BAKER Products

Baker Double Notcher™ User Manual

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INTRODUCTION

Thank you and congratulations on the purchase of your new ***Baker Double Notcher***. It has been designed to be durable, productive and easy to use. When properly ran and maintained, it will provide you with many years of profitable operation.

For safety reasons, and for your own best use of the ***Baker Double Notcher***, we insist that you read this manual fully, and constantly review and refer back to it as necessary.

No one should attempt to operate or perform maintenance on this equipment until they have taken the time to read and understand the information contained in this manual.

**** FAILING TO DO SO MAY RESULT IN SERIOUS INJURY ****

Machine Purpose

The ***Baker Double Notcher*** was designed and manufactured for high production, capable of 4,000 pusher cycles per hour.

Machine Function

Your ***Baker Double Notcher*** is equipped with a quick infeed descrambler, enclosed table for operator protection, replaceable cutter tips and 10-inch exhaust duct. Easily accessible and simple to use hand cranks allow for quick and accurate cutter head positioning and notcher depth setting.

Definition of Terms

All Stop	Safety button (typically “red”) designed to immediately shut-down machine operation
Board Foot or Board Feet	A form of measurement where one board foot equals the volume of a board 1 inch thick by 12 inches wide and 12 inches long (1” x 12” x 12” = 1 board foot)
CFM (cubic feet per minute)	A measure of the volume of a substance flowing through air within a fixed period of time
Chip Breaker	A secondary blade fitted above or behind the cutting edge and used to dampen vibration and deflect shavings up and through the escape
Descrambler	A conveyor system that arranges and positions boards for sequential feeding into a processing station, such as the Baker double notcher
Edge Guide	A straight edge that is used to guide a 3-sided flitch along a piece of material
End Stop	A mechanism designed to stop the progress of an off-loading board
Fence (Arm)	A straight guide used to keep a log, cant or board a set distance from a blade or cutter
Infeed	The side of the machine where the work piece (stringer, board, etc.) enters
Insert	An interchangeable carbide cutter (insert) that is used on an indexable cutter head assembly to create a notch in a stringer to allow fork tine entry
Lockout / Tagout	Requires authorized employee(s) to lock and tag the energy-isolating device(s) to prevent the release of hazardous energy in order to prevent injury to employees, normally while performing maintenance or repairs
Notch	A cutout in the lower portion of the stringer to allow for fork tine entry
Notched Stringer	A stringer with two notches spaced for fork tine entry
Off-load	The side of a machine where the work piece (stringer, board, etc.) exits
Production Rate	A produced or processed quantity measure with respect to another measured quantity of time; for example number of boards per minute, board feet per hour, per day, per week, etc.
Radius End Cutter Disc	A circular shaped carbide cutter that is used on the outside corner of an indexable cutter head assembly to create a rounded edge of the notch
Schematic	A structural or procedural diagram, typically of an electrical or hydraulic system
Stringer	A continuous, longitudinal, solid or notched beam component of the pallet used to support deck components

Manual Contents Notice

This manual is not totally comprehensive. It does not and cannot convey every possible safety and operational problem that may arise while using this machine. The manual will cover many of the basic and specific safety procedures needed in an industrial environment.

All federal and state laws and any regulations having jurisdiction covering the safety requirements for use of this machine take precedence over the statements in this manual. Users of this machine must adhere to such regulations.

Machine Specifications and Requirements

Power
- (Two) 30 HP (22 kw) TEFC Motors (one per cutter head)
- 1 HP (.75 kw) TEFC Motor for descrambler

Operating Air Pressure
- 120 psi 1/2" (13mm) 30 CFM

* Pushers are air driven with electrical controlled travel limit switches

Cutting Capacity

Material Size:
- 2x4's; 4x4's; 4x6's length
- 28 in up to 76 in (71 cm to 193 cm) standard

Notch Depth
- 0" (0 mm) min.
- 3" (76 mm) max.

Notch Length
- 9" (229 mm) standard

Dimensions & Weight

Length: 90" (229 cm)

Width: 101" (256 cm)

Height: 78" (198 cm)

Table-top Height: 35" (89 cm)

Weight: 4,000 lbs (1,814 kg)

Production Rate
- Pusher cycles 4,000 per hour

Cutters
- (Two) 12" (305 mm) diameter x 9" (229 mm) long with indexable, replaceable tips in 1/2" (13mm) segments - standard

Arbors
- (Two) 2 ½" (64 mm) diameter x 10" (254 mm) long

Sawdust Removal
- 10" (254mm) outlet; min. 3,600 CFM suction recommended at dust removal chute

Warranty

Ellington Industrial Supply, Inc. machinery is warranted against defects in material or workmanship starting from the date of shipment from the manufacturing plant.

This warranty is given solely to the “original purchaser” of the equipment and is in no way to be expressed or implied that it is transferable to any other parties without the written consent and approval from the CEO or Sales Manager of Baker Products.

Our one (1) year warranty period covers all items built at our manufacturing facilities including structural frame, cowlings, doors, shafting, dust chutes and guards.

We honor six (6) months of warranty coverage for miscellaneous vendor-purchased-supplied items including bearings, chain, sprockets, hydraulic components, etc.

Ninety (90) days of warranty coverage is provided on all electrical parts. All electrical components and wiring has been installed in accordance with the National Electrical Code (NEC) of the United States of America.

Ellington Industrial Supply, Inc. does not warranty this machine to meet any other requirements or jurisdiction of any electrical or safety codes of any other state, municipality, other country or jurisdiction The purchaser assumes all risk and liability whatsoever resulting from the use thereof whether used singularly or in conjunction with other machinery or apparatus, including, but not limited to, all matters resulting from sawdust generation.

Note: *No warranty is provided on any electrical components or parts if equipment is powered or connected to a roto-phase electrical converter in order to create a three phase power supply for operational current from a single phase source.*

Any change in materials, design, or performance intended to improve any product of Ellington Industrial Supply, Inc. shall not obligate Ellington Industrial Supply, Inc. to modify any previously manufactured equipment.

This manual may contain details that if not properly followed can affect the performance of your equipment. You are responsible for proper use and maintenance of your equipment and we reserve the right to deny warranty work if deemed to be caused by a lack of proper maintenance or negligence by the owner or any of their employees.

Defective Parts

Parts claimed defective must be returned freight prepaid, to our plant in Ellington, Missouri. Any part determined defective due to faulty workmanship or materials will be replaced or repaired (at our option) free of charge, F.O.B. our plant. This warranty does not cover expendable items (i.e. drive belts, index-able cutter head inserts, chip breakers, wedge blocks or mounting hardware, etc.). Except as expressly provided herein, this warranty is in lieu of all other warranties, expressed or implied, including a warranty of merchantability or fitness for a particular purpose. This warranty is "void" if any part of the unit has been tampered with, modified, altered, or operated with parts other than supplied or recommended by Ellington Industrial Supply, Inc. In no event shall Ellington Industrial Supply, Inc. be liable for special, indirect, incidental or consequential damages, however arising, including but not limited to, the loss of earnings or the cost of downtime.

Service Policy

In the event that you have any problems, call us at (573) 663-7711 any time between 8:00 AM and 5:00 PM (CST), Monday through Friday. A member of our trained staff will answer any questions you may have. We charge nothing for this service.

The only charge is for replacement parts not covered by warranty or after our inspection we deem that the problem is due to operator error or lack of proper maintenance or neglect.

If it is necessary for a member of our service department to visit your plant at your request, there will be a charge for this service. Call our service department for current prices.

Retain this Information for your Records

Model Number: .....
Serial Number: .....
Date of Purchase: .....
Power Source:.....
Dust Removal: .....

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RULES FOR SAFE OPERATION

The purpose of safety symbols and signage is to draw your attention to real or possible hazardous conditions that may exist when operating this equipment. Please remember that safety symbols and signage alone do not eliminate danger and are not substitute for proper training and education regarding operational hazards.

	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, will result in death or serious injury.
	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	This warning provides notice and instruction regarding a potentially hazardous situation, which, if not avoided will result in serious injury or death.

SAFETY EXPECTATIONS FOR OPERATING POWER EQUIPMENT

ALWAYS…

- *ENSURE THAT TRAINED PERSONNEL OPERATE, MAINTAIN AND REPAIR THIS EQUIPMENT*
- ***TURN POWER OFF AND LOCKOUT / TAGOUT PRIOR TO PERFORMING MAINTENANCE***
- *KEEP WORK AREA CLEAN AND WELL LIGHTED TO MINIMIZE OR ELIMINATE HAZARDS*
- *KEEP CHILDREN AND VISITIORS AWAY FROM OPERATING EQUIPMENT*
- *OPERATE THE EQUIPMENT AT THE RATE IT WAS DESIGNED FOR*
- *KEEP GUARDS IN PLACE WHEN OPERATING EQUIPMENT*
- *REMOVE TOOLS BEFORE RESUMING OPERATION*
- *USE PROPER EXTENSION CORD*
- *WEAR PROPER APPAREL AND AVOID LOOSE CLOTHING AND ACCESSORIES THAT COULD GET CAUGHT IN MOVING PARTS*
- *ALWAYS WEAR SAFETY GLASSES AND HEARING PROTECTION*
- *AVOID "KICK-BACK" BY KNOWING WHAT CONDITIONS CAN CREATE IT*
- *CHECK DAMAGED PARTS AND REPAIR OR REPLACE THEM IMMEDIATELY*

NEVER…

- *LEAVE MACHINERY RUNNING OR UNATTENDED, ALWAYS TURN POWER OFF*
- *OPERATE EQUIPMENT WHEN TIRED, FATIGUED OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL*
- *ALLOW UNTRAINED PERSONNEL TO OPERATE, MAINTAIN OR REPAIR THIS EQUIPMENT*

No list of safety expectations can ever be complete as every work environment is as different as are the people operating the equipment.

Always keep safety as your highest priority and always use this machine with caution and respect.

Control of Hazardous Energy – (Lockout / Tagout)

Lockout / Tagout (LOTO) refers to specific practices and procedures to safeguard employees from the unexpected energy, startup of machinery/equipment, or the release of hazardous energy during service or maintenance activities.

This requires that a designated individual turn off and disconnect the machinery/equipment from its energy source(s) before performing service or maintenance and that the authorized employee(s) lock and tag the energy-isolating device(s) to prevent the release of hazardous energy and take steps to verify that the energy has been isolated effectively.

List of Related Terms

Affected Employee	An employee whose job requires them to operate a machine or piece of equipment on which service or maintenance is being performed.
Authorized Employee	A person who locks or implements a tagout system procedure on machines or equipment to perform service or maintenance on that machine or equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing service or maintenance.
Energy Source	Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
Lockout	The placement of a lockout device (such as a lock) on an energy-isolating device, in accordance with an established procedure that ensures the device and the equipment cannot be operated until the lockout device is removed.
Servicing and / or Maintenance	Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment, and making adjustments or tool changes where the employee may be exposed to the unexpected energy, start-up of equipment or release of hazardous energy.
Tagout	The placement of a tagout device (such as a tag) on an energy-isolating device, in accordance with an established procedure that ensures the device and the equipment may not be operated until the tagout device is removed.

Example of lockout tags, lockout hasp and keyed lock

The Fatal Five Main Causes of Lockout/Tagout Injuries

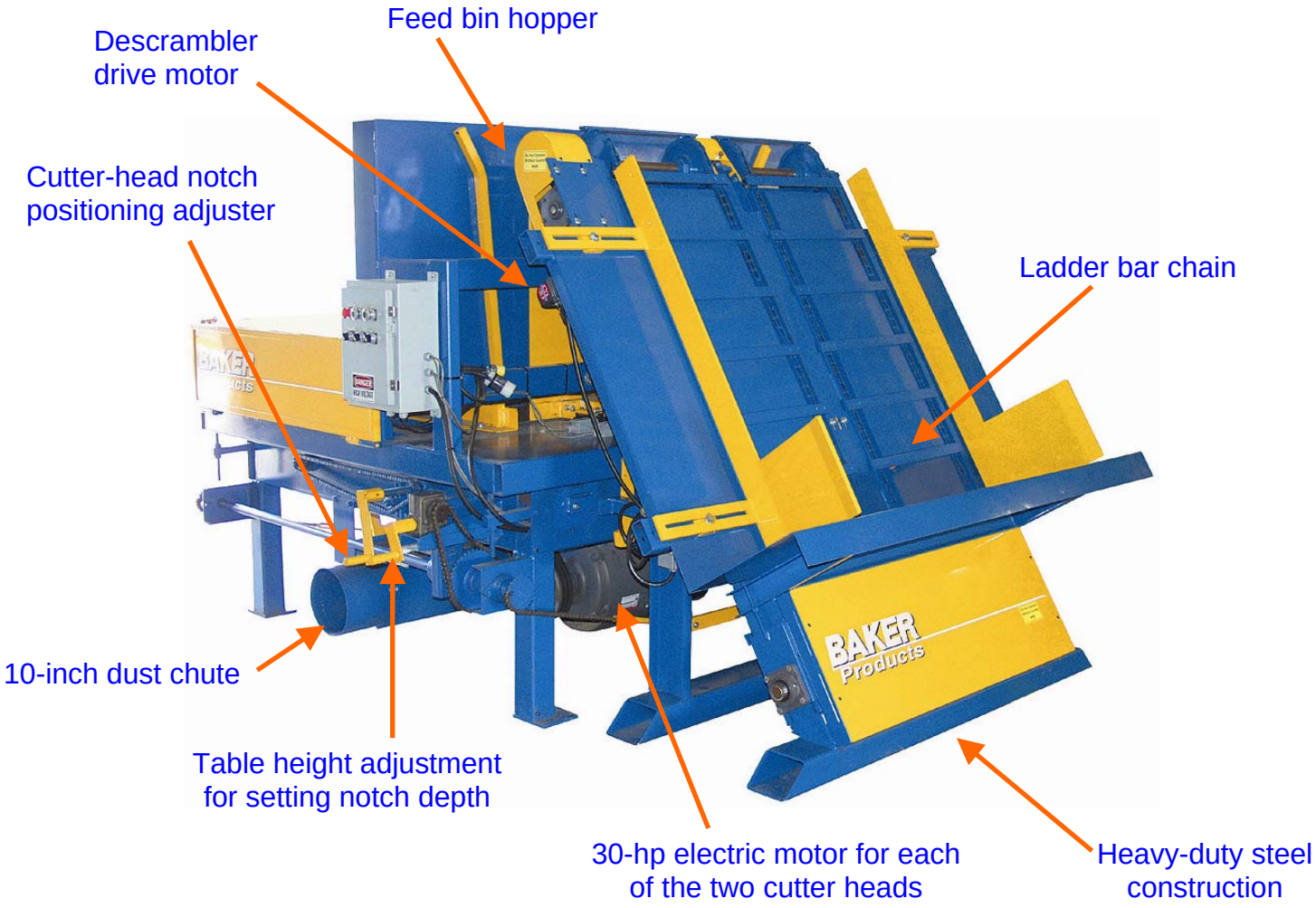
1. ***Failure to stop equipment***
2. ***Failure to disconnect from a power source***
3. ***Failure to dissipate (bleed, neutralize) residual energy***
4. ***Accidental re-starting of equipment***
5. ***Failure to clear work areas before re-starting***

Machine Safety Decals ** *Adhere to ALL Safety Warnings!* **

MACHINE FEATURES

We want to highlight the unique and special features of the ***Baker Double Notcher***.

- Heavy-duty steel construction
- Powerful electric motors, one per cutter head
- Air driven material “pusher” with electrical controlled travel limit switches
- Infeed un-scrambler keeps material flow steady while reducing labor
- Easy to set-up and simple to adjust
- Highly automated and extremely productive



Baker Double Notcher

SET-UP

Receiving and Inspection

- ❑ Upon receipt and prior to signing transport carrier's documents, conduct a walk-around and visual inspection of your new equipment. Note any damage in writing upon the carrier's bill of lading and contact us immediately.

Note: *All new equipment is assembled and thoroughly tested prior to shipment, however damage may occur during transit, which could cause the machine to not operate correctly during start-up.*

Unpacking

- ❑ If machine was delivered via flatbed trailer or container, remove straps or chains securing it in place.
- ❑ Remove lag screws, strapping, etc. that attaches the machine to the deck.
- ❑ Transport machine to the installation site.

Machine Positioning (*Placement, Leveling, Alignment*)

- ❑ For optimum performance, designate a solid and level foundation that is covered and dry, free of environmental elements such as rain or snow that could cause electrical or slip hazards.
- ❑ We recommend you anchor the machine to the floor with the bolts in the foot pads.
- ❑ Provide a minimum of 3 feet of clear workspace in front of the electrical panel.
- ❑ Provide a minimum of 15 feet of clear workspace in front of in-feed and off-load areas.

Power and Utilities Requirements

- ❑ For safe and effective operation confirm your incoming voltage and available amperage is equal to what the machine has been wired for at the factory.

- ➢ ***A qualified electrician should complete electrical connections and check for correct motor directional rotation.***

- ❑ Ensure all wiring, electrical connections and air hoses are located in a safe position and away from any hazardous conditions.
- ❑ Proper cutter rotation should be toward infeed of machine (front).
- ❑ The "pusher" air pressure should be set at 120 psi.
- ❑ Efficient dust and chip removal requires a minimum of 3,600 CFM suction at the machine dust removal chute. This is an end user/owner responsibility.

Note: *Failure to provide proper vacuum or suction may result in damage to machine or operations personnel.*

Operator Training

- ❑ According to many OSHA, ANSI, STATE, and LOCAL CODES, it is the EMPLOYER'S RESPONSIBILITY to:
  - ➢ Permit only trained and authorized employees to operate and maintain equipment.
  - ➢ Inspect and maintain guards, safety devices and start/stop controls.
  - ➢ Instruct, train and supervise the safe method of work.

- ❑ Be sure personnel are properly trained and safety rules are clearly understood before operating or performing maintenance.

  - ✓ **Operator**
  - ✓ **Machine**
  - ✓ **Guards**
  - ✓ **Devices**
  - ✓ **Instructions**

All five (5) of these listed items together make up the safety system. Failure of any one of these factors will increase accident potential.

FREE TRAINING ON PROPER SET-UP AND OPERATION IS AVAILABLE ON SITE AT THE MANUFACTURER'S FACILITY

OPERATION
Operator Control Station
Prior to cycling any controls, ensure the area is clear of personnel and obstructions. Make certain anyone required to work near the notcher is aware that the machine is in operation.

***** It is the operator's responsibilities to ensure these safety conditions exist *****

Descriptions
- **All Stop** - Button designed to immediately shutdown machine operation.
- **Saw # 1** - Activates the first cutter head when illuminated.
  Note: *This is a 3-position switch that you must pull all the way up momentarily to start the motor.*
- **Saw # 2** - Activates the second cutter head when illuminated.
  Note: *This is also a 3-position switch like Saw # 1 that requires you to pull it all the way up momentarily to start the motor.*
- **Feed On / Off** – Activates or de-actives the pusher.
- **Descrambler On / Off** – Activates or de-activates the descrambler.
- **Jog On / Off** – When switched on, the pusher is held in the starting or retracted position.
  Note: *This function is used to allow the operator to remove jammed boards while the pusher mechanism is held back to clear.*

Figure 14

Adjusting the Table Top

Raising or lowering the tabletop is controlled by a table height adjuster crank handle, located on the left front side of the table on the in-feed end of the machine.

- ❑ To raise the tabletop, loosen the two (2) adjustment nuts on the holding bolts that are positioned on all four corners of the frame – eight (8) total.
- ❑ Turn the table height adjustor crank clockwise (a left to right motion) to raise the table's height.
- ❑ When raised to the desired height, position the holding bolts until they come in contact with the bottom of the table, using the two (2) adjustment nuts.
- ❑ To lower the tabletop, repeat the steps above, but turn the table height adjustor crank counter-clockwise (a right to left motion).
- ❑ Re-position the holding bolts and tighten the two (2) adjustment nuts located on each of the four corners – eight (8) total.

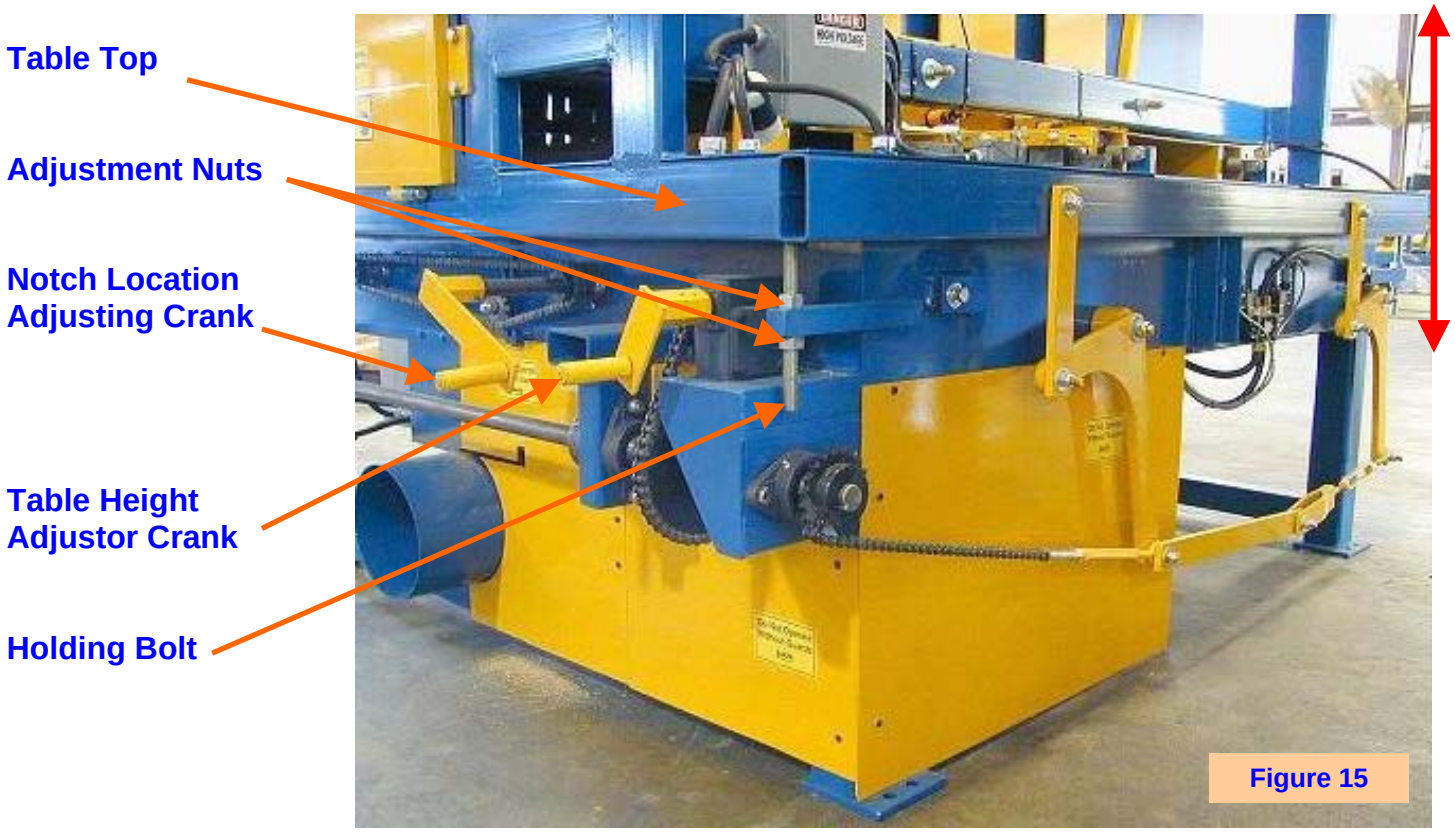


Figure 15

Adjusting for Notch Depth

The cutters can be moved so that notches can be made to the depth you desire.

- ❑ For deeper notches, move the four holding bolts down away from the tabletop and lower the table via the table height adjustor crank (***Figure 15****, page 15*).
- ❑ For shallower notches, raise the table height via the table height adjustor crank.
- ❑ After adjusting notch depth, move the four (4) holding bolts (one on each corner) so that they touch the bottom of the tabletop. These holding bolts fully support the table when completely lowered into the desired notch depth position. (***Figure 15****, page 15*).

Adjusting Notch Location

The cutters can be moved for notching in different locations along the length of the stringer.

- ❑ You will first need to raise the tabletop and ensure all wood is removed from the notcher prior to adjusting the cutters.
- ❑ Adjust cutter heads to desired notch spacing by turning the notch location adjustor crank on the side of the machine (***Figure 15,*** *page 15*).
- ❑ The hand crank moves both cutters simultaneously and spaces them the same distance apart, in or out, from the center of the machine.
- ❑ Once the cutters are positioned to the desired notch space setting, the weight bars should be arranged so that the center weight bar is centered between the cutter heads and the outer weight bars are centered directly over each cutter head (***Figure 16***).

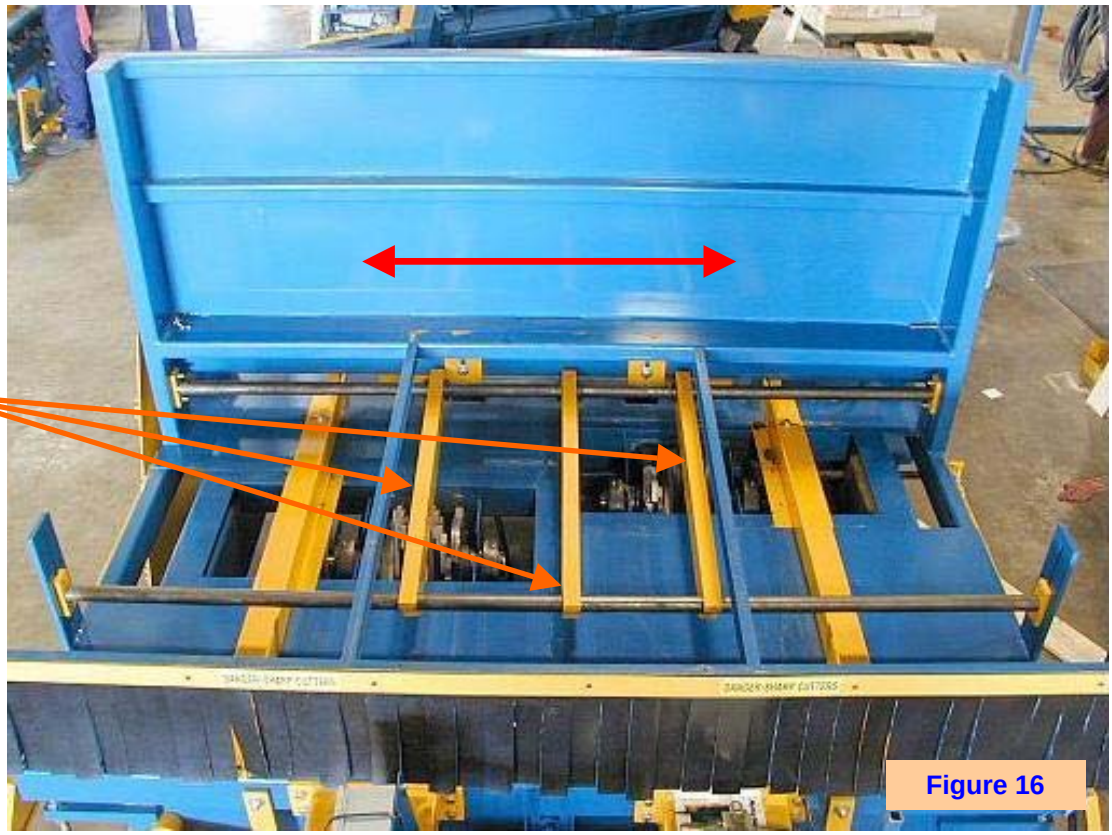


Figure 16

Adjusting for Material Length

The hopper guide rails are held in place by two (2) mounting bolts, one on each end of the guides – four (4) total.

- ❑ To adjust, loosen and remove the bolts.
- ❑ For longer material, move the guide rails outward or away from the cutter heads.
- ❑ For shorter material move the guide rails inward or toward the cutter heads.
- ❑ Once the desired setting has been made, secure the guide rails by inserting the mounting bolts and re-tightening them.

Note: *The guide rails should be set close to the edge of the material, but not disrupt material flow or create resistance.*

Figure 17

Adjusting for Material Height

The weight bars hold the material down so it is in contact with the table so that the exact sized notches can be cut. They must be adjusted for stringer/board height.

- ❑ Turn the machine off and lock-out / tag-out the electrical panel.
- ❑ Unlatch the two (2) protective side panels and lower.
- ❑ Unlatch and lift the two (2) top protective panels.
- ❑ Two shafts support the weight bars. Loosen the shaft holding nuts on both ends of the shaft (***Figure 18***).
- ❑ Insert a piece of material you intend to notch in front of the weight bars and move the shaft up or down so that the weight bars are set at the height of the material.
- ❑ Now, lower the shafts so that the tops of the weight bars are 1/2" (13mm) below the top of material to be notched. This will ensure constant pressure is applied to the material while processing.
- ❑ Retighten the shaft holding nuts on both ends of the shaft (***Figure 18***).
- ❑ Lower and latch the two (2) top protective panels and raise and latch the two (2) protective side panels.

Note: *These steps must be repeated every time stringer/board height needs to be changed.*

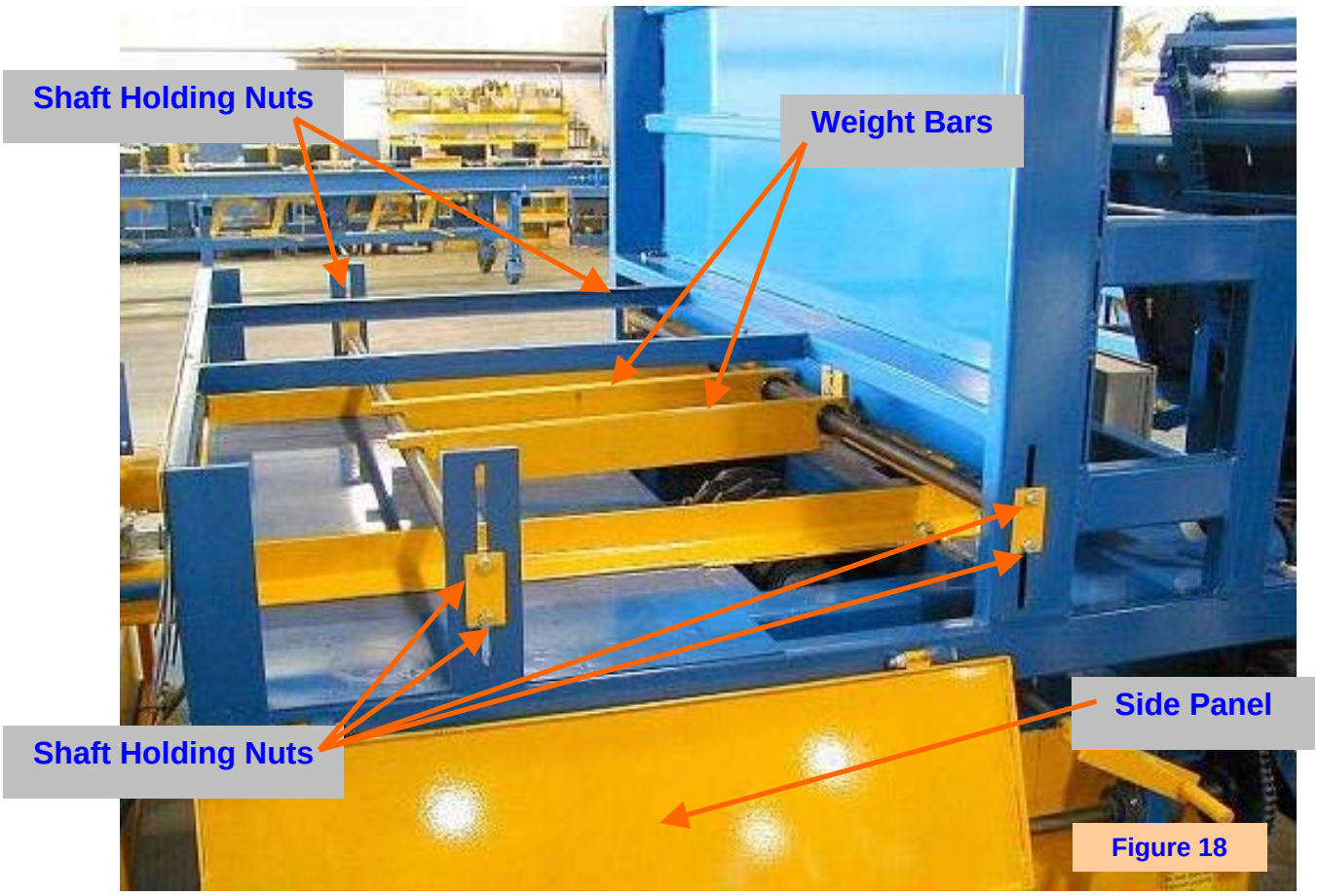


Figure 18

Adjusting the Width of the Material Bin Hopper

The material bin hopper allows both manual feed and optional descrambler feed to the pusher to produce notched stringers. Stringers are stacked singularly in the feed bin hopper.

- ❑ To properly set the material bin hopper depth, tighten or loosen the adjuster nuts accordingly.
- ❑ The opening between the bin and the backstop should be 1/2” (13mm) greater than the thickness of the material being fed in order to avoid jamming. For example, if the width of the material is 1 ½” (38mm), set the bin width or depth to 2” (50mm).

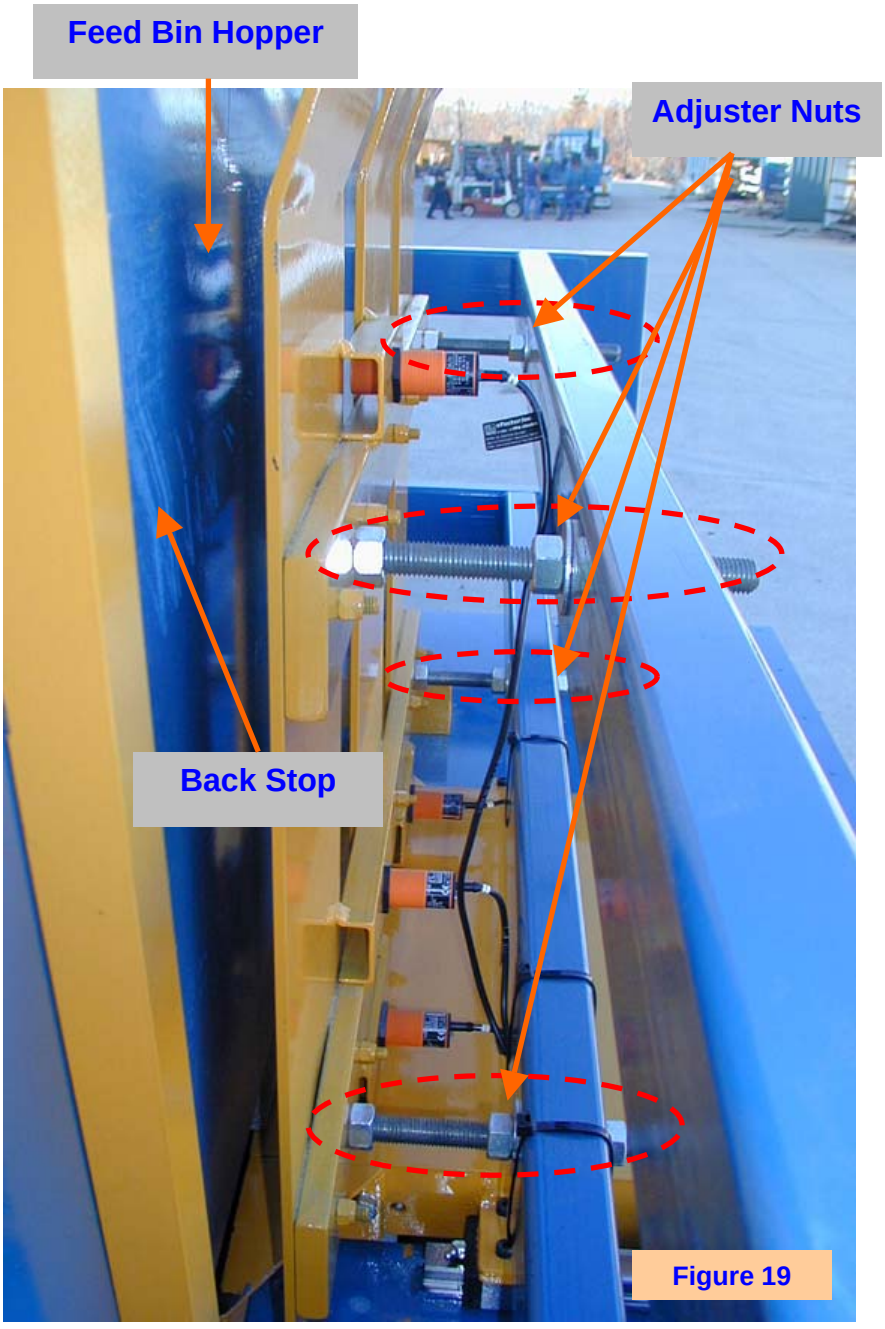


Figure 19

To Begin Processing Material

- ❑ Complete a visual inspection to ensure all guards/covers are in place and secure.
- ❑ Raise tabletop to clear cutter heads prior to starting motors.
- ❑ Turn on electrical power via the main electrical panel.
- ❑ Turn on air supply.
- ❑ Pull up on the ALL STOP button until it illuminates (**Figure 20**).
- ❑ Pull up on the SAW # 1 button to start the first cutter head. Wait until the motor starts and is running at full speed, then pull up on the SAW # 2 button to start the 2nd cutter head.
- ❑ Lower table top to the desired cutting position / depth.
- ❑ Turn the feed switch to the ON position.
- ❑ If your machine is equipped with a descrambler deck, turn the DESCRAMBLER switch to the ON position.
- ❑ Load the descrambler with material.

Note*: If you have a hopper feed, an arrangement of the proximity switches (**Page 21**) tells the conveyor to stop when a certain amount of wood is in the hopper. When the wood falls below a certain level, the conveyor will start feeding the hopper again automatically.*
Note: *Also always remember to raise the table when shutting off the motors.*

Figure 20

Proximity Switches

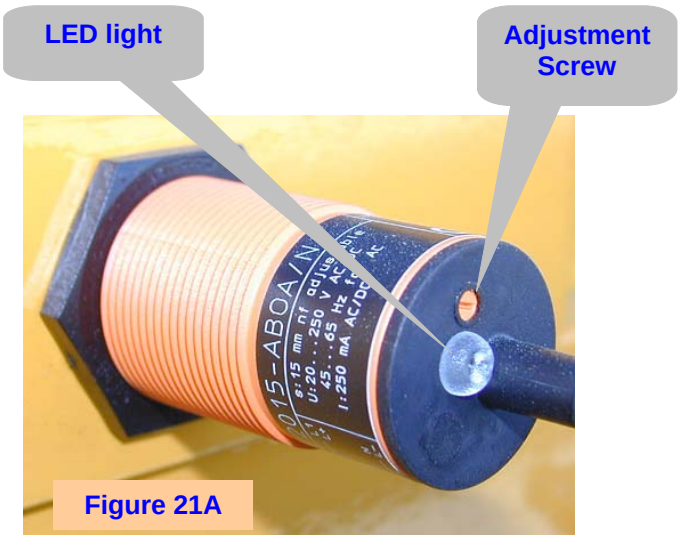
If you have a factory installed descrambler deck, there will be four (4) proximity switches attached to the support brackets (***Figure 21***). These switches communicate with the descrambler deck and work in sequence to monitor the amount of material in the hopper.

Switches 1, 2 and **3** must be activated before the notching cycle. **Switch 4** activates descrambler deck to start feeding stringers into the bin hopper and also functions as a low bin indicator. Once **switch 4** is activated, the descrambler will stop feeding the bin to prevent overflow.

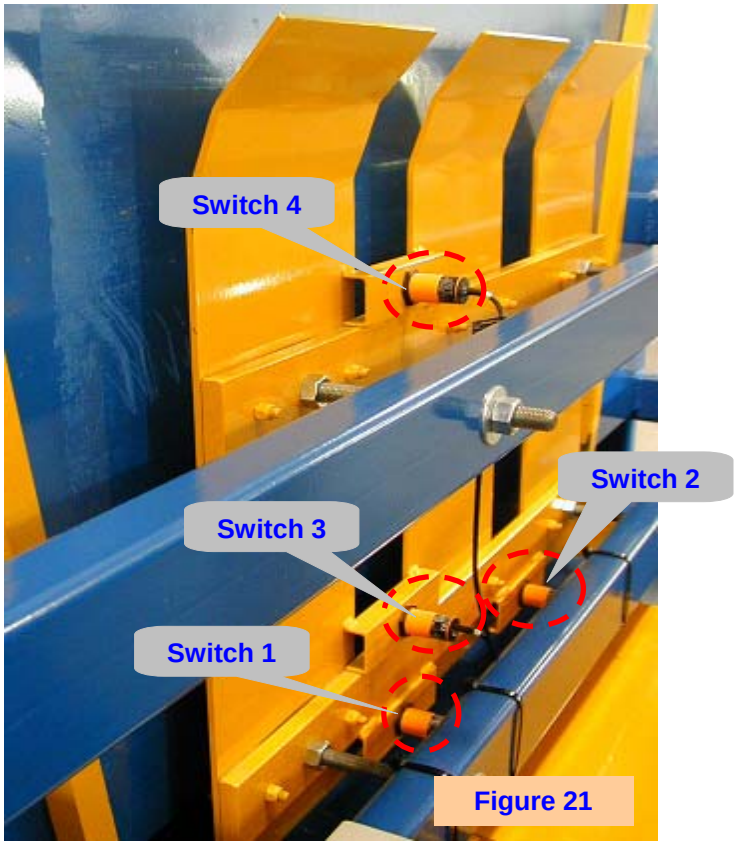
When the material drops below **switch 3** and **switches 1** and **2** do not sense any wood, the pusher will stop. When the bin is completely empty, material must be stacked high enough to activate **switch 3**. This ensures the material is positioned level and flat on the tabletop; eliminate the possibility of a jam.

To verify the system switches are working properly, check all four proximity switches for an illuminated LED (light emitting diode) (***Figure 21A***). If the LED's are illuminated, they are working properly and are sensing material. If they are not illuminated, simply adjust its position using the adjustment screw.

Caution: If an adjustment is necessary on **switches 1, 2** or **3** disconnect the air supply. Failure to do so may result in serious injury. The proximity switches should be positioned no more than ¼" (6mm) from the material.



Close Up View of Proximity Switch



Pusher Speed Adjustment

The pusher speed can be adjusted using a timer, located in the electrical panel. When the timer is functioning, an LED (light emitting diode) is illuminated.

At the factory, the range select dial is set at 9.99S as shown below (**Figure 22**). When the dial is in this position, it works with fractions of a second.

To set the speed for the pusher, use the buttons located directly underneath the time select numbers. For example, if a 1/2 second setting is desired, simply push the button under the second number until it reads 5. As a point of reference, 1/2 second should read 050 on the counter.

Note: *The function select dial is set at the factory to "On Delay" and should never have to be adjusted.*

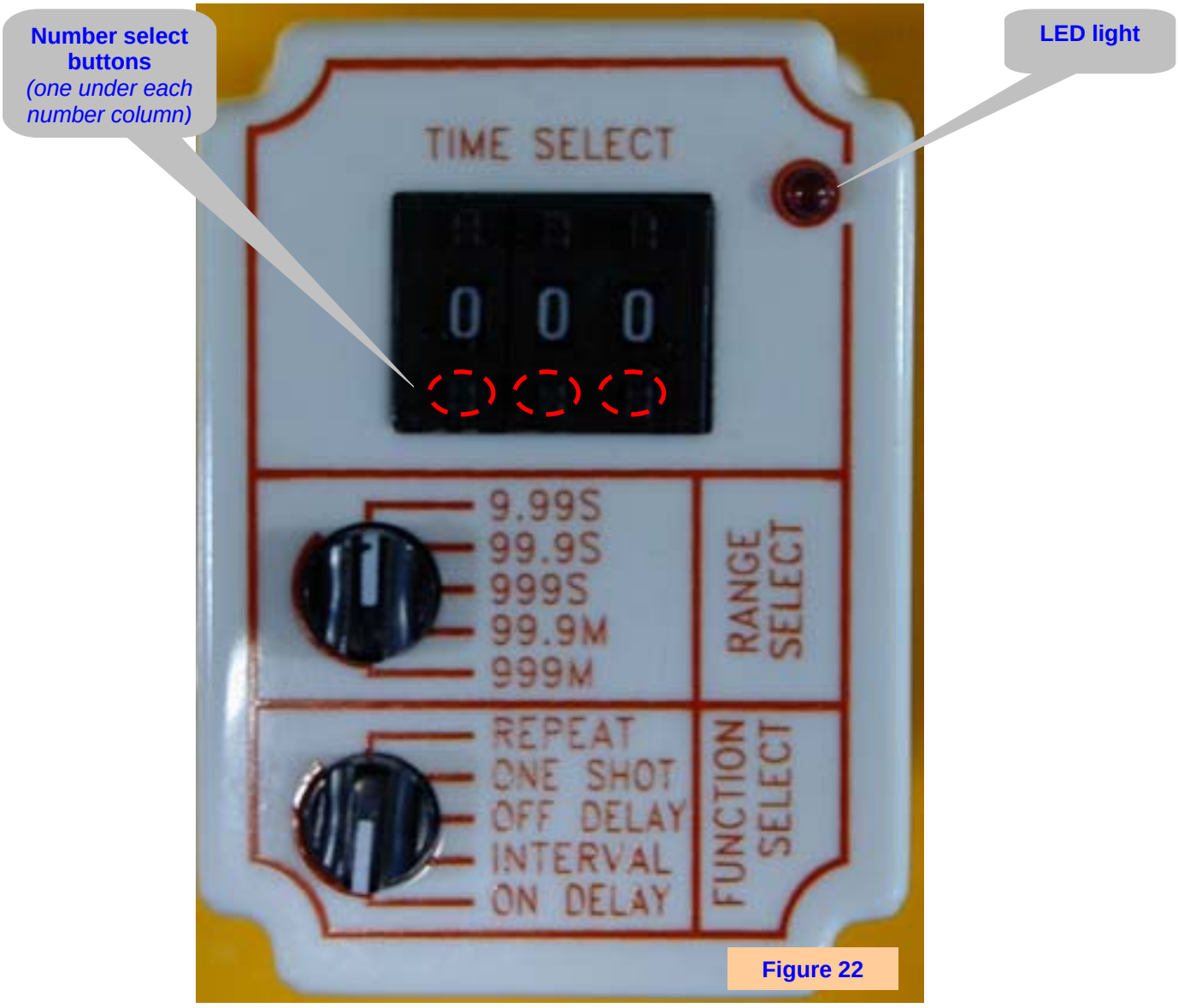


Figure 22

Pusher Stroke

The stroke distance of the pusher can be adjusted to accept thicker or thinner wood, depending on the positioning of the limit switches.

- ❑ Turn the machine off and lock-out / tag-out the electrical panel.
- ❑ The position of the front limit switch determines how far the pusher will move forward. If an adjustment is necessary, loosen the angle adjuster nut and position the limit switch forward for a shorter stroke, or backward for a longer stroke (***Figure 23***).
- ❑ The position of the rear limit switch determines how far the pusher will move backward. Adjustments to this switch are made using the same method used in setting the front limit switch.

Note: *You may have to make a few test passes to achieve the correct stroke to fit your material thickness. To achieve optimum performance, the pusher should not travel back farther than necessary. You want just enough of an open area to allow material to drop into position.*

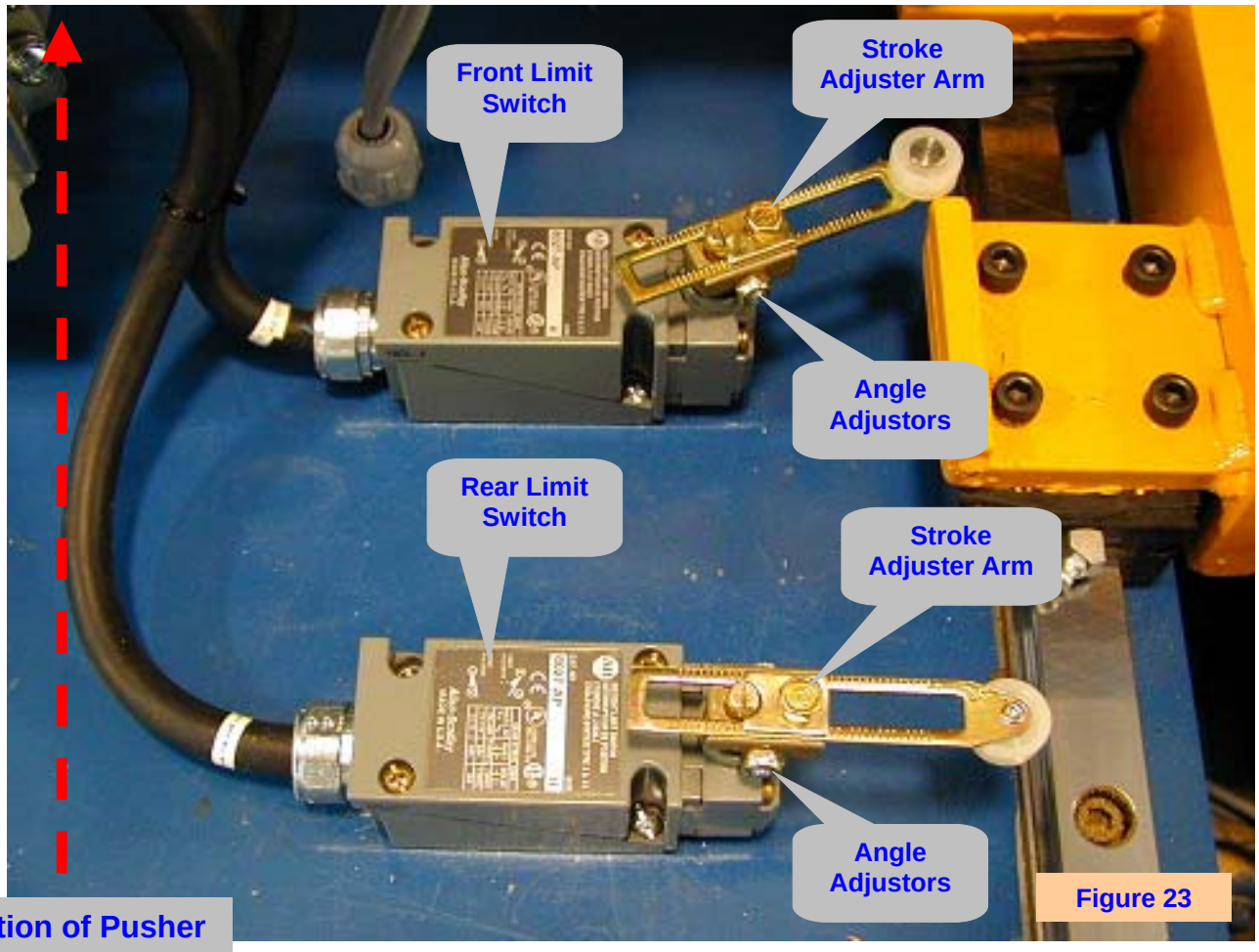


Figure 23

Clearing Lumber Jams

- ❑ Turn the jog switch to the ON position. This will retract the pusher to its starting position.
- ❑ Turn machine off and lock-out / tag-out the electrical panel.
- ❑ Unlatch the two (2) protective top panels and open both sides so you can access the jam.
- ❑ Clear jam and remove wood from the hopper.
- ❑ Return and latch the two (2) protective top panels into their proper place.
- ❑ Remove lock-out / tag-out device and turn the JOG switch to the OFF position.
- ❑ When ready, resume normal operation.

Figure 24

MAINTENANCE

General Clean Up

DANGER ***Note:*** *When possible, follow proper Lockout / Tagout procedures prior to cleaning any part of the machine.*

- ❑ On a daily basis use an air-hose to blow-off the dust and wood chips that accumulate in, on and around the machine.
- ❑ The machine operator or clean-up person is closer to dangerous operating mechanisms of the machine during clean up than during production – extra care should be taken during this time.
- ❑ Do NOT clean with flammable or combustible materials.
- ❑ Follow applicable codes and standards with regards to:
  - Ventilation and monitoring of work area for excessive accumulation of hazardous vapors
  - Wearing personal protective equipment for handling materials
  - Using proper procedure for disposing of all waste materials

Important Notice: Improper lubrication will void warranty.

Inspection and Preventative Maintenance Checklist

Frequency	Recommendation
Daily *(Approx. 8 hrs)*	❑ Complete a visual inspection of the machine before the beginning of each production day and look for loose, worn, broken or defective parts.
Daily	❑ Check quality and accuracy of cutter notch. o Safely ensure all cutters are sharp. o Ensure cutter tips are tight. o Replace any broken or missing tips. o Never run machine without cutter tips; the seats will be damaged.
Weekly *(Approx. 40 hrs)*	❑ Check the drive belts for cracks and proper tension.
Weekly	❑ Check the two (2) cutter head assemblies to ensure cutter heads remains tight.
Monthly *(Approx 160 hrs)*	❑ Grease the bearings that are located immediately on both sides of the pusher using high temperature grease. We recommend JT-6 grease (***no more than 5 pumps***).
Monthly	❑ Grease the pillow block bearings on the cutter head shafts. We recommend JT-6 grease (***no more than 5 pumps***).
Monthly	❑ Grease the 1” bearings on the descrambler deck. JT-6 grease (***no more than 5 pumps***).

Checking Cutters

Inserts and cutter tips should be replaced or turned when worn or damaged. Excessive wear causes damage to the cutter head and requires the machine to use excessive horsepower. A dull edge on the tips exists when a fine line, approximately .005” runs along the cutting edge.

Note: *If cutter heads are not easily reached after removing guards, use the hand crank to move them outward for easier access.*

Proper tip maintenance will give you many years of satisfactory service. Factors that reduce tip life include:

- → Hitting metal embedded in the wood being notched
- → High feed speeds
- → Frozen lumber
- → Frequency of changing worn inserts

Cutter Inserts

Note: *Do not attempt to sharpen cutter inserts. Grinding carbide is hazardous to your health.*

Rotate the 2-sided carbide insert whenever it becomes dull or approximately every 2 weeks, depending on the quantity and type of wood being processed.

The radius end cutter disc (round) insert should also be rotated approximately 1/3 turn every 2 weeks also. The radius end cutter disc insert has bluing for better placement and maximum usage.

Replacing 2-sided Carbide Inserts

- ❑ Turn machine off and lock-out / tag-out electrical panel.
- ❑ Loosen socket head cap screw allowing removal of chip breaker wedge block.
- ❑ Remove old square carbide insert and ensure seat is clean and free of debris.
- ❑ Install new carbide insert against freshly cleaned seat.
- ❑ Replace chip breaker wedge block.
- ❑ Retighten socket head cap screw.

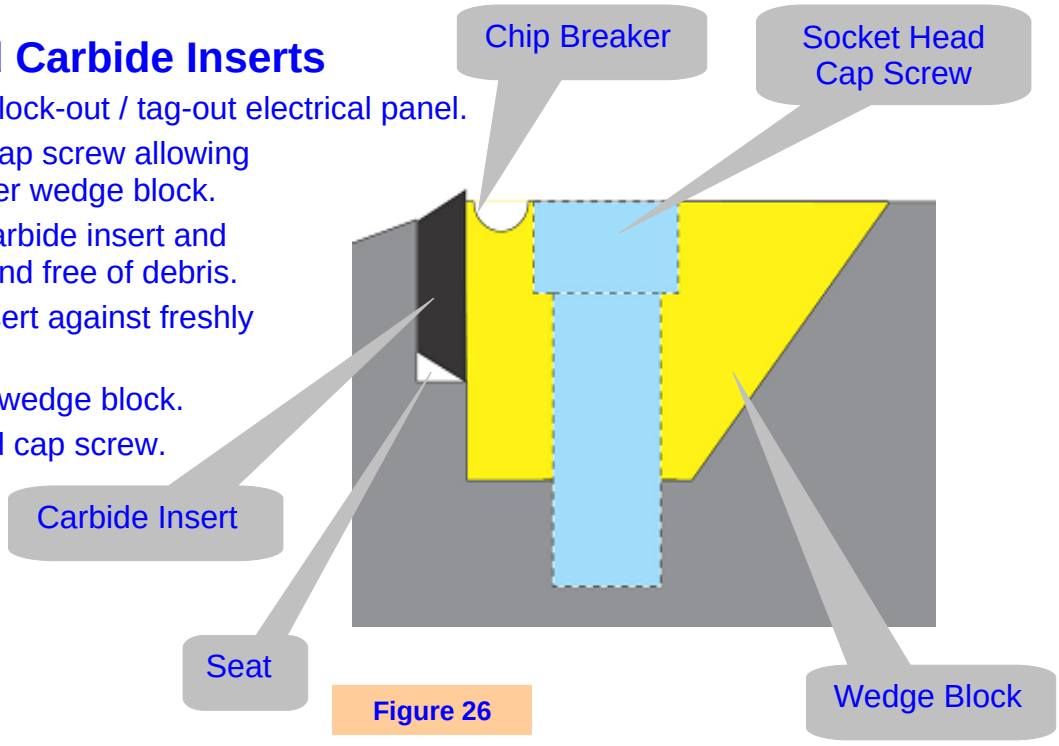


Figure 26

Replacing Radius End Cutter Disc Inserts

The inserts on both ends of the cutter head are circular in shape. They require the same maintenance, but are replaced in a different manner.

- ❑ Turn machine off and lock-out / tag-out electrical panel.
- ❑ Remove the hex head bolt and washer located in the center of the round disc.
- ❑ Remove the old end cutter disc and ensure seat area is clean and free of debris.
- ❑ Insert new 1” radius carbide cutter disc.
- ❑ Reassemble and tighten using the same washer and bolt.

Note: *We recommend rotating the radius end cutter disc inserts approximately 1/3 of its diameter every 2 weeks and replace them after 3 rotations.*

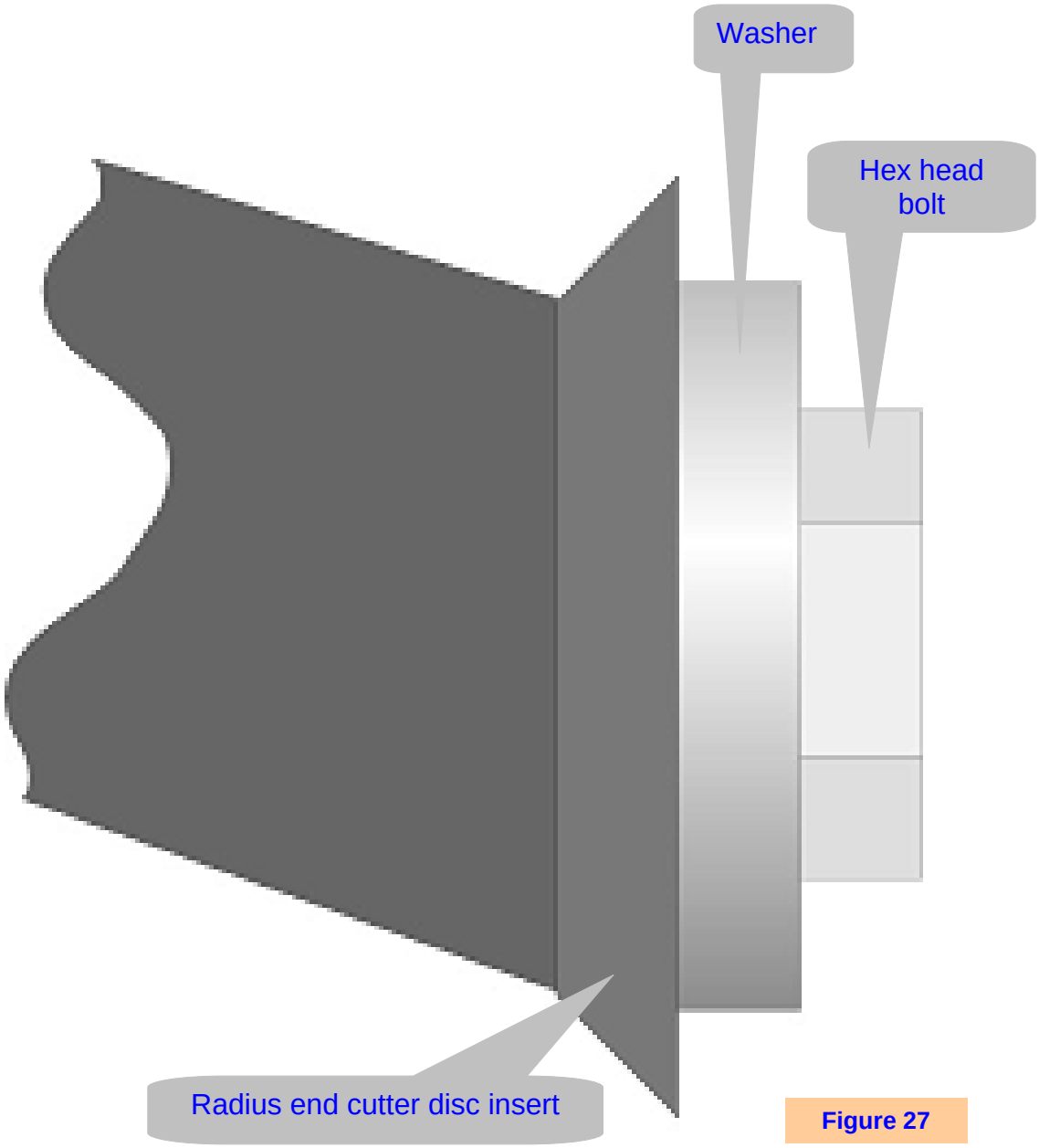


Figure 27

Replacing Belts

- ❑ Disconnect air supply, turn machine off and lock-out / tag-out electrical panel.
- ❑ Remove the front fence guard and metal side panel from the base of the machine.
- ❑ Loosen the four (4) bolts that connect the motor to the motor mount.
- ❑ Loosen to the two (2) push bolts.
- ❑ Move the motor forward to loosen the belts.
- ❑ Remove and replace the belts.
- ❑ Move the motor backward to generate belt tension. Ensure belt tension is “taut” with no more than 1/2” of deflection in the belt, and then retighten the two (2) push bolts.
- ❑ Retighten all remaining bolts that connect the motor to the motor mount.
- ❑ Return the metal side panel and front fence guard back into place and secure.
- ❑ Re-connect the air supply.
- ❑ Remove lock-out / tag-out device and resume normal operation.

Note: *Re-start motors and listen to belts upon start-up. If they “bark” or “squall” when the motors are started they are loose and need to be tightened.*

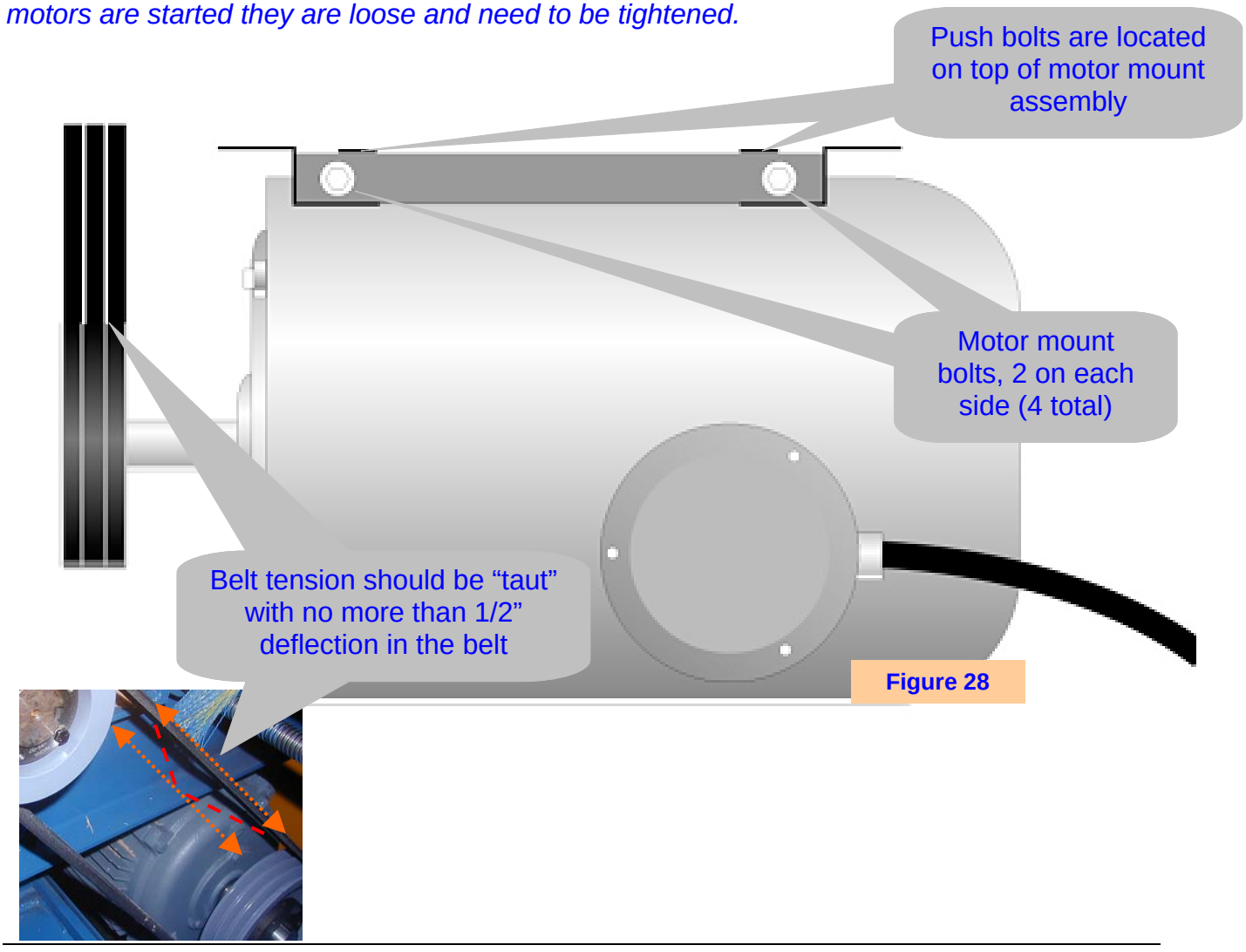


Figure 28

Air Assembly

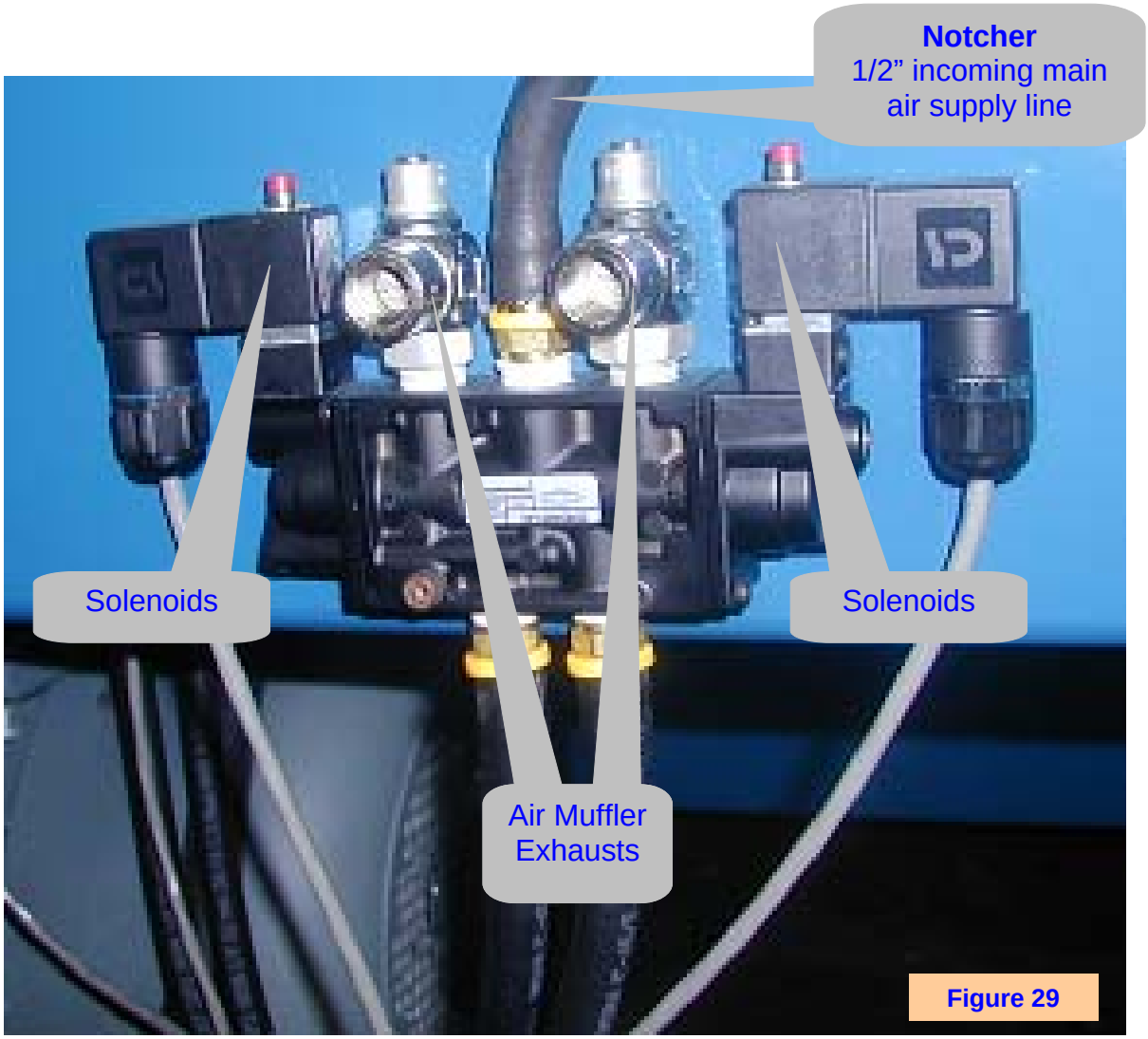


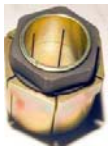
Figure 29

Figure 29A

PARTS AND SERVICE

Part No.	Description		Part No.	Description
141124 	2-sided carbide cutter insert		141125 	Radius end cutter disc
241112 	1/4” x 1/8” hose barb		241114 	3/8” x 1/4” hose barb
241115 	3/8” x 3/8” hose barb		241140 	3/8” port mounted flow control
241148 	1/4” air muffler		242007 	1/4” air quick plug
121006 	#50 chain roller		121007 	#50 chain connector link
131014 	Sprocket Morse torque limiter		131039 	Sprocket 5012 x 3/4”
131040 	Sprocket 50B12F x 1”		131042 	Sprocket 50BB13H x 1/2” idler

Part No.	Description		Part No.	Description
131060 	Sprocket 5022 x 1”		131062 	Sprocket 5022 x 1-1/4”
131073 	Sprocket 5040 x 1-1/4”		131181 	Sprocket 60B35 x 1”
261064 	Pulley – 3 groove 5.2” belt		261067 	Pulley – 3 groove 8.25”
241138 	Norgren directional control valve		241156 	Norgren 1/4” filter/regulator
241312 	Norgren 4-way solenoid valve		111036 	Drive belt; A-67, 69” long
151039 	1-hp electric motor – Descrambler main drive motor		151105 	30-hp electric motor – Notcher cutter head main drive motor
101006 	Bearing 1-1/2” 4 bolt flange		101014 	Bearing 1” 2 bolt flange; 17/32” bolt hole
101025 	Bearing 2-3/16” pillow block		101080 	Bearing 1-1/4” 2 bolt flange; 5/8” bolt hole

Part No.	Description		Part No.	Description
241009 	Bimba air cylinder 1-1/2” x 3”		241040 	Bimba air cylinder 2-1/2” x 6”
241078 	Bimba cylinder rod clevis		241080 	Bimba clevis mounting kit
161247 	Crank handle		251106 	Bushing Tran torque 1-1/2”
251137 	Bushing 1-7/8”		271126 	Gear box 40”1
101234 	Linear rail 17-3/4”		141134 	Index-able notching head 12” x 9” x 2-1/2” x 3/8”
161145 	Turnbuckle – front		161146 	Turnbuckle - rear

Service Contact Information

In the event that you have any problems, call us at (573) 663-7711 any time between 8:00 AM and 5:00 PM (CST), Monday through Friday.

Serial Number Location

The model and serial number are located on the front side of the machine near the operator station.

Please refer to your serial number and model number when speaking to a service technician or ordering replacement parts.