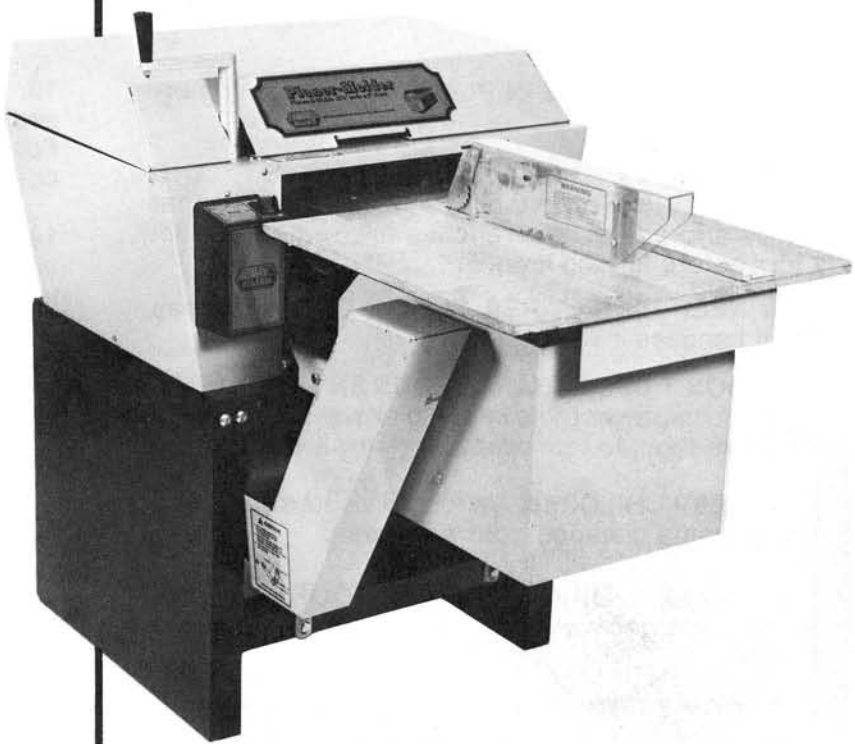
FOLEY BELSAW

OWNERS
MANUAL



MODEL 984
12" PLANER/MOLDER
w/SAW ATTACHMENT

MODEL 985
12" PLANER/MOLDER

— NOTICE —
FOR YOUR OWN SAFETY
READ INSTRUCTION MANUAL
BEFORE OPERATING TOOL
WEAR EYE PROTECTION

ONE YEAR GUARANTEE

All Foley-Belsaw equipment is guaranteed to be sturdily constructed and free of defects in workmanship or material.

If within one year from date of shipment, any parts should prove defective, replacement parts will be furnished free of charge when defective part is returned postpaid for inspection.

Guarantee does not cover damage sustained in transit or caused by misuse.

We reserve the right to make changes in design, construction, or materials on all Foley-Belsaw machines without notice.

SAFETY INSTRUCTIONS

While using any equipment, safe operating practices should always be followed. Wherever you see the "Stop for Safety" stop sign, extra safety precautions should be taken and you must stop, read, and carefully follow the instructions before proceeding to the next step.

1. KEEP GUARDS IN PLACE and in working order.

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

3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

4. 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.

5. KEEP CHILDREN AWAY. All visitors should be kept a safe distance from work area.

6. MAKE WORKSHOP KID-PROOF with padlocks, master switches, or by removing starter keys.

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

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

9. WEAR PROPER APPAREL. Wear no loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

10. ALWAYS 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.

11. SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.

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

13. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

14. DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.

15. REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.

16. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to person.

17. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

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

19. DIRECTION OF FEED. Only feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

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

21. KNOW YOUR POWER TOOL. Read the owner's manual carefully. Learn application and limitations as well as specific potential hazards peculiar to this tool.

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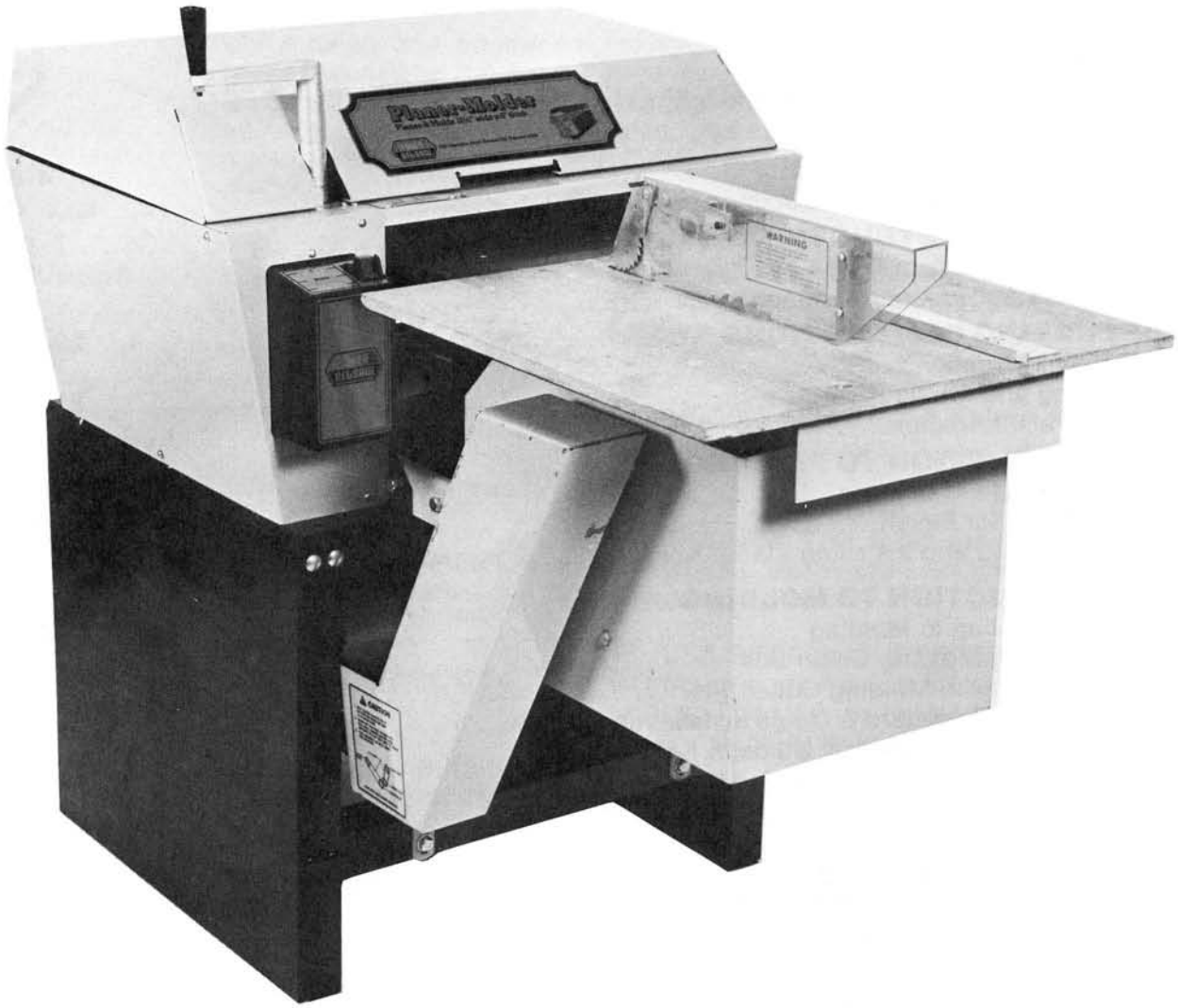
INTRODUCTION TO YOUR 12" PLANER/MOLDER/SAW

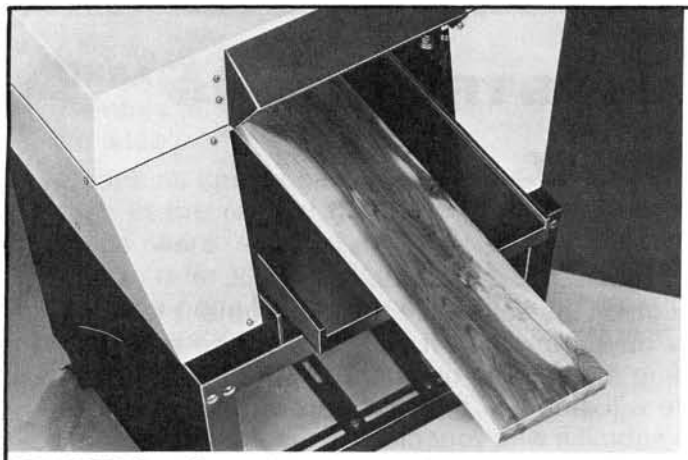


WELCOME TO THE FIELD OF WOOD PLANING & MOLDING

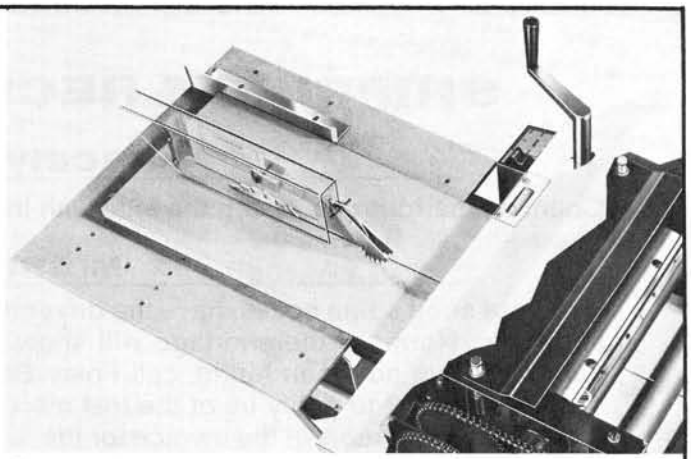
Congratulations on your purchase of FOLEY-BELSAW equipment. For well over 60 years, FOLEY-BELSAW has been the leading manufacturer of thickness planers. All serious shop and production work requires a machine of this type to hold tolerances of yard bought wood to an acceptable level. Other advantages include savings in buying rough sawed lumber and planing to smoother finishes that cannot be matched by yard bought lumber.

Considering the savings, not only in dollars, but in sanding and hand planing time, every craftsman needs a machine of this type. Years ago, the main drawback of planing and molding was the high-cost of the specialized woodworking machines, and most machines were designed only for high speed and high production. Over sixty years ago, FOLEY-BELSAW brought the thickness planer into the range of the individual craftsman and the small cabinet shop with the introduction of our one-man planing mill. Versatility was added over the years by making the machines handle a variety of work, such as sawing and molding. With this heritage of innovative design, FOLEY-BELSAW is proud to introduce the newest Planer/Molder/Saw in its line. Our years of experience in the molding industry have allowed us to design a truly versatile and quality machine which will give you years of quality planing.

PLANE... MOLD... SAW...



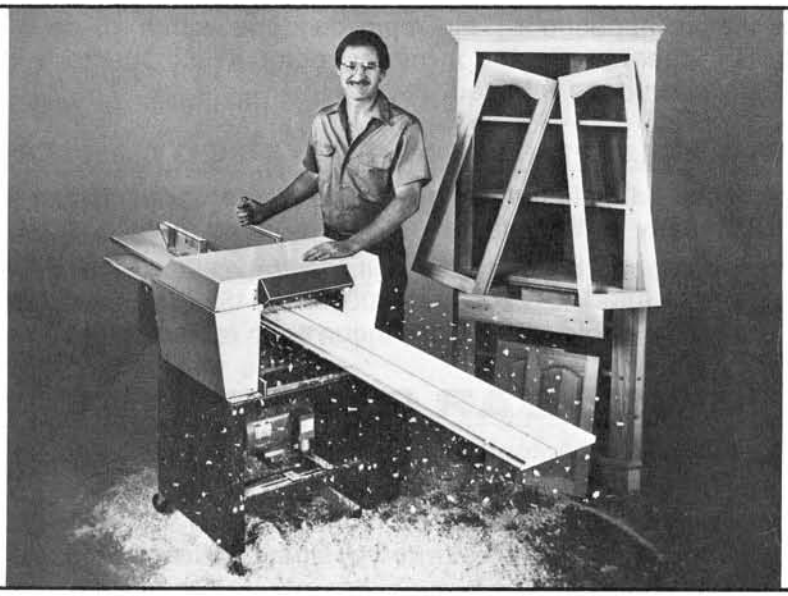
PLANING - Cutterhead uses three planer knives to surface stock up to 12⅜" wide and up to 6¼" thick.



SAWING - Rip stock up to 2⅛" thick and stock self-feeds at 12' per minute. Transparent saw guard has two anti-kick-back prongs for operator safety.

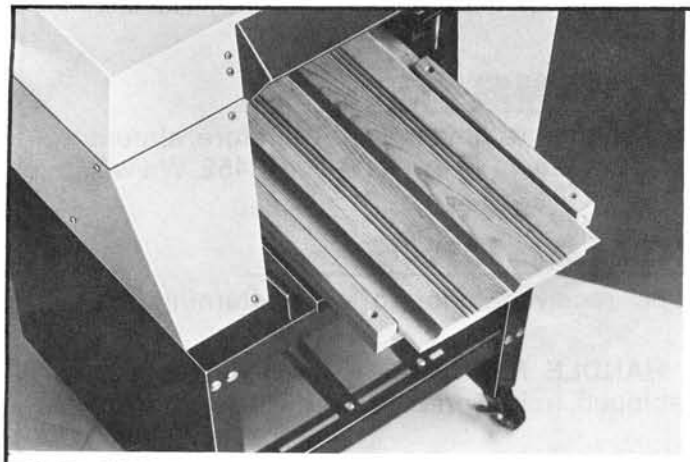
PLANE...

FACE MOLD...

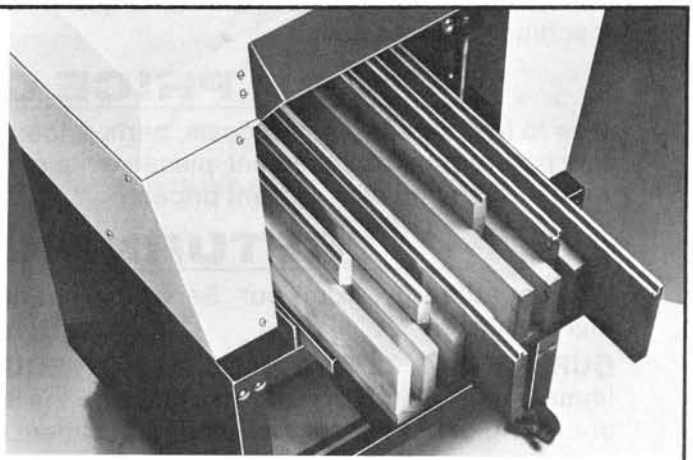


SAW...

EDGE MOLD...



FACE MOLDING - This board is emerging from the new FOLEY-BELSAW, planed to the desired thickness and molded, all with power feed.



EDGE MOLDING - Tongue-and-groove molding is a simple operation on the new FOLEY-BELSAW, one of many molding operations possible by easily and quickly changing the cutters.

SHIPPING & RECEIVING INSTRUCTIONS

RECEIVING SHIPMENT

Count the cartons and match the total with the quantity shown on the Bill of Lading.

MISSING CARTONS

If you are short some boxes, have the driver make a notation on the delivery receipt. Example: 1 carton short, etc. Normally the shortage will show up in a few days. However, if after 5-days the missing carton(s) have not been found, call Foley-Belsaw by using the toll free numbers 1-800-328-7140 or 1-800-821-3452 to notify us of the lost merchandise. We will ship you replacements and bill you for them. When you receive the invoice for the replacements submit it with your claim to the transportation company.

DAMAGED CARTONS

EXAMINE YOUR SHIPMENT CAREFULLY—Upon receipt note the condition of the cartons. The truck is not allowed to wait while you inspect the contents of each carton, however, if upon unpacking your shipment, you notice damage of any kind to the contents, **STOP** and notify the transportation company immediately and request an inspection. (This must be done within 15-days of delivery.) Keep all shipping cartons and have them available for the inspector. The inspector will write up a complete inspection report and leave one copy with you.

REPLACING MISSING/DAMAGED CARTONS

In the case of easily replaced parts, first order new parts needed, pay for them and then enter a claim with the transportation company for their value.

In the case of machinery damaged beyond your ability to repair call FOLEY-BELSAW immediately by using the toll free numbers 1-800-328-7140 or 1-800-821-3452. You must still request an inspection within 15-days or we will not be liable for any loss incurred in replacing the machine.

ONE YEAR GUARANTEE

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PRICE QUOTATIONS

Due to inflation and rising costs, parts prices are subject to change without notice. Therefore, should any part require replacement, please write or call toll-free 1-800-328-7140 or 1-800-821-3452. We will then furnish you with current prices.

RETURNING MERCHANDISE

Written authority from our Service Department must be received, prior to your returning the merchandise.

OUR KANSAS CITY OFFICE IS NOT EQUIPPED TO HANDLE RETURNS—we will advise you immediately the factory address to which the item is to be shipped, freight prepaid. This will avoid delay in making exchange, or any other adjustment.

Merchandise without the proper authorization will not be accepted by our receiving department and will be returned to the customer.

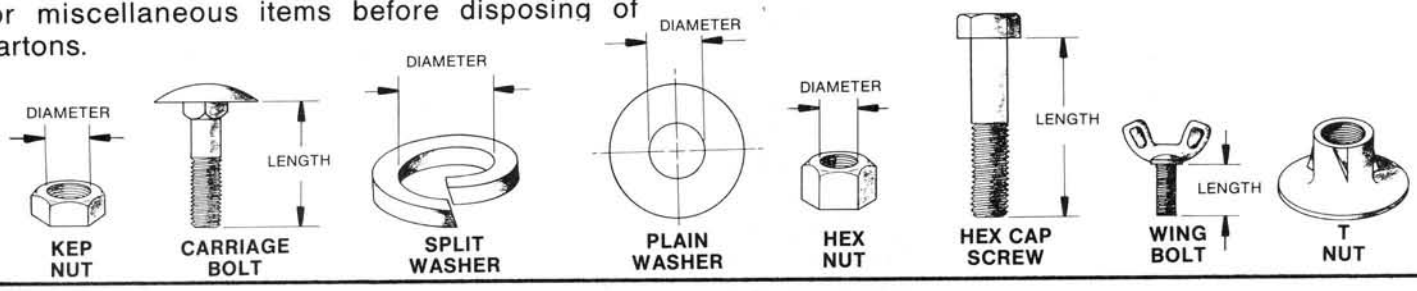
ASSEMBLY INSTRUCTIONS: STAND ASSEMBLY

UNPACK CARTONS

Remove all items from their cartons and sort out on a table.

Check all items against the exploded view drawings in the rear of the manual to insure that all items were shipped properly. If any problems occur, refer to the Shipping & Receiving Instructions on page 6. Double check all packing cartons for miscellaneous items before disposing of cartons.

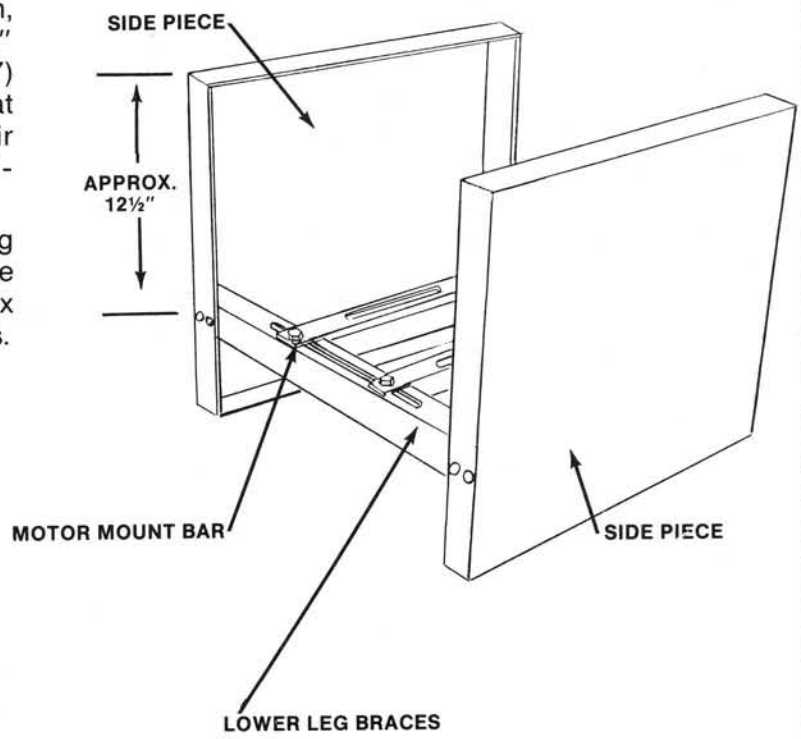
TOOLS NEEDED:
7/16" Wrench
1/2" Wrench
2 each 9/16" Wrenches
Hammer
1/8" Allen Wrench
Flathead & Phillips Screwdrivers
Tape Measure



STAND ASSEMBLY

Firmly mount the lower leg braces (No. 17) to the side pieces (No. 11) using the eight (8) each, 5/16" carriage bolts, 3/4" long; and the 5/16" hex nuts provided. The lower leg braces (No. 17) should be mounted onto the side pieces so that they are as high up as they can be in their elongated slots. This will ease the motor and V-belt installation later on.

Loosely mount the motor mount bars onto the leg braces (No. 17) as shown in the diagram, using the four (4) each, hex cap screws 3/4" long; 3/8" hex nuts; 3/8" plain washers; and 3/8" split washers.



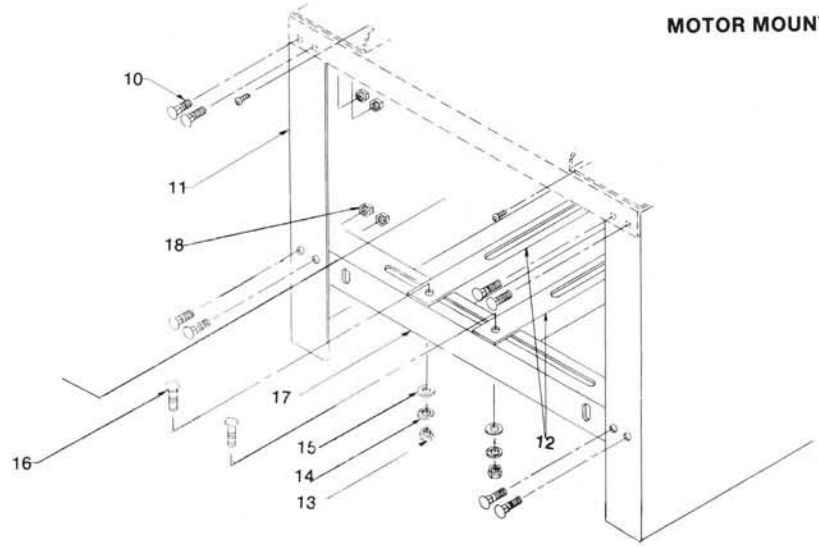


FIG. 1

ASSEMBLY INSTRUCTIONS: MOTOR & V-BELT ASSEMBLY

STANDARD & OPTIONAL PULLEYS

Our motor packages come standard equipped with a 5" motor pulley and two (2) each 55" belts to be used in conjunction with a 3450 RPM motor. This in turn gives the cutterhead its recommended speed of 4500 RPM.

If you are supplying your own motor and it is a 1750 RPM motor, you should use a 9" motor pulley and 62" V-belts.

MOUNT RIP ATTACHMENT PULLEY & MOTOR PULLEY

If you have the Rip Saw Attachment, the rip saw attachment motor pulley must first be mounted onto the motor shaft with the collar facing away from the motor. When the rip saw attachment motor pulley has been mounted, insert the pulley key and firmly tighten the two allen screws on the pulley until it is secured to the motor shaft (see FIG. 3).

Then mount the motor pulley onto the motor shaft with the collar facing the motor. Remove the key taped to the side of the motor, place the key into the keyway on the motor shaft, and tap lightly with a hammer until the key is flush with the end of the motor shaft. Mount as shown in FIG. 3.

NOTE: When both the rip attachment pulley and motor pulleys are mounted on the motor shaft, the motor pulley slightly protrudes off the end of the motor shaft.

NOTE: Double check the position of the rip saw attachment and motor pulleys on the motor shaft per the drawings. For correct alignment of the V-belt, the pulleys must be positioned correctly onto the motor shaft.

If you purchased the Model 985 Planer, the motor pulley should be mounted approximately 3/4" from the motor and firmly tightened as mentioned above.

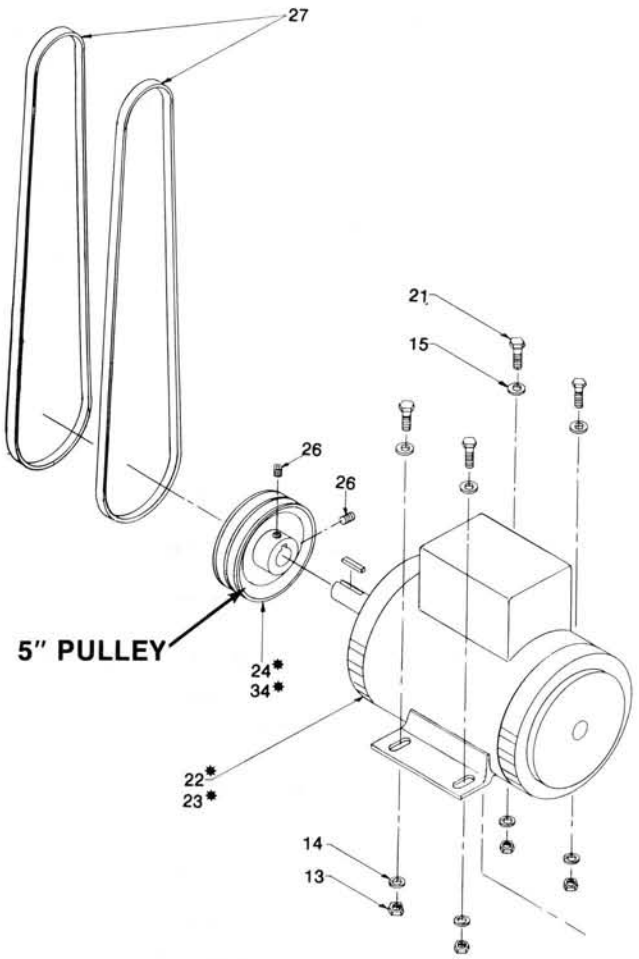


FIG. 2

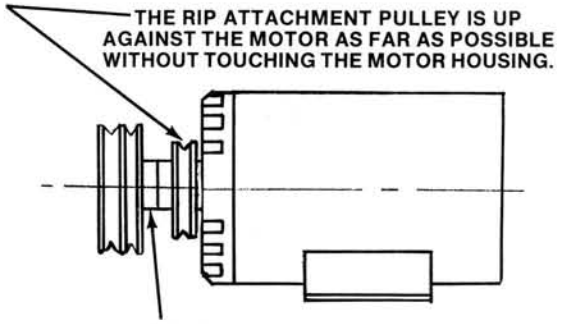


FIG. 3

MOTOR & V-BELT ASSEMBLY (continued . . .)

MOUNT YOUR MOTOR

Loosely mount the motor onto the motor mount bars using the 3/8" hex cap screws, 1-1/4" long; 3/8" hex nuts; 3/8" plain washers; and 3/8" lock washers provided. Do not tighten at this time.

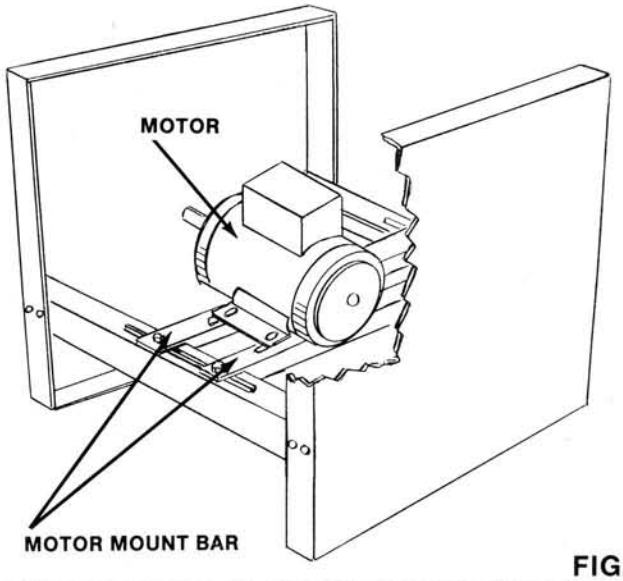


FIG. 4

MOUNT PLANER ONTO STAND

Place the planer onto the top of the stand and firmly bolt together with the eight (8) each, 5/16" carriage bolts, 3/4" long; and four (4) 5/16" hex nuts provided.

Mount the planer so that the cutterhead pulley and the motor pulley are on the same side.

Bolt holes have been provided in the bottom corners of the planer stand to mount the planer permanently in one location if desired. This would eliminate any chance of the planer sliding or walking during operation.

NOTE: To place the planer onto the stand you will need the assistance of another person.

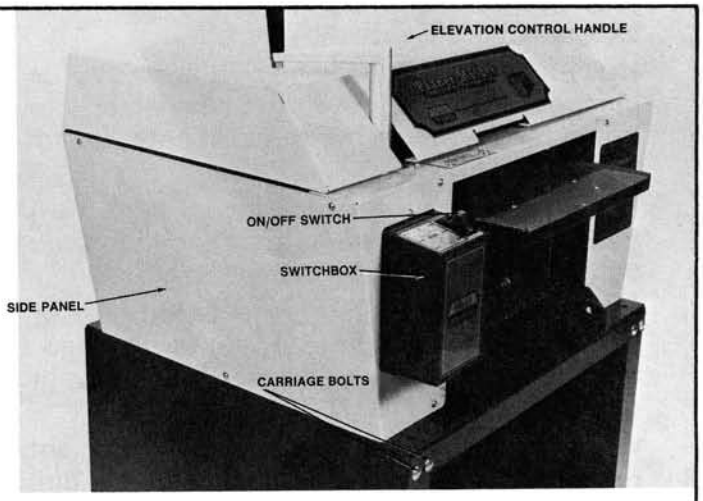


FIG. 5

MOUNT ELEVATION CONTROL HANDLE

Mount the handle onto the left front corner screw as shown in the diagram.

CLEAN PLANER BED

The planer bed surface has been covered with oil to prevent rusting during shipment. The planer bed surface should be cleaned with a solvent before use.

ALIGNMENT OF PULLEY DRIVE BELTS

Adjust the motor mount bars so that the drive pulley on the motor is directly below and even with the driven pulley on the cutterhead as shown in the diagram.

Loosely mount the rip saw attachment V-belt onto its pulley.

NOTE: Even though you are going to assemble the rip saw attachment later on, you must mount the rip saw attachment belt on the inside pulley at this time. You must clip the rip attachment V-belt back away from the motor V-belts until the rip attachment is assembled.

Place the adhesive tie clips onto the side panel as shown in the diagram and secure the rip attachment V-belt with the tie back.

Install the two (2) cutterhead drive pulley V-belts on the cutterhead and motor pulleys. The belts are to clear the frame opening by 1/2".

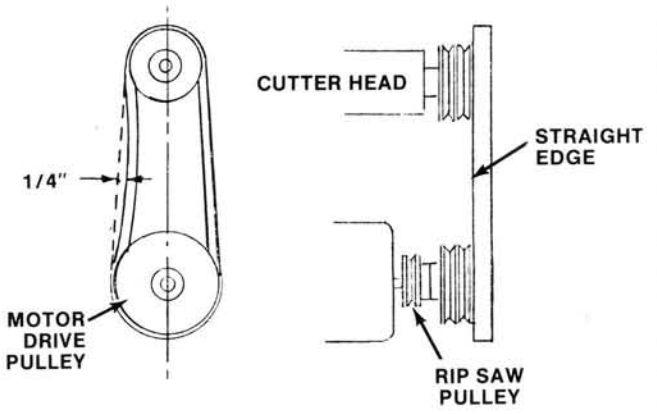
NOTE: The belt tension can be adjusted by lowering the leg braces or by moving the motor. The leg braces are mounted in elongated holes to provide for this adjustment.

Make sure that the motor mount bars are perpendicular to the lower braces and then securely tighten the motor mount bars.

Slide the motor toward the out-feed side of the planer until proper belt tension is obtained and then tighten the motor bolts securely to the motor mount bars (see FIG. 7).

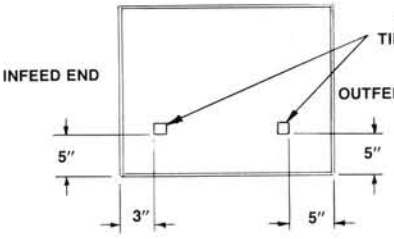
When the V-belt is tightened, the motor should remain as close as possible to being directly below the cutterhead.

NOTE: Excessive belt tension increase the load on the motor and decreases bearing life. Loose belt tension reduces operation, efficiency, and shortens belt life.

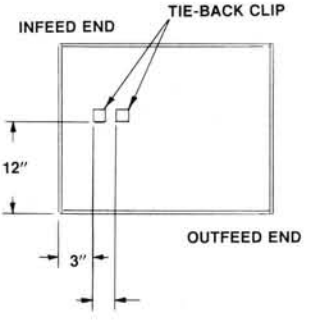


WHEN THE V-BELT IS TIGHTENED, THE MOTOR SHOULD REMAIN AS CLOSE AS POSSIBLE TO BEING DIRECTLY BELOW THE CUTTERHEAD.

FIG. 6

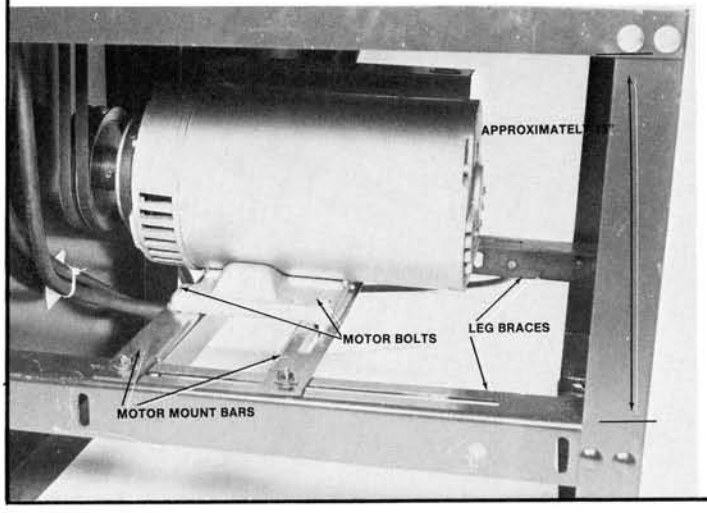


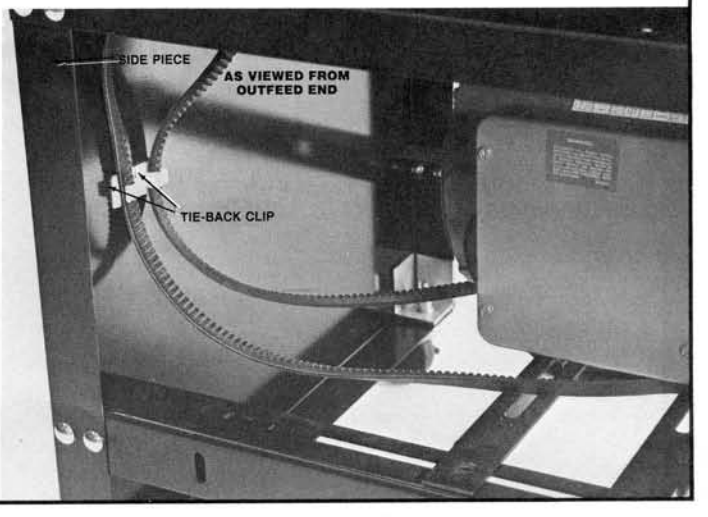
The diagram shows the correct position of the cord tie-downs. The view shows the inside of the side piece (on the pulley side of the planer).



The diagram shows the correct position of the tie-back clip. The view shows the inside of the side piece (on the chain and sprocket side of the planer).

FIG. 7





ASSEMBLY INSTRUCTIONS: ELECTRICAL HOOK-UP

STOP FOR SAFETY

Never perform assembly or maintenance procedures on your planer until it has been disconnected from its power source.

CONNECTING MOTOR TO SWITCHBOX

If the motor has been connected to its power source - disconnect at this time.

Locate the loose wire ends coming out of the switchbox that have been tucked up on the inside of the planer housing. Insert the power cord (with plug) through the 1⅝" hole first, then insert the lead ends of the switchbox cord through the 1⅝" hole located in the planer base beneath the switchbox. Clip both cords to the side piece with the self-adhesive plastic as shown.

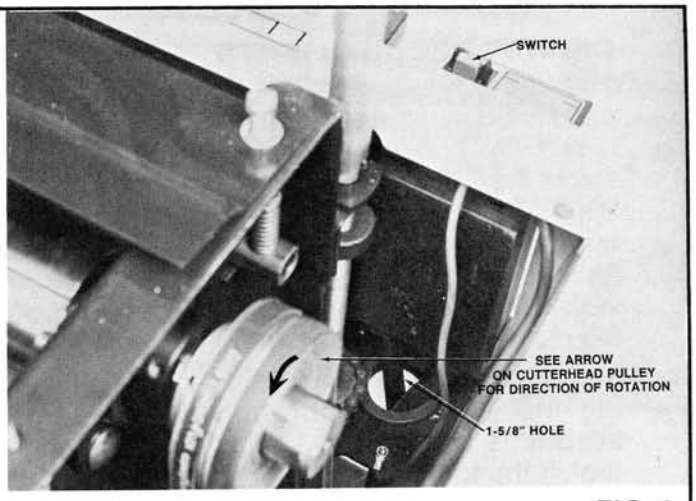


FIG. 8

STOP FOR SAFETY

The cords have to be mounted away from the motor to avoid the rip saw attachment pulleys and V-belts.

Remove the motor junction box cover. Connect the motor wires and junction box wires per the correct wiring diagram listed below. Use the insulated wire nuts when making the splice. This style of locking nut has a set screw which firmly secures the lead ends. When the wiring has been completed, insert the lead ends inside the motor switchbox and replace the cover.

NOTE: Electrical Schematics are located on pages 66-67.

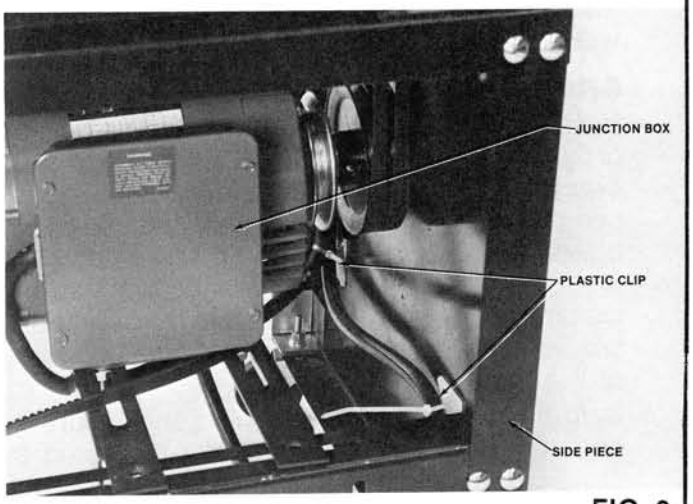


FIG. 9

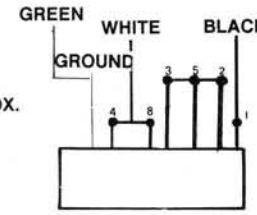
STOP FOR SAFETY

Your Molder Planer must be properly wired and the electrical service properly grounded before operation, in accordance with state and local codes and ordinances. If unsure of proper electrical connections, contact a qualified electrician for proper instructions.

NOTE: In the future, when replacing or repairing the electrical cords, never connect the green grounding conductor wire to a live terminal.

Repair or replace damaged or worn cord immediately.

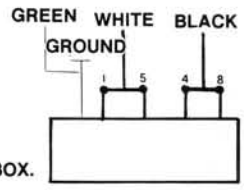
CONNECT GREEN WIRE TO GROUND SCREW IN JUNCTION BOX.



CONNECT WHITE & BLACK LEADS TO MOTOR LEADS WITH THE INSULATED WIRE NUTS PROVIDED.

NOTE: TO REVERSE ROTATION INTERCHANGE 5 AND 8.

MOTORS ARE PREWIRED FOR CCW ROTATION (SHAFT ENDS) SEE DECAL ON MOTOR.



CONNECT GREEN WIRE TO GROUND SCREW IN JUNCTION BOX.

CONNECT WHITE & BLACK LEADS TO MOTOR LEADS WITH THE INSULATED WIRE NUTS PROVIDED.

NOTE: TO REVERSE ROTATION INTERCHANGE 5 AND 8.

3HP MOTOR SPECIFICATIONS
(FOLEY-BELSAW NO. 3707297)

CCW rotation shaft end motor amperage draw is 13.6 amps, 182 T frame, 230 volt 60 HZ single phase 40° AMB cont. duty totally enclosed fan cooled Class B insul Service factor 1.00 Key provided 3450 RPM.

3 HP Connect white wire to motor leads 4 and 8. Connect black wire to motor lead 1. Leads 3, 5, and 2 are tied together and insulated.

When installing your own motor, follow the motor manufacturer's diagram.

5HP MOTOR SPECIFICATIONS
(FOLEY-BELSAW NO. 3707283)

CCW rotation shaft end motor amperage draw is 23-24 amps, 184 T frame, 230 volt 60 HZ single phase 40° AMB cont. duty totally enclosed fan cooled Class B insul Service factor 1.00 Key provided 3450 RPM.

5HP Connect white wire to motor leads 1 and 5. Connect black wire to motor leads 4 & 8.

When installing your own motor follow the motor manufacturer's diagram.

FIG. 10

ELECTRICAL HOOK UP (continued . . .)

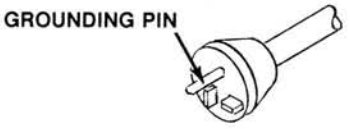
CIRCUIT REQUIREMENTS

This tool is intended for use on either of two sized circuits (as illustrated in FIG. 11A & 11B) depending on your choice of a 3 or 5HP motor. If you purchased a 3HP motor, you must use a 20 Amp-220/230 volt circuit that has an outlet and grounding plug as illustrated in FIG. 11A. If you purchased a 5HP motor, you must use a 30 Amp-220/230 volt circuit that has an outlet and grounding plug as illustrated in FIG. 11B.

Make sure the tool is connected to an outlet having the same configuration as the plug. No adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel; and after reconnection, the tool should comply with all local codes and ordinances.

3 HP CIRCUIT
- 2 POLE -
3 WIRE GROUND

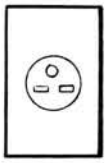
RECEPTACLE
NEMA
STYLE 6-20R



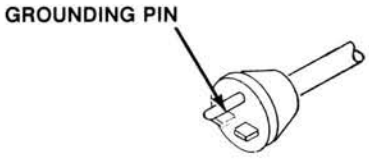
3HP
220/230 VOLTS
20 AMPS

FIG. 11A

5 HP CIRCUIT
- 2 POLE -
3 WIRE GROUND



RECEPTACLE
NEMA
STYLE 6-30R



5HP
220/230 VOLTS
30 AMPS

FIG. 11B

FOR FURTHER INFORMATION
SEE DETAILED ELECTRICAL SCHEMATICS
IN THE BACK OF THE MANUAL.

GROUNDING INSTRUCTIONS

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Before plugging-in your machine, make sure it will be connected to a supply circuit protected by a circuit breaker or time delay fuse. Do not modify the plug provided—if it will not fit the outlet, have the proper outlet and circuit installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in the risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cords immediately.

Always properly electrical ground your Planer . . . An improper connection can cause an electrical shock. If unsure of the proper electrical grounding procedure, contact a qualified electrician.

ASSEMBLY INSTRUCTIONS: MISCELLANEOUS ADJUSTMENTS

INTERLOCK SWITCH

Your Planer/Molder has an interlocking safety switch located under the rear left corner of the planer hood. The Planer/Molder hood must be in the "DOWN" (closed) position in order for the planer motor to engage.

SAFETY ON/RUN/OFF SWITCH

Your Planer/Molder has a rocker style switch with a removable locking key to prevent unauthorized use. If you intend to be away from the machine for a period of time and there is any chance of its use by others, particularly children, remove the locking key with the switch in the OFF/position and store it in a safe, inconspicuous place in your workshop.

To turn the planer on, insert the red locking key and pull the switch all the way back to the "ON" or "1" position. The planer will then be operating and the switch will return to the "RUN" position. To turn the planer off, you push the red motor switch away from you to the "OFF" or "0" position.

The depth of cut scale has two markings on it. The "T" measurement is the measurement from the planer bed table to the cutter knife, the "B" measurement is the distance from the top of the wooden bed board to the planer knife (using a 3/4" bed board).

The depth of cut scale was adjusted at the factory and should be checked occasionally to maintain its accuracy. If the depth of cut scale needs adjusting at any time - follow the adjustment of depth of cut instructions in the Adjustment section.

SAFETY PLATE ASSEMBLY

Mount a safety plate to the leg brace on the outfeed end using the existing hardware from the motor mount bar assembly. The plate should be approximately 1" from the side piece on the pulley side of the planer.

Mount the other safety plate to the leg brace on the infeed end using the existing hardware from the motor mount bar assembly. The plate should be approximately 1" from the side piece on the pulley side of the planer. When the rip saw attachement is to be mounted, the safety plate should be mounted approximately 3" from the side piece on the pulley side of the planer.

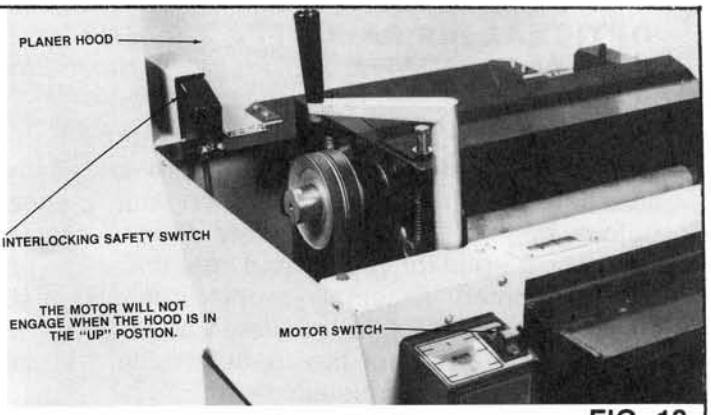
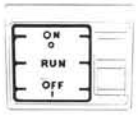


FIG. 12



CLOSE-UP VIEW OF THE ROCKER SWITCH

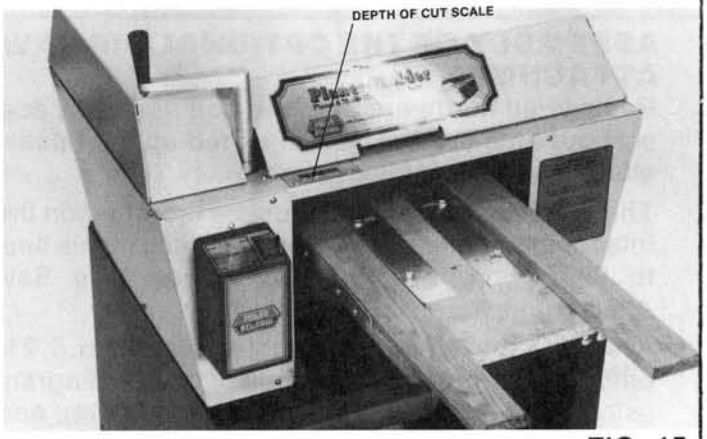


FIG. 15

CLOSE-UP OF THE DEPTH SCALE

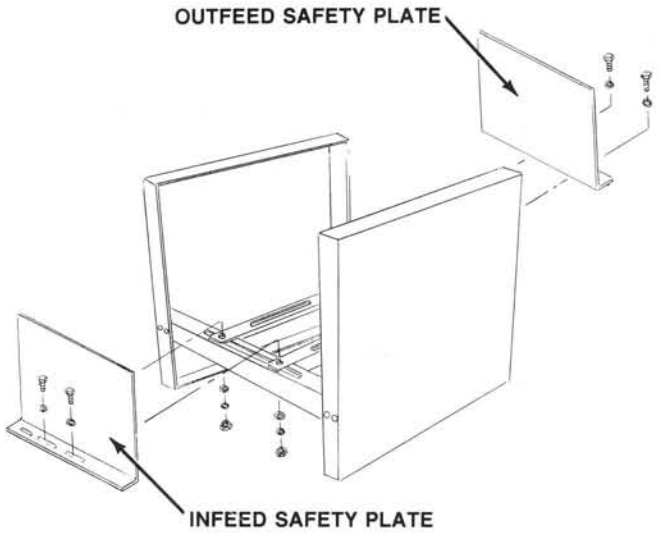


FIG. 16

ASSEMBLY INSTRUCTIONS: OPTIONAL RIP SAW ATTACHMENT

OPTIONAL RIP SAW ATTACHMENT

If you have the Model 985 Planer Without Saw Attachment, proceed to page 18.

The FOLEY-BELSAW Model 984 includes an optional Rip Saw Attachment that can be easily attached onto the infeed side of your planer. Before beginning the assembly procedures, it would be helpful for you to read over the entire rip saw attachment assembly procedures and also take a look at the Exploded View Parts List that is located in the rear of the manual to familiarize yourself with the complete assembly.

STOP FOR SAFETY

Unplug your unit from its power source before beginning any assembly of your Rip Saw Attachment.

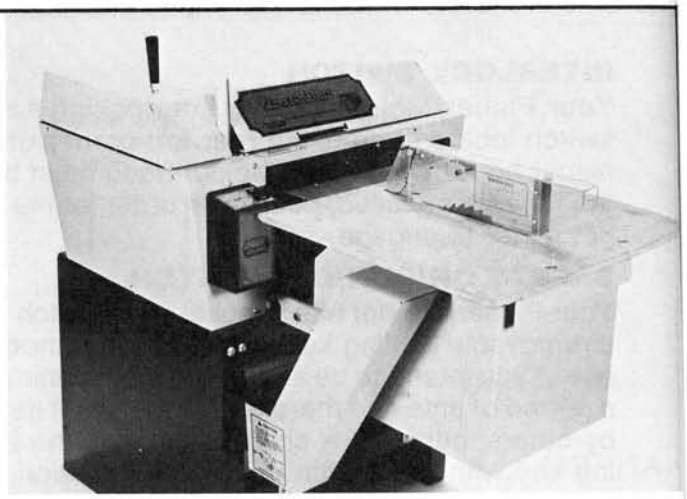


FIG. 17

ASSEMBLY OF THE OPTIONAL RIP SAW ATTACHMENT

Remove all hardware from the bag assembly and sort out on a table. This will speed up the ripsaw attachment assembly procedures.

The Rip Saw Attachment must be mounted on the infeed end of the planer. Double check at this time to insure proper mounting of your Rip Saw Attachment.

Assemble the left and right table braces (No. 5, 21) onto the planer bed as shown in the diagram using the 5/16" hex cap screws, 1/2" long; and the 5/16" lock washers.

Assemble the left and right support bars (No. 12, 31), and the braces (No. 1) onto the machine as shown in the diagram using the 3/8" kep nut and 3/8" hex cap screw, 3/4" long.

NOTE: The support bars (No. 12, 31) should be level to the table braces (No. 5, 21) to within 1/16". Mount the cross brace (No. 27) onto the support bars (No. 12, 31) using the 3/8" kep nut and 3/8" hex cap screws, 3/4" long.

Loosely mount the table adjustment brackets (No. 6) to the table braces (No. 5, 21) using the 1/4" hex cap screws, 5/8" long; and 1/4" kep nuts.

NOTE: The notched lip on each adjustment bracket should face each other (see diagram).

Mount the sawdust guard onto the front leg brace as shown in the diagram.

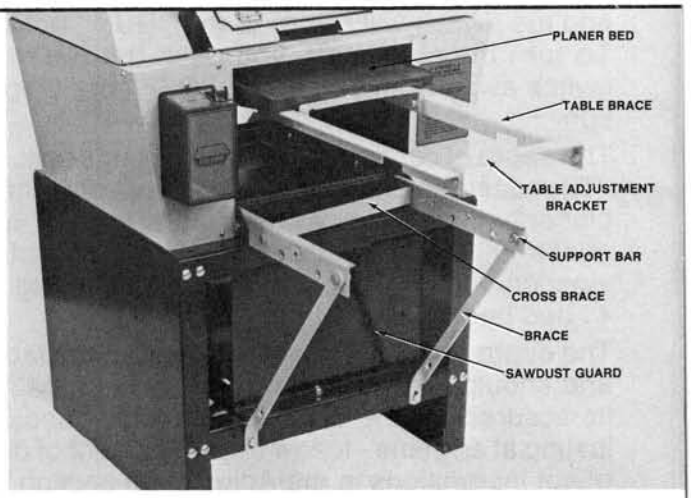


FIG. 18

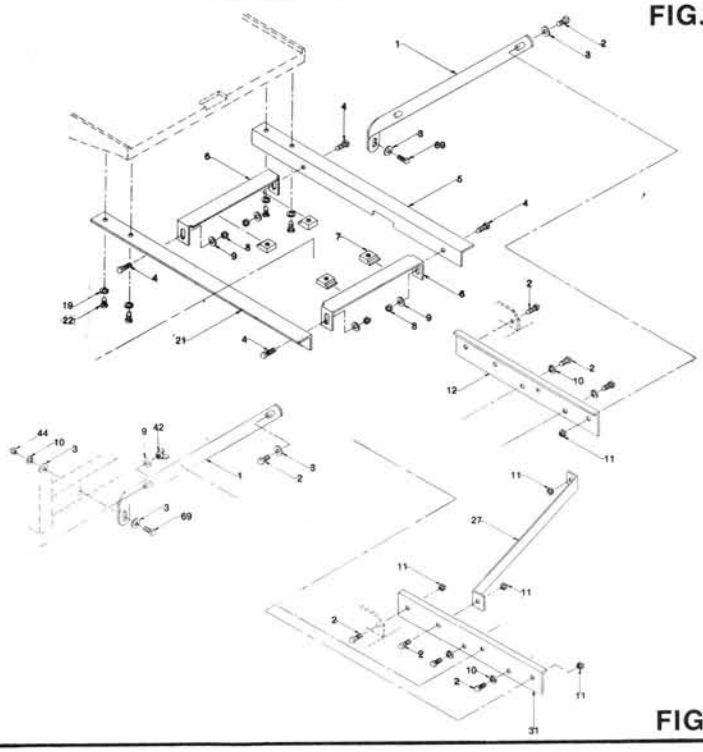


FIG. 19

OPTIONAL RIP SAW ATTACHMENT ASSEMBLY (continued . . .)

MOUNT THE SAW SHROUD

Mount the saw shroud (No. 17) onto the left and right support bars (No. 12, 31) using the 3/8" hex cap screws, 3/4" long; and the 3/8" split washers.

Mount the saw shroud brace (No. 30) inside the saw shroud (No. 17), using the 5/16" hex cap screws, 3/4" long; and the 5/16" hex nuts.

The shroud brace has the rubber sawblade guard attached to it. The care and use of the guard will be discussed later in the Assembly Instructions.

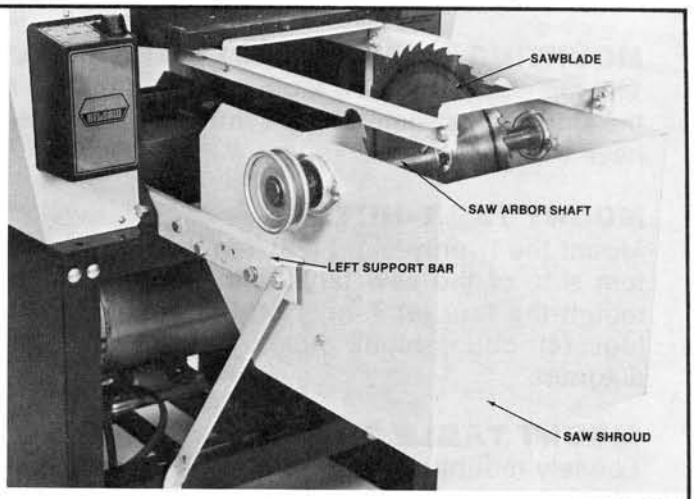


FIG. 20

ASSEMBLE THE SAW ARBOR SHAFT

Assemble the arbor shaft bearings with the lip of the bearing facing to the outside (No. 15), onto the saw shroud (No. 17), using the carriage bolts, 3/4" long, and the 5/16" hex nuts and 5/16" split washers. Slide an eccentric collar onto the arbor shaft (No. 26), and then slide the arbor shaft (No. 26) into the left arbor shaft bearing. Slide the arbor collar (No. 25) onto the arbor shaft (No. 26). Slide the sawblade onto the arbor shaft with the teeth pointing away from the unit. Slide the spanner nut (No. 13) onto the arbor shaft then slide the arbor shaft thru the right arbor shaft bearing.

Take a few minutes and examine your assembly and double check that all items are assembled correctly. When satisfied with the assembled order of the parts, slide the arbor shaft until approximately 2-7/16" protrudes out on the pulley side of the shroud and then secure the arbor shaft in place by tapping the eccentric locking collar in the same direction of the sawblade rotation on each arbor bearing, with a punch and hammer until it secures the shaft in place. Then firmly tighten the set screw on each locking collar. Slide the sawblade, arbor collar and spanner nut on the arbor shaft until the sawblade is 6" from the right side of the shroud. Lock in place by firmly tightening the arbor collar. Then tap the spanner nut firmly with a punch and hammer until it securely holds the sawblade against the arbor collar and tighten screws #24.

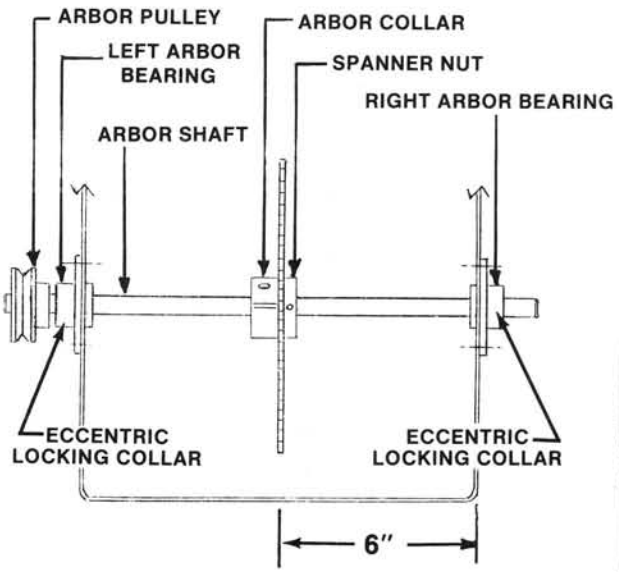


FIG. 21

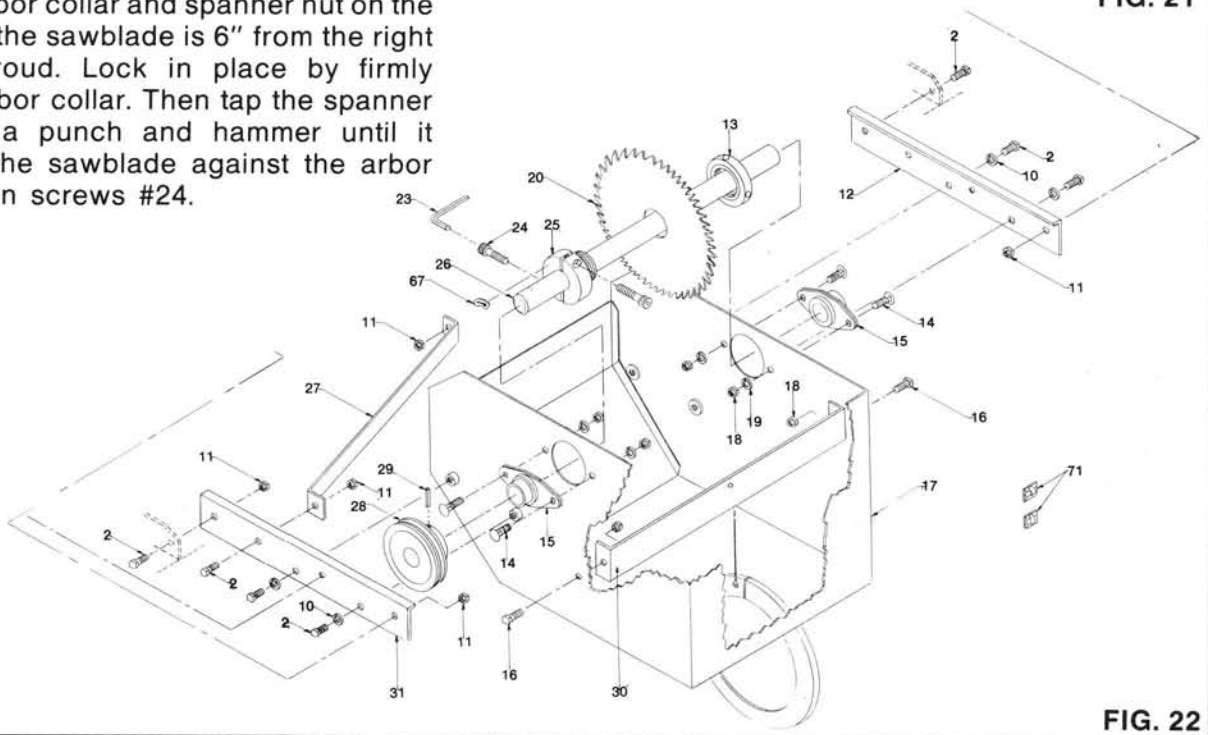


FIG. 22

RIP SAW ATTACHMENT ASSEMBLY (continued . . .)

MOUNTING THE SAW TABLE ASSEMBLY

The top side of the saw table can be identified as the side where some of the T-nut mounting holes have been countersunk.

MOUNT THE T-NUTS

Mount the twenty-eight (28) T-nuts onto the bottom side of the saw table with a hammer. Also mount the four (4) T-nuts on the top side in the four (4) countersunk holes as shown in the diagram.

MOUNT TABLE CLAMPS

Loosely mount the four (4) clamps on the bottom of the table using the flat head cap screw 3/4" long (#51). Position the screws in the four (4) holes as shown.

MOUNT FRONT GUARD

Mount the front guard (#39) onto the front edge of the saw table, with the hex cap screws 1/2" long.

MOUNT SAW BLADE GUARD ASSEMBLY

Mount two (2) T-nuts onto the bottom of the saw table in the countersunk holes closest to the short slot in the saw table. Loosely mount the sawblade guard assembly on the saw table using the hex head cap screws (#68).

MOUNT SAW TABLE ASSEMBLY

Place the saw table (#50) on the table adjustment brackets (#6). Adjust both table adjustment brackets until the table is level and the top edge of the table is even with the edge of the planer bed. When the table is adjusted properly tighten the table adjustment bracket mounting bolts (#4).Slide the table back and forth until the board splitter (#58) is centered with the sawblade and then tighten the table clamps (#7) against the table adjustment brackets (#6) until the table is secured.

Adjust the saw guard until it is in line with the sawblade and then firmly tighten the wing screws holding the saw guide.

ADJUST THE SAWBLADE & GUIDE TO RIP DIFFERENT WIDTHS

The sawblade can be adjusted from side to side by loosening the arbor collar and spanner nut and sliding the sawblade to the position required. The sawblade and table clamps are also loosened and moved with the saw table from side to side. When the sawblade and saw table have been repositioned tighten the saw table clamps - sawblade arbor collar and spanner nut.

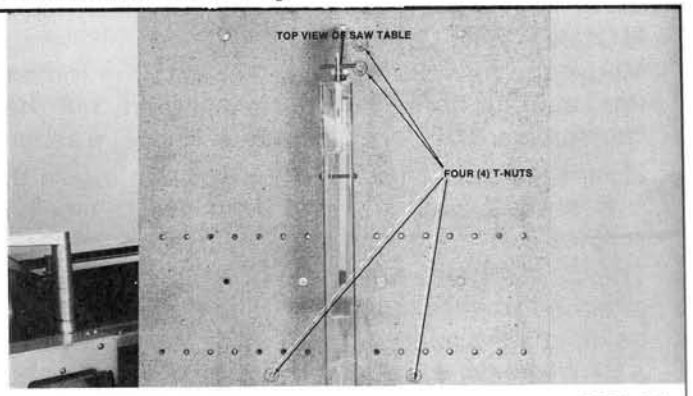


FIG. 23

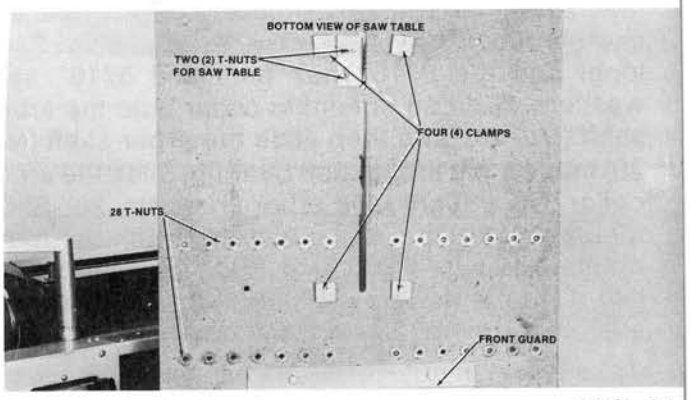


FIG. 24

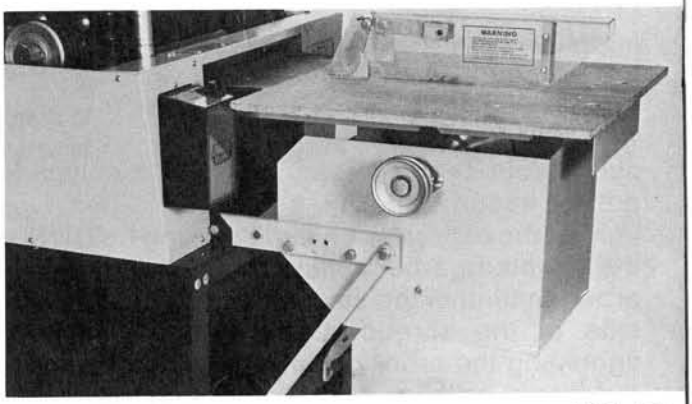


FIG. 25

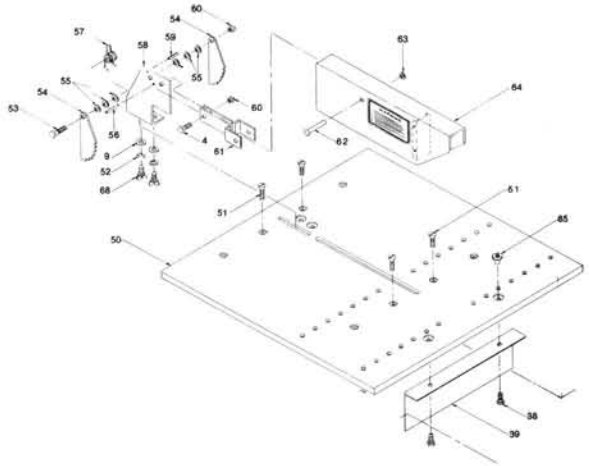


FIG. 26

RIP SAW ATTACHMENT ASSEMBLY (continued . . .)

MOUNT PULLEYS & BELT

Mount the two (2) idler pulleys (#35) and three spacers (#36) onto the tightener bar (#37) and mount onto the left brace (#1) as shown. The belt for the rip saw attachment and the motor drive pulley should already have been mounted from previous assembly instructions. Before attempting to mount the V-belt study the diagram for a few minutes and note how the V-belt is mounted around the two (2) idler pulleys, and that there is a half twist in two locations in the V-belt to achieve this mounting. Belt tension is created by proper positioning of the idler pulley assembly.

When you have completed the mounting of the V-belt, place the belt guard cover over the V-belt and mount in place as shown in the diagram using the wing bolts (#22).

Always place the rubber sawguard around the sawblade when the rip saw attachment is not in use.

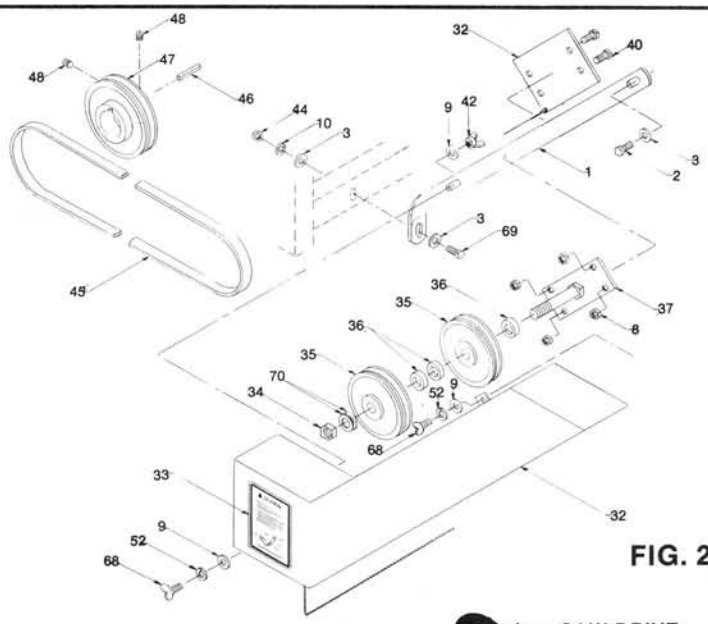


FIG. 27

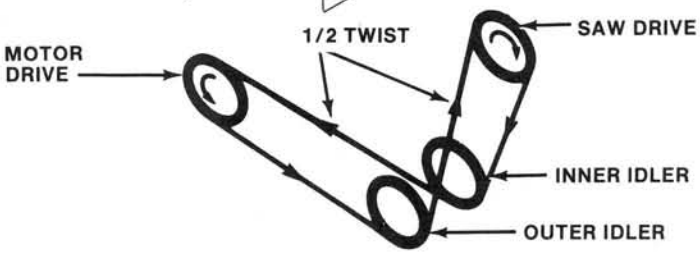


FIG. 28

LOWERING THE RIP SAW ATTACHMENT WHEN NOT IN USE

Your rip saw attachment is now fully assembled and ready for operation. The rip saw attachment has been designed to be easily swung out of the way when ripping is not needed. To lower the rip saw attachment out of the way, simply remove the guard and loosen the bolts shown in the diagram on each side. When the bolts have been removed, you can simply lower the rip saw attachment out of the way so that you can use the planer and molder portion of your unit without the sawblade interferring.

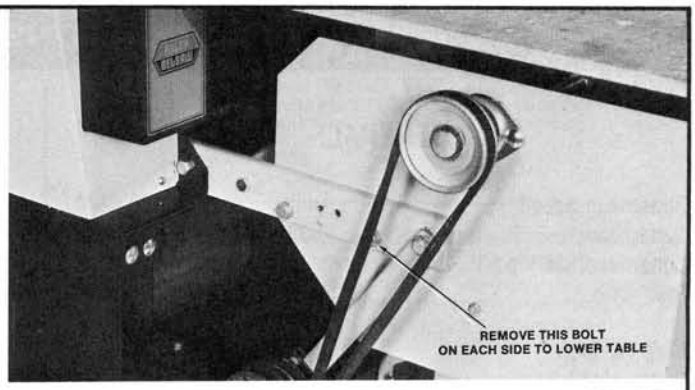


FIG. 29

The rip attachment V-belt must be tied back out of the way of the other pulleys and V-belts. A tie-clip is provided for this.

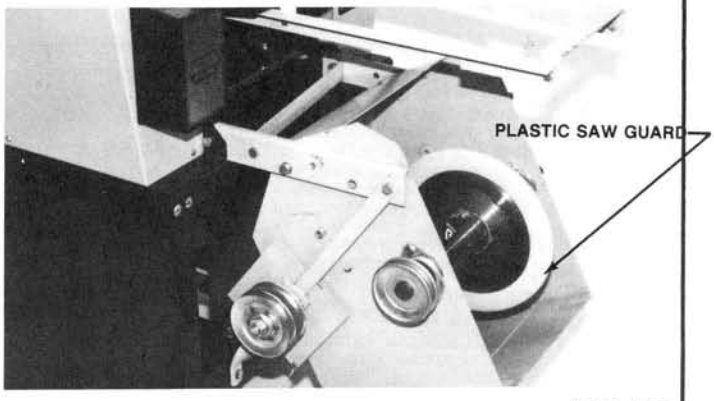
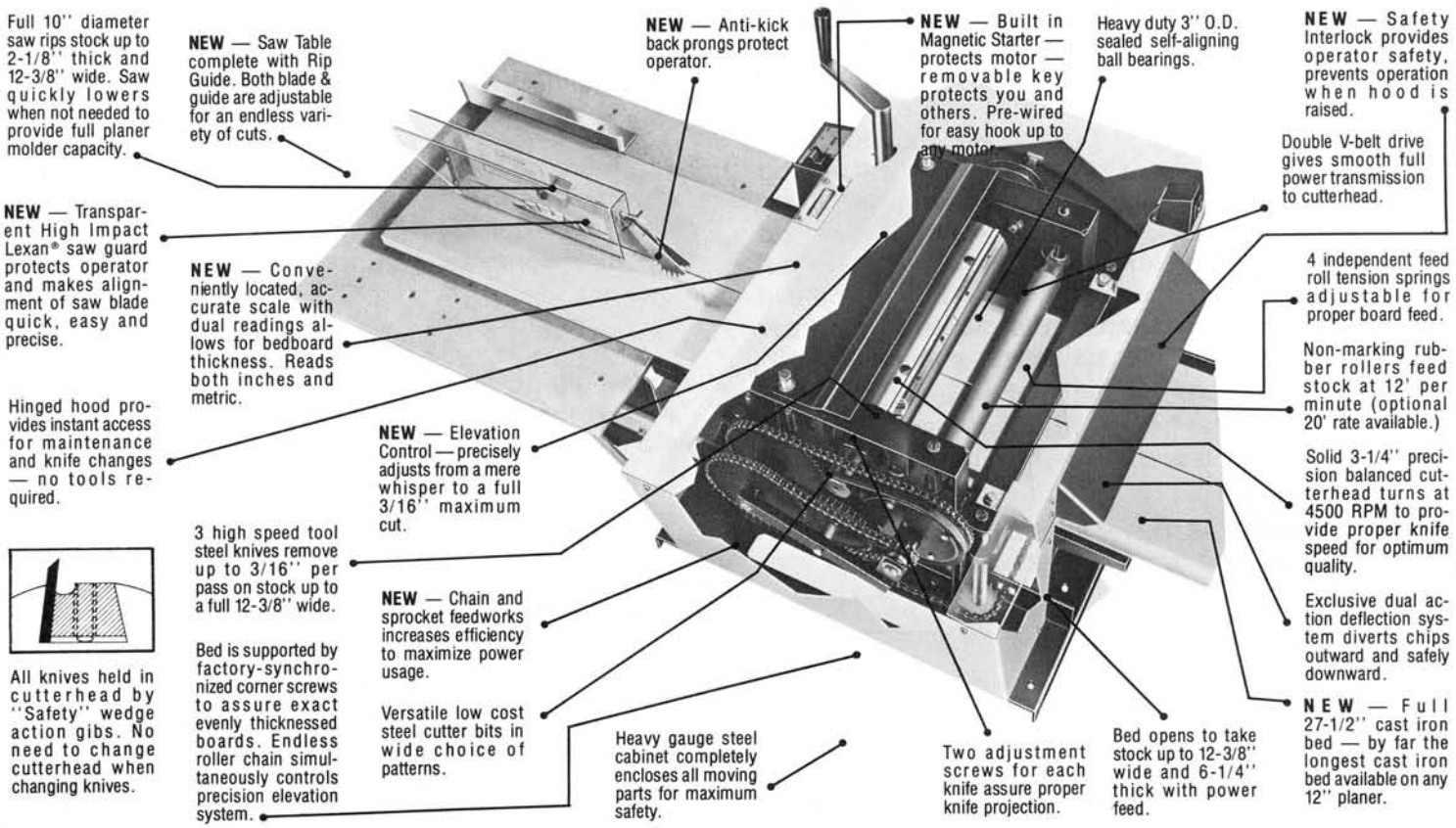


FIG. 30

GETTING TO KNOW YOUR PLANER/MOLDER



SPECIFICATIONS: MODELS 984 and 985

GENERAL:

Cutterhead Speed	4500 RPM
Cutterhead	3 Knife, 3¼" Solid Steel
Cutterhead Bearings	Sealed Ball Bearings
Feed Rate	12' Per Minute (Standard)
	20' Per Minute (Optional)
Cuts Per Inch	94 @ 12' feed, 56 @ 20' feed
Depth of Cut Scale	Combination Metric and Inches
Bed Width	12⅜"
Bed Length	27¼"
Bed Construction	1 Piece, Solid Cast Iron

ELECTRICAL:

3 HP	
Bearings	Ball Bearings
Wiring	Supplied Complete
Voltage	220v, Single Phase, 60 HZ
RPM	3450
Starter	Integral Magnetic Starter with Overload Protection
Switch	Removable Key

5 HP	
Bearings	Ball Bearings
Wiring	Supplied Complete
Voltage	220v, Single Phase, 60 HZ
RPM	3450
Starter	Integral Magnetic Starter with Overload Protection
Switch	Removable Key

PLANING:

Maximum Depth of Cut	3/16"
Maximum Width of Cut	12⅜"
Maximum Thickness of Stock	6¼"
Minimum Thickness of Stock	3/16"
Minimum Length of Stock	8"
Maximum Length of Stock	Unlimited
Cuts Per Minute	13,500

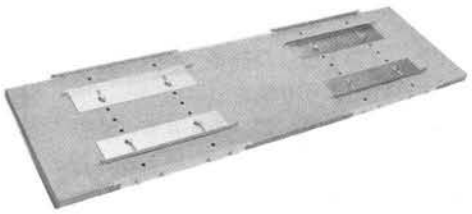
MOLDING:

Maximum Depth of Cut	¾"
Maximum Width of Cut	12⅜"
Maximum Thickness of Stock	6¼"
Minimum Thickness of Stock	3/16"
Minimum Length of Stock	8"
Maximum Length of Stock	Unlimited

SAWING:

Maximum Depth of Saw Cut	2⅛"
Maximum Width of Saw Cut	9¾"
Minimum Thickness of Stock	3/16"
Minimum Length of Stock	26"
Maximum Length of Stock	Unlimited
Maximum Width of Stock	12⅜"
Saw Speed	4600 RPM
Blade Diameter	10"
Saw Table Size	21" x 21"

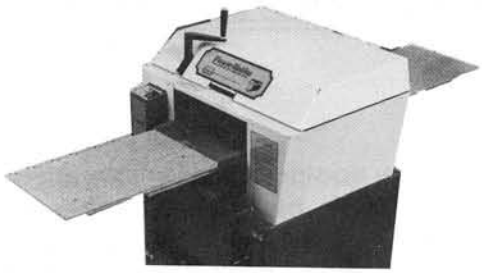
SUPPLIES • ACCESSORIES • ATTACHMENTS



MOLDING GUIDE SYSTEM

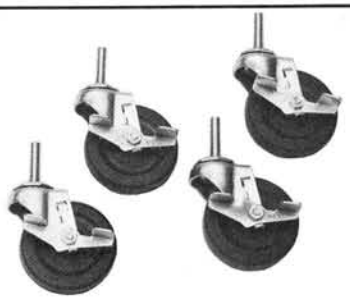
Makes the transition from planing to molding quick and easy. Adjustable steel guides can be set for various widths of beginning stock and finished molding complete assembly easily attaches to the planer bed in minutes. Optional Edge Molding guides are 2" high for use with edge molding operations.

Guide System NO. 4500502
2" High Edge Guides NO. G40528 (Set of four)



PLANER BED EXTENSIONS

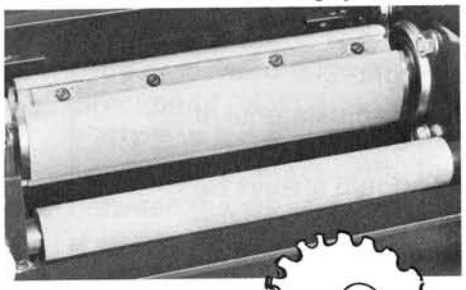
Adds 20" of extra support to the outfeed of your Model 984 Planer-Molder-Saw. Increase the bed length of your Model 985 to a HUGE 67¼ inches by adding an extension table to the in and outfeed positions. Heavy angle iron construction bolts "rock solid" to all Model 984 & 985 Planers with no holes to drill or tap.
NO. 4500504



CASTER KITS

Making your Planer mobile is equivalent to adding on to your shop. Allows one man to easily move the Planer to the ideal spot for each particular job – plus provides for out-of-the-way storage when not in use. These sets contain everything you need for quick, easy installation.
NO. 4500526

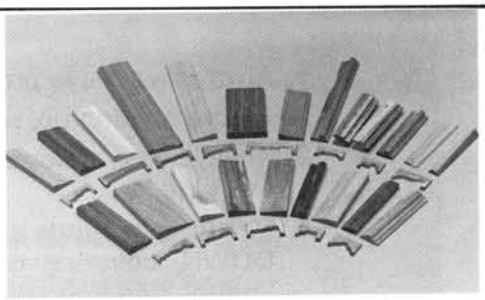
'TRI-SAND' Abrasive Surfacing System.



You'll get double duty from your Foley-Belsaw Planer when you install the TRI-SAND Abrasive Surfacing System. Your planer will become a precision power feed abrasive surfacer at a fraction of the cost of other machines or even kits now available.
The exclusive TRI-SAND System fits right on the cutterhead of your planer. There's no need to remove the cutterhead with the TRI-SAND. Our unique speed gibs exchange with standard planing gibs for quick and easy changes from thickness planing or molding to abrasive surfacing.
This is the ideal system for your projects that require a step beyond the satin smooth planed finish of your Foley-Belsaw Planer. The lightest of passes through the TRI-SAND System removes any hint of knife marks and prepares the wood surface for finishing. **NO. 4500540**

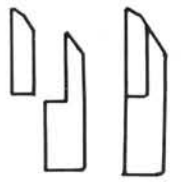
SPEED CHANGE SPROCKET

SAVE TIME AND INCREASE PRODUCTION BY 40%! With just the change of a sprocket you can speed up the feed rate of your Foley-Belsaw 12" Planer to 20' per minute – a 40% boost over the standard 12' per minute rate.
NO. 4509583



CUSTOM PATTERN KNIVES

CUSTOM KNIVES – Make complete moldings in one pass. For use in all planers. Pick from our catalog of over 200 designs and sizes... or send in your own scale drawings to make one of a kind moldings. All knives are made from ¼" high speed hard steel to assure long life in production setups. *See our complete listing in the back of this manual.*

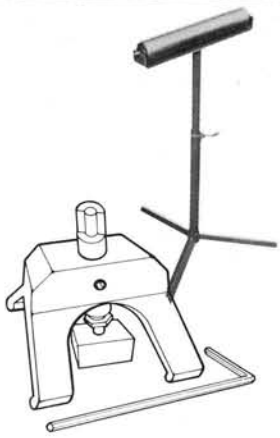


LONG LIFE BI-METAL PLANER KNIVES

Premium Quality Bi-Metal Planer knives stay sharp 3-4 times longer than ordinary planer knives. Special primary and secondary cutting angles leave an exceptionally smooth planed surface. Super hard insert sharpens with regular grinding wheel... generous insert length will easily last throughout the life of the blade. Try a set today.
NO. 4501962

CARBIDE FOR YOUR MODEL 984 POWER FEED RIP SAW!

Specially designed for use with Foley-Belsaw Model 984 Planer/Molder/Saws. These high quality blades stay sharp up to 10 times longer than standard steel blades to assure smooth, quality ripping. Due to special 1½" bore size, these blades are not for use on standard ⅝" arbor table saws or radial arm saws.
NO. 3709251



HEAVY-DUTY EXTENSION ROLLER

Use with your Planer or with any tool to support long stock. BALL BEARING ROLLER – 2 in. Diameter, 14-Width, STAND HEIGHT IS ADJUSTABLE – 24-in. Minimum, 39-in. Maximum, WELDED STEEL LEGS, *SAVES VALUABLE LUMBER!* By using these handy Extension Rollers both at the infeed and outfeed, you minimize waste on the 'sniped' ends.
NO. 4501283

SURE-SET PLANER KNIFE SETTING GAUGE

FAST • SIMPLE • ACCURATE

SURE-SET, by Foley-Belsaw, eliminates time consuming planer knife adjustment. The floating pin on the gauge will align flush with the gauge top when knives are at the correct height. You can easily see or even feel any knife variation without turning the cutterhead or getting in awkward positions. Just set the blades and lock the gibs and you're ready to do accurate planing.
NO. 4501960

REPLACEMENT PLANER KNIVES

PLANER KNIVES – Three (3) high speed knives make up each replacement planer knife set.
NO. 4501958

KNIFE HONE – Handheld knife sharpening hone will quickly touch up your planer knives and extend their sharpened life.
NO. 3702991

MODEL 334 PLANER AND SHOP VAC SYSTEM
POWERFUL ½ H.P. MOTOR AND 10½" IMPELLOR — By far the best collection system ever designed for use with Foley-Belsaw Planers. The husky ½ H.P. motor and 10½" diameter impellor combine to provide highly efficient chip removal. Solid cast aluminum construction. Moves air at a rate to 500 C.F.M. Designed to be used with any Foley-Belsaw Planer, the system can be adapted for use with your other shop machines.
NO. 3340902

HOOD AND HOSE KIT

Kits include hood for adapting chip collectors to Foley-Belsaw Planers and 5' section of 4" diameter hose with clamp.
For Model 984 & 985 Planers
NO. 4500591

SAFETY INSTRUCTIONS

While using any equipment, safe operating practices should always be followed. Wherever you see the "STOP FOR SAFETY" stop sign, extra safety precautions should be taken and you must stop, read, and carefully follow the instructions before proceeding to the next step.

1. Always wear eye protection when operating any machine.
2. Before starting up, recheck to make certain all holding screws are tight.
3. Always stop motor and disconnect the power source, before making adjustments of any kind.
4. Be sure all guards are in place before operating equipment. Hood should always be DOWN, covering cutterhead when motor is on. Never attempt to override the interlocking hood switch.
5. Read operators manual thoroughly and familiarize yourself with machine before attempting to operate.
6. Keep children away - All visitors should keep a safe distance.
7. After approximately 50-feet of operation, stop machine and recheck cutterhead gib screws and knives for tightness.
8. Don't force feed your work through the machine. Allow the planer to apply the proper feed rate.
9. Check feed roll bearings occasionally to be sure chips are not between bearings and side plate. If bearings are not seated firmly, the feed rolls will not hold stock firmly against bed and cause kick-back.
10. Use sound lumber, no loose knots, and as few tight knots as possible.
11. Never stand directly in line with either the infeed or outfeed side. Always stand off to one side of the machine.
12. Never plane more than 3/16" in one pass.
13. Never plane a board less than 8" in length.
14. Never rip a board less than 26" in length.
15. If you are not using the rip saw attachment, you must tie back the rip saw attachment V-belt.

GENERAL INFORMATION: PLANING & MOLDING TERMS

RELIEF ANGLE (C) - A back bevel on a knife to prevent the knife from rubbing on the wood and to give a degree of sharpness to the knife edge.

INCLUDED ANGLE OR KNIFE BEVEL (D) - The angle formed between the face of the knife and the relief bevel forming the cutting edge.

HOOK ANGLE OR CUTTERHEAD CUTTING ANGLE (A) - The angle between a line drawn between the center of the cutting circle and the knife edge and a line drawn down the face of the knife.

CUTTING CIRCLE DIAMETER (E) - The 3½" diameter of the circle that the knife edges generate.

KNIFE EDGE - The knife edge is the cutting edge or forward edge of the knife in relation to its direction of rotation.

KNIFE FACE - The portion of the knife that comes in contact with the chip; the surface between the gib and the knife cutting edge.

KNIFE PROJECTION - The amount a knife projects from the surface of the cylinder or cutterhead.

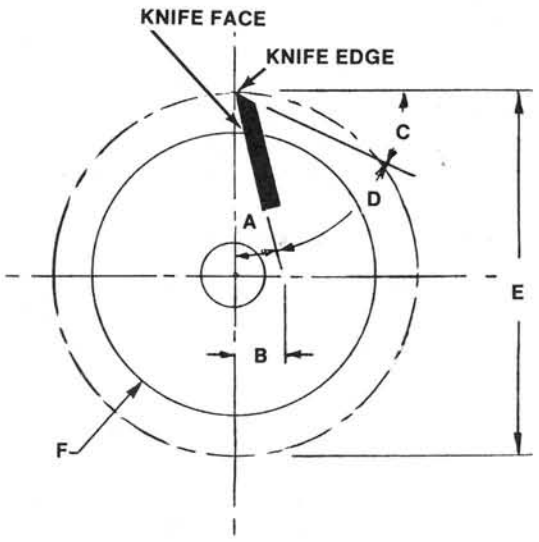


FIG. 33

A. Cutterhead Cutting Angle (Hook)
B. Offset in Inches.
C. Relief Bevel (Grinding Bevel)
D. Knife Bevel (Included Angle)
E. Cutting Circle
F. Cutterhead Diameter

FIG. 34

TABLE OR BED - The machined cast iron surface on the planer over which the lumber passes.

CUTTERHEAD OR CYLINDER - The part of the planer or molder that contains the knives.

FEEDROLLERS - Feedrollers are the rubber cylinders on a planer that feed the lumber through the planer at an even rate.

PLANER KNIFE - A knife with a long flat cutting edge that will produce a smooth finish on the lumber surface.

PATTERN KNIFE/MOLDING CUTTER BITS - A knife or bit that has a pattern ground on its edge that will produce a design on the lumber surface.

GIB - A metal bar that holds a knife in place. Pressure is applied to the gib by gib screws mounted in the cutterhead.

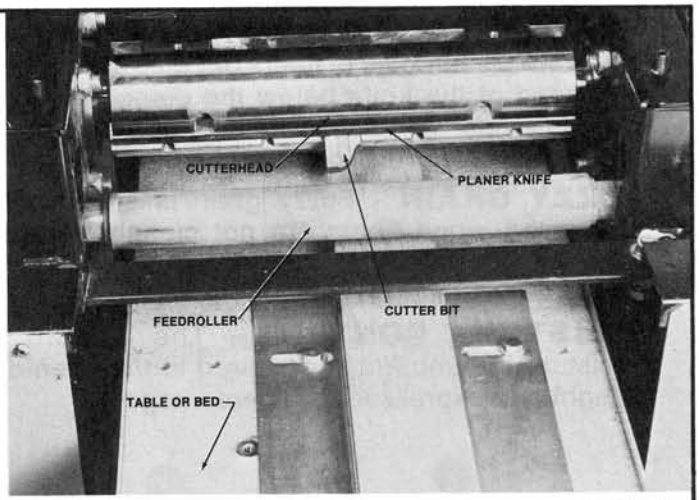


FIG. 35

GENERAL INFORMATION: PLANING TERMS

FEED SPEED - The rate that the lumber passes through the planer measured in feet per minute.

DEPTH OF CUT - The depth that the knives extend below the rough surface of the lumber to the finished surface. The difference between the rough and finished surfaces.

PLANING TO THICKNESS - The sizing of lumber to a desired thickness, while creating a smooth surface which is parallel to the other side.

PLANING TO FINISH - Planing to create a smooth surface.

EASED EDGE - A rounded edge on lumber as compared to a sharp edge.

EDGE GRAIN - The annual rings are on edge as they appear on the face of the board.

FLAT GRAIN - The annual rings are flat as they appear on the face of the board.

SNIPE - A planing condition which looks like a depression at either end of the finished board.

RAISED GRAIN - Raised grain is caused by the pounding of dull knives on wood where there is a considerable differences in the density of the springwood and summerwood. The summerwood is pounded or compressed into the springwood. The harder summerwood recovers and projects above the springwood. It can also be caused by planing green or unseasoned lumber.

TORN GRAIN - Torn grain is a condition that exists where bundles of fibers or chips are broken off ahead of the knife below the planed surface. They are most common around knots where there is considerable cross-grain.

FUZZY GRAIN - Fuzzy grain is a condition where the wood fibers are not cleanly severed from the wood. This can be caused by wood with a high moisture content.

MOISTURE CONTENT - The amount of moisture in lumber as compared to the oven dry weight and expressed as a percentage.

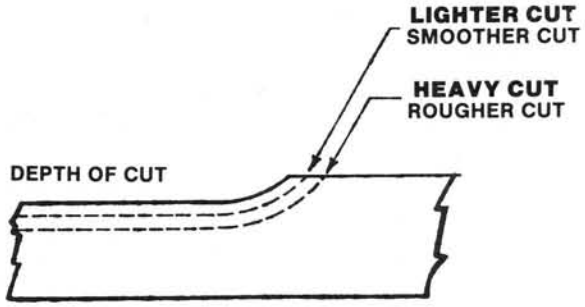


FIG. 37

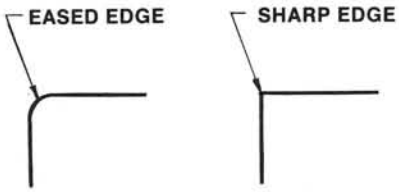


FIG. 38

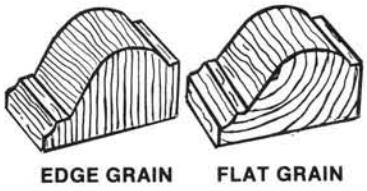


FIG. 39

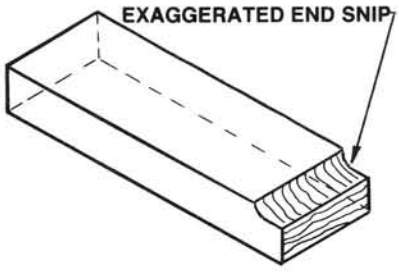


FIG. 40

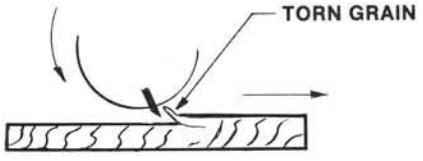


FIG. 41

GENERAL INFORMATION: DIFFERENT KINDS OF WARP

DIFFERENT KINDS OF WARP

Warp is a variation from a plane or true surface. Warping of wood is caused by uneven shrinkage during the drying process. Shrinkage is not the same in all directions of the grain and due to the different grain direction in pieces of lumber, different types of warpage can occurs. Lets examine a few types of warps and their ability to be planed.

LITTLE OR NO WARPAGE

This is the most ideal condition. With little or no warpage, you merely run the board thru on both sides and plane to the desired thickness.

CUP OR WARPED ACROSS WIDTH

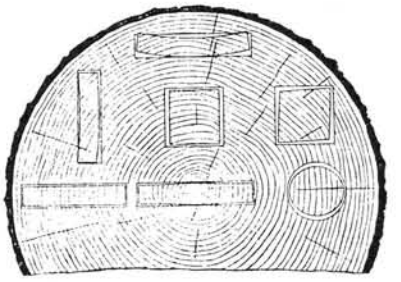
With a board that is cupped you would first plane the top flat and then turn the board over and plane the bottom flat. If possible ripping the board down the middle of the cup would eliminate a large amount of waste in planing thickness.

BOW OR WARPED LENGTHWISE

The feedrollers on a thickness planer are going to flatten a bowed board down against the planer bed and thickness plane the board as if it had little or no warpage. Then after the board is removed from the planer it will be planed to thickness but still have it's original bow. The only way to remove the bow from a board is to joint the board flat on one side on a jointer, such as our Model 684 Jointer. Then the board can be thickness planed.

TWIST OR TWISTED LENGTHWISE

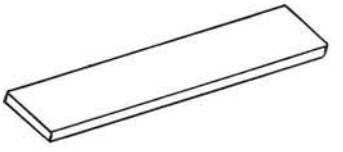
Twisted lumber is the most difficult warpage to plane to thickness. In some cases the twisting is so great that planing to thickness is impossible. In this case you might saw the board into smaller pieces and see if planing to thickness can be achieved.



Characteristic shrinkage and distortion of flats, squares, and rounds as affected by the direction of the annual rings. Tangential shrinkage is about twice as great as radial.

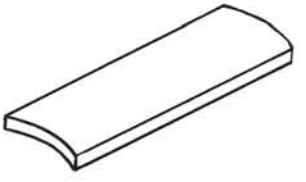
DIAGRAM COURTESY OF CHARLES G. MONNETT, JR. AUTHOR OF THE *KNIFE GRINDING AND WOODWORKING MANUAL.*

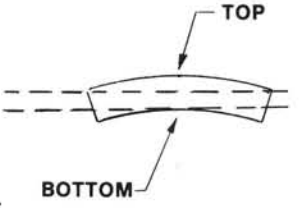
FIG. 42



STRAIGHT BOARD WITH NO WARPAGE.

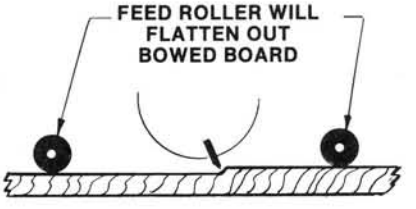
FIG. 43





A STRAIGHT BOARD WITH CUP WARPAGE

FIG. 44



BUT BOW WILL COME BACK AFTER PLANING.

FIG. 45

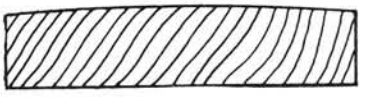
OPERATING INSTRUCTIONS: PLANING TO DESIRED THICKNESS

THICKNESS PLANING

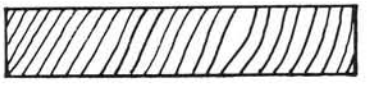
Thickness planing is the sizing of material to a desired thickness, while creating a smooth surface parallel to the opposite side of the board.

The art of thickness planing consists mainly of using good judgment about the depth of cut in various situations. You must take into account not only the width of the stock, but the hardness of the board, its dampness, straightness, grain direction, and grain structure.

The effects of these factors upon the quality of the finished work can only be learned through experience. It is always advisable, whenever working with a new type board, or one with unusual problems, to make test cuts on scrap material if possible prior to working on your finished product.



BEFORE PLANER
UNEVEN THICKNESS



AFTER PLANER
EVEN THICKNESS THROUGHOUT BOARD

FIG. 47

DEPTH OF CUT

The thickness of stock run through the planer is controlled by the distance you adjust the bed from the cutting knife.

Always start your work by making a light planing cut. The depth of cut on subsequent passes may be increased, up to 3/16", however, remember that a light cut creates a finer finish than a heavier cut.

Never plane more than 3/16" in one pass and never attempt to plane a board under 8" in length. Always wear a protective face shield.

LIGHT CUT
LESS POWER CONSUMED - SMOOTHER CUT

HEAVY CUT
MORE POWER CONSUMED - ROUGHER CUT

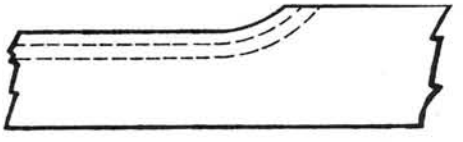


FIG. 48

THICKNESS PLANING STEPS

To properly use your planer/molder for thickness planing, follow the steps below:

1. Measure the thickest part of the board to be planed. Turn the elevation control handle until the scale depth of cut reads the thickness of the board to be planed. Each full turn of the handle raises the bed 1/16" (or 1.5mm).
2. Never plane more than 3/16" at one time. If the difference between the board thickness and your desired finished thickness exceeds 3/16", you should make several passes, taking off 3/16" or less with each pass, until the desired thickness has been reached.

NOTE: It is recommended to plane on both sides of the board to reach the desired thickness. Then the moisture content will be uniform and the drying process will not warp the board. EXAMPLE: If you needed to remove 3/16" to reach a desired thickness it is recommended to remove 3/32" from each side.

3. Stand to one side of the machine and start the board under the in-feed roller so that it travels in a straight line. As the feed roller takes hold, let go and remain standing to one side of the unit—not in direct line with the board. The power feed will complete the travel without further pushing or pulling.

STOP FOR SAFETY

Never stand directly in line with your work. Always stand off to one side of the machine. Always wear a protective face shield.

FOR ADDITIONAL PLANING

If more material needs to be removed, hand crank the bed up no more that 3/16" and complete another pass. Repeat this process until the desired thickness has been reached.

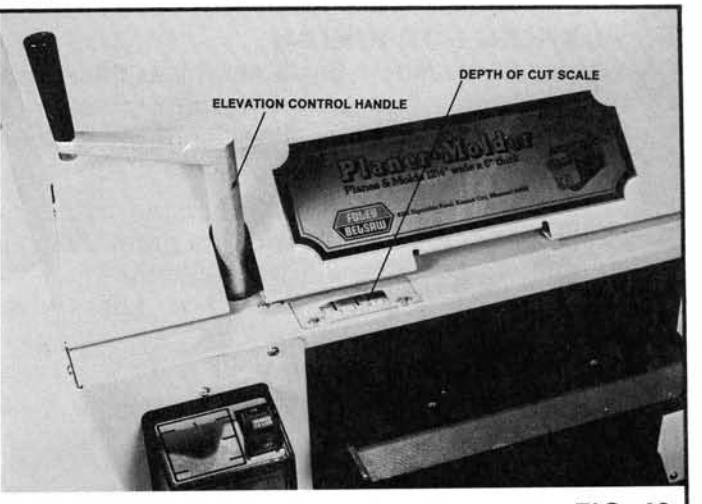


FIG. 49

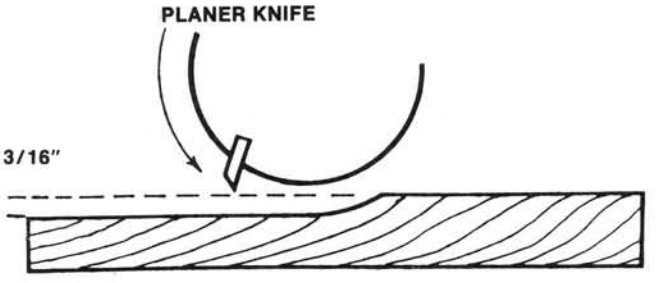


FIG. 50

FIG. 51

OPERATING INSTRUCTIONS: PLANING FOR FINISH

PLANING FOR FINISH

Planing for a smooth finish as well as thickness is best accomplished by taking light cuts on the board. However, several other things are important besides light cuts to achieve a smooth finish.

Always feed the board in a direction that allows the planer blades to cut with the grain. This aids the knife in severing the wood fibres rather than lifting and tearing the fibres. Torn fibres give a fuzzy appearance to the surface. Feeding against the grain can also cause your knife to lift large chips from the board's surface, causing a very unsightly appearance.

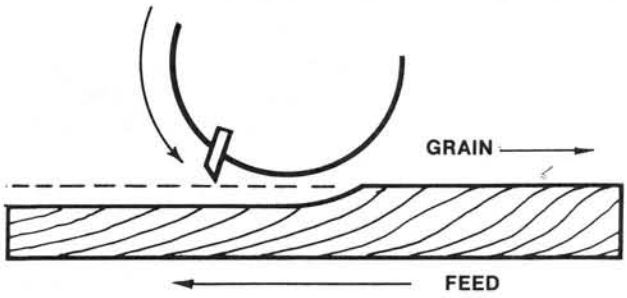


FIG. 52

HOW CAN YOU TELL GRAIN DIRECTION?

1. Feeding with the grain is feeding so that the grain slants in the same direction in which the knives travel as they emerge from the cut.
2. Grain patterns often have a "V" shape. The point of the "V" should point away from the cutterhead while it is feeding.
3. Grain direction can also be determined by running your fingertips over the stock. The stock will feel smoother when your fingertips move with the grain.
4. Occasionally the grain direction reverses in the same piece of wood. Better results of planing would be obtained if the two boards were cut in half and each board planed with the grain.
5. When the knives are sharp, they will sever the wood fibres easier, creating a smooth surface.

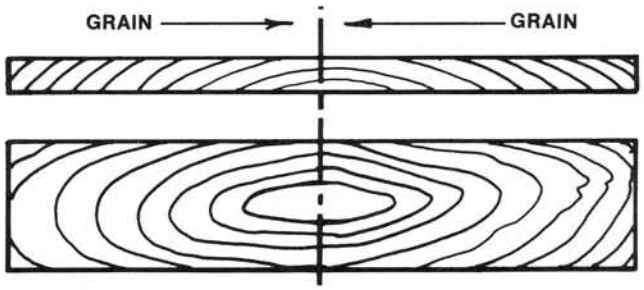
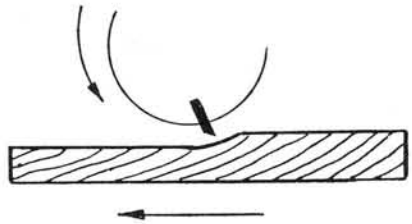
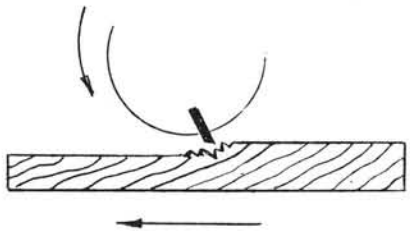


FIG. 53



SHARP KNIFE
SEVERS WOOD FIBER EASIER & CREATES A SMOOTHER SURFACE.



DULL KNIFE
TEARS AT THE WOOD FIBERS & LEAVES A ROUGH SURFACE.

FIG. 54

OPERATING INSTRUCTIONS: REMOVE AND INSTALL PLANER KNIVES

REMOVING PLANER KNIVES

Unplug your planer from its power source.

STOP FOR SAFETY

Always unplug your planer from its power source before changing knives and molding bits.

Your planer blades are held in position by wedge action. The set screws press against the bottom of the cutterhead slot forcing the gibs into a wedge type seal. To break this seal and remove the knife, simply loosen the five (5) gib set screws until they are flush with the top of the gibs. Tap the gibs down using either a wood block or soft metal as a punch. Once the gibs are free, remove the knife first, then the gibs can easily be removed. Mark all gibs and matching slots to be sure they are replaced in their original position. Clean the knives and cutterhead slot with a solvent to remove all pitch and gum residue.

INSTALLING PLANER KNIVES

Install the gibs back into their original slots, then install the planer knives. Tighten the set screw in the 1″ gib first, this will lessen the tendency of the knife to creep upward.

When resetting the knives in the cutterhead, position the jack screws to give all three knives a uniform projection of 1/8″.

To obtain a projection of 1/8″ with the knife setting gauge, place the gauge on the cutterhead with all three prongs of the knife setting gauge firmly resting against the cutterhead. Turn the screw clockwise until it touches the cutterhead, turn the screw counterclockwise. 2-1/2 turns (which allows for a projection of 1/8″). Tighten the lock nut to maintain this setting.

NOTE: The knives must rest firmly on the jack screws.

SHARPENING YOUR PLANER KNIVES

Sharpening and other maintenance areas of your planer are discussed in the maintenance section.

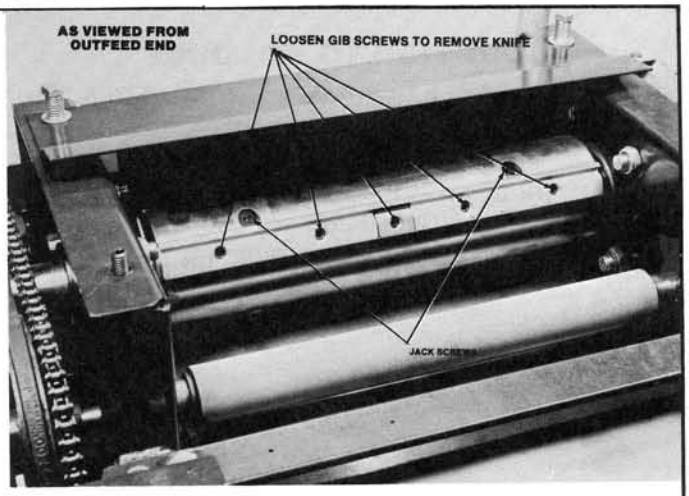
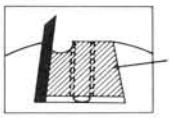


FIG. 55



SIDE VIEW OF THE SET SCREW HOLDING KNIFE

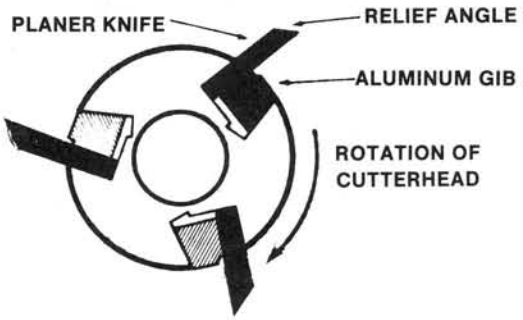
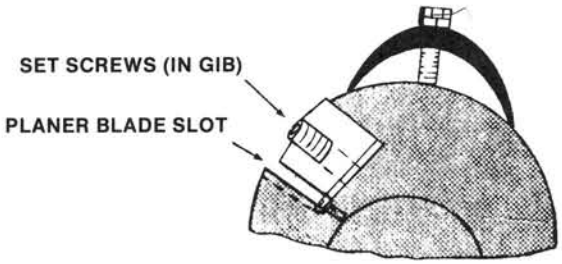


FIG. 56



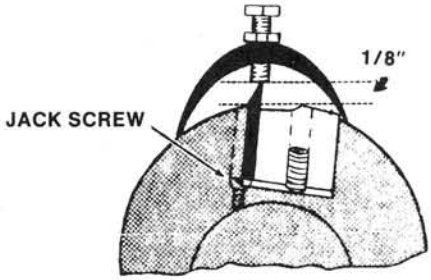


FIG. 57

OPERATING INSTRUCTIONS: INTRODUCTION TO MOLDING

INTRODUCTION TO MOLDING

Molding, also known as millwork or trim, can be defined as a decorative strip of wood milled with a plain or curved surface which is continuous throughout its length. The term "molding" comes from the fact that it appears to have been cast from a mold. Historically, molding has been used for decorative purposes as early as 600 B.C. by the Greeks.

FIG. 58

IN TODAY'S WORLD...

In the modern world, molding is used as a decorative feature with patterns such as coves, crowns, beds, casings, picture moldings, quarter rounds, and dozens of other varieties. In the modern world, it also serves a practical function in that it covers poorly fitted joints and structural cracks. It also is used in a functional manner for window framing, picture framing, door jambs, and other functional building processes.

SAVE MONEY AND TIME...

Our Planer/Molder allows you to custom design, to your own specifications, the trim that is used in your do-it-yourself type projects. This not only allows you to save money on the high cost of finished molding, but you will save yourself the difficulty and inconvenience of obtaining the finished molding.

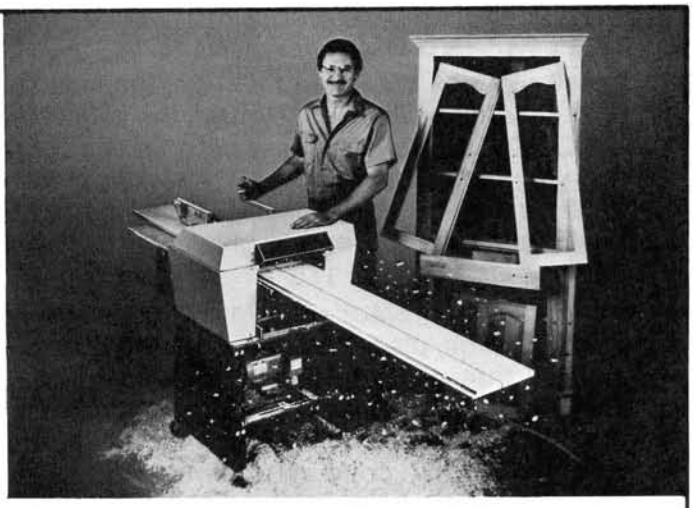


FIG. 59

OPERATING INSTRUCTIONS: INTRODUCTION TO MOLDING

FOLEY-BELSAW stocks two types of molding knives - Molding Cutter Bits and Custom Pattern Knives.

MOLDING CUTTER BITS

FOLEY-BELSAW Molding Cutter Bits are made of 1/8" special alloy tool steel, heat treated and tempered to hold sharp edges for long periods of sustained cutting. These fit directly in the center of the cutterhead and can be used with the planer blades so that you can actually plane and mold in the same pass.

The 1" cutter bits come in three-knife sets that can easily be installed in the cutterhead of the planer while the planer blades are in place. A complete listing of molding cutter bits can be found on page 41.

PATTERN KNIVES

Custom molding knives are ground from 1/4" high speed, hard steel in a one-knife set. When ordering custom molding knives you'll also be supplied with additional gibs and counterbalance weights to assure the cutterhead is in perfect balance at all times.

The one-knife method used with Custom Pattern Knives keeps setup time to a minimum and is feasible because we use the finest quality 1/4-inch-thick Super High Speed Steel. A complete listing of custom pattern knives can be found on pages 42-45.

CUSTOM SPECIAL ORDERS

If you wish a custom knife ground to your specifications, send a detailed drawing of the molding or a wood sample for a prompt quotation by return mail.

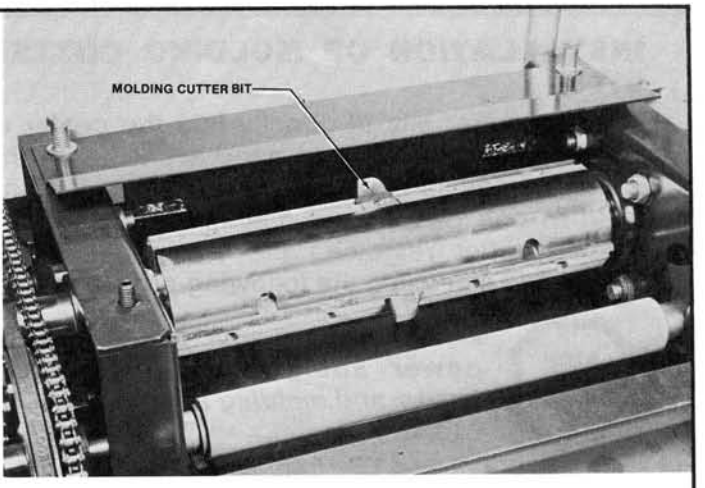


FIG. 61

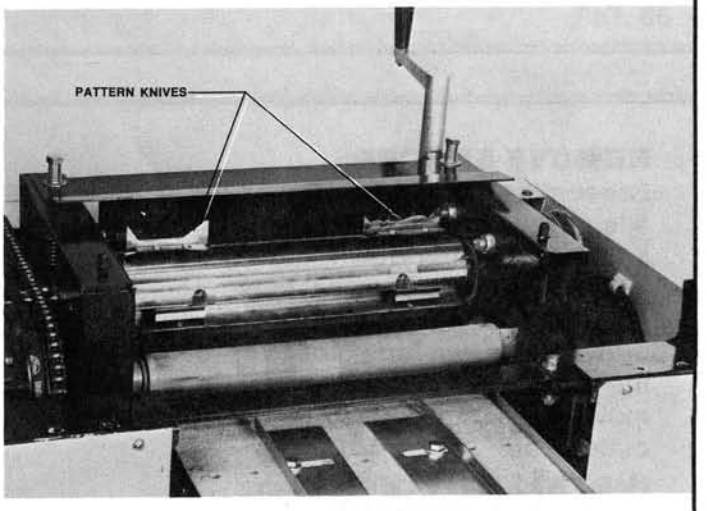


FIG. 62

OPERATING INSTRUCTIONS: INSTALLING MOLDING CUTTER BITS

INSTALLATION OF MOLDING CUTTER BITS

Molding cutter bits fit directly into the center of each cutterhead slot and can be used with the planer blades so that you can actually plane and mold in one pass. Your molding cutter bits are installed after removing the 1" spacer in the cutterhead slot using the following procedure:

STOP FOR SAFETY

Always unplug your planer from its power source before changing knives and molding bits.

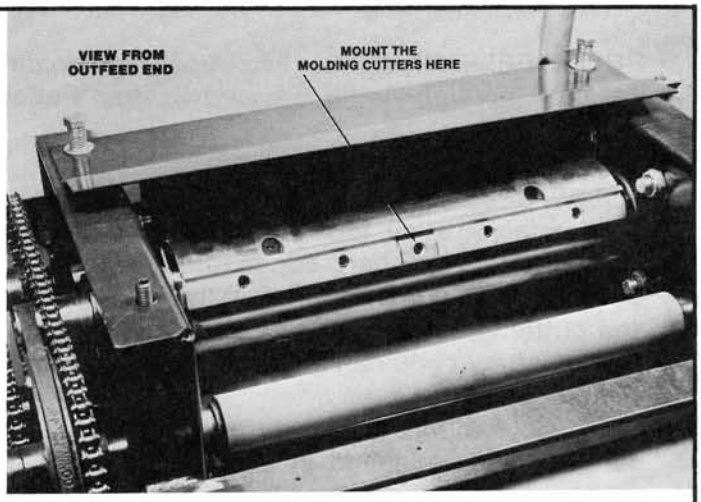


FIG. 63

REMOVE SPACER

Loosen the gib screw in the 1" gib, using a 3/16" allen wrench. Use a soft piece of metal as a punch and tap the gibs down into the cutterhead slot. The spacer will then be loose and can be removed. You will find just enough extra space between the two long gibs to make easy fitting for the cutter bits. The gibs can be moved so the molder bits can be installed on either end of the cutterhead.

INSTALL CUTTER BIT

Select the desired pattern of molding cutter bit and fit it into the hole left by the spacer, so that it has the same cutting direction as the planer blade. Be sure to keep each cutter bit tight against the gib on the pulley side of the cutterhead. This assures uniform alignment when cutter bits are used in all three cutterhead slots.

TIGHTEN GIB SCREW

Tighten the gib screw on the 1" gib with a 3/16" allen wrench, forming a wedge type seal.

Most cutter bits come in sets of three (3). In many cases, you will only need one installed. We recommend using three (3) bits on longer production runs.

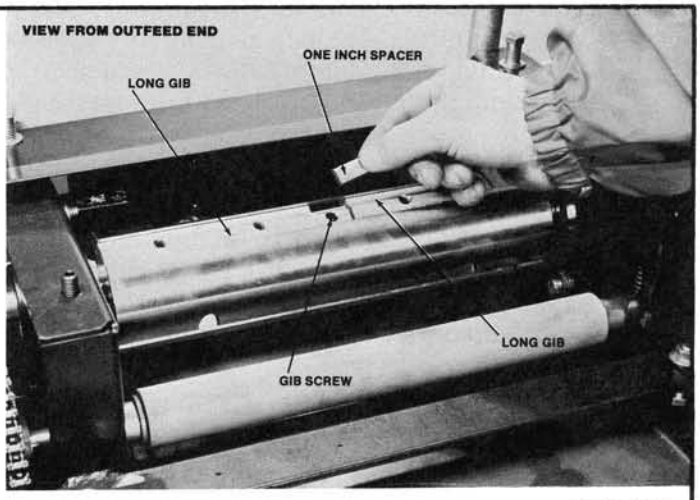


FIG. 64

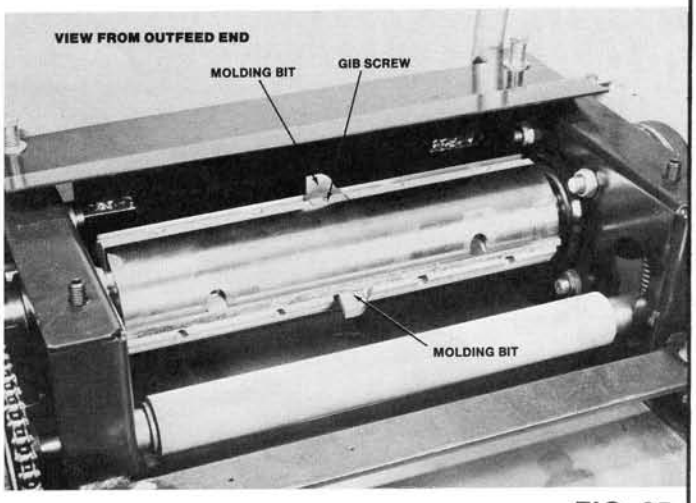


FIG. 65

OPERATING INSTRUCTIONS: MOLDING INSTRUCTIONS USING MOLDING CUTTER BITS

GUIDE & FEATHERBOARD

When cutting with molding cutter bits, it is recommended to use a guide and featherboard to correctly guide the stock through the planer. Please refer to pages 32-33 for instructions on how to make your own guide and featherboard. Also on pages 32-33 you will find our optional bedboard & adjustable guide system which is now available. The optional bedboard and guide allow you to quickly and easily change the guides for the different width stocks you will be encountering.

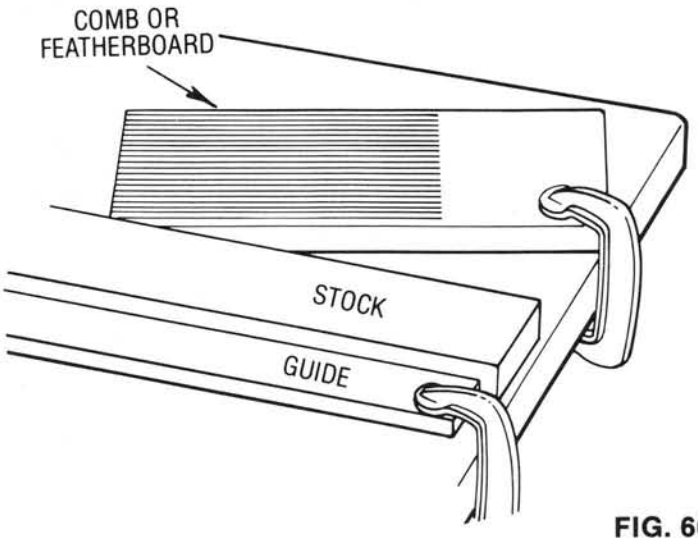


FIG. 66

MOLDING INSTRUCTIONS USING MOLDING CUTTER BITS

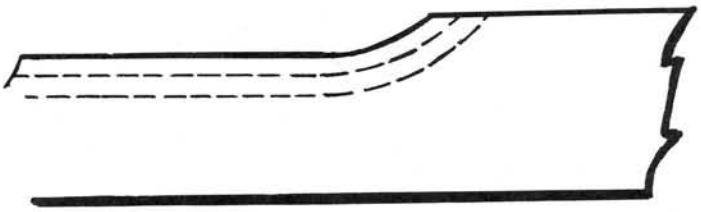
The art of creating quality molding requires planing your molding operations prior to starting. The depth of cut can dictate the smoothness of the finish. Remember, a light cut creates a finer finish than a heavier cut.

Always pre-size your stock to within 1/16" of the final thickness before running your molding. If possible, pre-size it to within 1/8" in width also.

Before your begin molding, you must also consider the hardness of the board, its dampness, straightness, grain direction, and grain structure. All of these factors will play a part in the quality of your molding.

Stand to one side of the machine and start the board under the infed roll so that it travels in a straight line. When the feed roll takes hold, let go of the piece and stay standing to one side of the machine - NOT in direct line with the board. The power feed completes the travel without further pushing or pulling.

Never stand directly in line with your work. Always stand off to one side of your machine. Always wear proper eye protection.



HEAVY CUT
MORE POWER CONSUMED ROUGHER CUT

LIGHT CUT
LESS POWER CONSUMED SMOOTHER CUT

FIG. 67

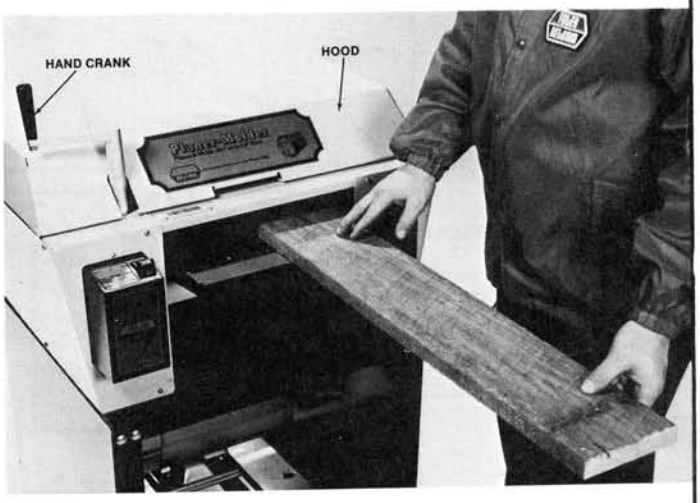


FIG. 68

OPERATING INSTRUCTIONS: OPTIONAL BEDBOARD & GUIDE

FOLEY-BELSAW has an optional bedboard and guide for your convenience. A homemade bedboard and guide can be made. The homemade bedboard is discussed on the following page.

The use of a bedboard is highly recommended and can be extremely critical in cases such as custom pattern knives and molding bits where they are designed to cut below the molding to eliminate rough edges and to final size the molding. In this case, the use of a bedboard is mandatory in keeping the tips of the custom pattern knives away from the cast planer bed.

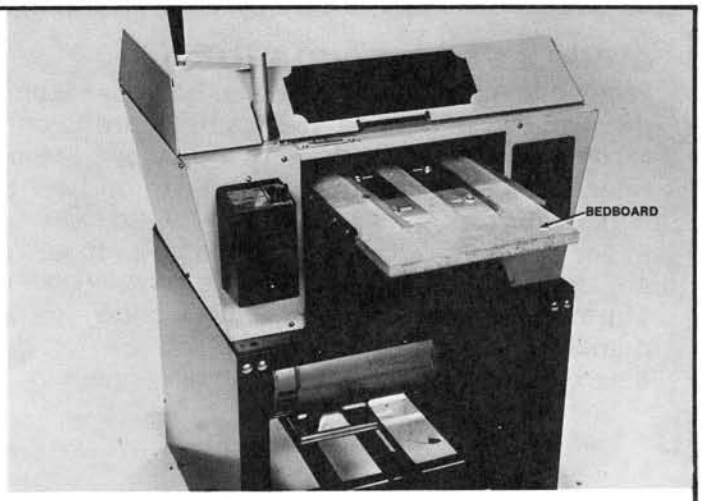


FIG. 69

OPTIONAL BEDBOARD ASSEMBLY

Mount the four (4) T-nuts (#9) into the four (4) mounting holes on the top side of the bedboard. Mount the 36 T-nuts into 36 mounting holes on the bottom side. Mount the four (4) each (#2) side board guides onto the side of the bedboard as shown in the diagram using the pre-drilled holes.

Mount the four (4) standard guides (#3) onto the bedboard as shown in the diagram. There are four (4) mounting holes located in the planer bed as shown in the photo. Mount the bedboard assembly to the planer bed using the four (4) hex cap screws, 7/8" long, and the 1/4" plain washers provided.

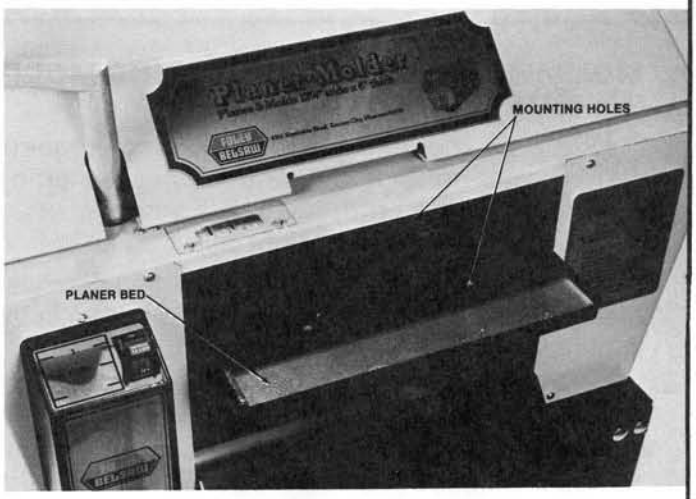


FIG. 70

OPTIONAL BOARD GUIDES

FOLEY-BELSAW also stocks optional Edge Molding Guides shown in the diagram (#8). An example of the usage of the tall board guides will be discussed in the operating section under edge molding.

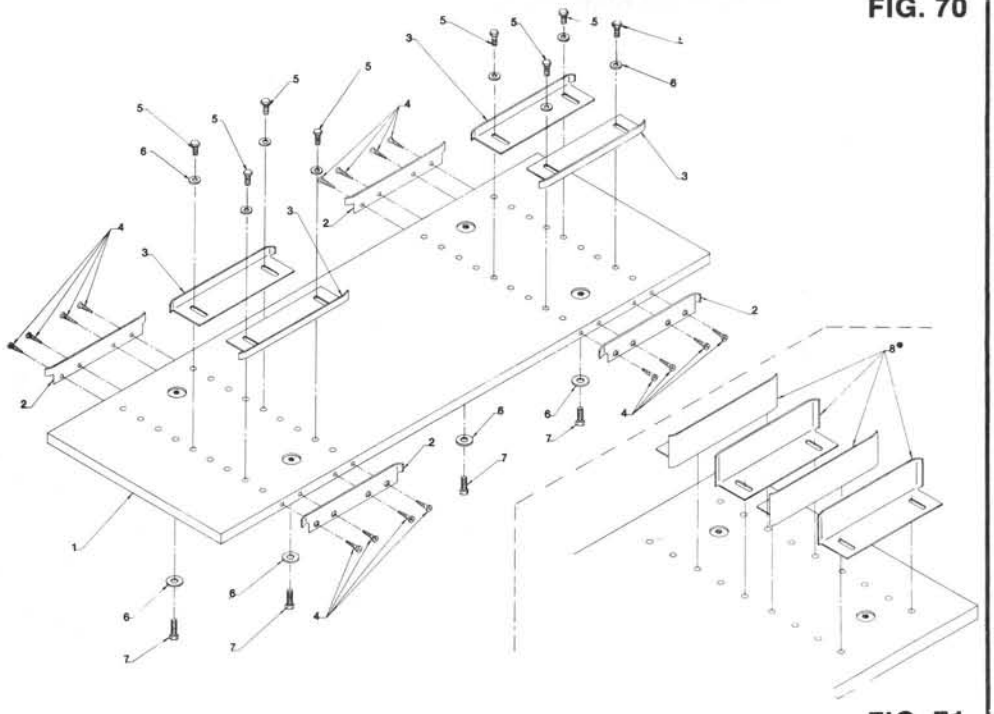


FIG. 71

OPERATING INSTRUCTIONS: HOMEMADE BEDBOARD, GUIDE & FEATHERBOARD

SET-UPS FOR FACE MOLDING

For face molding, a homemade guide and comb or feather board can be combined to position stock for desired pattern cuts. Select a straight piece of hardwood for a guide. This piece should be 2" x 1/2" x at least 27¼" long. The guide should be exactly parallel to the milled edge of the planer bed. It can be held in place with C-clamps and positioned at any place on the bed. You will have to cut out notches so the guide will fit underneath the roller. A "feather board" can be of great help in guiding stock. It is quickly made from any piece of 1" thick stock, approximately 8" long and 3" wide. Saw the parallel slots about 4" deep and 1/8" apart. The feather board can be C-clamped to exert a spring tension to hold the stock against the guide.

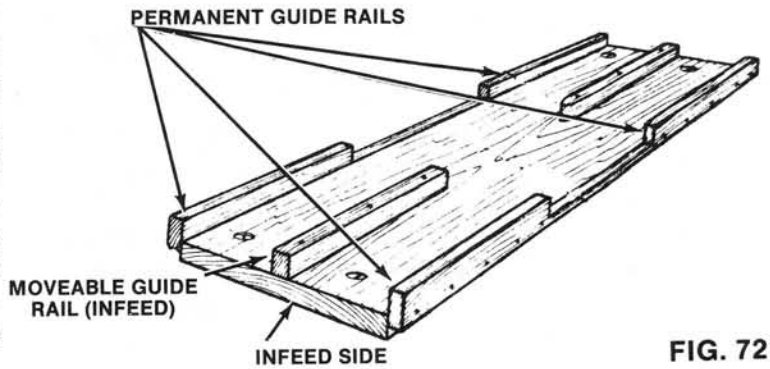


FIG. 72

Our optional bedboard has built in guides that would eliminate the need of the above guide piece and the feather board. The adjustable guides allow for quick changing and adjusting of different sizes of stock.

HOMEMADE GUIDE SET-UP FOR EDGE MOLDING

The drawing shows a wooden guide set-up for edge molding. The guides are C-clamped on each side of the stock and are within 3/4" of the top edge to provide maximum support so that the narrow stock will travel straight beneath the knife.

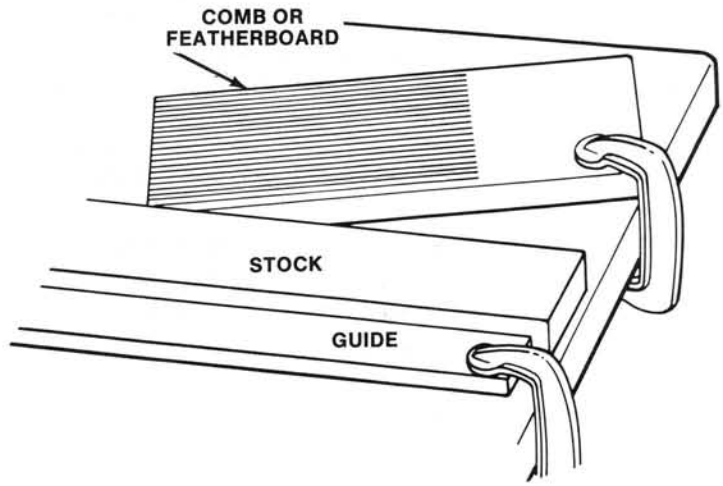


FIG. 73

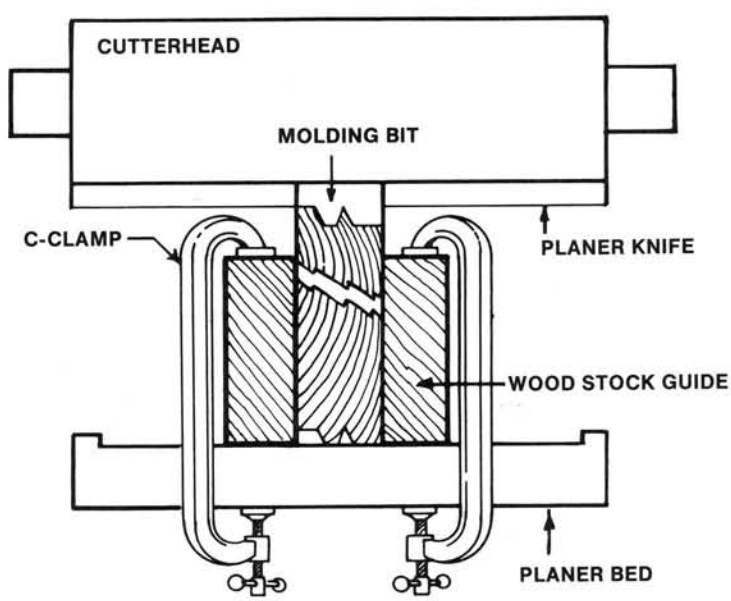


FIG. 74

OPERATING INSTRUCTIONS: INSTALLATION OF PATTERN KNIVES

INSTALLATION OF CUSTOM PATTERN KNIVES

Custom Pattern Knives are easy to install and adjust. It is recommended to use only FOLEY-BELSAW pattern knives.

STOP FOR SAFETY

Always unplug your planer from its power source before changing knives and molding bits.

REMOVE PLANER KNIVES & GIBS

Unplug your machine and then loosen the gib set screws and tap all the gibs down to release the planer knives. Remove the planer knives and then remove the gibs and jack screws. Clean the cutterhead slots and the custom pattern knife thoroughly, to remove all wood, dust, gum, and any protective coatings.

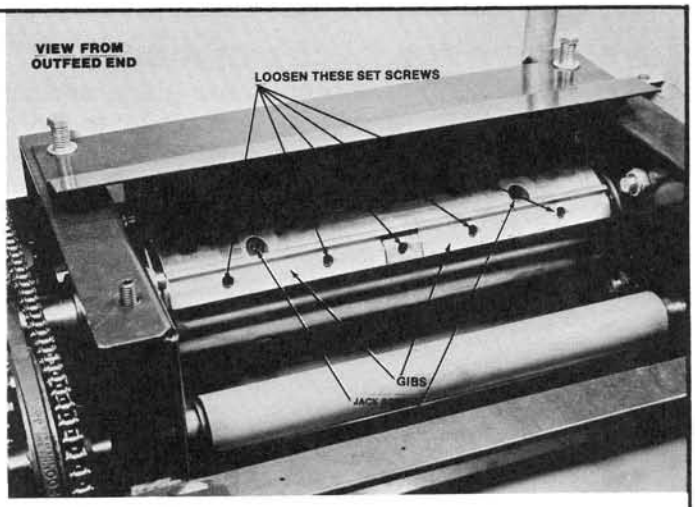


FIG. 75

INSTALLING PATTERN KNIVES

Install the aluminum gib first and then the pattern knife into one of the cutterhead slots. Tighten the gib set screws. Double check during this tightening, to insure against the knife creeping up during the tightening process. If necessary, tap the knife down with a hard wood block until it has bottomed out in the cutterhead slot.

INSTALL COUNTERWEIGHTS & GIBS

Install one steel gib and the steel counter balance weight in the second slot. Tighten the gib set screws. The steel gib and counterweight are ground to balance the cutterhead.

Install the second steel gib and counter balance in the third slot and again tighten the gib screws.

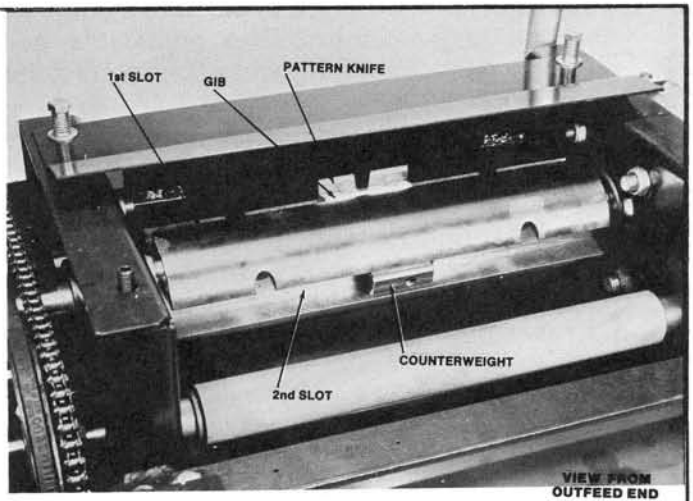


FIG. 76

STOP FOR SAFETY

Do not interchange counterweights between sets of pattern knives. They are properly sized for the one set. Machine vibration may result if counterweights are accidentally interchanged. Stop and replace with correct counterweight.

CORRECT COUNTERWEIGHTS

If sets of counterweights should become mixed, weigh the knife and its aluminum gib. Then match this weight to the steel counterweight and the steel gib. The weight between these should be within ½-ounce of each other.

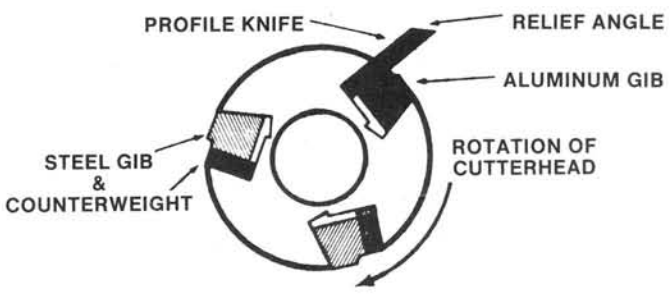


FIG. 77

INSTALLING MOLDING PATTERN KNIVES (continued . . .)

CHECK THE PATTERN KNIFE CLEARANCE

Check the knife for clearance by pushing the chip breaker towards the knife and rotating the cutterhead slowly by hand. There should be no contact between the pattern knife and chip breaker. If there is contact, loosen the gib set screw and tap the gib down, making sure the knife is bottomed in the cutterhead slot. Retighten the gib set screws when the knife has been properly adjusted.

Double check all gib screws to be sure they are tight before operating machine.

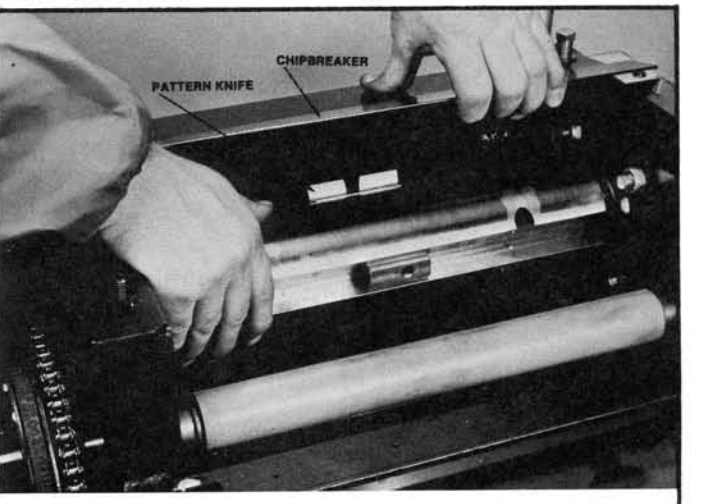


FIG. 78

INSTALL BEDBOARD

The knives are made so the extreme cutting tips can cut into the wood bedboard by approximately 1/16". This is necessary to eliminate rough edges and for final sizing. Always use a bedboard so the knife does not come into contact with the cast iron bed of your planer.

Always use a bedboard when operating a planer with pattern knives.

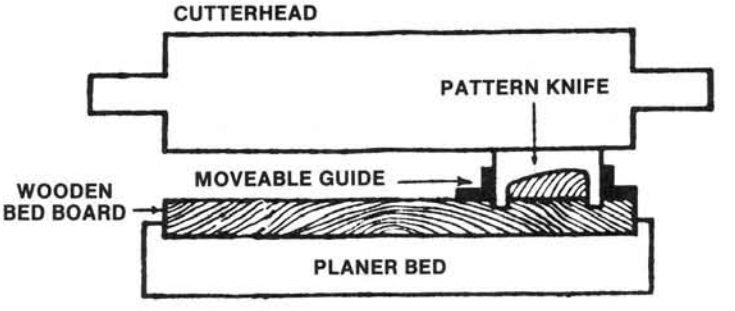


FIG. 79

ADJUST GUIDES

Once your bedboard is securely mounted you need to adjust the guides so they are in line with the pattern knife. Proper adjustment of the guides will assure quality cut moldings. To adjust the guides, lower the bed and place a board of correct width to be molded under the cutterhead. Loosely adjust your guides to the board. Rotate the cutterhead by hand and see if the pattern knife will line up with the board. Adjust accordingly until the pattern knife and board are lined up. When properly adjusted firmly tighten the bed guides.

NOTE: On some pattern knives the cutter trims a small portion of the width away as it cuts the pattern. The outfeed guides on the bedboard must be adjusted to compensate for the decreased width of the molding.

OPERATING INSTRUCTIONS: FACE MOLDING WITH PATTERN KNIVES

FACE MOLDING WITH PATTERN KNIVES

The art of creating quality molding requires planning your molding operations prior to starting. The depth of cut can dictate the smoothness of the finish. Remember, a light cut creates a finer finish than a heavier cut.

Always pre-size your stock to within 1/16" of the final thickness before running your molding. If possible, pre-size it to within 1/8" in width also.

Before your begin molding, you must also consider the hardness of the board, its dampness, straightness, grain direction, and grain structure. All of these factors will play a part in the quality of your molding.

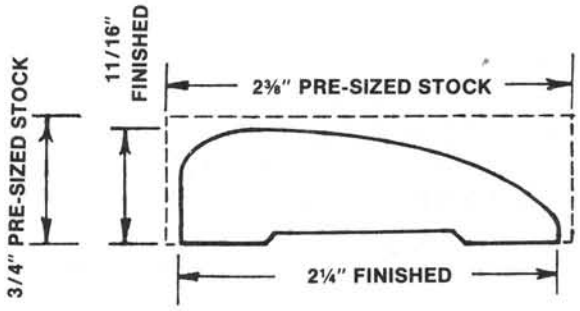


FIG. 82

Stand to one side of the machine and start the board under the infeed roll so that it travels in a straight line. When the feed roll takes hold, let go of the piece and stay standing to one side of the machine - NOT in direct line with the board. The power feed completes the travel without further pushing or pulling.

Never stand directly in line with your work. Always stand off to one side of your machine. Always wear proper eye protection.

FIG. 83

OPERATING INSTRUCTIONS: EDGE MOLDING WITH PATTERN KNIVES

EDGE MOLDING

Edge molding can be easily done on your Planer/Molder as shown in the diagram, by installing the proper pattern knife and setting up your bedboard and guide system. A homemade bedboard and edge molding guides are discussed on pages 32-33.

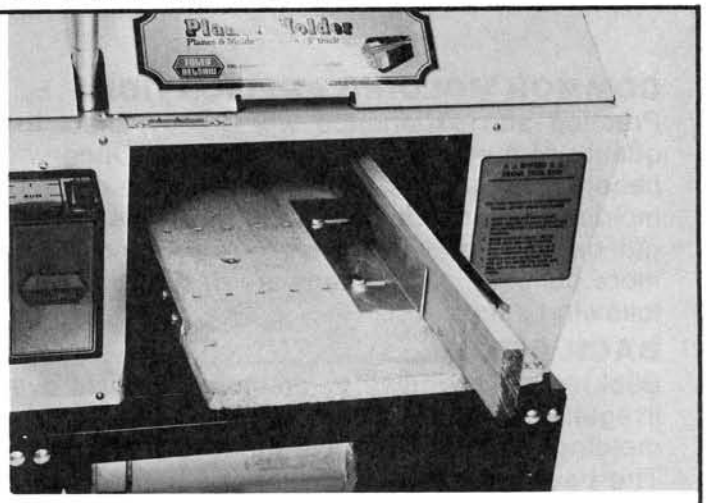


FIG. 84

EDGE PLANING

Edge planing can also be easily done on your Planer/Molder on stock up to ¾" thick and 11" wide with the following set-up:

NOTE: A molding bedboard must be installed on the planer when edge planing. Please refer to pages 34 & 35 . . . following the steps for installing custom pattern knives.

Install No. 4575510 rabbet cutter knife, at the right or left edge of the cutterhead, so that the rabbet knife extends inside of the guide approximately 1/16" to 1/8" or just enough to clean up the stock. If you have not already done so, install counterweights in the remaining 2 cutterhead slots. The rabbet knife is locked in place with the aluminum gib provided.

NOTE: When the rabbet knife becomes dull on one side, move the rabbet knife and counterweight set-up to the opposite side of the cutterhead. This will give you a fresh cutting edge to work with.

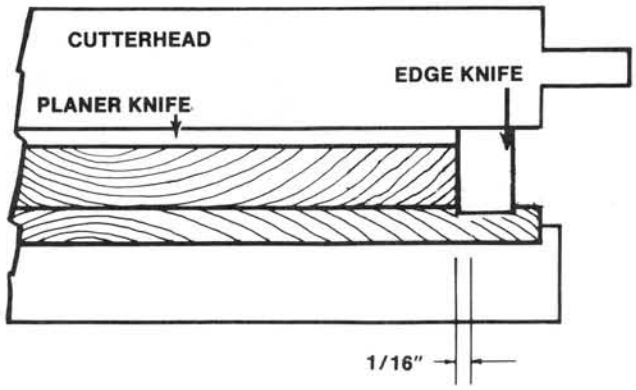


FIG. 85

VERTICAL PLANING

Planing a board on its edge can also be achieved by using the optional tall guides bedboard as shown in the figure.

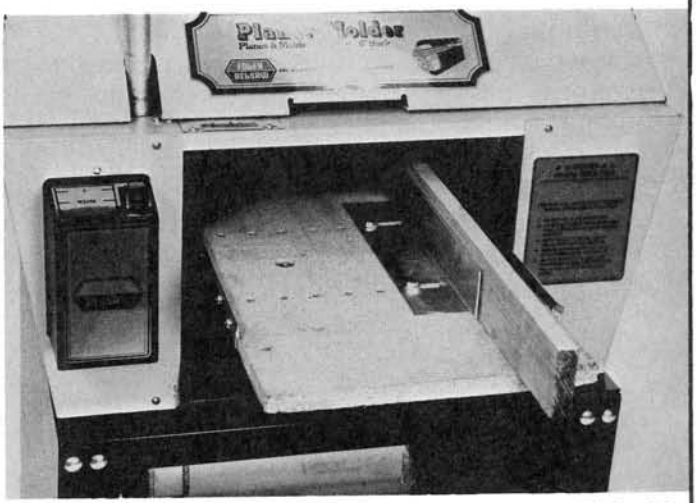


FIG. 86

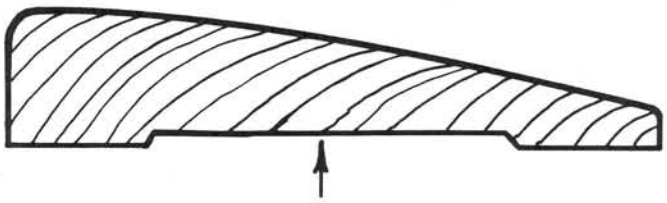
OPERATING INSTRUCTIONS: COMMON MOLDING APPLICATIONS

COMMON MOLDING APPLICATIONS

Practice and experience will greatly affect the quality of molding that you produce. Once you become familiar with the set-ups for the different molding applications, you will easily be turning out quality molding on every run. Some of the more common applications are described on the following pages.

BACK RELIEF

Back reliefs are used to create a better fit over irregular surfaces. With less wood contact, the molding matches irregular surfaces more easily. The back relief should be formed on a piece of wood before it is molded to finished thickness.



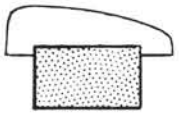


FIG. 87

RABBET

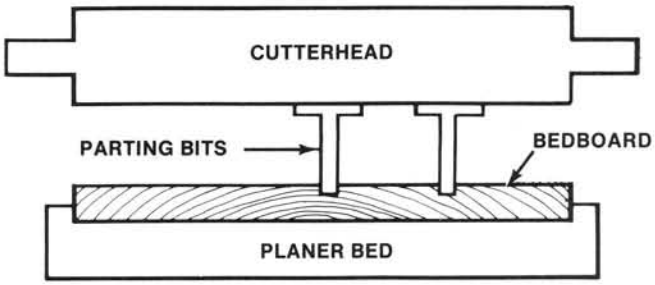
A rabbet is a rectangular cut on the corner of a molding. It is commonly used where pieces of wood are being butted against and/or overlapped, such as in ship lap and bevel siding.

Always set your guide against the side being rabbeted. The rabbet cut should be completed before the exposed side of the molding is finished.

FIG. 88

PARTING BITS

Parting bits will do a very smooth job of sawing soft wood up to 3/4" thick. They are installed the same as custom pattern knives with the planer blades removed. More than one parting bit may be used at one time. They can be placed as close as 3/4" apart, and up to 10⅞" apart. Parting bits must be used in conjunction with a bedboard, as the bits will cut into the bedboard so that they will cleanly part the wood stock.



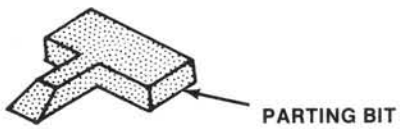


FIG. 89

COMMON MOLDING APPLICATIONS (continued . . .)

CROWNS/BEDS/COVES

Crowns, beds, and coves are made with custom pattern knives. These moldings are made in two passes. The molding is cut on both the top and the bottom of the wood piece. Pass one is for the bottom. The beveled side created mounts against the wall and ceiling. Pass two creates the top which is the decorative shape that is exposed to the eye when the molding has been mounted.

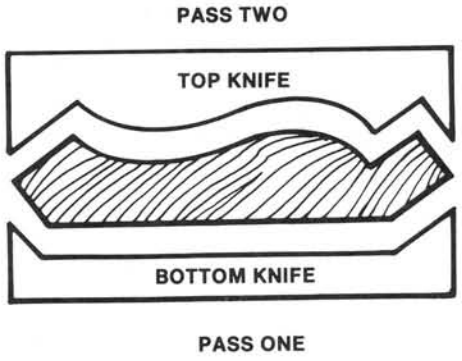


FIG. 90

MULTIPLE CUSTOM KNIFE USE

Many operators who have continuous short runs of several different patterns save set-up time by installing more than one set of knives in the cutterhead at the same time. You can change from one pattern to another simply by changing the guides. This is a great time saver since it eliminates removing and installing another set of knives for a short-run.

Another method of using more than one pattern in the cutterhead at the same time is for producing usable molding from what otherwise would be waste stock. If the width of the pattern being produced is 4½" and the stock is full 5½" wide, you would have a strip of waste stock. This stock can be molded in a separate run or at the same time the original pattern is being run, simply by butting another set of knives against the original pattern knives. This produces two different patterns at the same time.

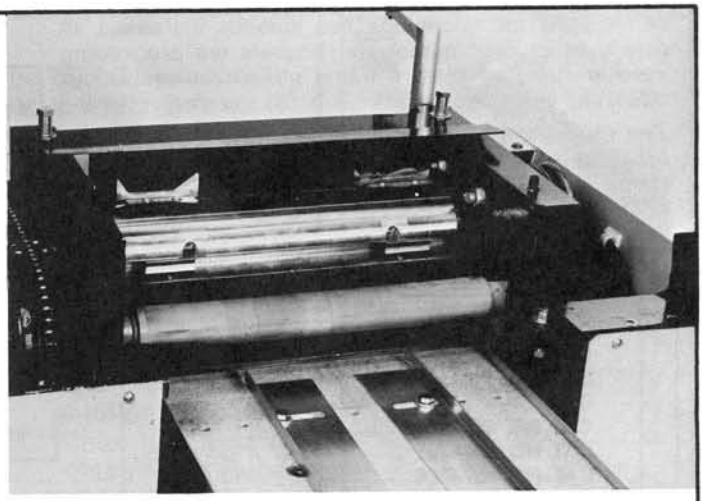


FIG. 91

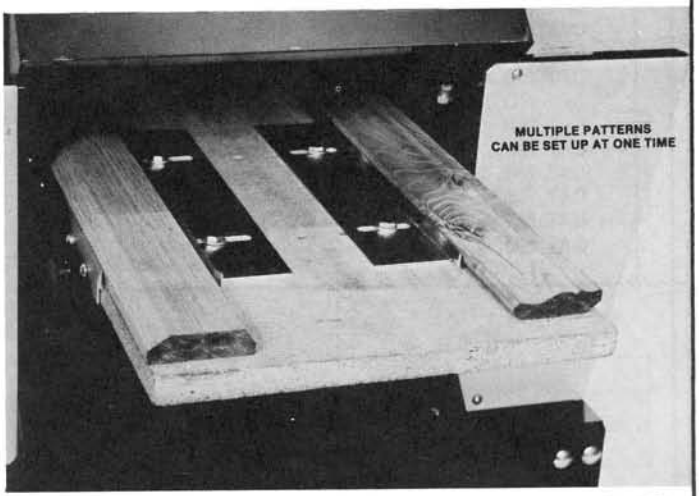
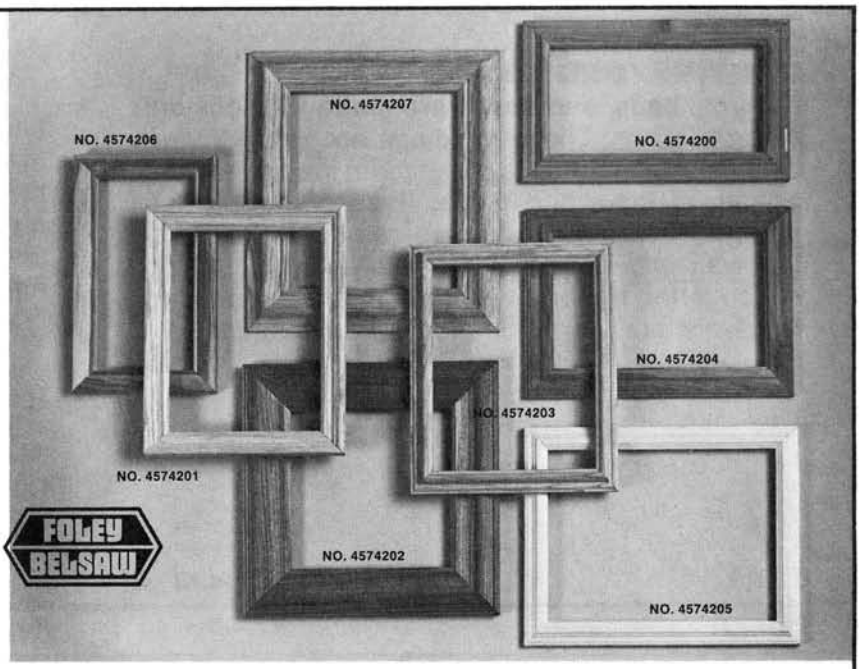


FIG. 92

UNIQUE PICTURE FRAME KNIVES EXCLUSIVELY FROM FOLEY-BELSAW

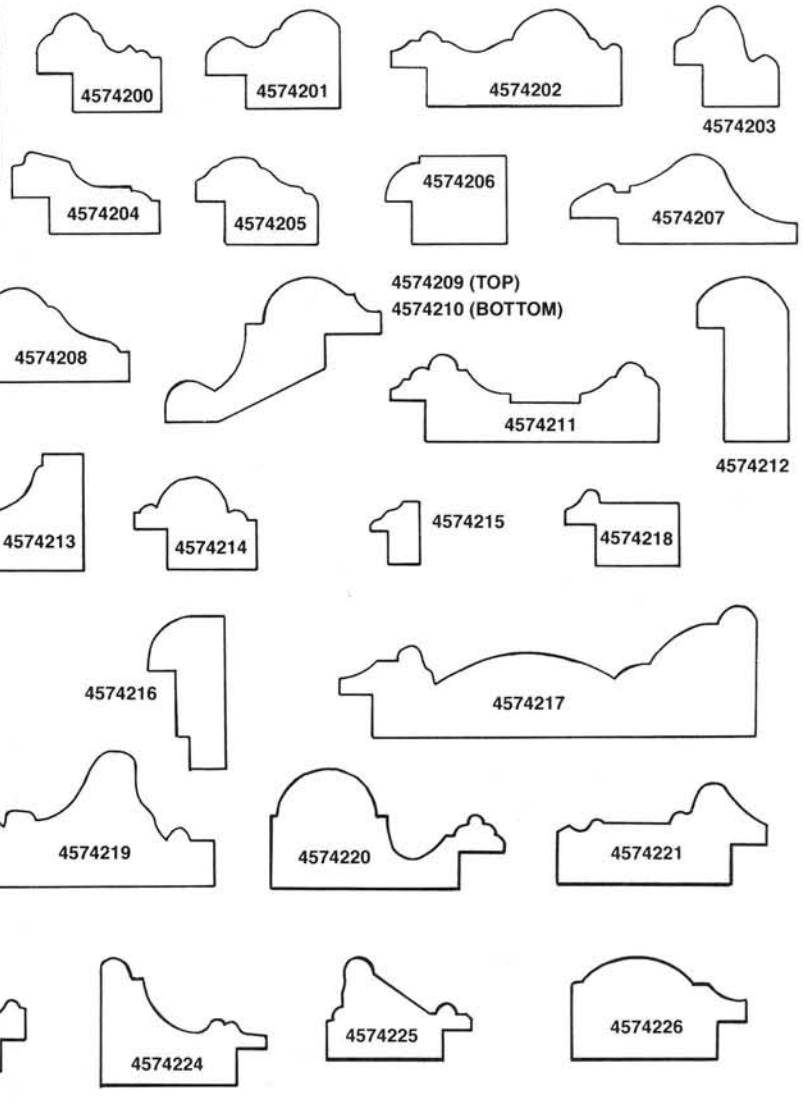


One of the most frequent uses for custom pattern knives is the making of picture framing materials. Unique designs and patterns present an extremely profitable opportunity for planer owners.

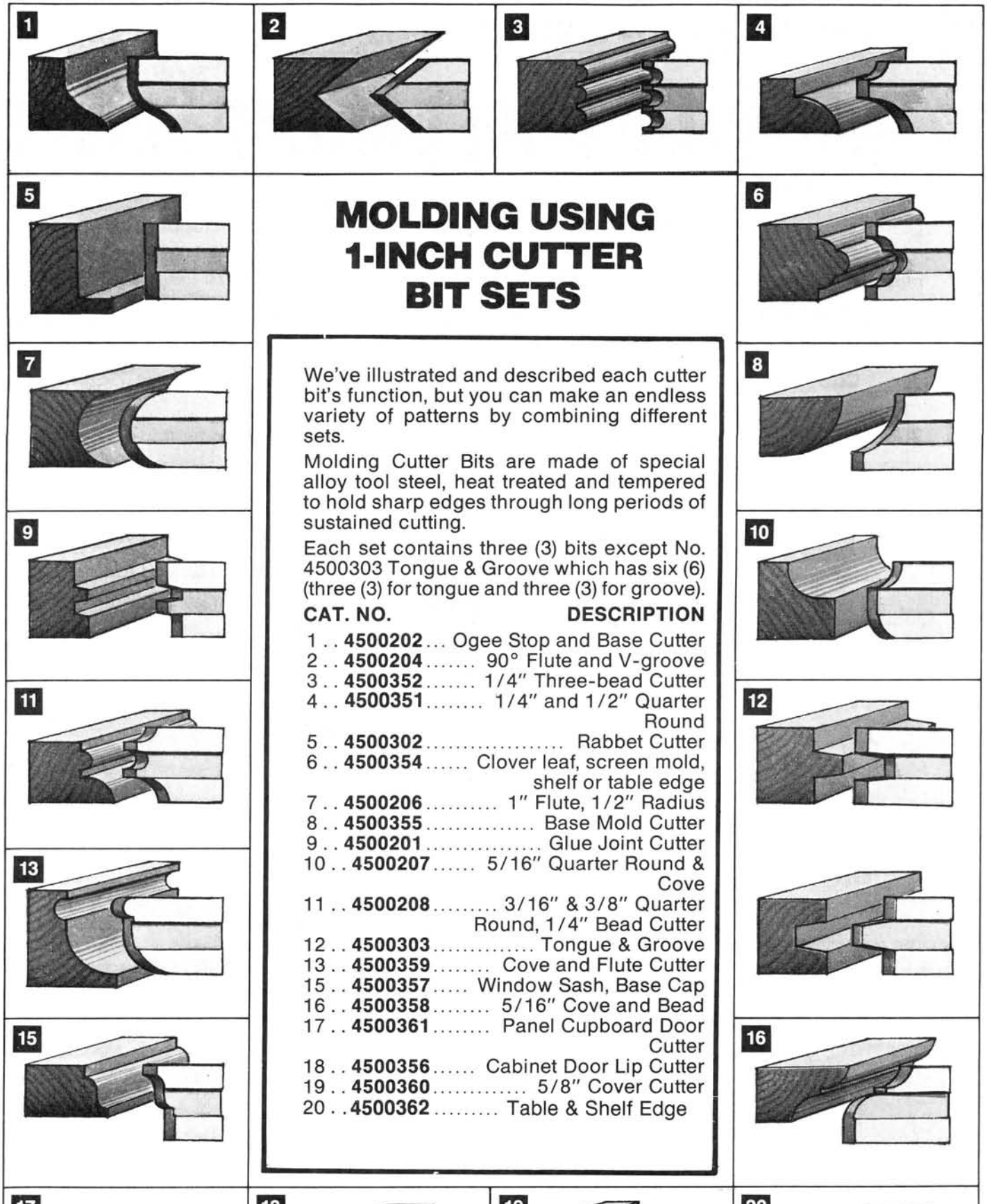
Over the years we have made many special custom pattern knives for Picture Framing material for FOLEY-BELSAW planer operators. In recent years, the number of requests for quotations has steadily increased. In response to your numerous requests we are adding several standard picture frame pattern knives to our stock line of knives.

The rabbet cut on the back side of the frames which provides space for the glass, picture and backing, is normally cut with our Standard Number 4575505 rabbet knife.

CAT. NO. 4574200	1½" X ⅞"
CAT. NO. 4574201	1⅛" X ⅞"
CAT. NO. 4574202	2" X ⅞"
CAT. NO. 4574203	⅞" X ⅞"
CAT. NO. 4574204	1¼" X ¾"
CAT. NO. 4574205	1⅛" X ¾"
CAT. NO. 4574206	1⅛" X ¾"
CAT. NO. 4574207	2" X ¾"
CAT. NO. 4574208	1½" X ⅞"
CAT. NO. 4574209	2⅛" X ⅞"
CAT. NO. 4574210	2⅛" X ⅞"
CAT. NO. 4574211	2⅜" X ¾"
CAT. NO. 4574212	11/16" X 1¼"
CAT. NO. 4574213	1 11/16" X 1 15/16"
CAT. NO. 4574214	15/16" X ¾"
CAT. NO. 4574215	7/16" X ½"
CAT. NO. 4574216	11/16" X 1⅜"
CAT. NO. 4574217	3 9/16" X 1⅛"
CAT. NO. 4574218	1" X ½"
CAT. NO. 4574219	2⅛" X 1¼"
CAT. NO. 4574220	1" X 2"
CAT. NO. 4574221	⅞" X 1 13/16"
CAT. NO. 4574222	¾" X 1⅝"
CAT. NO. 4574223	⅞" X 1⅞"
CAT. NO. 4574224	1⅛" X 1 7/16"
CAT. NO. 4574225	⅞" X 1¼"
CAT. NO. 4574226	⅞" X 1½"



MOLDING CUTTER BITS SETS



MOLDING USING 1-INCH CUTTER BIT SETS

We've illustrated and described each cutter bit's function, but you can make an endless variety of patterns by combining different sets.

Molding Cutter Bits are made of special alloy tool steel, heat treated and tempered to hold sharp edges through long periods of sustained cutting.

Each set contains three (3) bits except No. 4500303 Tongue & Groove which has six (6) (three (3) for tongue and three (3) for groove).

CAT. NO.	DESCRIPTION
1 . . **4500202**	... Ogee Stop and Base Cutter
2 . . **4500204**	..... 90° Flute and V-groove
3 . . **4500352**	..... 1/4" Three-bead Cutter
4 . . **4500351**	..... 1/4" and 1/2" Quarter Round
5 . . **4500302**	..... Rabbet Cutter
6 . . **4500354**	..... Clover leaf, screen mold, shelf or table edge
7 . . **4500206**	..... 1" Flute, 1/2" Radius
8 . . **4500355**	..... Base Mold Cutter
9 . . **4500201**	..... Glue Joint Cutter
10 . . **4500207**	..... 5/16" Quarter Round & Cove
11 . . **4500208**	..... 3/16" & 3/8" Quarter Round, 1/4" Bead Cutter
12 . . **4500303**	..... Tongue & Groove
13 . . **4500359**	..... Cove and Flute Cutter
15 . . **4500357**	..... Window Sash, Base Cap
16 . . **4500358**	..... 5/16" Cove and Bead
17 . . **4500361**	..... Panel Cupboard Door Cutter
18 . . **4500356**	..... Cabinet Door Lip Cutter
19 . . **4500360**	..... 5/8" Cover Cutter
20 . . **4500362**	..... Table & Shelf Edge

FOLEY BELSAW

Custom pattern knives

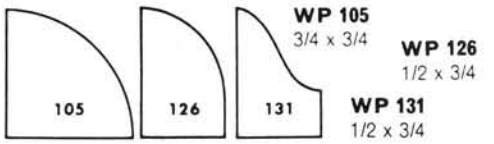
Here is the most complete listing of molding patterns ever offered!

ALL of these popular designs are being used in the building trade and are listed by the Western Wood Products Association. Drawings have been reduced slightly—exact dimensions are listed for each pattern.

Where size and shape permit, most knives have been designed to cut multiples in a single pass. See our price list for details.

If you wish a knife custom-ground to your specifications, send a DETAILED drawing or stock sample for prompt quotation by return mail.

CUSTOM PATTERN KNIVES ARE EXPERTLY GROUND FROM ¼" THICK HIGH SPEED STEEL.



WP 105 3/4 x 3/4

WP 126 1/2 x 3/4

WP 131 1/2 x 3/4

BASE SHOES Shoe mold covers the joint between the base mold and the finish flooring—the final seal against moisture and dirt. Quarter-Round pattern (105) is standard size ¾"x¾". The ogee shape (131) is highly popular.

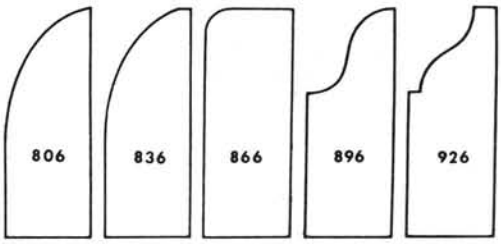
WP 806 1/2 x 1-3/8

WP 836 1/2 x 1-3/8

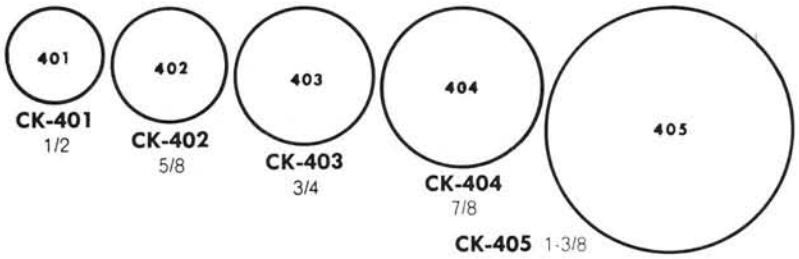
WP 866 1/2 x 1-3/8

WP 896 1/2 x 1-3/8

WP 926 1/2 x 1-3/8



STOPS On window frames, holds the sash in place. On doors, they stop the door in the closed position. We stock the five basic shapes (shown) in their most popular dimensions.



CK-401 1/2

CK-402 5/8

CK-403 3/4

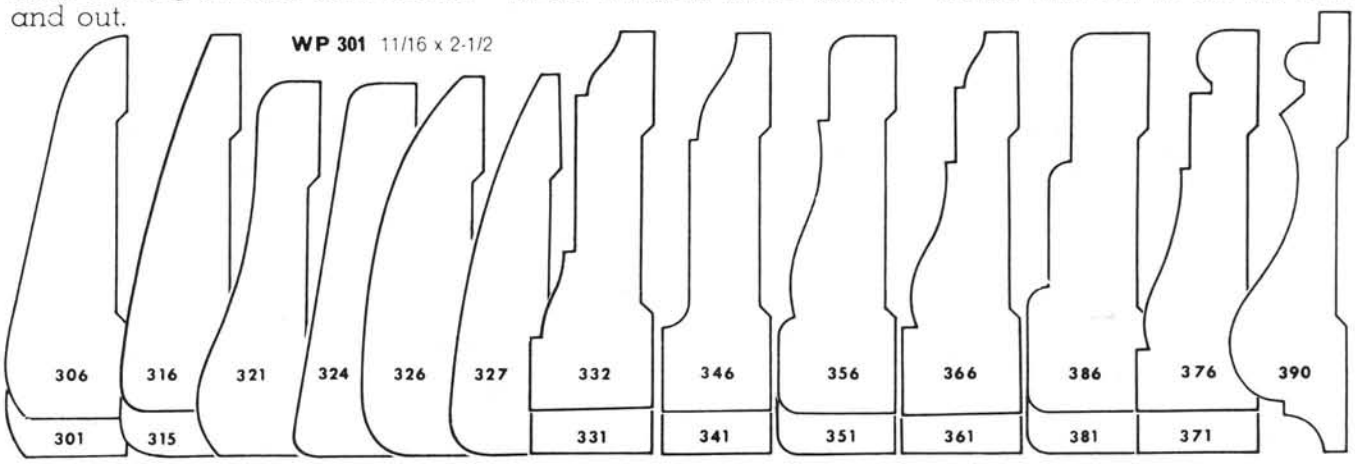
CK-404 7/8

CK-405 1-3/8

DOWEL Although not truly classified as a molding, these highly useful pattern knives are one of our most popular. Whatever their use, the selection of sizes shown will probably meet your requirements. The same knives are used to produce half-round.

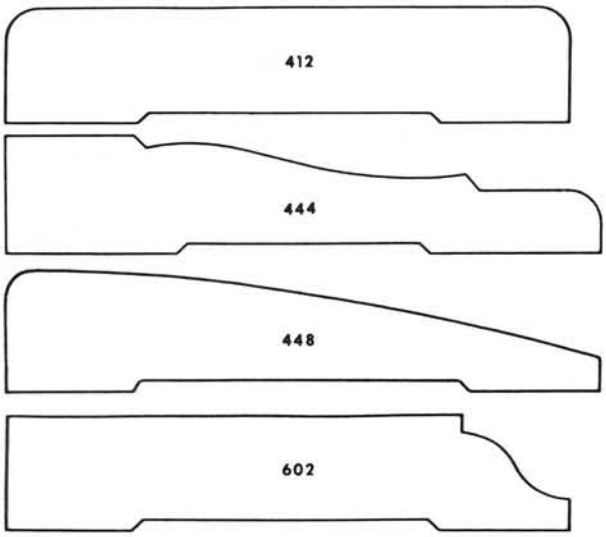
CASING Provides a decorative trim around a doorway, window or other opening. Standard shape for modern trim is the clamshell type (Nos. 301 & 306). Casing is used both inside and out.

WP 301 11/16 x 2-1/2
WP 306 11/16 x 2-1/4
WP 315 11/16 x 2-1/2
WP 316 11/16 x 2-1/4
WP 321 11/16 x 2-1/4
WP 324 11/16 x 2-1/4
WP 326 11/16 x 2-1/4
WP 327 11/16 x 2-1/4
WP 331 11/16 x 2-1/2
WP 332 11/16 x 2-1/4
WP 341 5/8 x 2-1/2
WP 346 5/8 x 2-1/4
WP 351 11/16 x 2-1/2
WP 356 11/16 x 2-1/4
WP 361 11/16 x 2-1/2
WP 366 11/16 x 2-1/4
WP 371 11/16 x 2-1/2
WP 376 11/16 x 2-1/4
WP 381 11/16 x 2-1/2
WP 386 11/16 x 2-1/4
WP 390 11/16 x 2-5/8

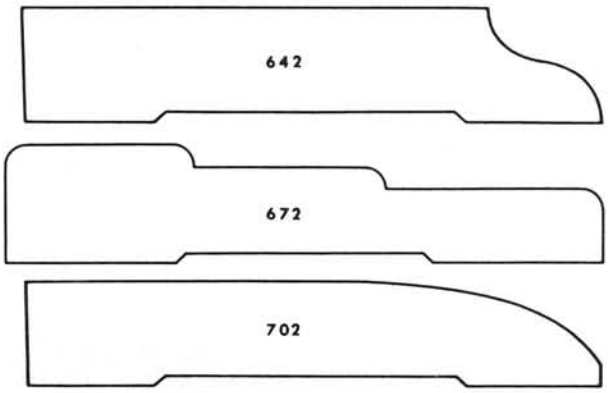


CASING AND BASE

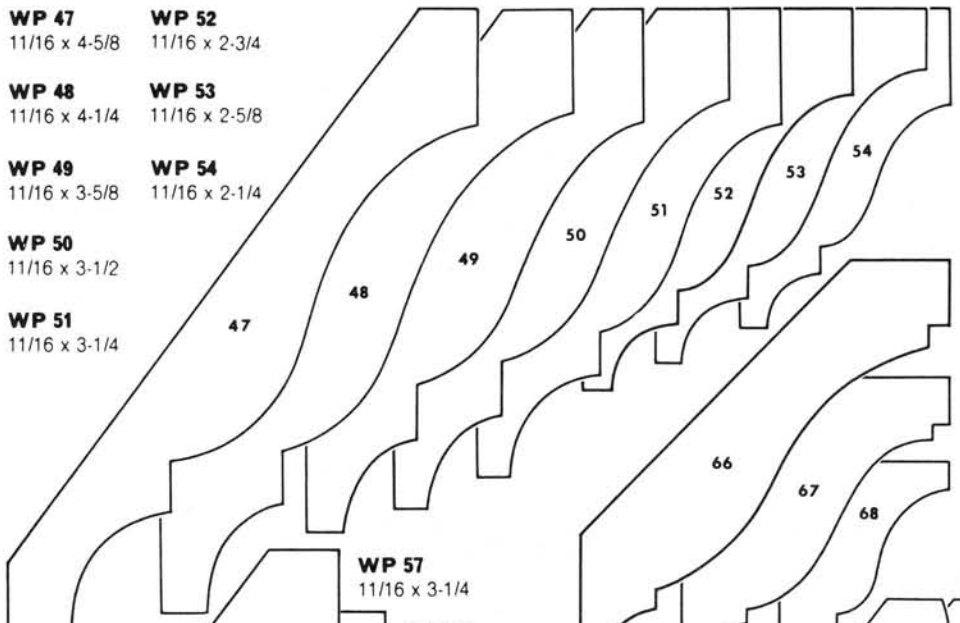
Very similar in shape to standard casing, however these moldings are normally larger. These designs serve either as trim for doors and windows or as baseboard where walls meet floors.



WP 412 11/16 x 3-1/2
WP 444 11/16 x 3-1/2
WP 448 11/16 x 3-1/2
WP 602 11/16 x 3-1/2
WP 642 11/16 x 3-1/2
WP 672 11/16 x 3-1/2
WP 702 5/8 x 3-1/2



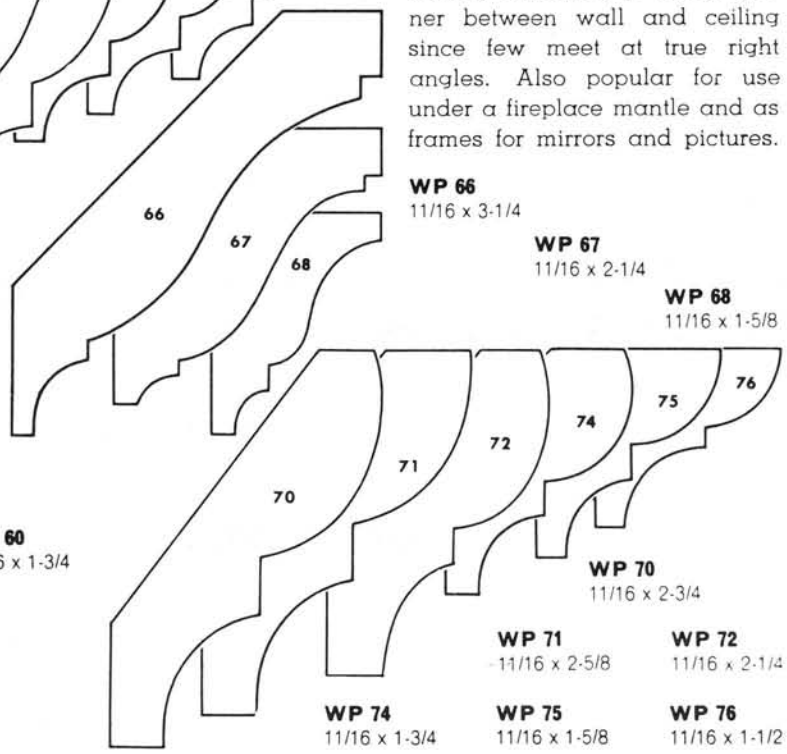
WP 47 11/16 x 4-5/8
WP 48 11/16 x 4-1/4
WP 49 11/16 x 3-5/8
WP 50 11/16 x 3-1/2
WP 51 11/16 x 3-1/4
WP 52 11/16 x 2-3/4
WP 53 11/16 x 2-5/8
WP 54 11/16 x 2-1/4



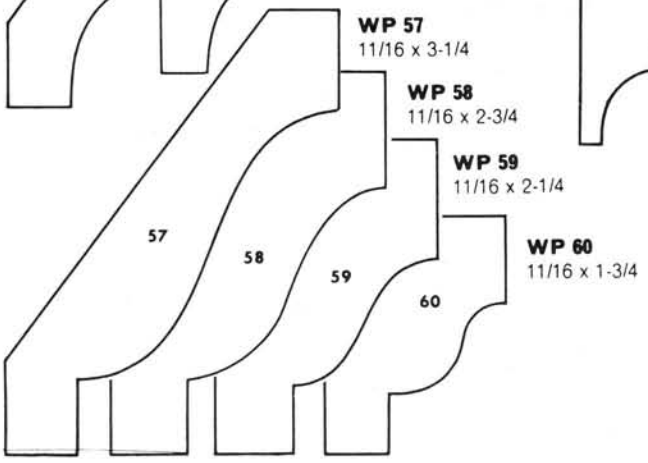
CROWNS/BEDS

The modern shape of these popular moldings are derived from one classic style dating back to the golden age of Greek architecture. Designed to bridge corner between wall and ceiling since few meet at true right angles. Also popular for use under a fireplace mantle and as frames for mirrors and pictures.

WP 66 11/16 x 3-1/4
WP 67 11/16 x 2-1/4
WP 68 11/16 x 1-5/8

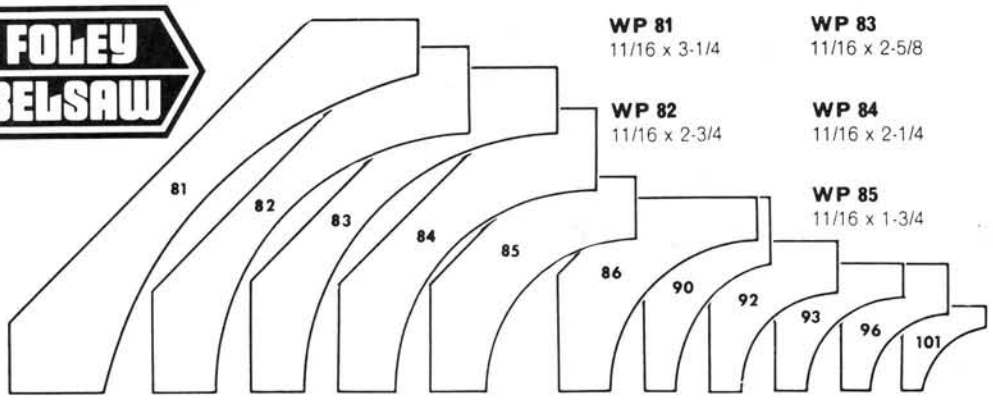


WP 57 11/16 x 3-1/4
WP 58 11/16 x 2-3/4
WP 59 11/16 x 2-1/4
WP 60 11/16 x 1-3/4



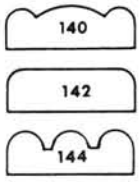
WP 70 11/16 x 2-3/4
WP 71 11/16 x 2-5/8
WP 72 11/16 x 2-1/4
WP 74 11/16 x 1-3/4
WP 75 11/16 x 1-5/8
WP 76 11/16 x 1-1/2

CUSTOM PATTERN KNIVES



WP 81 11/16 x 3-1/4
WP 82 11/16 x 2-3/4
WP 83 11/16 x 2-5/8
WP 84 11/16 x 2-1/4
WP 85 11/16 x 1-3/4
WP 86 11/16 x 1-5/8
WP 90 3/4 x 1-1/8
WP 92 3/4 x 7/8
WP 93 3/4 x 3/4
WP 96 5/8 x 3/4
WP 101 1/2 x 1/2

COVES Used much the same as Bed and Crown molding, these are designed for use in a corner as a graceful blend between two right-angle surfaces, as at floor or ceiling. Smaller sizes are often used to clean up corners in paneling or to give a finished look beneath the overhang of a desk top. Because of it's simplicity, the cove shape adapts well to stark, modern design.

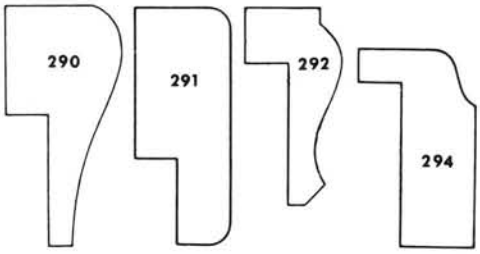


WP 140 1/4 x 3/4
WP 142 1/4 x 3/4
WP 144 1/4 x 3/4

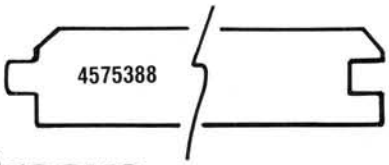
SHELF EDGE/SCREEN MOULD Used as a Shelf Edge, it gives a highly decorative edge to wooden shelves or does a fine job of covering the exposed edges of plywood. Used as Screen Mold, it is used to cover the tacks or staples on window or door screens.

WAINSCOT/PLY CAP A rail-like effect for wainscoting is produced when these highly popular shapes are nailed along the upper edge. Since they cover exposed plies, they are especially effective for edging plywood. Note that the rabbets shown on these moldings accept the highly popular ¼" veneer paneling.

WP 290 11/16 x 1-3/8
WP 291 9/16 x 1-3/8
WP 292 9/16 x 1-1/8
WP 294 11/16 x 1-1/8

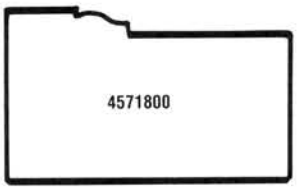


Paneling Tongue & Groove



Extremely popular for wall and ceiling paneling. Very impressive effect. Produces paneling from ⅝" to 1" thick. Widths can be varied according to your needs.

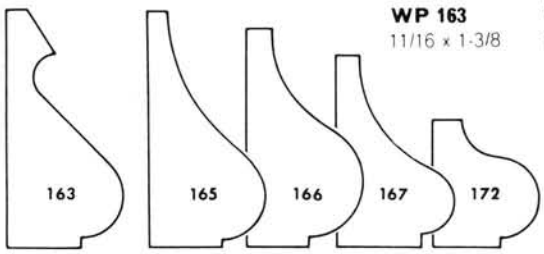
Brick Mould



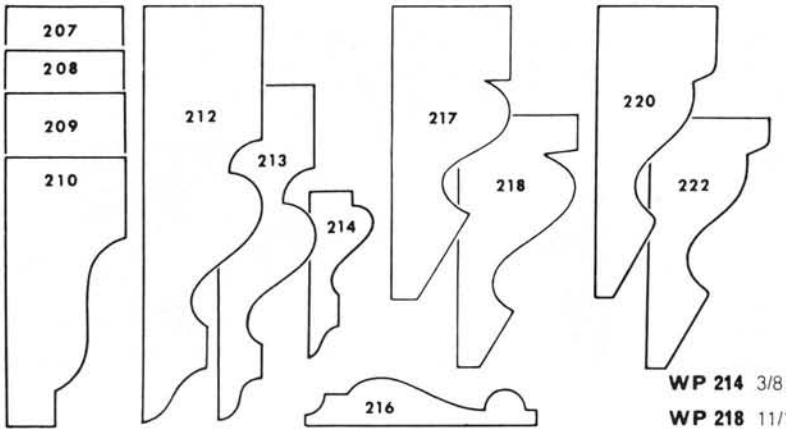
Used as exterior door and window casing. Design allows a brick mold up to 2⅝" wide to be produced.

CAP & BRICK (Base Caps)

Special molding for a special job . . . these caps set on the top edge of a standard flat baseboard to give it a finish and to close any gap caused by an uneven wall. Provides a neat trim where brick or stucco meet wood on exterior walls.



WP 163 11/16 x 1-3/8
WP 165 11/16 x 1-3/8
WP 166 11/16 x 1-1/4
WP 167 11/16 x 1-1/8
WP 172 5/8 x 3/4
WP 261 5/8 x 7/8

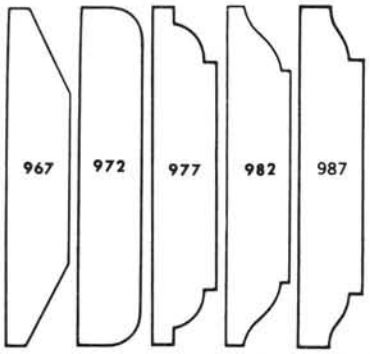


PANEL MOULDINGS

Commonly used to top off baseboard and panel wainscoat. Makes an extra good shelf cleat. Mitered and snugged into the corners formed when a flat panel is recessed within a frame, this molding gives the appearance of richly carved paneling. Often used as shingle molding to give a neat, decorative joint where shingles or siding butt against window sills or eaves.

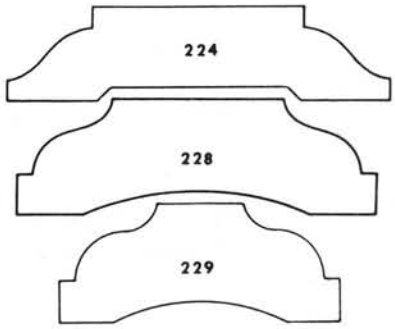
WP 207 11/16 x 2-1/2 — **WP 208** 11/16 x 2-1/4
WP 209 11/16 x 2 — **WP 210** 11/16 x 1-5/8
WP 212 11/16 x 2-1/2 — **WP 213** 9/16 x 2
WP 214 3/8 x 1 — **WP 216** 9/32 x 1-3/8 — **WP 217** 11/16 x 1-3/4
WP 218 11/16 x 1-1/2 — **WP 220** 11/16 x 1-3/4 — **WP 222** 11/16 x 1-1/2

MULLION CASINGS



WP 967 3/8 x 2
WP 972 3/8 x 2
WP 977 3/8 x 2
WP 982 3/8 x 2
WP 987 3/8 x 2

Also called Panel Strips in the new standards, these 3/8" thick moldings are designed to cover vertical joints between window frames when there is more than one in a series. Their clean, modern lines makes them very popular for use as battens for interior paneling.

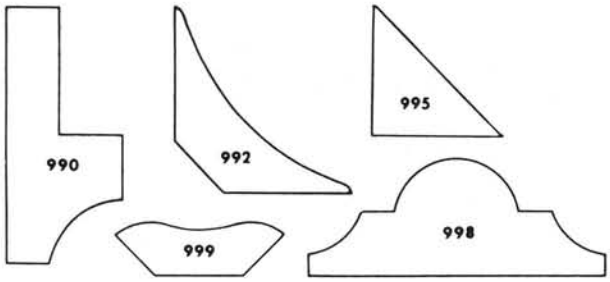


WP 224 9/16 x 2-1/4
WP 228 11/16 x 2-1/8
WP 229 11/16 x 1-5/8

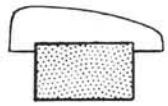
BATTENS

Originally designed to cover joints in board-and-batten siding, these moldings are also applied in mitered frames to flat surfaces, (plywood walls, garage doors) to give the effect of recessed panels.

MISCELLANEOUS MOLDINGS

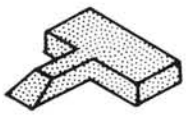


WP-990 11/16 x 1-1/2 — SHELF CLEAT Nailed to wall or side of case to support shelving.
WP-992 9/16 x 1-1/2 — LINOLEUM COVE Used as a Base Shoe in rooms with mopable floor surfaces.
WP-995 3/4 x 3/4 — CHAMFER STRIP Used to finish off inside corners. Gives a bevel effect.
WP-998 11/16 x 1-3/4 — ASTRAGAL Is attached to one of a pair of swinging doors to act as stop for the other.
WP-999 5/16 x 1 — INSIDE CORNER Used same as No. 995 except has a more decorative effect.

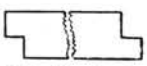


CK-370 Back Relief Knives

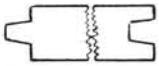
Where Back Relief cut is desired, order 370 Back Relief Knives and specify length. Back Relief Knives are made of 1/8-in. thick steel same as planer knives. Use same gib as used with planer knife.



CK-385 Parting Bits — 1/4-in.



CK-387 Rabbet Knife 1-in. (specify depth of cut)



CK-389 Tongue & Groove (2-in. for 2-in. stock)

OPERATING INSTRUCTIONS: OPTIONAL RIP SAW ATTACHMENT

OPERATING YOUR RIP SAW ATTACHMENT

1. Mount the table guide onto the rip saw table.
2. To compensate for different width boards, the sawblade can be adjusted from side to side by loosening the arbor collar and spanner nut and sliding the sawblade to the position required.
3. The saw table and table clamps are also loosened and moved with the sawblade.
4. Slide the table back and forth until the board splitter (#58) is centered with the sawblade. The board splitter separates the piece of lumber being ripped and prevents the material from binding the sawblade. Then tighten the table clamps against the table adjustment brackets (#6) until the table is secured.
5. When the sawblade and saw table have been repositioned, tighten the saw table clamps, sawblade, arbor collar, spanner nut and table guide.

STOP FOR SAFETY

It is very important to tighten the saw collar and spanner nut firmly to the sawblade and arbor shaft for safe operation of your rip saw attachment.

6. To rip a board, place board onto table and hold against the table guide. Stand to one side of the machine, feed the board slowly into the sawblade to reduce the risk of any kickback, until the feed roller has engaged the end of the wood stock and is feeding it automatically. At this time, release your grasp of the board and allow the feed rollers to pull the board through the planer.

STOP FOR SAFETY

Never stand directly in line with your work. Always stand off to one side of the machine. Always wear proper eye protection.

The rip saw attachment is to be used for rip sawing only, and used in conjunction with the table guide and feed rollers. The rip saw attachment was not designed for freehand sawing, crosscutting or any non-through sawing.

ONLY USE THE RIP SAW ATTACHMENT TO RIP THROUGH LUMBER.

7. Some lumber will have a tendency to wander away from the guide. If this is happening, reposition the guide on the other side of sawblade to prevent the wandering. Also the use of a homemade featherboard (see FIG. 93) will help prevent wandering. How to make a featherboard is discussed on page 33.

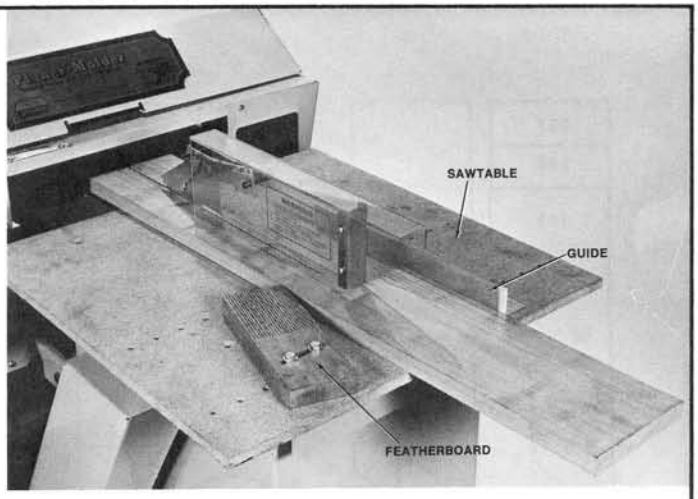


FIG. 93

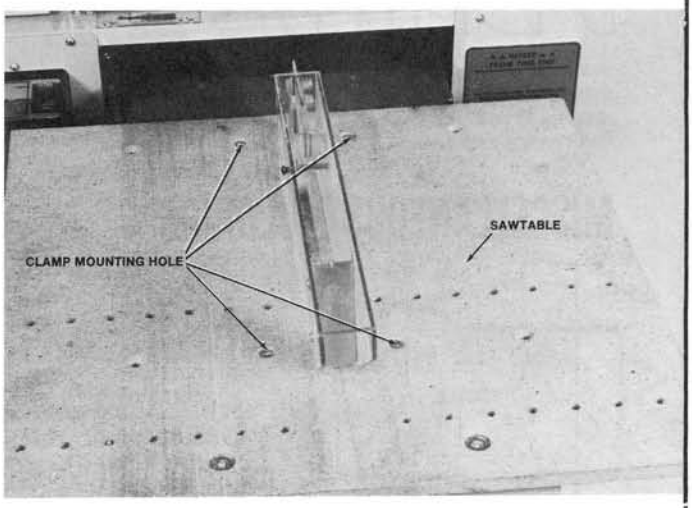


FIG. 94

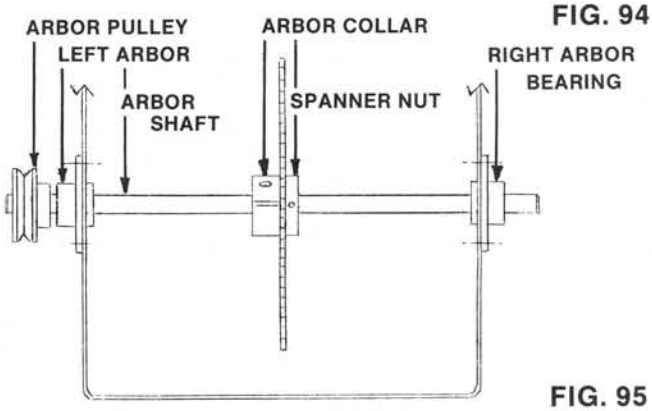


FIG. 95

OPTIONAL RIP SAW ATTACHMENT (continued . . .)

PLANING & RIPPING IN ONE PASS

The unit is designed so that planing and ripping can easily be accomplished in one pass. When thickness planing and ripping at the same time, always remember that you should never plane more than 3/16" in one pass, and never attempt to plane and rip a board under 26" in length. Serious jamming of the machine could occur if either one of these rules are misused.

STOP FOR SAFETY

Never plane more than 3/16" in one pass and never attempt to or plane and rip a board under 26" in length. Always wear proper eye protection.

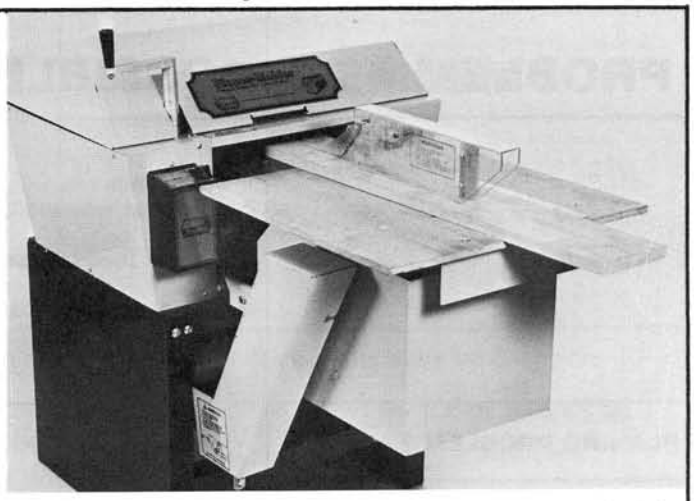


FIG. 96

LOWERING THE RIP SAW ATTACHMENT OUT OF THE WAY

The rip saw attachment has been designed to be easily lowered out of the way when ripping is not needed. To lower the rip saw attachment out of the way, remove the belt guard and loosen the bolts shown in the diagram. When the bolts have been removed, you can simply lower the rip saw attachment out of the way so that you can use the planer and molder portion of your unit without the sawblade interferring. Always place the protective rubber guard around the rip saw attachment when not in use.

NOTE: Be sure to support the rip attachment with one hand while loosening the bolts. Do not allow the rip attachment to drop freely once the bolts have been removed.

The rip attachment V-belt must be tied back clear of the motor pulley. A tie-back clip is provided with the machine.

STOP FOR SAFETY

Do not operate your Planer/Molder unless the belt has been tied back; clear of the motor pulley.

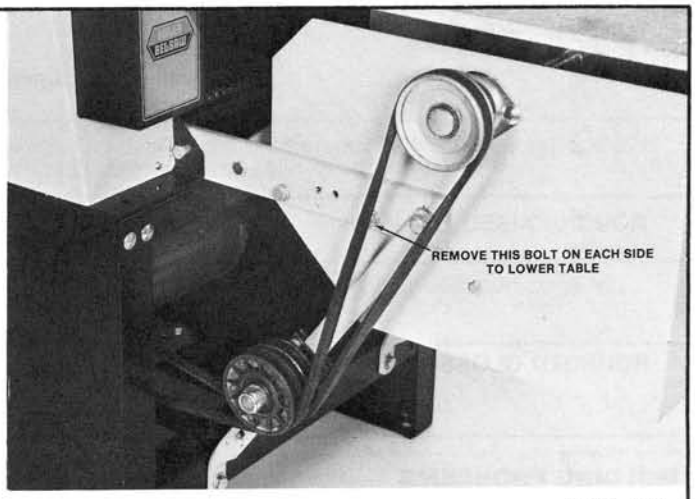
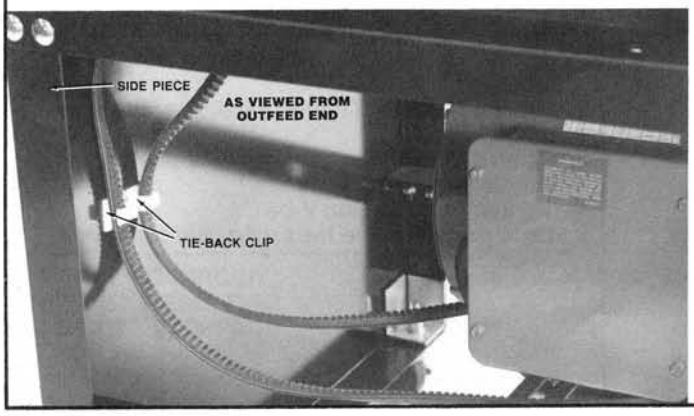


FIG. 97



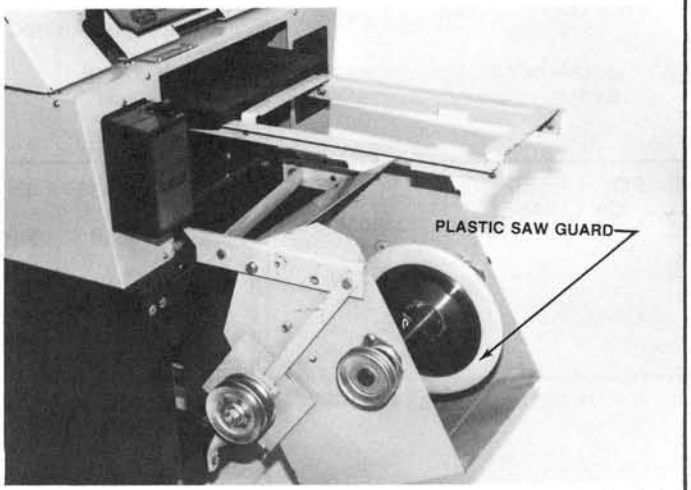


FIG. 98

MAINTENANCE/ ADJUSTMENTS: TROUBLESHOOTING OPERATING PROBLEMS

PROBLEM	POSSIBLE CAUSE	REMEDY
SNIPE	1 Dull knives. 2. Inadequate support of long boards. 3. Uneven feed roll pressure front to back. 4. Corner screws loose. 5. Lumber not butted properly.	1. Sharpen knives per instructions on pages 50-51. 2. Support long boards with extension rollers as shown on page 19. 3. Adjust feed roll tension per the instructions on pages 55. 4. Tighten corner screws per instructions on page 60. 5. Butt end to end each place of stock as they pass thru.
PLANING PROBLEMS		
FUZZY GRAIN	Planing wood with a high moisture content.	Remove high moisture content from wood by drying.
TORN GRAIN	1. Too heavy a cut. 2. Knives cutting against grain. 3. Dull knives.	1. Review proper depth of cut instructions on pages 24-26. 2. Review planing for finish on page 26. 3. Sharpen knives per instructions on pages 50-51.
ROUGH/RAISED GRAIN	1. Dull knives. 2. Too heavy a cut. 3. Moisture content too high.	1. Sharpen knives per instructions on pages 50-51. 2. Review proper depth of cut instructions on pages 24-26. 3. Remove high moisture content from wood by drying.
ROUNDED GLOSSY SURFACE	Dull knives	Sharpen knives per instructions on pages 50-51.
MOLDING PROBLEMS		
WAVERING MOLDING PATTERN	1. Improper guide set-up. 2. Horizontal play of planer bed table.	1. Review proper guide set-up for molding on pages 31, 32, 33, & 35. 2. Remove play in planer bed per the instructions of page 60.
TEAR OUT AT END OF MOLDING	1. Improper guide set-up. 2. Inadequate outfeed pressure.	1. Review proper guide set-up for molding on pages 31, 32, 33, & 35. 2. Adjust feed roll tension per instructions on page 55.
POOR FEEDING OF LUMBER	1. Inadequate feed roll pressure. 2. Motor V-belt slipping. 3. Planer bed rough or dirty. 4. Transmission V-belt slipping. 5. Surface of feed rollers too smooth.	1. Adjust feed roll tension per instructions on page 55. 2. Tighten or replace motor V-belts per instructions on page 10. 3. Clean pitch and residue, and wax planer bed per instructions on page 52. 4. Tighten transmission V-belt. 5. Lightly roughen the feed roller surface with a piece of sandpaper.

MAINTENANCE/ ADJUSTMENTS: TROUBLESHOOTING MECHANICAL ELECTRICAL PROBLEMS

PROBLEM	POSSIBLE CAUSE	REMEDY
UNEVEN DEPTH OF CUT SIDE TO SIDE	1. Knife projection not uniform. 2. Cutterhead not leveled to planer bed.	1. Adjust knife projection per instructions on page 27. 2. Level bed or cutterhead per instructions on page 59.
TABLE ADJUST DIFFICULT	1. Corner screw too tight. 2. Lubricate corner screws.	1. Adjust corner screws per the instructions on page 60. 2. Lubricate corner screws per the instructions on page 52.
BOARD THICKNESS DOES NOT MATCH DEPTH OF CUT SCALE	Depth of cut scale incorrect.	Adjust depth of cut scale per instructions on page 53.
CHAIN JUMPING	1. Inadequate tension. 2. Sprockets misaligned. 3. Sprockets worn.	1. Adjust chain tension per instructions on page 57. 2. Align sprockets. 3. Replace sprockets.
ON/OFF SWITH WON'T TURN ON	Locking key missing.	Replace locking key. See explanation on page 12.
MECHANICAL/ELECTRICAL MACHINE WON'T START/RESTART	1. Not plugged in. 2. Hood not in down position. 3. Circuit breaker/fuse. 4. Motor failure. 5. Loose wire. 6. Overload auto reset has not reset. 7. Motor starter failure. 8. Failed or broken interlock switch. 9. Interlock switch not activating. 10 Failed or broken On/Off switch.	1. Check power source. 2. Place hood in down position. See explanation on page 12. 3. Check power source. 4. Have motor checked by qualified electrician per the electrical schematics on pages 66-67. 5. Have motor checked by qualified electrician per the electrical schematics on page 66-67. 6. Allow machine to cool down and restart. 7. Have motor starter checked by qualified electrician per the electrical schematics on pages 66-67. 8. Have a qualified electrician replace the interlock switch per the electrical schematics on pages 66-67. 9. Adjust the interlock switch setting per the instructions on page 55. 10. Have a qualified electrician replace the on/off switch per the electrical schematics on pages 66-67.
REPEATED CIRCUIT TRIPPING RESULTING IN MOTOR STOPPAGE	Incorrect setting of the amperage overload sensor.	Adjust the amperage overload sensor per the instructions on page 54.

MAINTENANCE/ADJUSTMENTS: SHARPENING KNIVES

SHARPENING PLANER BLADES

Your Planer/Molder is a highly precision machine. Your planer knives are an integral part of that high precision. The knives must be ground on a machine that will produce the high quality professional edge needed to create the high quality planing and molding function that your Planer/Molder will perform.

FOLEY-BELSAW has a complete line of knife sharpening equipment. Contact your Sales & Service Representative on our toll-free lines for further information.

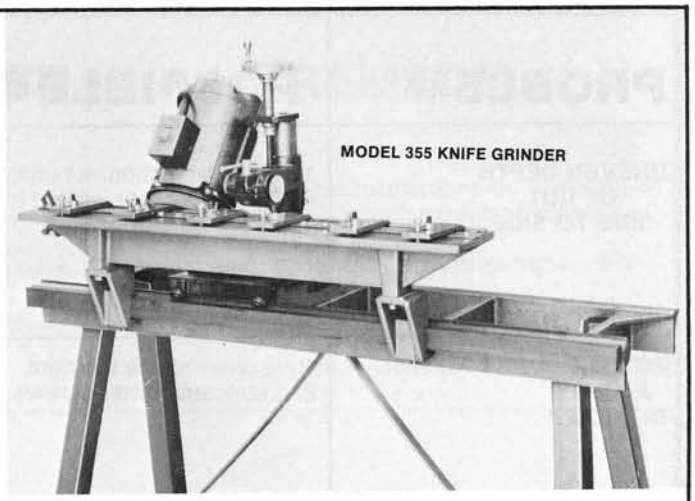


FIG. 99

RECOMMENDED KNIFE ANGLES

FOLEY-BELSAW knives are ground at the factory to the relief bevels and included angles shown in the diagram. Always use FOLEY-BELSAW knives on your planer and sharpen them at the recommended bevels and angles.

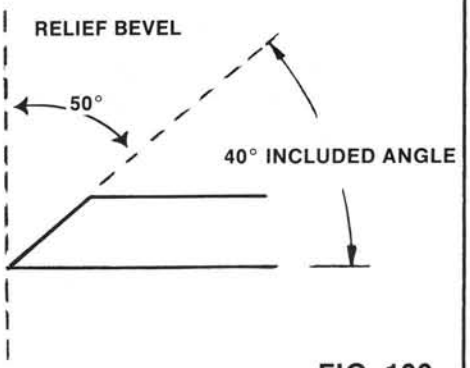


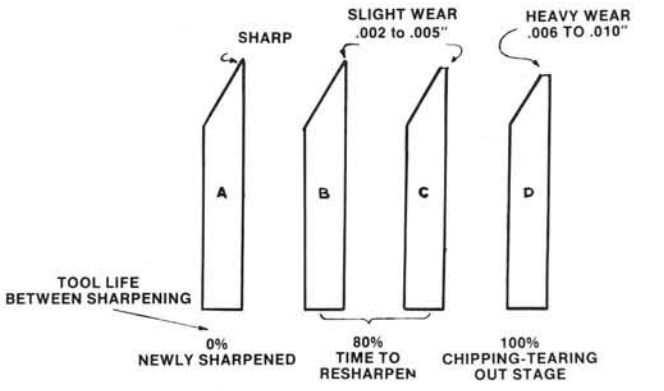
FIG. 100

WHEN TO SHARPEN KNIVES

Knives should be sharpened promptly when the edge is lost rather than letting them get to the chipping and tearing out stage. A regular schedule of sharpening should be set up. Proper grinding done at the right time will do more than anything to prolong the life of knives. More dulling occurs in the last 20% of the useful life between grindings than in the other 80% of use. If the knives are sharpened on schedule and before the last 20% of possible use they can be resharpened with .002" to .005" of material being removed rather than the .006" to .010" necessary when using the last 20%. This is illustrated in FIG. 101.

A is a new knife or one just sharpened. **B** and **C** are knives used approximately 80% of possible life between grinds. After 80% of possible use the knives dull rapidly and chipping and tearing is likely to occur. This is shown by knife **D**.

NOTE: An occasional use of a hand held hone will extend the sharpening life of the knife.



KNIVES SHOULD BE SHARPENED AFTER 80% OF POSSIBLE USE

DIAGRAM COURTESY OF CHARLES G. MONNETT, JR. AUTHOR OF THE *KNIFE GRINDING AND WOODWORKING MANUAL.*

FIG. 101

NICKS ON CUTTING EDGE

If your planer knives have struck bits of dirt or gravel, or nail heads for example, they will leave behind nicks and burrs on the cutting edge of the planer knives. If the nicks are heavy enough to the degree where the nick shows up in the same spot on all three knives, this will affect the appearance of the finished surface on your stock. Occasionally you can hone some of the nicks out with a knife hone immediately after the nicks occur. These nicks must eventually be ground out in the sharpening process if your planer knives are to do an effective job of planing.

This type of knife damage usually nicks the knives in the same cutting circle. A very good way to remedy this is to move one of the knives 3/32" to the left and the next knife 3/32" to the right. Leave the third knife in its original position. Since the nicks are staggered the second knife will clean up the ridge left by the first knife and the third knife will clean up after the second. If a nick appears in only one knife, the other knives around the cutter head will clean up the rough edge that this one nick would leave. If this is the case, the nick does not need to be totally removed for quality planing.

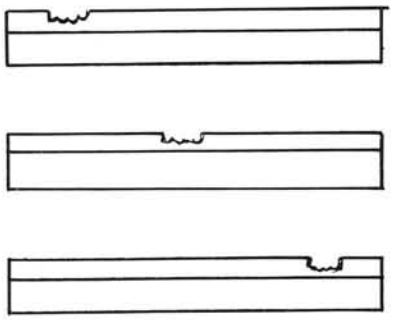


FIG. 104

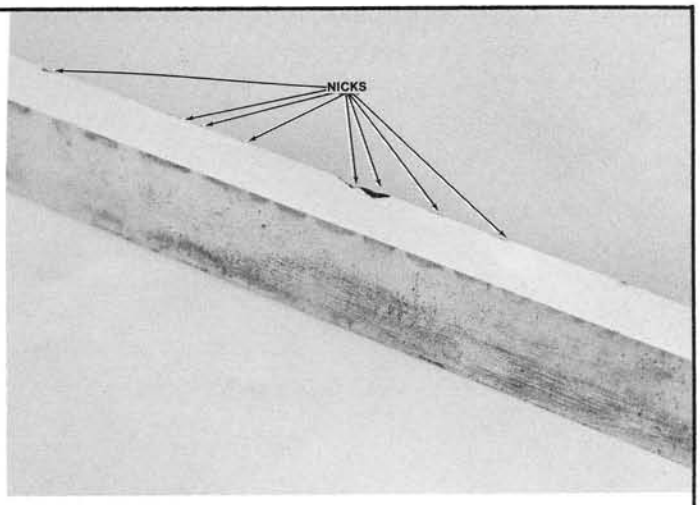


FIG. 102

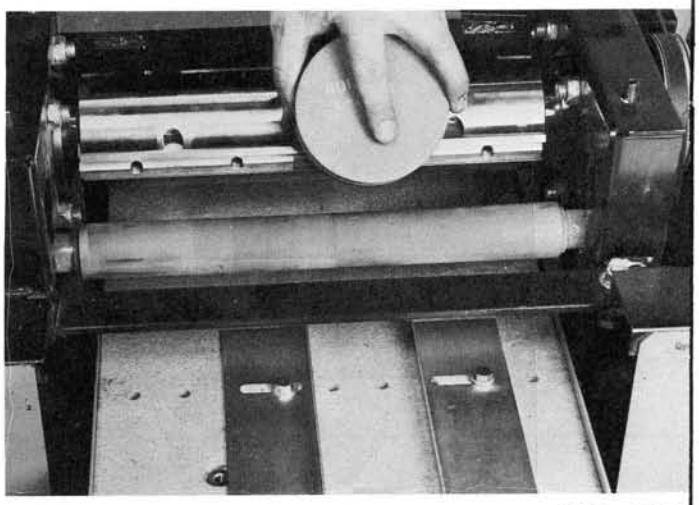


FIG. 103

If the nicks are spread out in different places on each knife, they do not have to ground out.

REPLACEMENT PLANER KNIVES

You can order replacement planer knives by calling one of our Customer Service Representatives on our toll-free line, 1-800-328-7140, or 1-800-821-3452. The stock number for the 12" planer knives is 4501958.

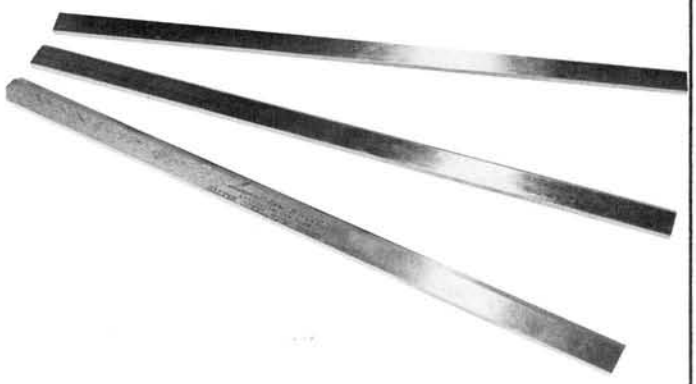
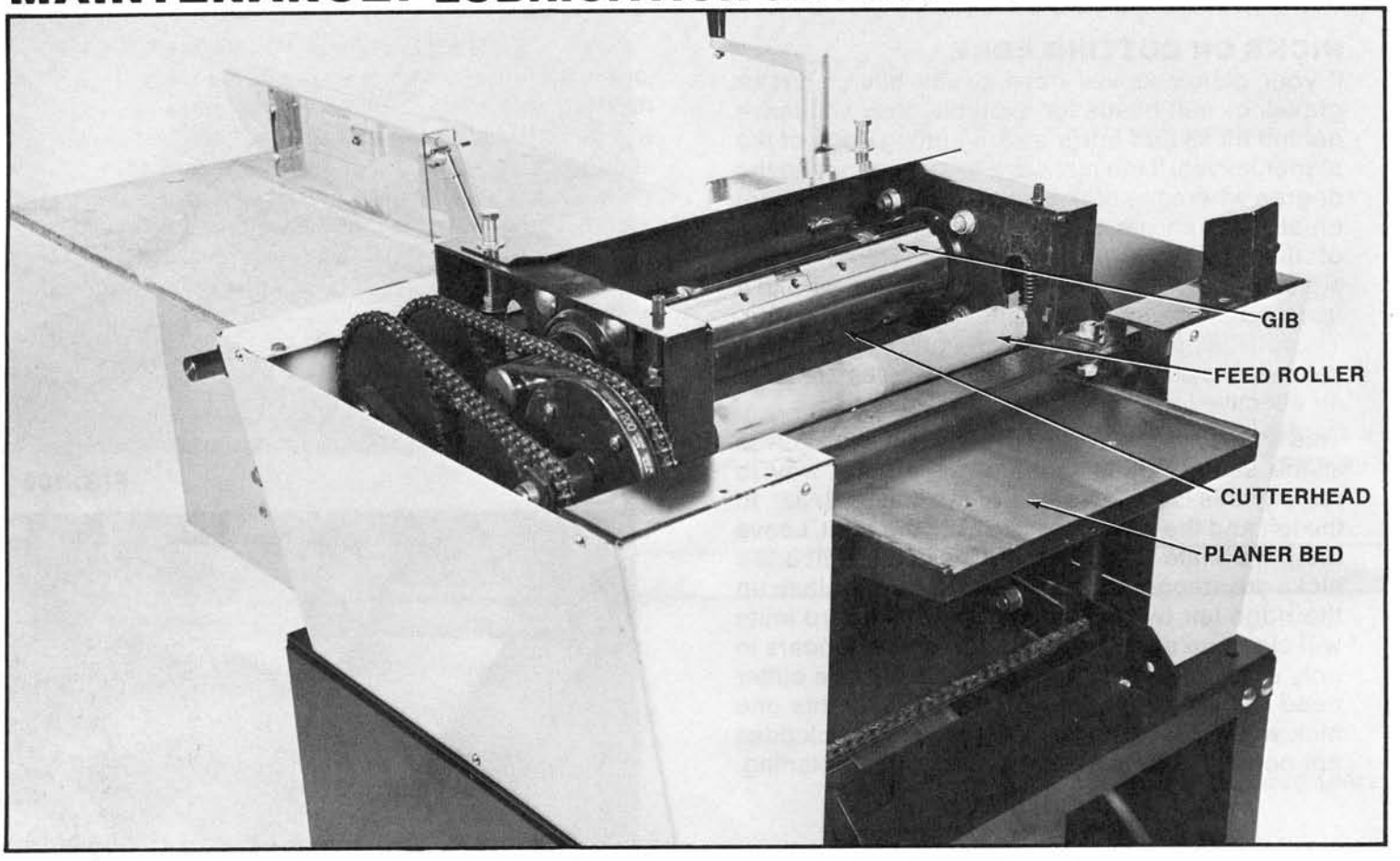


FIG. 105

MAINTENANCE: LUBRICATION & PERIODIC MAINTENANCE



LUBRICATION

1. The recommended lubrication for roller chains used in medium to slow speed operation is to simply wipe the chain clean. When there is an appreciable buildup of dust, dirt or wood shavings, use an oil cloth but never pour the oil directly on the chain. Over-oiling defeats the purpose of the lubrication, since it simply tends to hasten the collection of dust, shavings, etc., and works into members of the chain. This hastens wear and leads to premature replacement.
2. The bearings on the cutterhead are factory lubricated and sealed. They require no further attention.
3. When using your planer in a high humidity area the corner screws (items No. 60 & 61 on page 62) should be coated with grease or a rust preventative.

PERIODIC MAINTENANCE

Build-up of sawdust and other debris can cause your machine to plane and mold inaccurately. Periodic cleaning and waxing is not only recommended, but manditory for accurate precision planing and molding.

1. Close fitting parts, such as gibs and the planer cutterhead slots should also be wiped with an oily cloth and freed from clinging foreign matter and then replaced in respective position, slightly dampened with oil. Do not soak these parts with oil.
2. Occasional use of paste wax on the bed will prevent rust and reduce friction to ease feeding. **CAUTION:** Using too much paste wax will allow the wax to rub off onto the planed wood and prevent proper staining.
3. Remove resin and other accumulations from feed rolls and bed with a non-flammable solvent such as our saw cleaner.

MAINTENANCE/ ADJUSTMENTS: ADJUSTING DEPTH OF CUT SCALE

ADJUSTING THE DEPTH OF CUT SCALE

For safe operation of your Planer/Molder, it is very important that the depth of cut scale read accurately. To adjust the depth of cut scale, follow the steps outlined below:

Unplug your Planer/Molder from its power source.

Never perform maintenance procedures on your planer until it has been disconnected from its power source.

Lift the hood and rotate the cutterhead by hand until one of the planer knives is at the bottom of its rotation nearest the planer bed. Hand crank the planer bed down until you can fit a piece of stock underneath both feed roller and the cutterhead. Measure the thickness of the piece of stock and note it on a piece of paper.

Hand crank the planer bed up until the knife at the bottom of the rotation has just touched the top of the stock lying on the planer bed. Compare the measured thickness of the board to the reading on the depth of cut scale.

If the reading on the depth of cut scale is incorrect, loosen the two mounting screws on the clear plastic plate and adjust accordingly. Remember that the depth of cut scale has two markings on it. The "T" measurement is the measurement from the planer bed table to the cutter knife, the "B" measurement is the distance from the top of the wooden bedboard to the planer knife (using a 3/4" bedboard).

When you have properly adjusted the depth of cut scale, test your reading by planing a piece of scrap lumber. After planing, measure the planed thickness and double check it against the scale reading. The two measurements should be the same. If the measurements are not the same, readjust your depth of cut scale to read the planed thickness.

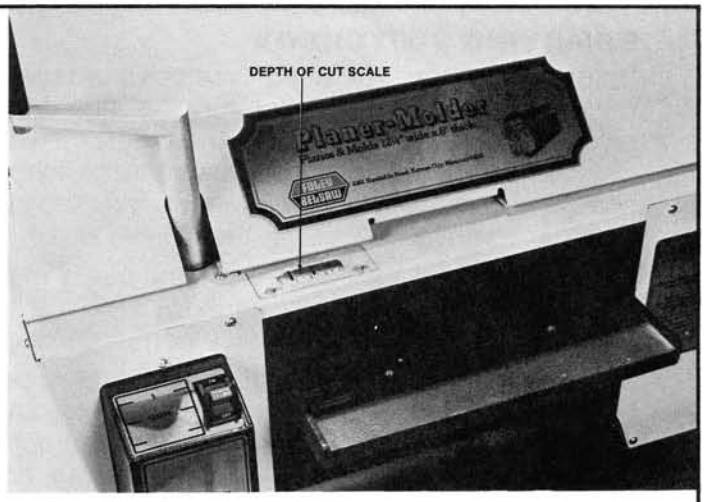


FIG. 106

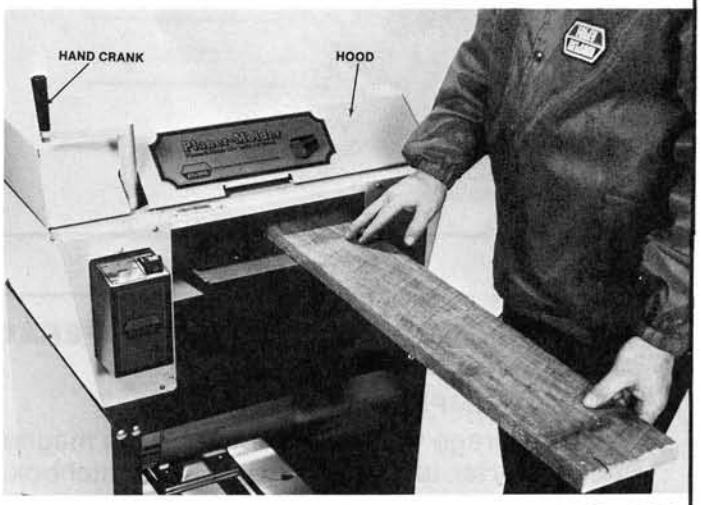


FIG. 107

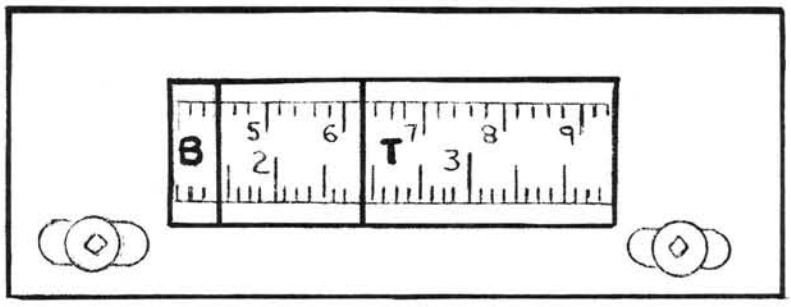


FIG. 108

MAINTENANCE/ ADJUSTMENTS: REMOVING SWITCHBOX & ADJUSTING MOTOR OVERLOAD SENSOR

REMOVING SWITCHBOX

If, for any reason, you need to remove or replace the electrical switchbox, loosen the side frame mounting screws as noted in the diagram. Then flex the side panel out and push the switchbox cover on its bottom side back in towards the side panel to remove.

NOTE: The tie strap on the electrical cords might have to be loosened to allow you to maneuver the switchbox in and out of the side panel housing.

To replace the switchbox, first place the top portion of the front side of the switchbox cover through the side panel housing so that the on/off switch comes through the panel housing first. Then align the switchbox in its mounting holes and firmly attach to the side panel.

When replacement of the switchbox has been completed, the power cord tie down strap must be repositioned to firmly secure the power cord to the side panel.

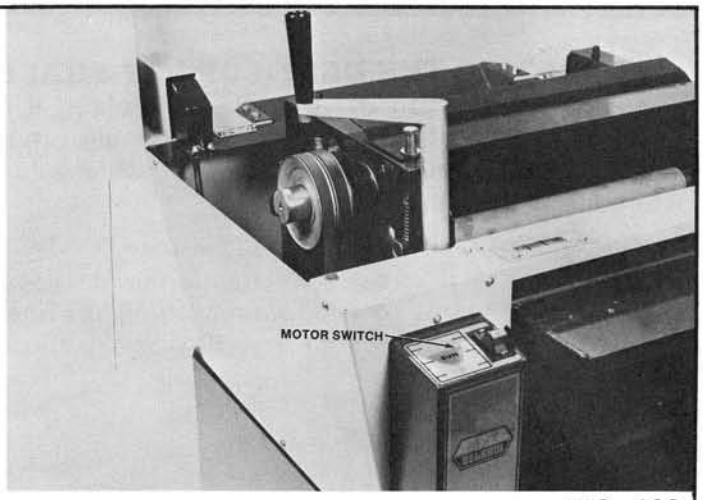


FIG. 108

ADJUSTMENT OF THE MOTOR AMPERAGE OVERLOAD SENSOR

NORMAL AMPERAGE DRAW

The Amperage Overload Sensor on the magnetic motor starter is located inside the switchbox. It has been adjusted at the factor to a seting of 14 amps on the 3 HP units or a setting of 23 amps on the 5 HP units. These two settings are average amperage draws. If these amperages are exceeded for a period of time, it will cause a temporary safety shut down and your motor will stop running. The overload sensor will automatically re-set in a few minutes and you can continue operating your Planer/Molder.

FREQUENT OVERLOADING & CIRCUIT TRIPPING

If your motor is frequently shutting down, refer to the motor nameplate to determine its amperage rating and if necessary, adjust the overload sensor to read the same as the amperage rating on the motor nameplate. This will eliminate the frequent tripping.

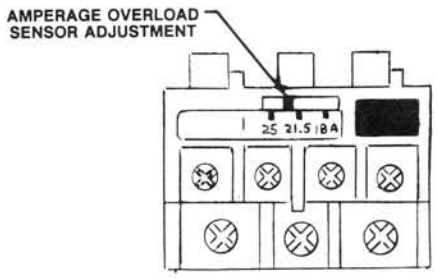
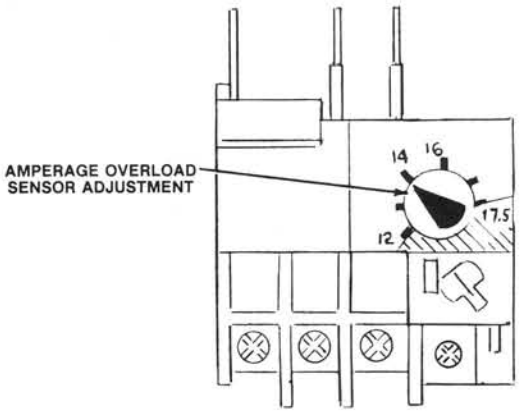


FIG. 109



NOTE: The above diagrams show two common styles of overload sensors used in our magnetic starters; the rotary dial and the straight line dial.

FIG. 110

MAINTENANCE/ ADJUSTMENTS: FEED ROLLER ADJUSTMENT

INFEED ROLLER TENSION ADJUSTMENT

The infeed roller may need more tension if the board does not feed under the cutterhead smoothly.

OUTFEED ROLLER TENSION ADJUSTMENT

The outfeed roller should exert enough pressure to pull the board on through the cutterhead after it leaves the infeed roll. Reduce tension if the board halts or bumps when it first contacts the outfeed roller. Increase the tension if the board stops or does not continue feeding smoothly after starting under the outfeed roller. The proper spring tension discussed in the previous paragraphs is determined by adjusting the spring tension lock nuts shown in the diagram.

NOTE: Keep the spring tension even at each end of the feed rolls or the boards will drift from one side to another as they are fed through the feed rolls.

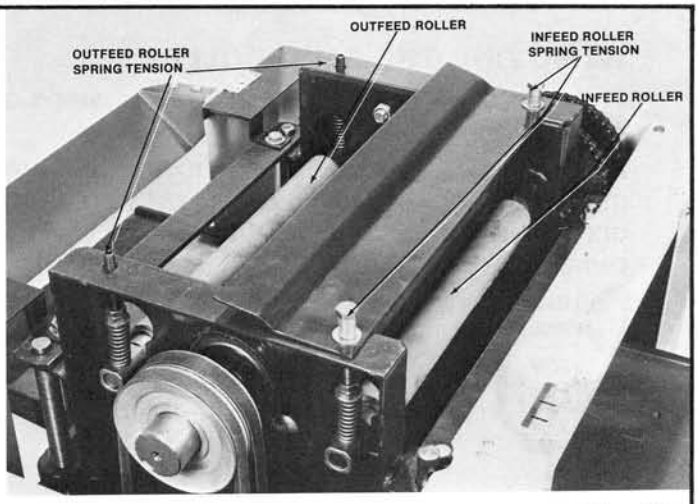


FIG. 111

FEED ROLLER SPROCKET SET SCREW TORQUE REQUIREMENTS

The two square headed set screws #C31007 fasten each sprocket 4509034 to the feed rollers 4509062. They require a torque of 16 ft. lbs. (192 in lbs.) The two set screws are torqued so they seat firmly into the shaft.

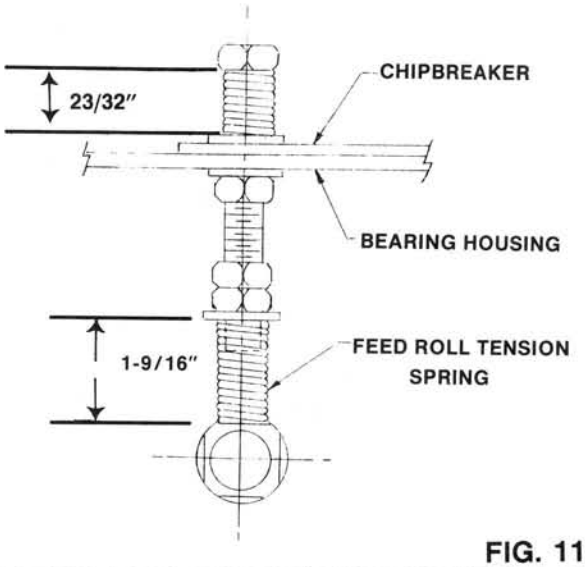


FIG. 112

ADJUSTMENT OF THE INTERLOCK SWITCH

The interlock switch should be adjusted so it will turn the motor off if the hood is raised more than 11/16".

If adjustment is required, loosen the two mounting screws that hold the interlock switch to the side panel and adjust the switch so the motor will shut off when the hood is raised more than 11/16". It is not necessary to start your planer to test this adjustment - just listen for the *click* of the hood switch.

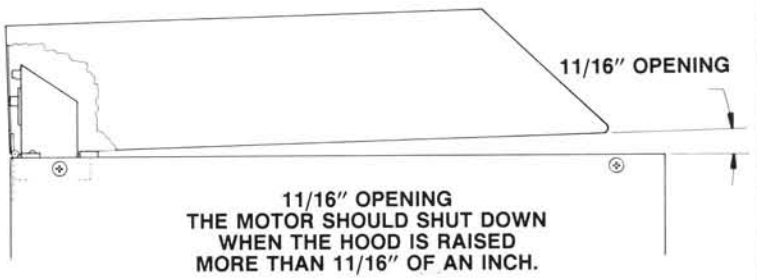


FIG. 113

REMOVING THE FEED ROLLERS

To replace the feed rollers, follow the steps outlined below.

As the individual items are removed, be sure to mark them so that they can be assembled back onto the unit in the same order in which they were removed.

Remove the planer knives from the cutterhead.

Remove the planer knives from the cutterhead before attempting any feed roller maintenance procedures.

Loosen up the locknuts that hold the tension springs in place, so that all tension is relieved on the feed roller tension springs.

After relieving the tension, remove the springs completely. Disconnect the scale spring (#68) from one end of the scale (#69).

Remove the side panel. Remove the box nut (#40) from the outer link bearing assembly. Next remove hex head cap screw (#21) from the outer link bearing assembly. Then remove the outer link bearing assembly (#41). Remove sprocket (#35), and chain (#36). Then remove spacer (#25).

Remove the inner link bearing assembly. Then remove sprocket (#28) and chain (#27). Next remove the second spacer (#25).

Remove both feed rollers.

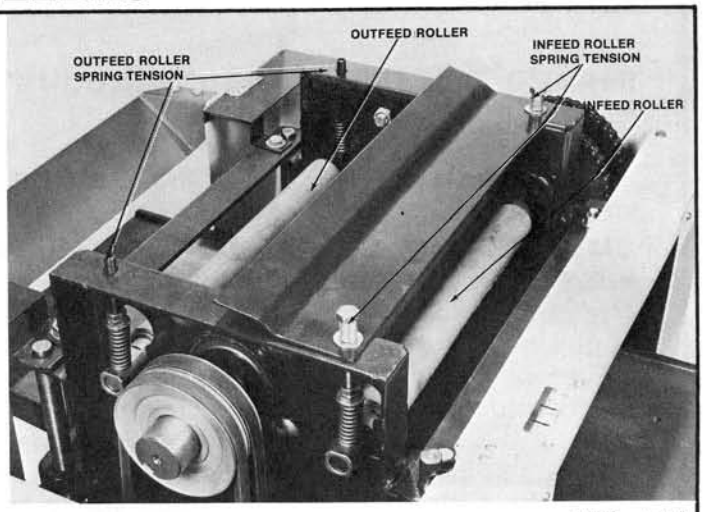


FIG. 114

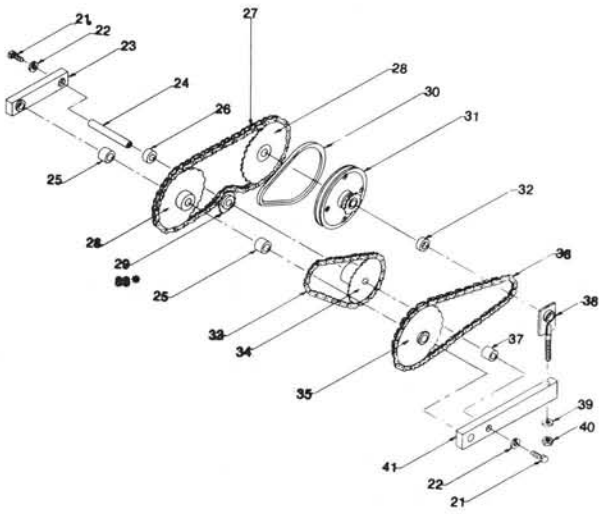


FIG. 115

REPLACING THE FEED ROLLERS

When reassembling, install the feed roller and feed roller bearings back into place. Install the tension spring back on the tension spring bolt. This will ease the reassembling of the drive assembly sprockets, as it will hold the feed roller in position.

Install the drive assembly sprockets back onto the machine, in the same order in which they were removed. It is easiest to slide them on in pairs. In other words, the two sprockets from the infeed and outfeed rollers should be slipped on at the same time with the chain already around each of the sprockets.

After sliding the sprocket assembly on, adjust the roller until the roller is running completely through the bronze bearing installed in the housing. Tighten the set screw in the end of the feed roller sprocket. Align the rear sprocket to the front and slip the V-belt back on the V-pulley assembly.

Tighten the hex nut (#40) on the roller chain (#27) until there is a small ¼″ deflection.

You will need to adjust the spring tension on the infeed and outfeed rollers as described in the section *Feed Roller Tension Adjustment* on page 55.

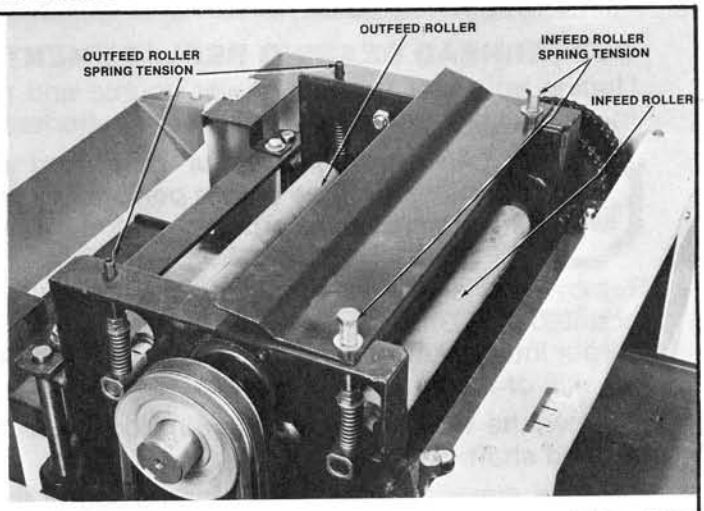


FIG. 116

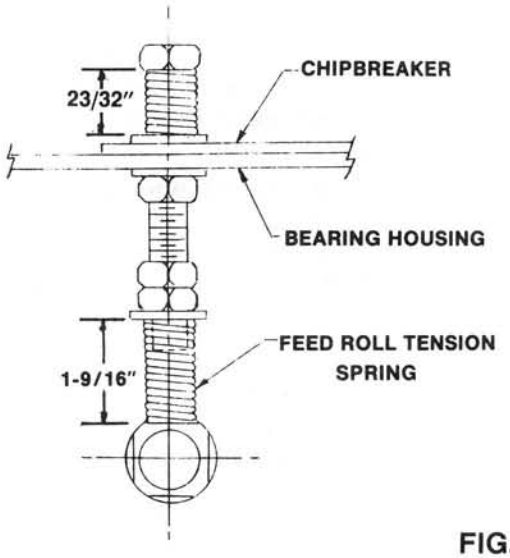


FIG. 117

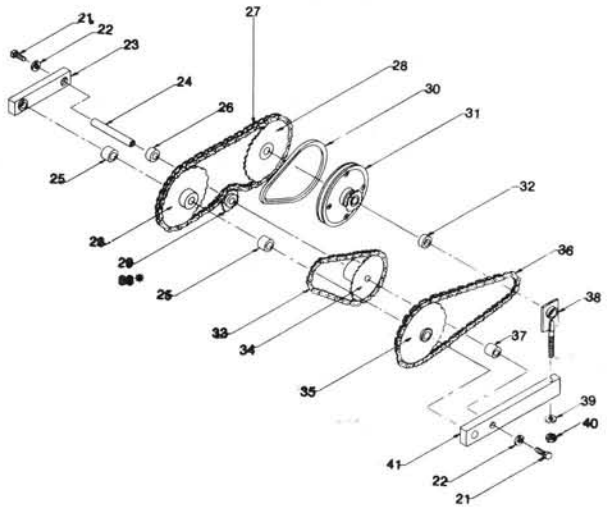


FIG. 118

CUTTERHEAD BEARING REPLACEMENT

Unplug your unit from its power source and remove all three planer knives from the cutterhead.

STOP FOR SAFETY

Always unplug your unit from its power source before performing any maintenance procedures.

Remove the side panel that has the switchbox mounted in it. Unclip the switchbox wire that runs to your interlocking switch, from its plastic clip on the side of the panel.

Remove the V-belt and pulley (#63) from the cutterhead shaft.

Note the dimensions at the top and sides of the bearing plates (#43) before removing. It will be necessary to mount them back into the same position.

Remove the four (4) carriage bolts (#42) that old the bearing housing plate on each end of the head.

Loosen the set screw in both eccentric locking collars (#45) and then loosen and remove each locking collar. Then slide the bearing housing off of the cutterhead pulley end of the cutterhead. Then tilt the cutterhead so that you can remove the V-belt from the sprocket and chain end of the cutterhead. Then remove the cutterhead fromm the housings by sliding the cutterhead out through the hole in the side frame (#48) on the cutterhead pulley end.

The new bearings can not be installed onto the cutterhead in the same manner as the old bearings were removed. It will help reassembly to spray some WD-40 onto the cutterhead shafts. The cutterhead must be centered and leveled before firmly tightened. To level the cutterhead, follow the *Leveling Your Cutterhead* instructions on the following page.

When your cutterhead is level, replace all the pulleys, belts, and knives. The new bearings will tend to run hot for the first few hours of operation, and some grease may seep through the seals. Once the bearings have been broken in, they will run at normal temperatures.

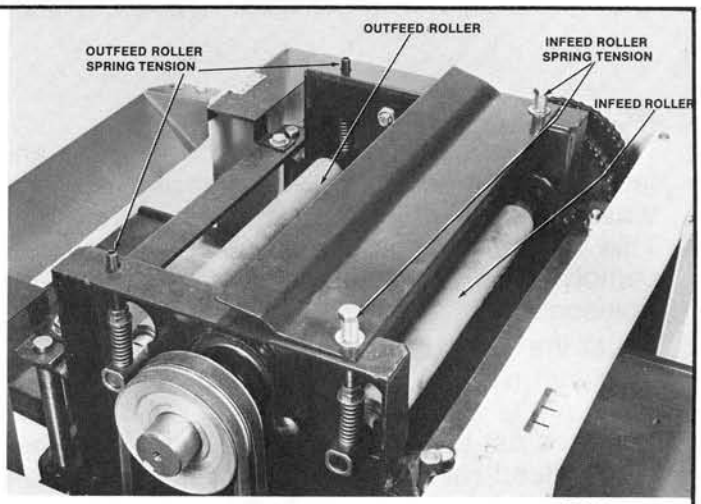
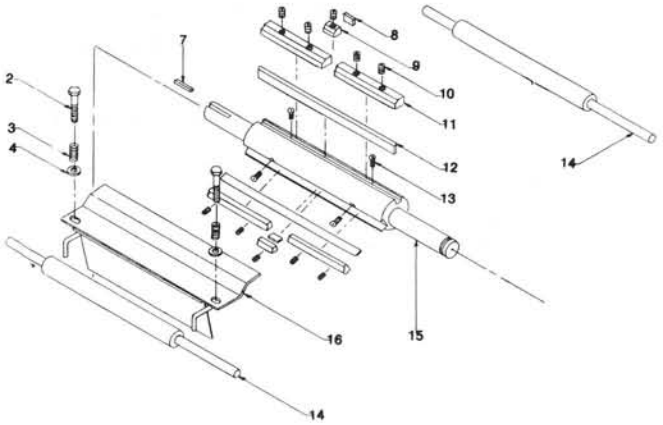


FIG. 119



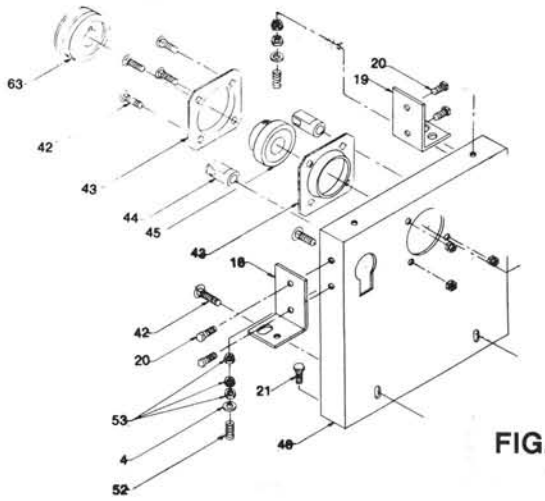


FIG. 120

LEVELING YOUR CUTTERHEAD

The cutterhead must be positioned so that it is level to the surface of the planer bed. To complete this, follow the steps below.

Unplug your unit from its power source.

Always unplug your unit from its power source before performing any maintenance procedure.

Remove the side panel that has the switchbox mounted in it. Unclip the switchbox wire that runs to your interlocking switch, from its plastic clip on the side of the panel.

Loosen the carriage bolts (#42) that hold the cutterhead on the pulley side, in the side frame (#48). The bolts should be loose, but snug enough to hold the cutterhead in place. Place a small block of hardwood, 3″ to 4″ long and 1″ to 2″ high, underneath one end of the cutterhead. Hand crank you planer bed up until the cutterhead is just touching the piece of hardwood.

Slide the wood block along the planer bed and check the height of the cutterhead.

Lightly tap the cutterhead with a rubber mallet until the cutterhead is touching the wood block equally on both ends of the cutterhead.

Once the cutterhead is level, firmly tighten the carriage bolts (#42). Reassemble the cutterhead, V-belts, and pulleys, chip breaker, side panel, and planer knives.

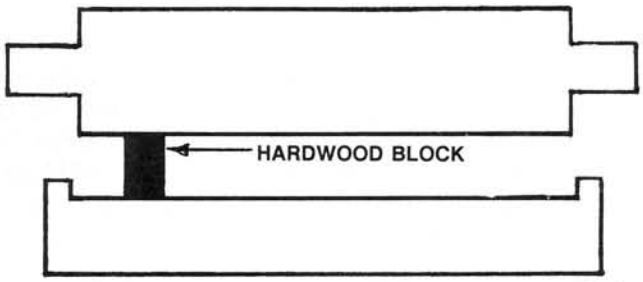


FIG. 121

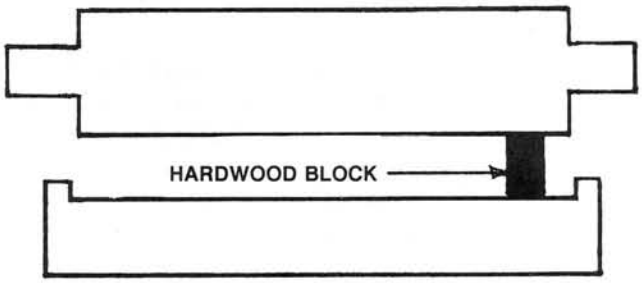


FIG. 122

MAINTENANCE/ VERTICAL & HORIZONTAL ADJUSTMENTS: PLANER BED PLAY ADJUSTMENT

ADJUSTMENT FOR VERTICAL PLAY IN THE PLANER BED

The planer bed needs to be level and free of any vertical play. To remove vertical play in the planer bed, adjust the corner screw brackets as described in the following steps. Loosen the two hex head cap screws, 3/4" long (#20), that hold each infeed corner screw bracket onto each side frame (#48).

Press the infeed corner screw brackets down with one hand and retighten the cap screws (#20) while continuing to hold the corner screw bracket down.

NOTE: Never loosen the infeed and outfeed corner screw brackets at the same time, only adjust one end at a time.

There should be no more than .005 maximum vertical movement in each one of the corner screws. The above adjustment should eliminate all unnecessary vertical movement.

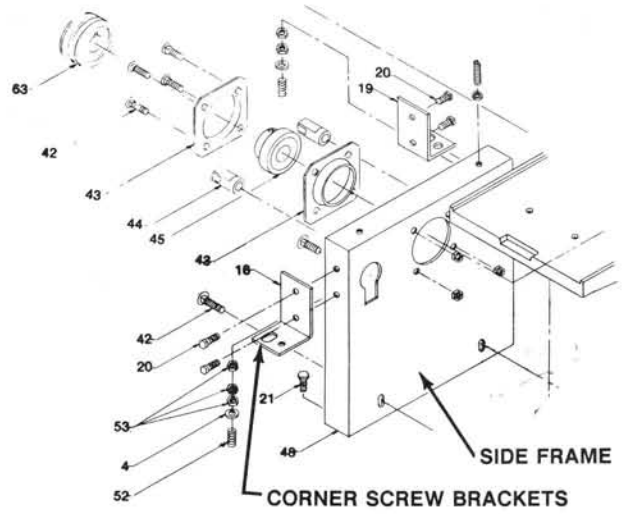


FIG. 123

ADJUSTMENT FOR HORIZONTAL PLAY IN THE PLANER BED

If horizontal play develops in the planer bed, replace the two (2) top support bars (#6) onto the four (4) corner screws.

If the planer has had considerable use, horizontal play can develop in the planer bed due to worn threads on each of the corner screws, or the planer bed itself. If replacing the two (2) top support bars does not eliminate horizontal play in the planer bed, you may have to replace each of the corner screws (#60, #61), or the planer bed (#17).

NOTE: Never loosen the infeed and outfeed top support bars at the same time.

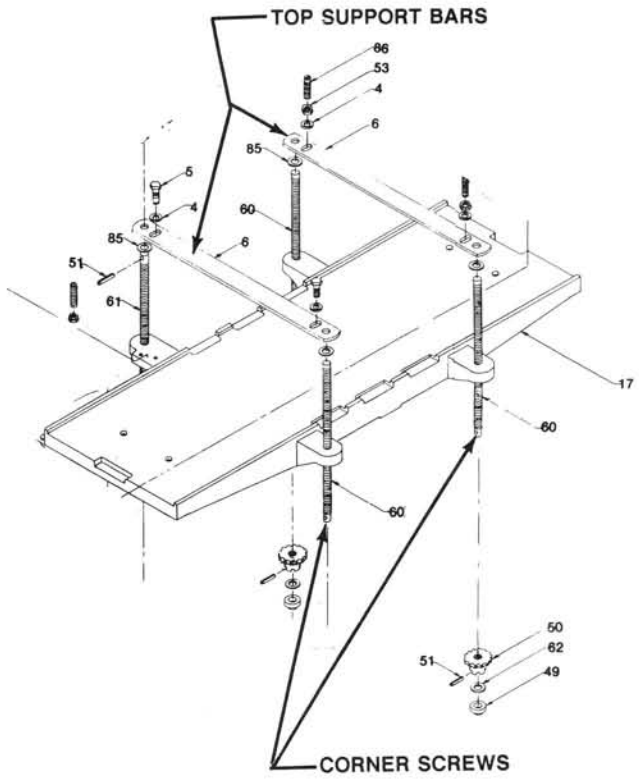


FIG. 124

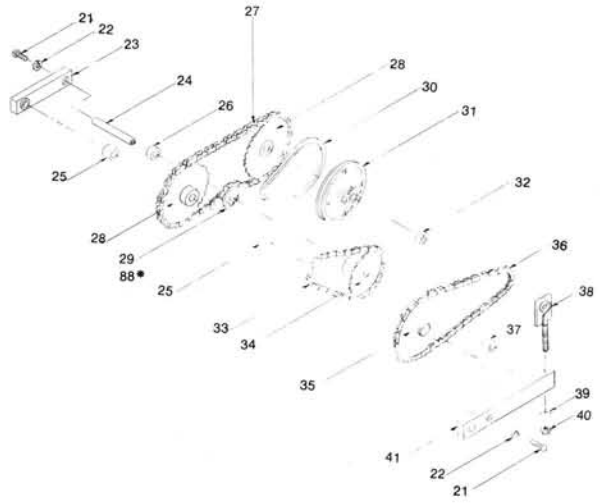
MAINTENANCE/ ADJUSTMENTS: OPTIONAL FEED SPEED SPROCKET CHANGE

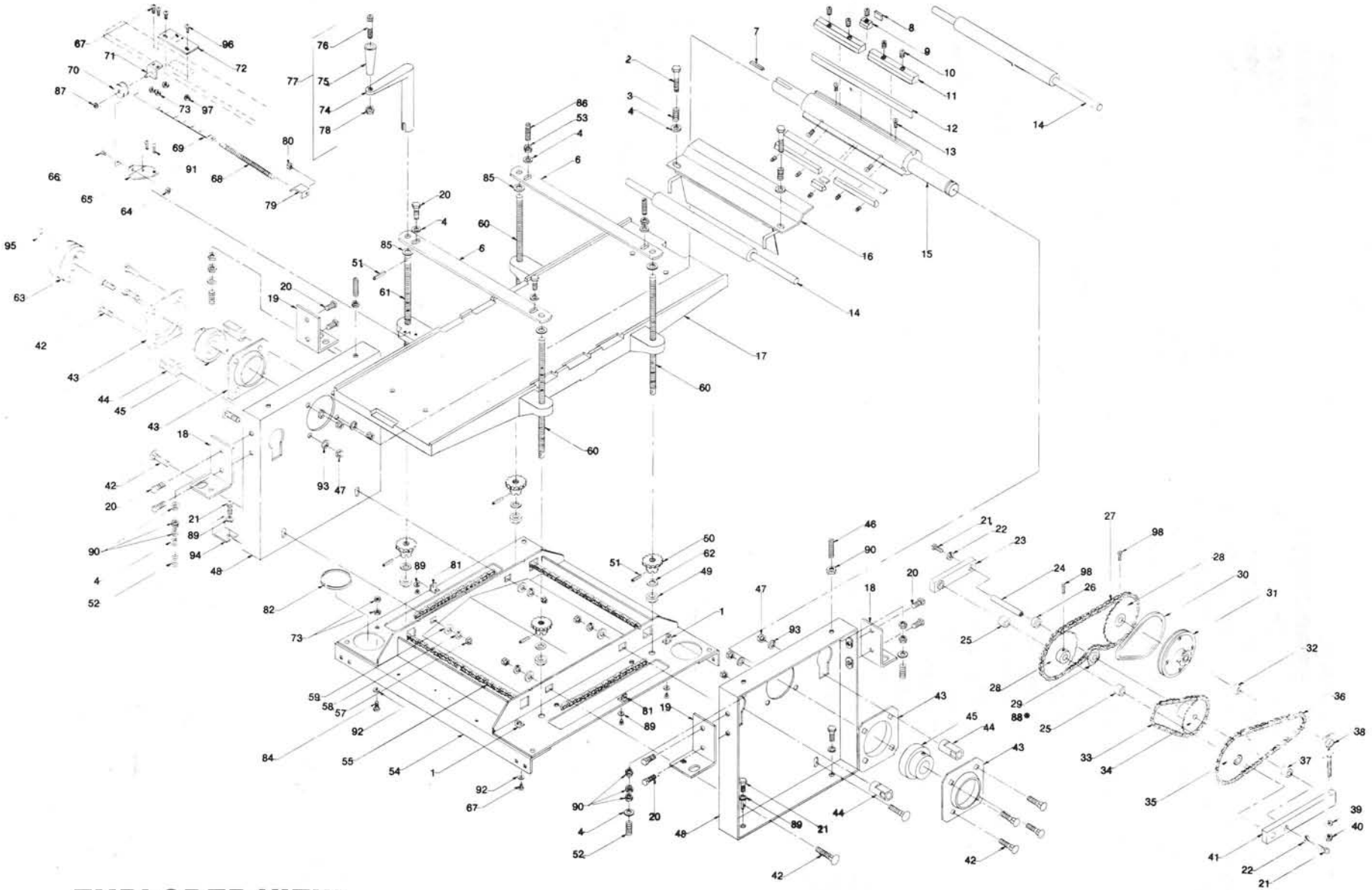
ASSEMBLY INSTRUCTIONS: OPTIONAL FEED SPEED SPROCKETS

Your Planer/Molder is shipped with a sprocket and chain which will give you a feed speed of 12 feet per minute. An optional faster speed of 20 feet per minute can be obtained by installing the optional 4509583 sprocket assembly. To change over to the new sprocket, proceed as follows: *It is highly recommended to identify each piece you remove by writing its diagram number on a piece of tape and applying it to each item removed.*

Disconnect the connecting link on the chain #36 and #33 and remove both chains. Remove the bolt (#21 and outer link bearing assembly #41).

Remove sprockets (#34 and #35). Replace sprocket (#29) with the new sprocket (#88). Assemble sprockets (#34 and #35) onto shaft. Connect chains (#33 and #36) around their proper sprockets. Place the outer link bearing assembly (#41) onto all three shafts, adjusting the nut (#40) of the adjuting link (#38) until the proper chain tension has been achieved.





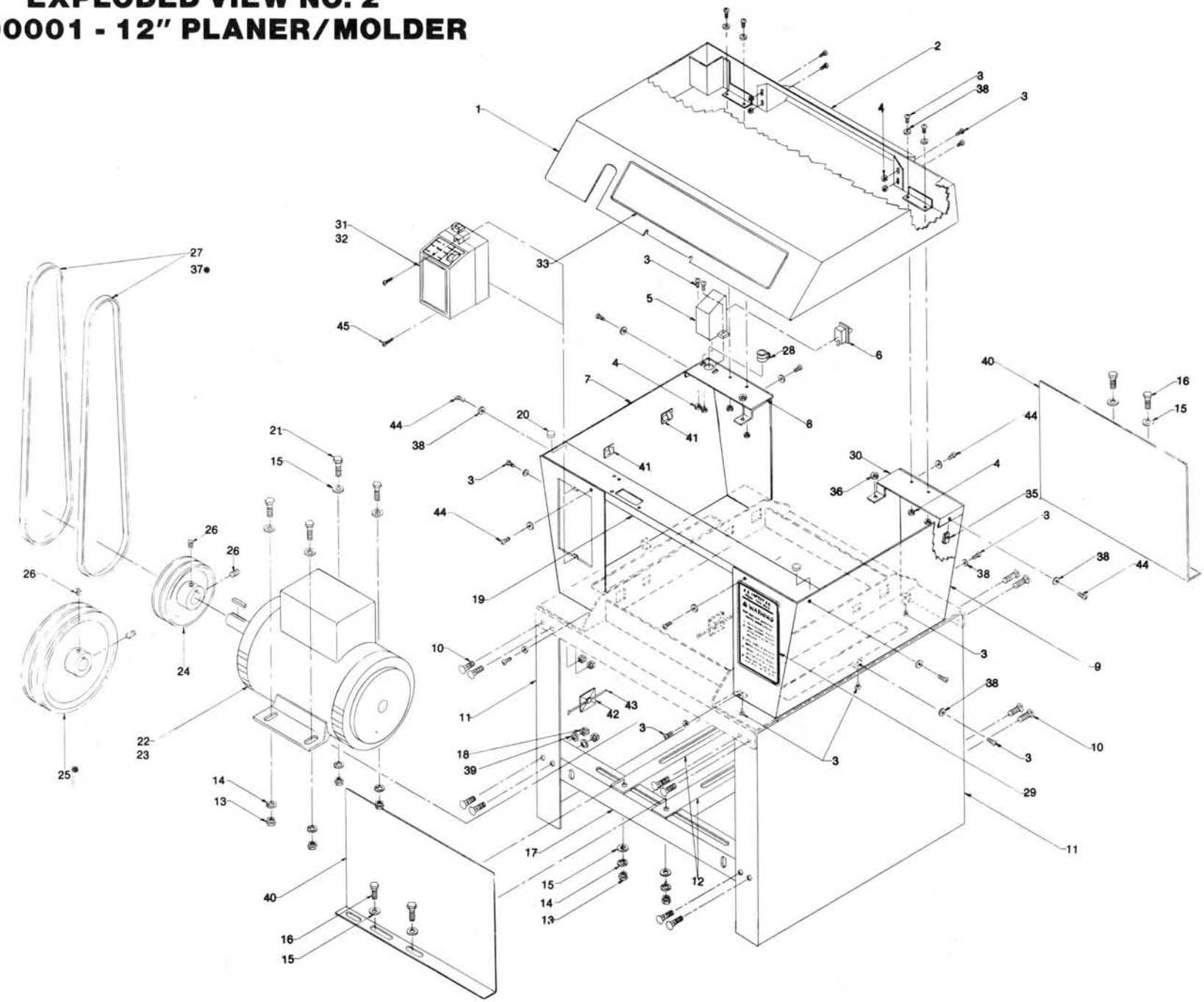
EXPLODED VIEW
NO. 1
12" PLANER/MOLDER

DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
1	3709416	90° Weldnut
2	A375601	Hex Machine Screw 3/8-16 NC x 3-1/2" Long
3	3709072	Spring
4	R000527	Plain Washer 3/8 SAE
6	4509392	Top Support Bar
7	R000868	Square Key 3/8 Sq. x 1-1/2" Long
8	4509169	Spacer
9	4509069	Gib 1"
10	C371061	Socket Set Screw 3/8-24 NF x 5/8" Long
11	4509070	Gib 5-3/4"
12	4501958	Planer Knives
13	B251223	Flat Head Socket Screw 1/4-28 NF x 3/4" Long
14	4509062	Feed Roll
15	4509054	Cutterhead
16	4509523	Chipbreaker
17	4509400	Bed
18	4509555	Right Bracket
19	4509556	Left Bracket
20	B371201	Hex Cap Screw 3/8-16NC x 3/4"
21	B251001	Hex Cap Screw 1/4-20 NC x 5/8" Long
22	R000469	Lockwasher
23	4509513	Inner Link Bearing Assembly
24	4509415	Shaft Link
25	4509410	Spacer
26	4509414	Spacer
27	4509418	Roller Chain (91 pitches includes connector)
28	4509034	Sprocket
29	4509527	Small Sprocket Assembly
30	4509027	"V" Belt
31	4509428	Pulley Assembly
32	4509409	Spacer
33	4509420	Roller Chain (48 pitches includes connector)
34	4509525	Sprocket Hub Assembly
35	4509524	Plate Sprocket Assembly
36	4509419	Roller Chain (74 pitches includes connector)
37	4509411	Spacer
38	4509532	Link Adjusting Assembly
39	R000524	Plain Washer 1/4 SAE
40	R000380	Hex Nut Nylok 1/4-20 NC
41	4509529	Outer Link Bearing Assembly
42	E402400	Carriage Bolt 1/2-13 NC x 1-1/2" Long
43	4509405	Bearing Plate
44	4509417	Bearing Feed Roll

DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
45	4509071	Ball Bearing w/Eccentric Lock
46	C374820	Socket Set Screw 3/8-16 NC x 3" Long
47	J502000	Hex Jam Nut 1/2-13 NC
48	4509522	Side Frame
49	4509246	Base Spacer
50	4549033	Corner Sprocket
51	R000872	Roll Pin 1/4" Diameter x 1-1/8" Long
52	4509067	Feed Roll Tension Spring
53	J372000	Hex Jam Nut 3/8-16 NC
54	4509530	Base
55	4509045	#42 Roller Chain
57	J501000	Hex Nut 1/2-13 NC
58	R000473	Lockwasher 1/2 Split
59	R000529	Plain Washer 1/2 SAE
60	4509051	Corner Screw
61	4509081	Corner Crank Screw
62	4509092	Machinery Bushing
63	4509449	Pulley (2) Groove
64	J161000	Hex Nut 8-32 NC
65	4509407	Scale Bracket
66	B160602	Round Head Cap Screw 8-32 NC x 3/8" Long
67	B190609	Phillips Round Head Cap Screw 10-24 NC x 3/8"
68	4509452	Extension Spring
69	4509406	Scale
70	4509421	Scale Roller
71	4509508	Roller Bracket
72	4509378	Scale Window
73	R000553	Kep Nut 10-24 NC
74	4509403	Crank
75	3709457	Handle
76	B313611	Socket Cap Screw 5/16-18 NC x 2-1/4" Long
77	4509503	Crank Handle Assembly
78	J312000	Hex Jam Nut 5/16-18 NC
79	4509454	Spring Clip
80	R000553	Kep Nut 10-24 NC
81	3709417	100° Weldnut
82	4509457	Grommet
84	B191201	Hex Cap Screw 10-24 NC x 3/4" Long
85	3709022	Thrust Washer
86	C372820	Slotted Head Set Screw 3/8-16 NC x 1-3/4"
87	3709142	Push on Retaining Ring
*88	4509583	17-Tooth Sprocket (Optional Equipment)
89	R000481	(2) #1/4 Ext. Star Washer
90	J371000	3/8 Hec Nut
91	B250617	1/4-20 Phillips Rd Hd Cap Screw
92	R000483	Int Tooth
93	R000473	Lockwasher 1/2 Split
94	4509381	Chain Tightner
95	3309059	Decal Rotation
96	B160813	Phillips Round Hd Screw 8-32 NC x 1/2"
97	R000558	Kep Nut 8-32 NC
98	C311007	Square Hd Cap Screw 5/16-18 NC x 5/8"

* - OPTIONAL EQUIPMENT

EXPLODED VIEW NO. 2
4500001 - 12" PLANER/MOLDER



PARTS LIST: 4500001—12" PLANER/MOLDER

DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
1	4509435	Cover
2	4509439	Chip Deflector
3	B190609	Phillips Round Head Cap Screw 10-24 NC x 3/8"
4	R000553	Kep Nut 10-24 NC
5	4509393	Switch Bracket
6	3707162	Safety Switch
7	4509445	Side Panel Switch Side
8	4509598	Left Rear Panel
9	4509434	Side Panel
10	E311200	Carriage Bolt 5/16-18 NC x 3/4" Long
11	4509001	Side Piece
12	4509004	Motor Mount Bar
13	J371000	Hex Nut 3/8-16 NC
14	R000471	Lockwasher 3/8 Split
15	R000527	Plain Washer 3/8 SAE
16	B371201	Hex Cap Screw 3/8-16 NC x 3/4" Long
17	4509450	Lower Leg Brace
18	J311000	Hex Nut 5/16-18 NC
19	4509433	Top Panel Front
20	3709259	Rubber Bumper
21	B372001	Hex Cap Screw 3/8-16 NC x 1-1/4" Long
*22	3707297	3HP Motor
*23	3707283	5HP Motor
*24	4509280	Motor Pulley 3HP, 5HP, 1-1/8" Diameter Bore
*25	4509276	Motor Pulley 5HP 9", 1-1/8" Diameter Bore
26	C310620	Socket Set Screw 5/16-18 NC x 3/8" Long
27	4509269	"V" Belt - 55"
28	3707279	Strain Relief
29	4509453	Warning Decal
30	4509597	Right Rear Panel
31	See Page 66	3HP Electrical Box Assembly
32	See Page 66	5HP Electrical Box Assembly
33	4509451	Title Plate
*34	4509271	Motor Pulley 2HP 7/8" Bore
35	3709864	Tinnerman Nut (8 Required on Top)
36	J372000	Hex Jam Nut 3/8-16 NC
*37	4509275	"V" Belt - 62"
38	R000483	#10 Int Tooth Lockwasher
39	R000526	Plain Washer 5/16 SAE
40	4509379	Safety Plate
41	3707281	Wire Hold Down
42	3707224	Tie Down Mount (2) Required
43	3707225	Cord Tie Downs (2) Required
	3707078	Cable Connector (to Motor)
	3707155	Set Screw Wire Connector
44	D191067	Phillips Pan Head Sheet Metal Screw #10 x 5/8"
45	B191633	Phillips Pan Head Cap Screw 10-32 NF x 1" Long

* - OPTIONAL EQUIPMENT

ELECTRICAL SCHEMATIC

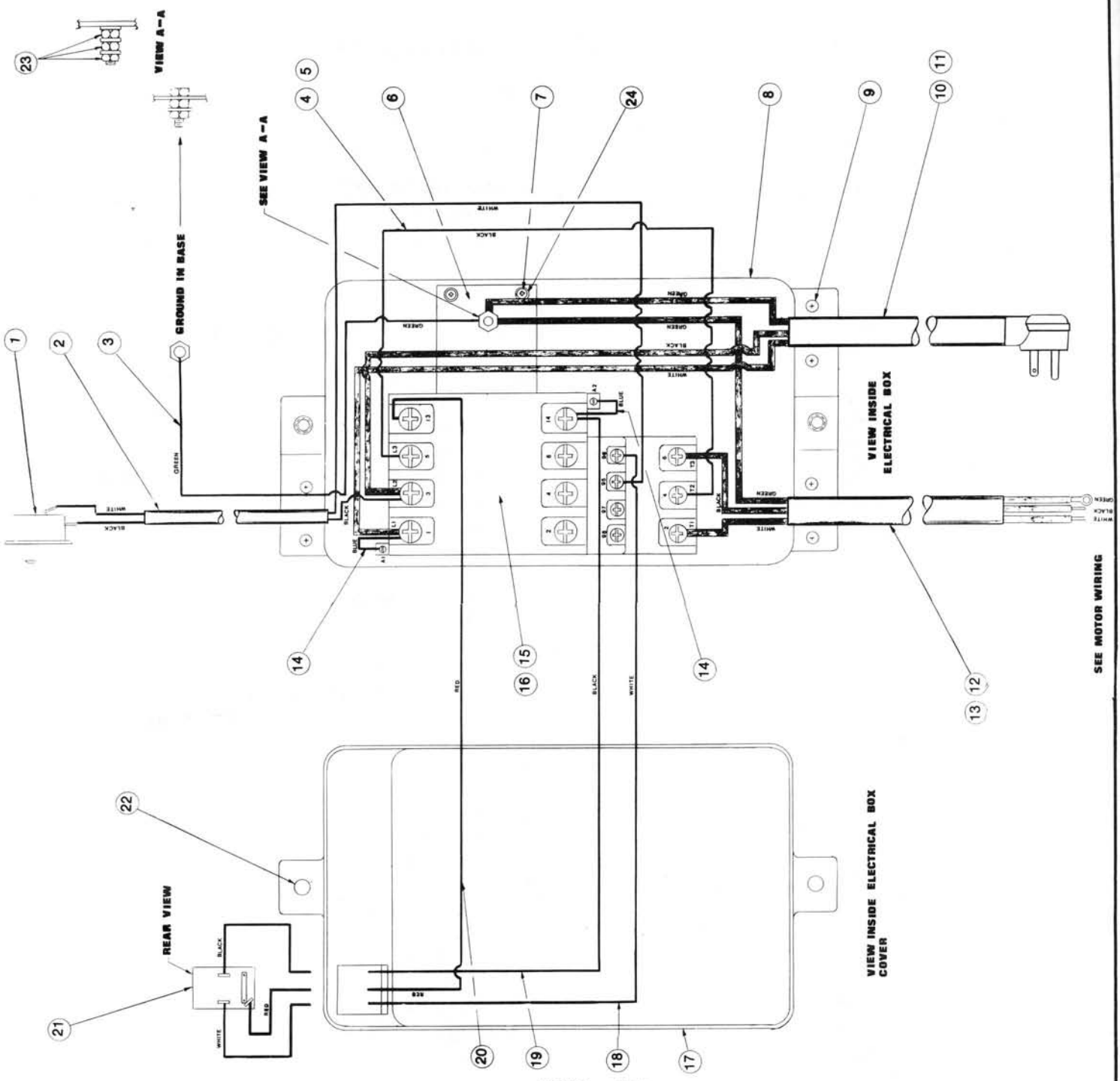
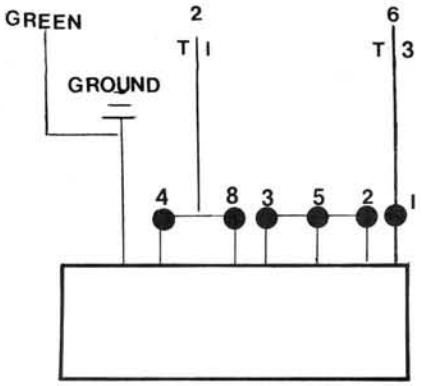


DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
1	3707162	Safety Switch (Ref.)
2	4509482	Safety Switch Cord
3	4509388	Wire - Green
4	4509483	Wire - Black 12 Ga. 3HP
5	4509484	Wire - Black 10 Ga. 5HP
6	4509589	Electrical Box Bracket
7	B160413	Phillips Rd Head Cap Screw 8-32 NC x 1/4" Long
8	4509486	Electrical Box
9	B161213	Phillips Rd Head Cap Screw 8-32 NC x 3/4" Long
10	4509479	Drive Power Cord - 3HP
11	4509480	Drive Power Cord - 5HP
12	4509485	Motor Service Cord - 3HP
13	4509481	Motor Service Cord - 5HP
14	4509390	Wire - Blue
15	3707160	Magnetic Starter - 3HP
16	3707161	Magnetic Starter - 5HP
17	4509487	Electrical Box Cover
18	4509477	Switch Wire Assembly - White
19	4509476	Switch Wire Assembly - Black
20	4509478	Switch Wire Assembly - Red
21	3707895	Rocker Switch
22	B191633	Phillips Pan Head Cap Screw 10-32 NF x 1" Long (2)
23	R000553	Kep Nut 10-24 NC - Three (3) Required
	4509474	Switch Decal (Not Shown)
	4509475	Electric Box Decal (Not Shown)

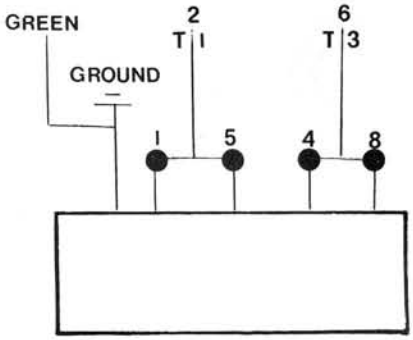
MOTOR WIRING DIAGRAM & ELECTRICAL ELEMENTARY DIAGRAM

MOTOR WIRING



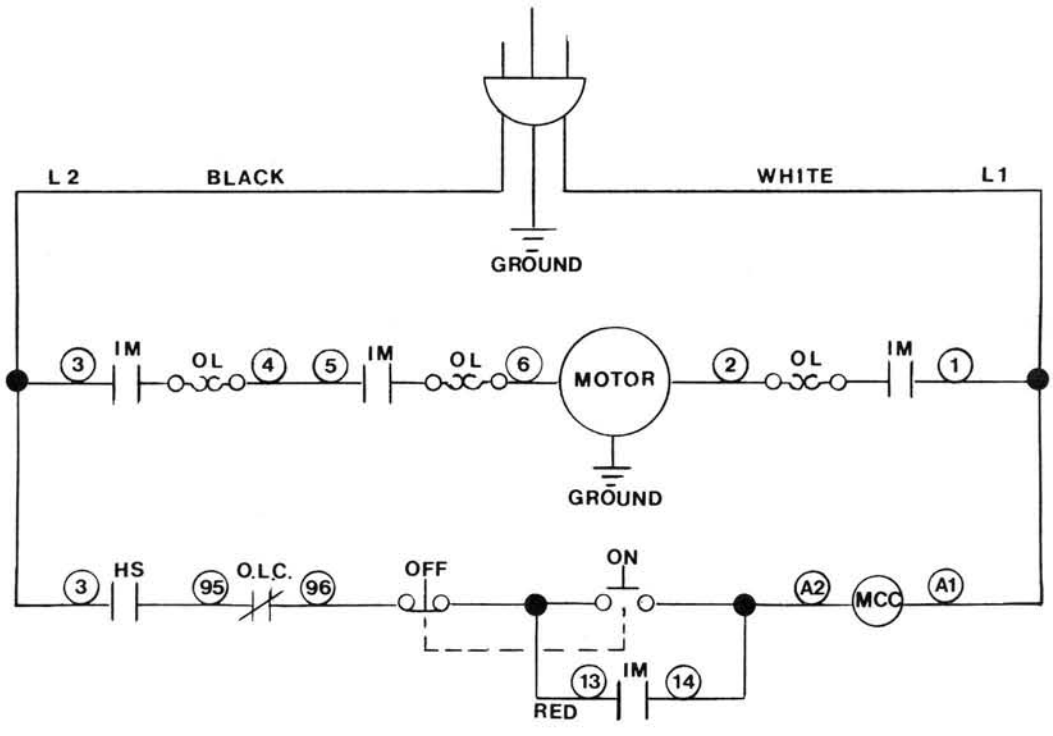
NOTE: TO REVERSE ROTATION INTERCHANGE 5 AND 8

3 HP CCW ROTATION SHAFT END



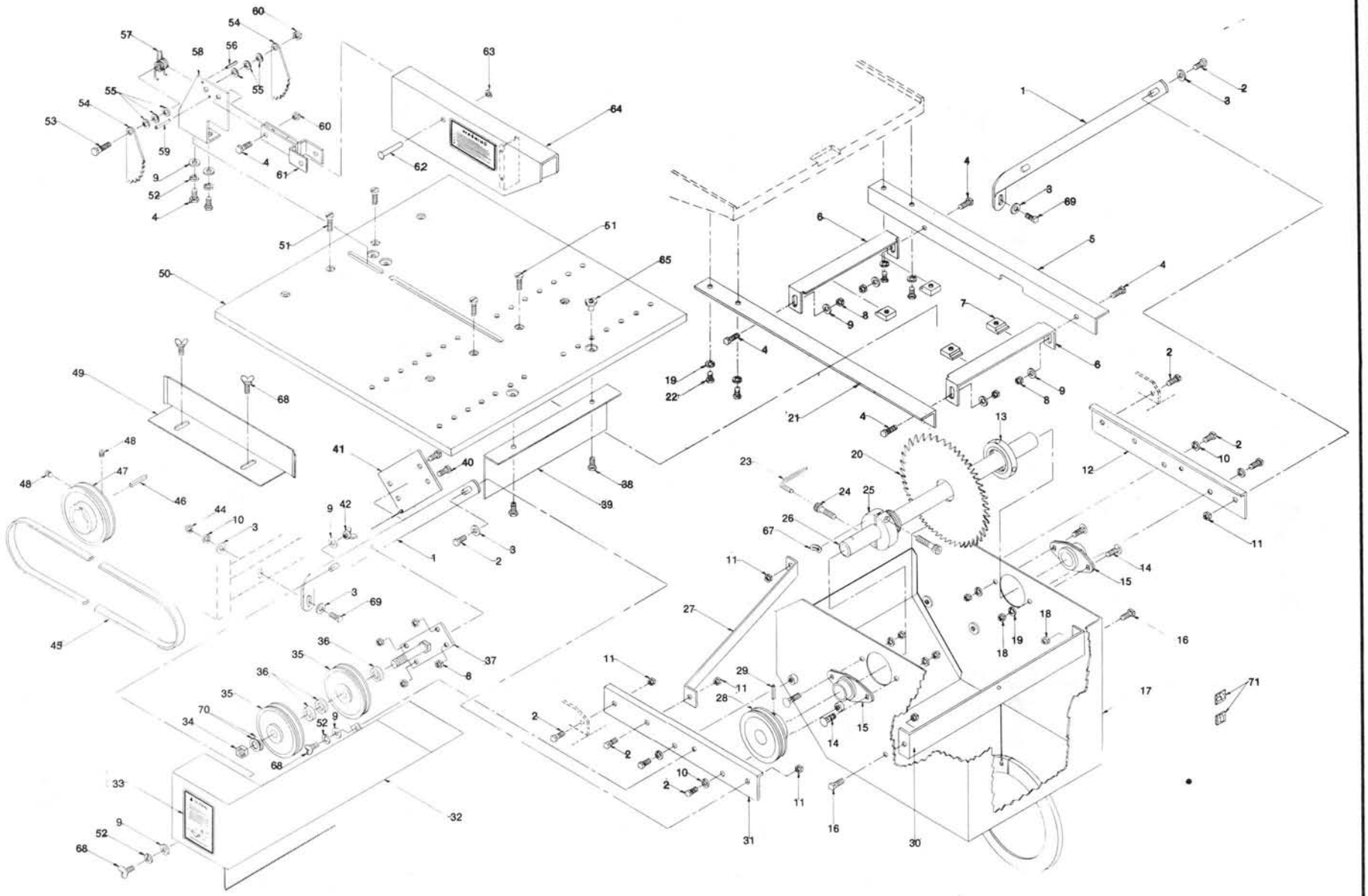
NOTE: TO REVERSE ROTATION INTERCHANGE 5 AND 8

5 HP CCW ROTATION SHAFT END



NOTE: L1 = 1
L2 = 3
L3 = 5
T1 = 2
T2 = 4
T3 = 6

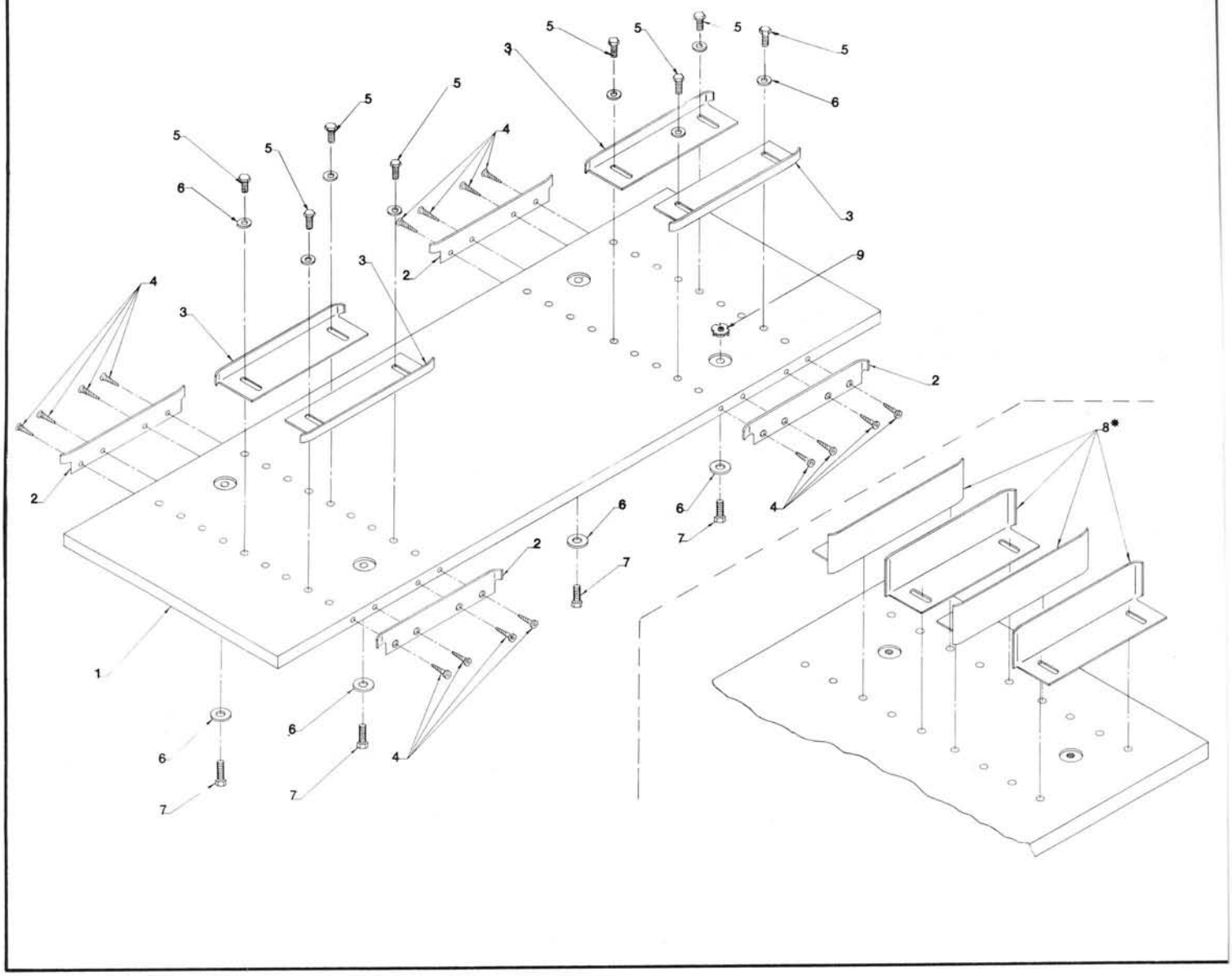
OL	OVERLOAD
IM	MAGNETIC CONTACT
HS	HOOD SWITCH
MCC	MAGNETIC COIL CONTACT
O.L.C.	OVERLOAD CONTACT



EXPLODED VIEW
NO. 4500503
RIP SAW ATTACHMENT

DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
1	4509397	Brace
2	B371201	Hex Cap Screw 3/8-16 NC x 3/4" Long
3	R000527	Plain Washer 3/8 SAE
4	B251001	Hex Cap Screw 1/4-20 NC x 5/8" Long
5	4509468	Right Table Brace
6	4509461	Table Adjust Bracket
7	4509399	Clamp
8	R000552	Kep Nut 1/4-20 NC
9	R000524	Plain Washer 1/4 SAE
10	R000471	Lockwasher 3/8" Split
11	R000554	Kep Nut 3/8-16 NC
12	4509466	Right Support Bar
13	4509104	Spanner Nut
14	E311200	Carriage Bolt 5/16-18 NC x 3/4" Long
15	3709600	Bearing With Lock Collar
16	B311201	Hex Cap Screw 5/16-18 NC x 3/4" Long
17	4509562	Saw Shroud
18	J311000	Hex Nut 5/16-18 NC
19	R000470	Lockwasher 5/16 Split
20	4509114	Sawblade 10" Diameter
21	4509467	Left Table Brace
22	B310801	Hex Cap Screw 5/16-18 NC x 1/2" Long
23	R000863	Allen Key 5/16 Across Flats
24	B371631	Socket Cap Screw 3/8-24 NF x 1" Long
25	4509113	Arbor Collar
26	4509437	Arbor
27	4509446	Cross Brace
28	4509395	Arbor Pulley
29	R000852	Rollpin 3/16" Diameter x 1-3/4" Long
30	4509573	Brace Saw Guard Assembly
31	4509566	Left Bar
32	4509595	Belt Guard Assembly
33	4509396	Decal - Belt Guard
34	R000367	Hex Reversible Locknut 5/8-11 NC
35	3709153	Idler Pulley
36	4509499	Pulley Spacer
37	4509594	Tightener Bar
38	B250801	Hex Cap Screw 1/4-20 NC x 1/2" Long
39	4509469	Front Guard
40	B251201	Hex Cap Screw 1/4-20 NC x 3/4" Long
41	4509494	Pulley Tightener Bar
42	J253000	Wing Nut 1/4-20 NC
44	J371000	Hex Nut 3/8-16 NC
45	3709154	"V" Belt
46	R000826	Square Key
47	4509394	Motor Pulley
48	C310620	Socket Set Screw 5/16-18 NC x 3/8" Long
49	4509492	Edge Molding Guide
50	4509458	Table
51	B251203	Slotted Flat Head Cap Screw 1/4-20 NC x 3/4"
52	R000469	Lockwasher 1/4" Split
53	B251201	Hex Cap Screw 1/4-20 NC x 3/4" Long
54	4509472	Kickback Bracket
55	3589109	Washer
56	R000849	Rollpin 1/8" Diameter x 1-1/2" Long
57	4509425	Two (2) Coil Spring
58	4509459	Guard Support Bracket
59	R841075	Rollpin 1/8" Diameter x 3/4" Long
60	R000380	Hex Nut Nylon
61	4509570	Guard Pivot
62	R000519	Solid Steel Rivet
63	3709141	Push on Retaining Ring
64	4509563	Saw Guard Decal Assembly
65	3709264	Teenut - 32 Required (4-On Top, 28 On Bottom)
67	4509385	Rotation Decal
68	3709191	Wing Screw 1/4-20 NC
69	B371601	Hex Cap Screw 3/8-16 NC x 1" Long
70	3709022	Thrust Washer
71	3707281	Wire Hold Down Two (2) Required

PARTS LIST: OPTIONAL 4500502 BEDBOARD



PARTS LIST FOR NO. 4500502
12" BEDBOARD ATTACHMENT

DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
1	4509490	.....12" Bedboard Assembly
2	4509493	.....Side Board Guide
3	4509491	.....Standard Guide
4	D191067	.....Phillips Pan Head Sheet Metal Screw No. 10 x 5/8" Long
5	B251001	.....Hex Cap Screw 1/4-20 NC x 5/8" Long
6	R000524	.....Plain Washer 1/4 SAE
7	B251401	.....Hex Cap Screw 1/4-20 NC x 7/8" Long
*8	4509492	.....Edge Molding Guide (Optional Molding)
9	3709264	.....T-Nut (4) required on top; (36) required on bottom (Not Shown)

* - OPTIONAL EQUIPMENT