170 Aprill Drive, PO Box 1517, Ann Arbor, MI 48106-1517.

We look forward to a long relationship with you, so thanks again for putting your trust in Smithy!



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Chapter 1: The Circle of Safety

Operating Safety

Check your machine over once it is all assembled. If you notice anything that is loose and you are not able to tighten it, call our customer service department at (800) 476-4849.

The **“Circle of Safety”** is the last check you do each time before you turn on your SuperShop. Remember, your machine can cut you as well as it can cut wood.

- | | |
|------------------------|--|
| 1. Way Tubes | Lock the way tubes to the stand -- two locks. |
| 2. Powerhead | Lock the powerhead to the way tubes -- two locks. |
| 3. Electronic controls | Turn the key off and set the speed dial to zero. |
| 4. Spindle | Securely tighten the drawbar. Adjust the spindle depth and lock the spindle in place when appropriate -- one lock. |
| 5. Table tilt | Lock the table (flat or angled) -- two trunnion locks. |
| 6. Lock vertical | Lock the machine in the drill press position when turned vertical -- one lock. |
| 7. Saw table height | Lock the table height -- one lock. (Turn the handle counterclockwise). |
| 8. Carriage | Lock the carriage to the way tubes -- one lock |

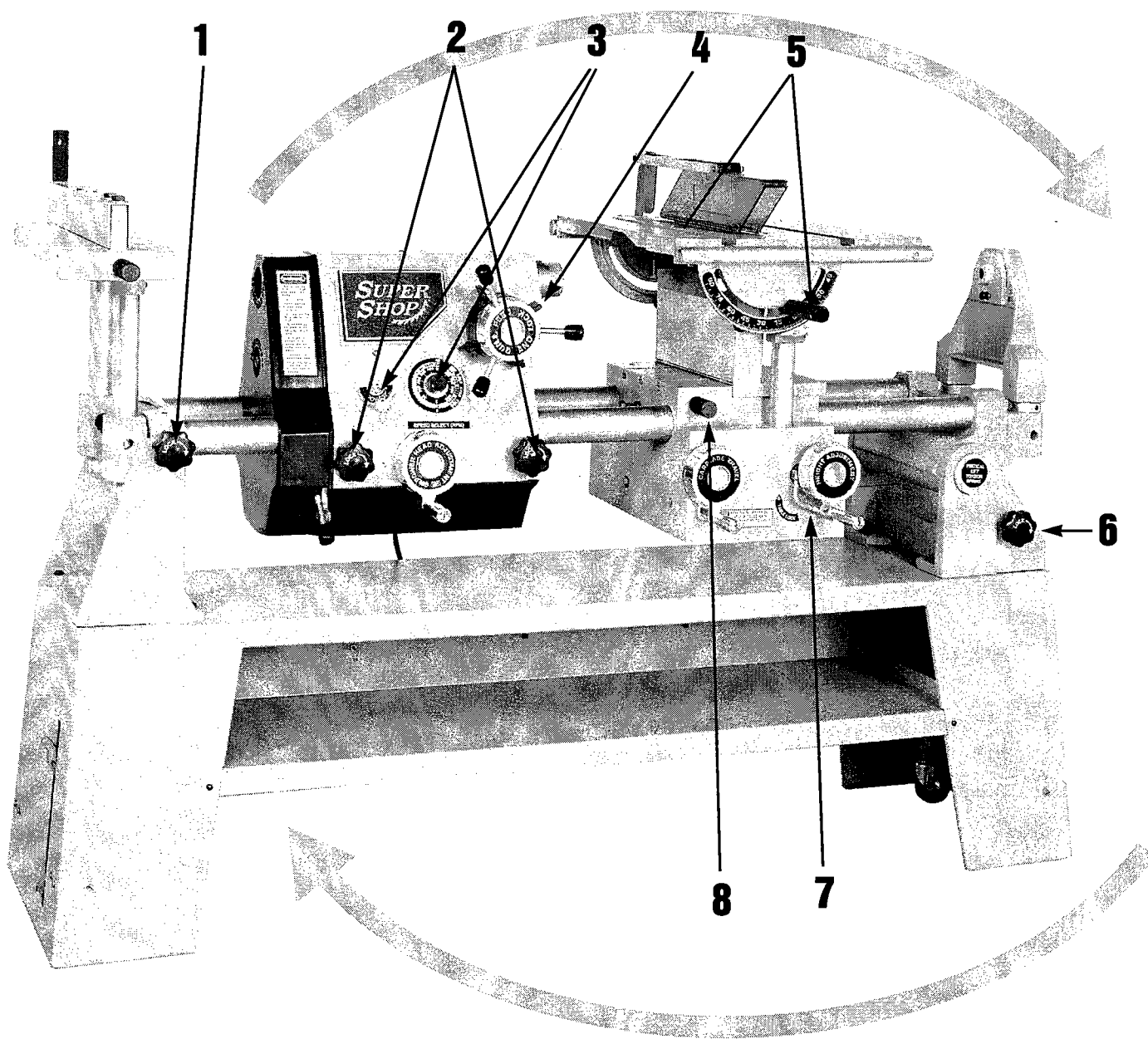
Always use the proper safety equipment, guards, push blocks, push sticks, eye protection, and dust protection. Use the proper techniques to protect yourself from kickback. Follow the safety rules to prevent damage to your machine, or injury to you.

The Circle of Safety

Check each time before operating your machine:

1. Lock way tubes. Two locks.
2. Lock powerhead on ways. Two locks.
3. Turn key off and set speed to zero.
4. Lock spindle (when used). One lock.
5. Lock saw table angle. Two trunnion locks
6. Lock vertical (if appropriate). One lock.
7. Lock saw table height. One lock.
8. Lock carriage on ways. One lock

If any of these locks do not function, call Smithy Customer Service at (800) 476-4849.



Safety

Your workshop is only as safe as you make it. You are responsible for the safety of everyone who uses or visits it.

General Safety Rules

Read this manual thoroughly before operating your SuperShop.

Always use the proper speeds, as listed in the Speed Chart, page 17.

General Safety Rules— Your shop

Keep your work area clean and organized. Clutter invites accidents.

Avoid damp locations.

Child-proof your shop with padlocks, master switches, and starter keys.

Store your machine where children do not have access to it.

Keep children and other visitors away from the machine while you are operating it.

General Safety Rules— The machine itself

Make the machine sit firmly on the floor before operating the machine. Use the casters only when moving the machine.

Only use machine for the operations it is designed for. Understand the dangers of operating this machine.

Never change belt settings or setups until the machine is completely stopped, turned off, and unplugged.

Always have the powerhead and carriage locked into position unless you are moving them.

Always remove the safety key when you are not using the machine. Keep the key in a safe place out of the reach of children and others not authorized to use your SuperShop.

Plug the SuperShop into a three-prong, grounded, 110-volt, 20-amp electrical outlet ONLY. Never connect your machine to a power supply that isn't properly grounded. If you must use an extension cord, make sure it is a heavy-duty one less than 50' long.

Make sure all blades, chisels, knives, and drillbits are sharp. They should be free of rust and pitch..

Never stand on the machine or its support base.

Do not place other tools on the SuperShop.

Secure your work. Use clamps or locks to hold your workpiece steady and in place on smaller projects.

General Safety Rules—You and your apparel

Never operate your SuperShop under the influence of drugs, alcohol, or medication. Never operate your SuperShop when you are tired, sleepy, emotionally agitated, nervous, or mentally preoccupied with other matters.

Wear safety glasses, goggles, or a face shield at all times. Regular glasses are not sufficient protection! Use glasses designed for machinery operation. Insist that every visitor to your shop wears safety glasses as well.

Wear a breathing filter when your work creates small particle sawdust, especially with toxic and allergenic woods like walnut.

Do not wear loose-fitting clothing, gloves, neckties, or other clothing that could get caught in moving parts.

Wear non-slip shoes.

Tie up long hair and/or wear a cap to keep your hair from getting caught in the machine.

Remove all jewelry. Don't wear rings, watches, earrings, or other jewelry.

Always wear hearing protection.

General Safety Rules— Table saw

Unplug the machine when setting up

the table saw. Only plug it in when you are actually ready to turn the machine on.

Never stand in the line of the blade path. Stand off to the side opposite the waste side.

After making a cut, push the board beyond the blade. Never pull the board back past the blade. Remove the board after the cut.

Always use push sticks and push blocks to feed and control your workpiece before, during, and after cutting.

Never use the miter gauge and rip fence at the same time while cutting.

Never use the rip fence to cross-cut.

Always install and use both the upper and lower saw guards. The only exception is when you are making rabbet and dado cuts—then you cannot use the upper saw guard.

Support all boards as you cut on both the infeed and outfeed sides of the blade.

Never make adjustments or reach for scrap stock near the blade until it has stopped completely.

Always double-check the locks on the powerhead, carriage, table-height adjustment, and trunnions before operating the machine.

Do not allow anyone to stand in the saw blade infeed and outfeed paths.

Never use accessories on your machine not specifically recommended

or approved by Smithy Co.

Never put any part of your body over the blade. Use push blocks and push sticks.

Adjust the depth of cut to extend only enough blade to cut through your work-piece.

General Safety Rules— Drill press

Always lock the carriage and power-head locks before raising the machine into the vertical drill press position.

Before flipping the machine into the vertical position, make sure the machine is solidly planted on the floor and the casters are raised off the ground.

Always lock the vertical lock in the tail-base of the machine immediately after raising the machine.

Never extend the drillbit below the table surface—there is a support bar just below the table surface.

If you must adjust the powerhead when the machine is in the vertical position, proceed cautiously when you loosen the powerhead locks.

Always firmly support and guide the wood while drilling or drum sanding.

General Safety Rules— Lathe

Always use sharp lathe chisels.

Never cut completely through the turning stock while the lathe is running. Remove the stock and use a saw to cut completely through.

Never push too hard or aggressively. You could break the stock, slip it out of the centers, or grab the chisel, causing bodily injury and equipment damage.

Always set the machine to the speeds listed in the master speed chart, page 17.

Use only turning stock that is free of knots.

General Safety Rules— Router/Shaper

Use the fence jig, plans are on page 41.

In addition to the fence jig, always use the disc guard unless the cutter is too short. When routing, use the fence jig, plans are on page 41, for piloted router bits, edging, and facing functions.

Operate the shaper only at speeds given in the master speed chart, page 17.

Always feed the stock into the cutter rotation (generally from left to right).

Never expose any more the cutter than is needed to make the cut.

Make multiple shallow passes instead of one deep pass.

For plunge routing operations, use push blocks whenever possible. Do not place your hands in the path of the

router bit.

General Safety Rules— Horizontal Boring

Always put scrap wood behind the workpiece to prevent damage to the drillbit and stop splintering.

Always firmly support and guide the wood before and during drilling.

Use only the speeds listed in the speed chart, page 17.

Make sure the drillbit never touches the table, rip fence, or miter gauge.

Keep your body away from the drillbit when it is exposed and rotating.

the table.

Use only the speeds listed in the speed chart, page 17.

Hold the workpiece firmly when feeding it into the sanding disc.

Use only enough pressure to touch the wood lightly against the sandpaper on the disc.

General Safety Rules— Disc Sander

Always sand on the left of the disc's center. Never use the right side of center.

Keep hands and fingers away from the sanding disc and the nearest edge of

Electrical Requirements

Your SuperShop is designed to run on 115-volt household current. It is equipped with a standard three-prong, grounded plug. Connect to a three-prong grounded outlet only. Do not bypass the ground. Your machine should be connected to a circuit capable of a 20-amp load.

Introduction

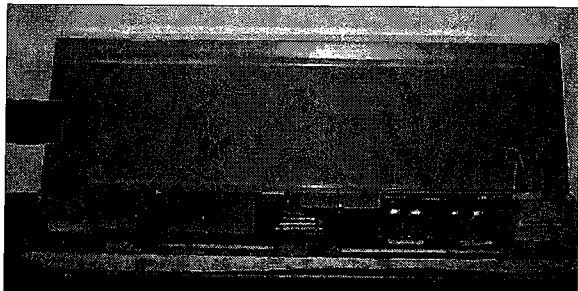
Your SuperShop arrives in two parts: the stand and the machine itself.

We recommend you have helpers for the steps when lifting is done. Also, perform the following assembly in a well-lighted room with plenty of space and a flat floor. Take your time and get to know your SuperShop during assembly and alignment. Keep this manual handy to help with any future questions that may arise while using your SuperShop.

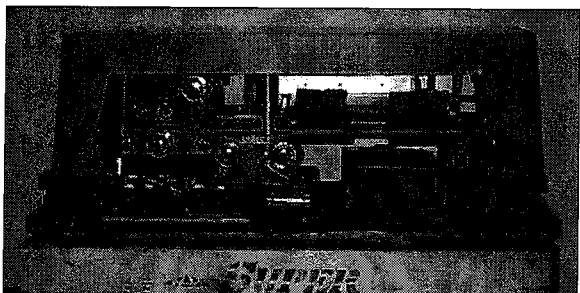
Tools You'll Need:

- Adjustable wrench
- Flat blade screwdriver
- #2 Phillips screwdriver
- Nail punch (to align screw holes)
- Metric socket wrench set (optional but very helpful)
- Metric Allen wrench set
- Paste wax (We recommend Johnsons Paste Wax.)
- Tin snips
- Gloves
- Goggles

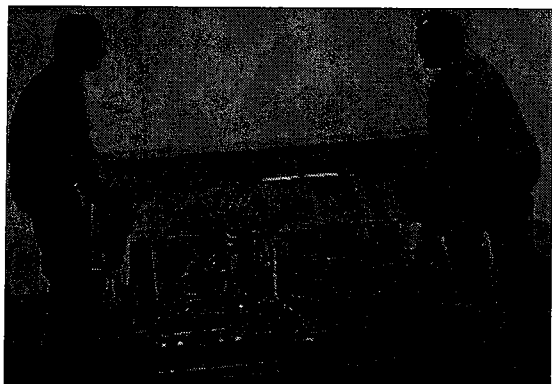
Many of the castings on the SuperShop are aluminum. The fasteners for your SuperShop are steel. Overtightening the fasteners in the aluminum castings will tear out the threads. **DO NOT OVERTIGHTEN THE FASTENERS.**



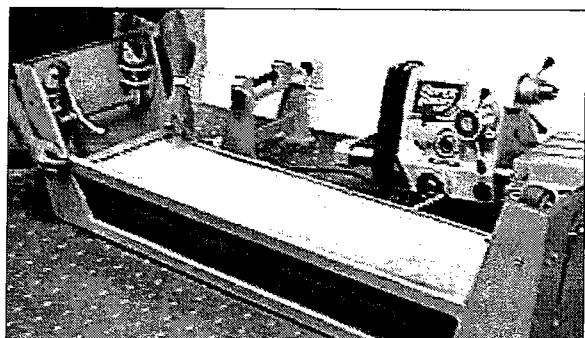
2.1 Your SuperShop comes with the stand packed over the headstock and ways. The shelf is strapped to the stand.



2.2 Shelf removed.



2.3 Use helpers and correct lifting techniques to remove the stand from the machine.



2.4 Insert the shelf into the stand and fasten in place.

Uncrating

The top of the crate is banded to the base. Cut the metal straps with tin snips. Be careful, the bands are under tension and will snap when cut. The edges of the banding are sharp. Always wear proper safety equipment and exercise care when cutting and handling the straps.

After cutting the straps, remove the upper crate (top and sides) from the shipping pallet. There may be rough edges and unfinished wood. The top of the crate is heavy, get help if you need it. Break down and dispose of the crate.

The stand shelf is banded to the side of the stand. Cut the bands and set the shelf aside, Figure 2.1.

Remove the cardboard box on the pallet, Figure 2.2. This box contains the items you will need to assemble and operate your machine.

Remove the stand from the shipping pallet, Figure 2.3. Place cardboard or wood on the floor to protect the stand's painted surface. Place the stand upside down on the wood or cardboard.

Assembly

ATTACH SHELF TO STAND

1. With the stand resting upside-down, slide the shelf between the stand legs, Figure 2.4. Make sure the holes in the middle of the shelf face the back of the stand. (The slot in each stand end is located toward the front.)

2. Align each bolt hole in the ends and back with the hole located in the middle of each leg. Use the nail punch, if necessary,

to help you align the holes.

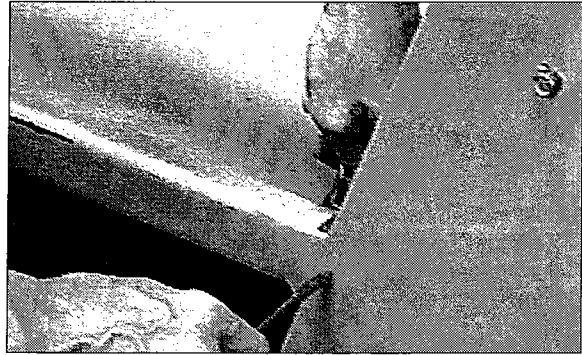
3. Insert a screw through each hole, and attach with a washer and nut. Finger-tighten until all screws are in place, then securely tighten all screws down.

INSTALL CASTERS

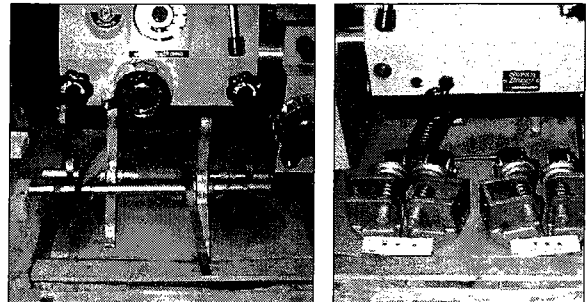
4. The casters and axles are shipped mounted to the shipping pallet, Figure 2.6. The left and right casters are different. Position the caster with the kicker oriented as in Figure 2.7. Figure 2.8 shows an inside view of the right caster.

5. Use hex-head screws to attach the caster. Finger-tighten until all screws are in place, then securely tighten.

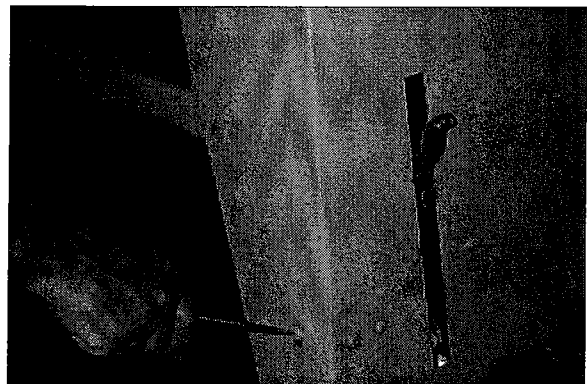
6. Position the next caster, and attach it the same way.



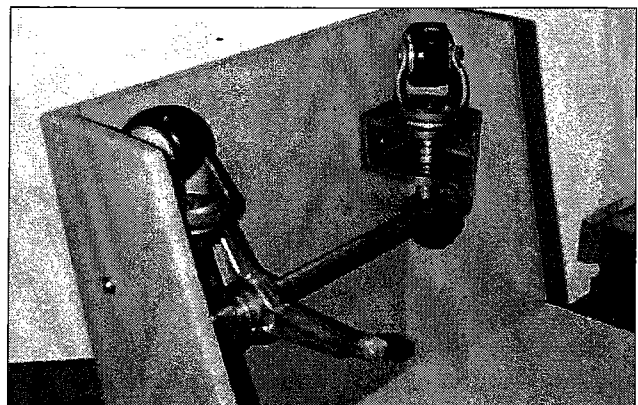
2.5 Mount the shelf.



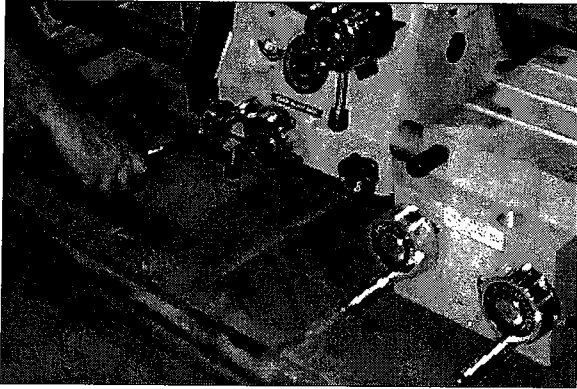
2.6 Stand casters and axles are mounted on the pallet.



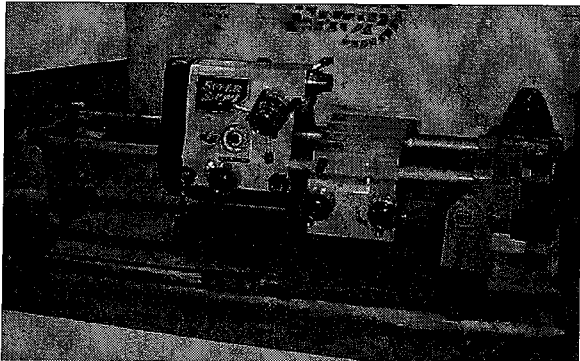
2.7 Kicker is installed correctly, with stand right-side-up.



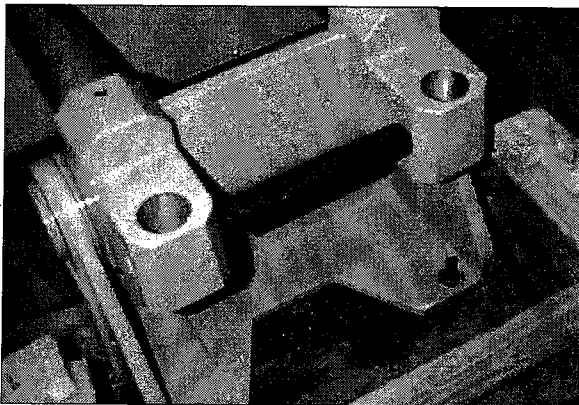
2.8 Be certain the kicker is installed correctly.



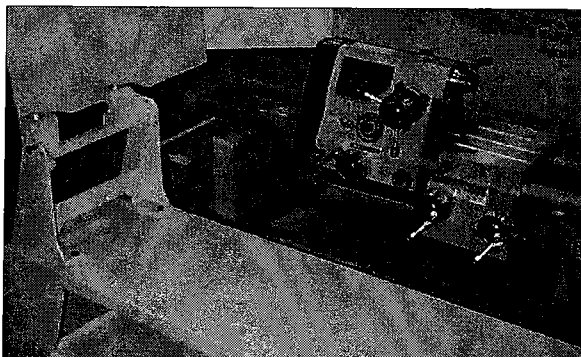
2.9 Install handles on the carriage (2) and the powerhead(1).



2.10 Unlock carriage and powerhead. Center carriage and the headstock. Relock carriage and powerhead..



2.11 Remove the bolts holding the tailstock end to the pallet.



2.12 Support the way tubes, remove the powerhead support and reinstall on the stand.

SET STAND UPRIGHT

7. Ease the stand onto its side, then into the upright position.

8. For consistency with these accompanying illustrations, make sure the stand faces forward (with the shelf opening and the machine controls facing the same direction).

REMOVE THE MACHINE FROM THE SHIPPING BED

9. Attach the handwheel handles (SS381) to the powerhead and carriage, one handle installs on the powerhead and two handles install on the carriage, Figure 2.9. Center the powerhead and carriage on the way tubes. Loosen the carriage lock and move the carriage toward the tailstock, then retighten the lock. Do the same with the powerhead, Figure 2.10.

10. Locate and remove the four bolts holding the machine to the shipping pallet. See Figure 2.11.

11. Remove the headstock support bracket from the pallet. Place a sturdy wooden box or a stack of 4x4's on the stand under the way tubes before you set it down, Figure 2.12..

MOUNT THE MACHINE ON THE STAND

12. Attach the support bracket to the stand using four sets of hex-head bolts, spring lock washers and hex nuts, Figure 2.13.

13. Step on the footwheel to lower the casters and move the stand parallel to the machine. Step on the footwheel twice more to raise the casters so the stand will not

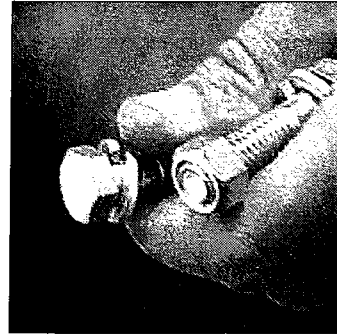
move.

14. We recommend using three people to lift the machine onto the stand—one on each end and one in the middle. Make sure you place the way tubes securely on the supports.

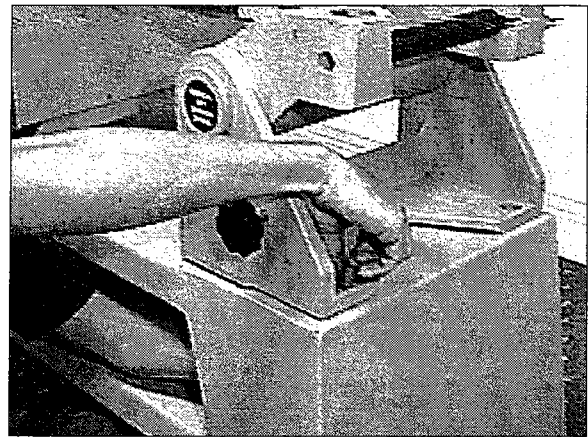
15. Attach the tailstock support bracket to the stand as in Figure 2.14.

16. Remove the shipping bolts and install the two lock knobs on the powerhead support bracket, Figure 2.15.

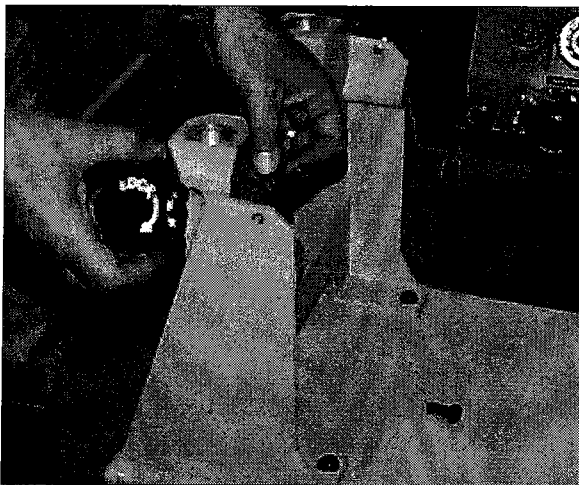
17. Put the lock knob on the tailstock support bracket, Figure 2.15.



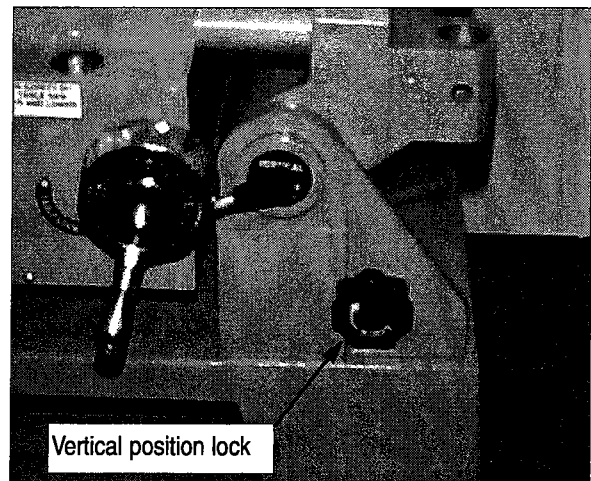
2.13 Bolt to the stand using the hex bolts with a flat washer and lock washer on each bolt.



2.14 Fasten the tailstock support to the stand.



2.15 Replace the shipping lockdown bolts with knobs, two in the headstock support bracket, one in the vertical lock position, and one in the tailstock support bracket.



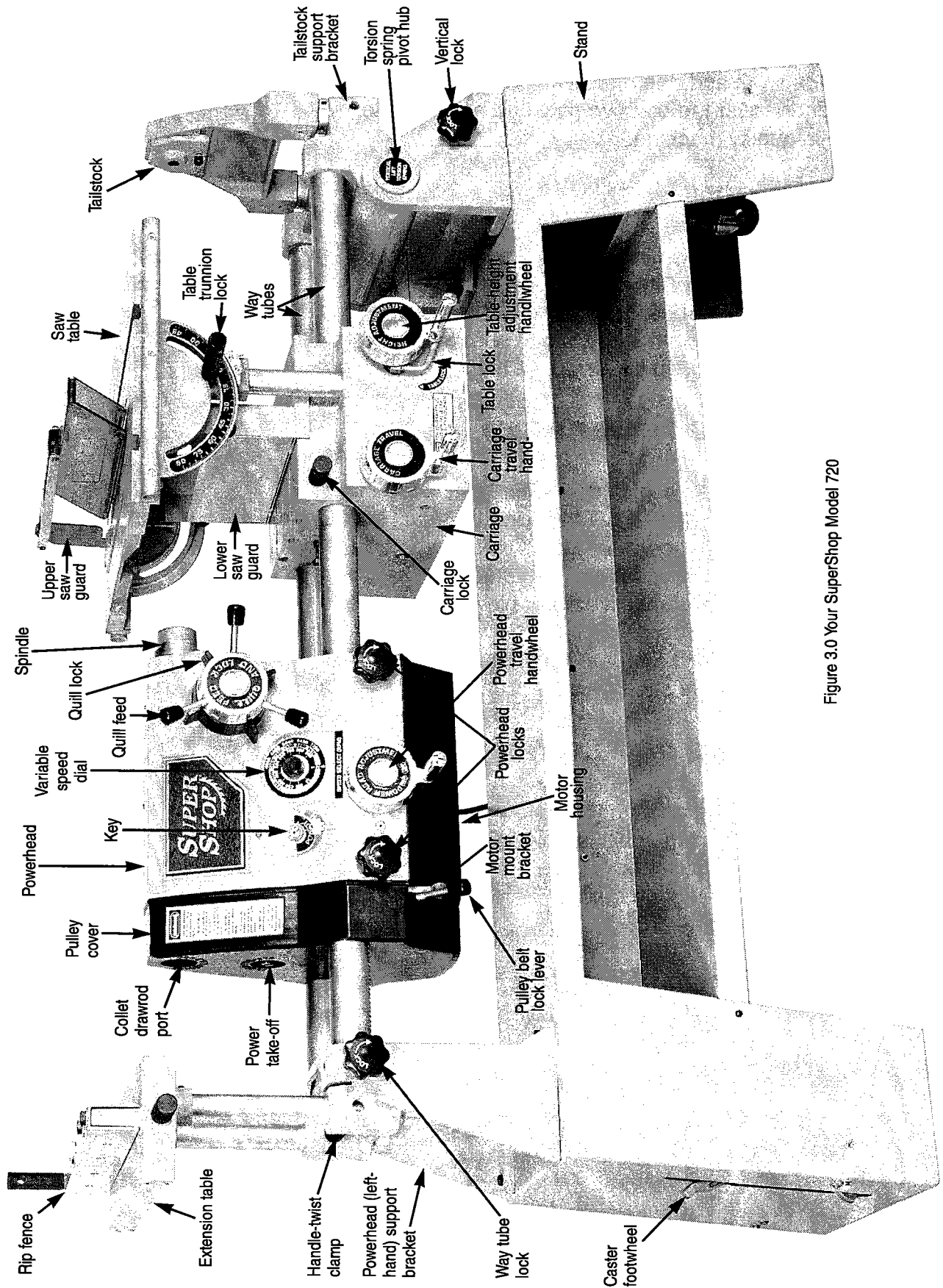


Figure 3.0 Your SuperShop Model 720

Chapter 3: Getting to Know Your SuperShop

Let's talk about the features of the SuperShop, Figure 3.0.

The better you know your machine the easier and safer you work and, the more you know the more you will discover the creative possibilities available with this quality machine.

POWER KEY

The power key shown in Figure 3.1 allows you to control who can operate your SuperShop. Keep the keys out of reach of children and other unauthorized users. Before turning the key, make sure the variable speed control dial is at its lowest setting.

MOVING THE POWERHEAD

To move the powerhead to the left or right loosen the two lock knobs, Figure 3.2. Then turn the travel knob, Figure 3.3. Notice the powerhead and carriage travel on "racked" tubes. The racks give you more precise movement and can actually raise or lower the powerhead (carefully of course) while in the vertical drill-press position. Don't forget to retighten both locks after positioning the powerhead.

MOVING THE QUILL FEED

Quill-feed handles on both the front and back of the powerhead extend the quill up to 5", Figure 3.4. Behind the front quill-feed handle is the quill-feed lock. After extending the quill as far as you need to, turn the lock, Figure 3.5.

If you are in a horizontal boring or drill press setup, you may want to extend the quill to a precise, repeatable depth. To do this, set the depth with the dial depth stop, Figure 3.6.

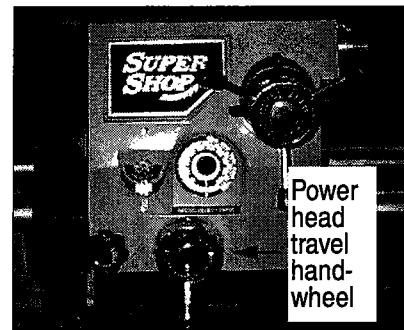
ADJUSTING THE SPEED BELTS AND PULLEYS



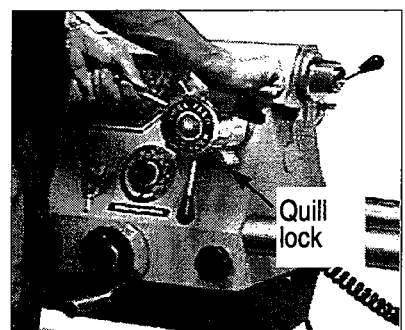
3.1



3.2

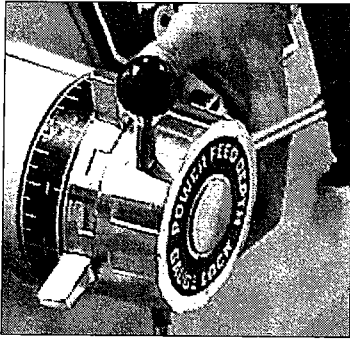


3.3



3.4

3.6



The powerhead has both an upper and lower pulley, located under the pulley cover, Figure 3.0. Power comes through the lower pulley while a V-belt transfers the power to the upper pulley and then to the spindle shaft. This innovative design allows you a remarkable range of 32 to 7,200 rpm at full torque. This range is broad enough to work almost any kind of material.

3.7

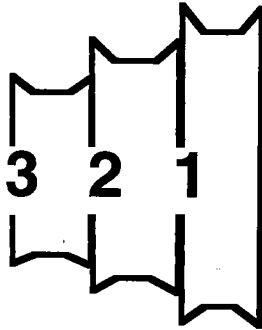
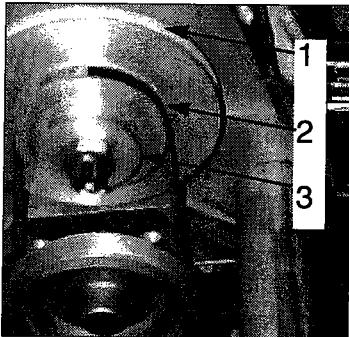


Figure 3.7 shows the decal on top of the pulley cover. It refers to the belt location on the upper pulley. In Figure 3.8, the V-belt is on the middle sheave. The belt for all three pulley configurations must be straight. Never try to cross a lower pulley with one that is not directly above it. Figures 3.8 and 3.9 illustrate which pulleys correspond to each speed band on the dial.

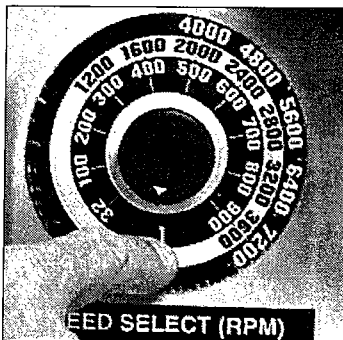
3.8



| | |
|------------|---------------|
| Position 1 | 32–900 rpm |
| Position 2 | 1200–3600 rpm |
| Position 3 | 4000–7200 rpm |

To remind yourself in which position your belts are in (and which band on the speed dial is being used), tape a piece of masking tape under the correct position number, then use an ink pen to draw an arrow.

3.9



How to change speeds with different pulley positions:

A. Disconnect the power.

B. Loosen the pulley cover lock on the back of the machine, Figure 3.10.

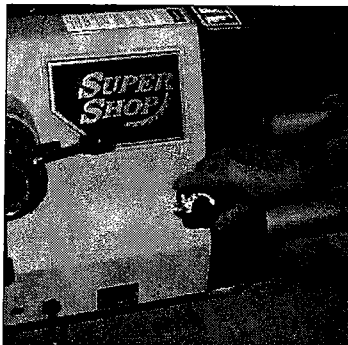
C. Slide the pulley cover away from the powerhead.

D. Pull the belt-tension lock lever up, Figure 3.11.

E. Lift the motor-mount bracket up to release tension on the belts, Figure 3.12.

F. Pull the belt off its pulley while slowly rotating the upper pulley, Figure 3.14.

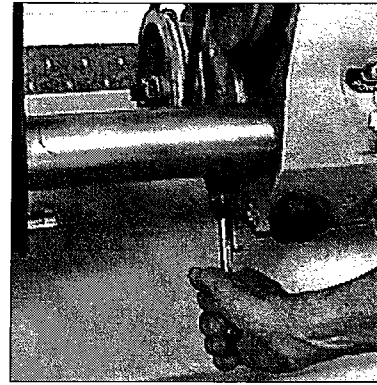
3.10



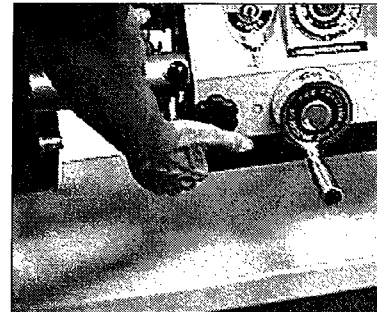
G. Reposition the belt on the new, matched pulley setting, Figure 3.15. (Remember the above discussion about speed ranges per matched upper and lower pulley sets).

H. Push the motor-mount bracket down to tighten the belt. Then push the belt-tension lock lever down to keep the desired tension on the belt, Figure 3.17.

I. Put the pulley cover back in place and tighten the cover lock. The cover, motor mount bracket and the motor belt lock should look like Figure 3.17.



3.11 Lift the motor belt lock

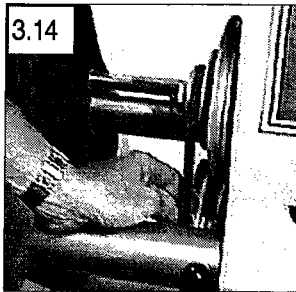


3.12 Raising the motor-mount bracket

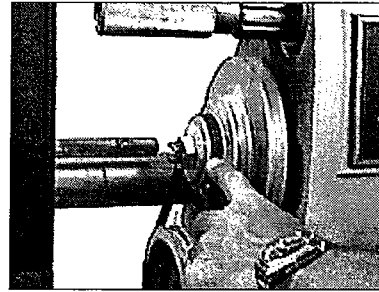
THE SECOND POWER SOURCE

Figure 3.19 shows the left end of the powerhead.

3.13 Lock the belt in the "Up" position

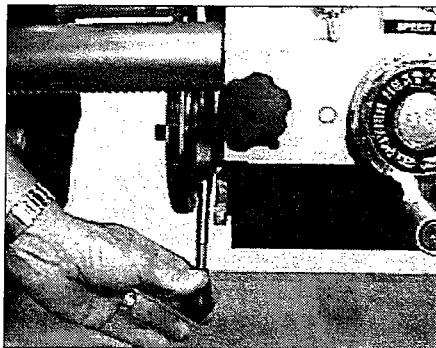


3.14



3.15 Re-positioned belt

3.16 Push the motor belt lock down



3.17 When you are finished adjusting the belts, your machine should look like this one.

Figure 3.18 The master speed chart for your SuperShop

| SUPER SHOP | | | | SPEED CHART | |
|---|--|--|---|---|------------------------|
| | | HARDWOOD | SOFTWOOD | | |
| TABLE SAWING | | 3200–3600 rpm | 3200–3600 rpm | | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | | 800-900 rpm 700–800 rpm 600–700 rpm | 800-900 rpm 700–800 rpm 600–700 rpm | | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"–1/2" 1/2"–3/4" 3/4"–1" Over 1" | | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | | |
| ROUTER/SHAPER | | 7200 rpm | 7200 rpm | | |
| LATHE TURNING Size of stock Under 2" diam. 2"–4" 4"–6" Over 6" | | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | | |
| METAL | | | | | |
| Metal cutting speed formula: | | Work material | HSS* cutters | | Carbide cutters |
| $N = \frac{12V}{\pi D}$ | | | | | |
| N = spindle speed (rpm) V = Maximum cutting speed from chart at right D = diameter in inches For turning use outside diameter For milling, drilling, or reaming use cutter diameter $\pi = 3.14$ | | Aluminum Brass Bronze Copper Magnesium Steel-Soft -Medium -Hard -Stainless Iron-Gray -Malleable *High-speed-steel | 700 200 120 120 700 90 70 40 70 50 100 | 1000 700 300 300 1200 400 250 150 250 150 250 | |

3.19

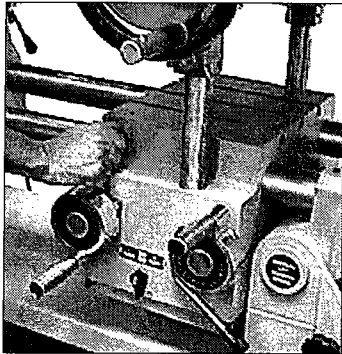


The upper port, marked "Collet Drawrod" is where you insert the drawrod to mount tools in the spindle. The power take-off under it is used for attachments like bandsaws, jointers, and belt sanders. Instructions for attachments will be included with those individual manuals.

MOVING THE CARRIAGE

The carriage has three basic functions: to adjust the height of the saw table; to support the toolrest; and to provide left/right, up/down movement for adjustments in horizontal boring and milling projects.

3.20



The height adjustment is geared for the saw table's racked way tubes. Pull up on the table lock to tighten it, Figure 3.21.

Before you move the carriage to the right or left you must release the carriage lock with a clockwise turn, Figure 3.22. Then turn the carriage-travel handwheel in the opposite way of the direction you want to go.

DANGER!

Get into the habit of checking all locks before you operate the SuperShop. Make it a policy that the carriage and any installed table (or lathe toolrest) are always locked down, unless they are being moved. These simple habits help assure accuracy and safety. Failure to completely lock the table, the carriage, or the powerhead can result in damage to your machine and injury to yourself.

3.21

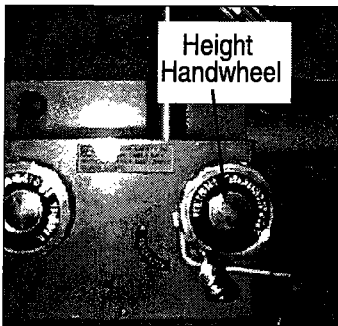
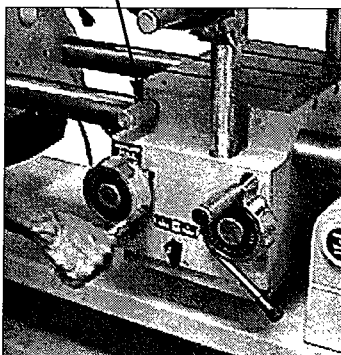


Table Height Lock

Carriage Lock

3.22

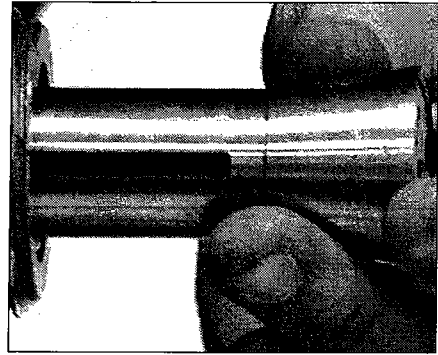


USING THE DRAWBAR TO MOUNT COLLETS

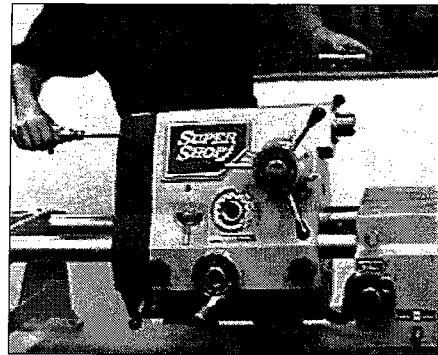
The drawbar/R-8 collet combination is used with every basic tool available with the SuperShop. It is the best tried-and-true way to keep your tooling centered and secure in the spindle. What is R-8? R-8 is a spindle/collet specification developed by Bridgeport Machine Tools for industrial milling machines. It is one of the machining industry's worldwide standards. R-8 collets serve a wide variety of tooling and will give you phenomenal versatility and accuracy in your

SuperShop spindle.

To attach R-8 collets, pass the drawbar through the spindle from the left. Align the keyway in the exterior of the collet with the key in the spindle and slide the R-8 collet into the spindle from the right. Insert the 7/16-20 drawbar into the lefthand- end of the spindle, in the place marked "Drawrod". Turn the drawrod and thread it into the collet until the collet is tight in the spindle. Every basic SuperShop tool mounts in the quill this way.



3.23



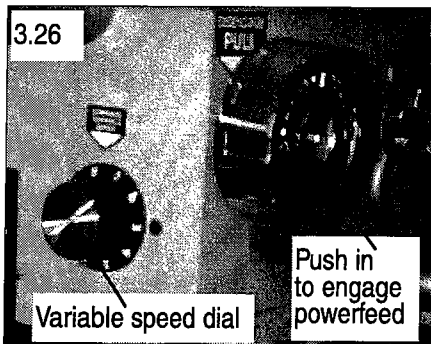
3.24



3.25

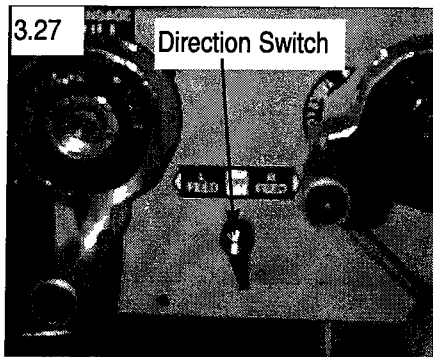
OPTIONAL CARRIAGE POWERFEED

An optional carriage powerfeed is available. It's powered by a heavy-duty gear motor in the carriage assembly.



For power operation, engage the carriage-travel control by pushing the control knob in approximately 1/2" toward the carriage, Figure 3.26.

Select the carriage speed you desire by adjusting the carriage variable-speed dial, Figure 3.26, to the speed required for the project. The dial is on the left-hand inner-side of the carriage. With the speed set, activate the Left/Right/Off feed switch with the automatic amperage stop switch, Figure 3.27. When you're finished making carriage adjustments, check to make sure the carriage lock is secure by rotating it clockwise in the direction of the arrow.



Be careful not to let the carriage come in contact with either the headstock or the tailstock. Turn the powerfeed switch to Off before it reaches either end. You should also be careful of the revolving handle on the carriage travel control when reaching for the powerfeed switch.

ASSEMBLE LATHE TOOLREST

1. Insert the toolrest post into the arm and use an Allen wrench to tighten the socket setscrew, Figure 4.1.
2. Attach the toolrest to the arm, Figure 4.2. Set the toolrest aside.

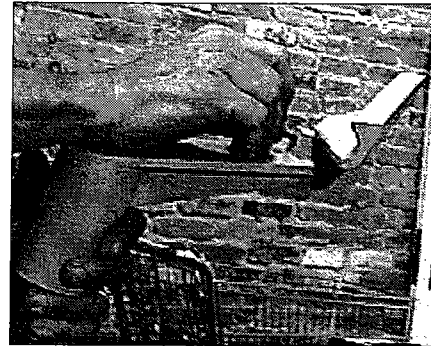


4.1
Insert post into the mount and tighten set screw.

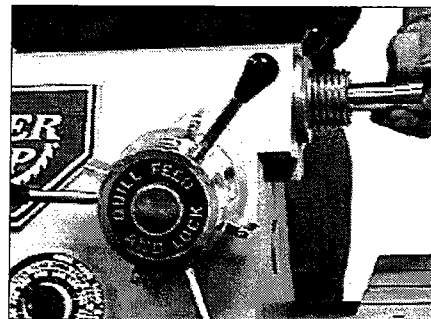
ATTACH SAW BLADE TO ARBOR

Note: Several styles of saw arbor have been used on the SuperShop. If the style of arbor you have does not match these pictures, call Smithy for specific assistance with your arbor.

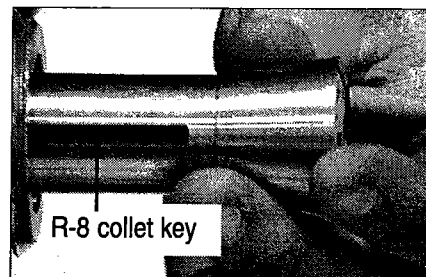
1. Insert the 3/4" collet into the spindle, Figure 4.3. Rotate the collet until you feel its keyway slot engage the spindle key, Figure 4.4.
2. Insert the drawrod into the powerhead, Figure 4.5, and rotate until it catches the threads inside the collet.
3. Insert the saw arbor, Figure 4.6, into the collet and tighten the drawbar to secure arbor in the collet, Figure 4.7.
4. With the saw teeth pointing toward the front of the powerhead (toward you), place the saw blade on the arbor (hold the arbor base in your left hand). Then place the spacer on the arbor, Figure 4.8.
5. Install the nut on the arbor and tighten with a wrench and torque handle as shown in Figure 4.9.
6. Remove the saw blade/arbor assembly from the machine and set aside.



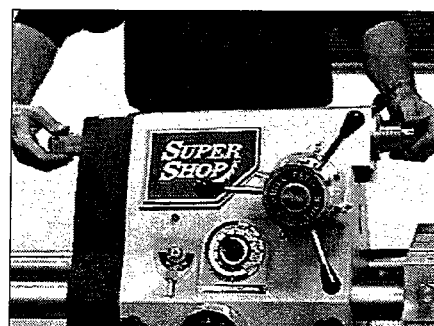
4.2
Attach toolrest and tighten set screw.



4.3
Insert the collet into the spindle.

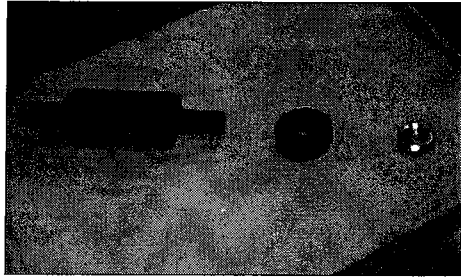


4.4
Align the collet with the key in the spindle.

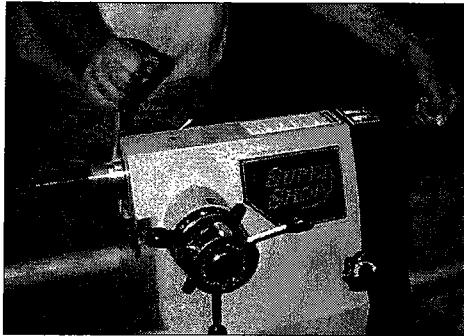


4.5
Insert drawbar into the back of the spindle and engage the collet threads. Do not tighten at this time.

4.6
The saw arbor is a shank, spacer and nut.



4.7
Tighten the saw arbor in the collet.



4.8
Place the 10" saw blade on the arbor, followed by the spacer and the nut.



4.9
Tighten the nut on the arbor.



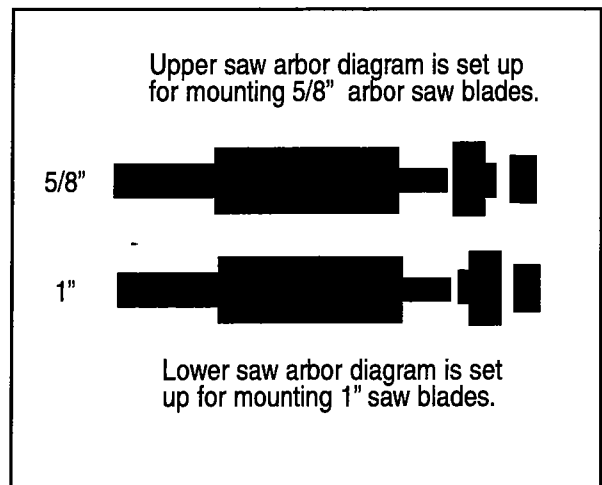
7. See Figure 4.10 for mounting saws with 1" arbor holes.

For optimum performance, use the smallest saw blade for the job. Smaller blades are generally cheaper too.

Suggestion:

Once you begin using your machine you can simplify setup by marking specific heights on the legs of your saw table and extension table. A scribed line at standard measures, inches or metric or lumber thicknesses will make setting up to work quick and accurate. Matching marks on the saw table legs and extension legs will make levelling easy and accurate. A scribed line with india ink run into it will make a permanent, easy-to-read mark. Remember to wax the legs after marking.

ASSEMBLE THE MAIN TABLE

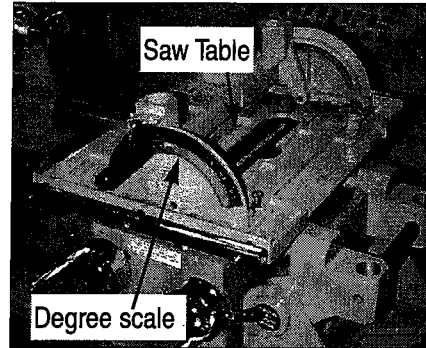


4.10 The shaft on the arbor fits saws with 5/8" mounting holes. The spacer on your saw arbor will adapt to saws with 1" mounting holes.

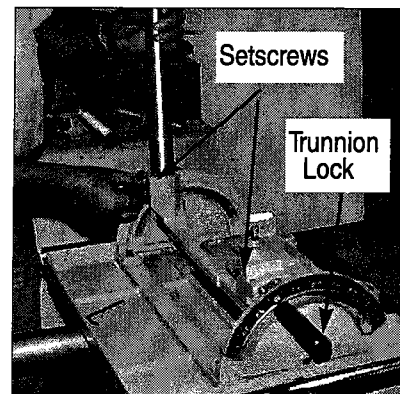
We strongly recommend that you clean and wax the way tubes and saw table legs prior to assembly.

1. Set the table upside down. Keep the trunnion with the degree scale toward you, Figure 4.11.
2. Install the second trunnion lock and washers from the accessory pack, Figure 4.12.
3. Loosen the table setscrews and insert the legs into the saw table with the rack teeth facing left, Figure 4.13.
4. Finger-tighten the setscrews. The screws should retain the legs in the casting yet still be loose enough for final adjusting.
5. Wax the legs.
6. Insert the assembled table into the carriage, Figure 4.14.
7. Hold the table-lock lever up and rotate the table height adjustment handwheel counterclockwise to position the table. Lock the table at the desired height by pushing the table-lock lever down, Figure 4.15. Always use the table- height lock to secure the table.
8. Tighten the setscrews.

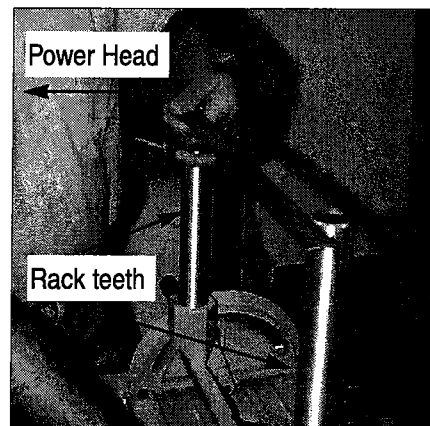
Align Saw Table Parallel to Saw



4.11 Put the saw table upside down on a workbench or on SuperShop carriage. Have the trunnion with degree marks face

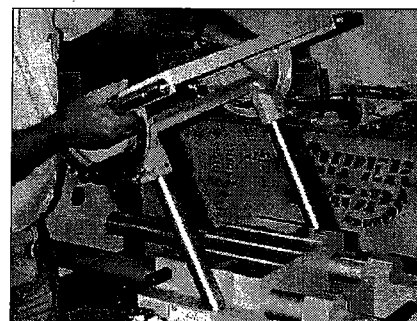
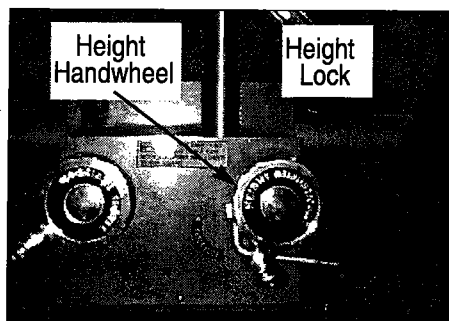


4.12 Loosen retaining ring setscrews (SS519) and saw table stand set screws (SS520). Install rear trunnion lock (SS517) and washers (SS514).



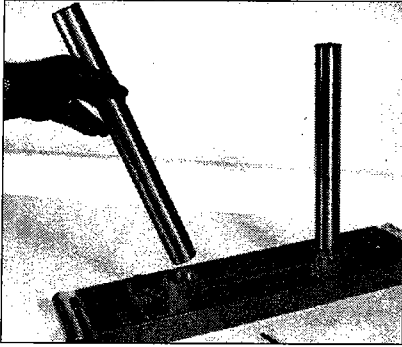
4.13 Insert the legs into the saw table legs stand with the rack teeth facing left. **HINT:** Use a ruler, or flat stock, engaged in the same tooth to align the teeth.

4.15 Rotate the Height adjustment handwheel then push down on the saw table lock handle to lock the table at any height.

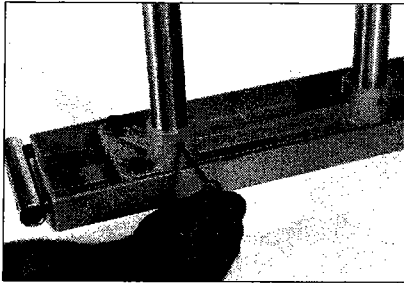


4.14 Install the saw table into the carriage. The teeth on the rack must face away from the power head.

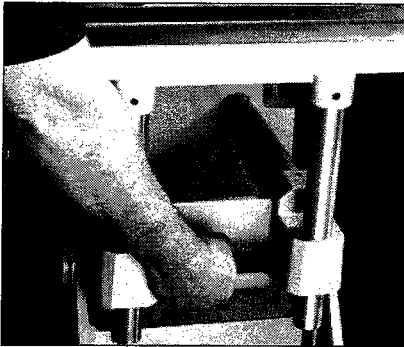
4.16



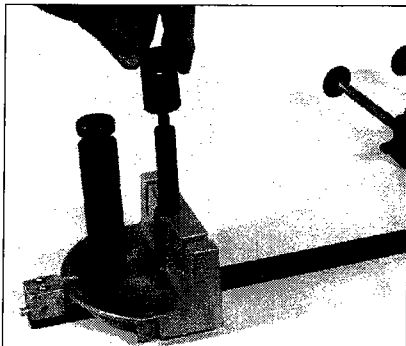
4.17



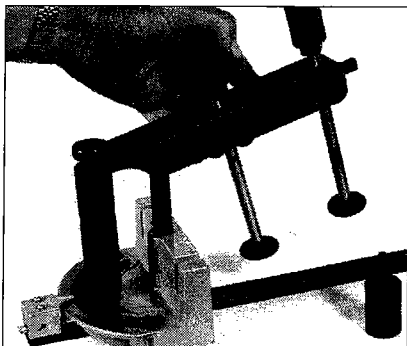
4.18



4.19



4.20



ASSEMBLE THE EXTENSION TABLE

We strongly recommend that you clean and wax the table legs prior to assembly.

1. Set the table upside down.
2. Loosen the setscrews and insert the legs into the table assembly, Figure 4.16.
3. Tighten the setscrews, Figure 4.17.
4. To mount table in the SuperShop, loosen the hand-twist lock, Figure 4.18. Insert the table into the mounting holes and set it at the desired height. Tighten the hand-twist lock to hold the extension table in place.

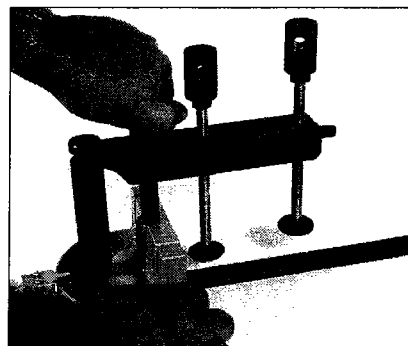
MOUNT THE CLAMP ON THE MITER GAUGE

For many of your projects your work will be safer and more accurate if you use the clamp on your miter gauge.

1. Remove the knurled knob from the mounting post on the miter gauge, Figure 4.19.
2. Slip the clamp into the slot on the miter gauge handle, Figure 4.20, and reinstall the knurled knob. Screw it down through the clamp to hold it in place, Figure 4.21.

ALIGN SAW TABLE 90° TO SAW BLADE

4.21

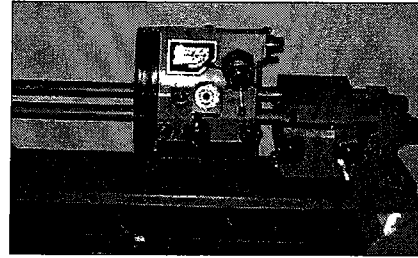


Take the time and care your SuperShop deserves during alignment. You will have the advantage of the precision built into the machine system. Your woodworking projects should be accurately sawed, joined, drilled, turned, sanded and finished to the highest professional standards. Please complete the following steps in the order presented.

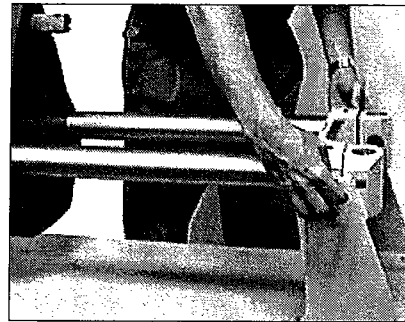
ADJUST THE TENSION

1. Move both the carriage and powerhead to the extreme right or “pivot” end of the way tubes. Lock them in place, Figure 5.01.
2. Loosen the tubes' locking knobs, Figure 5.02. Be sure the way locks on the carriage and headstock are securely tightened.
3. Lift the tubes, powerhead and carriage to the vertical “drill press” position, Figures 5.03 and 5.04. You may need someone else to help. Lock the vertical locking knob, Figure 5.05.
4. Find the pivot hub, located on the back of the machine opposite the vertical lock knob. Look into the holes—you should see part of the holes drilled in the base showing through.
5. Use the spanner wrench provided, Figure 5.06, to rotate the hub counterclockwise until the slack is taken up, Figure 5.07. Continue turning the wrench counterclockwise until a set of holes in the hub lines up, Figure 5.08. Install all three Allen-head capscrews and tighten, Figures 5.09 and 5.10. The numbers on Figure 5.08 are added for your reference and do not appear on your machine.

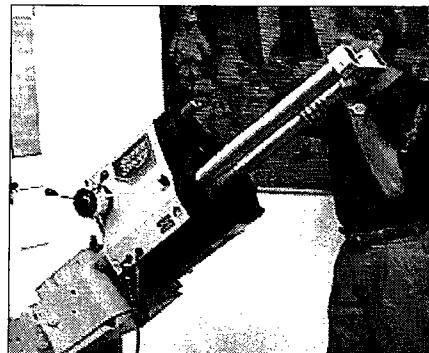
We strongly recommended that you first tension the spring at one hole, install and tighten the bolts, and then test by lowering



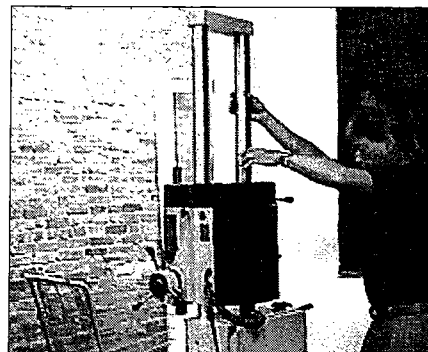
5.01 Move the powerhead and carriage to the right and lock



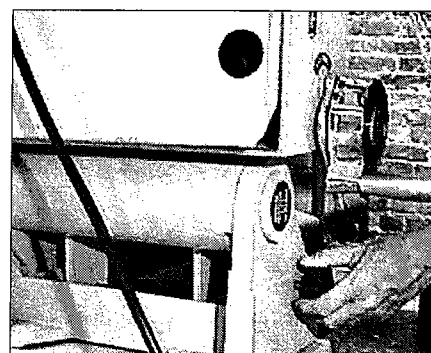
5.02 Unlock the way tube locks.



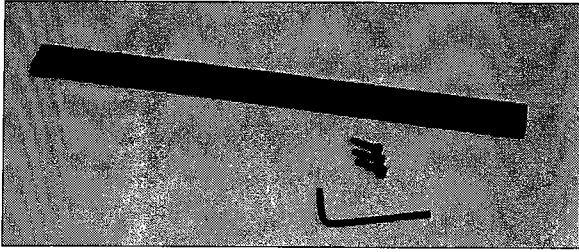
5.03 Lift the SuperShop into the vertical position. You may need someone else to help.



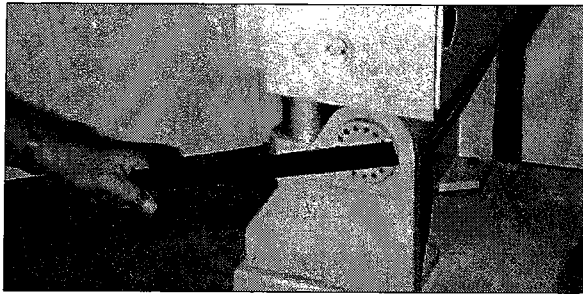
5.04 Hold the SuperShop in the vertical position while tightening the tailstock lock.



5.05 Lock the tailstock to keep the SuperShop vertical. Remember to unlock before attempting to lower.

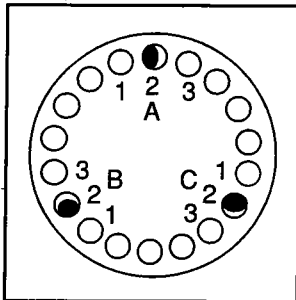


5.06 The spanner wrench has two pins that insert into the holes on the hub.

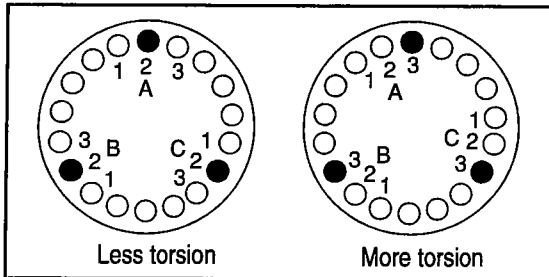


5.07 Take the slack out of the hub spring and then turn one hole past the slack position.

5.08 Torsion spring setups



Torsion spring with slack removed



Torsion spring adjustments. DO NOT OVER-TENSION. Over-tensioning will cause the spring to break and or SuperShop to "lift" suddenly.

and lifting the head.

If you want still more tension for easier lifting, rotate the hub one more set of holes counterclockwise.

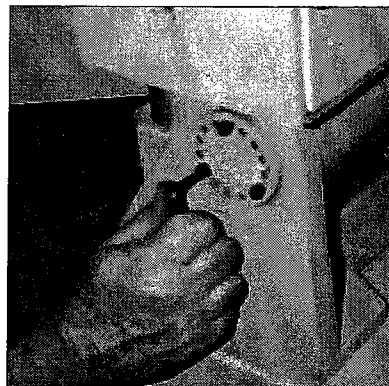
Only tension at two holes if necessary. ***Overtensioning the spring will damage your machine and possibly injure you.***

Rotation of 1 to 2 holes should provide the required tension to assist in lifting the unit into the vertical position. AGAIN, DO NOT OVER-TENSION.

CAUTION - Once the torsion spring has been tensioned - DO NOT REMOVE THE TORSION SPRING BASE FROM THE STAND WITHOUT FIRST RELIEVING THE TENSION ON THE SPRING. Keep your spanner wrench to release the tension prior to removing the torsion spring base from the stand. Failure to follow these instructions will result in damage to your machine and injury to you.

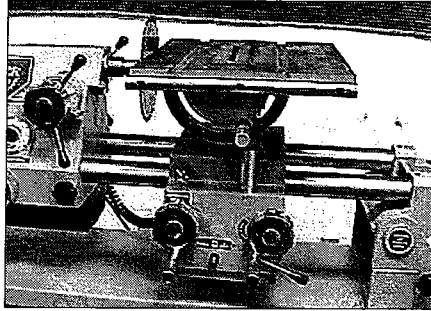


5.09 Hold the wrench to maintain tension and insert the capscrews into the hub. Do not release tension until at least two screws are inserted. Hub can be damaged if tension is released prematurely.

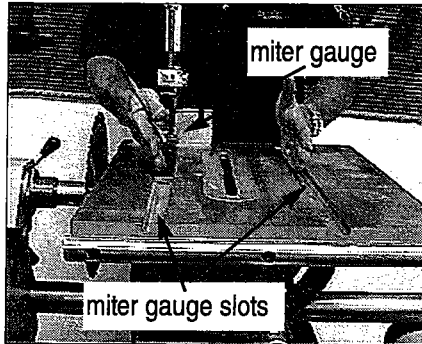


5.10 Tighten capscrews with Allen wrench.

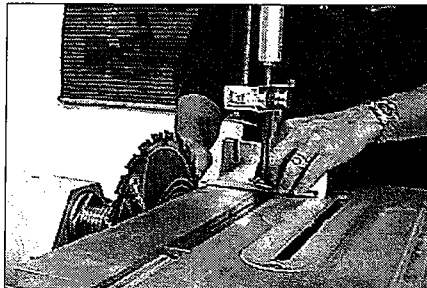
6.1
Lock the saw table level with the saw arbor.



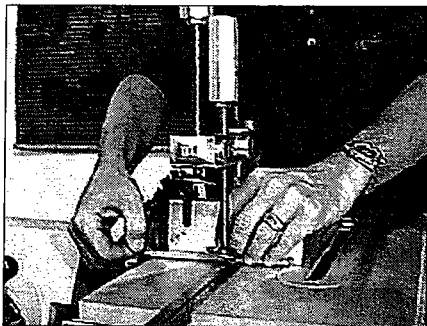
6.2
Put the miter gauge in the slot closest to the saw blade.



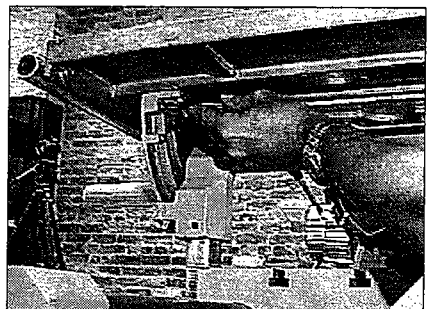
6.3
Hold pencil against miter gauge and locate high spot on blade.



6.4
Locate high spot on blade at outfeed also.



6.5
The bolts to fine tune the table alignment are located under the saw table.



Align Saw Table Parallel to Saw Blade

Tools Needed:

- Metric Allen wrench set
- Spanner wrench (provided)
- Precision square
- 45° precision triangle
- Medium, flat-blade screwdriver with a square shaft
- Small, flat-blade screwdriver
- Medium Phillips screwdriver
- Metric socket wrench set
- Crescent wrench
- Lead pencil

1. Unplug the machine before making adjustments. Set up the machine with the saw blade/arbor installed and saw table in place, Figure 6.1. Note the table's height is just above the blade's arbor. Set the table trunnion to zero. You'll make a finer adjustment on this later.
2. Place the miter gauge in the table slot closest to the saw blade, Figure 6.2. Firmly hold a pencil (or a pointed dowel rod) against the face of the miter gauge while touching the face of the saw blade, Figure 6.3. As you rotate the blade, the high spot on the blade will push the pencil away. Mark the high spot with chalk or a magic marker.
3. Reposition the pencil, the miter gauge, and the high spot on the saw blade together at the infeed end of the table, Figure 6.3. Now rotate the saw blade, Figure 6.4, and bring the miter gauge and the high spot together at infeed. *It is critical that the pencil remain in the same spot against the miter gauge.*

Your table is aligned if the pencil tip

touches the blade with the same touch and in the same place all the way around the blade, Figures 6.3 and 6.4. Just make sure all four hex-head capscrews attaching the table to the trunnions are tight, Figures 6.5–6.8.

Your table is not aligned if the blade pushes the pencil or there is a gap between the pencil tip and blade. If your table is not aligned, loosen all four capscrews attaching the table to the trunnions, as shown in Figures 6.5–6.8. Adjust the table, then repeat steps 2 and 3. When you reach alignment, tighten all four capscrews.

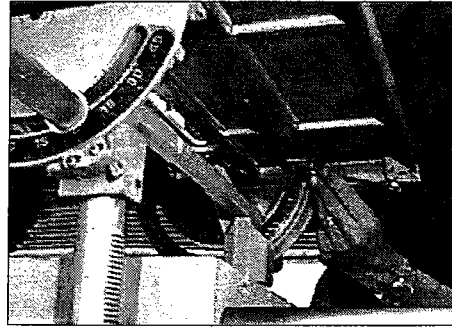
ALIGN SAW TABLE 90° TO SAW BLADE

1. Hold a precision square on the table and against the saw blade with the high spot 90° from the square, as illustrated in Figure 6.9. Make sure the square does not touch the blade teeth.

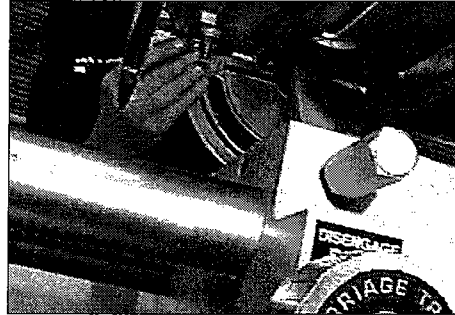
2. If the table is not perfectly 90° to the saw blade, do the following:

- a. Loosen both the front and back trunnion handles, Figure 6.10.
- b. Move the table enough so the square's two edges are flush with both the blade and table. When table is a perfect 90°, tighten the trunnion handles.
- c. Use a Phillips screwdriver to reset the trunnion's 0° indicator to zero, Figure 6.11.
- d. Loosen the trunnion locks and move the table a little. Does the table automatically stop at 0°? If not, use a small screwdriver to adjust the setscrew stop, Figure 6.11. The table should stop at 0° every time.

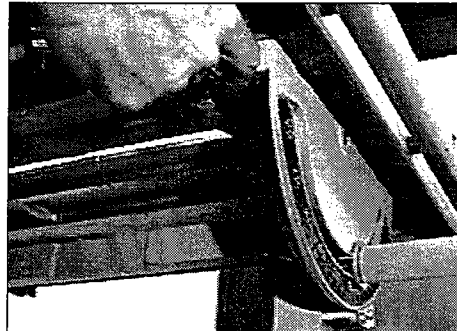
Adjust the Saw Table's 45° Stop



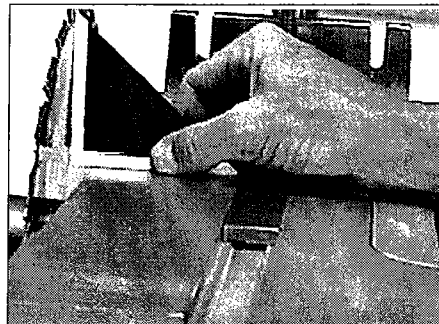
6.6 Adjust the trunnion mount bolts to square the table with the saw blade.



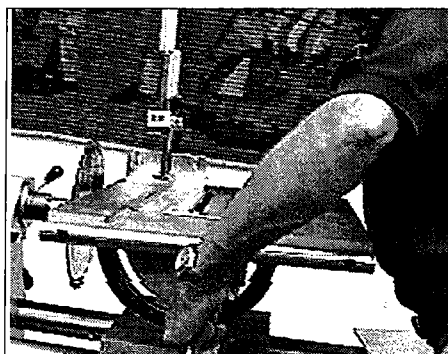
6.7 Adjust the trunnion mount bolts to square the table with the saw blade.



6.8 Adjust the trunnion mount bolts to square the table with the saw blade.

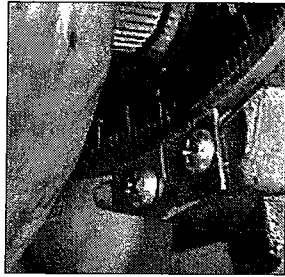


6.9 Use a precision square to set the table at 90° to the saw blade.

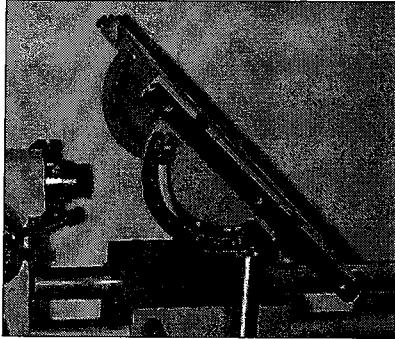


6.10 Loosen front and back trunnion locks.

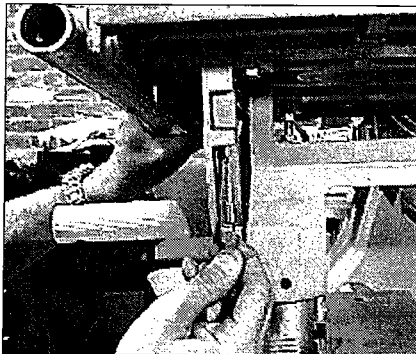
6.11
Adjust stop to read 0°.



6.12
Set table to 45°.



6.13
Adjust stop to 45°.



1. Loosen the trunnion handle and move the table toward 45° , Figure 6.12.

2. Push on the auto stop pin. Does the table stop at 45°?

3. If it does not, move the table back toward 0 to give yourself room to adjust the 45° stop pin, Figure 6.13.

4. Make a slight adjustment to the stop-screw and recheck the stop. Repeat this procedure until it stops exactly at 45°.

ALIGN THE MITER GAUGE

1. Place the miter gauge in the table slot closest to the saw blade.

2. Place a precision square against both the face of the miter gauge and the saw blade with the high spot at the top of the blade, Figure 6.16.

3. Loosen the miter gauge handle, then move the face of the miter gauge so the precision square's edges are flush against both the miter gauge and saw blade.

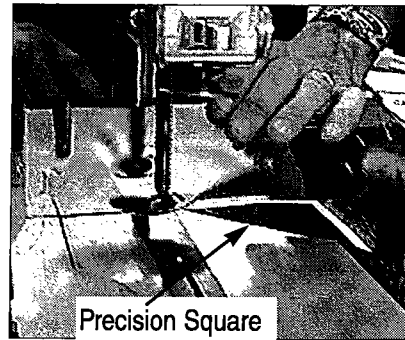
4. Use a small screwdriver to reset the pointer to 0°, Figure 6.17.

5. Pull the stop rod out and use a small screwdriver to adjust the stop rod to 0°, Figure 6.18.

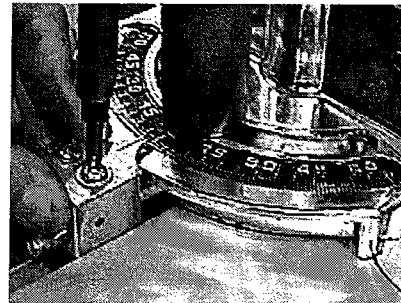
6. To set the miter gauge at 45°, pull out the stop rod and rotate the miter gauge face 45°, then place the 45° angle between the gauge face and saw blade, Figure 6.19.

7. When both precision angle edges are flush with the miter gauge face and saw blade, adjust the 45° setscrew, Figure 6.20.

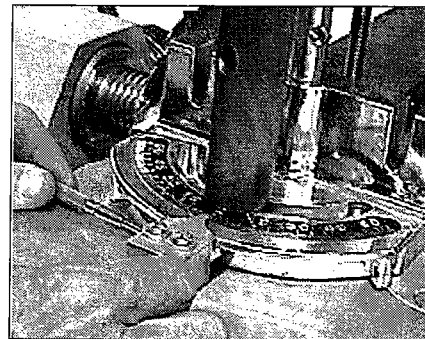
8. Place the miter gauge in the channel facing the opposite direction, Figure 6.21. To set the other 45° stop, repeat Steps 6 and 7.



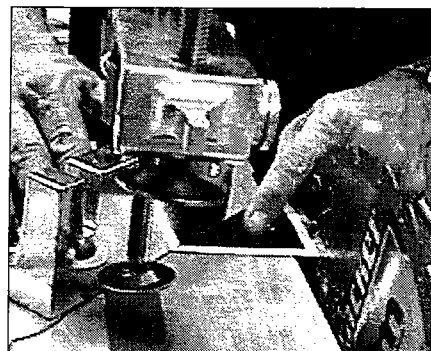
6.16 Position the saw blade with the high spot up and precision square between the blade and the miter gauge.



6.17 Locate the 90° pointer and tighten the screws.



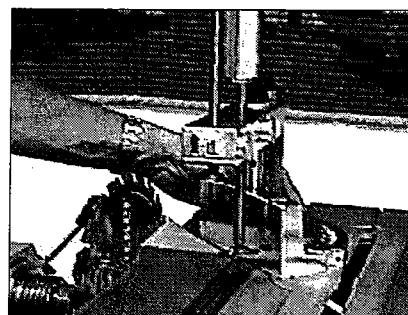
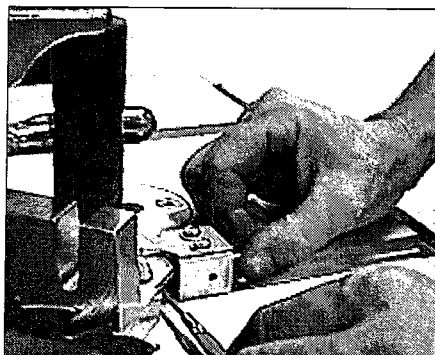
6.18 Set the protractor to zero.



6.19 Reposition the precision square to adjust the 45° angle.

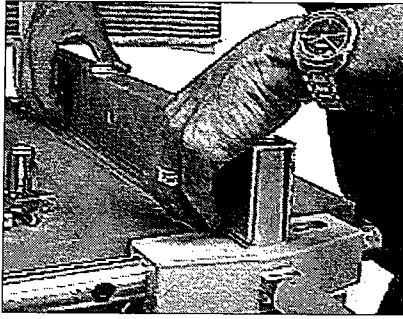
Align Rip Fence with Saw

6.20 Set the 45° stop.

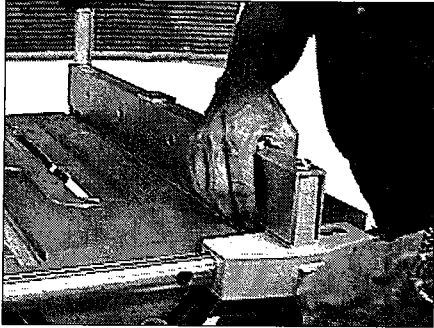


6.21 Repeat the alignment procedure with the miter gauge reversed.

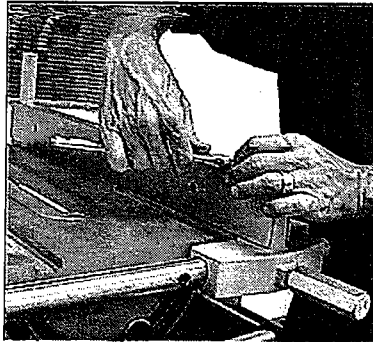
6.22
Align rip fence with the miter gauge slot.



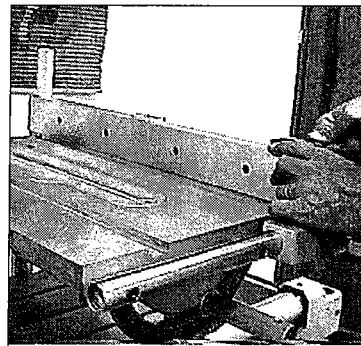
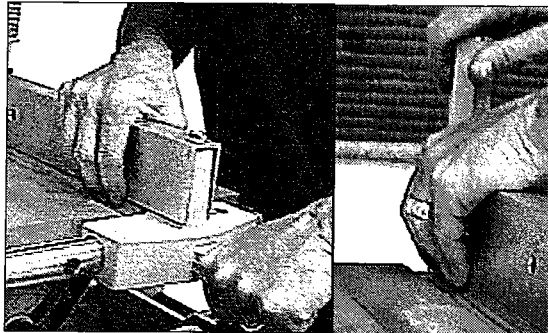
6.23
Lock the rip fence front handle and test if the fence remains parallel to the miter gauge slot.



6.24
Adjust the fence if it does not remain parallel. Loosen the hex screws on top of the fence and adjust.



6.25
Align the fence and tighten the front and rear locks.



6.26
When the table is in alignment with both front and rear locked, tighten the hex nuts. Then remove the table and test fit again for accuracy.

Table

1. Mount the rip fence on the saw table, then align it with the edge of a table slot, Figure 6.22.
2. Tighten the front lock, Figure 6.23. If the rip fence did not stay parallel with the miter slot at the back edge, you must align the fence as follows.
3. Loosen the front lock by turning the handle counterclockwise.
4. Use a wrench to loosen the two hex screws located on the top front of the rip fence, Figure 6.24.
5. Align the rip fence with the miter slot, Figure 6.22 and tighten the front and rear locks, Figure 6.25.
6. Tighten the two hex screws, Figure 6.26.
7. Loosen both fence locks and re-mount the fence to double check its alignment.

ALIGN EXTENSION TABLE 90°

TO SAW BLADE

1. Remove the saw table from the carriage, Figures 6.27 and 6.28. Move the carriage and powerhead to the far right.

2. Install the extension table with the top just above the saw blade arbor. Tighten the handle clamp, Figure 6.29 and 6.30.

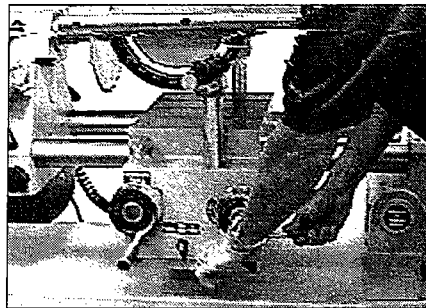
3. Place the miter gauge in the slot. Firmly hold a pencil (or a pointed dowel rod) against the face of the miter gauge, while touching the face of the saw blade, Figure 6.31. As you rotate the blade, the high spot will push the pencil away. Mark the high spot with chalk or a magic marker.

4. Place the pencil back in the miter gauge and align the pencil point and the high spot together at the infeed end of the table, Figure 6.31. Now rotate the saw blade, Figure 6.32, and bring the miter gauge and the high spot together at the outfeed of the table.

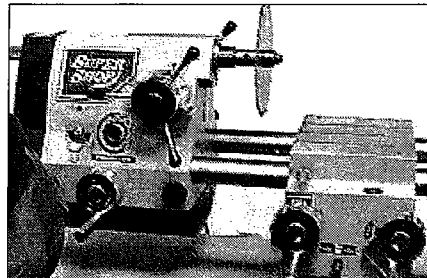
Your extension table is aligned if the pencil tip touches the blade just the same touch and place as it did in Figures 6.31 and 6.32. Just make sure all four hex-head capscrews attaching the table are tight, Figure 6.33.

Your extension table is not aligned if the pencil tip pushes the blade or there is a gap between the pencil tip and blade. If your table is not aligned, loosen all four capscrews attaching the table, Figure 6.33. When you reach alignment, tighten all four capscrews.

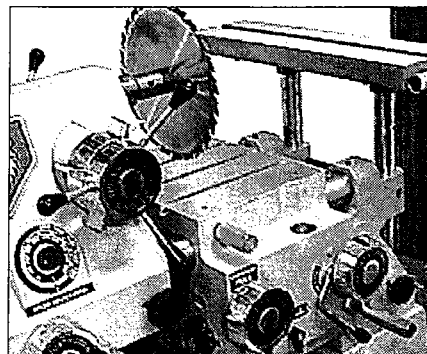
5. The extension table will now be aligned each you mount it in the right-hand end end of the machine. Note: You may use the table on the left-hand end of the machine but it **WILL NOT** be aligned with the saw blade. Mounting the extension



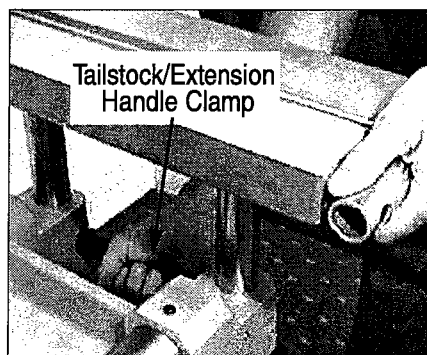
6.27 Release the saw table lock and crank the height hand-wheel to remove the saw table from the carriage.



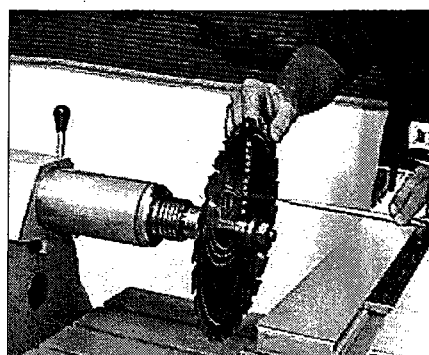
6.28 Saw blade mounted and saw table removed.



6.29 Move the powerhead and extend the quill to align the extension table. Relock.

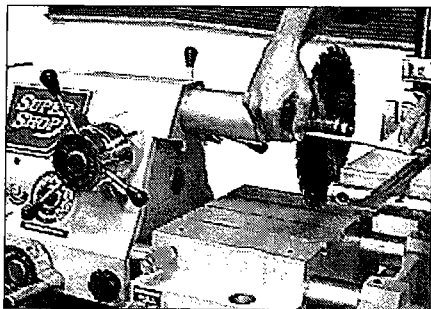


6.30 Turn the handle clamp to lock the extension table in position.

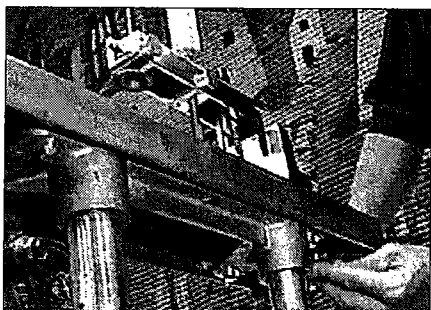


6.31 Find the high point on the saw blade on the infeed using the miter gauge.

6.32
Find the high point on the saw blade on the outfeed with the miter gauge.



6.33
When the table is aligned, tighten the bolts under the table.



6.34
Set the bumper bolt to the correct distance and tighten the nut on the base against the carriage.

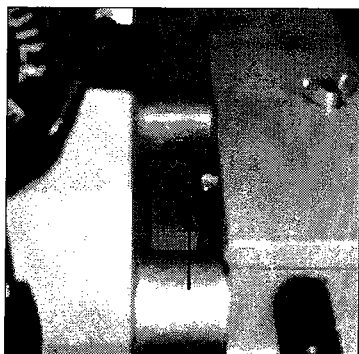


table on the left-hand side of the machine is for extra support **ONLY**.

Set the carriage bumper bolt

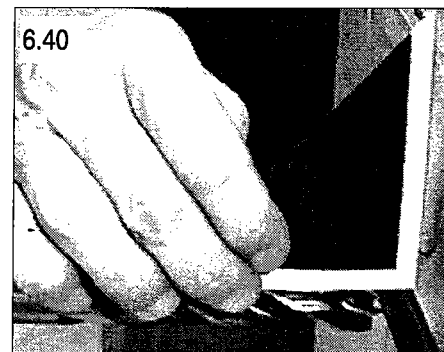
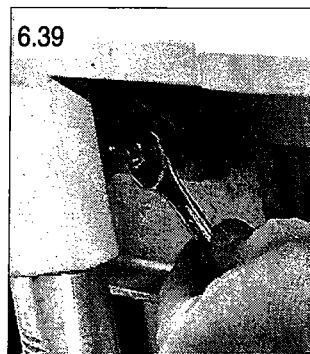
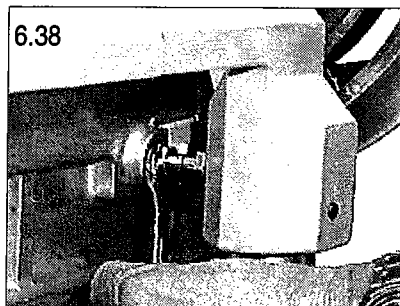
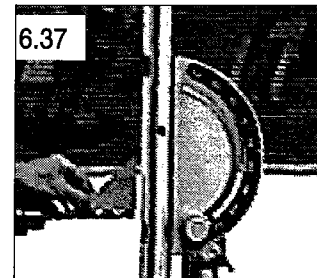
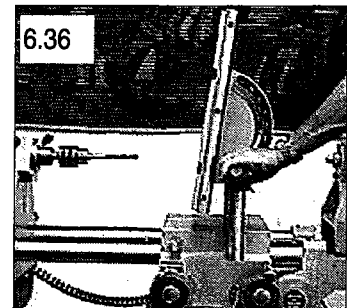
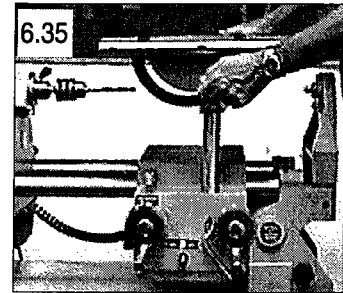
1. With saw blade mounted and the quill fully retracted, bring the powerhead and carriage together until they touch.
2. Install the saw table on the carriage.
3. As you lower the table, look down through the saw-blade insert and move the carriage left or right as needed to center the blade in the saw-insert slot.
4. Once the table is centered over the blade, lock the powerhead and carriage to the way tubes.
5. Adjust the carriage bumper bolt, Figure 6.34, on the carriage so that it just touches the side of the powerhead. Tighten the locking nut against the carriage casting.

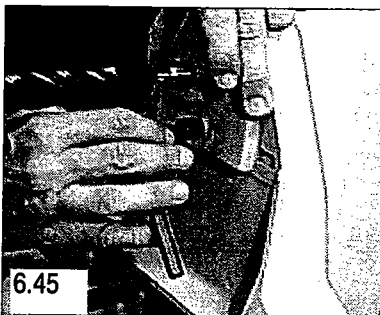
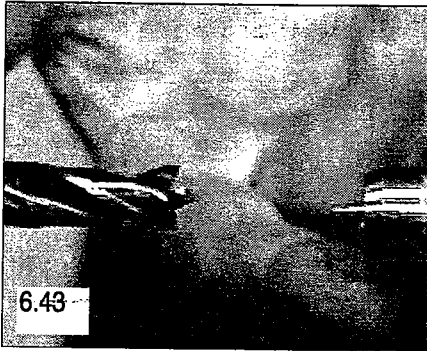
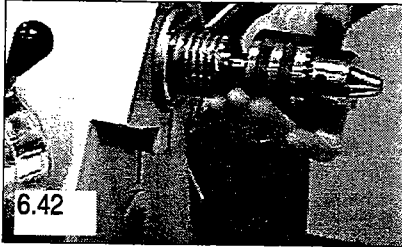
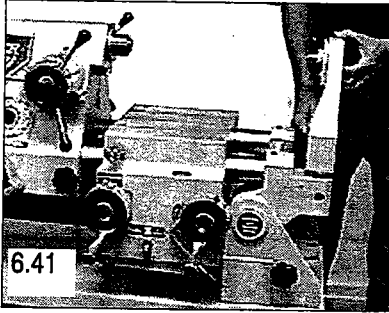
Now each time you set up the table saw, your saw blade will be centered in the saw table insert slot.

Align Saw Table 90° to Powerhead

1. Move the powerhead about 10" from the carriage. Mount the saw table, Figure 6.35.
2. Loosen the table trunnion locks, Figure 6.36. Tilt the table 90° and tighten the locks.
3. Place a precision square against the drillbit and table surface, Figure 6.37.
4. If the table is not perfectly squared with the drillbit, adjust the table stops with a wrench, Figure 6.38 and Figure 6.39.
5. Re-check the table's 90° setting, Figure 6.40, and correct as needed.

Note: Leave the drill chuck and drillbit in the spindle and proceed to the next page, Aligning the tailstock and powerhead.





Align Lathe Tailstock with Powerhead

1. Remove the saw table and extension table from the machine. Mount the tailstock, Figure 6.41, with the tail center installed.
2. Mount a drill chuck to the collet, Figure 6.42, and tighten the drawbar.
3. Install a brad-point drillbit (or any bit that is straight and long), and extend the drillbit as far as it will go.
4. With the drill tip and tail center almost touching, check their alignment, Figure 6.43.
5. To vertically align the two, raise or lower the tailstock. Once aligned loosen, position, and tighten the collar, Figure 6.44.
6. To horizontally align, use an Allen wrench to loosen the socket-head capscrew, Figure 6.45. Move sideways for alignment, then retighten.

You have now completed alignment of your SuperShop, which is designed to stay aligned for years of normal use. However, you should re-check it periodically. This assures you of the accuracy of your machine, indicates any problems with blades or bits, and maintains precise cuts, holes and joints for all your projects.

To set up the table saw, Figure 7.1, turn off the power key and unplug the SuperShop.

NEVER use both the rip saw and the miter gauge at the same time. You will usually be using either the rip fence mostly for rip cutting, or the miter gauge (for cross-cutting). **NEVER cut freehand.**

Place the saw table in the carriage and lock it in the highest position, Figure 7.2. Tilt the table 90° and lock it with the trunnion lock. This will give you enough room to install the lower blade guard. Install the lower blade guard from the left side of the carriage. Align it with the slot in the carriage table and lock into place with the wing nut and T-stud bolt, Figure 7.3.

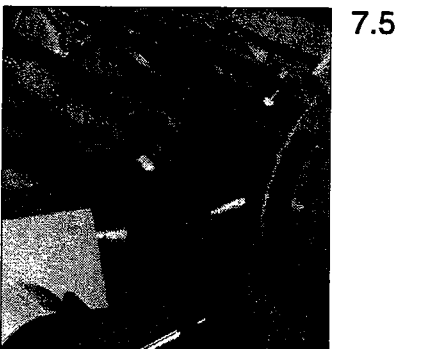
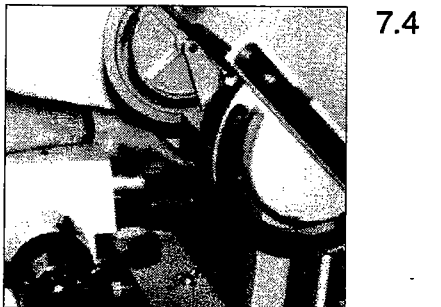
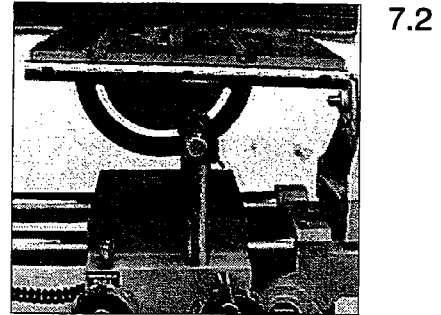
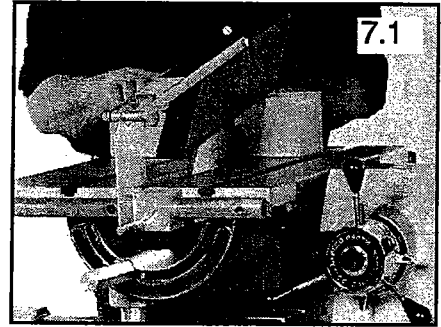
Place the saw blade and arbor assembly in the lower guard. With the drawbar in the spindle and the collet in the quill, move the entire carriage assembly toward the headstock with the handwheel. Guide the arbor into the collet as the carriage moves in, Figure 7.4.

When the arbor is fully inserted into the collet, tighten the drawbar. Use the torque handle to snug down the drawbar, Figure 7.5. Unlock the table trunnions and height lock. Raise the table as high as possible. Tilt the table back to 0 and lower the table down over the blade. If the blade does not align with the slot in the saw table, adjust the carriage stop bolt (Chapter 5). Once this stop is set, the blade will center in the saw slot each time the saw is set up. Tighten the carriage lock, table height lock, trunnions, powerhead travel lock, and quill locks.

Now mount the upper blade guard. Slide the guard's mounting bushing over the rear tubular guide and center it over the blade, Figure 7.6. Lock the guard in place with the locking knob at the base of the mounting bushing.

USING THE RIP FENCE

To use the rip fence, slide it onto the front and back tubular guides, Figure 7.7. When it's in place, tighten

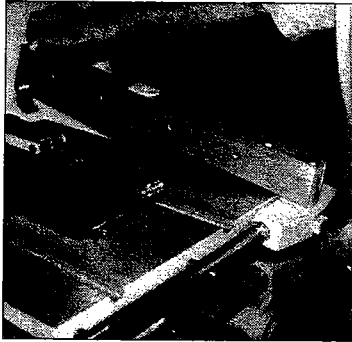


7.6



the front lock, then tighten the rear lock. ***Always tighten them in this front/back sequence.*** You can mount the rip fence on either side of the blade.

7.7

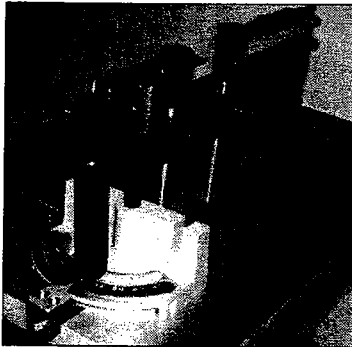


USING THE MITER GAUGE

To use the miter gauge, Figure 7.8, insert its bar into either table slot. The miter gauge turns from 0° to 60° either way, with auto stops at 45° and 0°. To set the angle, pull out the stop plunger. Set the angle, then tighten the miter gauge handle.

Hold the wood firmly against the face of the miter gauge when you are cutting. Tighten the miter gauge plungers to hold the wood securely. To tighten the clamp, turn the knurled knobs.

7.8



USING THE EXTENSION TABLE

Mount the extension table in either the right or left support bracket. The rip fence and miter gauge will be accurate **ONLY** with the extension table installed on right-hand side of the SuperShop. Installing the extension table on the lefthand side of the machine is **ONLY** for support.

Level it with the saw table, then tighten the hand-twist clamp. Many table sawing operations require extra support for wider boards like plywood or for cross-cutting longer boards, the extension table is also slotted for the miter gauge. You can order additional tables from our sales department, (800) 476-4849.


MAKING ANGLED CUTS

To make angled cuts you need to adjust the table angle. To tilt the table, loosen the front and rear trunnion lock handles, Figure 3.0. Pull the pin plunger on the front trunnion and change the table angle. You will need to extend the quill as you tilt the table to keep the saw blade centered in the slot. Tighten the front and back trunnion locks. Change the angle on your upper saw guard as well.

Once you complete your table saw setup, double check:

- All locks are tightened
- Saw blade is aligned with upper and lower guards
- Speed controls are set properly, according to the Speed Chart on page 31

Figure 3.18 The master speed chart for your SuperShop

|  SPEED CHART | | | |
|--|--|---|---|
| | HARDWOOD | SOFTWOOD | |
| TABLE SAWING | 3200–3600 rpm | 3200–3600 rpm | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | 800-900 rpm 700–800 rpm 600–700 rpm | 800-900 rpm 700–800 rpm 600–700 rpm | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"–1/2" 1/2"–3/4" 3/4"–1" Over 1" | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | |
| ROUTER/SHAPER | 7200 rpm | 7200 rpm | |
| LATHE TURNING Size of stock Under 2" diam. 2"–4" 4"–6" Over 6" | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | |
| METAL | | | |
| Metal cutting speed formula: $N = \frac{12V}{\pi D}$ N = spindle speed (rpm) V = Maximum cutting speed from chart at right D = diameter in inches For turning use outside diameter For milling, drilling, or reaming use cutter diameter π = 3.14 | Work material | HSS* cutters | Carbide cutters |
| | Aluminum Brass Bronze Copper Magnesium Steel-Soft -Medium -Hard -Stainless Iron-Gray -Malleable *High-speed-steel | 700 200 120 120 700 90 70 40 70 50 100 | 1000 700 300 300 1200 400 250 150 250 150 250 |

Chapter 8: Using The Lathe

To set up the lathe, Figure 8.1, first turn the power key off and unplug the SuperShop.

Insert the lathe spur drive center in the 3/4" R-8 collet, insert the collet into the quill, and tighten the drawrod, Figure 8.2. Insert the tailstock into the holes on the right of the machine. Lower the tailstock to its lowest position, until the tailstock collars touch the support bracket. Tighten the hand-twist lock between the posts to secure the tailstock. Put the Morse taper #2 cup center in the tailstock to support your workpiece at the tailstock end, Figure 8.3.

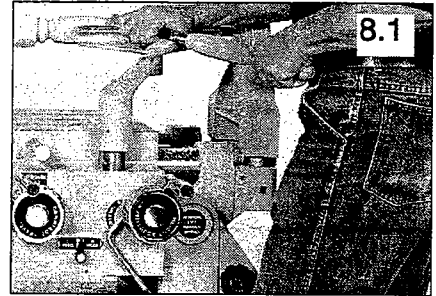
Prepare your turning stock by marking or cutting diagonal lines across the ends from corner to corner and edge to edge. Bore a small hole at the intersection, Figure 8.4. Beeswax or soap on the center will improve the seating and help prevent burning.

To mount the stock, lock the powerhead and advance the quill feed to engage the workpiece between the lathe spur drive center and cup center. After firmly seating the project between the spur drive and cup center, relax the quill slightly and lock the quill feed.

Insert the toolrest into the hole in the carriage and lower the post collar to a height comfortable for you, normally just above the center of your workpiece, Figure 8.5. Lock the table lock, Figure 3.0. Adjust the toolrest with the two setscrews, Figure 8.6.

Lathe Operating Tips:

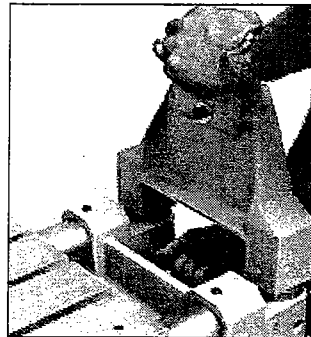
- After mounting the wood reset the toolrest, with its top edge (where you will rest your chisel) just slightly above the center line.
- Periodically re-check the relative snugness of the stock between the spur drive and tail center.
- Never put too much pressure on the stock with a lathe chisel.



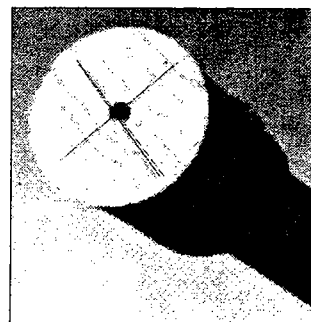
8.1



8.2



8.3

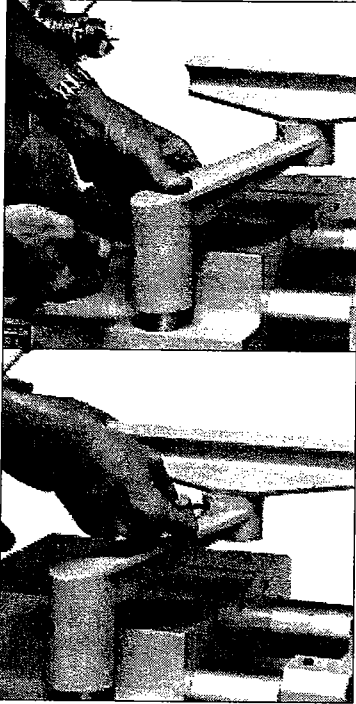


8.4



8.5

8.6



- Before operating the lathe function, you must consult the Speed Chart, page 34 and set the powerhead to the appropriate lathe speed.

- Always keep your lathe chisels very sharp.

- To adjust the tailstock retainer, loosen the Allen capscrew and slide the retainer left or right to position the cup center properly and permit offset turning for tapers, Figure 8.7. After adjusting, retighten the tool retainer to lock the cup center firmly.

8.7

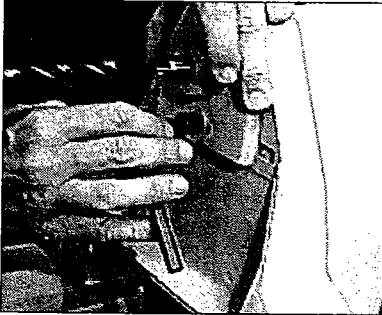


Figure 3.18 The master speed chart for your SuperShop

| SUPER SHOP | | | | SPEED CHART | |
|---|--|---|---|--|--|
| | | HARDWOOD | SOFTWOOD | | |
| TABLE SAWING | | 3200–3600 rpm | 3200–3600 rpm | | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | | 800-900 rpm 700–800 rpm 600–700 rpm | 800-900 rpm 700–800 rpm 600–700 rpm | | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"–1/2" 1/2"–3/4" 3/4"–1" Over 1" | | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | | |
| ROUTER/SHAPER | | 7200 rpm | 7200 rpm | | |
| LATHE TURNING Size of stock Under 2" diam. 2"–4" 4"–6" Over 6" | | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | | |
| METAL | | | | | |
| Metal cutting speed formula: | | Work material | | HSS* cutters Carbide cutters | |
| $N = \frac{12V}{\pi D}$ | | | | | |
| N = spindle speed (rpm) | | Aluminum | | 700 1000 | |
| V = Maximum cutting speed from chart at right | | Brass | | 200 700 | |
| D = diameter in inches | | Bronze | | 120 300 | |
| For turning use outside diameter | | Copper | | 120 300 | |
| For milling, drilling, or reaming use cutter diameter | | Magnesium | | 700 1200 | |
| $\pi = 3.14$ | | Steel-Soft | | 90 400 | |
| | | -Medium | | 70 250 | |
| | | -Hard | | 40 150 | |
| | | -Stainless | | 70 250 | |
| | | Iron-Gray | | 50 150 | |
| | | -Malleable | | 100 250 | |
| | | *High-speed-steel | | | |

The instructions on how to turn your SuperShop into a vertical drill press, Figure 9.1, are identical to those following for routing, shaping and drum sanding.

Here are a few cautions for setting up and operating the drill press:

- Disconnect power cord during setup.
- Make sure you have already properly adjusted the tension on the torsion spring, Chapter 5.
- Before lifting the machine into vertical position, double-check the tightness of powerhead travel locks and the carriage lock.
- **Never** let the drillbit drop, plunge or cut more than 2" below the drill insert hole. There is a support bar just under the table surface.

SETTING UP THE VERTICAL DRILL PRESS

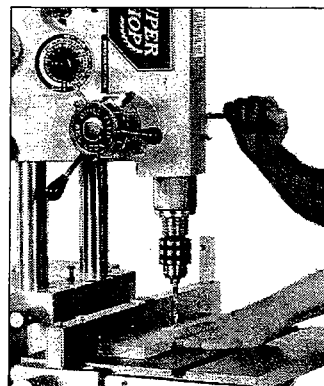
Mount the saw table and tilt it 90°, Figure 9.2. Move the powerhead and carriage into the approximate positions you will need for the drilling task at hand, Figure 9.3. Lock them into place.

Loosen the two locking knobs on the powerhead support bracket, Figure 3.0. Lift the machine into the vertical drill-press position, Figure 9.4. Firmly tighten the vertical locking knob on the tailstock support bracket, Figure 9.5.

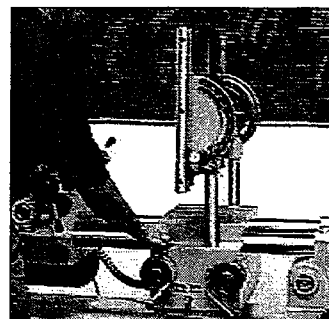
Remove the saw blade table insert and install the drill insert, Figure 9.6. Adjust the powerhead and/or carriage to the exact position you need. **Retighten all locks.**

IMPORTANT WARNING: *When moving the powerhead or carriage while the machine is in the vertical position, be sure to hold the travel knob while loosening the locks. Failure to do so could cause the powerhead and/or carriage to drop down along the way tubes damaging the machine and injuring you!*

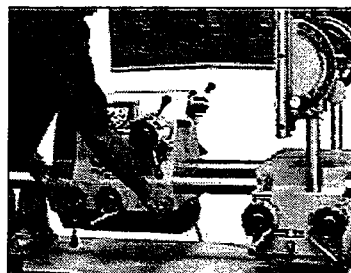
Mount the drill chuck, inserting it into the 3/4" collet



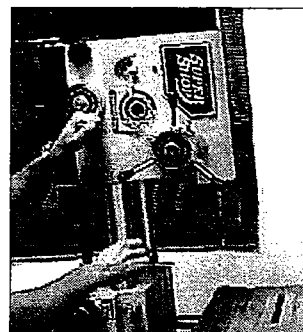
9.1



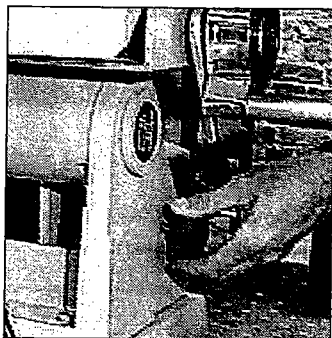
9.2



9.3



9.4

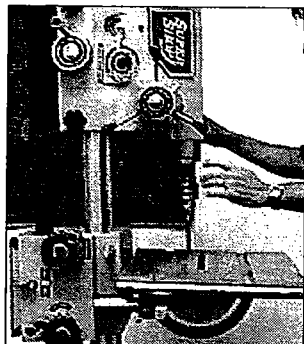


until it seats properly. Tighten the drawrod.

USING THE DEPTH GAUGE

You may set the depth gauge to drill a hole to an exact depth. With the machine still turned off, extend the quill until the tip of the drillbit just touches the workpiece. While holding the quill in the above position, set the depth gauge for the desired depth. Lock the gauge with the locking ring next to the gauge. Keep in the mind the table support bar is 2" below the tabletop!

9.6



You can use the rip fence, the miter gauge, or both to brace and align a workpiece, Figure 9.7. To lock the miter gauge into the table slot, place a 1 x 2" piece of paper across the miter gauge bar under the adjustment setscrew, Figure 9.8. Tap the miter gauge into the slot with a soft mallet and tighten the setscrew to lock it into place. Tear off any extra paper so it won't get in your way.

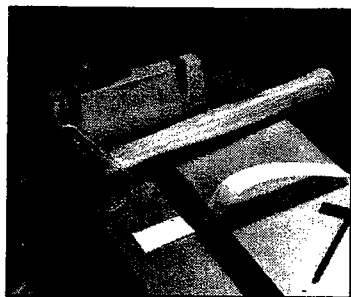
9.7



ANGLED DRILLING

You can create many different angle drilling setups by tilting the table and using the table-height adjustment and miter gauge, Figure 9.9.

9.8



Vertical Drill Press Operating Tips:

- When drilling a hole through workpiece, place a scrap board underneath it to reduce splinters.
- Make sure the workpiece is securely braced or clamped before drilling.
- For more confident cuts, drill in scrap stock to test, make adjustments to the depth stop, and then re-test before making the actual drill hole.
- You can use a drum sander in place of the drillbit for edge sanding.
- Always consult the Speed Chart, page 37. Take into consideration the type of drillbit you are using.

9.9



Figure 3.18 The master speed chart for your SuperShop

| SUPER SHOP | | | |
|---|--|---|---|
| SPEED CHART | | | |
| | HARDWOOD | SOFTWOOD | |
| TABLE SAWING | 3200–3600 rpm | 3200–3600 rpm | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | 800-900 rpm 700–800 rpm 600–700 rpm | 800-900 rpm 700–800 rpm 600–700 rpm | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"–1/2" 1/2"–3/4" 3/4"–1" Over 1" | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | |
| ROUTER/SHAPER | 7200 rpm | 7200 rpm | |
| LATHE TURNING Size of stock Under 2" diam. 2"–4" 4"–6" Over 6" | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | |
| METAL | | | |
| Metal cutting speed formula: $N = \frac{12V}{\pi D}$ N = spindle speed (rpm) V = Maximum cutting speed from chart at right D = diameter in inches For turning use outside diameter For milling, drilling, or reaming use cutter diameter $\pi = 3.14$ | Work material | HSS* cutters | Carbide cutters |
| | Aluminum Brass Bronze Copper Magnesium Steel-Soft -Medium -Hard -Stainless Iron-Gray -Malleable *High-speed-steel | 700 200 120 120 700 90 70 40 70 50 100 | 1000 700 300 300 1200 400 250 150 250 150 250 |

Notes:

These functions share the vertical drill press setup, Chapter 9. Before you begin shaping and routing, Figure 10.1, consult the Speed Chart, page 43 for operating rpms.

USING THE SHAPER

Disconnect the power cord during setup.

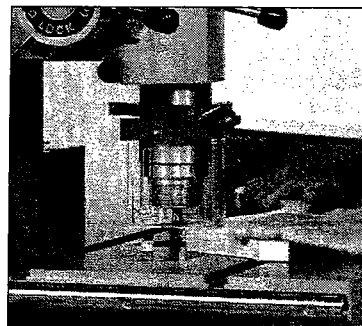
Assemble the shaper arbor and cutter, Figure 10.2, in the same order shown. Make sure you use the round guard. After assembling and tightening the end nut, insert the shaper arbor into the collet until the arbor firmly seats.

Tighten the drawrod. Install the drill insert into the table, Figure 10.3. Raise the table or extend the quill until you have the desired depth and tighten the quill-feed lock.

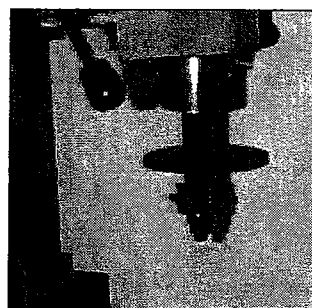
For the safest operation of the shaper, make and install a shaper fence attachment to your rip fence, Figure 10.4. Plans for this fence are at the end of this chapter. It would make a very good first project for your SuperShop.

Move the fence side-to-side to get the desired depth-of-cut. You can also move the entire table for fine adjustments. Use the table-height adjustment, Figure 3.0, for side-to-side movement.

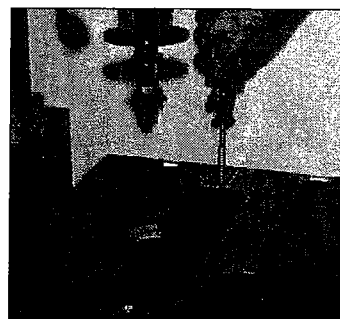
If you find that the shaper guard is interfering with the type of cut you are trying to make, use the router guard as an alternative setup, Figure 10.5.



10.1

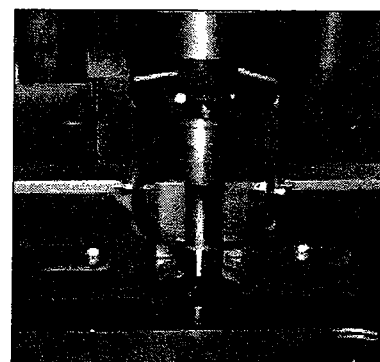


10.2



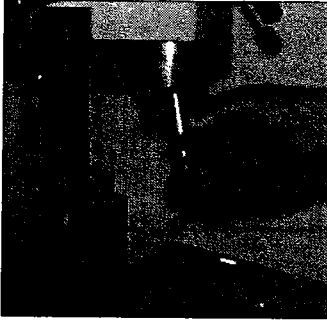
10.3

10.4



10.5

10.6



USING THE ROUTER

The router setup is the same as the shaper except that you need a different collet and guard system.

Disconnect the power cord during setup. Use the appropriate-sized collet (normally 1/2") and guard. Insert the collet in the spindle, tighten the collet with the drawbar a few threads, then insert the router bit in the collet and tighten, Figure 10.6.

10.7



Extend the quill and lock it into place. Slide the router guard over the quill, Figure 10.7. Once you adjust the cutting depths, lock the guard into place.

Optional - Depending on the operation, mount a shaper fence or screw in a post into the drill-press table insert.

Router Operation Tips:

- Consult the Speed Chart, page 43, before routing.
- Always feed the wood into the router bit's rotation (left to right).
- Use a shaper fence, if possible, and expose only the amount of bit needed.
- Do not contact the table or fence with the router bit.
- Never rush the cut. Let the cutting edge do the work and don't feed the stock beyond smooth cutting efficiencies.
- Use multiple light cuts instead of one heavy cut. This is safer and will get you better results- a finer finish with less splintering.

Shaper Fence Plans

This fence will make your routing and shaping easier and safer. Here are the plans:

Supplies

2 hardwood blocks, 3 x 3 x 11"
4 carriage bolts, 1/4" x 4"
4 fender washers, 1/4"
4 wing nuts, 1/4"

Tools

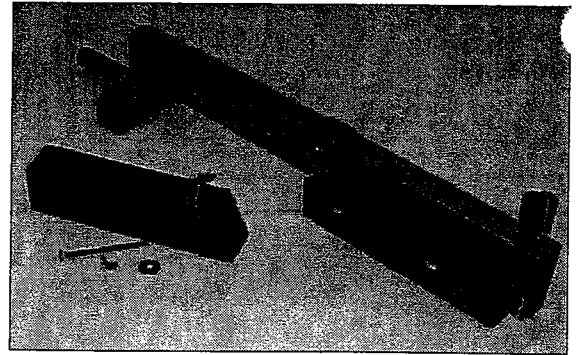
SuperShop table saw
SuperShop router
1/4" straight-end router bit
3/4" router bit
SuperShop Jointer (optional)

Step 1: Set up the table saw and rip the blocks to 2" tall x 2-1/2" deep. If you are using a jointer, joint all four sides of each block. Note: Both blocks must be EXACTLY the same depth. You can vary from the 2-1/2" measurement as long as both blocks are exactly the same depth when you are finished.

Step 2: Cut one end of each block to a 30° angle. Holding the block with the 30° cut facing the table, make a mark 10" back from the end of the block. Make a 90° cut through this mark, trimming each block to 10" long.

Step 3: Rout out the mounting slots. Set your SuperShop up for horizontal boring, replacing the drill chuck with a 1/2" collet and a 1/4" straight-end router bit. The bottom cutting edge of the bit should be 1-1/8" from the saw table top.

Mark the slot lengths on both sides of the blocks. You will have to cut half the depth of the slot from each side of the blocks. Using the rip fence as a backstop, rout holes the entire length of the slot. Move the block back and forth to clean it out. Repeat this operation for all four slots.



10.8

Step 4: Switch to the 3/4" router bit to cut the recess for the bolt heads. This cut should only be 1/4" deep—set the depth stop on the quill feed to 1/4". Cut the recess along the top of each slot.

Step 5: Set up your SuperShop disc sander and sand all the block surfaces. Insert the bolts into the blocks and mount the blocks onto your rip fence.

The elongated slots will allow you to adjust the opening between the blocks to accommodate different router bits and cutting depths.

DRAWINGS ARE NOT TO SCALE

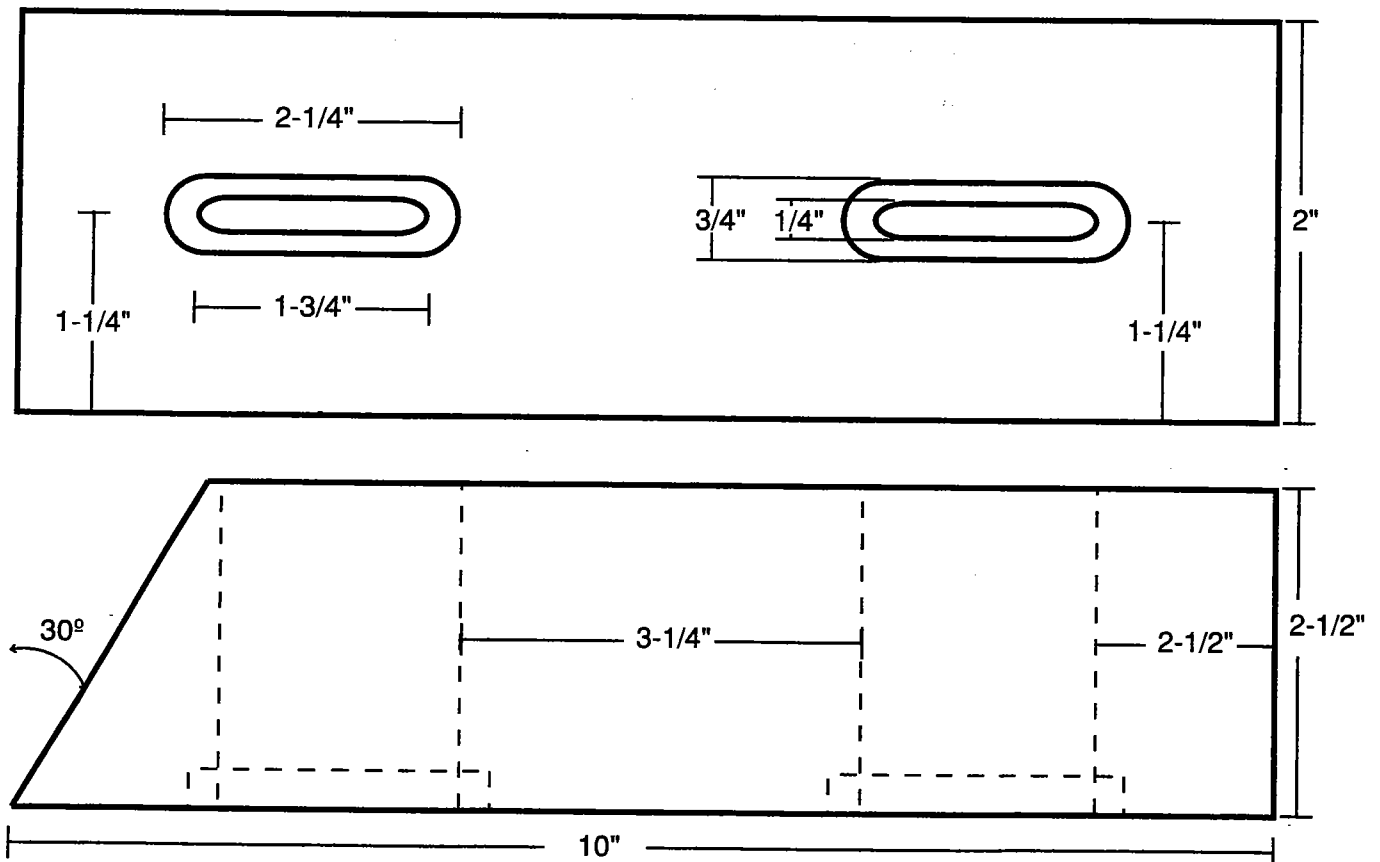


Figure 3.18 The master speed chart for your SuperShop

| SUPER SHOP SPEED CHART | | | |
|---|--|---|---|
| | HARDWOOD | SOFTWOOD | |
| TABLE SAWING | 3200-3600 rpm | 3200-3600 rpm | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | 800-900 rpm 700-800 rpm 600-700 rpm | 800-900 rpm 700-800 rpm 600-700 rpm | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"-1/2" 1/2"-3/4" 3/4"-1" Over 1" | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | |
| ROUTER/SHAPER | 7200 rpm | 7200 rpm | |
| LATHE TURNING Size of stock Under 2" diam. 2"-4" 4"-6" Over 6" | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | |
| METAL | | | |
| Metal cutting speed formula: $N = \frac{12V}{\pi D}$ N = spindle speed (rpm) V = Maximum cutting speed from chart at right D = diameter in inches For turning use outside diameter For milling, drilling, or reaming use cutter diameter $\pi = 3.14$ | Work material | HSS* cutters | Carbide cutters |
| | Aluminum Brass Bronze Copper Magnesium Steel-Soft -Medium -Hard -Stainless Iron-Gray -Malleable *High-speed-steel | 700 200 120 120 700 90 70 40 70 50 100 | 1000 700 300 300 1200 400 250 150 250 150 250 |

Chapter 11: Using the Horizontal Boring Tool

The horizontal boring function, Figure 11.1, allows you to drill dowel holes in the edge of a long, flat board like a table top. Or, if you have a simple, quick drilling job, sometimes you can do it just as well and faster via horizontal boring.

Disconnect the power cord during setup.

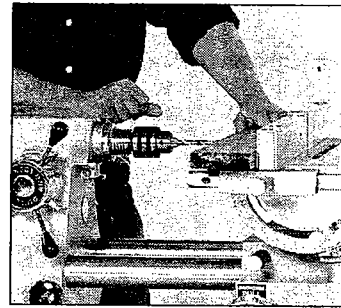
Insert the drill chuck mounted on its arbor into the quill and tighten the drawrod, Figure 11.2. Position the table below the drill center and move the table and carriage toward the powerhead. The table's final position will depend on your project.

Figure 11.3 shows the miter gauge and rip fence mounted on the table. You can use one or both to support and guide the wood. Lock the miter gauge in place by tightening the setscrew in the guide bar.

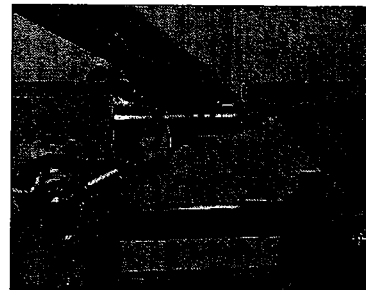
Set the boring depth by adjusting the depth gauge on the quill feed, see page 36.

Horizontal Boring Tips:

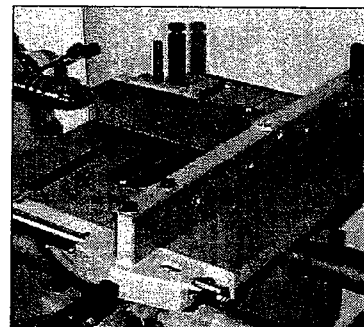
- Consult the Speed Chart, page 45 for boring.
- Always hold the wood piece firmly down against the table, resting a part of your hand on the table to steady your cut.
- Firmly fasten small projects to a larger piece of wood with clamps or screws.
- Place a piece of scrap stock behind the wood when you drill through the piece.
- Make sure the drillbit does not touch the table or extend to the rip fence.



11.1



11.2



11.3

Figure 3.18 The master speed chart for your SuperShop

| SUPER SHOP | | SPEED CHART | |
|---|--|---|---|
| | HARDWOOD | SOFTWOOD | |
| TABLE SAWING | 3200–3600 rpm | 3200–3600 rpm | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | 800-900 rpm 700–800 rpm 600–700 rpm | 800-900 rpm 700–800 rpm 600–700 rpm | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"–1/2" 1/2"–3/4" 3/4"–1" Over 1" | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | |
| ROUTER/SHAPER | 7200 rpm | 7200 rpm | |
| LATHE TURNING Size of stock Under 2" diam. 2"–4" 4"–6" Over 6" | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | |
| METAL | | | |
| Metal cutting speed formula: $N = \frac{12V}{\pi D}$ N = spindle speed (rpm) V = Maximum cutting speed from chart at right D = diameter in inches For turning use outside diameter For milling, drilling, or reaming use cutter diameter $\pi = 3.14$ | Work material | HSS* cutters | Carbide cutters |
| | Aluminum Brass Bronze Copper Magnesium Steel-Soft -Medium -Hard -Stainless Iron-Gray -Malleable *High-speed-steel | 700 200 120 120 700 90 70 40 70 50 100 | 1000 700 300 300 1200 400 250 150 250 150 250 |

Chapter 12: Using the 12" Disc Sander

You'll find your disc sander, Figure 12.1, handy for both sanding workpieces and sharpening your tools. Various sandpaper grits are widely available, so you can use the disk sander for a wide variety of tasks.

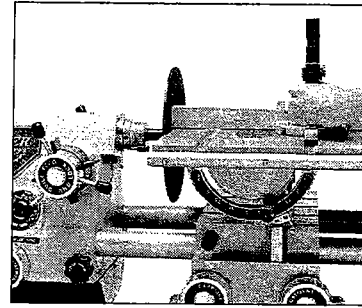
Disconnect the power cord during setup.

Insert the sanding disk arbor into the collet, then insert the collet into the quill, Figure 12.2. Tighten the drawrod. Move the saw table to about 1/8" to 1/4" from the sanding surface. The gap should never be large enough for your fingers to fit into. Adjust the height of the table. It should be about 1" below the centerline of the disk sander, Figure 12.3.

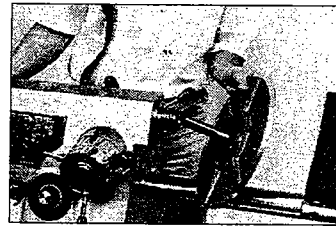
If your project requires beveled sanding, tilt the table to the desired angle, then adjust the table's inside edge height so that it is still about 1" below the centerline of the disk sander.

Disk Sanding Tips:

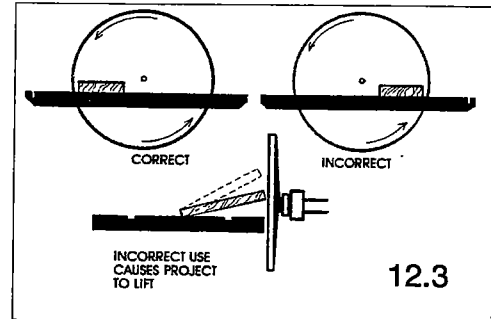
- Consult the Speed Chart page 48 before sanding.
- The correct spot of contact is left of center. Never sand right of center, Figure 12.3.
- Always hold the wood piece firmly down against the table, resting a part of your hand on the table to steady your workpiece.
- Keep the wood moving while sanding. Otherwise you may remove too much wood.
- Keep your hands and fingers away from the sanding surface.
- For longer projects requiring more support, insert the extension table.
- Firmly fasten small projects to a larger piece of wood with clamps or screws.
- Figure 12.4 shows a typical disc sander operation.



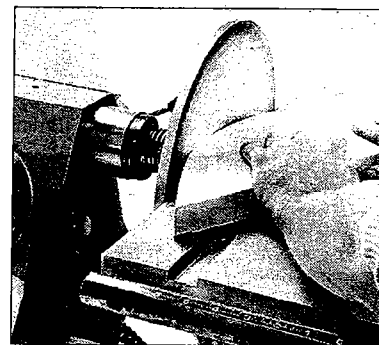
12.1



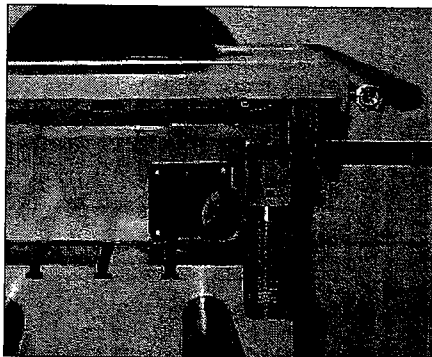
12.2



12.3



12.4



12.5

Disc sanding with dust collection


The disc sander may be set up inside the lower saw guard, extending up through the table, Figure 12.5. This allows you to attach a dust collector to the other side of the lower guard.

For this setup, remove the main table and install the lower guard on the carriage. Set the sanding disc in the guard and move the carriage to the headstock.

Guide the sanding disc into the collet as the headstock and carriage come together. Tighten the drawrod and install the table over the sanding disc.

Note: It may not be possible to tilt the disc to 45° in this setup because the sanding disc will rub on the lower guard.

Figure 3.18 The master speed chart for your SuperShop

|  SPEED CHART | | | |
|---|--|---|---|
| | HARDWOOD | SOFTWOOD | |
| TABLE SAWING | 3200–3600 rpm | 3200–3600 rpm | |
| DISC SANDING Use lowest pulley range Coarse Medium Fine | 800-900 rpm 700–800 rpm 600–700 rpm | 800-900 rpm 700–800 rpm 600–700 rpm | |
| DRILLING & HORIZONTAL BORING Size of Hole Under 1/4" 1/4"–1/2" 1/2"–3/4" 3/4"–1" Over 1" | 2700-3000 rpm 2400-2700 rpm 2100-2400 rpm 1700-2100 rpm Under 900 rpm | 3300-3600 rpm 3000-3300 rpm 2500-3000 rpm 2000-2500 rpm Under 900 rpm | |
| ROUTER/SHAPER | 7200 rpm | 7200 rpm | |
| LATHE TURNING Size of stock Under 2" diam. 2"–4" 4"–6" Over 6" | Rough 800-900 rpm 700-800 rpm 600-700 rpm 500-600 rpm | Finish 2000-2400 rpm 1800-2000 rpm 1600-1800 rpm 800-900 rpm | |
| METAL | | | |
| Metal cutting speed formula: $N = \frac{12V}{\pi D}$ N = spindle speed (rpm) V = Maximum cutting speed from chart at right D = diameter in inches For turning use outside diameter For milling, drilling, or reaming use cutter diameter $\pi = 3.14$ | Work material | HSS* cutters | Carbide cutters |
| | Aluminum Brass Bronze Copper Magnesium Steel-Soft -Medium -Hard -Stainless Iron-Gray -Malleable *High-speed-steel | 700 200 120 120 700 90 70 40 70 50 100 | 1000 700 300 300 1200 400 250 150 250 150 250 |

Chapter 13: Maintenance

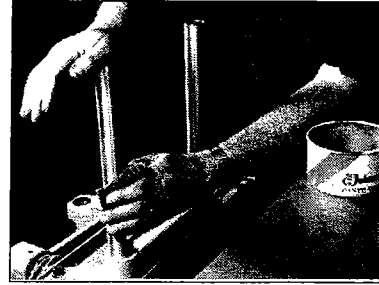
We designed the SuperShop for easy maintenance. A few items need periodic attention.

Waxing

After about every 12 hours of operating time:

Put a light coat of furniture paste wax on both way tubes, including in the racks located on the bottom side. Use a toothbrush to make sure the racks don't get waxy buildup.

Also wax all exposed metal, including the saw table, extension table, and quill, Figure 13.1. Again, guard against waxy buildup.



13.1

Lubrication

All bearings are permanently lubricated and do not need oil or grease. Do not break the seal.

Motor

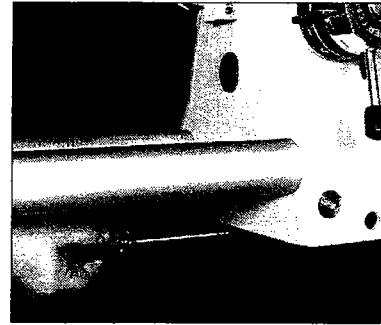
SuperShop uses a 1-1/2-hp special duty DC motor. Contact customer service at (800) 476-4849 if you encounter problems.

To service, unplug the power cord, and remove the screw holding the motor cover, Figure 13.2. Slide the cover to the right to expose the motor. Loosen the lock on the belt cover and slide it to the left. Move both the carriage and the powerhead to the extreme right of the machine.

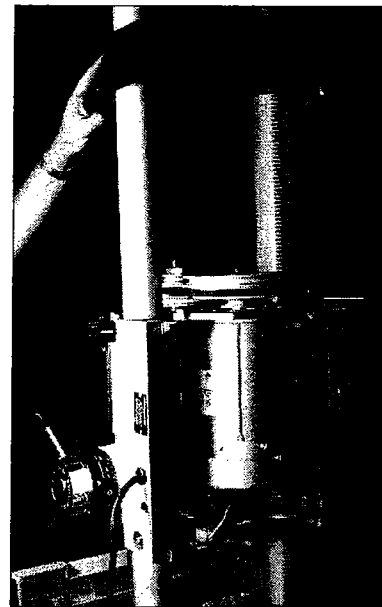
Stand the unit in its vertical drill-press position, Figure 13.3.

The entire motor and three-stage pulley system can be removed for inspection or repair. Contact customer service for specific instructions on motor removal.

Twice a year use a Shop-Vac® to clean dust out of the powerhead.



13.2

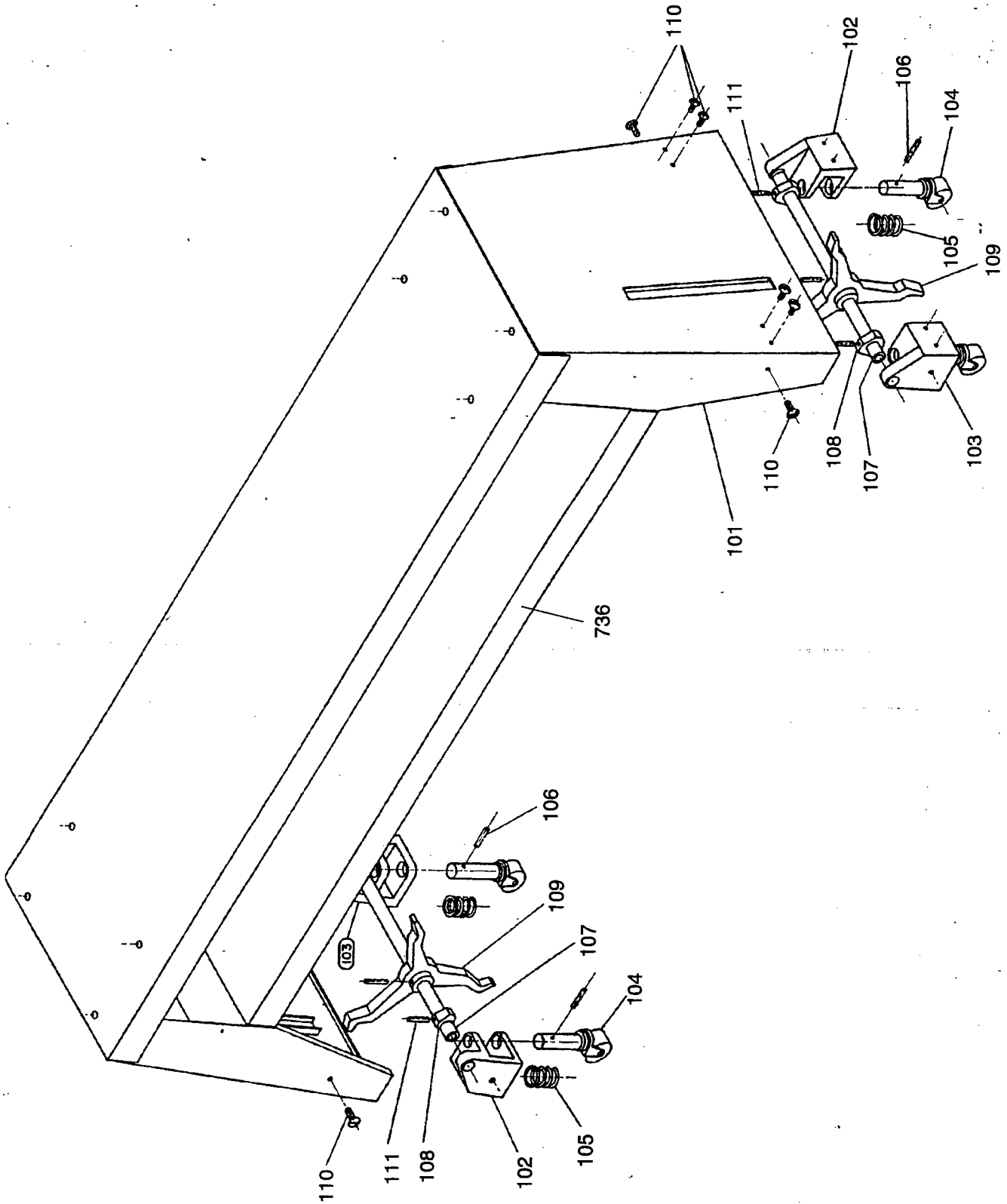


13.3

Pulley Belt

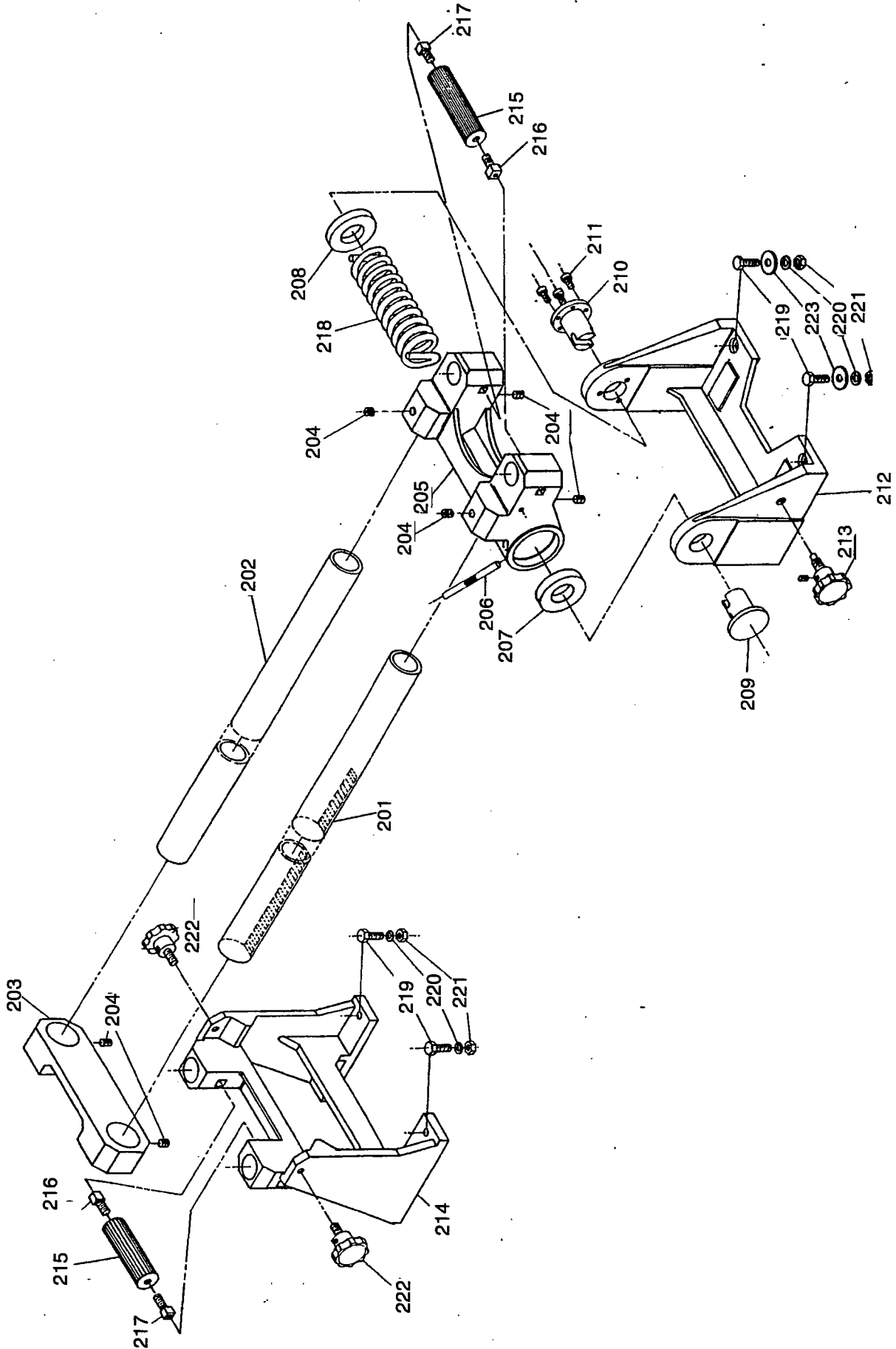
If the pulley belt should ever need to be replaced, follow the steps above. Inspect the pulley belt every time you change pulleys. If it is worn and/or slipping, call our sales department to order a replacement. Disconnect the power cord before servicing the belt.

Chapter 14: Parts Section



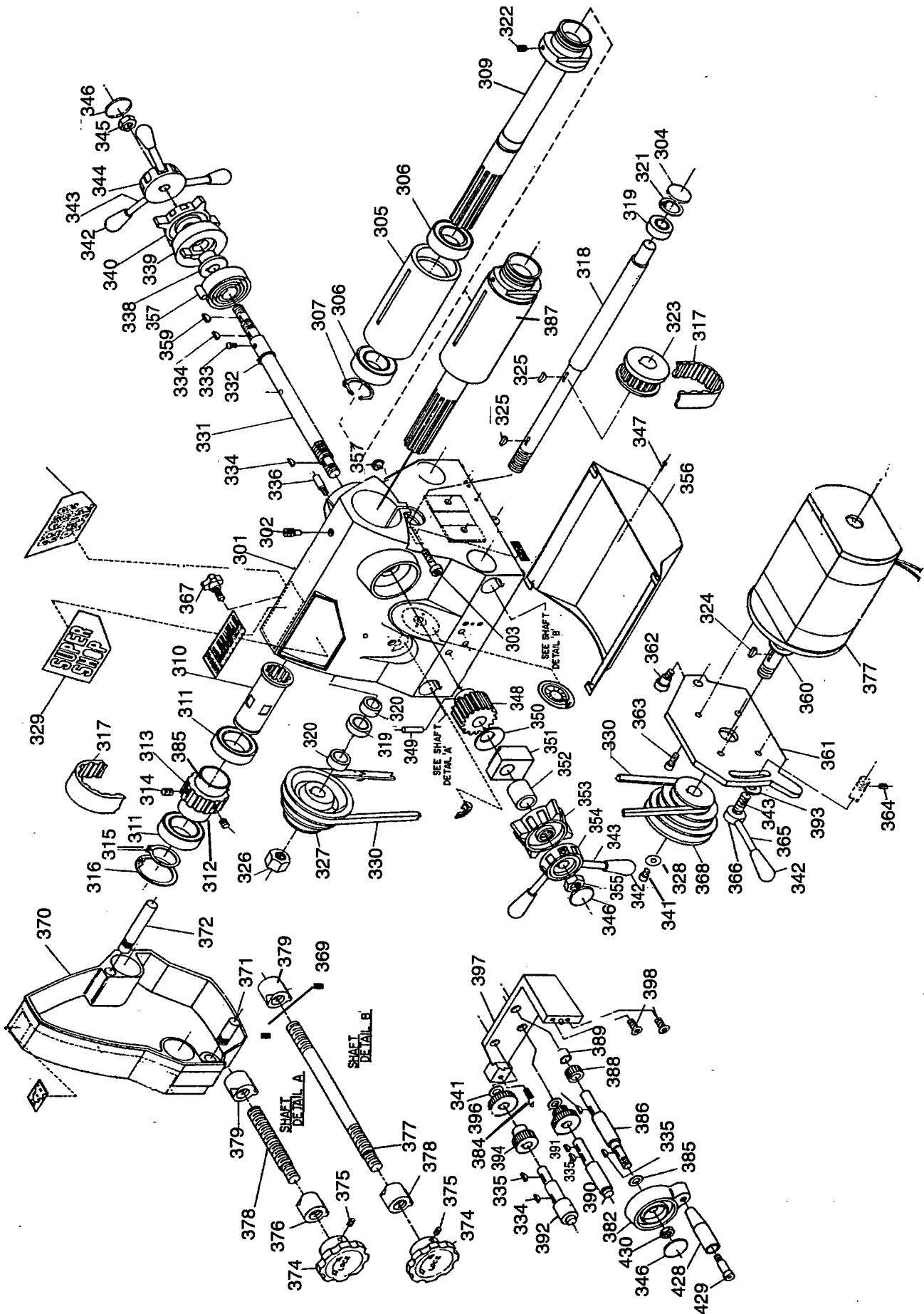
14.1 Cabinet and casters

| Item No. | Qty. | Description |
|----------|------|-----------------------------------|
| SS101 | 1 | Cabinet |
| SS102 | 2 | Caster Fitting, Left |
| SS103 | 2 | Caster Fitting, Right |
| SS104 | 4 | Caster |
| SS105 | 4 | Caster Spring |
| SS106 | 6 | Roll Pin (S22260) |
| SS107 | 2 | Cam Rod |
| SS108 | 4 | Cam |
| SS109 | 2 | Foot Wheel |
| SS110 | 12 | Truss-head Screw (S11304) |
| SS111 | 4 | Roll Pin (S22275) |
| SS736 | 1 | Shelf |
| SS901 | 1 | Caster Shaft Assembly, Right-hand |
| SS902 | 1 | Caster Shaft Assembly, Left-hand |



14.2 Main Bed Assembly

| Item No. | | Qty. | Description |
|----------|-----------------|------|----------------------------------|
| SS201 | 01-010 | 1 | Rack |
| SS202 | 01-003 | 1 | Tube |
| SS203 | 01-002 | 1 | Tube Spacer |
| SS204 | M10 x 10 GB77 | 6 | Socket Setscrew (S12557) |
| SS205 | 01-011 | 1 | Tail Pivot |
| SS206 | 01-012 | 1 | Pin |
| SS207 | 01-013 | 1 | Spacer (Hole) |
| SS208 | 01-007 | 1 | Spacer |
| SS209 | 01-009 | 1 | Hub (Pivot) |
| SS210 | 01-006 | 1 | Hub (Pivot Hole) |
| SS211 | M6 x 25 | 3 | Sockethead Capscrew (S11340) |
| SS212 | 01-014 | 1 | Tail Base |
| SS213 | 01-015 | 1 | Lock Knob Assembly |
| SS214 | 01-001 | 1 | Support Stand |
| SS215 | 01-008 | 2 | Handle Clamp |
| SS216 | M12 x 30 GB85R | 2 | Screw, Right-hand |
| SS217 | M12 x 30 GB85L | 2 | Screw, Left-hand |
| SS218 | 01-004 | 1 | Torsion Spring |
| SS219 | M10 x 40 GB5782 | 8 | Hexhead Capscrew |
| SS220 | 10 GB41 | 8 | Spring Lockwasher |
| SS221 | M10 GB41 | 8 | Hex Nut |
| SS222 | 01-015 | 2 | Lock Knob Assembly |
| SS223 | 10 GB96 | 8 | Flat Washer |
| SS739 | | 1 | Torsion Spring Tailbase Assembly |



14.3 Head Assembly

| Item No. | Qty. | Description | Item No. | Qty. | Description |
|----------|------|-------------------------|----------|------|------------------------------|
| SS301 | 1 | Main Head | SS333 | 1 | Drive Screw |
| SS302 | 1 | Pilot Setscrew | SS334 | 3 | Key |
| SS303 | 1 | Sockethead Capscrew | SS335 | 4 | Key |
| SS304 | 1 | Hole Plug | SS336 | 1 | Shoulder Bolt, Special |
| SS305 | 1 | Quill | SS337 | 1 | Quill Spring |
| SS306 | 2 | Bearing | SS338 | 1 | Brake Depth Stop, Inner |
| SS307 | 1 | Snap Ring | SS339 | 1 | Dial Depth Stop |
| SS308 | | | SS340 | 1 | Knob Lock |
| SS309 | 1 | Spindle Assembly | SS341 | 1 | Cup Screw |
| SS310 | 1 | Spindle Sleeve | SS342 | 7 | Tapered Knob |
| SS311 | 2 | Bearing | SS343 | 7 | Rod Knob Handle |
| SS312 | 1 | Spacer | SS344 | 1 | Quill Feed Knob, Back |
| SS313 | 1 | Timing Pulley (Spindle) | SS345 | 2 | Hex Jam Nut (S18185) |
| SS314 | 2 | Socket Setscrew | SS346 | 3 | Hole Plug |
| SS315 | 1 | Snap Ring | SS347 | 1 | Screw |
| SS316 | 1 | Snap Ring | SS348 | 1 | Gear, 20-Tooth |
| SS317 | 1 | Timing Belt | SS349 | 1 | Roll pin (S22260) |
| SS318 | 1 | Shaft-Main Idler | SS350 | 1 | Belleville Washer |
| SS319 | 2 | Bearing | SS351 | 1 | Brake Block |
| SS320 | 2 | Spacer-Idler Shaft | SS352 | 1 | Spacer (Spindle Lock) |
| SS321 | 1 | Snap Ring | SS353 | 1 | Brake Block |
| SS322 | 1 | Socket Setscrew | SS354 | 1 | Quill Feed Knob (Front) |
| SS323 | 1 | Timing Pulley | SS355 | 1 | Hex Jam Nut |
| SS324 | 1 | Key | SS356 | 1 | Guard Bottom |
| SS325 | 3 | Key | SS357 | 1 | Nut |
| SS326 | 1 | Hex Jam Nut | SS358 | 1 | Drive Motor (#701) |
| SS327 | 1 | Idler Sheave | SS359 | 2 | Key |
| SS328 | 1 | Washer | SS360 | 1 | Spacer |
| SS329 | 1 | Nameplate Set | SS361 | 1 | Motor Mounting Plate |
| SS330 | 1 | V-Belt, 26" | SS362 | 1 | Socket Shoulder Screw |
| SS331 | 1 | Quill Shaft | SS363 | 4 | Sockethead Capscrew (S11991) |
| SS332 | 1 | Snap Ring | | | |

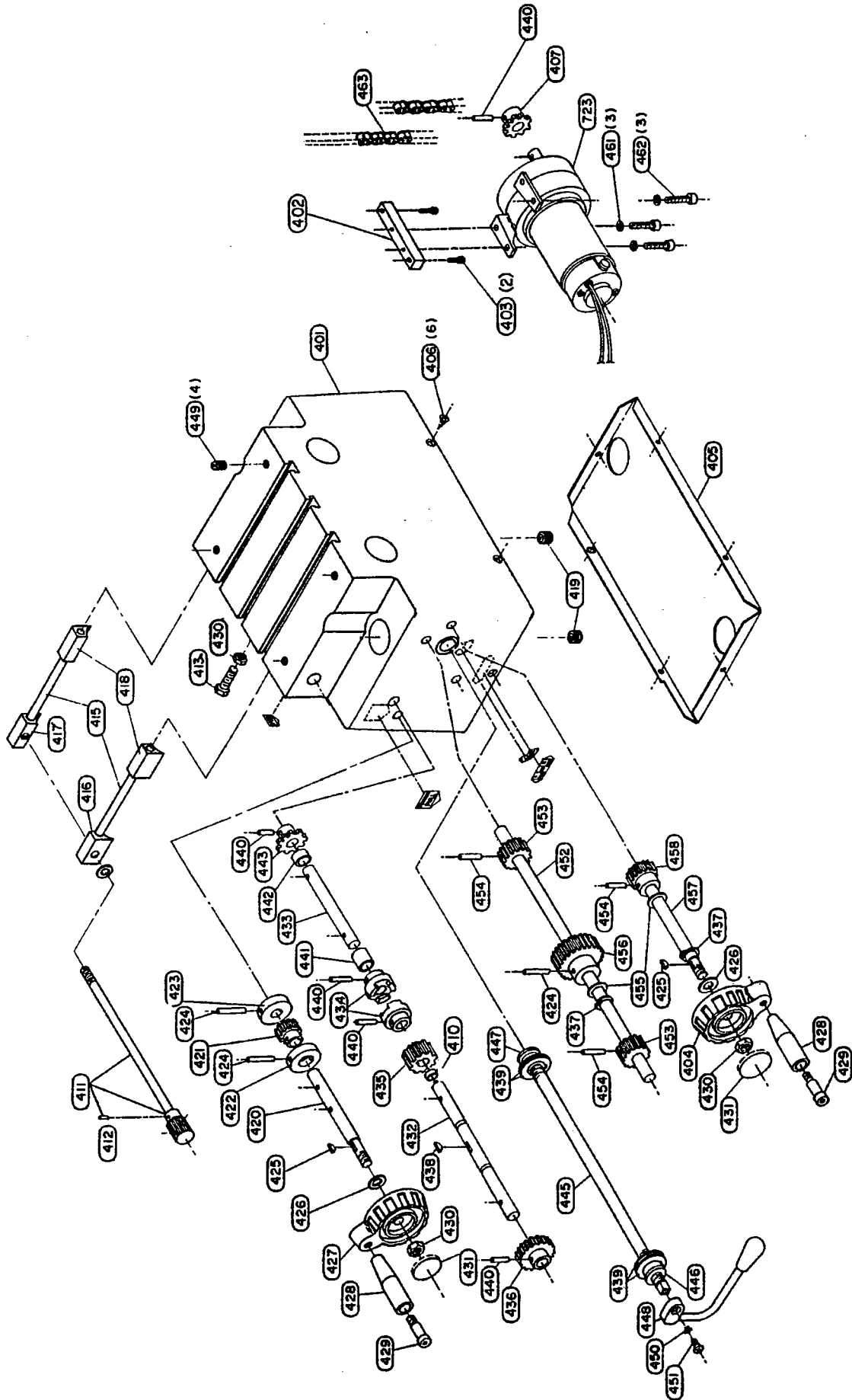
14.3 Head Assembly

14.3 Head Assembly

| Item No. | Qty. | Description |
|----------|------|----------------------|
| SS364 | 1 | Socket Setscrew |
| SS365 | 1 | Locking Stud |
| SS366 | 1 | Collar |
| SS367 | 1 | Knob Assembly |
| SS368 | 1 | Motor Sheave |
| SS369 | 4 | Setscrew |
| SS370 | 1 | Belt Cover |
| SS371 | 1 | Guide Pin, Short |
| SS372 | 1 | Guide Pin, Long |
| SS373 | | |
| SS374 | 2 | Lock Torque Knob |
| SS375 | 2 | Roll Pin |
| SS376 | 1 | Locking Bar, Short |
| SS377 | 1 | Locking Bar, Long |
| SS378 | 2 | Way Brake Pad, Front |
| SS379 | 2 | Way Brake Pad, Rear |
| SS380 | | |

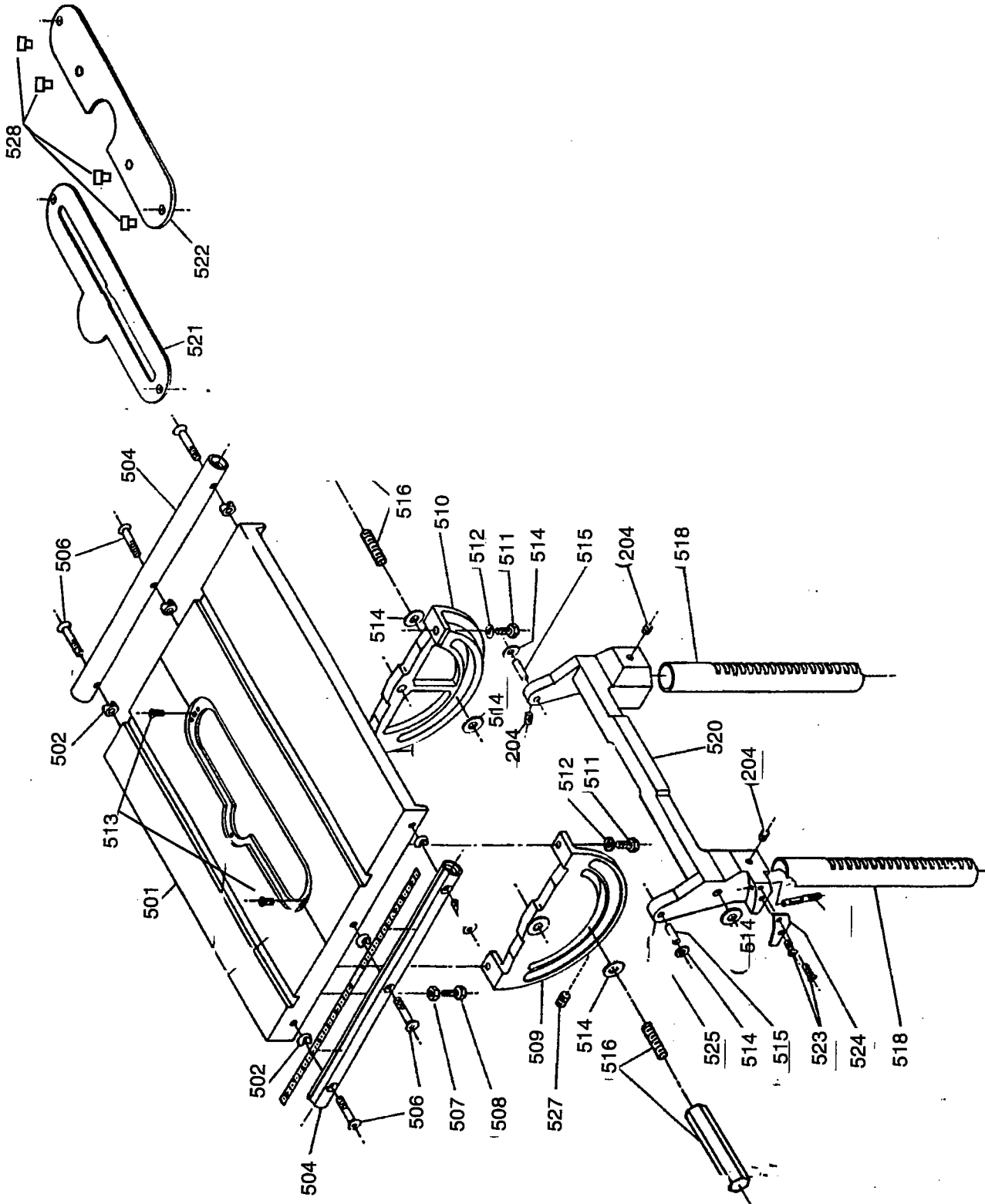
| Item No. | Qty. | Description |
|----------|------|--------------------------|
| SS382 | 1 | Power Head Knob |
| SS384 | 1 | Cup Screw (S11911) |
| SS385 | 3 | Thrust Washer |
| SS386 | 1 | Shaft Driver |
| SS387 | 1 | Quill Assembly |
| SS388 | 1 | Pinion |
| SS389 | 1 | Spacer |
| SS390 | 1 | Idler Shaft |
| SS391 | 1 | Gear Cluster |
| SS392 | 1 | Driven Shaft |
| SS393 | 1 | Flat Washer |
| SS394 | 1 | Gear |
| SS395 | | |
| SS396 | 1 | Gear |
| SS397 | 1 | Rear Gear Plate Assembly |
| SS398 | 3 | Flat Sockethead Capscrew |
| SS428 | 1 | Handle |
| SS429 | 1 | Part of SS428 |
| SS430 | 1 | Hex Jam Nut (S18155) |
| S777 | 1 | Drive Motor |

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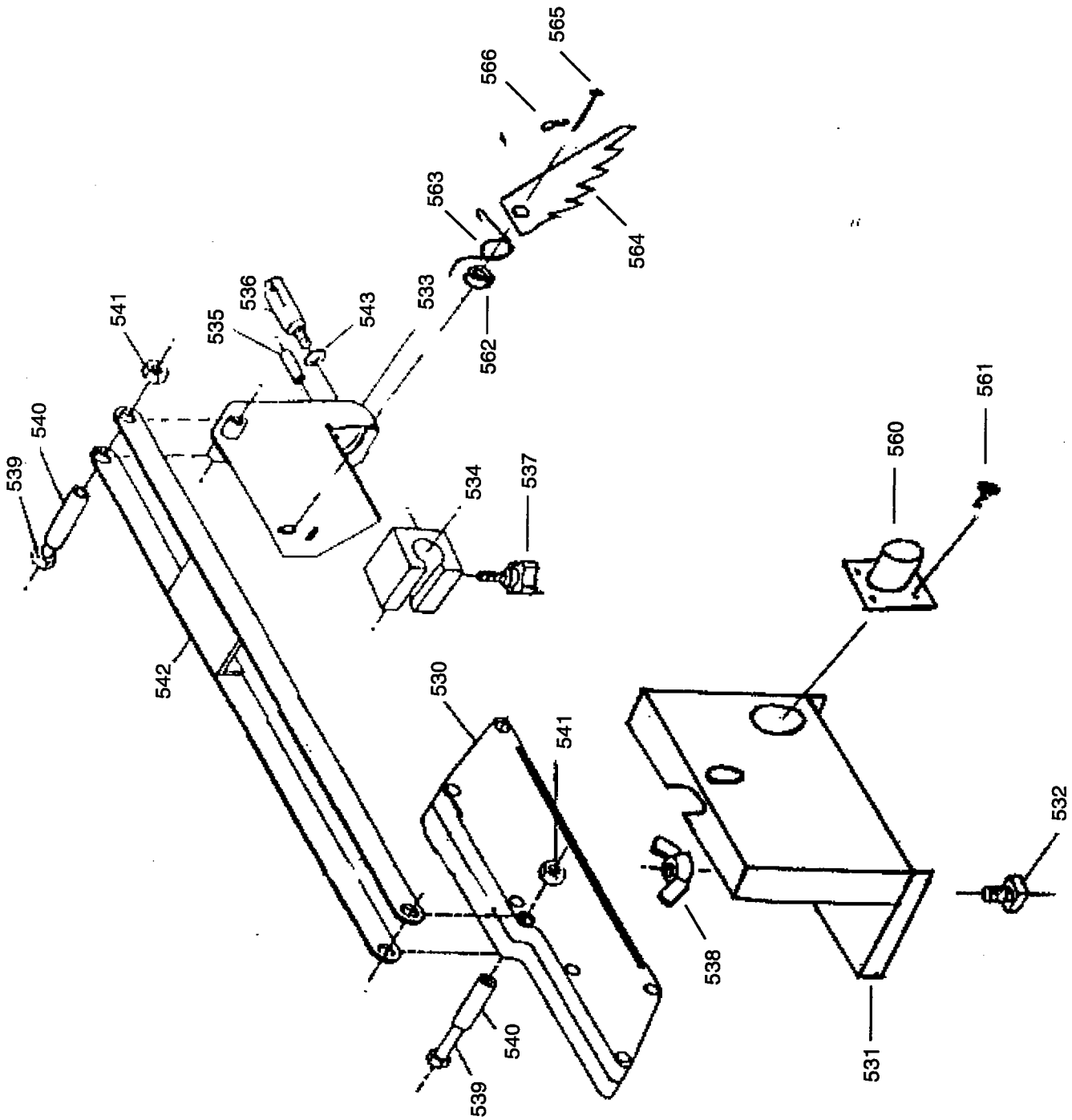
14.4 Carriage Assembly

| Item No. | Qty. | Description | Item No. | Qty. | Description |
|----------|------|---------------------------|----------|------|------------------------------|
| SS401 | 1 | Carriage | SS433 | 1 | Shaft |
| SS402 | 1 | Shim Block | SS434 | 2 | Coupler |
| SS403 | 2 | M8 x 16 GB70 | SS435 | 1 | Gear |
| SS404 | 1 | Hexhead Screw | SS436 | 1 | Gear |
| SS405 | 1 | Knob-Height Adjustment | SS437 | 2 | Snap Ring |
| SS406 | 6 | Carriage Guard | SS438 | 1 | Key |
| SS407 | 1 | Flat-Head Screw, Phillips | SS439 | 6 | Shim Washer |
| SS408 | 1 | PSG Motor Gear | SS440 | 5 | Roll Pin (S22250) |
| SS409 | | | SS441 | 1 | Spacer |
| SS410 | 2 | Spacer | SS442 | 1 | Spacer, Short |
| SS411 | 1 | Brake Handle Assembly | SS443 | 1 | Sprocket |
| SS412 | 1 | Roll pin (S22222) | SS444 | | |
| SS413 | 1 | Stud | SS445 | 1 | Saw Table Lock Shaft |
| SS414 | 2 | Hex Nut | SS446 | 1 | Brake Pad, Front |
| SS415 | 2 | Gib Tube | SS447 | 1 | Brake Pad, Rear |
| SS416 | 1 | Gib Collar | SS448 | 1 | Carriage Lock Assembly |
| SS417 | 1 | Gib, Threaded | SS449 | 4 | Socket Setscrew |
| SS418 | 2 | Gib, Right and Left | SS450 | 1 | Washer |
| SS419 | 1 | Ball Plunger | SS451 | 1 | Screw (S11315) |
| SS420 | 1 | Shaft | SS452 | 1 | Shaft |
| SS421 | 1 | Pinion | SS453 | 2 | Pinion |
| SS422 | 1 | Spacer | SS454 | 3 | Roll Pin |
| SS423 | 1 | Spacer | SS455 | 2 | Washer |
| SS424 | 2 | 4 x 35 GB879 | SS456 | 1 | Gear |
| SS425 | 2 | 4 x 12A GB1096 | SS457 | 1 | Shaft |
| SS426 | 2 | 12 GB95 | SS458 | 1 | Pinion |
| SS427 | 1 | Knob Carriage | SS459 | 1 | Motor Bracket |
| SS428 | 2 | M10 x 50 GB4141.4 | SS460 | 4 | Bracket Screws (S11644) |
| SS429 | 2 | M10 X 80 | SS461 | 3 | Lockwasher |
| SS430 | 2 | M10 GB6170 | SS462 | 3 | Sockethead Capscrew (S11658) |
| SS431 | 2 | Hex Nut | SS463 | 1 | Roller chain (08A-1 x 28) |
| SS432 | 1 | Hole Plug | SS723 | 1 | Motor-Gearhead Assembly |
| | | Shaft | | | |



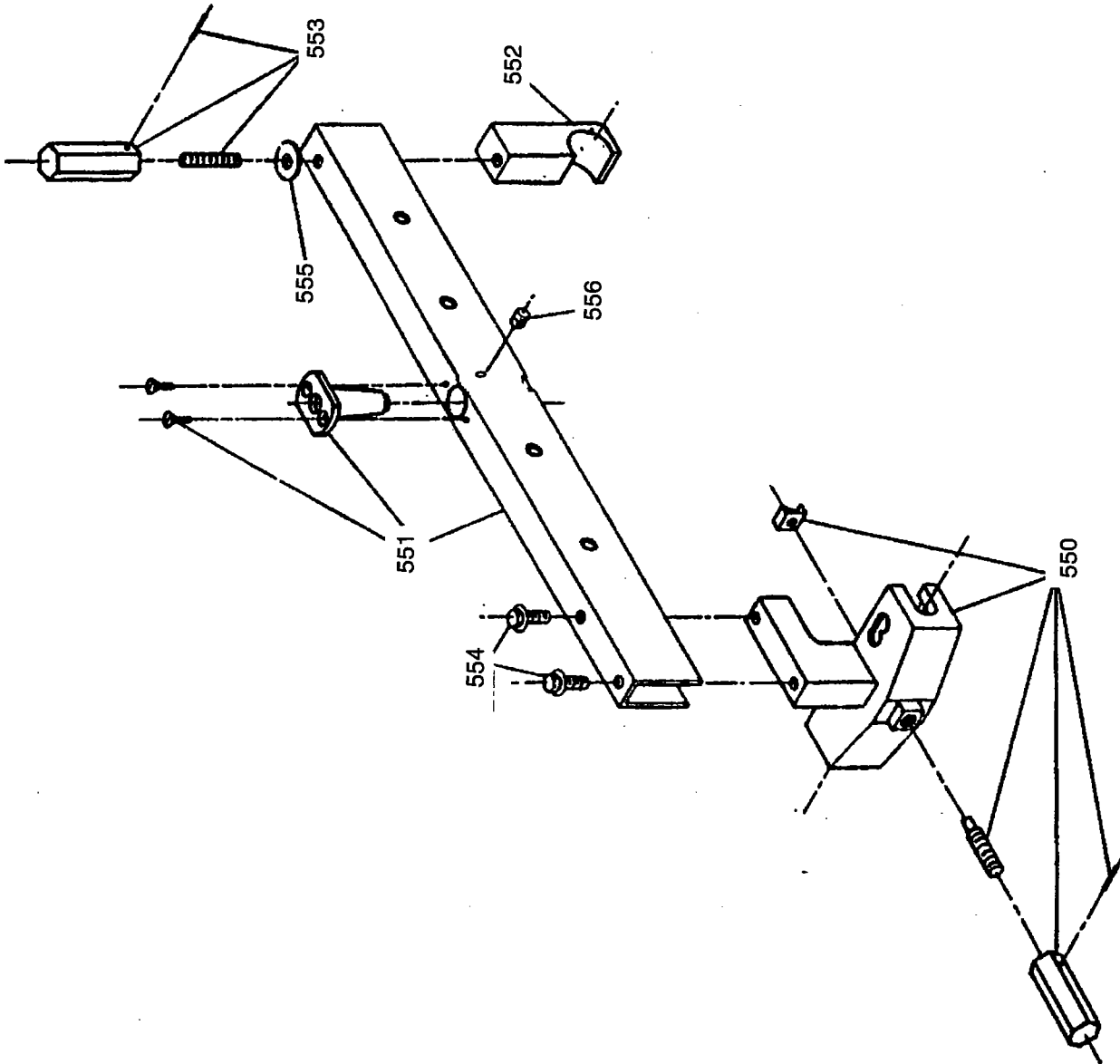
14.5 Saw Table Assembly (SS726)

| Item No. | | Qty. | Description |
|----------|----------------|------|--------------------------|
| SS204 | M10 x 10 GB77 | 4 | Socket Setscrew (S12557) |
| SS501 | 04-006 | 1 | Saw Table |
| SS502 | 04-019 | 6 | Rail Mount |
| SS503 | | | |
| SS504 | 04-005 | 2 | Tube Assembly, Plain |
| SS505 | | | |
| SS506 | M6 x 45 GB819 | 6 | Flathead Capscrew |
| SS507 | M8 GB41 | 2 | Hex Nut |
| SS508 | M8 x 40 GB5781 | 2 | Hexhead Capscrew |
| SS509 | 04-004 | 1 | Trunnion, Front |
| SS510 | 04-015 | 1 | Trunnion, Rear |
| SS511 | M8 x 16 GB5781 | 4 | Hexhead Capscrew |
| SS512 | 8 GB93 | 4 | Spring Lockwasher |
| SS513 | M8 x 16 GB819 | 2 | Flat Sockethead Capscrew |
| SS514 | 12 GB97.2 | 6 | Flat Washer |
| SS515 | 04-018 | 2 | Pivot Pin |
| SS516 | 04-013 | 2 | Handle Assembly |
| SS517 | | | |
| SS518 | 04-008 | 2 | Saw Table Rack |
| SS520 | 04-016 | 1 | Saw Table Stand |
| SS521 | 04-010 | 1 | Saw Blade Insert |
| SS522 | 04-011 | 1 | Drill Press Insert |
| SS523 | M4 x 10 GB818 | 2 | Roundhead Screw |
| SS524 | 04-007 | 1 | Pivot Indicator |
| SS526 | 04-009 | 1 | Stop Pin |
| SS527 | M4 x 20 GB73 | 2 | Setscrew |
| SS528 | 04-020 | 4 | Roller |



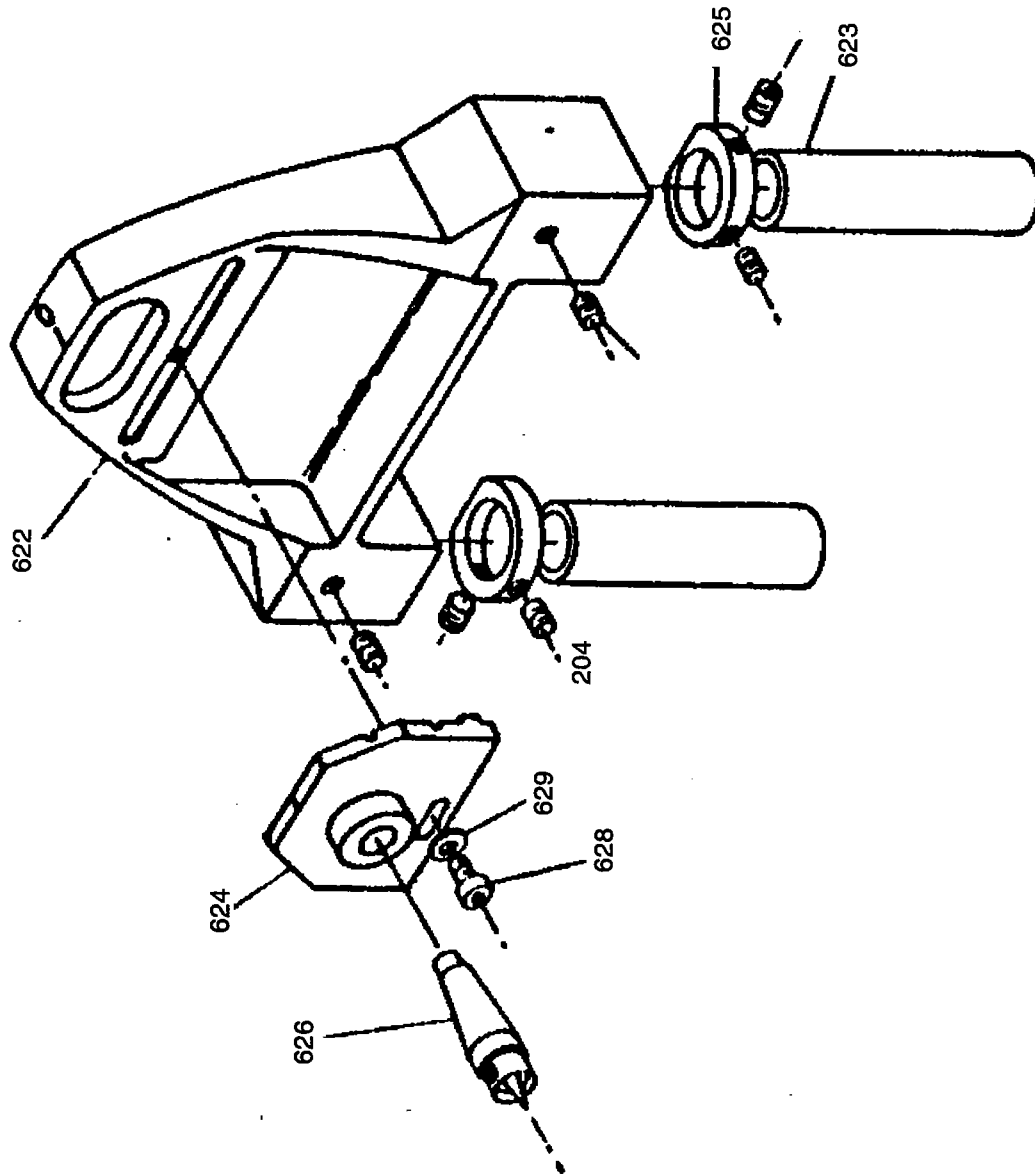
14.6 Saw Guard Assembly (Upper SS727, Lower SS740)

| Item No. | Qty. | Description |
|--------------------------|------|----------------------|
| SS530 06-005 | 1 | Top Guard |
| SS531 04-017 | 1 | Lower Guard |
| SS532 | 1 | T-Bolt |
| SS533 06-003 | 1 | Support |
| SS534 06-002 | 1 | Clamp |
| SS535 3 x 16 GB6170 | 1 | Roll pin |
| SS536 06-001 | 1 | Handle |
| SS537 BM8 x 40 GB4141.28 | 1 | Knob Assembly |
| SS538 M10 GB62 | 1 | Wing Nut |
| SS539 M6 x 55 GB5780 | 2 | Hexhead Capscrew |
| SS540 06-006 | 2 | Saw Guard Pivot Tube |
| SS541 M6 GB6170 | 2 | Hex Locknut |
| SS542 06-004 | 1 | Arm Weld Assembly |
| SS543 6 GB97.2 | 1 | Flat Washer |
| SS560 | 1 | Flanged Elbow |
| SS561 | 4 | Screws |
| SS562 06-009 | 2 | Spacer |
| SS563 06-008 | 1 | Spring |
| SS564 06-007 | 2 | Finger |
| SS655 | | Clevis Pin |
| SS666 | | Cotter Pin |



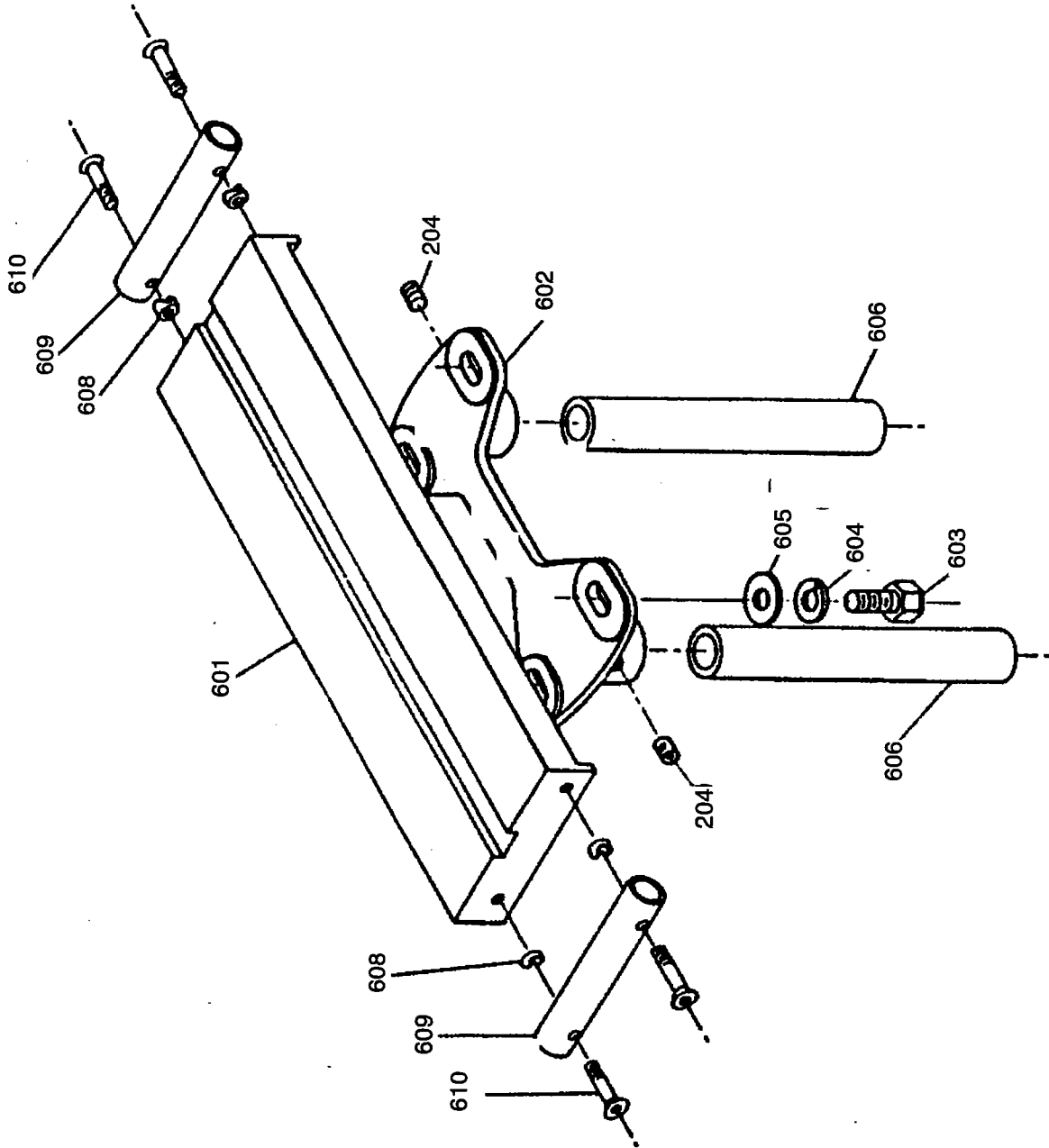
14.7 Rip Fence Assembly (SS728)

| Item No. | Qty. | Description |
|----------|------|----------------------------|
| SS550 | 1 | Guide Assembly |
| | 1 | Guide Assembly |
| | 1 | Guide Assembly |
| | 1 | Guide Assembly |
| SS551 | 1 | Rail Assembly |
| | 1 | Rail Assembly |
| | 1 | Rail Assembly |
| | 1 | Rail Assembly |
| | 1 | Rail Assembly |
| | 1 | Rail Assembly |
| | 1 | Rail Assembly |
| SS552 | 1 | Catch Block Assembly |
| | 1 | Catch Block Assembly |
| SS553 | 1 | Handle Assembly |
| | 1 | Handle Assembly |
| SS554 | 2 | Whiz-Lock Hexhead Capscrew |
| SS555 | | |
| SS556 | 1 | Socket Setscrew |



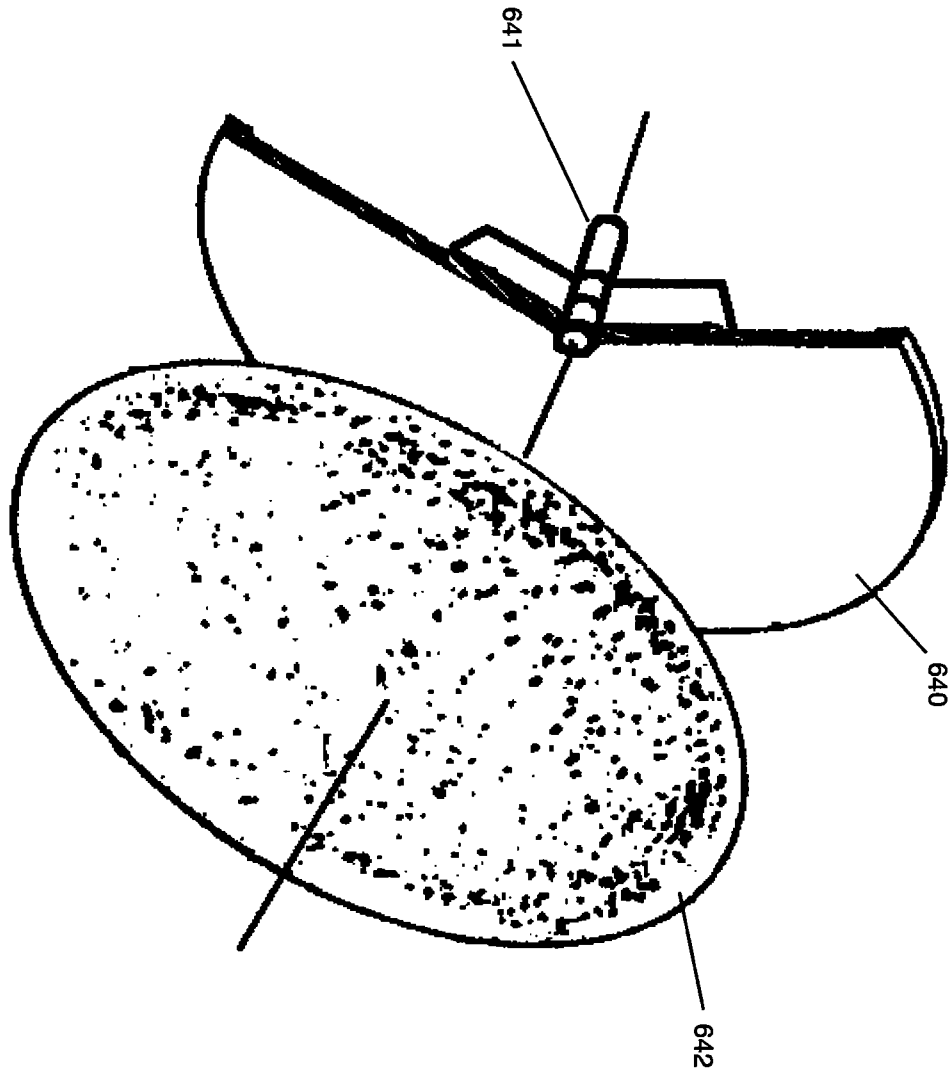
14.8 Tailstock Assembly (SS733)

| Item No. | | Qty. | Description |
|----------|---------------|------|--------------------------|
| SS204 | M10 x 10 GB77 | 6 | Socket Setscrew (S12557) |
| SS622 | 07-001 | 1 | Tailstock |
| SS623 | 07-004 | 2 | Post |
| SS624 | 07-002 | 1 | Tool Retainer |
| SS625 | 07-003 | 2 | Collar |
| SS626 | 00-015 | 1 | Center Cup |
| SS628 | M10 x 25 GB70 | 1 | Sockethead Capscrew |
| SS629 | 10 GB97.1 | 1 | Flat Washer |



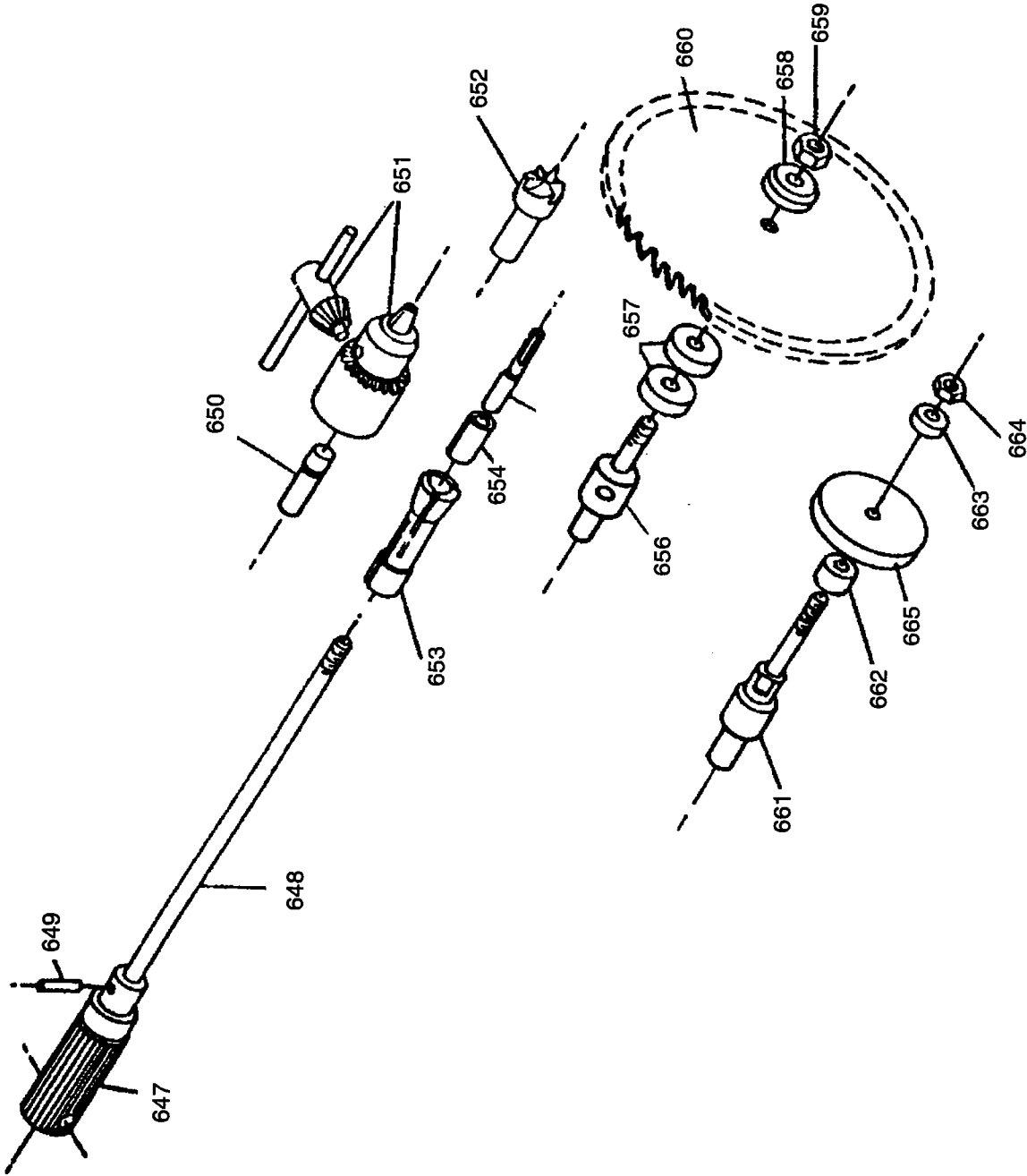
14.9 Extension Table Assembly (SS731)

| Item No. | | Qty. | Description |
|----------|----------------|------|--------------------------|
| SS601 | A01-002 | 1 | Extension Table |
| SS602 | A01-003 | 1 | Extension Table Mount |
| SS603 | M8 x 16 GB5781 | 4 | Hexhead Capscrew |
| SS604 | 8 GB93 | 4 | Spring Lockwasher |
| SS605 | 8 GB97.1 | 4 | Flat Washer |
| SS606 | A01-004 | 2 | Post |
| SS204 | M10 x 10 GB77 | 2 | Socket Setscrew (S12557) |
| SS608 | 04-021 | 4 | Rail Mount |
| SS609 | A01-001 | 2 | Tube |
| SS610 | M6 x 45 GB819 | 4 | Flat Sockethead Capscrew |



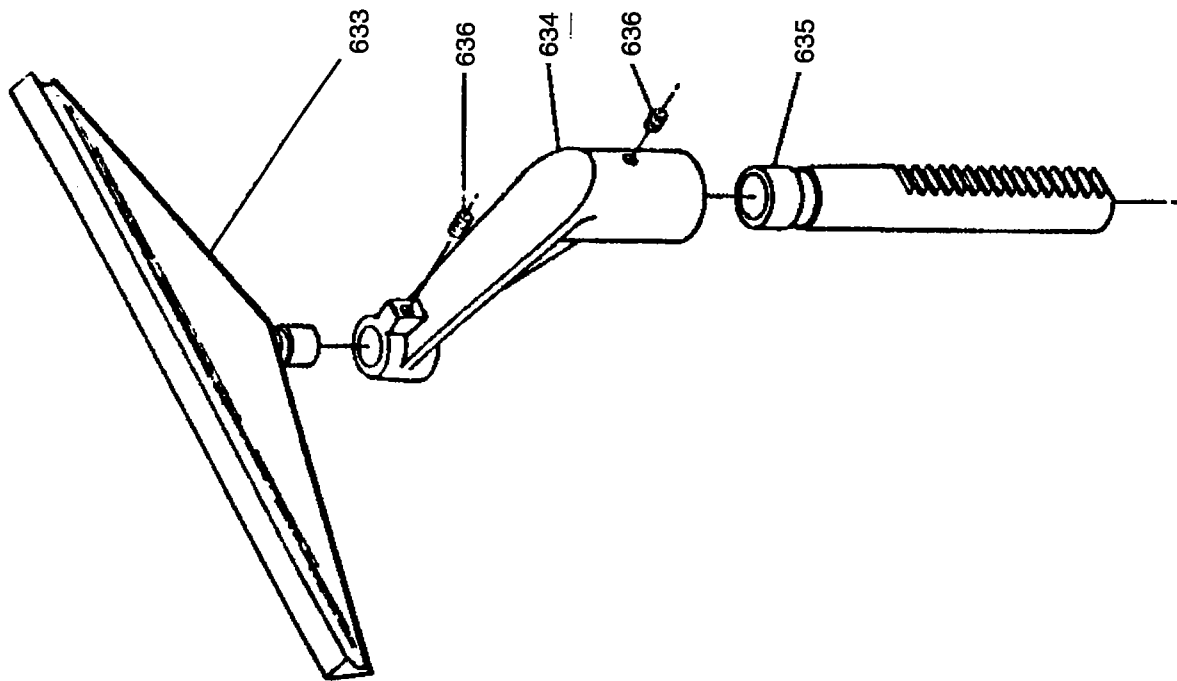
14.10 Sanding Disc Assembly (SS730)

| Item No. | Qty. | Description |
|--------------|------|--------------------|
| SS640 06-002 | 1 | Disc |
| SS641 06-00 | 1 | Sanding Disc Hub |
| SS642 | 1 | Sanding Paper, 12" |



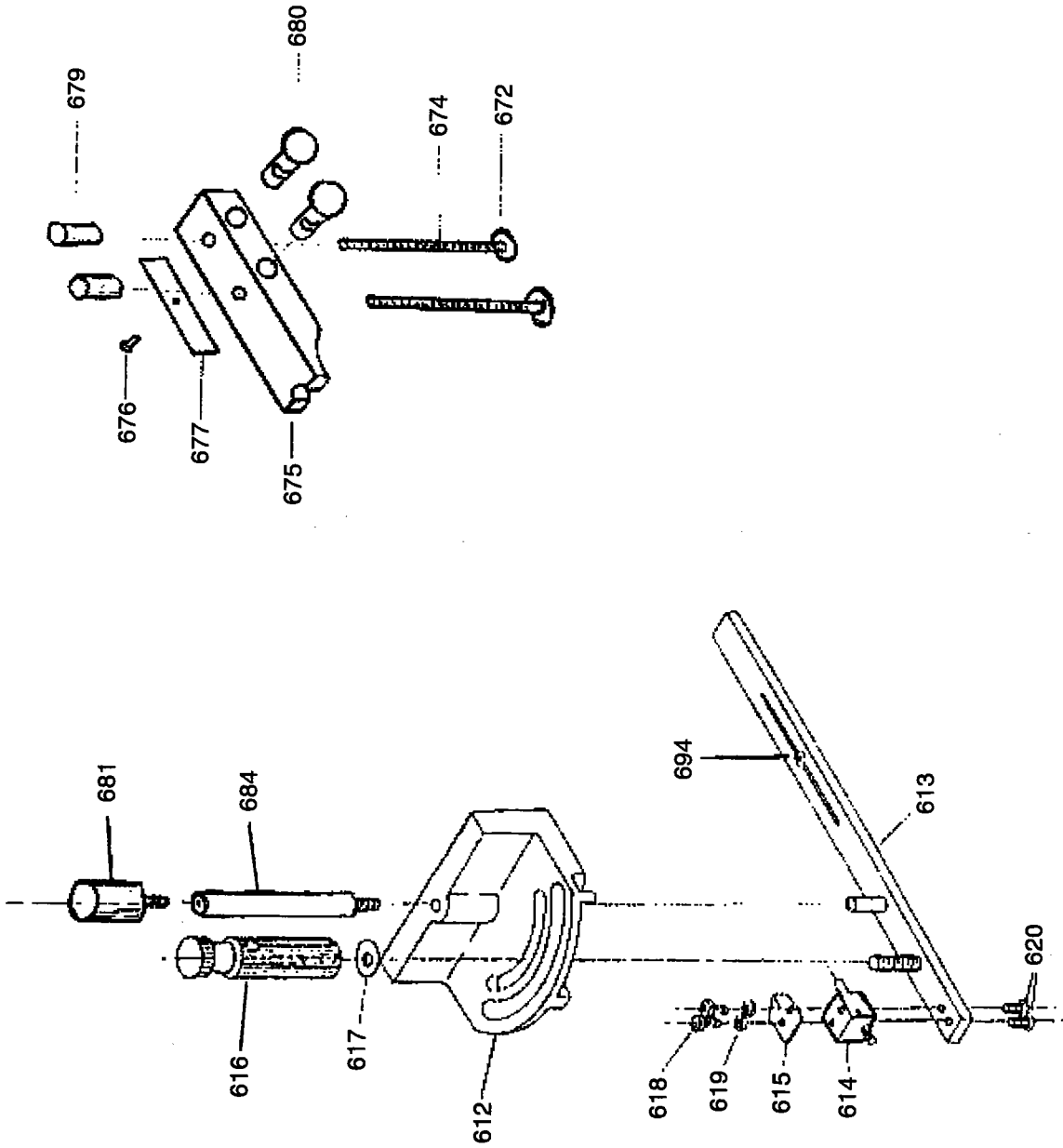
14.11 Tool Mounting Assemblies

| Item No. | | Qty. | Description |
|----------|------------------|------|-------------------------|
| SS647 | 00-001 (1) | 1 | Handle |
| SS648 | 00-001 (2) | 1 | Rod |
| SS649 | 4 x 20 GB879 | 1 | Roll Pin |
| SS742 | | 1 | Draw Rod (Complete) |
| SS650 | 3/4" x JT3 | 1 | Drill Arbor |
| SS651 | J2216 | 1 | Drill Chuck & Key |
| SS652 | 00-009 | 1 | Spur Drive |
| SS653 | | 1 | R-8 Collet, 3/4" |
| SS734 | | 1 | Saw Arbor (Complete) |
| SS656 | A04-001 | 1 | Saw Arbor |
| SS658 | A04-002, A04-003 | 2 | Washer |
| S659 | M16 GB41 | 1 | Nut |
| SS735 | | 1 | Shaper Arbor (Complete) |
| SS661 | A03-001 | 1 | Shaper Arbor |
| SS662 | A03-002 | 1 | Spacer |
| SS663 | A03-004 | 1 | Spacer |
| SS664 | M12-GB41 | 1 | Nut |
| SS665 | A03-003 | 1 | Shaper Guard |
| SS695 | (Not pictured) | 1 | Router Guard |



14.12 Toolrest Assembly (SS732)

| Item No. | Qty. | Description |
|---------------------|------|-----------------|
| SS633 A05-001 | 1 | Toolrest |
| SS634 A05-002 | 1 | Toolrest Mount |
| SS635 04-008 | 1 | Post |
| SS636 M10 x 10 GB77 | 2 | Socket Setscrew |

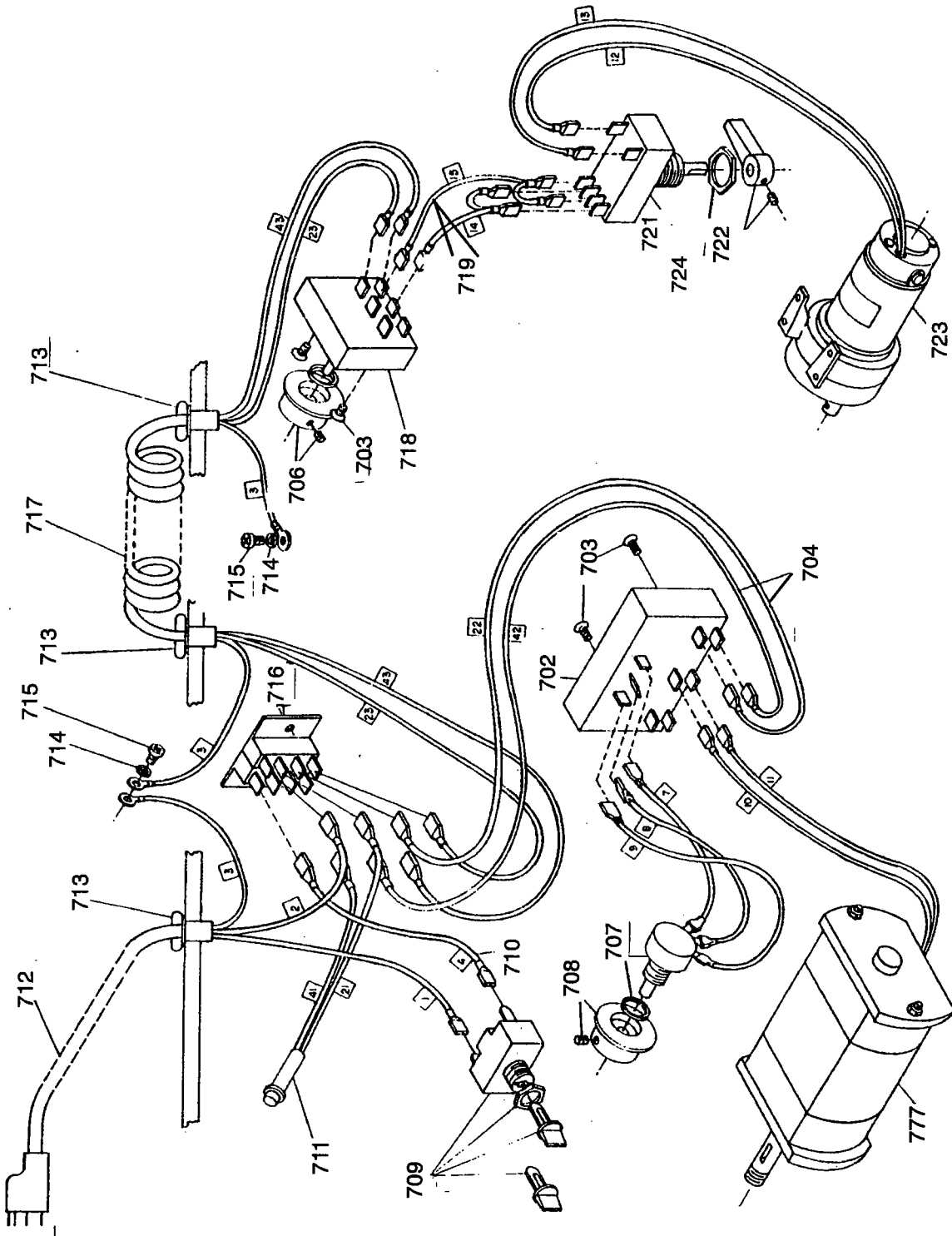


14.13 Miter Gauge Assembly (SS729)

| Item No. | Qty. | Description |
|----------------------|------|----------------------------|
| SS612 A02-014 | 1 | Miter Gauge Block Assembly |
| SS613 A02-001 | 1 | Guide Assembly |
| SS614 A02-016 | 1 | Stop Block Assembly |
| SS615 A02-015 | 1 | Pointer Plate |
| SS616 A02-010 | 1 | Handle |
| SS617 8 GB848 | 1 | Washer |
| SS618 M4 x 12 GB818 | 2 | Roundhead Screw |
| SS619 4 GB97.1 | 2 | Flat Washer |
| SS620 M4 x 112 GB819 | 2 | Flat Socket head Capscrew |
| SS694 | 1 | Setscrew |

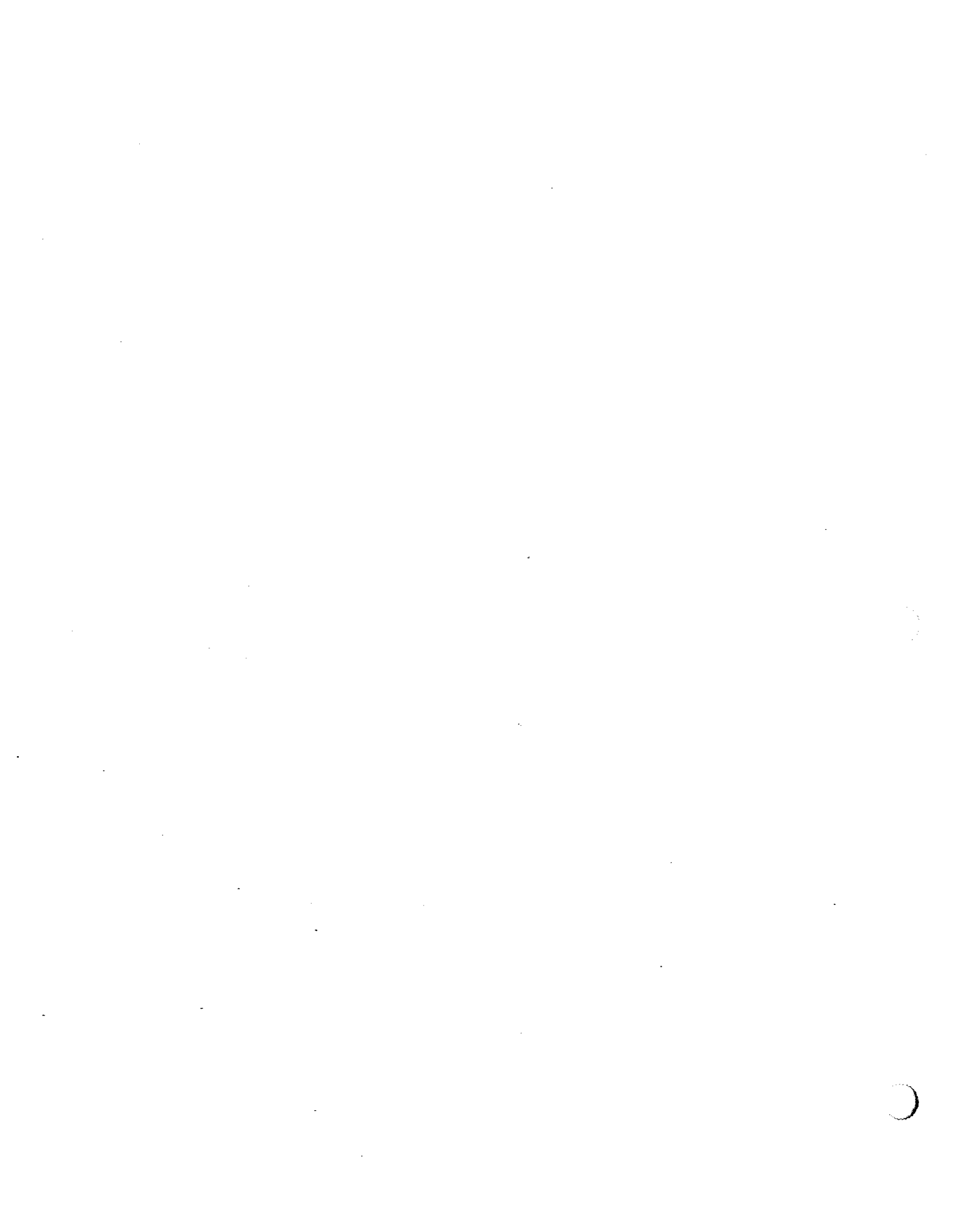
Miter Gauge Clamp Assembly

| Item No. | Qty. | Description |
|---------------------|------|-------------|
| SS672 A02-002 | 2 | Disk |
| SS674 A02-003 | 2 | Stud |
| SS675 A02-004 | 1 | Frame |
| SS676 GB818 M4 x 12 | 1 | Screw |
| SS677 A02-005 | 1 | Spring |
| SS679 A02-006 | 2 | Handle |
| SS680 A02-077 | 2 | Half-nut |
| SS681 A02-008 | 1 | Handle |
| SS684 A02-001 | 1 | Stud |



14.14 Electrical System

| Item No. | Qty. | Description |
|----------|------|---|
| SS701 | 1 | SCR Module, Head (Includes SS707 & SS708) |
| SS702 | 4 | Flat Sockethead Screw (S11643) |
| SS703 | 2 | Lead |
| SS704 | 1 | Knob |
| SS705 | 1 | Potentiometer Assembly |
| SS706 | 1 | Knob |
| SS707 | 1 | Switch, key, and nut |
| SS708 | 1 | Lead 4 |
| SS709 | 1 | Indicator Lite Assembly |
| SS710 | 1 | Power Cord Assembly |
| SS711 | 3 | Cord Clamp |
| SS712 | 2 | Lockwasher |
| SS713 | 2 | Roundhead Screw |
| SS714 | 1 | Terminal Block |
| SS715 | 1 | Coiled Cord Assembly |
| SS716 | 1 | SCR Module (Carriage) (Includes SS703) |
| SS717 | 2 | Lead |
| SS718 | 1 | DPDT rev. switch |
| SS719 | 1 | Knob |
| SS720 | 1 | Carriage Motor |
| SS721 | 1 | Nut |
| SS722 | 1 | Module Bracket (Not shown) |
| SS723 | 1 | Drive Motor |
| SS724 | | |
| SS741 | | |
| SS777 | | |



JOINTER

ASSEMBLY and MOUNTING

- 1) Attach the castings 1 and 2 together with nuts and washers shown in parts diagram of the owners manual (number of washers may vary).
- 2) Assemble the mounting base adapter as shown on page 3 and install the adapter on the left end of the SuperShop.
- 3) Set the jointer onto the adapter and slip the nylon driveshaft onto the jointer drive. Bring the powerhead toward the jointer to check the alignment of the driveshaft to the power takeoff. Move the jointer front to back as required to align the drives.
- 4) Carefully lift the jointer off and tighten the screws holding the lower adapter legs in place.
- 5) Put the jointer back on the adapter and tighten the two set screws that hold the adapter to the jointer.
- 6) Attach the hinged metal guard to the back side of the fence with the two screws provided.
- 7) Slide the jointer, nylon driveshaft, metal PTO adapter and the lower PTO shaft of the powerhead together and lock the powerhead in place.

OPERATION

- 1) The jointer should be run on the number 2 belt setting and at full RPM for that setting which is 3600 RPM and is the same operating speed as the table saw.
- 2) The SuperShop is designed so the jointer and the table saw can be used together. This allows you to rip a straight edge on a board and then use the jointer to obtain the best possible edge finish.
- 3) See the owners manual for details on proper and safe operation of the accessory.

BANDSAW & BELT SANDER

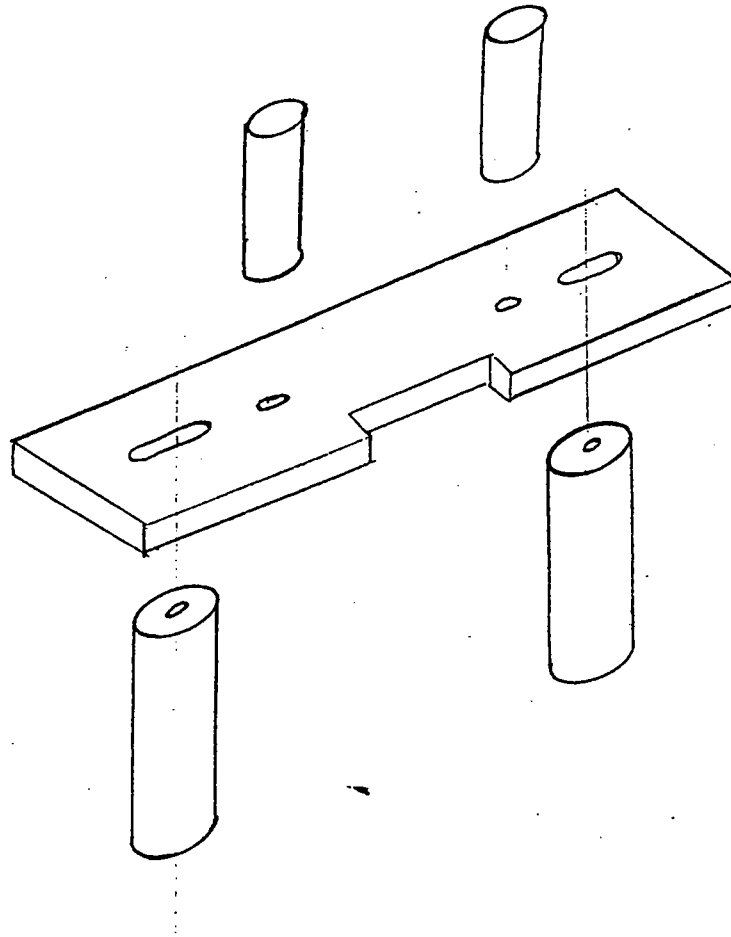
ASSEMBLY AND MOUNTING

- 1) Remove the collet and drawrod from the powerhead.
 - 2) Assemble the mounting base adapter as shown on the next page and install the adapter on the left end of the SuperShop.
 - 3) Place a collar spacer over each of the smaller upper adapter tubes.
 - 4) Set the accessory onto the adapter and slip the nylon driveshaft onto the accessory drive and the black nylon adapter onto the upper power takeoff. Bring the powerhead toward the accessory to check the alignment of the driveshaft to the upper power takeoff.
 - 5) Move the accessory front to back as required to align the drives. Carefully remove the accessory and tighten the screws holding the lower adapter legs in place.
 - 6) Put the accessory back on the adapter and raise or lower it to align the driveshaft and the power takeoff adapter. Tighten the two setscrews that hold the mounting adapter to the accessory and bring the two collars up to meet the bottom of the accessory and tighten them into place.
- NOTE:** Additional collars are provided that fit onto the lower legs of the adapter if more height is needed.
- 7) Slide the accessory, nylon driveshaft, PTO adapter and the upper PTO shaft of the accessory together and lock the powerhead in position.
 - 8) See the owners manual for details on alignment and adjustment.

OPERATION

- 1) The bandsaw and belt sander should be run on the number 1 belt setting and at speeds between 400 and 900 RPM.
- 2) See the owners manual for details on proper and safe operation of the accessory.

ACCESSORY MOUNTING ADAPTOR



Assemble the adaptor as shown above. The smaller diameter legs are installed in the two innermost holes and fit into the bottom of the accessory. The larger diameter legs are installed in the elongated holes and fit into the mounting holes on the end of the SuperShop. The elongated holes allow for front to back movement of the accessory to align the accessory with the power takeoff on the powerhead.

