

INSTRUCTIONS
AND PARTS LIST

FOR *Atlas*
Nos. 4002, 4003
and 4004 24-inch
JIG SAW

Bulletin 4002-5
Oct., 1956

Atlas

Do it RIGHT!

Study this instruction booklet carefully before setting up and operating the saw.

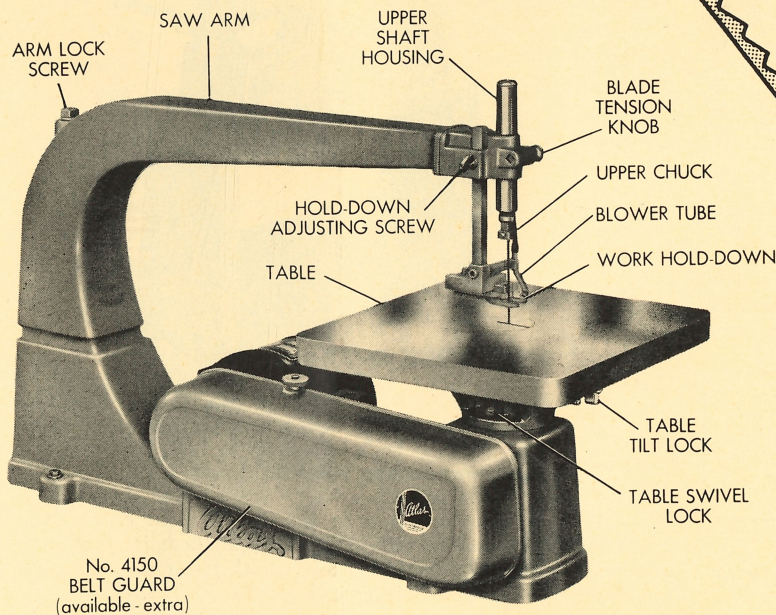
Even though you may have used jig saws before, get acquainted with the proper way to set up and operate your new saw. Know the major parts and controls by studying the illustrations and suggestions in this booklet — then you'll know the saw and do better work.

The jig saw is considered the safest woodworking power tool, but don't let this lead to carelessness — make safety a habit.

To Work SAFELY...

Think for TWO -
The MACHINE and YOU!

- Concentrate on what you are doing — avoid distractions
- Keep your fingers away from the blade
- Always use the work hold-down



ATLAS PRESS CO.

Kalamazoo, Mich., U.S.A.

BEFORE MOUNTING AND OPERATING JIG SAW, fill crankcase with S.A.E. No. 30 machine oil (approximately 1½ pints). Fill to oil filler hole by removing the oil screw — and you can do it easier by tipping saw on an angle. **TO ASSURE PROPER LUBRICATION MAINTAIN THIS OIL LEVEL.**

Keep Your Saw Clean Lubricate Regularly —

To keep the saw operating smoothly and efficiently, take a few minutes once a month to thoroughly clean underneath the table, the table trunnion slides, the blade chucks, and the blade guide unit. Then lubricate the parts as indicated in Figure 1 with S.A.E. No. 10 oil. **DON'T** over-lubricate, especially the blade tension spring and the blade support roller — oil may get on the work. Wipe off excess oil — keep belts and pulleys free of oil.

MOTOR RECOMMENDATION

The Atlas Jig Saw requires a ¼, ⅓ or ½ HP, 1725 RPM motor. Never use a 3450 RPM motor.

There are four spindle speeds —570, 860, 1220 and 1660 RPM. The motor pulley furnished has a ⅜" bore — use bushing furnished if motor has ½" diameter shaft.

MOUNTING THE MOTOR

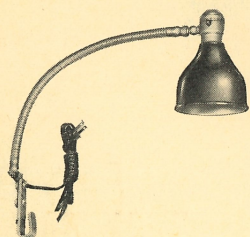
NOTE: Instructions for mounting 4170 VARI-SPEED packed with attachment.

Motor and switch (No. 9319, extra) should be installed on the jig saw before saw is mounted to stand. Jig saw will operate with equal efficiency regardless of motor rotation.

1. Slide large pulley supplied with No. 4154 4 SPEED DRIVE UNIT on saw spindle—large step next to saw—and tighten set screw.
2. Slide pulley on motor shaft so that small step is next to motor and tighten pulley set screw.
3. Fasten motor to base but do not tighten bolts securely. Make sure clip that holds air hose is fastened to one of the bolts—it prevents hose being pinched between saw base and bench.
4. Place belt around small step of motor pulley and large step of spindle pulley.
5. Shift motor until pulleys are in line and belt is straight.
6. Slide the motor back until the belt is tight and lock in this position.

CAUTION: *Maintain proper belt tension at all times — belt should not be too tight — just tight enough to prevent slipping. Keep set screws in motor and arbor pulleys tight.*

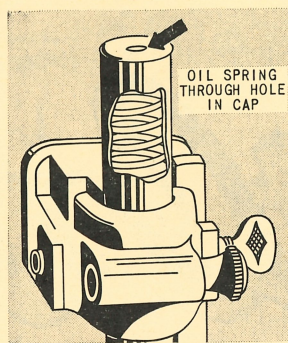
No. 9319 Switch — available from your dealer, mounts in a convenient operating position at the front of the saw base — complete instructions for mounting and wiring furnished.



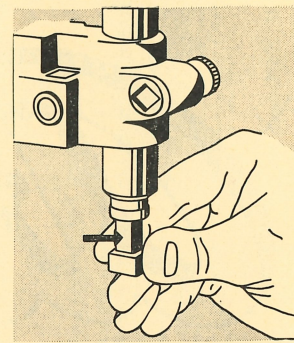
2. No. 4121 Jig Saw Lamp, available extra.

MOUNTING THE SAW

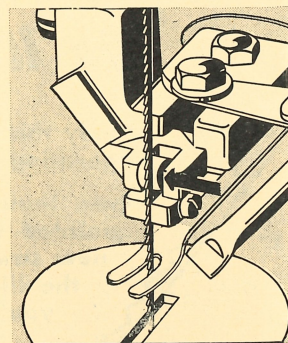
The Atlas No. 9027 saw stand is ideal for mounting the saw — see Figure 3. Stand top is ready-drilled for the saw base. If a wood bench is used make sure it is sturdily constructed and high enough so that the top of the saw table is just below the operators elbows.



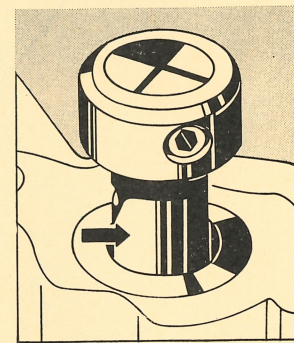
Blade tension spring



Upper shaft and bearing

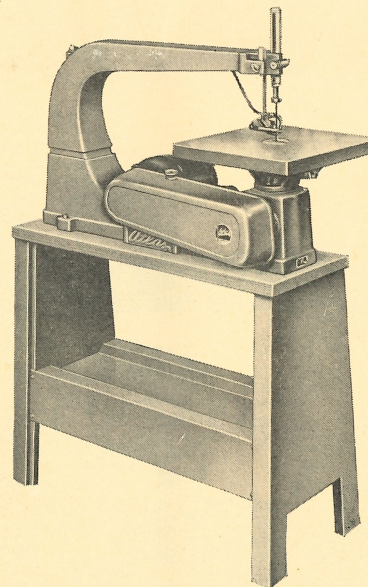


Blade support roller shaft



Lower shaft and bearings

1. Lubricate the above parts monthly with SAE No. 10 oil.



3. Jig saw mounted to No. 9027 Stand.

Place jig saw on stand or bench top. Then check the four mounting pads on base of jig saw—if there is space between mounting pads and bench top, use shims or washers to fill in the space before bolting machine to the top.

Legs of the bench or stand should also rest solidly on floor. If floor is uneven and there is space between floor and leg, insert wood wedges or shims.

Belt guards, Nos. 4150 and 4153, available — extra, protects the operator from moving belt and pulleys — see illustration on cover.

A jig Saw Lamp, No. 4121, available, (Fig. 2) throws plenty of light on the work. Has ball joint in head — 15" flexible cable — positions at any angle. Mounts to the over-arm.

OPERATION

Efficient and safe operation and the quality of work performed is your responsibility — **DO NOT START THE SAW until you have completely read the operating instructions — selected the correct blade — the correct speed — the correct mounting of blade — adjusted the guides . . . all are important factors in doing the job right and doing better work.**

SELECTING THE BLADE

Follow these simple rules in selecting blades. It will assure better work and a minimum of blade breakage.

1. Always use the largest blade with the coarsest teeth that will cut the stock cleanly and still follow the pattern of your layout.
2. The teeth of the blades used to cut wood should vary from fine to coarse depending upon the hardness and thickness of the stock and the finish desired. Use a fine blade on thin wood.
3. The thickness and width of the blade vary with the abruptness of the contours to be cut — sharper curves require thinner, narrower blades.
4. Metal cutting requires fine tooth blades — at least two teeth should contact work at all times. Width and thickness are governed by the same rule that applies to the selection of wood-cutting blades.

Refer to chart at right before selecting your blade.

OPERATING SPEEDS

There are no set rules regarding speeds for woodcutting — it depends upon the operator's skill and the material being cut. Generally, for woodcutting the two medium speeds are recommended. When cutting soft woods and a very smooth finish is desired, use the higher speeds. Experiment with different speeds to get the best results on various types of wood. When cutting metal, use the slower speeds. Speeds for cutting plastics generally are the same as for wood.

MOUNTING THE BLADE

The lower blade chuck handles blades up to 9/32" wide, and files and sanding sticks up to 1/4" diameter shanks — no adapter or special jaws needed — see Figures 4 and 5. Upper chuck takes blades up to 9/64" wide. No. 4152 Special Upper Chuck and Shaft Assembly available — extra (see Figure 18), for handling blades wider than 9/64", and for those jobs in which sabre blades, files and sanding sticks must be rigidly supported in both upper and lower chucks. (Note: This assembly not recommended for light blades.)

To mount blade, first remove insert plate. Insert blade into lower chuck, moving it back as far as it will go between the stationary and floating jaws — see Figure 5. (Make sure blade teeth point down.) Position blade as near perpendicular to the table as you possibly can and tighten in place with the socket-type screw — use wrench furnished. For accurate perpendicular alignment of the blade with the table, check with a square block of wood as shown in Figure 6.

Now turn pulley by hand until blade is at top of stroke. Loosen blade tension knob (see illustration on cover) and place blade about 3/8" into upper chuck, then tighten the socket-type screw to lock blade in chuck — use wrench furnished.

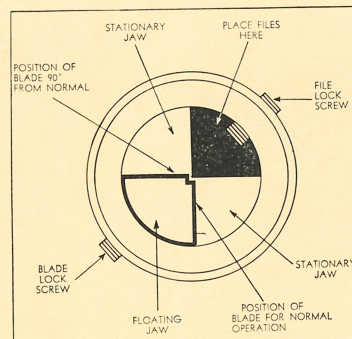
Occasionally rough handling in shipment will cause the over-arm to shift out of alignment. To correct this, first check table for perpendicular alignment — see **ADJUSTING THE TABLE**, page 4. Replace blade in upper chuck and use square block of wood on side of blade to check alignment. Align over-arm by loosening arm lock screw — tighten securely after adjustment.

BLADE CHART — Select the Right Blade

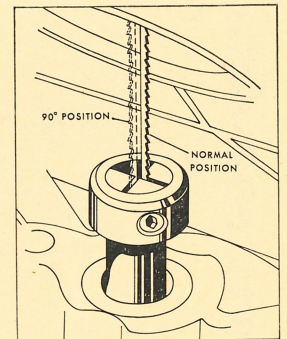
This chart will help in selecting the correct blade for the job. It lists — by number the blade recommended to cut various materials. The recommendations are average — slight variations may be necessary in order to do the best cutting job.

No.	USE	THICKNESS	WIDTH	TEETH PER INCH	
4096	Not	wood, plastics	.008	.035	20
4097	for	hard rubber	.010	.045	18
4104	Metal	ivory, celluloid	.020	.110	7
4098		bone, pearl leather, mica, shells, metals	.016	.054	20
4099	For all	over 1/8" thick	.020	.070	15
4101	Ferrous	over 3/32" thick	.020	.110	20
4102	and non-	over 1/8" thick	.020	.110	15
4103	Ferrous	over 3/16" thick	.020	.110	10
4105	Metals and	over 3/64" thick	.020	.070	32
4106	Woods	over 1/8" thick	.020	.085	15
4126	Wood or	All saber sawing	.028	.187	10
4127	Metal		.028	.250	7

CAUTION—Some plastics have a low melting temperature — feed the work slowly to avoid overheating.



4. Parts of the lower chuck.



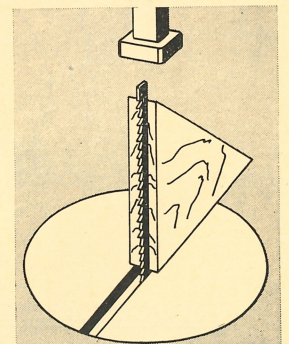
5. Blade in normal position in the lower chuck.

Raise the upper shaft housing until proper tension is obtained and tighten the lock knob. Blade tension should be just

enough to hold the blade straight during the cutting operation. Too much tension will usually cause the blade to break — insufficient tension will buckle the blade on the up-stroke, or make it weave from side to side during the cutting operation and not cut true.

Blades can be set 90° from normal position for handling large work by inserting blades as shown in Figures 5 and 9.

For complete instructions, see **TURNING BLADE 90° TO CUT LONG BOARDS**, page 4.

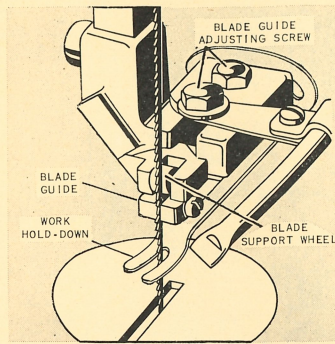


6. Use a square block of wood to position blade perpendicular to the table.

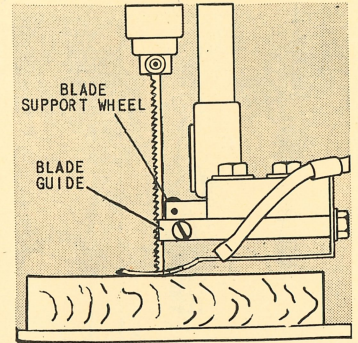
ADJUSTING THE BLADE GUIDE AND WORK HOLD-DOWN

After the blade is properly mounted, adjust the blade guide and work hold-down, see Figure 7. Loosen the lock knob that holds the sliding rod and position the work hold-down so it touches the work—this prevents the work being raised during the upstroke of the saw blade—see Figure 8. When cutting on an angle, hold-down can be tilted by loosening screw at rear of hold-down.

Adjust the position of the blade guide and support wheel by loosening the two lock screws on the guide—see Figure 7. Position the wheel support so it just touches back of blade. Adjust slotted blade guide for width of blade and position it so that the front edge is even with the bottom of the blade teeth—see Figure 8.



7. Blade guide and work hold-down.



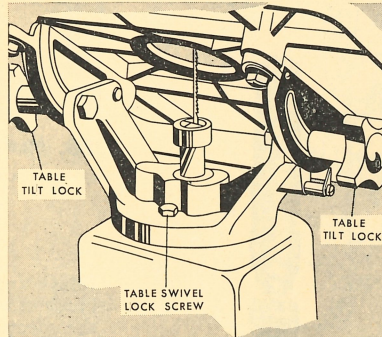
8. Position front of blade guide so it's even with bottom of blade teeth.

ADJUSTING THE TABLE

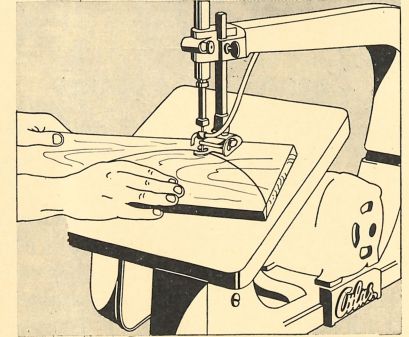
Knobs at the front and rear of the saw table control the tilt lock—see Figure 9. Loosen both to tilt to angle desired. Table tilts 0 to 15 degrees to the left—0 to 45 degrees to the right. Angle of tilt is shown on graduated scale.

To check table for perpendicular alignment with blade, mount a blade in the chucks. Then, with a square, set table right angles to the blade. If pointer isn't on the zero degree marking on the tilt scale, loosen screw that holds pointer and shift pointer.

Table may be swiveled 90° to handle angular cutting of long stock from side of saw. To swivel, loosen the two lock screws located on table trunnion bracket—see Figure 9. **CAUTION**—Do not remove the screws.



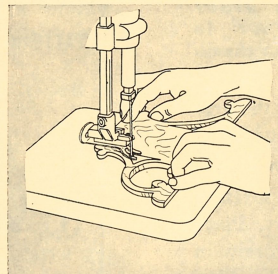
9. To tilt table, loosen both table tilt locks. To swivel table 90°, loosen the two swivel lock screws.



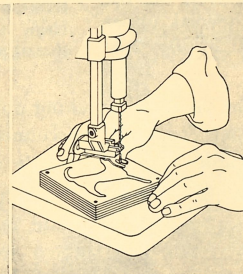
10. Turn blade and guide 90° to cut boards longer than 24". Swivel table 90° if boards must be cut on an angle.

IMPORTANT TIPS ON OPERATION

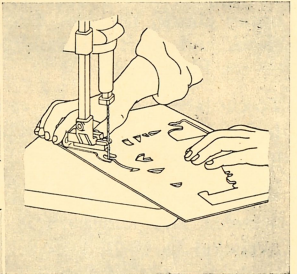
1. Give the blade a chance to cut—do not force the work into the saw blade or twist the work abruptly—feed it directly into the blade.
2. Side thrust and too fast a feed causes irregular cuts and blade breakage.
3. When starting the blade into the stock at an angle, the blade will have a tendency to slip along the side of the stock. This can be avoided by applying light side pressure to the stock.
4. Cut through the waste stock if it is impossible to continue a cut—"back-out" only as a last resort as the blade is apt to roughen the cut.
5. For cutting internal curves and designs;—
 - Drill a relief hole in the waste area inside the pattern with a drill larger than the blade width—see Figure 11.
 - Remove the insert plate and fasten the blade in the lower chuck.
 - Replace insert plate.
 - Place the stock over the blade, and fasten the other end of the blade in the upper chuck.
 - Adjust the blade guide and hold-down.



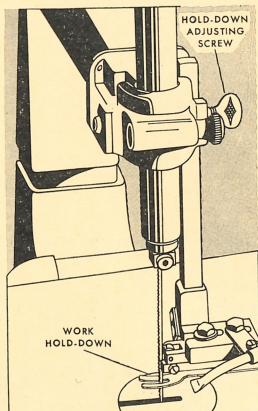
11. To cut internal curves, drill holes in waste stock for insert blade.



12. To cut duplicate work in cloth or cardboard, sandwich layers between plywood.



13. Using the correct blade, cuts in metal and plastics are simple jobs on the jig saw.



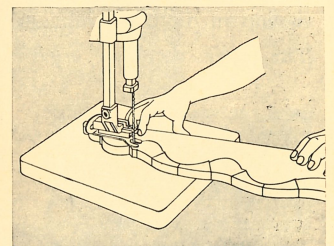
15. Blade, hold-down and blade guide assembly turned 90° to cut long boards.

TURNING BLADE 90° TO CUT LONG STOCK

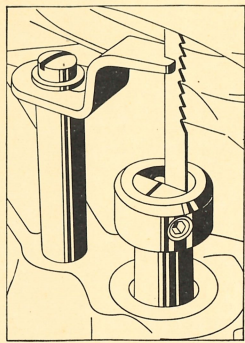
1. Remove blade and insert plate.
2. Remove the blade guide and work hold-down assembly and place it in hole on right side of saw arm. To remove, first loosen set screw that locks blade guide and hold-down assembly to shaft and remove assembly. Then remove thumb screw in left side of arm and remove shaft. Next place entire assembly on right side of arm making sure hold-down and blade guide assembly is turned 90° to support the blade—see Figure 15.
3. Turn upper chuck 90° by pushing up approximately 1/8" and at the same time turn chuck and shaft approximately 1/8 turn—release upward pressure and continue turning until shaft indexes.
4. Install the blade in the 90° slot in lower chuck—see Figures 4 and 5.
5. Install the blade in upper chuck and replace insert plate.
6. If stock must be cut on an angle, swivel the table 90° by loosening the two lock screws on the table trunnion bracket—see Figure 9.

CAUTION: Do not remove the screws.

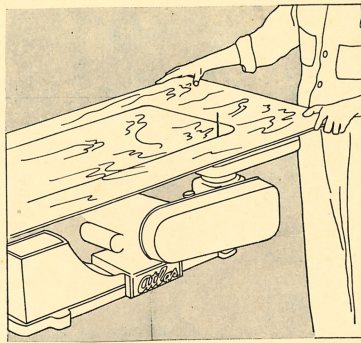
NOTE: If saw is equipped with the special upper chuck, No. 4152, see Figure 18, there is no need to index—simply insert blade in the 90° slot position.



14. Cutting out sides for a wall bracket. Saw-kerfs simplify sawing operations.



16. Use No. 4151 Sabre Blade support — extra, to guide blade when saw arm is removed.



17. Sawing large panels with over-arm removed.

USING SABRE BLADES

Sabre blades are used for cutting thick stock, jobs requiring internal curves, and large panels.

To mount the sabre blade, remove the table insert plate. Place the blade in the jaws of the lower chuck and position so that it is at the front of the chuck against the chuck ring — see Figure 16. Tighten the chuck lock screw. Replace insert plate. The upper blade guide may be used to support the blade.

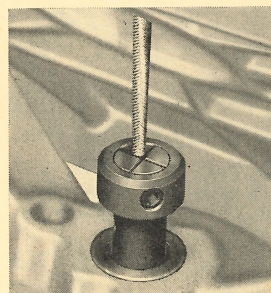
To support blades wider than 9/64" in the upper chuck, the No. 4152 special upper chuck assembly MUST be used — see Figure 18.

To cut large panels, remove the saw arm by taking out the arm lock screw on rear of saw — see Figure 17. Disconnect blower hose by twisting it off the spout attached to blade guide.

When replacing the over-arm make sure the contact surfaces between arm and base is clean of sawdust and dirt. Place over-arm carefully on the saw base and tighten securely in position with arm lock screw — see MOUNTING THE BLADE, page 3.

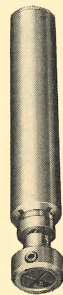
A Sabre Blade Support No. 4151, see Figure 16, should be used to guide the blade when the saw arm is removed. Support mounts in the table trunnion bracket beneath table.

The faster speeds are usually used with the sabre blade.



19. File mounted in lower chuck. Chuck handles files and sanding sticks up to 1/4" diameter shank.

A filing insert plate can be made by purchasing an extra plate and drilling a hole to accommodate files.



18. No. 4152 Special Upper Chuck Assembly for supporting blades wider than 9/64" in the upper chuck.

FILING ON THE JIG SAW

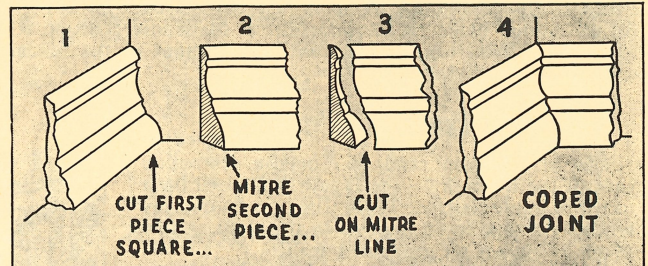
The lower chuck handles files up to 1/4" diameter shank. Remove insert plate. Mount files in chuck as shown in Figure 19 — lock securely in position.

CAUTION: Avoid excessive feed pressure — it may distort lower shaft or chuck.

NOTE: With a No. 4152 Special Upper Chuck Assembly installed, files can be mounted in both upper and lower chucks to provide a more rigid mounting.

SAWING COPED JOINTS

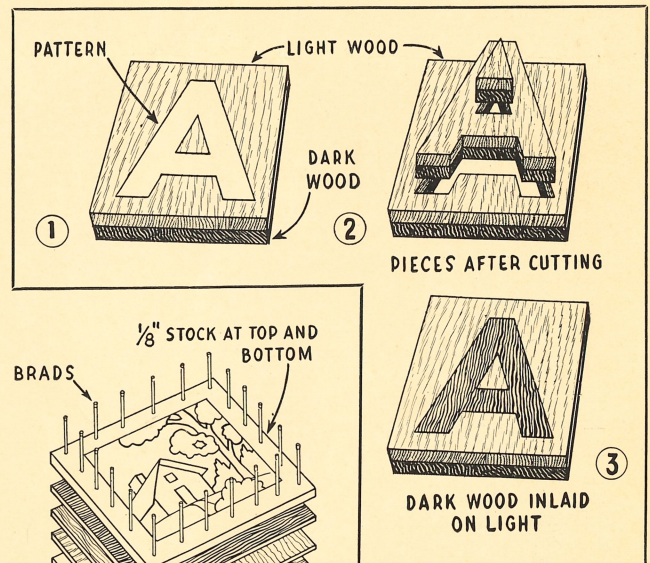
A coped joint is fitting one piece of moulding over another in a square corner — see Step 4, Figure 20. Most woodworkers prefer this method over the mitre joint to eliminate the unsightly crack should shrinkage occur. To make a coped joint, one piece is cut off square — this piece fits into the corner — see Step 1, Figure 20. The other piece is mitred to 45°, Step 2. The edge of this mitre joint is now cut away on the jig saw to the profile shape of the moulding, Step 3, and will fit perfectly to the face of the square cut strip.



20. Method used to cut a coped joint on the jig saw.

INLAY WORK AND MARQUETRY SAWING

Inlays are made by padding two or more layers of different kinds of wood together with brads or glue and then assembling the pieces together as shown in Figures 21 and 22. Tilt the table for sawing from 1 to 8 degrees — depending upon the size of the blade, then the parts will fit together and the saw cut cannot be seen.



21. Steps in inlaying.

22. Padded method of inlaying when many different types of wood are used.

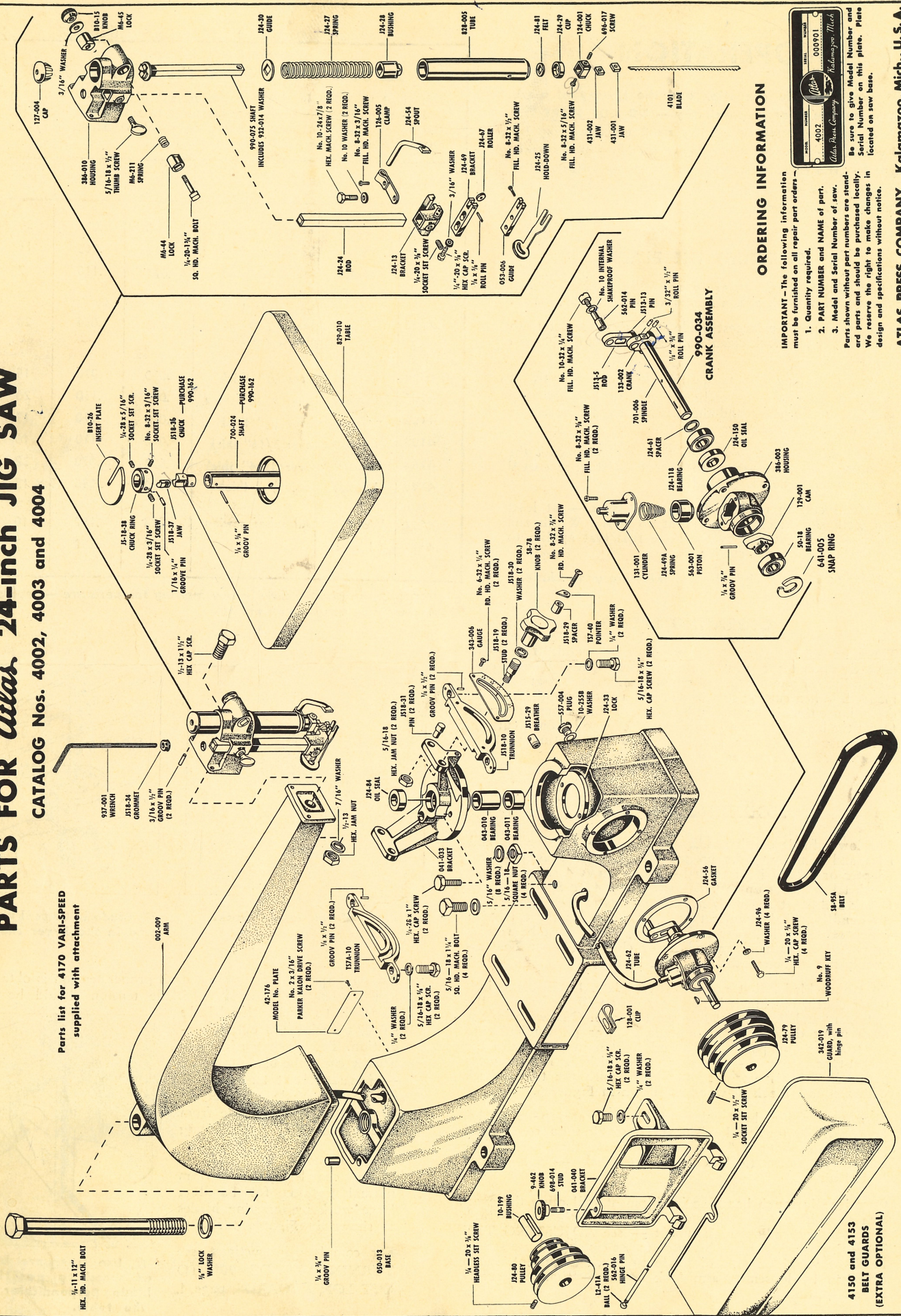
METAL CUTTING

Metal cutting requires fine tooth blades — at least two teeth should contact work at all times. Always use the slower speeds for metal cutting. Mount the blades in the chucks in the same manner as wood-cutting blades. Feed the work slowly and with an even pressure. To prevent burning when cutting thin metal, use a piece of wood as an under-support.

PARTS FOR Atlas 24-inch JIG SAW

CATALOG Nos. 4002, 4003 and 4004

Parts list for 4170 VARI-SPEED supplied with attachment



ORDERING INFORMATION

IMPORTANT—The following information must be furnished on all repair part orders—

- Quantity required.
- Part Number and Name of part.
- Model and Serial Number of saw.

Parts shown without part numbers are standard parts and should be purchased locally. We reserve the right to make changes in design and specifications without notice.



ATLAS PRESS COMPANY Kalamazoo, Mich., U. S. A.

4150 and 4153 BELT GUARDS (EXTRA OPTIONAL)