# Wood-Mizer® Moulder

## Safety & Operation Manual

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|---|---|
| **4015X5** | **rev. A1.00+** |
| **4020X5** | **rev. A1.00+** |
| **M485SP** | **rev. A1.00+** |

**Safety is our #1 concern!** Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

*Form #1107*

## Table of Contents Section-Page

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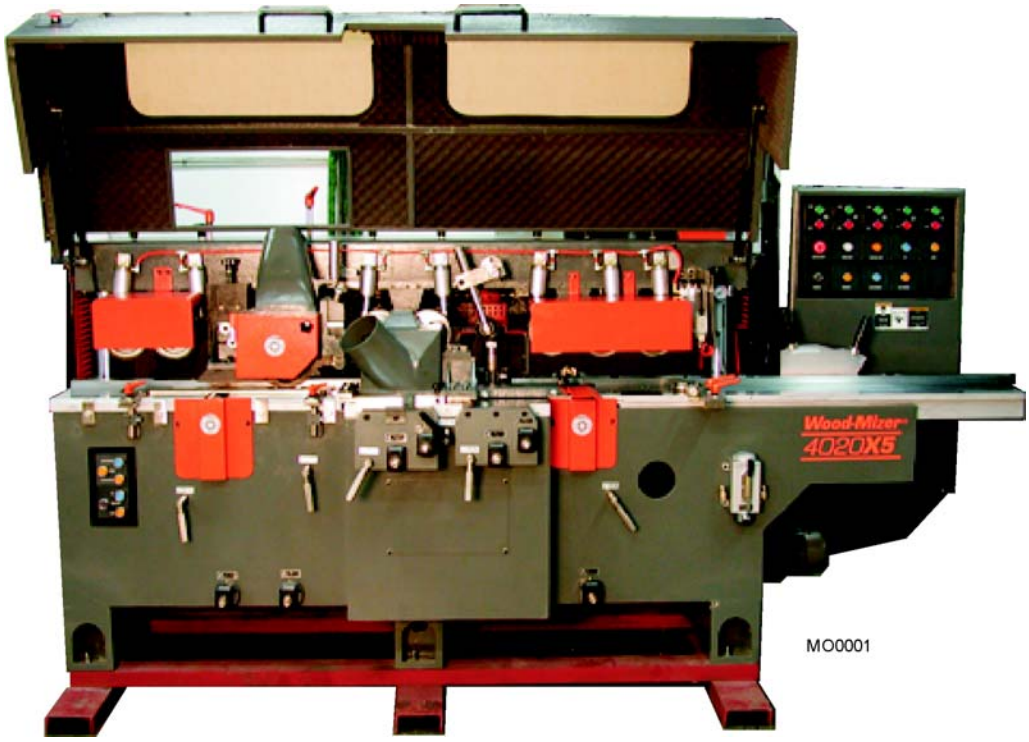
# ABOUT THIS MANUAL

This manual is to replace or to be used with all previous information received on the Wood-Mizer® [1] moulder. All future mailings will be an addition to or a revision of individual sections of this manual as we obtain new information.

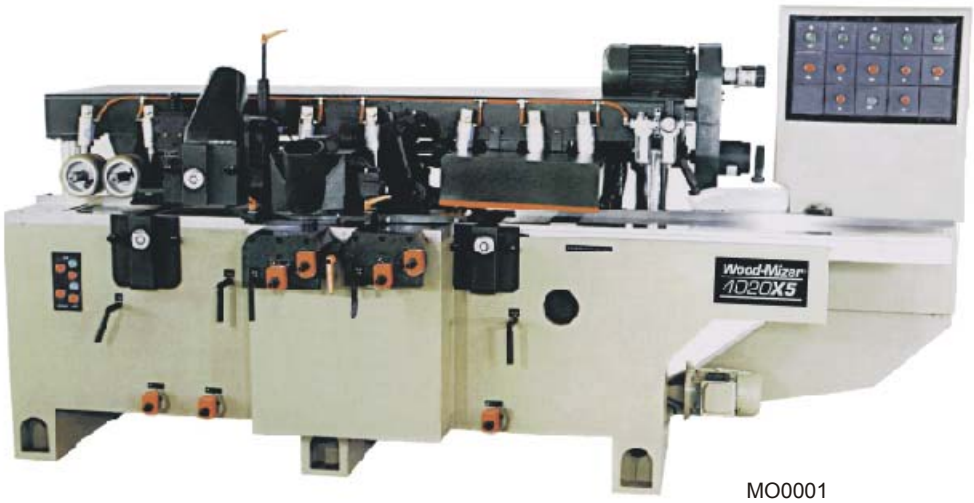
The information and instructions given in this manual do not amend or extend the limited warranties for the equipment given at the time of purchase.

For general information regarding Wood-Mizer and our “Forest to Final Form” products, please refer to the All Products Catalog.




***M485SP MOULDER***

[1] Wood-Mizer® is a registered trademark of Wood-Mizer Products, Inc.




MO0001

***M4015X5 MOULDER***

# SECTION 1 SAFETY

## 1.1 Safety Symbols

The following symbols and signal words call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

**DANGER!** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING!** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION!** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury or damage to equipment.

**IMPORTANT!** indicates vital information.

**NOTE:** gives helpful information.

Warning stripes are placed on areas where a single decal would be insufficient. To avoid serious injury, keep out of the path of any equipment marked with warning stripes.

## 1.2 Safety Instructions

**NOTE:** ONLY safety instructions regarding personal injury are listed in this section. Caution statements regarding only equipment damage appear where applicable throughout the manual.

### OBSERVE SAFETY INSTRUCTIONS

**IMPORTANT!** Read the entire Operator's Manual before operating the machine. Take notice of all safety warnings throughout this manual and those posted on the machine. Keep this manual with this machine at all times, regardless of ownership.

Also read any additional manufacturer's manuals and observe any applicable safety instructions including dangers, warnings, and cautions.

Only persons who have read and understood the entire operator's manual should operate the machine. The machine is not intended for use by or around children.

**IMPORTANT!** It is always the owner's responsibility to comply with all applicable federal, state and local laws, rules and regulations regarding the ownership and operation of your Wood-Mizer machine. All Wood-Mizer machine owners are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using the machine.

## WEAR SAFETY CLOTHING

**WARNING!** Secure all loose clothing, jewelry and long hair before operating the machine. Failure to do so may result in serious injury or death.

**WARNING!** Always wear eye, ear, respiration, and foot protection when operating or servicing the machine.

## KEEP MACHINE AND AREA AROUND MACHINE CLEAN

**DANGER!** Maintain a clean and clear path for all necessary movement around the machine and lumber stacking areas. Failure to do so will result in serious injury.

## KEEP HANDS AWAY

**DANGER!** Always keep hands away from moving blades. Failure to do so will result in serious injury.

**DANGER!** Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

## CHECK MACHINE BEFORE OPERATION

**DANGER!** Make sure all guards and covers are in place and secured before operating the machine. Remove all loose objects from the machine before operating. Failure to do so may result in serious injury.

**DANGER!** Make sure all adjustable components are tightened securely and the blades turn freely before starting the machine. Failure to do so may result in serious injury.

**WARNING!** Use the appropriate feed wheel and adjust it properly for the material being processed.

## SAFETY PRECAUTIONS DURING OPERATION

**WARNING!** Inspect the material to be worked for embedded objects such as stones or nails. Feeding material with such objects may cause severe personal injury.

**WARNING!** Do not leave the machine running. Turn the machine off and allow it to come to a full stop before leaving the site. Failure to do so may result in serious injury.

**WARNING!** The blades should spin smoothly and in the opposite direction the material is fed in. Using unbalanced blades or changing the spinning direction of the blades could cause the material to fly out, causing serious injury.

**WARNING!** Keep all persons out of the path of material being fed into the machine. Failure to do so may result in serious injury.

**WARNING!** Do not adjust the feed roller while the machine is running. The parts may fly out and cause serious injury.

## KEEP SAFETY LABELS IN GOOD CONDITION

**IMPORTANT!** Always be sure that all safety decals are clean and readable. Replace all damaged safety decals to prevent personal injury or damage to the equipment. Contact your local distributor, or call your Customer Service Representative to order more decals.

**IMPORTANT!** If replacing a component which has a safety decal affixed to it, make sure the new component also has the safety decal affixed.

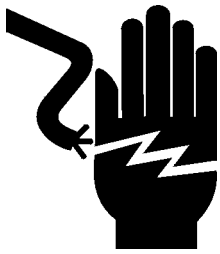
## DISPOSE OF SAWING BY-PRODUCTS PROPERLY

**IMPORTANT!** Always properly dispose of all sawing by-products, including sawdust and other debris, coolant, oil, fuel, oil filters and fuel filters.

## USE PROPER PROCEDURE WHEN CONDUCTING ELECTRICAL SAFETY CHECKS AND MAINTENANCE

**DANGER!** Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and is in accordance with applicable electrical codes.

**DANGER!** Hazardous voltage inside the electrical cabinet can cause shock, burns, or death. Disconnect and lock out power supply before servicing! Keep all electrical component covers closed and securely fastened during machine operation.



**WARNING!** Turn off the machine and lock out the electrical supply before performing service or maintenance to the machine. Consider all electrical circuits energized and dangerous. Never assume or take the word of another person that the power is off; check it out and lock it out. Failure to do so may result in serious injury.

**WARNING!** Do not wear rings, watches, or other jewelry while working around an open electrical circuit.

# SECTION 2 SETUP

## 2.1 Moving The Moulder

**See Figure 2-1.** Transport the moulder with a forklift using the provided forklift skid.

**CAUTION!** Be sure all cables and hoses are clear of the forks when moving the moulder. Failure to do so may cause damage to the machine.

The machine can also be moved with an overhead crane, using lifting straps through the strap holes at the base of the machine and/or the hooks on each side of the machine. Fasten the straps securely. Place pieces of wood or cardboard between the straps and the machine to prevent scratches or damage to the paint. Be sure the load is evenly balanced when moving the machine.


***FIG. 2-1***

## 2.2 Installation

Unbolt the shipping skid from the moulder frame. Lift the moulder up and remove the skid.

**See Figure 2-2.** Place the machine on a firm, level concrete surface at least 6 inches (150mm) thick. Place 3/8-inch (10mm) thick steel plates under each leg. Adjust the leveling bolts to level the machine.

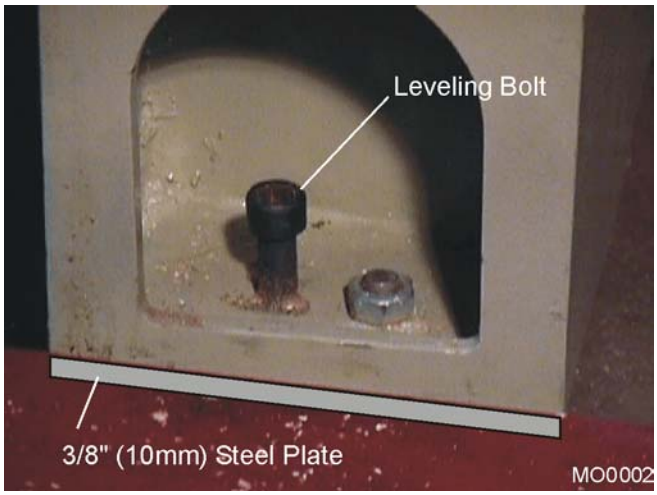



***FIG. 2-2***

## 2.3 Electrical Installation

**DANGER!** Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and is in accordance with applicable electrical codes.

Install an appropriately rated disconnect box near the machine and use proper cable/wiring to supply power to the moulder.

**See Figure 2-3.** Route the incoming power cable through the hole in the control box (enlarge the hole if necessary to accommodate larger cable). Secure the cable to the control box with an appropriate cable clamp. Connect the power wires to the L1, L2, & L3 terminals in the control box. Connect the ground wire to the ground terminal.

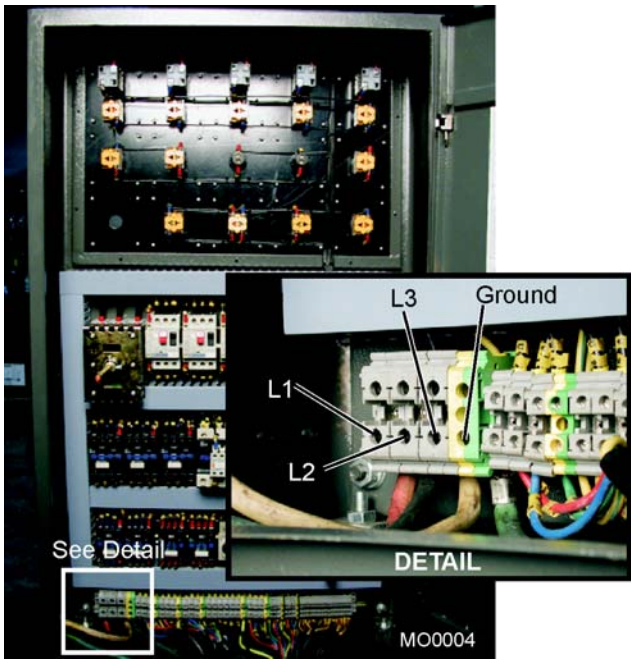



***FIG. 2-3***

Turn the machine on and start the front horizontal blade. Check to see if the rotation of the blade is clockwise as viewed from the front of the machine. If not, turn off the main power supply and exchange the position of the wires connected to terminals L1 and L2.

**WARNING!** The blades should spin smoothly and in the opposite direction the material is fed in. Using unbalanced blades or changing the spinning direction of the blades could cause the material to fly out, causing serious injury.

## 2.4 Air Installation

**See Figure 2-4.** The moulder requires an air supply of 80 psi (minimum). Install a fitting to the air regulator and connect the air supply hose to the fitting. The regulator is set by the factory at 50 psi. This should be adequate for most applications. If necessary, the air pressure may be adjusted. Use as little air pressure as necessary to adequately feed the material being worked. Lift up and turn the regulator knob to adjust. Do not adjust below 25 psi or above 75 psi. Fill the oil cup with appropriate pneumatic lubricating oil.

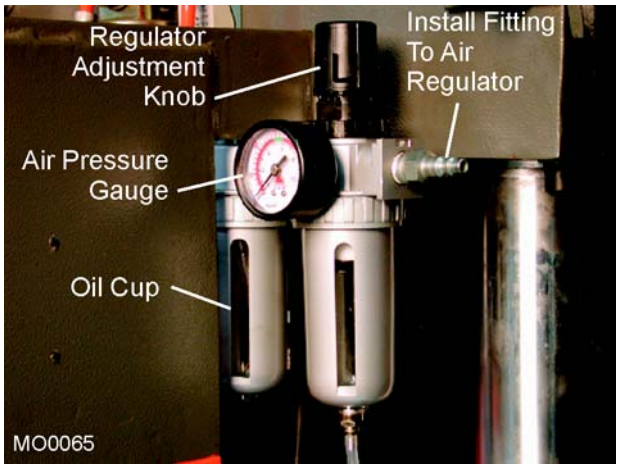



***FIG. 2-4***

# SECTION 3 ADJUSTMENTS

The cutting heads are referred to as #1 - #5 starting at the front (infeed) end of the moulder.

## 3.1 Cutting Head #1

### *Vertical Adjustment*

Adjust cutting head #1 vertically so the blades are the same height as the fixed table behind the cutting head.

**See Figure 3-1.** Place a flat steel rule on the fixed table so it extends over cutting head #1. Spin the head by hand counterclockwise and check the contact of the blades against the steel rule.

> **NOTE:** When spinning the head, be sure to spin in a counterclockwise direction to avoid nicking the blades on the steel rule.

The cutting head blades should just lightly touch the steel rule. Adjust the cutting head up or down as necessary.

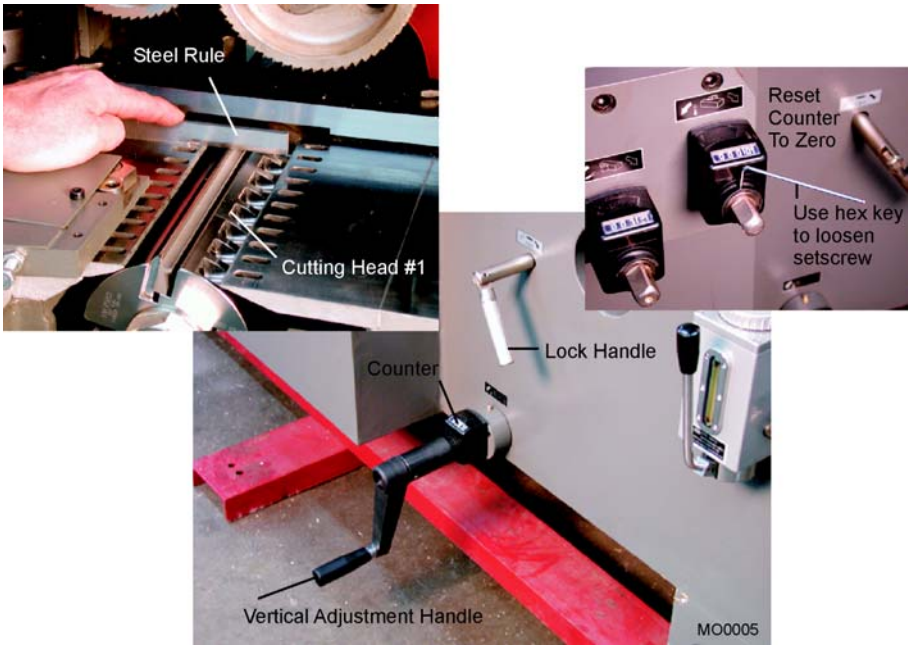



***FIG. 3-1***

Turn the locking handle counterclockwise to loosen. Use the supplied wrench handle to

turn the adjustment shaft clockwise to raise the blade, counterclockwise to lower the blade.

> **NOTE:** When lowering the blade, lower it further than desired then back up to remove slack from the adjusting screw.

After adjusting cutting head #1 vertically, tighten the lock handle and reset the counter to zero. Loosen the setscrew on the counter dial and turn the dial until it reads '0'. Retighten the setscrew.

### *Horizontal Adjustment*

It will not usually be necessary to adjust cutting head #1 in the horizontal direction, but adjustment is provided. Be sure there is not a gap between the infeed guide fence and the blades of the cutting head.

**See Figure 3-2.** To adjust cutting head #1 horizontally, loosen the locking bolt and turn the horizontal adjustment bolt to move the blade as desired. Retighten the locking bolt.

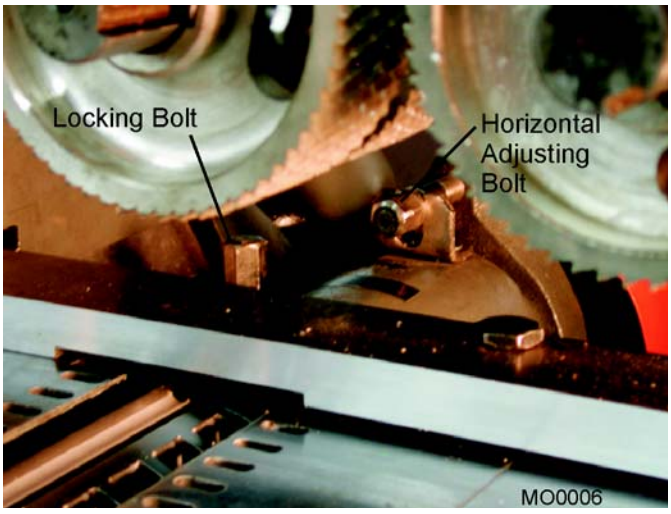



***FIG. 3-2***

## 3.2 Feed Table & Infeed Guides Adjustment

### *Feed Table*

**See Figure 3-3.** Turn the feed table adjustment handle and lift or lower the table to the desired position. The number indicated on the handle is the distance relative to the fixed table behind cutting head #1 (in millimeters). This will determine how much material is removed from the bottom of the workpiece by cutting head #1. Retighten the feed table adjustment handle.

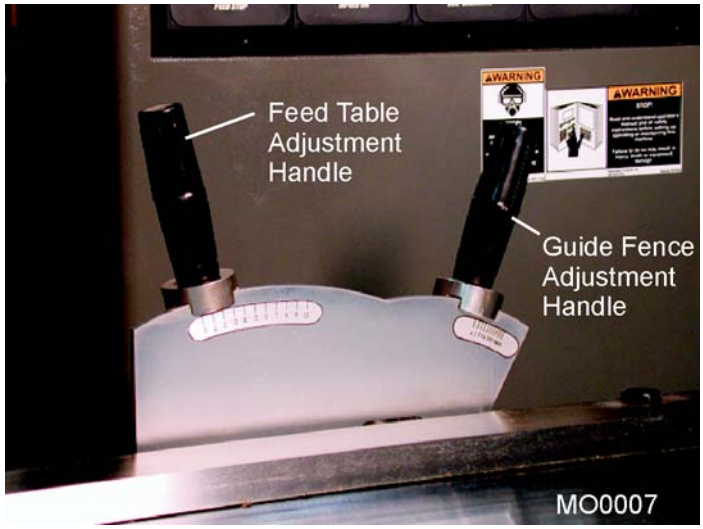



***FIG. 3-3***

### *Infeed Guide Fence*

Turn and then pull the guide fence adjustment handle to move the guide fence in or out in relation to cutting head #1. Retighten the guide fence adjustment handle.

### *Rear Infeed Guide Fence*

**See Figure 3-4.** Adjust the guide fence behind cutting head #2 so that it is 1/4” from the blades. Use a hex wrench to loosen the screws, adjust the fence and retighten the screws.

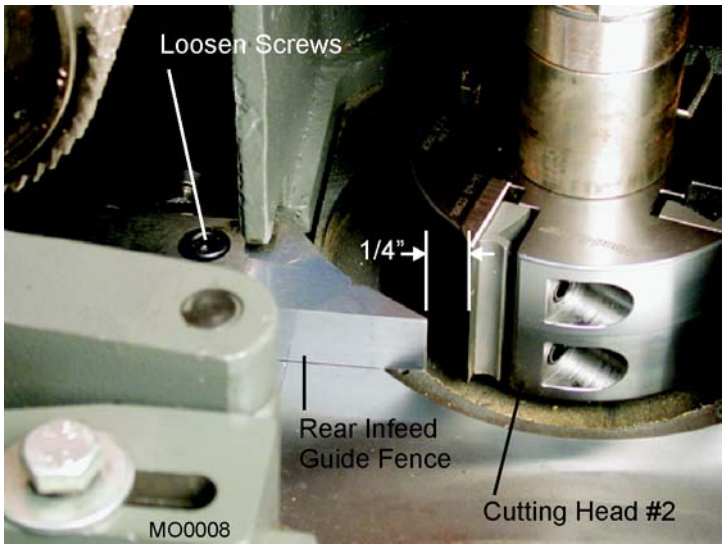



***FIG. 3-4***

## 3.3 Cutting Head #2

### *Horizontal Adjustment*

Adjust cutting head #2 so the blades are even with the rear infeed guide fence. This cutting head will be readjusted in or out depending on the side profile being used.

**See Figure 3-5.** Place a flat steel rule against the rear guide fence so it extends over cutting head #2. Spin the head by hand counterclockwise and check the contact of the blades against the steel rule.

> **NOTE:** When spinning the head, be sure to spin in a counterclockwise direction to avoid nicking the blades on the steel rule.

The cutting head blades should just lightly touch the steel rule. Adjust the cutting head in or out as necessary. Loosen the locking handle and use the supplied wrench to turn the adjustment shaft clockwise to move the cutting head back, counterclockwise to move the cutting head forward. Retighten the locking handle and reset the counter to zero.

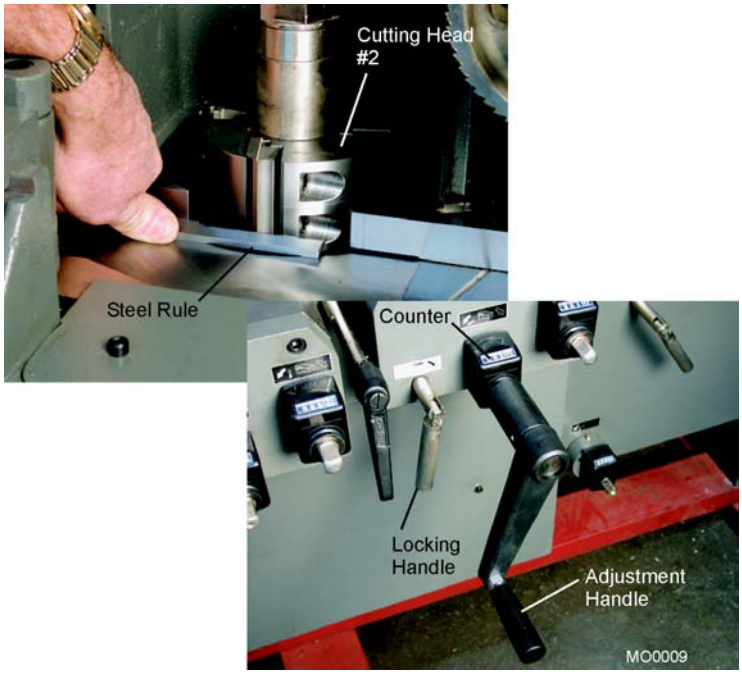



***FIG. 3-5***

### *Vertical Adjustment*

Use a finished sample piece of the moulding to be cut to determine the proper vertical position of cutting head #2. Lay the sample on the table against the guide fence in front of the cutting head. Adjust the cutting head up or down as necessary.

**See Figure 3-6.** Loosen the locking handle and use the supplied wrench handle to turn the adjustment shaft clockwise to raise the cutting head, counterclockwise to lower the cutting head. Retighten the locking handle and reset the counter to zero.

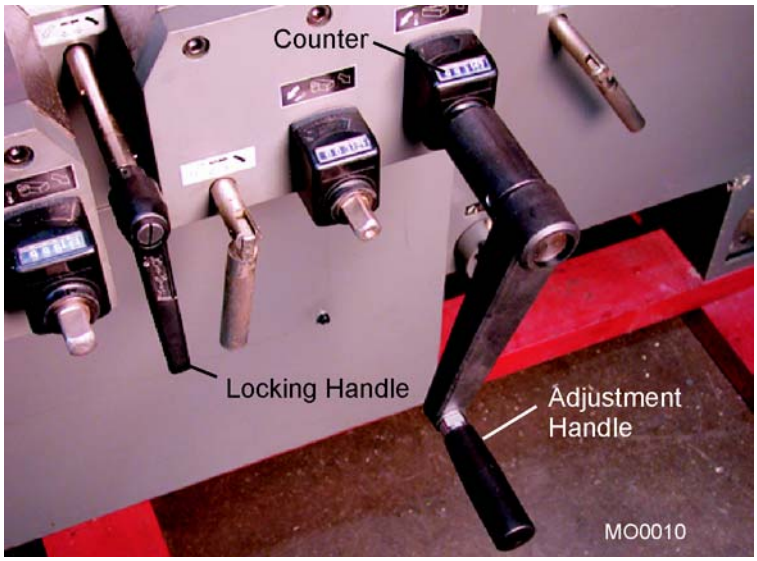



***FIG. 3-6***

**NOTE:** When lowering the blade, lower it further than desired then back up to remove slack from the adjusting screw.

## 3.4 Cutting Head #3

### *Horizontal Adjustment*

Use a finished sample piece of the moulding to be cut to determine the proper horizontal position of cutting head #3. Lay the sample on the table against the guide fence in front of the cutting head. Adjust the cutting head in or out as necessary.

**See Figure 3-7.** Loosen the locking handle and use the supplied wrench to turn the adjustment shaft clockwise to move the blade back, counterclockwise to move the blade forward. Retighten the locking handle and reset the counter to zero.

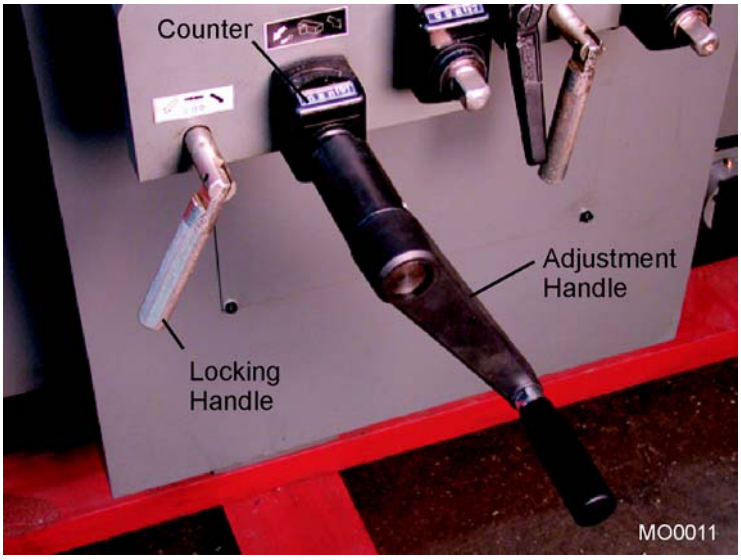



***FIG. 3-7***

### *Vertical Adjustment*

Using a finished sample of moulding as a guide, adjust cutting head #3 up or down as necessary.

**See Figure 3-8.** Loosen the locking handle and use the supplied wrench handle to turn the adjustment shaft clockwise to raise the blade, counterclockwise to lower the blade. Retighten the locking handle and reset the counter to zero.

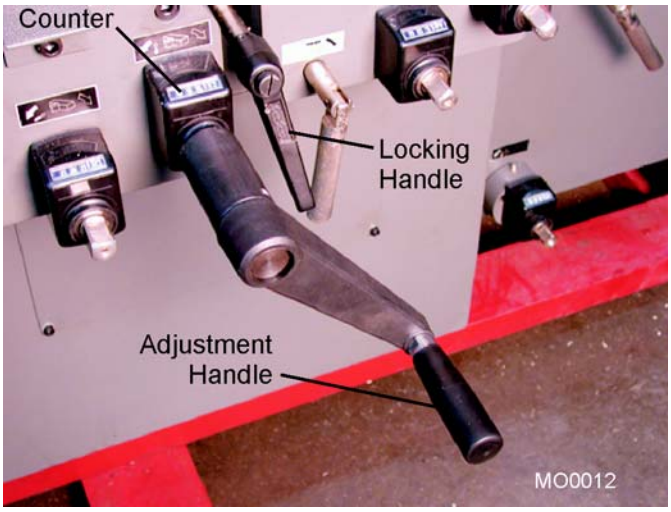



***FIG. 3-8***

**NOTE:** When lowering the blade, lower it further than desired then back up to remove slack from the adjusting screw.

### *Rear Guide Fence & Chip Breaker/Roller Assembly*

Check that the rear guide fence behind cutting head #3 is parallel to the main guide fence. Measure the distance from both ends of the adjustable guide fence to the main guide fence. If the two measurements are not the same, loosen the three mounting screws and rotate the entire fence assembly until it is parallel with the main fence. Retighten the mounting screws.

**See Figure 3-9.** Place a flat steel rule against the rear guide fence so it extends over cutting head #3. Loosen the fence locking bolt and spin the blade by hand counterclockwise. Adjust the fence until the steel rule just touches the blade. Retighten the locking bolt.

> **NOTE:** When spinning the blade, be sure to spin in a counterclockwise direction to avoid nicking the cutting edge on the steel rule.

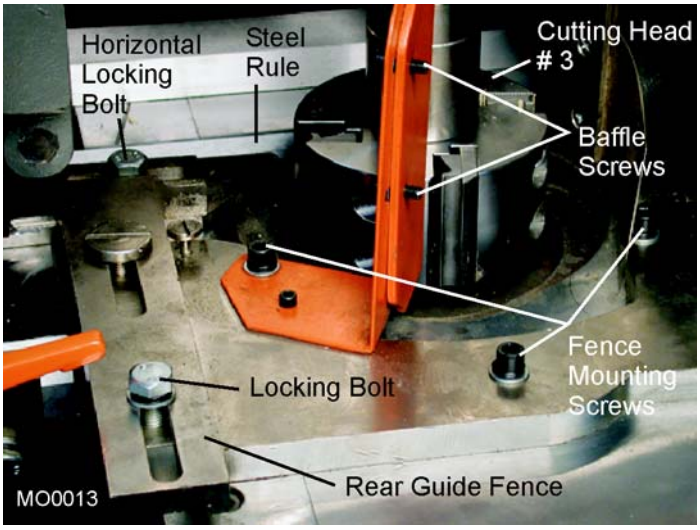



***FIG. 3-9***

Loosen the horizontal locking bolt and adjust the rear guide fence 1/8” - 1/4” from the blades. Retighten the locking bolt.

Adjust the baffle plate so it is 1/8” - 1/4” from the blades. To adjust, loosen the two baffle screws and slide the plate toward or away from the cutting head as necessary. Retighten the baffle screws.

**See Figure 3-10.** Loosen the locking bolts and adjust the chip breaker/roller assembly so it touches the steel rule. Retighten the locking bolts. Loosen the horizontal locking bolt and adjust the assembly so the chip breaker is 1/4" from the blades. Retighten the locking bolt.

The rollers are spring-loaded and can be adjusted to provide more or less pressure. Loosen the jam nuts on the two adjustment bolts and turn the bolts clockwise to increase roller tension, counterclockwise to reduce roller tension.

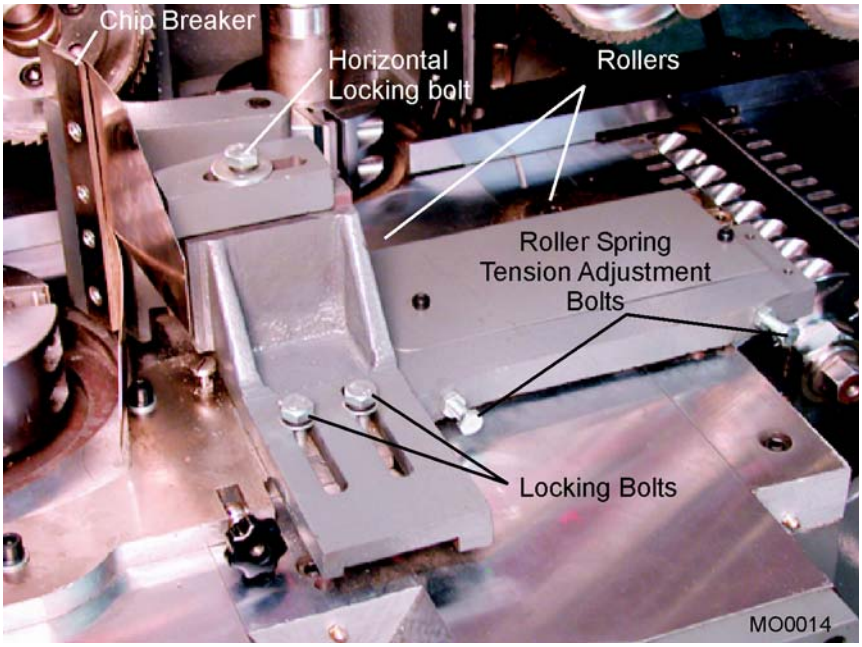



***FIG. 3-10***

**See Figure 3-11.** Ring-shaped plates are provided to place in the recessed area around each cutter head. Use the plates when working small mouldings that may get caught in the recesses. Place two plates in position around each cutter head and secure with the provided screws.

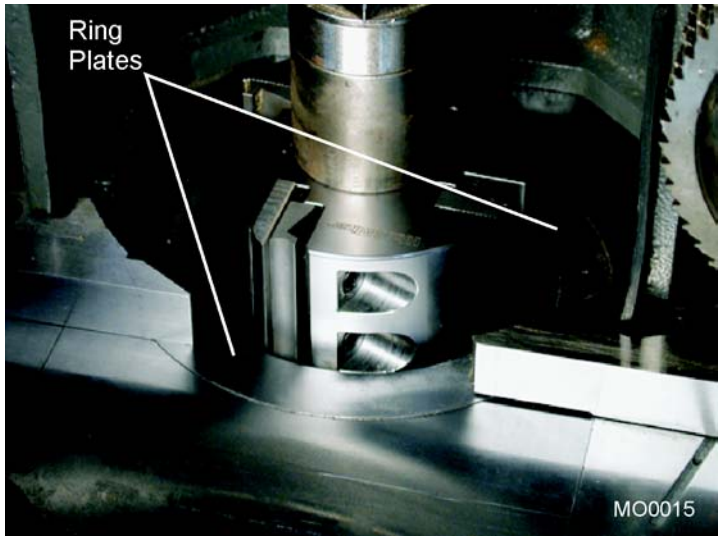



***FIG. 3-11***

## 3.5 Cutting Head #4

### *Vertical Adjustment*

Using a finished sample of moulding as a guide, adjust cutting head #4 up or down as necessary.

**See Figure 3-12.** Loosen the locking handle and use the supplied wrench handle to turn the adjustment shaft clockwise to raise the blade, counterclockwise to lower the blade. Retighten the locking handle and reset the counter to zero.

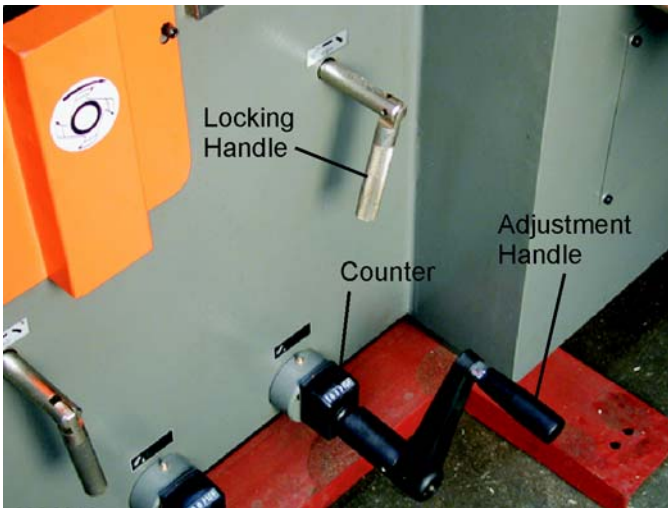



***FIG. 3-12***

**NOTE:** When lowering the blade, lower it further than desired then back up to remove slack from the adjusting screw.

### *Horizontal Adjustment*

Using a finished sample of moulding as a guide, adjust cutting head #4 in or out as necessary.

**See Figure 3-13.** Loosen the locking handle and use the supplied wrench to turn the adjustment shaft clockwise to move the blade back, counterclockwise to move the blade forward. Retighten the locking handle.

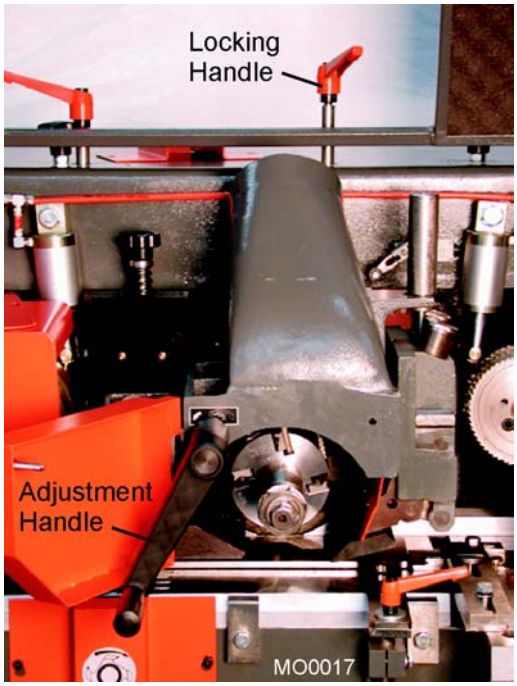



***FIG. 3-13***

### *Chip Breaker Adjustments*

**See Figure 3-14.** Adjust the chip breaker in front of cutting head #4 so it is positioned 1/8” - 1/4” below the lowest portion of the profile blade. To adjust the front chip breaker vertically, loosen the two locking bolts and turn the adjustment handle. Retighten the locking bolts. The pressure of the front chip breaker can be adjusted by turning the two pressure adjustment screws. The chip breaker can be adjusted toward or away from the blade by loosening the mounting screws on the bottom side of the breaker pads. Adjust the plate 1/8” - 1/4” from the blade and retighten the mounting screws.

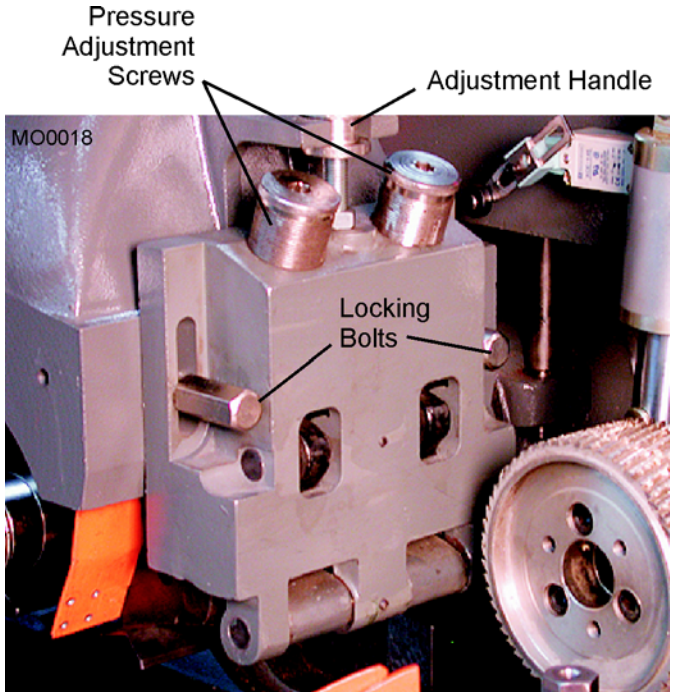



***FIG. 3-14***

**See Figure 3-15.** Adjust the chip breaker behind cutting head #4 to within 1/8” - 1/4” from the blade. Turn the rear chip adjustment handle to raise or lower the rear chip breaker. Loosen the horizontal locking bolts to move the rear chip breaker toward or away from the blade. Adjust to 1/8” - 1/4” from the blade and retighten the locking bolts.

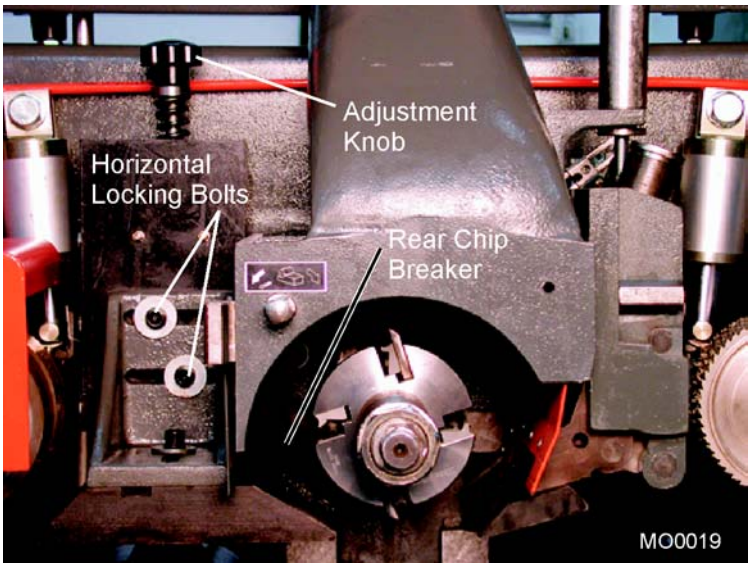



***FIG. 3-15***

## 3.6 Cutting Head #5

### *Vertical Adjustment*

Adjust cutting head #5 vertically so the blades are the same height as the fixed table behind the cutting head.

**See Figure 3-16.** Place a flat steel rule on the fixed table so it extends over cutting head #5. Spin the head by hand counterclockwise and check the contact of the blades against the steel rule.

> **NOTE:** When spinning the head, be sure to spin in a counterclockwise direction to avoid nicking the blades on the steel rule.

The cutting head blades should just lightly touch the steel rule. Adjust the cutting head up or down as necessary.

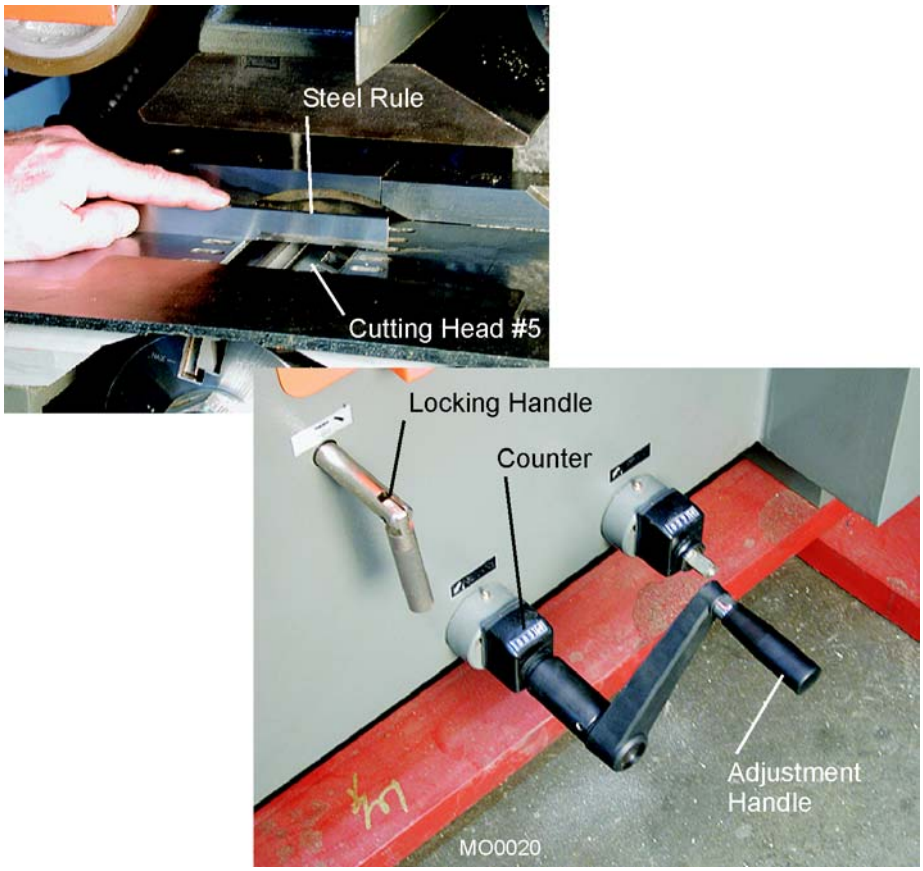



***FIG. 3-16***

Turn the locking handle counterclockwise to loosen. Use the supplied wrench handle to turn the adjustment shaft clockwise to raise the blade, counterclockwise to lower the blade.

> **NOTE:** When lowering the blade, lower it further than desired then back up to remove slack from the adjusting screw.

After adjusting cutting head #5 vertically, tighten the lock handle and reset the counter to zero. Loosen the setscrew on the counter dial and turn the dial until it reads '0'. Retighten the setscrew.

### *Horizontal Adjustment*

Using a finished sample of moulding as a guide, adjust cutting head #5 in or out as necessary.

**See Figure 3-17.** Loosen the locking handle and turn the horizontal adjustment bolt to move the blade as desired. Retighten the locking handle.

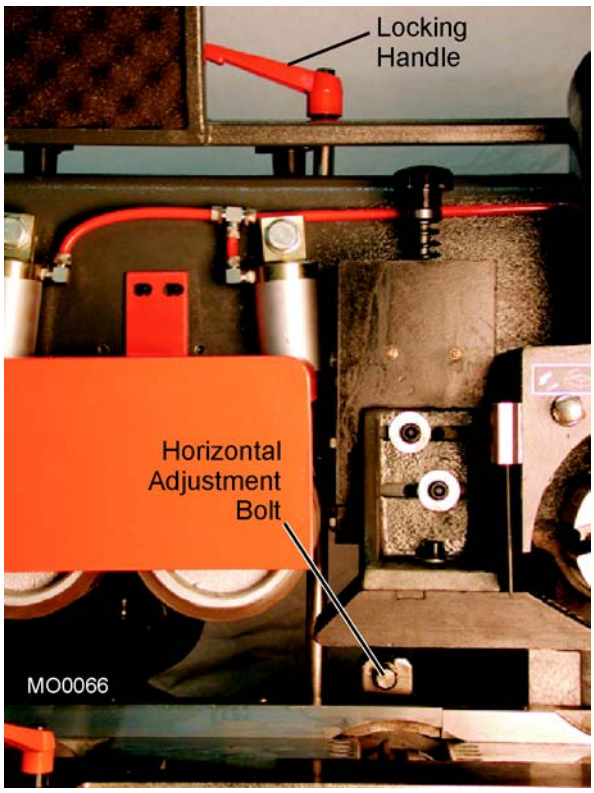



***FIG. 3-17***

## 3.7 Hold-Down Roller Adjustment

**See Figure 3-18.** Loosen the vertical clamp bolt to slide the hold-down roller up or down. Loosen the horizontal clamp bolt to move the hold-down roller in or out so it is centered on the workpiece. Turn the pressure adjustment screw so the hold-down roller applies the desired pressure to the work piece.

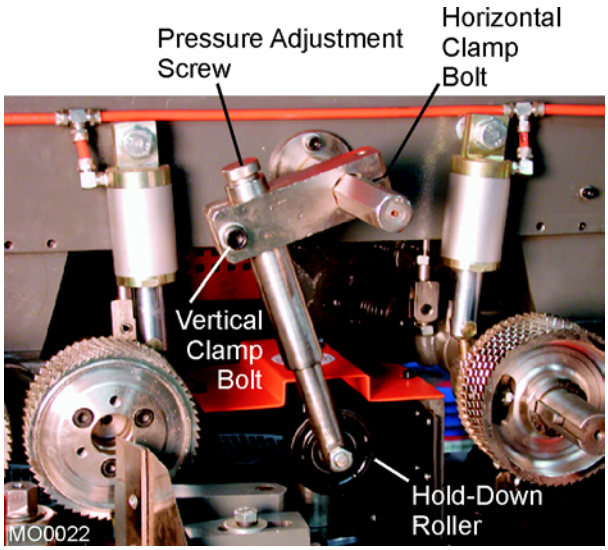



***FIG. 3-18***

## 3.8 Feed System Adjustments

### *Feed Rollers*

**See Figure 3-19.** The feed rollers move up and down with the upper head. All of the feed rollers should be adjusted in the same vertical plane to apply equal pressure to the work-piece. To move a roller up or down, turn the corresponding adjustment knob at the top of the moulder.

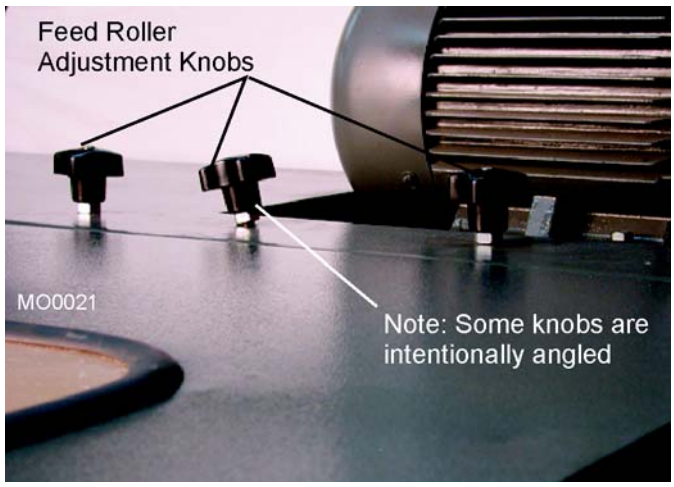



***FIG. 3-19***

### *Feed Speed Adjustment*

**See Figure 3-20.** Turn the feed speed adjustment knob to select the appropriate feed rate as indicated by the gauge. Choose the highest speed possible that still allows the material to be cut smoothly. Low speed is required for thick cuts or when cutting hard wood.

**CAUTION!** Adjust the feed speed only while the feed motor is running.

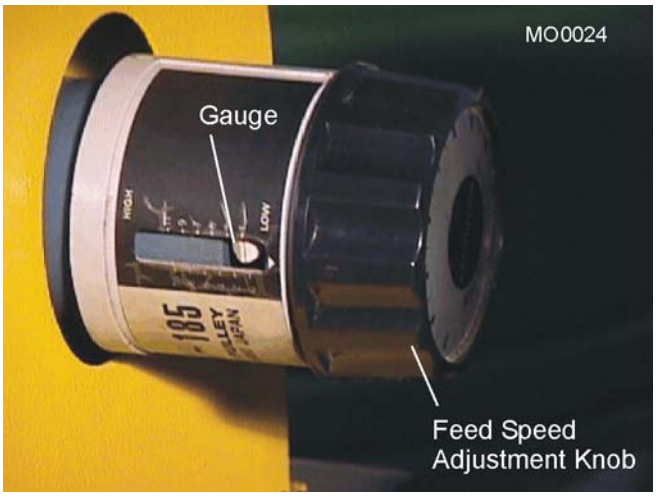



***FIG. 3-20***

### *Lower Feed Roller Adjustment*

**See Figure 3-21.** The lower feed rollers are spring-loaded and should be adjusted to .005” above the table surface. To adjust the lower feed roller height, locate the adjustment bolt at the back of the machine. Turn the lower adjustment nut to raise or lower the rollers. Turn the top adjustment nut to increase or decrease spring tension of the lower rollers.

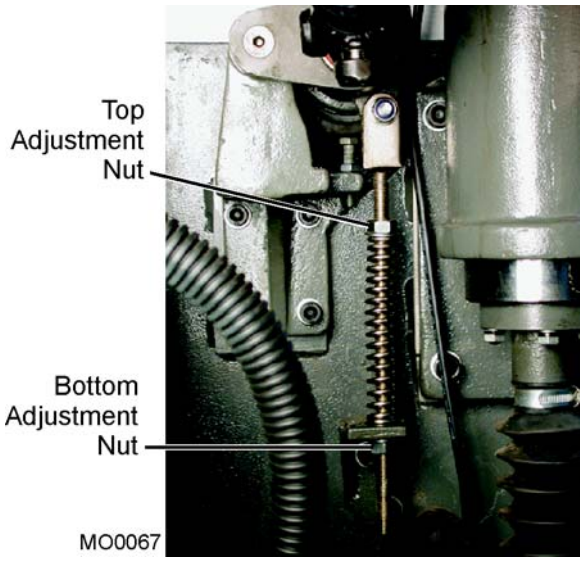



***FIG. 3-21***

## 3.9 Auxiliary Guide Adjustments

**See Figure 3-22.** Auxiliary guides are provided at the front and rear ends of the machine. To adjust the front guide, loosen the locking handles and slide the assembly in or out so the roller contacts the side of the workpiece. Retighten the locking handles. Turn the adjustment bolt to adjust the pressure of the guide roller against the workpiece.

Adjust the front guard plate as close to the workpiece as possible without interfering with the travel of the workpiece. Loosen the locking knobs and slide the plate toward or away from the workpiece as desired. Retighten the locking knobs.

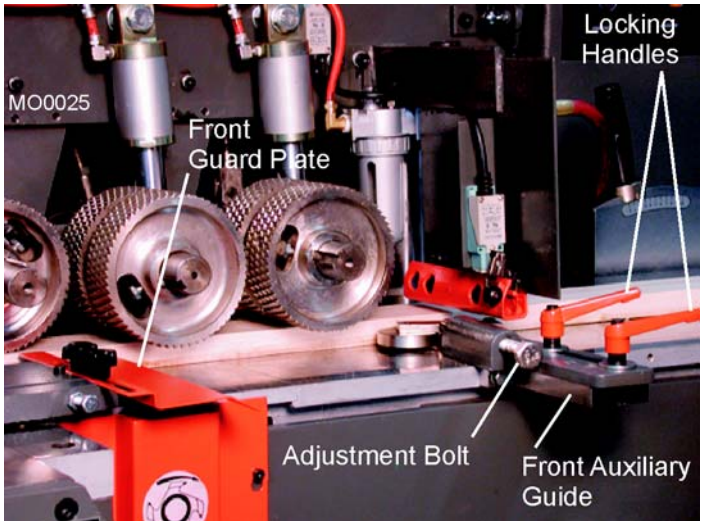



***FIG. 3-22***

**See Figure 3-23.** To adjust the rear guide, loosen the lock handles and slide the assembly in or out so the guide contacts the side of the workpiece.

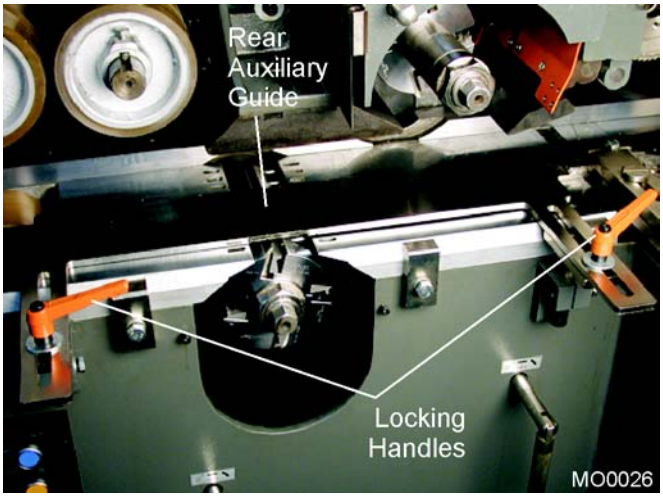



***FIG. 3-23***

# SECTION 4 OPERATION

## 4.1 Control Description

**See Figure 4-1.** The main control panel is located at the front of the machine.


***FIG. 4-1***

**See Table 4-1.** A description of each control button on the main panel is provided below.

| Button/Light | Description |
|---|---|
| Power Lamp | Illuminates when power is supplied to the machine. |
| Overload Lamp | Illuminates when an overload condition is detected at any of the cutting heads. |
| UP | Push this button to raise the upper head assembly. |
| DOWN | Push this button to lower the upper head assembly. |
| Feed Stop | Push this button to stop feeding material into the machine. |
| Feed On | Push this button to start feeding material into the machine. |
| Jog Forward | Use this button to feed material forward a short distance and stop. |
| Jog Backward | Use this button to feed material backward a short distance and stop. |
| Emergency Stop | Push to shut down the machine. Pull and turn the knob to release the stop before restarting the machine. |

***TABLE 4-1***

| | |
|---|---|
| 1 - 5 | Starts cutting heads 1 - 5. Push the green start button to start the corresponding cutting head. Push the red stop button to stop the corresponding cutting head. |

***TABLE 4-1***

**See Figure 4-2.** Auxiliary controls are located at the rear of the machine. The Emergency Stop and Feed control buttons operate exactly the same as the buttons on the main control panel described above.


***FIG. 4-2***

## 4.2 Preparing For Operation

**WARNING!** Turn off the machine and lock out the electrical supply before performing service or maintenance to the machine. Consider all electrical circuits energized and dangerous. Never assume or take the word of another person that the power is off; check it out and lock it out. Failure to do so may result in serious injury.

1. Wipe the protective oil from machined surfaces.

2. Be sure the electrical power supply is OFF. Install the blades and make adjustments as described in the previous section (*See SECTION 3*).

3. Turn the blades manually to see if the blades touch other parts. Make adjustments as necessary.

## 4.3 Test Run

**DANGER!** Make sure all guards and covers are in place and secured before operating the machine. Remove all loose objects from the machine before operating. Failure to do so may result in serious injury.

**DANGER!** Make sure all adjustable components are tightened securely and the blades turn freely before starting the machine. Failure to do so may result in serious injury.

**DANGER!** Maintain a clean and clear path for all necessary movement around the machine and lumber stacking areas. Failure to do so will result in serious injury.

**WARNING!** Secure all loose clothing, jewelry and long hair before operating the machine. Failure to do so may result in serious injury or death.

**WARNING!** Always wear eye, ear, respiration, and foot protection when operating or servicing the machine.

**WARNING!** Use the appropriate feed wheel and adjust it properly for the material being processed.

**WARNING!** Inspect the material to be worked for embedded objects such as stones or nails. Feeding material with such objects may cause severe personal injury.

**WARNING!** Keep all persons out of the path of material being fed into the machine. Failure to do so may result in serious injury.

1. Turn the electrical power supply ON and start each cutting head. Allow at least three seconds between startup of each cutting head.

2. Adjust the infeed speed to low and feed in the wood material.

3. Pay close attention to the action of every part. If there are any abnormal conditions, turn off the machine immediately. If adjustments are necessary, turn the machine off and lock out before making adjustments.

4. After all components are adjusted as desired, increase the feed speed as allowed by the material being processed.

5. When the operation is finished, turn the machine off. Disconnect the air supply to the machine, attach an OSHA approved nozzle and blow all sawdust from the moulder.

**WARNING!** Do not leave the machine running. Turn the machine off and allow it to come to a full stop before leaving the site. Failure to do so may result in serious injury.

# SECTION 5 LUBRICATION AND MAINTENANCE

**See Table 5-1.** Lubricate the machine as instructed in the table. Keep the surface of the machine clean, and keep all the rails clean.

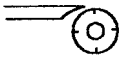
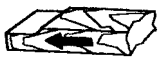
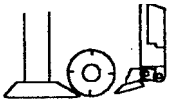
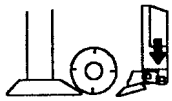
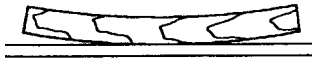
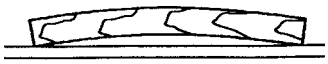
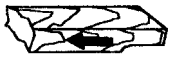
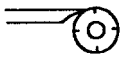
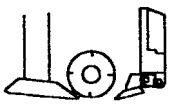
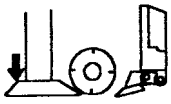
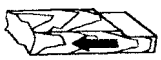
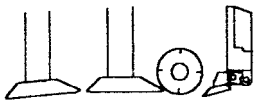
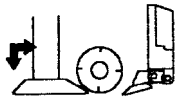
**WARNING!** Turn off the machine and lock out the electrical supply before performing service or maintenance to the machine. Consider all electrical circuits energized and dangerous. Never assume or take the word of another person that the power is off; check it out and lock it out. Failure to do so may result in serious injury.

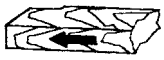
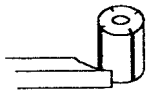
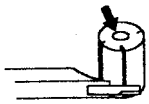
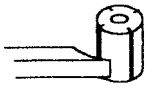
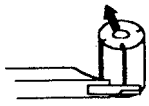
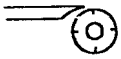
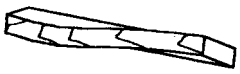
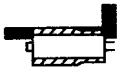
| Lubricated Parts | Suggested Lubrication Oil | Regularity of Lubrication |
|---|---|---|
| Outer Surface of All the Rollers | Machine Oil N46 | Once Every Three Shifts |
| Fine Rods of Horizontal Axes, Screws | Machine Oil N46 | Once Every Three Shifts |
| Rails of Horizontal Axes | Machine Oil N46 | Once Every Three Shifts |
| Fine Rods of Vertical Axes, Screws | Machine Oil N46 | Once A Week |
| Axle Bearings of Horizontal Axes | Grease ZG-3 | Once Every Six Month |
| Fine Rods for Vertical Axes, Screws, Nuts | Machine Oil N46 | Once A Week |
| Rails of Vertical Axes | Machine Oil N46 | Once Every Three Shifts |
| Axle Bearings for Vertical Axes | Grease ZG-3 | Once Every Three Months |
| Axle of the Front Guiding Board | Machine Oil N46 | Once every Three Shifts |
| Column for Infeed | Machine Oil N46 | Once Every Three Shifts |
| Turbine Tank | Industrial Gear Oil N460 | Once A year |
| Infeed Speed Reducer | Industrial Gear Oil N460 | Once Every 4000 Hours |
| Axles of Infeed Rollers | Machine Oil N46 | Twice A Shift |
| Axle for the front pressing board of left vertical Blade | Machine Oil N46 | Once A shift |
| Axle for the front pressing board of upper horizontal axes | Machine Oil N46 | Once A shift |
| Rail for the back pressing board of upper horizontal axes | Machine Oil N46 | Once A shift |

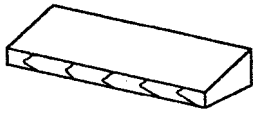
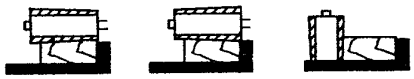
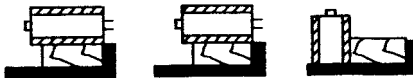
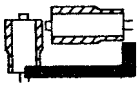
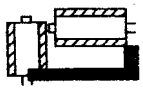
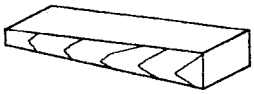
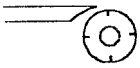
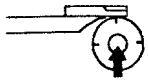
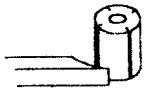
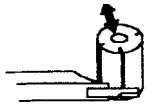
***TABLE 5-1***

# SECTION 6 TROUBLESHOOTING

## 6.1 Problems to the Processed Items and Remedies

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| **Defects at the Lower Part of the Infeed Wood Material** | Over-low position of the Horizontal Blade, or the Blade is blunt | Adjust the Blade Upward, or Sharpen the Blade |
|  |  |  |
| **Defects on the Upper Part of the Infeed Wood Material** | a. Over-high Position of the Front Pressing Board of the Upper Blade Axis | a. Adjust the Front Pressing Board Lower |
|  |  |  |
| | b. Wood Material is crook. | b. Keep the concave side downward. |
| |  |  |
| **Defects on the Lower Side of the Outfeed Wood** | a. Over-High Position of Lower Blade Axis | a. Adjust the Blade Downward |
|  |  |  |
| | b. Back Pressing Board of the Upper Blade Axis Not at Parallel Position. | b. Keep the pressing Board Parallel With the Platform |
| |  |  |
| **Defects on the Upper Side of the Outfeed Wood** | Back Pressing Board of the Upper Blade Axis Not at Parallel Position. | Keep the pressing Board Parallel With the Platform |
|  |  |  |

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| **Defects on the Right Side of the Infeed Wood Material** | Over Back Position of the Blade | Adjust the Blade forward, and Keep It at the Same Level with the Board |
|  |  |  |
| **Defects on the Right Side of the Outfeed Wood** | Over-forward Position of the Blade | Adjust the Blade Backward, and Keep It at the Same Level with the Board |
|  |  |  |
| **The processed item crook upward or downward, when being planed** | Over-low or high position of the blade, or the blade is blunt. | Adjust the blade to the parallel position of the platform, or sharpen the blade. |
|  |  |  |
| **Processed item twisted** | a. Infeed roller shifted to one side or the other, or the different thickness of the item make the rollers give different pressures. | a. Adjust the roller to the middle point of the processed item. |
|  |  |  |
| | b. Blade is blunt due to processing wood materials of the same width for quite some time. | b. Sharpen the blade. |
| |  | |

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| **The sides on the width direction not parallel** | a. Blade not parallel with the platform or the ruler. | a. Make renewed adjustment to the blade |
|  |  |  |
| | b. One of the blades are seriously blunt. | b. Sharpen the blade |
| |  |  |
| **The sides on the length direction not parallel** | Over-low position of the horizontal blade | Adjust the blade upward |
|  |  |  |
| **The two sides on the length direction not parallel** | Blade deviated from the board. | Make adjustment to the blade, and keep it close to and parallel with the board. |
|  |  |  |

## 6.2 Mechanical Problems

| Problems | Causes And Remedies |
|---|---|
| 1. The wood materials can not be feed in, or stopped after feeding in, or can not be fed in smoothly. | A) Examine the electric layouts and electric machine.<br>B) Check if the wheels and chain to the speed transformer work normally.<br>C) Check if the button of the infeed speed reducer has been out of place.<br>D) Check if the gimbal is crook or broken.<br>E) Check the pressure of Infeed Roller and the pressed depth correct or not. |
| 2. The complete infeed structure can not move up or down. | A) Check the buttons (SQ2, SQ3,SQ4 for lower down, SQ! for lifting up), and motor.<br>B) Check if the button of the Up & Down speed reducer is out of place.<br>C) Check the nuts of the up & down device have been worn or torn.<br>D) The infeed beam is in touch with the switch of the axle of the upper blade. Slightly lower down the axle. |
| 3. Too Noisy | A) Check the tear and wear of all the bearings.<br>B) Check if the blades are properly installed. |
| 4. Strange noise in the motor when it is being started. | A) Overload of the motor.(remove the causes for the overload)<br>B) The motor is running with incomplete phases.<br>C) Relay malfunction. (Check the relay) |
| 5. Power indicator not on. Electric machine can not run. | A) Check if there are three phases.<br>B) Check if FU is broken, and the output of the transformer is 220V.<br>C) Check if the button SB11 and SB12 are all turned on, and if the overload indicator HL11 is on. |

# SECTION 7 SPECIFICATIONS

**See Table 7-1.** Specifications for 4015x5/4020x5 Models:

| Specification | Model 4015x5 | Model 4020x5 |
|---|---|---|
| Machine Dimensions | 116” L x 58” W x 61” H (2.95m x 1.48m x 1.56m) | 126” L x 60” W x 61” H (3.2m x 1.54m x 1.55m) |
| Maximum Material Capacity | 5.90” W x 3.93” H (150mm x 100mm) | 7.875” W x 3.93” H (200mm x 100mm) |
| Minimum Material Capacity | .7” W x .32” H (18mm x 8mm) | 1” W x .32” H (25mm x 8mm) |
| Front Platform Length | 52 3/4” (1340mm) | |
| Feed Speed | Up to 80 ft. (25m) per minute | |
| Electrical Requirements | 230V 60Hz, 460V 60Hz or 380V 50Hz (All 3 Phase) | |
| Weight | Approximately 3520 Lbs. (1600 Kg) | |
| Top Spindle Motor | 10 HP (7.5kW) | |
| Side/Bottom Spindle Motors | 7.5 HP (5.5kW) | |
| Spindle RPM | 6000 | |
| Spindle Bearings | 40mm FAG (Germany) | |
| Cutter Blocks | 40mm x 125mm diameter | |
| Cutter Knives (Corrugated) | High-Speed Steel (Replacements, re-grinding, or profiles available from Wood-Mizer) | |
| Required air flow for dust removal | 5000 cfm (100m3) | |

***TABLE 7-1***

**See Table 7-2.** Specifications for M485SP Models:

| Specification | Model M485SP |
|---|---|
| Machine Dimensions | 126” L x 60” W x 61” H (3.25m x 1.54m x 1.56m) |
| Maximum Material Capacity | 7.875” W x 3.93” H (200mm x 100mm) |
| Minimum Material Capacity | 1” W x .25” H (25mm x 6mm) |
| Front Platform Length | 52 3/4” (1340mm) |
| Feed Speed | 5 to 25m per minute |
| Electrical Requirements | 230V 60Hz, 460V 60Hz or 380V 50Hz (All 3 Phase) |
| Weight | Approximately 5958 Lbs. (2700 Kg) |
| Top Spindle Motor | 10 HP (7.5kW) |
| Side/Bottom Spindle Motors | 7.5 HP (5.5kW) |
| Spindle RPM | 6000 |
| Spindle Bearings | 40mm FAG (Germany) |
| Cutter Blocks | 40mm x 125mm diameter |
| Cutter Knives (Corrugated) | High-Speed Steel (Replacements, re-grinding, or profiles available from Wood-Mizer) |
| Required air flow for dust removal | 5000 cfm (100m3) |

***TABLE 7-2***

# SECTION 8 ELECTRICAL INFORMATION

## 8.1 Electrical Schematics

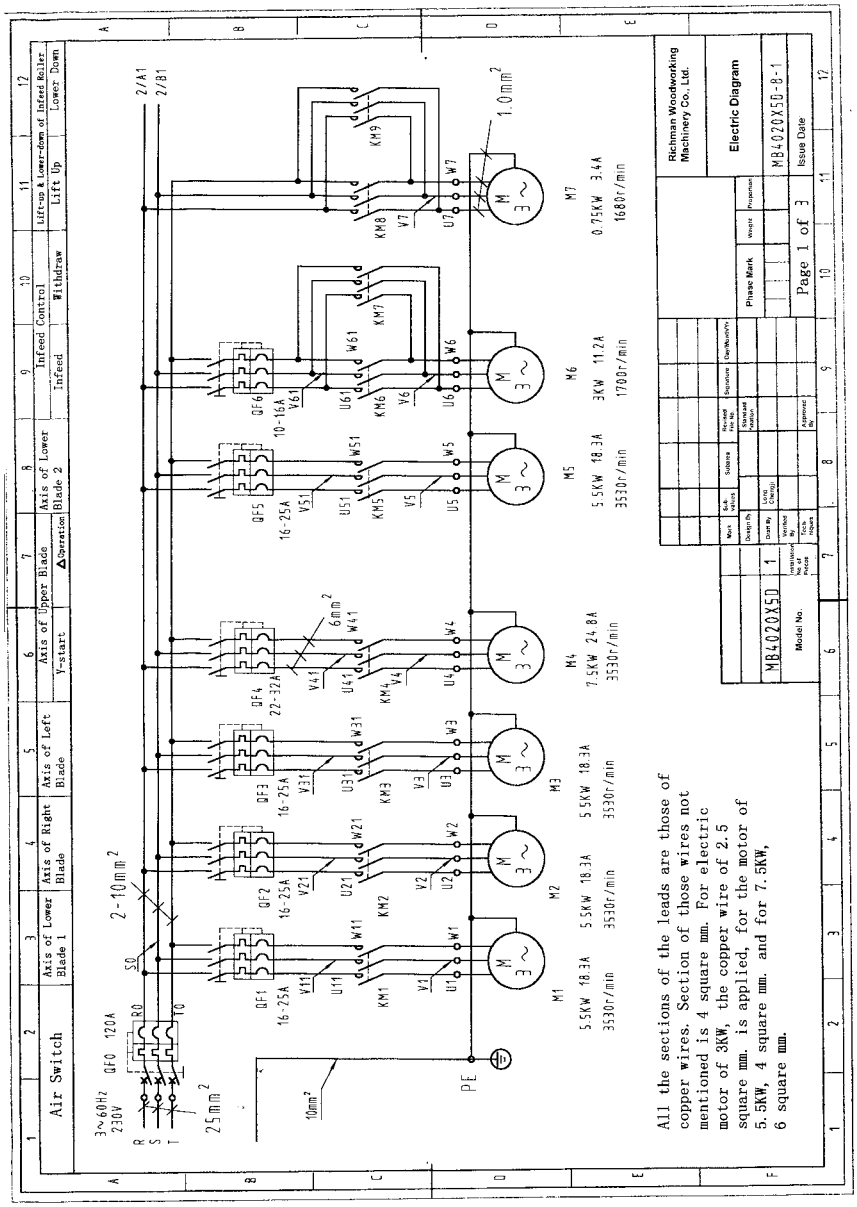



***FIG. 8-1 (PAGE 1 OF 3)***

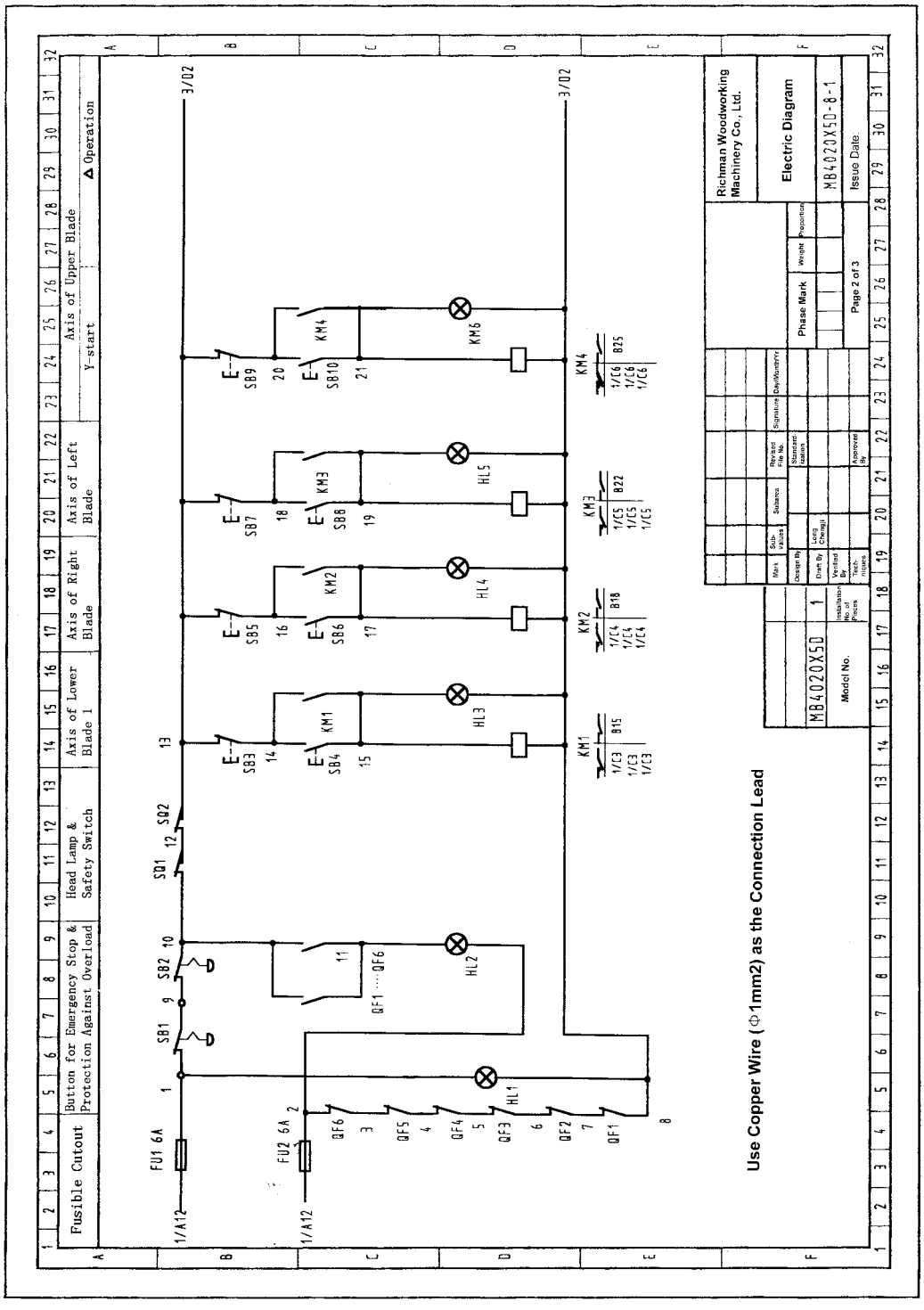



***FIG. 8-1 (PAGE 2 OF 3)***

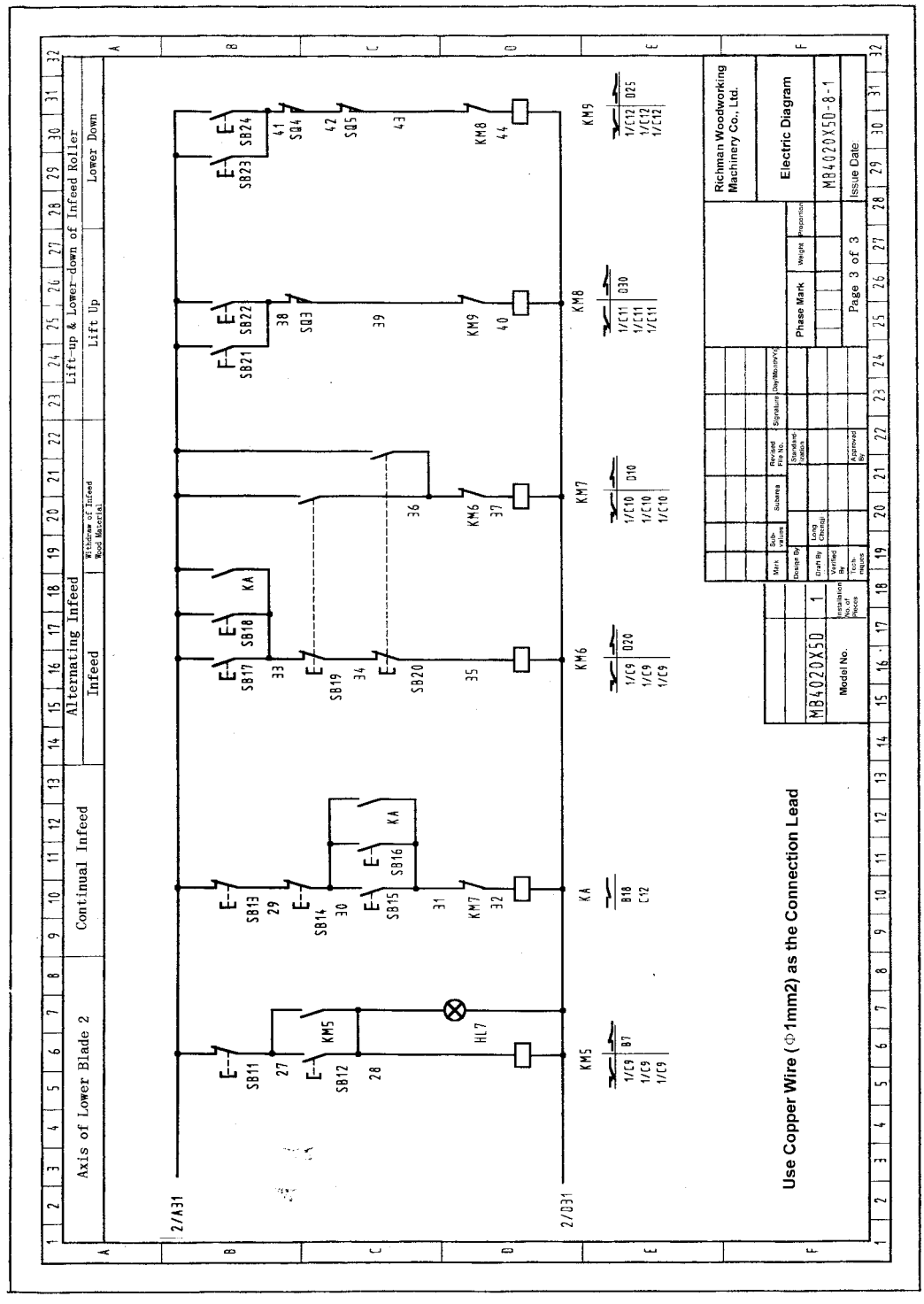



***FIG. 8-1 (PAGE 3 OF 3)***

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