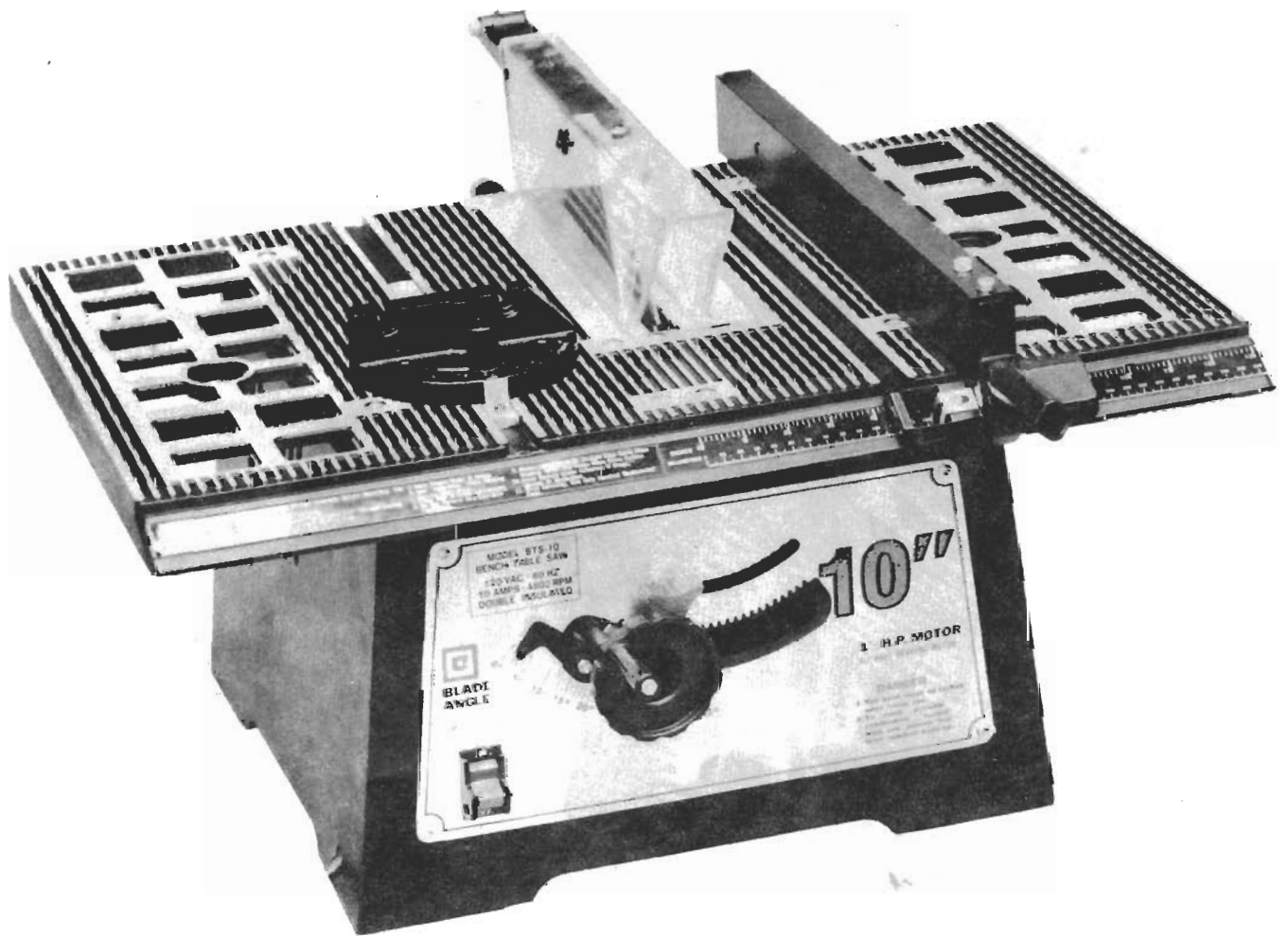


10" BENCH TABLE SAW

Instruction Manual



For Your Own Safety, Read Instruction Manual
Before Starting Operations.

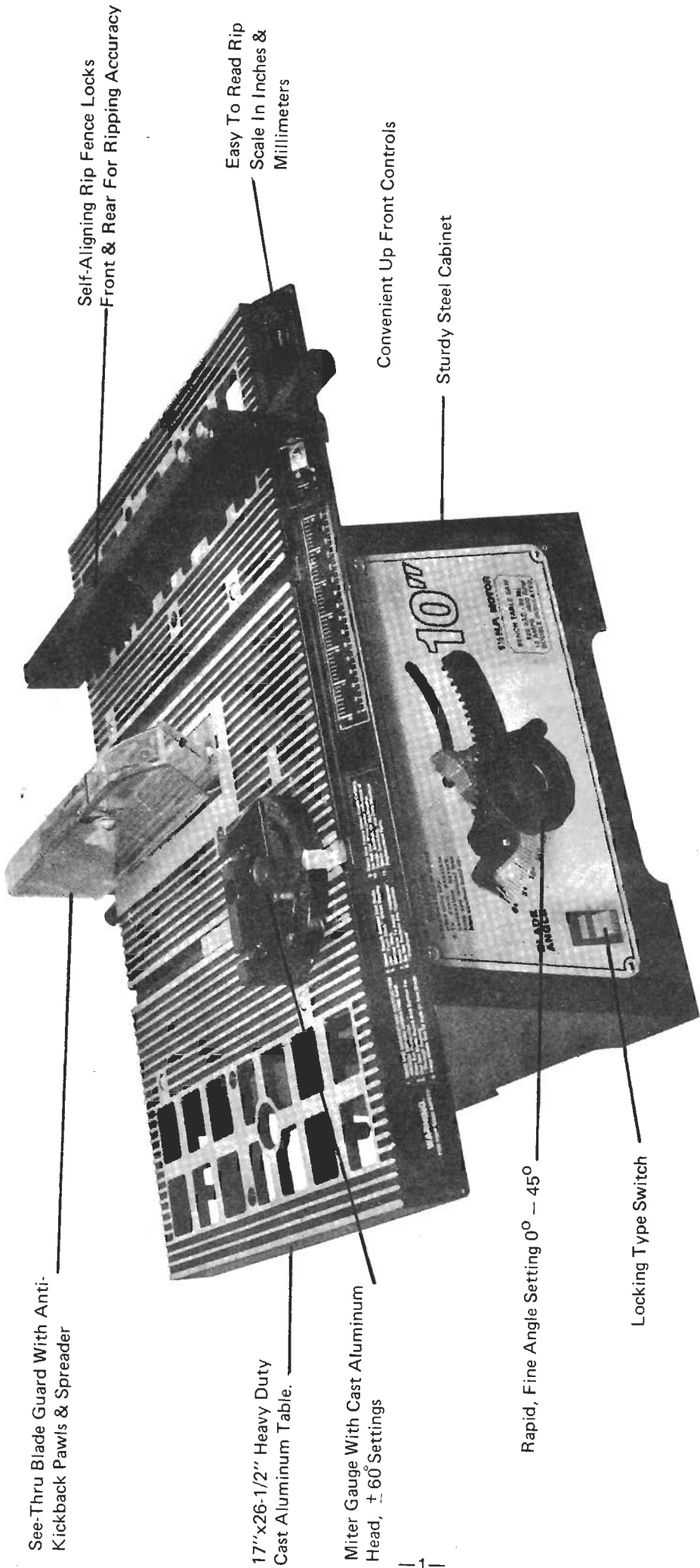
Record the Model No. and Serial No. and date of purchase
in your manual for future reference.

Model No. _____

Serial No. _____

Date of Purchase _____

10" Saw Blade — 5/8" Arbor Hole, 6800 R.P.M.



See-Thru Blade Guard With Anti-Kickback Pawls & Spreader

Self-Aligning Rip Fence Locks Front & Rear For Ripping Accuracy

Easy To Read Rip Scale In Inches & Millimeters

Convenient Up Front Controls

Sturdy Steel Cabinet

17"x26-1/2" Heavy Duty Cast Aluminum Table.

Miter Gauge With Cast Aluminum Head, ± 60° Settings

Rapid, Fine Angle Setting 0° — 45°

Locking Type Switch

All Ball Bearing 1-1/2H.P. Motor
Changeable Carbon Brush

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SAFETY RULES FOR ALL TOOLS

As with all power tools there is a certain amount of hazard involved with the operator and his use of the tool. Using the tool with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or completely ignored, personal injury to the operator can result.

There are certain applications for which this tool was designed. It is strongly recommended that this tool NOT be modified and/or used for any application other than for which it was designed.

1. **KNOW YOUR POWER TOOL.** Read the owner's manual carefully. Learn the tool's applications and limitations, as well as the specific potential hazards peculiar to it.

2. **KEEP GUARDS IN PLACE** and in working order.

3. **GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adaptor lug must be attached to a known ground. Never remove the third prong.

4. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on."

5. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.

6. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

7. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.

8. **MAKE WORKSHOP CHILDPROOF** — with padlocks, master switches, or by removing starter keys.

9. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.

10. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.

11. **WEAR PROPER APPAREL.** Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may get caught in moving parts. Nonslip foot wear is recommended. Wear protective hair covering to contain long hair.

12. **USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses; they are NOT safety glasses.

13. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and will free both hands to operate tool.

14. **DON'T OVERREACH.** Keep proper footing and balance at all times.

15. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.

17. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.

18. **AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.

19. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

20. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect operation. A guard or other part that is damaged should be properly repaired or replaced.

21. **DIRECTION OF FEED.** Feed work into a blade or cutter against direction of rotation only.

22. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

23. **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drugs, alcohol or any medication.

24. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while motor is being mounted, connected or reconnected.

ADDITIONAL SAFETY RULES FOR CIRCULAR SAWS

1. **ALWAYS** use saw blade guard, spreader and anti-kickback pawls for every operation for which they can be used, including through sawing. Through sawing operations are those in which the blade cuts completely through the work piece when ripping or cross cutting.

2. **ALWAYS** hold the work firmly against the miter gage or fence.

3. **USE** push-stick when required. Always use a push-stick for ripping narrow stock. Refer to ripping applications in instruction manual where push-stick is covered in detail. See push-stick pattern included in this Instruction Manual.

4. **NEVER** perform any operation "free-hand," which means using your hands to support or guide the work piece. Always use either the fence or the miter gage to position and guide the work.

5. **NEVER** Stand or have any part of your body in line with the path of the saw blade. Keep your hands out of the line of the saw blade.

6. **NEVER** reach behind or over the cutting tool for any reason.

7. **MOVE** the rip fence out of the way when cross cutting.

8. **WHEN** cutting mouldings, **NEVER** run the stock between the fence and the moulding cutterhead. Refer to moulding applications in Instruction Manual for details.

9. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation only.

10. **NEVER** use the fence as a cut-off gage when cross cutting.

11. **NEVER** attempt to free a stalled saw blade without first turning the saw OFF. Turn off power switch immediately to prevent motor damage.

12. **PROVIDE** adequate support to the rear and sides of the saw table for wide or long workpieces.

13. **AVOID KICKBACKS** (work thrown back toward you) by keeping blade sharp, keeping rip fence parallel to the saw blade, keeping spreader and anti-kickback pawls and guard in place and operating, by not releasing work before it is pushed all the way past the saw blade, and by not ripping work that is twisted or warped or does not have a straight edge to guide along the fence.

14. **AVOID** awkward operations and hand positions where a sudden slip could cause your hand to move into the cutting tool.

15. **NEVER** use solvents to clean plastic parts. Solvents could possibly dissolve or otherwise damage the material. Only a soft damp cloth should be used to clean plastic parts.

16. **BOLT** the saw to the supporting surface (table, bench, or floor, as appropriate) or use a sturdy outrigger support if table extensions more than 16 inches wide are attached to the saw.

UNPACKING

Carefully unpack the saw and all loose items from the carton. Fig. 2 illustrates the saw removed from the carton. Fig. 3 illustrates all the loose items and hardware packed with the saw.



Fig. 2

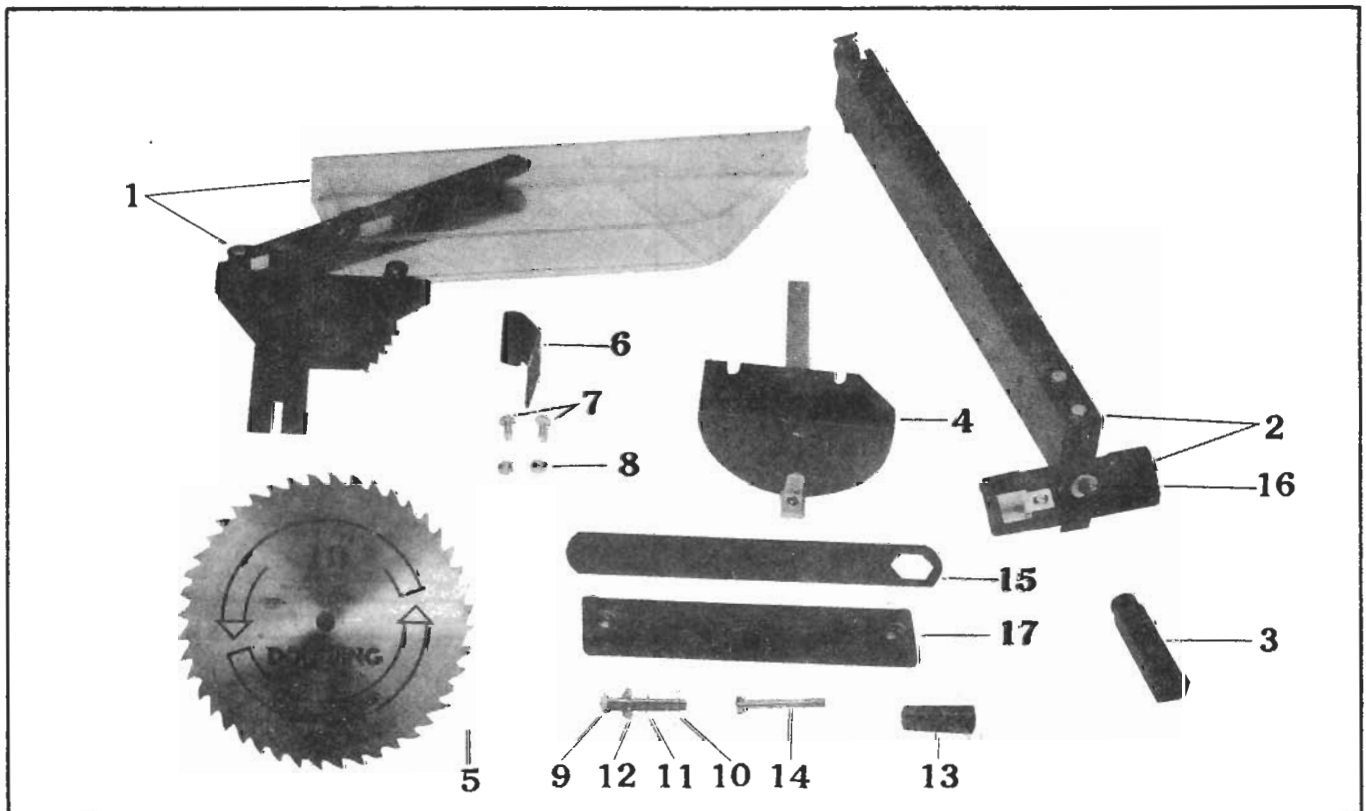


Fig. 3

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> 1. Blade Guard and Spreader Assembly 2. Rip Fence Assembly 3. Knob 4. Miter Gage 5. 10'' Saw Blade 6. Bracket for Mounting Blade Guard & Spreader 7. Hex Head Screw 8. Nut 9. Hex Head Screw | <ul style="list-style-type: none"> 10. External Tooth Lockwasher 11. Steel Washer 12. Internal Tooth Lockwasher 13. Speed Knob for Handwheel 14. Round Head Screw 15. Arbor Nut Wrench 16. Temporary Shipping Nut 17. Table Insert |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ASSEMBLY

TOOLS NEEDED FOR ASSEMBLY

Your new Saw can be assembled and adjusted using a few common hand tools including:

- ✓ Screwdriver
- ✓ Combination Square
- ✓ Adjustable Wrench
- ✓ Straight Edge

FASTENING SAW TO A WOOD STAND OR BENCH

The Saw must always be fastened to a supporting surface using the four holes in the bottom corners of the saw cabinet. Locate the saw on the wood stand or bench and layout the mounting hole pattern as shown in Fig. 4. Drill four 5/16" diameter holes.

Layout an 11" x 11" area between the mounting holes as illustrated in Fig. 5, to be cut out for saw dust fall-thru and removal.

IT IS VERY IMPORTANT THAT A HOLE BE PROVIDED IN THE WOOD STAND OR BENCH, BELOW THE SAW CABINET, TO FACILITATE SAW DUST FALL-THRU AND REMOVAL. THIS HOLE MUST BE AT LEAST 11" x 11". FAILURE TO PROVIDE THIS HOLE WILL CAUSE SAW DUST BUILD-UP AROUND THE MOTOR WHICH MAY RESULT IN A FIRE HAZARD OR MOTOR DAMAGE.

Drill a "starter" hole within the 11" x 11" area as illustrated in Fig. 5.

Insert a jig saw or keyhole saw through the hole and cut out the 11" x 11" area, as illustrated in Fig. 6.

Fig. 7 illustrates the wood stand or bench with 11" x 11" hole cut out to provide for saw dust fall-thru and removal.

Fasten the saw to the stand or bench, as shown in Fig. 8. Mounting hardware shown in Fig. 8 is not supplied.

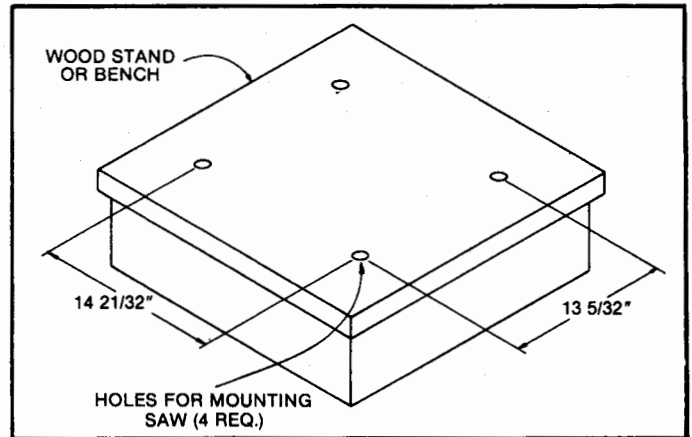


Fig. 4

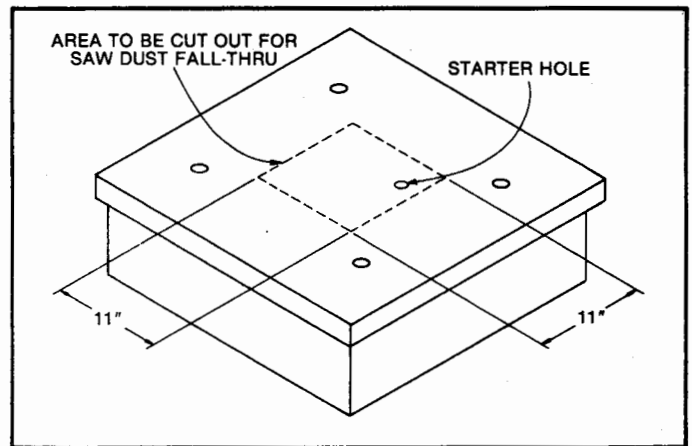


Fig. 5

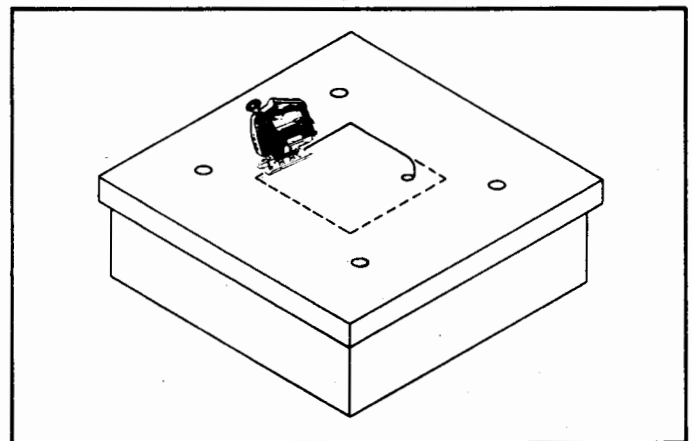


Fig. 6

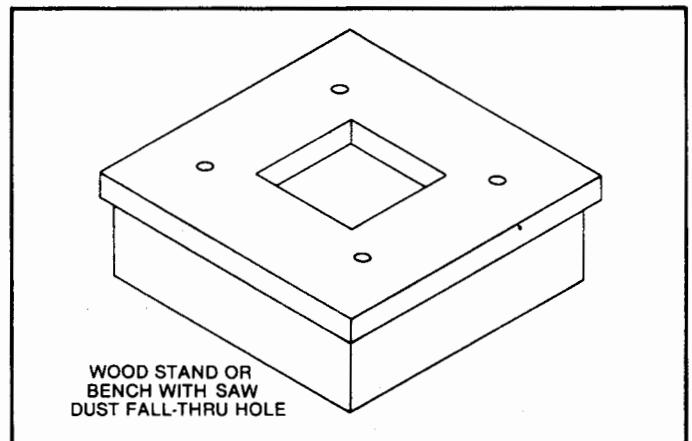


Fig. 7

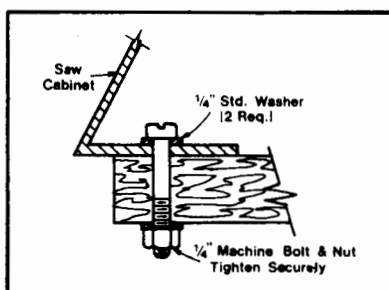


Fig. 8

ASSEMBLING SAW TO METAL STAND

If the saw is to be mounted to a metal stand, as shown in Fig. 9, set up mounting hole pattern as described for a wood stand or bench. Use four $\frac{1}{4}$ "x $1\frac{1}{2}$ " screws, eight $\frac{1}{4}$ " lockwashers, and four $\frac{1}{4}$ " hex nuts. Note that the center of the stand must be open to provide for saw dust fall-thru and removal.

FASTENING STAND OR BENCH TO FLOOR

IF DURING OPERATION THERE IS ANY TENDENCY FOR THE TOOL TO TIP OVER, SLIDE OR WALK ON SUPPORTING SURFACE, THE STAND OR BENCH MUST BE SECURED TO THE FLOOR.

ASSEMBLING BLADE

1. MAKE SURE SAW IS DISCONNECTED FROM THE POWER SOURCE WHEN INSTALLING SAW BLADE.

2. Remove table insert by inserting a screwdriver into one of the slots (A) or (B) Fig. 10, and prying insert (C) up as shown.

3. Remove arbor nut (D) and blade flange (E) Fig. 11.

4. Assemble saw blade (F) Fig. 12, to motor shaft, making sure the teeth of the blade point down at the front of the table as shown. Fasten the blade onto the motor shaft using the flange (E) and arbor nut (D). Be sure that saw blade is completely against inner flange before tightening nut (D).

5. Replace table insert (C) Fig. 13, making sure the turned-down lip (G) Fig. 12 on underside of insert is toward the blade and that insert fully seats in its pocket in the table as shown in Fig. 13.



Fig. 9

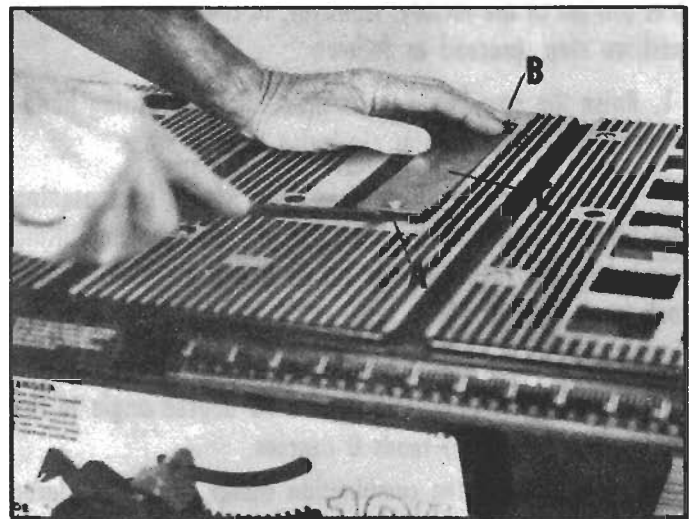


Fig. 10

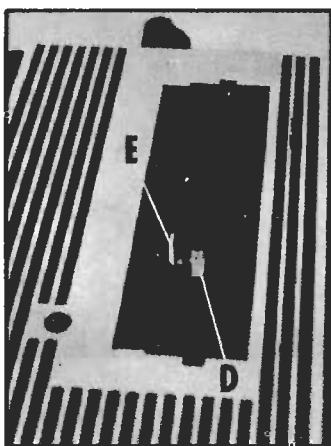


Fig. 11

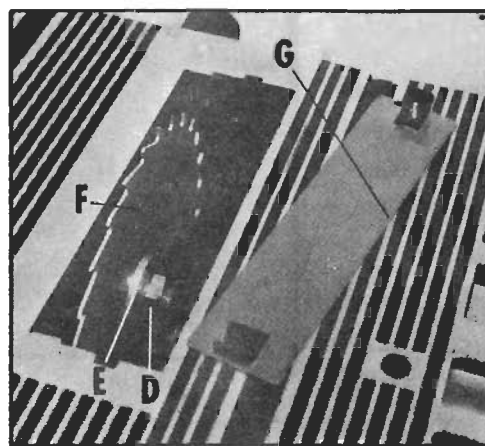


Fig. 12

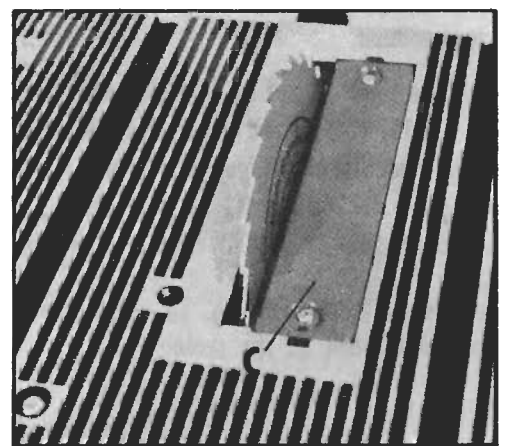


Fig. 13

ASSEMBLING SPEED KNOB TO HANDWHEEL

1. Insert 1/4"-20 x 2" screw (B) Fig. 14 into speed knob (A) Fig. 14, and lightly hand-tighten 1/4"-20 nut (C) Fig. 14. Insert into cast-in nut in handwheel (G) Fig. 16.
2. Tighten down screw (B) Fig. 14 until nut (C) Fig. 14 makes contact with cast-in nut in handwheel (G), Fig. 16.
3. With open-end wrench tighten nut (C) Fig. 14 against handwheel nut. Adjust so that knob (A) spins freely.

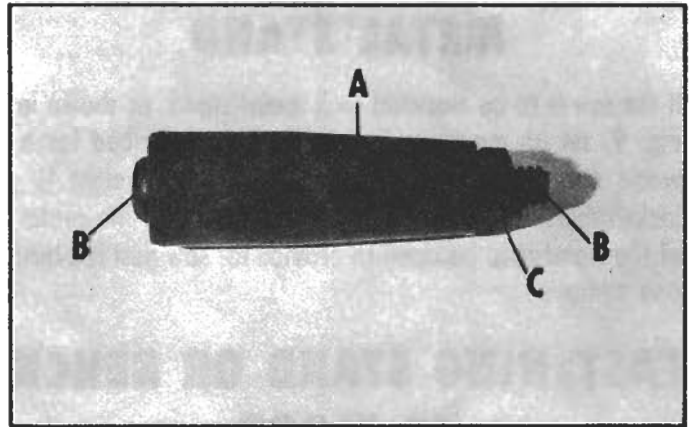


Fig. 14

ADJUSTING 90° POSITIVE STOP

Your saw is equipped with a positive stop at 90 degrees. It is pre-set at the factory. However, to check and adjust the positive stop, proceed as follows:

1. Raise the saw blade to its maximum by turning handwheel (G) Fig. 16 counter clockwise until it stops.
2. Set the blade at 90 degrees to the table by loosening the blade tilting lock knob (F) Fig. 16 and moving tilting handwheel (G) to the left as far as it will go. Then tighten lock knob (F) Fig. 16.

3. Place a square on the table as shown in Fig. 15 and check to see that the blade is at a 90 degree angle to the table. And Pointer (E) reads 0 degrees

NOTE: The blade of the combination square should be placed against the saw blade and between blade teeth so that the "set" (stagger) of the blade teeth does not give a false measurement.

4. If the blade is not at 90 degrees to the table, back off screw (D) Fig. 15. Loosen red lock knob (F) and move tilting handwheel until blade is at 90 degrees to the table surface and then re-tighten lock knob (F) to hold the position. Now tighten screw (D) Fig. 15 until it contacts the stop.

5. Loosen screw (H) Fig. 16 and adjust pointer (E) to the 0 degree mark on the scale.

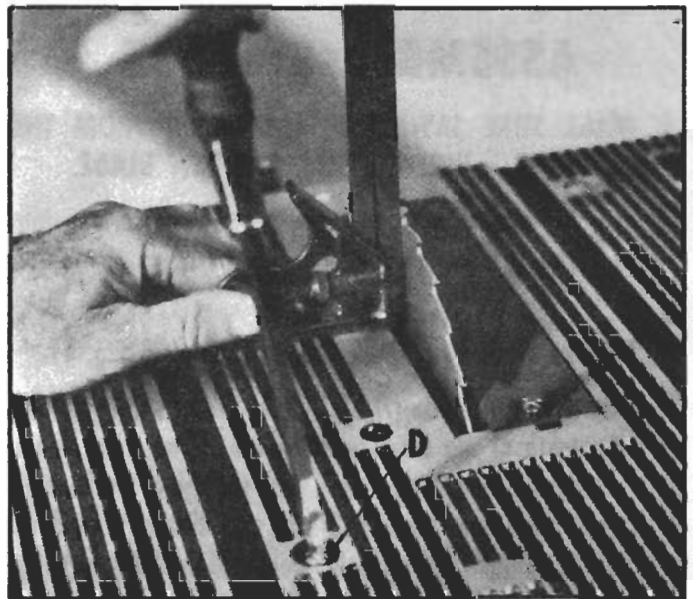


Fig. 15

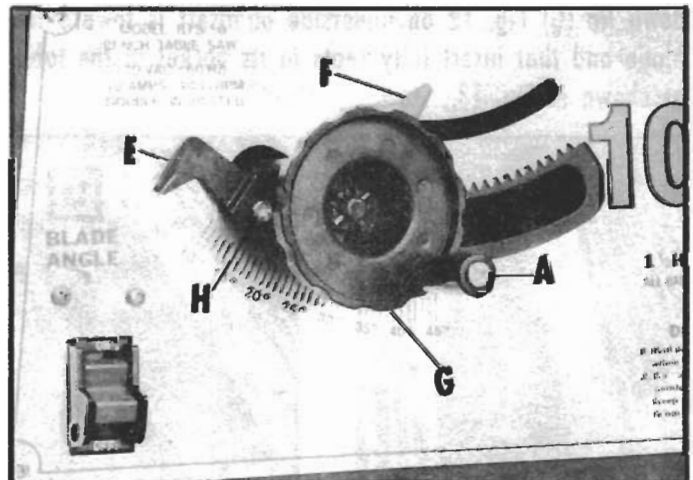


Fig. 16

ASSEMBLING BLADE GUARD AND SPREADER ASSEMBLY

1. **IMPORTANT: THE BLADE GUARD AND SPREADER ASSEMBLY MUST BE ALIGNED PROPERLY TO THE SAW BLADE IN ORDER TO PREVENT KICKBACK. SET THE BLADE TO "ZERO" DEGREES ON SCALE AND LOCK THE BLADE TILTING LOCK KNOB.**

2. Make sure the saw power cord is disconnected from the power source.

3. Insert a 1/4" external tooth lockwasher (D) and a 1/4" steel washer (A) onto the 2" long hex head screw (B) Fig. 17, and insert the screw (B) through the spreader bracket (C), as shown. Place the 1/4" external tooth lockwasher (D), 1/4" steel washer (E) and the 1/4" internal tooth lockwasher (F) on end of screw (B).

4. Assemble the spreader bracket (C) Fig. 18 to the rear of the saw table by threading screw (B) into internally threaded pivot rod (G).

5. Set the blade to maximum height and to "zero" degrees on the scale and lock the blade tilting lock knob. Refer to Fig. 16.

6. Place a straight edge (H) Fig. 19 on saw table against saw blade, as shown. Place a combination square (I) on table as shown with blade end (J) of square against straight edge (H) and bracket (C). Adjust bracket (C) until it is flat against square (J) and tighten screw (B) Fig. 19 and Fig. 20.

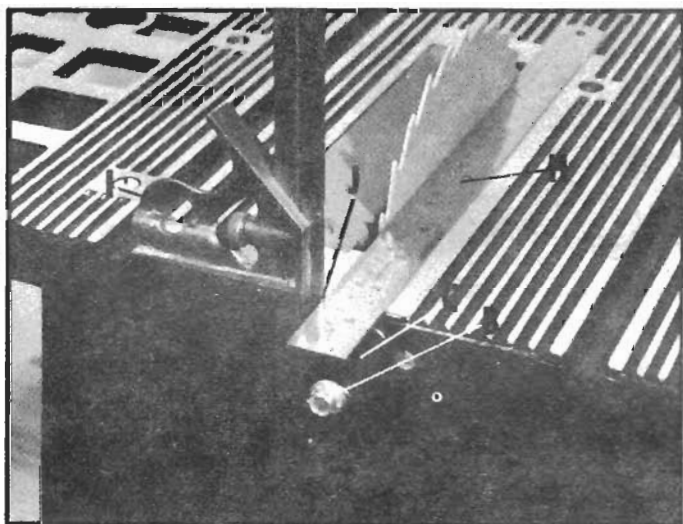


Fig. 19

7. Assemble the two 3/4" long hex head screws (K) Fig. 21 to the spreader bracket (C) using the two 1/4" external tooth lockwasher (D) and two 1/4" nuts (L) as shown.

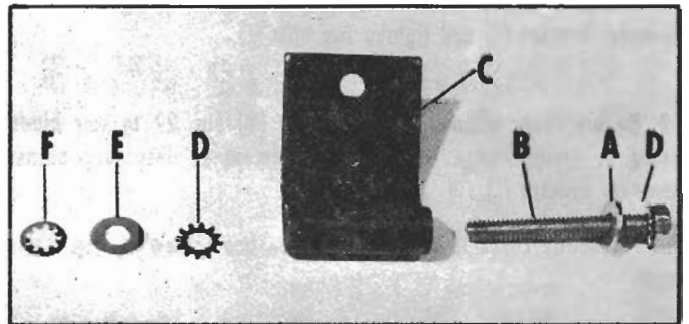


Fig. 17

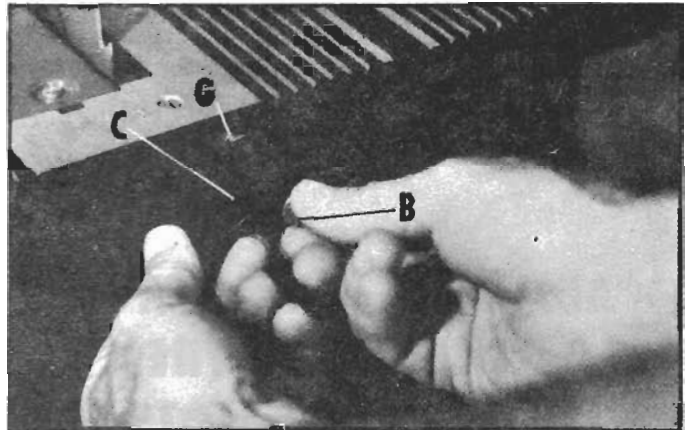


Fig. 18

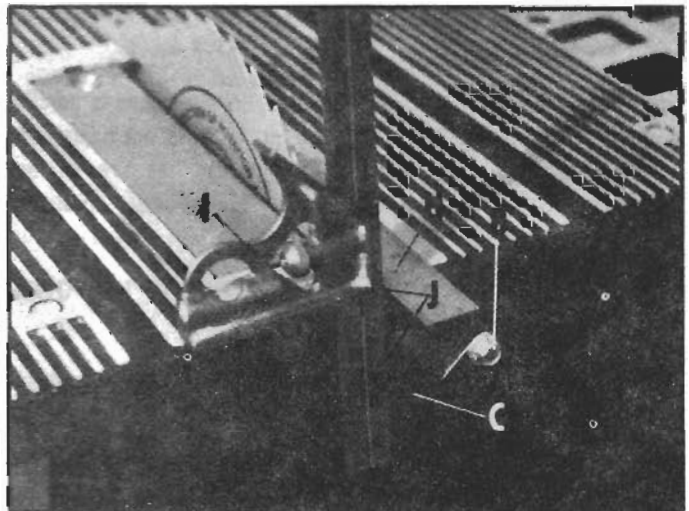


Fig. 20

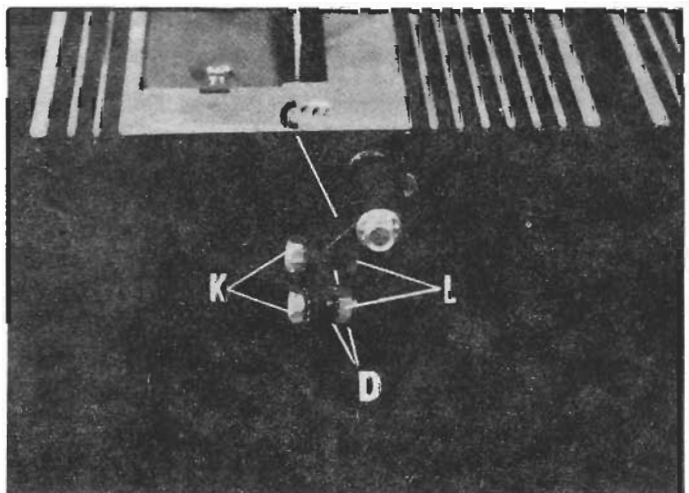


Fig. 21

8. Assemble the spreader and guard assembly (M) Fig. 22 to the spreader bracket (C) and tighten two nuts (L).

9. Double check alignment of spreader (M) Fig. 22 to saw blade using a straight edge. If further alignment is necessary adjust spreader bracket (C) Fig. 20.

10. Frequently check to make certain hex head screw (B) Fig. 22 is tight.

11. When it is necessary to remove the blade guard assembly (to permit dado head or moulding cutterhead operation) loosen two nuts (L) Fig. 22 and slide blade guard and spreader upward. Alignment of spreader bracket (C) should not be disturbed.

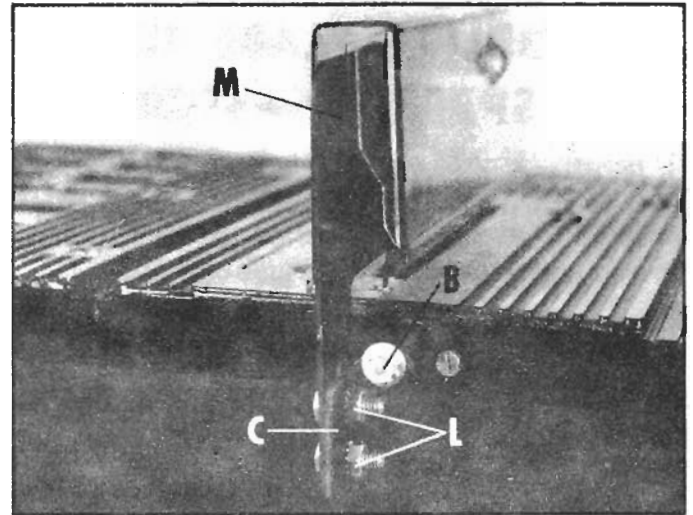


Fig. 22

ADJUSTING SAW BLADE PARALLEL TO THE MITER GAGE SLOTS

IMPORTANT: THE MITER GAGE SLOTS MUST BE PARALLEL TO THE SAW BLADE IN ORDER TO PREVENT KICK BACK.

The saw is adjusted at the factory so that the saw blade is parallel to the miter gage slots. It is best, however, to check this adjustment before operating to obtain the best results from the saw. Do not loosen any of the six screws (M) or (N), Fig. 25 unless absolutely necessary.

1. **MAKE CERTAIN SAW IS DISCONNECTED FROM THE POWER SOURCE.**

2. Figs. 23 and 24 show a simple method of checking the alignment of the miter gage slot to the blade.

3. Place the miter gage in the right hand miter gage slot as shown in Fig. 23. Clamp a straight edge or equivalent to the face of the miter gage as shown. Move the straight edge until it just touches one of the teeth of the saw blade and clamp the straight edge to the miter gage body. Mark this tooth.

4. Move the miter gage to the rear of the table as shown in Fig. 24. Check to see that the miter gage slot is the same distance away from the saw blade in the rear position as it was in the front position. Make sure the tooth marked in Step 3 is used for checking both front and rear positions.

5. If the saw blade is not parallel with the miter gage slot, slightly loosen the four pivot rod bearing retainer screws (M), Fig. 25. Adjust the angle of the blade by shifting the entire assembly in the desired direction. Retighten four screws (M) when satisfied blade angle is correct. Additional adjustment can be obtained by loosening two screws (N) Fig. 25, but should not be done unless absolutely necessary.

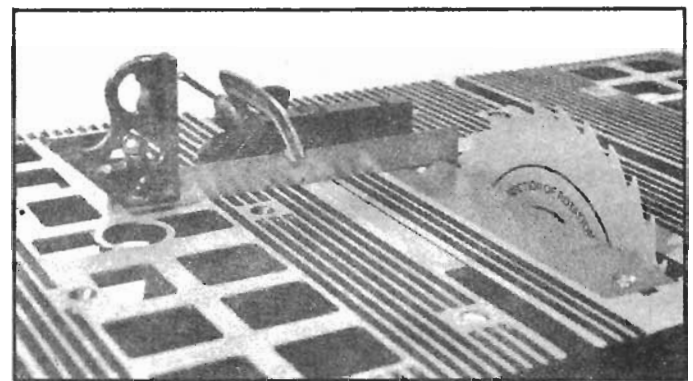


Fig. 23

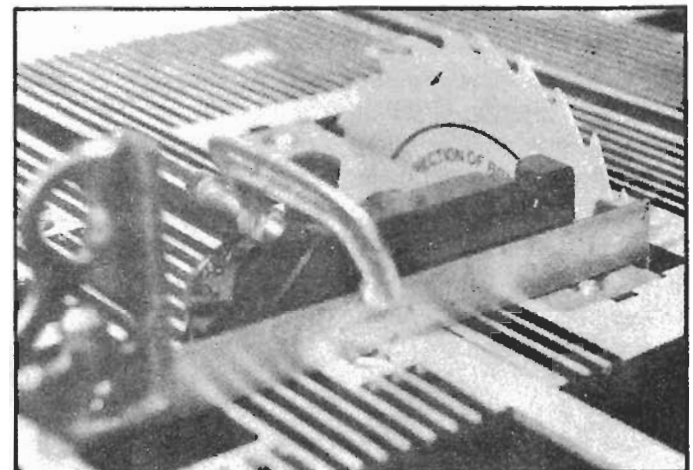


Fig. 24

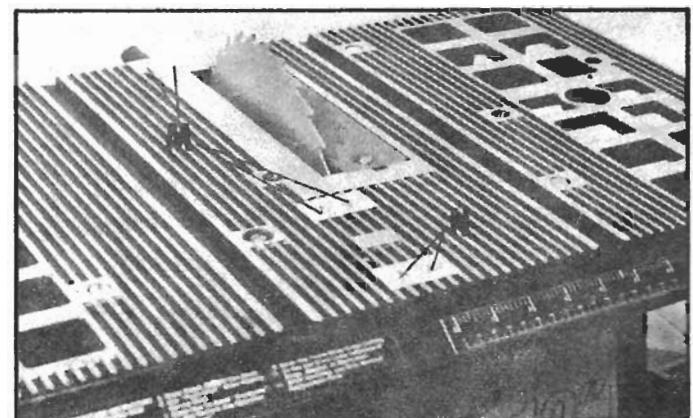


Fig. 25

RIP FENCE OPERATION AND ADJUSTMENTS

IMPORTANT: THE RIP FENCE MUST BE PROPERLY ALIGNED WITH THE BLADE AND MITER GAGE SLOT IN ORDER TO PREVENT KICKBACK WHEN RIPPING.

For shipping purposes, the rip fence lock knob (A) Fig. 26 was removed. The rear clamp (C) Fig. 26 on the rip fence is spring loaded. Therefore, while removing the temporary nut and replacing it with knob (A), hold the rear clamp against the spring's thrust.

The rip fence can be used on either side of the saw blade. The most common location is on the right hand side as shown in Fig. 26. To move the rip fence, loosen lock knob (A) Fig. 26 and move the fence to the desired position.

IMPORTANT: BEFORE TIGHTENING RIP FENCE LOCK KNOB (A) FIG. 26, ALWAYS PUSH FENCE CLAMP BODY (B) AGAINST FRONT OF TABLE AS SHOWN IN FIG. 27 TO ENSURE PROPER ALIGNMENT OF FENCE TO BLADE. TIGHTEN LOCK KNOB (A) FIG. 26 AND FIG. 27.

The saw blade is set parallel to the miter gage slots at the factory and by following the instructions on Page 9. The fence should now be adjusted so it is parallel to the miter gage slots. To check the rip fence, set it at one of the miter gage slots and push in on fence body as shown in Fig. 27. Lightly tighten lock knob (A) Fig. 27. If an adjustment is necessary, loosen two screws (C) Fig. 27. Move the back end of the fence to the right or left, lining it up with the miter gage slot. Tighten two screws (C) Fig. 27.

The rip fence (D) Fig. 28 can be set for any desired width of rip cut on the right hand side of the blade by using the rip scale (F) and pointer (E), Fig. 28. To adjust the pointer (E), slide the rip fence to the left until it just touches the tips of the blade teeth, then carefully tighten the lock knob (A) as shown in Fig. 27. The pointer (E) should now read "zero" on the rip scale (F). If an adjustment to the pointer is necessary, loosen screw (G), adjust pointer (E), and retighten screw (G).

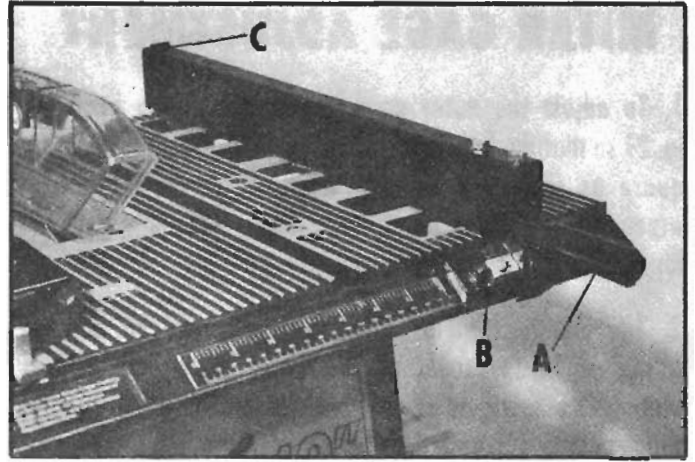


Fig. 26

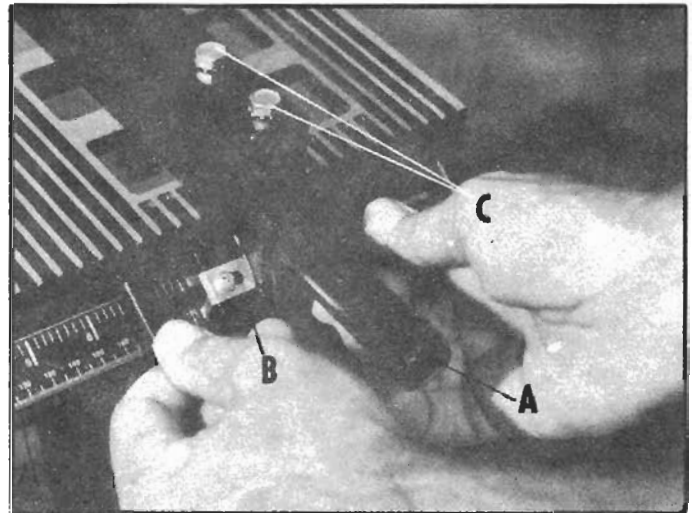


Fig. 27

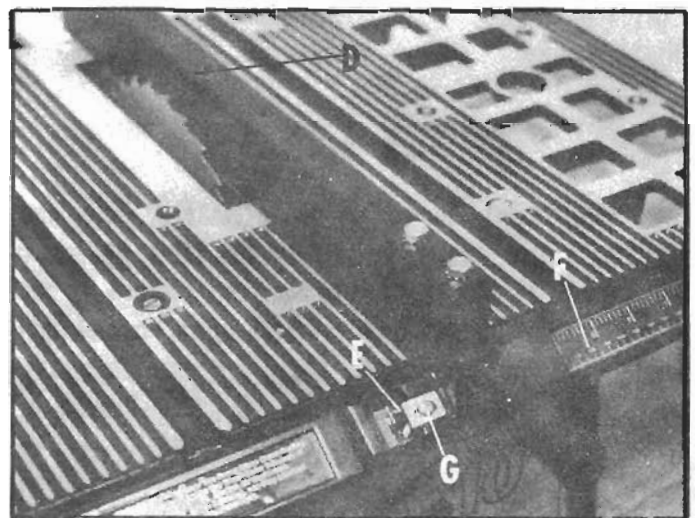


Fig. 28

MITER GAGE ADJUSTMENT

1. To adjust the miter gage, loosen the clamp knob (A) Fig. 29 so that the bar (E) is free to rotate. Using a combination square as shown in Fig. 29, position the bar (E) to be perpendicular to the miter gage body (B). Retighten the clamp knob (A) to hold the position.

2. The pointer (C) Fig. 30 should now read 90 degrees on the protractor scale on the miter gage body (B). If pointer (C) adjustment is required, loosen screw (D) Fig. 30, adjust pointer (C) and then retighten screw (D).

3. To operate the miter gage, simply loosen the clamp knob (A) Fig. 30 and move the miter body (B) to the desired angle as indicated by pointer (C). Clamp in position by tightening clamp knob (A).

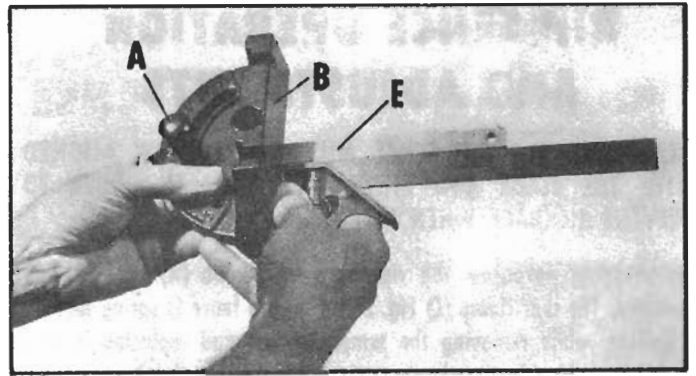


Fig. 29

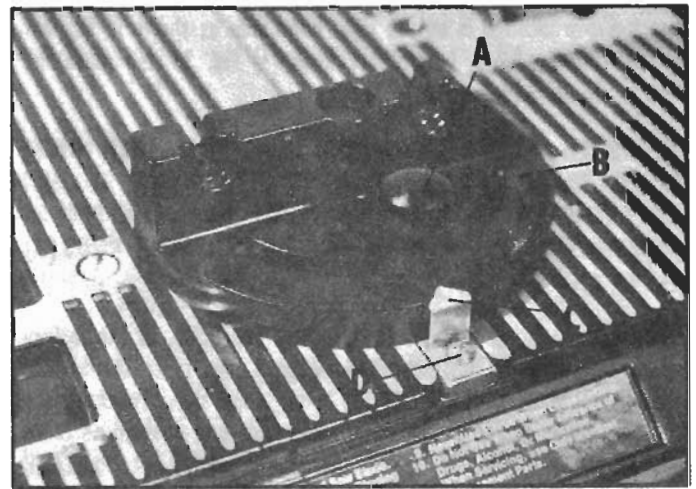


Fig. 30

TABLE INSERT

The table insert, including the accessory dado and moulding cutter inserts, is held in the table by spring clips (F) Fig. 31. The insert must not project above the top surface of the table top. After extended usage, careful light bending of the spring clips (F) will restore tightness. Immediately replace spring clips that are broken or ineffective.

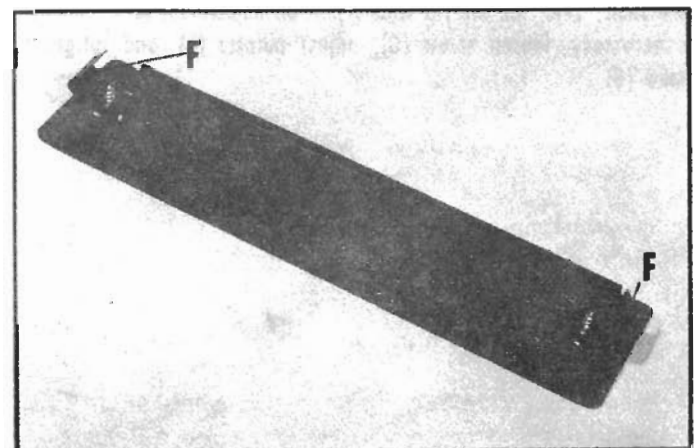


Fig. 31

ASSEMBLING AUXILIARY WOOD FACING TO RIP FENCE

When cutting thin material such as veneer, it is sometimes possible for the material to catch between the bottom of the rip fence and the table surface. To prevent this from happening, a wood facing should be attached to the fence as follows:

1. Cut a piece of smooth and straight wood approximately 3/4" thick to the length and height of the rip fence.
2. Attach wood facing (A) Fig. 31 to the rip fence (B) using three wood screws inserted through the holes provided in the fence.
3. Care should be taken that the wood facing fits flush to the table surface along edge (C) Fig. 31 so that thin material cannot slide under.

NOTE: When using an auxiliary facing on the rip fence, the rip scale cannot be used.

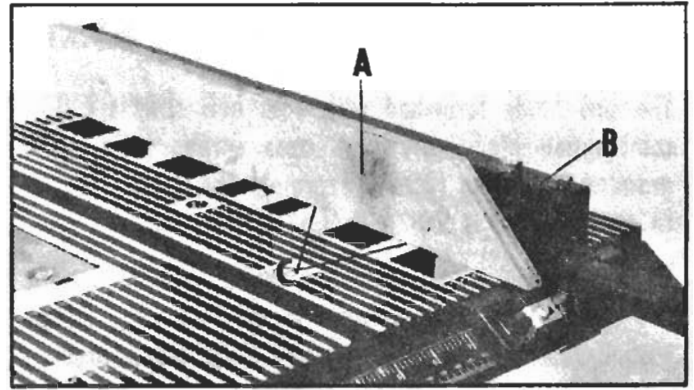


Fig. 31

ASSEMBLING AUXILIARY WOOD FACING TO MITER GAGE

It is sometimes desirable to have the work control surface of the miter gage body (D) Fig. 32 longer or higher than the casting. To do this a wood facing can be attached as follows:

1. Cut a piece of smooth and straight wood approximately 3/4" thick to the height and length desired.
2. Attach the wood facing (E) Fig. 32 to the body using two #12 round head wood screws (F) as shown in Fig. 32.
3. Care should be taken that the wood facing fits flush with the bottom of the body and the surface of the table.

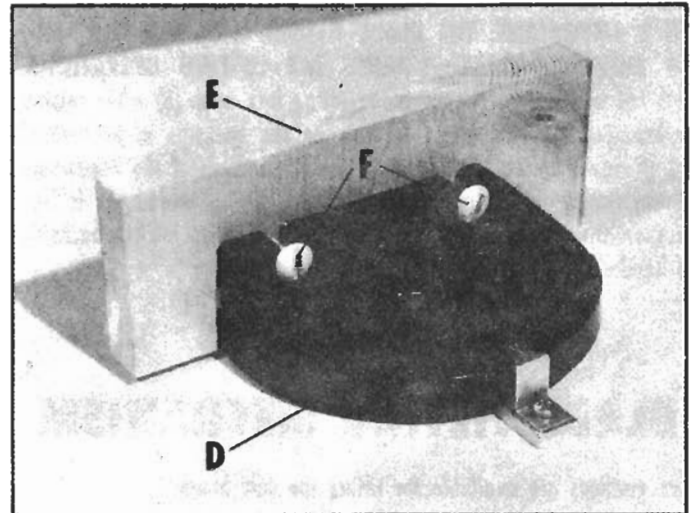


Fig. 32

REMOVING SAW BLADE

1. To remove the saw blade from your saw, first **MAKE SURE THE SAW IS DISCONNECTED FROM THE POWER SOURCE**, and raise the saw blade to the maximum height.

2. Remove table insert (G) Fig. 33.
3. Place a block of wood (H) Fig. 33 on table in front of saw blade making sure teeth of saw blade come into contact with the block of wood as shown.
4. Place arbor wrench (J) Fig. 33 on arbor nut (K) and turn arbor nut toward you to loosen. Remove arbor nut, flange and blade.

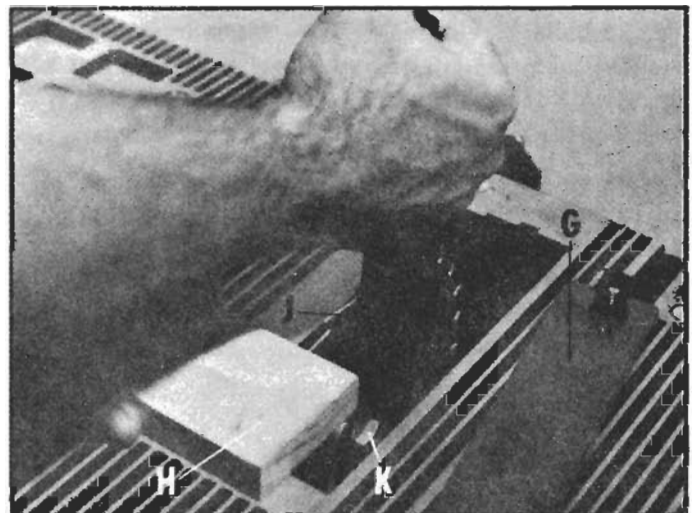


Fig. 33

SAW BLADES

- The saw blade furnished with your new saw is a 10'' combination blade, used for cross cutting (across the grain) and ripping (with the grain). The center hole to fit on the arbor is 5/8'' dia. (.625).
- There are many types of blades available to do specific and special jobs such as cross cut only, rip only, hollow ground, thin plywood, paneling, etc. These blades produce finer finished work, are more efficient and are easier on your saw. You will want to avail yourself of some of these as you become proficient with your projects.
- Use only saw blades designed for maximum safe operating speeds of 5,000 RPM or greater.
- Saw blades should always be kept sharp. It is recommended that you locate a reputable sharpening service to sharpen your blades when needed.
- Never stack blades on top of one another to store. Place material such as cardboard between them to keep the blades from coming in contact with one another.
- **CAUTION:** Abrasive wheels should not be used on this saw. However sanding disc can be used.

BLADE RAISING MECHANISM

To raise the saw blade, turn the handwheel (A) Fig. 34 **COUNTER-CLOCKWISE**. To lower the saw blade turn the handwheel (A) **CLOCKWISE**. **IMPORTANT: THE BLADE TILTING LOCK KNOB (B) FIG. 34 MUST BE LOCKED DURING ALL CUTTING OPERATIONS.** It is not necessary to loosen blade tilting lock knob (B) when raising or lowering the saw blade. Detents on the backside of handwheel (A) engage a spring loaded pin to prevent rotation of the handwheel during cutting operations. Always be sure spring loaded pin is free to operate properly and that it is seated in a detent on the backside of handwheel (A) Fig. 34.

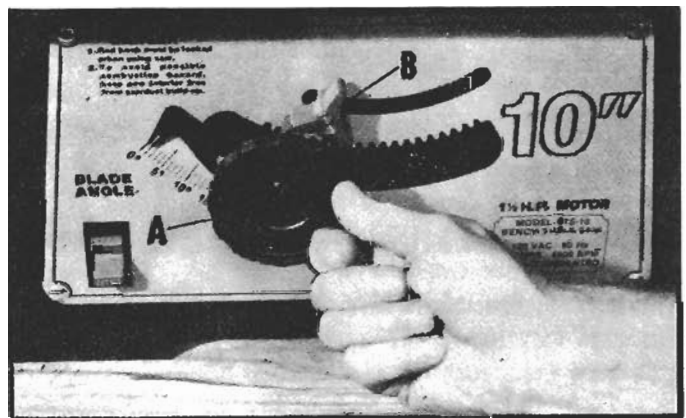


Fig. 34

BLADE TILTING MECHANISM

Two methods are available for tilting the saw blade:

RAPID BLADE TILTING — Loosen blade tilting lock knob (B) Fig. 35, move the handwheel assembly to the desired angle and tighten lock knob (B).

FINE ADJUSTMENT BLADE TILTING — Loosen blade tilting lock knob (B) Fig. 36, push in handwheel (A) and at the same time turn the handwheel (A) to tilt the saw blade. When the saw blade is at the desired angle, tighten lock knob (B).

IMPORTANT: BLADE TILTING LOCK KNOB (B) FIG. 35 AND FIG. 36 MUST BE LOCKED DURING ALL CUTTING OPERATIONS.

NOTE: Changing the angle of the saw blade can be accomplished independently from changing saw blade height.

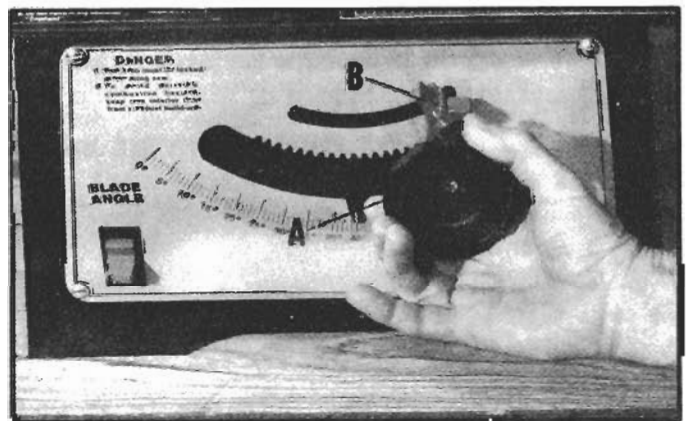


Fig. 35

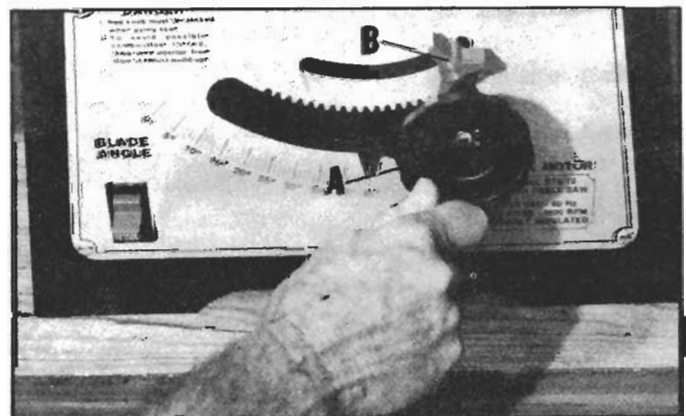


Fig. 36

CONNECTING SAW TO POWER SOURCE

IMPORTANT: BEFORE CONNECTING SAW TO POWER SOURCE, MAKE SURE THE SWITCH (A) FIG. 37 IS IN THE "OFF" POSITION. (Switch is pushed downward for "OFF.")

Your saw does not require an adaptor or grounded type power outlet because it is double insulated. It is equipped with a Torque motor that will operate at voltages that are within 5% above or below the voltage shown on the specification plate. Do not operate the tool at voltages that are not within correct limits. To do so will seriously damage the motor.

POWER CORD AND EXTENSION CORDS

Don't abuse power cord or extension cord. Never yank cord to disconnect it from a receptacle. Keep cords away from heat, oil and sharp edges. Have a registered electrician replace or repair damaged or worn cords immediately.

When using an extension cord, be sure the wire size is adequate to prevent excessive voltage drop which will cause loss of power and possible motor damage. For distances up to 100 feet, use #12 wire. For distances up to 150 feet, use #10 wire. If used outdoors, use only extension cord labeled "suitable for use with outdoors appliances — store indoors when not in use."

SWITCH

The switch (A) is located on the lower left front panel of the saw cabinet as shown in Fig. 37. To turn the saw "ON" move the switch (A) Fig. 37, to the up position. To turn the saw "OFF" move the switch to the down position. **WE SUGGEST THAT WHEN THE SAW IS NOT IN USE, THE SWITCH BE LOCKED IN THE "OFF" POSITION.** This can be done by using a secure pin which inserts through the 2 side holes.

The pin (lock) is not included.

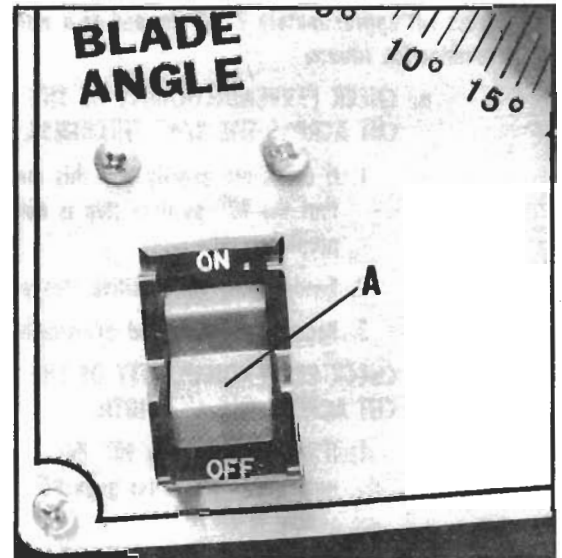


Fig. 37

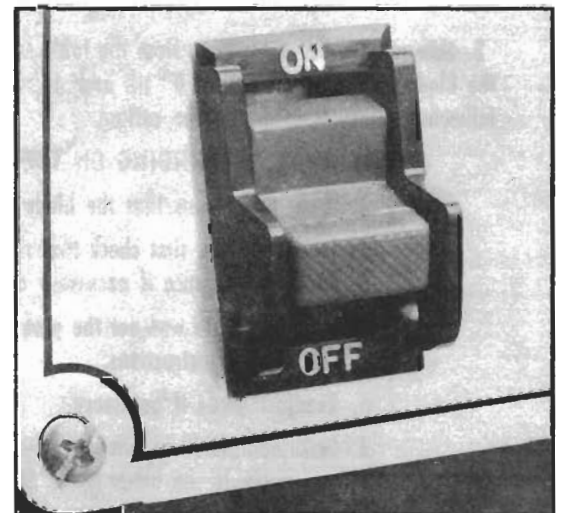


Fig. 38

OPERATION

Plain sawing includes ripping and cross cutting, plus a few other standard operations of fundamental nature. The following methods feature safety. As with all power tools there is a certain amount of hazard involved with the operator and his use of the tool. Using the tool with the respect and caution demanded as far as safety precautions are concerned will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or completely ignored, personal injury to the operator can result. Read and follow all warnings indicated on the saw. Observe the safety rules included in this manual.

THIS SAW IS NOT INTENDED FOR CUTTING OR GRINDING METALLIC WORK PIECES.

OPERATIONAL CHECKS

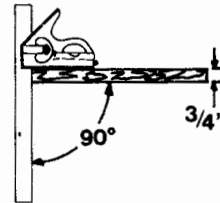
Now that you have properly mounted your saw to a suitable bench and have carefully completed the mechanical alignment of the various components, it is time to become familiar with its operation. The best way to do this is to recheck your mechanical alignments operationally. Before proceeding with these operational checks it is recommended that you read and understand the paragraphs "Cross Cutting" and "Ripping" on the following page.

You will need several pieces of clean smooth and straight scrap wood $\frac{3}{4}$ " thick by approximately 4" wide and 15" long.

1. Set the saw blade at 0 degrees (perpendicular to table) and blade height at approximately 1" above the table surface. Be sure the red lock knob is locked before operating the saw. Set your miter gage to 90° and place in miter gage slot on right hand side of the saw blade. Cross cut approximately 2" off the end of a work piece as shown in Fig. 39. Now make the following checks on the work piece with a combination square:

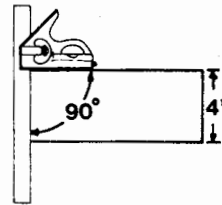
a. CHECK PERPENDICULARITY OF THE CUT ACROSS THE $\frac{3}{4}$ " THICKNESS.

1. If cut is not exactly 90° this means that the 90° positive stop is not properly set.
2. Readjust the 90° positive stop per Fig. 15 and instructions.
3. Repeat cross cuts and adjustments until you are satisfied that the 90° stop and pointer (E) Fig. 16 are correct.



b. CHECK PERPENDICULARITY OF THE CUT ACROSS THE 4" WIDTH.

1. If cut is not exactly 90° this means that the miter gage 90° setting is off.
2. Readjust the miter gage 90° setting per Figs. 29, 30 and instructions.
3. Repeat checking cross cuts and adjustments until satisfied miter gage setting is absolutely correct.



2. Now remove the miter gage from the table surface and clamp the rip fence on the table approximately $3\frac{1}{2}$ " on the right hand side of the blade. Leave the blade at 0° tilt and 1" height as was for the previous checks. Make a rip cut as shown in Fig. 41 and make the following observations during the cutting.

a. WAS THERE ANY BINDING ON THE BLADE PRIOR TO THE CUT STRADDLING THE SPREADER?

1. If so, this means that the blade and the rip fence are not absolutely parallel.
2. To correct this, first check that the rip fence is parallel to the miter gage slot in accordance with Fig. 27 and instructions.
3. Readjust rip fence if necessary and repeat rip cuts and adjustment until satisfied it is correct.
4. If the rip fence was not the problem, then the next step is to check the parallelism of the blade to the miter gage slot per Fig. 25 and instructions.
5. Readjust blade if necessary.
6. Make additional rip cuts and adjustments until satisfied there is no longer a blade binding problem. **NOTE:** If an adjustment was made to the blade (2. a. 5), then repeat cross cut checks (1. a. and 1. b.) above.

b. WAS THERE ANY BINDING ON THE BLADE AND/OR SPREADER AS THE RIP CUT STRADDLED THE SPREADER?

1. If so, readjust the spreader alignment to the blade per Figs. 20, 21, 22 and instructions.
2. Repeat rip cuts and realignment until satisfied no binding remains.
3. With the saw blade at 0° tilt and approximately 1" height and the red lock knob locked, clamp the rip fence on the right hand side of the table with pointer at **EXACTLY 3"** on the rip scale. Make a rip cut on a work piece.
 - (a) Measure the width of the work piece; it should be exactly 3 inches.
 1. If not 3 inches, readjust the pointer (E) Fig. 28 per instruction.
 2. Repeat rip cuts and readjustment of pointer until work piece width is exactly 3 inches.

NOTE: Different types of blades make different kerfs (width of cuts). Therefore, it is necessary to check adjustment of rip fence pointer when changing blades.

YOUR SAW IS NOW READY FOR YOUR FIRST PROJECT.

CROSS CUTTING

Cross cutting requires the use of the miter gage to position and guide the work. Place the work against the miter gage and advance both the gage and work toward the saw blade, as shown in Fig. 39. The miter gage may be used in either table slot. When bevel cutting (blade tilted), use the table groove that does not cause interference of your hand or miter gage with the saw blade guard, as shown in Fig. 40.

Start the cut slowly and hold the work **FIRMLY** against the miter gage and the table. One of the rules in running a saw is that you never hang onto or touch a free piece of work. Hold the supported piece, not the free piece that is cut off. The feed in cross cutting continues until the work is cut in two, then the miter gage and work are pulled back to the starting point. Before pulling the work back, it is good practice to give the work a little sideways shift to move the work slightly away from the saw blade. Never pick up any short length of free work from the table while the saw is running. A smart operator never touches a cut-off piece unless it is at least a foot long. **NEVER USE THE FENCE AS A CUT-OFF GAGE WHEN CROSS CUTTING.** Failure to observe this rule can result in dangerous binding and kickback with possible severe personal injury.

RIPPING

Ripping is the operation of making a lengthwise cut through a board, as shown in Fig. 41. The rip fence is used to position and guide the work. One edge of the work rides against the rip fence while the flat side of the board rests on the table. Since the work is pushed along the fence, it must have a straight edge and make solid contact with the table. The saw guard **MUST** be used. The guard has anti-kickback pawls to prevent kickback and a spreader to prevent the saw kerf from closing and binding the blade.

Start the motor and advance the work holding it down and against the fence. Never stand in the line of the saw cut when ripping. Hold the work with both hands and push it along the fence and into the saw blade as shown in Fig. 41. The work can then be fed through the saw blade with one or two hands. After the work is beyond the saw blade and anti-kickback pawls the hand is removed from the work. When this is done the work will either stay on the table, tilt up slightly and be caught by the rear end of the guard or slide off the table to the floor. Alternately, the feed can continue to the end of the table, after which the work is lifted and brought back along the outside edge of the fence. The waste stock remains on the table and is not touched with the hands until the saw blade is stopped, unless it is a large piece allowing safe removal.

If the ripped work is less than 3 inches wide, a push stick should be used to complete the feed, as shown in Fig. 42. The push stick can easily be made from scrap material. See pattern on page 21. When ripping 2 inches or narrower assemble an auxiliary wood facing to the fence, as shown in Fig. 31, and use a push stick.

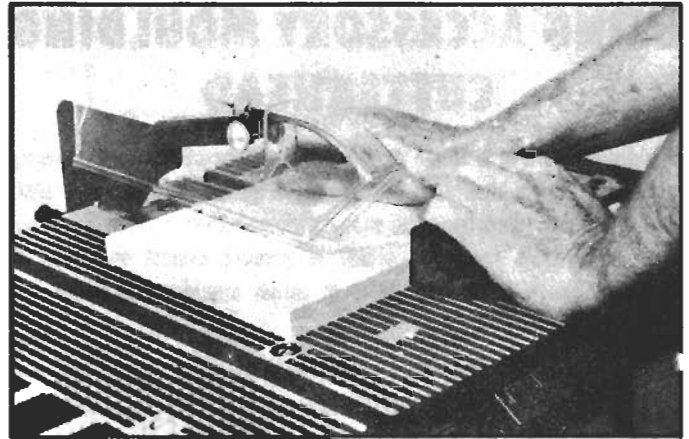


Fig. 39

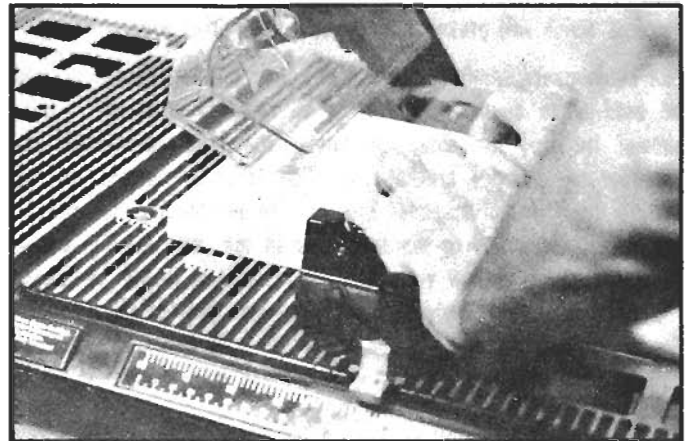


Fig. 40

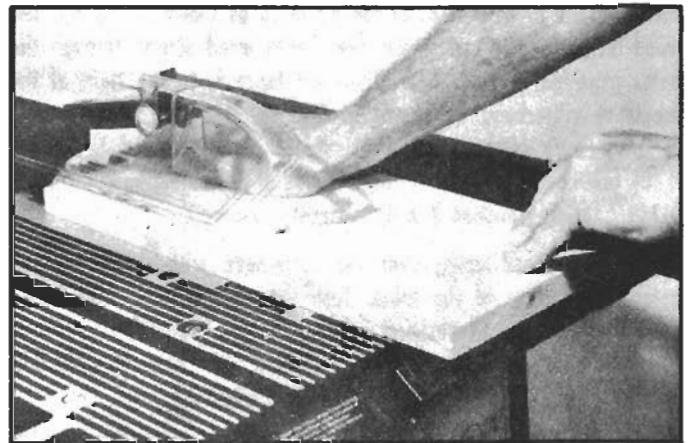


Fig. 41

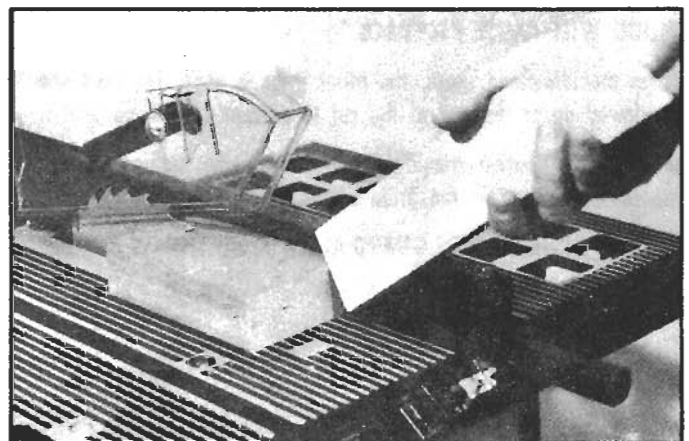


Fig. 42

USING ACCESSORY MOULDING CUTTERHEAD

Moulding is cutting a shape on the edge or face of the work. Cutting mouldings with a moulding cutterhead in the circular saw is a fast, safe and clean operation. The many different knife shapes available make it possible for the operator to produce almost any kind of mouldings, such as various styles of corner moulds, picture frames, table edges, etc.

The moulding head consists of a cutterhead in which can be mounted various shapes of steel knives, as shown in Fig. 43. Each of the three knives in a set is fitted into a groove in the cutterhead and securely clamped with a screw. The knife grooves should be kept free of sawdust which will prevent the cutter from seating properly.

The blade guard, spreader and anti-kickback pawls assembly cannot be used when moulding and must be removed from the saw as shown in Fig. 44. Loosen two nuts that hold blade guard and spreader to spreader bracket and slide spreader upward. Do not disturb alignment of spreader bracket. The moulding cutterhead (A) Fig. 44, is assembled to the saw arbor in the same manner as the saw blade. The shallow recess in the cutterhead should be toward the motor and the deeply recessed side is to provide clearance for the arbor nut. Do not use the outer blade flange with moulding cutterhead. An accessory moulding cutterhead table insert must be used in place of the standard table insert.

It is necessary when using the moulding cutterhead to add wood-facing to one or both sides of the rip fence as shown in Fig. 45. The wood-facing is attached to the fence with wood screws through the holes provided in the fence. When the fence is to the right of the moulding cutterhead as shown in Fig. 45, 3/4" stock is suitable for most work although an occasional job may require 1" facing. If the fence is to be used on the left side of the moulding cutterhead, a 1 1/2" facing (finished 2 x 4) is necessary.

Position the wood-facing over the cutterhead with the cutterhead below the surface of the table. Turn the saw on and slowly raise the cutterhead. The cutterhead will cut its own groove in the wood-facing. Fig. 45, shows a typical moulding operation. **NEVER USE MOULDING CUTTERHEAD IN A BEVEL POSITION.**

IMPORTANT: NEVER RUN THE STOCK BETWEEN THE FENCE AND THE MOULDING CUTTERHEAD, AS IRREGULAR SHAPED WOOD WILL CAUSE KICKBACK.

When moulding end grain, the miter gage is used. The feed should be slowed up at the end of the cut to prevent splintering.

In all cuts, attention should be given the grain, making the cut in the same direction as the grain whenever possible.

ALWAYS INSTALL BLADE GUARD AFTER OPERATION IS COMPLETE.

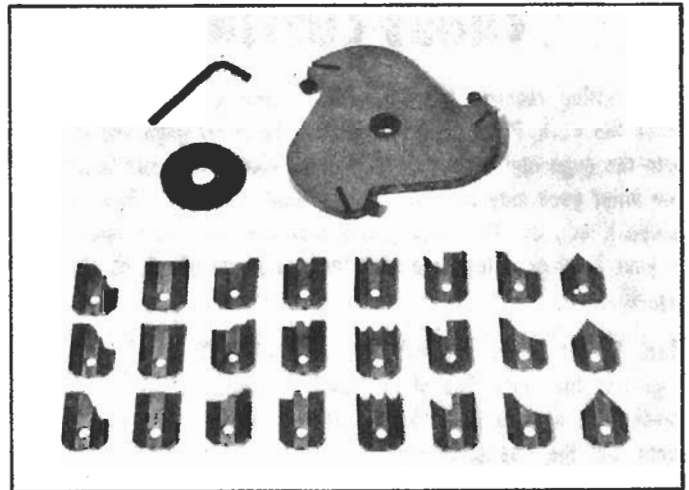


Fig. 43

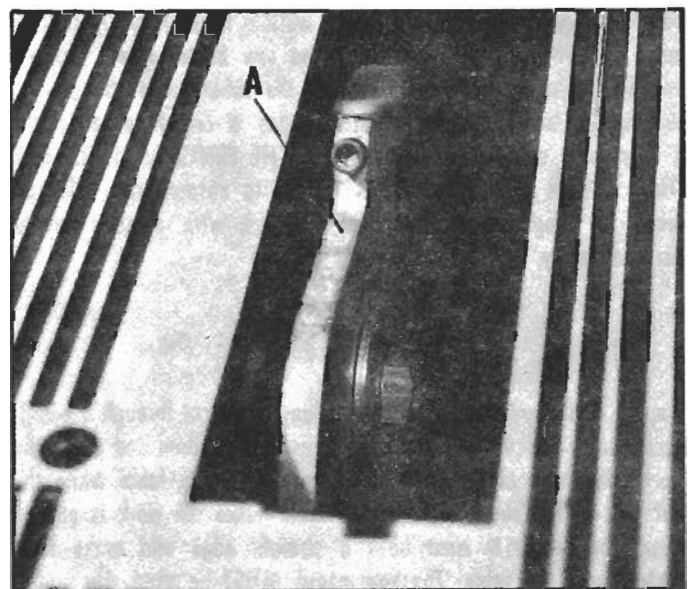


Fig. 44

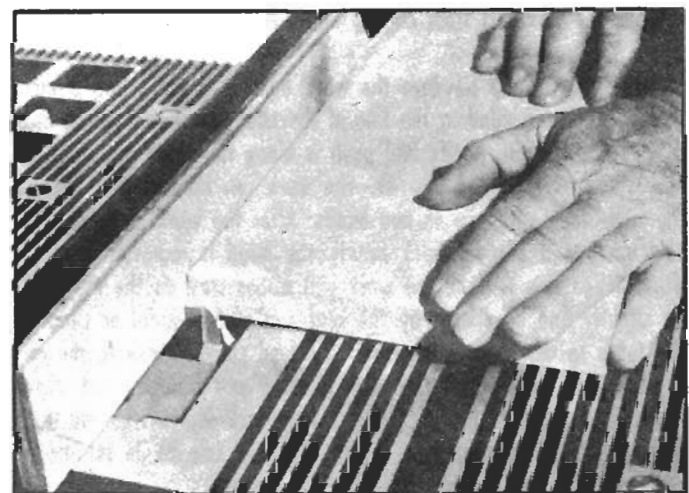


Fig. 45

USING ACCESSORY DADO HEAD

Dadoing is cutting a rabbet or a wide groove into the work. The dado head set consists of two outside saws and three inside cutters, as shown in Fig. 46. Various combinations of saws and cutters are used to cut grooves from 1/4" through 1/2" wide in 1/16" increments for use in shelving, making joints, tenoning, grooving etc. The cutters are heavily swaged and must be arranged so that this heavy portion falls in the gullets of the outside saws, as shown in Fig. 47. The saw and cutter overlap is shown in Fig. 48, (A) being the outside saw, (B) an inside cutter, and (C) a paper washer or washers which can be used as needed to control the exact width of groove. A 1/4" groove is cut by using the two outside saws. The teeth of the saws should be positioned so that the raker on one saw is beside the cutting teeth on the other saw. **DO NOT** use dadoes wider than 1/2" as they will not allow arbor nut to properly engage threaded arbor shaft.

The blade guard, spreader and anti-kickback pawls assembly cannot be used when dadoing and must be removed from the saw as shown in Fig. 49. Loosen two nuts that hold blade guard and spreader to spreader bracket and slide spreader upward. Do not disturb alignment of spreader bracket. The dado head set (A) Fig. 49, is assembled to the saw arbor in the same manner as the saw blade. An accessory dado head table insert must be used in place of the standard table insert.

NEVER USE THE DADO HEAD IN A BEVEL POSITION.

ALWAYS INSTALL BLADE GUARD AFTER OPERATION IS COMPLETE.

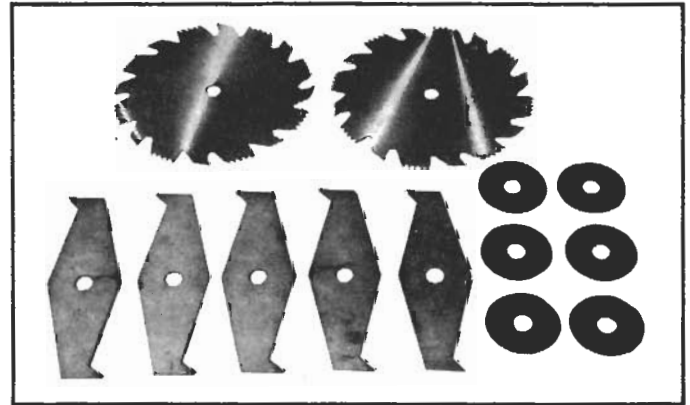


Fig. 46

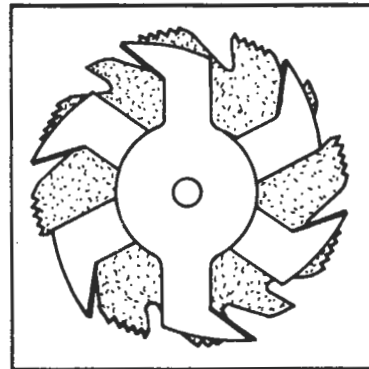


Fig. 47

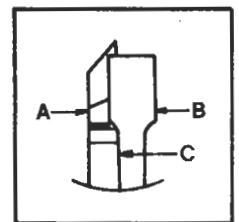


Fig. 48

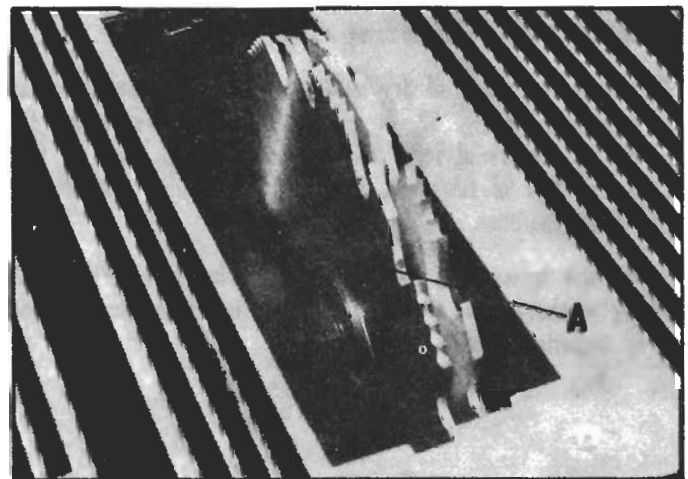


Fig. 49

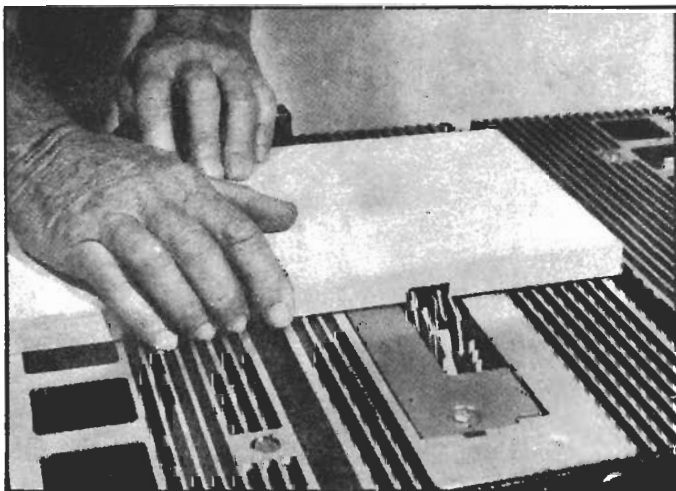


Fig. 50

Fig. 50 shows a typical dado operation using the miter gage as a guide.

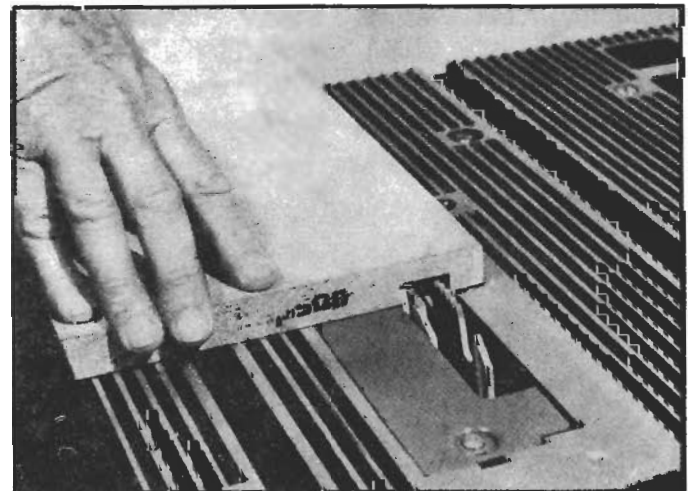


Fig. 51

Fig. 51 shows a typical dado operation using the rip fence as a guide.

MAINTENANCE

BRUSH INSPECTION

For your continued safety and electrical protection, brush inspection and replacement on this tool should **ONLY** be performed by an **AUTHORIZED SERVICE STATION**.

INSPECTION AND ADJUSTMENT OF BLADE RAISING AND TILTING MECHANISM

After each 5 hours of operation the blade raising mechanism and tilting mechanism should be checked for looseness, binding or other abnormalities. With the saw disconnected from the power source, turn the saw upside down and alternately pull upward and downward on the motor unit and observe any movement of the motor mounting mechanism. Looseness or "play" in the blade raising screw rod (E) Fig. 52, should be adjusted as follows:

1. Loosen nut (B) Fig. 52
2. Adjust nut (G) until it is "finger-tight" against washers (C) and bracket (D); then back off nut (G) 1/6 turn.
3. Tighten nut (B) while holding nut (G)

Maximum allowable play of screw rod (E) is .015"

Place a small amount of dry lubricant such as graphite or silicon on screw rod (E) Fig. 52, at washers (C) and thrust washer (F). Do not oil threads of screw rod (E). Screw rod (E) must be kept clean and free of saw dust, gum, pitch and other contaminants for smooth operation.

If excessive looseness is observed in any other part of the blade raising mechanism or tilting mechanism, take the complete unit to an Authorized Service Station.

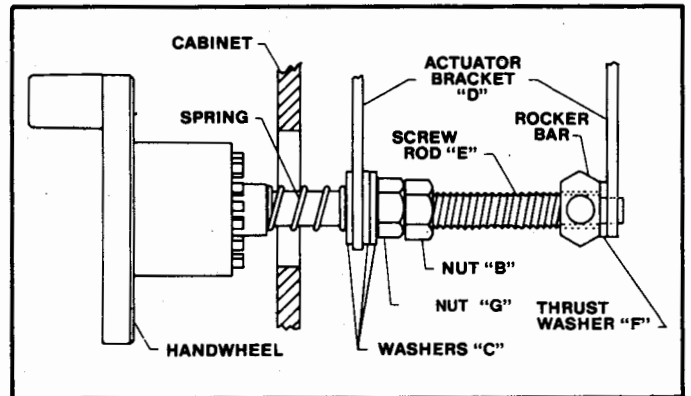


Fig. 52

CHECKING TENSION ON PIVOT ROD

When the blade tilting lock knob is loosened, the motor should slowly pivot downward due to its own weight and tilt the saw blade. However, if the motor drops suddenly when the blade tilting lock knob is loosened, the mounting straps for the pivot rod are too loose and an unsafe condition exists. Take the saw to an Authorized Service Station to have this condition corrected before further use of the saw.

INSPECTION AND LUBRICATION OF HANDWHEEL DETENT PIN

A spring loaded detent pin is located behind the blade raising and tilting handwheel. Inspect the detent pin to be sure it is clean and operates freely when the handwheel is pushed in, and that it fully returns when the handwheel is released. Periodically put a small amount of dry lubricant such as graphite or silicon on detent pin where the pin enters its supporting housing.

REPLACEMENT PARTS

When servicing use only identical replacement parts.

TROUBLE SHOOTING GUIDE

TROUBLE!! SAW WILL NOT START

WHAT'S WRONG?

1. Saw not plugged in
2. Fuse blown or circuit breaker tripped
3. Cord damaged

WHAT TO DO . . .

1. Plug in saw. See page 2
2. Replace fuse or reset circuit breaker
3. Have cord replaced by an Authorized Service Center

TROUBLE!! DOES NOT MAKE ACCURATE 45° AND 90° RIP CUTS

WHAT'S WRONG?

1. Positive stop not adjusted correctly
2. Tilt angle pointer not set accurately

WHAT TO DO . . .

1. Check blade with square and adjust positive stop. See page 7
2. Check blade with square and adjust pointer to zero. See page 7

TROUBLE!! MATERIAL PINCHES BLADE WHEN RIPPING

WHAT'S WRONG?

1. Rip fence not aligned with blade
2. Warped wood

WHAT TO DO . . .

1. Check and adjust rip fence. See page 10
2. Select another piece of wood

TROUBLE!! MATERIAL BINDS ON SPREADER

WHAT'S WRONG?

1. Spreader not aligned correctly with blade

WHAT TO DO . . .

1. Check and align spreader with blade. See pages 8 and 9

TROUBLE!! SAW MAKES UNSATISFACTORY CUTS

WHAT'S WRONG?

1. Dull blade
2. Blade mounted backwards
3. Gum or pitch on blade
4. Incorrect blade for work being done
5. Gum or pitch on table causing erratic feed

WHAT TO DO . . .

1. Replace blade. See pages 6 and 12
2. Turn blade around. See pages 6 and 12
3. Remove blade and clean with turpentine and coarse steel wool
4. Change the blade. See pages 6 and 12
5. Clean table with turpentine and steel wool

TROUBLE!! MATERIAL KICKED BACK FROM BLADE

WHAT'S WRONG?

1. Rip fence out of alignment
2. Spreader not aligned with blade
3. Feeding stock without rip fence
4. Spreader not in place
5. Dull blade
6. Letting go of material before it is past saw blade

WHAT TO DO . . .

1. Align rip fence with miter gage slot. See page 10
2. Align spreader with blade. See pages 8 and 9
3. Install and use rip fence. See page 10
4. Install and use spreader (with guard). See pages 8 and 9
5. Replace blade. See pages 6 and 12
6. Push material all the way past saw blade before releasing work

TROUBLE!! BLADE DOES NOT RAISE OR TILT FREELY

WHAT'S WRONG?

1. Sawdust and dirt in raising and tilting mechanisms

WHAT TO DO . . .

1. Brush or blow out loose dust and dirt

TROUBLE!! BLADE DOES NOT COME UP TO SPEED

WHAT'S WRONG?

1. Extension cord too light or too long
2. Low house voltage

WHAT TO DO . . .

1. Replace with adequate size cord. See page 14
2. Contact your electric company

TROUBLE!! MACHINE VIBRATES EXCESSIVELY

WHAT'S WRONG?

1. Saw not mounted securely to stand or work bench
2. Stand or bench on uneven floor
3. Damaged saw blade

WHAT TO DO . . .

1. Tighten all mounting hardware. See pages 5 and 6
2. Reposition on flat level surface. Fasten to floor if necessary. See page 6
3. Replace blade. See pages 6 and 12

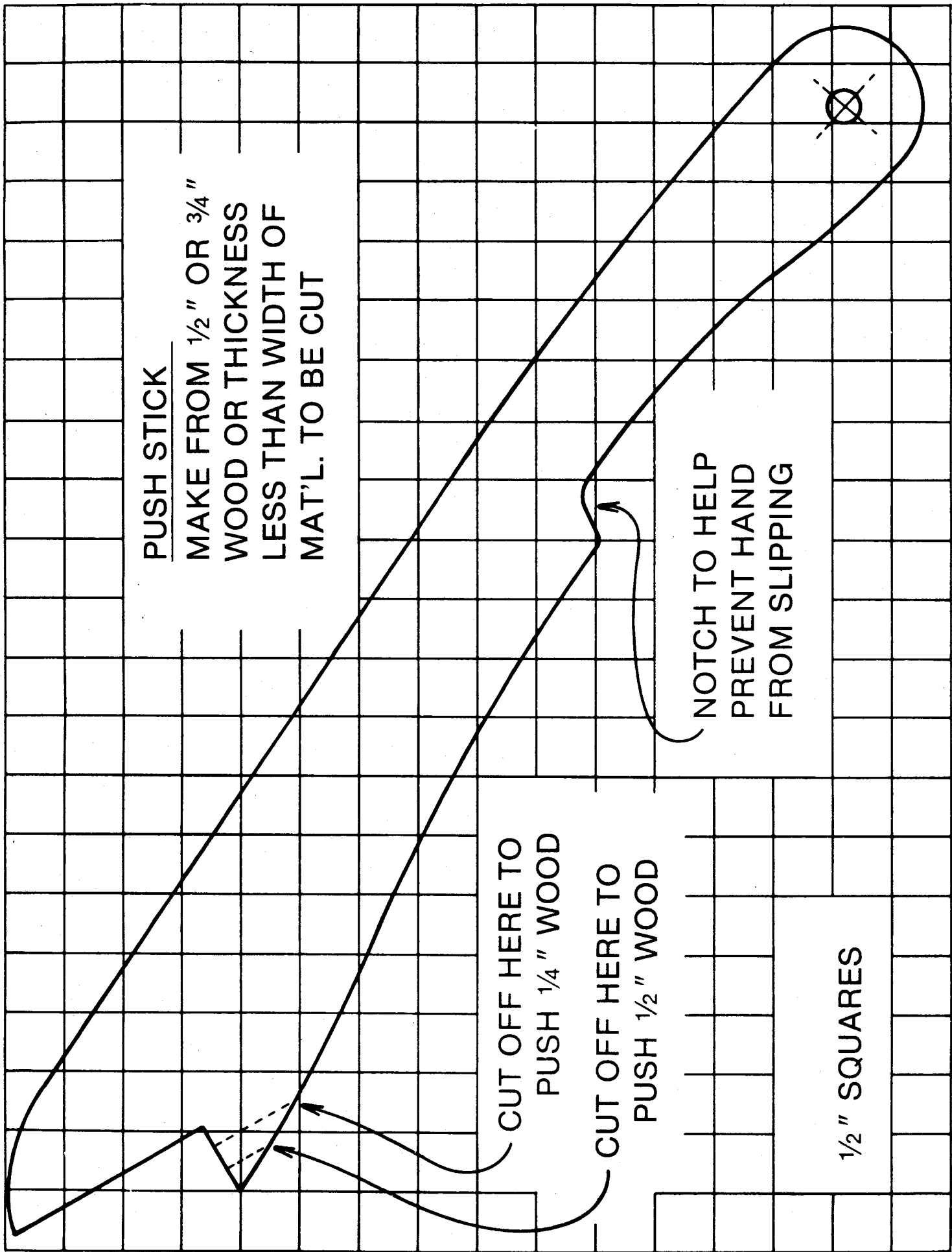
TROUBLE!! DOES NOT MAKE ACCURATE 45° AND 90° CROSSCUTS

WHAT'S WRONG?

1. Miter gage out of adjustment

WHAT TO DO . . .

1. Adjust miter gage. See page 9



PUSH STICK
MAKE FROM 1/2" OR 3/4"
WOOD OR THICKNESS
LESS THAN WIDTH OF
MAT'L. TO BE CUT

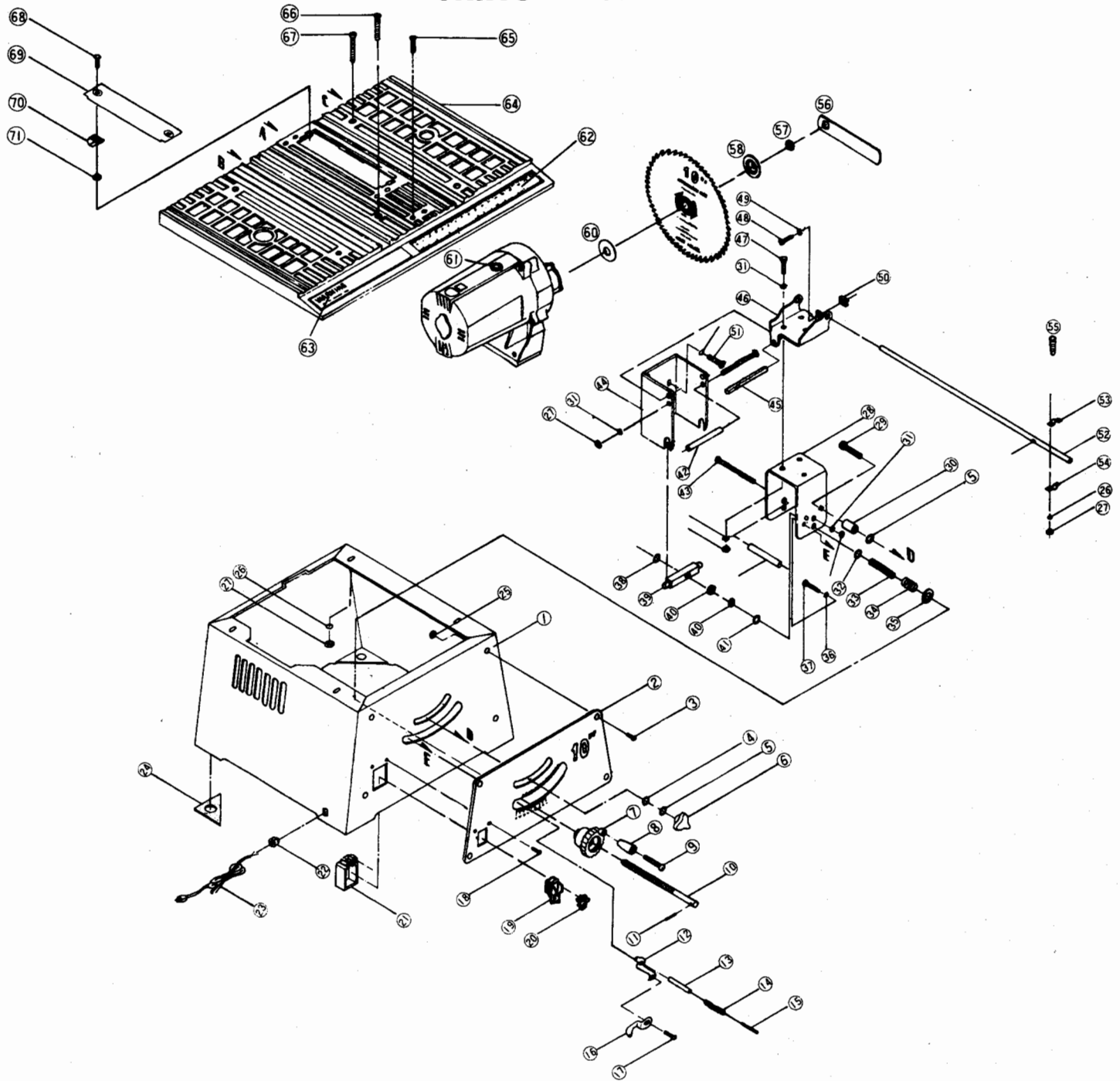
NOTCH TO HELP
PREVENT HAND
FROM SLIPPING

CUT OFF HERE TO
PUSH 1/4" WOOD

CUT OFF HERE TO
PUSH 1/2" WOOD

1/2" SQUARES

PARTS DIAGRAM



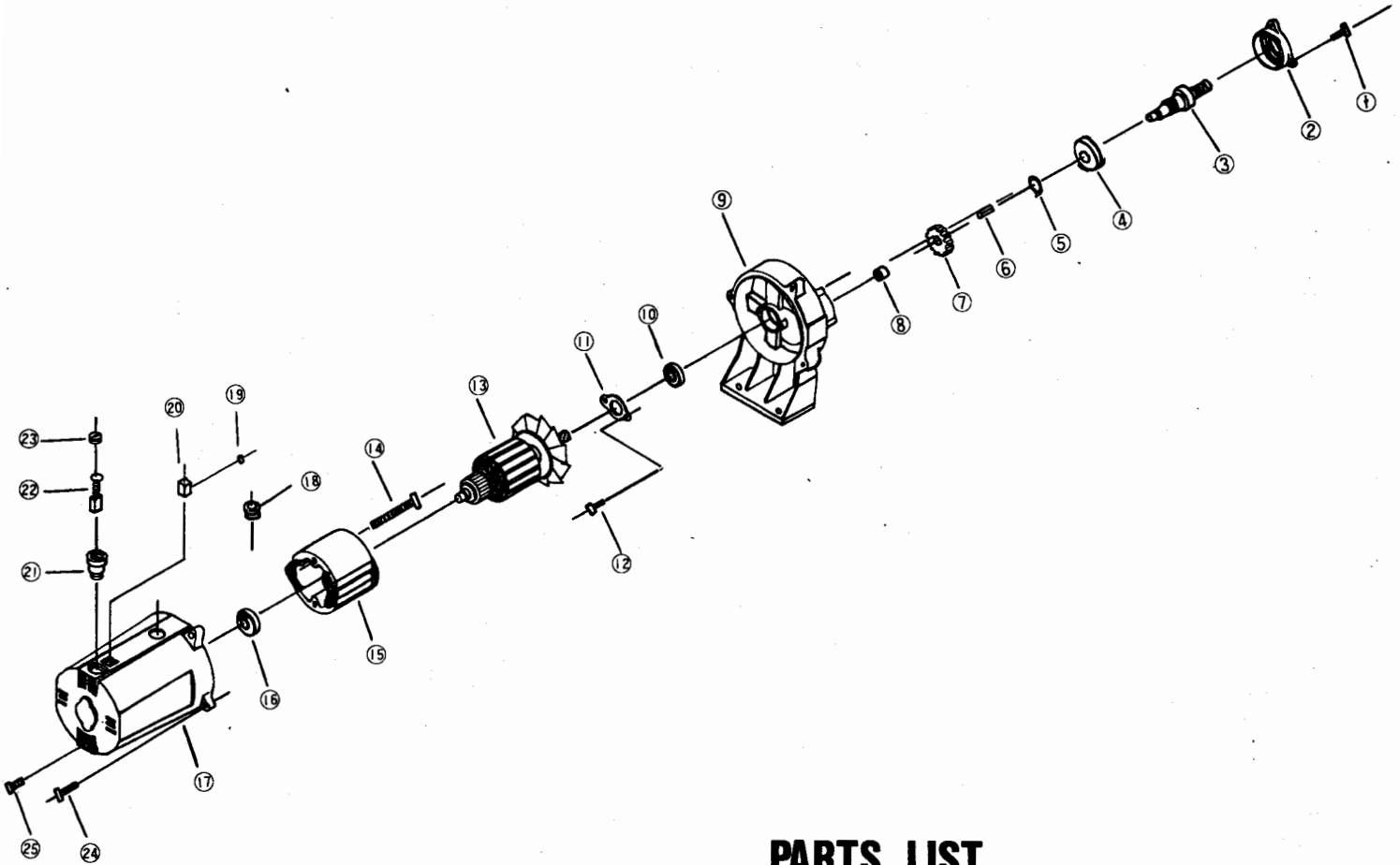
PARTS LIST

Ref. No.	Parts Names	Quantity	Remark
1	Cabinet	1	
2	Front Plate	1	
3	Screw	1	# 10-24UNC X1/2"
4	Plastic Washer	1	1/4"
5	Washer	1	1/4"
6	Lock Knob	1	
7	Handwheel	1	
8	Speed Knob	1	
9	Screw	1	1/4"-20UNC X2-1/8"
10	Screw Rod	1	
11	Spring Pin	1	
12	Pointer Support Bracket	1	
13	Detent Tube	1	
14	Spring	1	
15	Detent Pin	1	
16	Pointer	1	
17	Hex. Head Screw	1	
18	Tapping Screw	1	#10-10UNC X3/4"
19	Switch	1	

20	Switch Key	1	
21	Switch Cover	1	
22	Bushing	1	
23	Power Cord	1	
24	Foam Washer	1	
25	Nut	1	# 10
26	Spring Washer	1	1/4"
27	Nut	1	1/4"
28	Actuator Bracket	1	
29	Carriage Bolt	1	1/4"-20UNC X1-3/8"
30	Spacer	1	
31	Star Washer	1	1/4"
32	Washer	1	3/8"
33	Spring	1	
34	Spring	1	
35	Washer	1	1/2"
36	Star Washer	1	5/16"
37	Hex. Head Screw	1	1/4"-20UNC X3-1/4"
38	Washer	1	1/4"
39	Rocker Bar	1	
40	Nut	1	3/8"
41	Lock Washer	1	3/8"
42	Spacer	1	
43	Bolt	1	1/4"-20UNC X3-1/4"
44	Motor Support Bracket	1	
45	Roll Pin	1	

46	Pivot Bracket	1	
47	Screws	1	1/4"-20UNC X1/2"
48	Hex. Head Screw	1	3/16"-24UNC X1/4"
49	Star Washer	1	3/16"
50	Saddle	1	
51	Screw	1	1/4"-20UNC X5/8"
52	Pivot Rod	1	
53	Upper Pivot Strap	1	
54	Lower Pivot Strap	1	
55	Screw	1	
56	Arbor Wrench	1	
57	Nut	1	
58	Washer	1	
59	Saw Blade	1	
60	Washer	1	
61	Motor	1	
62	Scale Label	1	
63	Warning Label	1	
64	Table	1	
65	Screw	1	1/4"-20UNC X7/8"
66	Positive Stop Screw	1	1/4"-20UNC X1"
67	Screw	1	1/4"-20UNC X1-3/4"
68	Screw	1	5/32"-32UNC X1/4"
69	Table Insert	1	
70	Spring Fastener	1	
71	Nut	1	5/32"

PARTS DIAGRAM



PARTS LIST

Ref. No.	Parts Names	Quantity	Remark
Motor			
1	Screw	1	M 4x8
2	Bearing Retainer	1	
3	Gear Spindle	1	
4	Ball Bearing	1	
5	C Type Snap Ring	1	
6	Pin	1	
7	Gear	1	
8	Bearing	1	
9	Gear Housing	1	
10	Bearing	1	
11	Bearing Retainer	1	
12	Screw	1	M 4 x 8
13	Armature	1	
14	Screw	1	M 5
15	Field	1	
16	Bearing	1	
17	Field Housing	1	
18	Bushing	1	
19	Nut	1	M 5 x 56
20	Nut Holder	1	
21	Brush Holder	1	
22	Carbon Brush	1	
23	Brush Holder Cap	1	
24	Screw	1	M 5 x 25
25	Screw	1	M 4 x 10