# Chapter 1.
# Introduction

**Welcome to Logosol!**

This manual details the operation of the PH260 4-Head Planer/Molder manufactured by Logosol in Sweden.

This economically priced planer gives you the ability to do 4-sided planing in just one pass. The PH260 is designed with simplicity in mind. The position of the cutter heads, the manual setting of the fences, and the location of the motors are all designed to make maintenance and operation as minimal and simple as possible. Within this manual you will find detailed techniques and maintenance procedures that will allow you to produce finished wood products - that up to now would require a much more expensive investment in machinery.

At Logosol, we pride ourselves on building a high quality product, one that will provide years of trouble free service for the owner.

**How to Use this Guide**

This guide has been written for all types of operators – from beginners to experience. This allows you to read as much as or as little as you need. This manual is organized in the following chapters:

**Introduction**

**Getting Started**

Provides information for selecting the appropriate place for your Planer, material handling and waste handling considerations, electrical requirements, tools needed, and safety considerations

**Installation**

Installing the planer is a big operation. Use this section to guide you through the unpacking, and installation of this machine

**Operation**

Operation of the Planer, installing the cutting knives, setting up the cutting knives, adjusting the side fences – all presented in easy to understand, step-by-step instructions.

**Projects**

A presentation of typical sample projects that have been accomplished using this planer. Tongue and Groove flooring, paneling, crown moldings, etc.

**Tips**

Tips on extending cutting knife life, processing certain types of wood, wood handling tips, waste chip handling.

**Specifications**

The specifications for this machine, including electrical, cutter head, and knife specifications.

**Trouble Shooting the Machine**

Find help when encountering problems with the machine or with the result on the wood. This guide helps you isolate the problem before having to call Logosol for help.

**Parts Listing**

A complete listing of all the parts for the PH260, where they fit in the machine, pictures of parts, and part numbers necessary for ordering for replacement parts.

**Appendix**

**Knife Catalog**

**Additional Accessories**

**Working with wood**

**Index**

The advanced operator of this machine, (i.e. someone that is experienced working with planers), can quickly move to the information needed in this manual without reading through a lot of pages. Advanced users should find the topics needed via the Table of Contents or the Index.

All operators are required to read the SAFETY information about the operation of this planer.

In our effort to cover all information about this machine, you may find similar information in several locations in this manual.

**What You Need to Know**

This guide assumes you are familiar with woodworking terminologies and with planing lumber. There is added information in the appendix about general terms and procedures for working with rough lumber and planing techniques

You need to have a general knowledge about the setup and maintenance of machinery. If at any time you are uncertain about a procedure or technique, it is recommended you contact Logosol to clear up any uncertainty.

**Standard Conventions**

Notes, cautions, and warnings are used like this:

***Notes*** contain helpful hints and other important information that will help you obtain better results from your PH260.

***Cautions*** provide information about procedures, which, if not observed, could result in damage to the PH260 or other equipment.

***Warnings*** mean failure to follow specific procedures and practices may result in personal injury.

**Getting Help**

If you need assistance with your PH260, you can contact Logosol.

**Warranty**

**2 Year Parts Warranty**
The Logosol PH260 4 Head Planer/Molder has a 2-year parts warranty on all parts with the exception of the belts and knives. Logosol warrants the original consumer that this product is free from defects in material and workmanship for a period of **TWO YEARS** from date of purchase. If a part fails due to defect or workmanship during the first 2 years of ownership, Logosol will send a replacement part directly to the owner of the equipment. This warranty is in effect from the date of the invoice until 2 years after the date of the invoice.

**Return of Defective Parts**
Logosol may request the return of some defective parts for inspection. Logosol will inform the owner of the PH260 when this is necessary. Logosol will bear the cost of this shipping.

**What is not Covered**
Defects due directly or indirectly to misuse or abuse, negligence or accidents, normal wear and tear, repair or alterations unknown to Logosol, Inc., or to a lack of maintenance are not covered by this warranty. The labor costs to replace parts are not covered under this warranty. Logosol shall not be responsible for any incidental or consequential damages.

**Legal Rights**
This warranty gives you specific legal rights, however, you may also have other rights, which vary from state to state, and in different countries.

**No other express warranty applies**
This 2 Year Parts Warranty is the sole and exclusive warranty for the Logosol PH260. No employee, agent, or distributor, or other person is authorized to alter this warranty or make any other warranty on behalf of Logosol.

**How to get warranty service**
Contact Logosol and arrange for service.

**DATE OF PURCHASE: _____**

**SERIAL NUMBER: _____**

# Chapter 2.
# Getting started

**Overview**

This chapter provides information about unpacking, designing space, handling material and waste. The operator is encouraged to read over this material before installing this machine. All operators, no matter what skill level they possess, MUST observe the safety rules in the section labeled: Safety Rules. Always use caution when operating or setting this machine.

**Space Requirements**

Your PH260 should be placed in a level and dry work area. Make sure that you allocate adequate room to access all sides of the planer. When placing your planer, it is very critical that you allow enough room so that the longest piece of material you plan to run through the machine has plenty of room to both enter and exit the machine without bumping into something. Your work place should have plenty of space for the storing and handling of the material that will be running through your planer.

The footprint of the PH260 is 43"X 35". The machine can remain on its shipping pallet, as it's permanent base for operation. Or, if you choose, your planer can be removed from the pallet (after removing the 4 wood screws that are holding the machine to the pallet). Ideally, your planer should be bolted down to some base to prevent any "walking" of the machine during operation.

Your PH260 is constructed so that you can easily mount 4 (optional) casters, which will allow easy movement around your shop area. Casters also come in handy if your PH260 is to be used intermittently, or if there are long periods of time when it is sitting idle. Keep in mind that you will have route your power cables and chip collection hoses to allow for this movement.

The PH260 is protected against corrosion, meaning it can be placed in cold spaces. However, in such cases, it will require extra maintenance in the form of lubrication for non-rustproof parts.

- Place the planer on a firm, even floor, and secure it by bolting it down through the holes in the frame.
- Hang the power cable from the ceiling, or protect it with electrical conduit. Never place the power cable in an area where someone might step or trip on it.

- Connect the four flexible chip hoses, securing them with hose clamps at both the planer and the chip collector.
- Make sure your work area lighting is very good, placing a bright light directly over the machine.

**Chip Collection System Requirements**

The PH260 has 4 chip collection ports, one located at each cutter head. A strong vacuum or chip collection system should be matched up with this machine. Depending on the type of planing you will be doing, you should size your collection system accordingly.

The Logosol 3 kW Chip Extractor (Logosol # 700-000-2030) has been designed specifically for use with the PH260. This chip extractor is rated at 2400 CFM and operates on 220 Volt, 3-phase electrical system. This chip extractor has 4 collection ports that are connected directly to the PH260 via 4" flex hose.

If you will be planing a lot of 4" thick material, or extra-wide planks, you might need to add more capacity to your chip collection system. One solution is to have two Logosol Chip Extractors connected to two ports on the PH260. Or, you can use one Logosol Chip Extractor and have it placed in series with a more powerful vacuum system that you might already have in place in your shop. Regardless of the solution you choose, obtaining excellent results with your planer is directly dependent on having a powerful vacuum system operating together with the PH260.

Another consideration is the handling of the chips. Many operators choose to blow their chips directly into trailers placed outside of their building. Others have chosen to blow their chips into large piles where they can be loaded onto trailers for hauling away. Some urban locations may not allow the venting of chips outside, so a more confined chip collection system may be necessary. Be sure and check your local codes before designing your chip collection system. Chips can be sold to certain types of industry if they happen to be located in your area. Sometimes poultry operations and other types of livestock farms need wood chips as bedding material.

Design access to your chip collection bin or bins so that they can be easily emptied. Also, try to calculate the amount of space needed for the collection area of your chip bin. Locating the chip extractor close to the planer, or at least locate it so that the turning on of the chip collector is convenient to the operation of the planer. Another factor to remember is that the chip extractor or vacuum system can be loud, so be sure to locate it in a location away from the operator.

When locating the chip extractor, keep in mind that it is easier to pull the chips than to push them. Also, keep in mind that your extraction system will encounter less vacuum the longer the piping is to the planer. This is due to the subsequent increase in area volume as your hose length increases. Logosol recommends that you use Logosol brand flex hoses because they are smooth on the inside, aiding in chip extraction by offering less surface resistance to wood chips traveling through the hose.

If you are operating this machine in a climate-controlled building, and are blowing the chips outside, the vacuum created by the chip extractor can quickly empty your building of it's heated or cooled air. So it might be necessary to blow the chips into a container located inside of your building. Also, some type of filter will be necessary in order to prevent wood dust from reducing the quality of the air inside of your building.

**Electrical Requirements**

In USA...
In Europe and Russia exept Norway

NOTE: The PH260 should be ordered for the type of electrical supply you have in your shop. Consult with your electrician to determine the right supply for you. Also note that performance of the PH260 varies with the type of electrical supply you are using. The performance specs for the single phase will be below that of the 3-phase units.

WARNING: Only a licensed electrician should carry out wiring of this unit. Attempting to install electricity to this machine can result in serious injury or even death.

**Material Handling Requirements**

A lot of material will most likely be put through this planer. You should allow for adequate room to access all sides of the planer. You should allow for plenty of space for the storing and handling the material that you will be running through your planer. When placing your planer, it is especially critical to allow enough room so that the longest piece of material you plan to run through the machine has plenty of room to both enter and exit the machine without bumping into something. If you are using a forklift to move material, be sure to include adequate access to your planer when designing your work area.

Infeed and outfeed tables will enhance your material handling capability. These tables provide support for lumber being fed into the planer and exiting the planer. Logosol provides two plates in the Parts Box that will allow you to hook tables to the machine. These plates are designed so that you are able to fit a 2 X 6 onto the machine for a make shift table. Or you can hook your own tables onto the planer at these points.

Logosol also sells feeding tables that extend the planer bed 4 feet in each direction. These tables follow the planing bed as it is raised or lowered so that you will not have to adjust the feeding tables separately. Directions for installing these tables can be found in the accessory section of this manual

For handling large timbers through the PH260, roller beds should be installed before and after the planer at the height of the bed. These reduce the friction of this large material, reducing the amount of pull the machine has to exert in order to pull the material through the machine. Lubricating the bearings/bushings on the feed beds will reduce friction and speed up production.

Here you can see an installation where the operator is using a combination of Logosol's feeding tables and roller tables.

Roller tables assist in making it easier to handle the material going into and out of your planer. A staging area should be located before the infeed side of your the planer, where lumber to be fed to the planer is placed. A stacking area should be located near the outfeed tables so boards feeding through the planer can be easily removed from the feeding tables and stacked for moving to another location.

## Safety Rules

The planer can cause serious injury if used incorrectly. For that reason you should always use the machine carefully, avoiding distractions.

Always stand to one side of the machine in case a board is thrown out.

Feed only one board into the machine at a time.

Make sure the machine is set up so that the feed rollers will grab the board. Do not feed boards that are tapered to such an extent that the feed rollers are in danger of loosing their grip.

Never put your hands or any tools on or under the table while the machine is running

Turn the Electrical Supply Circuit Breaker off, or make certain the power to the machine is turned off before:

- Opening the cover to replace a knife, adjusting cutter contact, clean or carry out any other step above the table. **Do not lift the cover before the cutters have stopped completely.**

- Replacing belts or carrying out any other service or cleaning.

- Moving the machine.

Always turn off the electrical supply to your machine if you leave it unmonitored.

Never put your hands or any tools into the chip outlets unless you are sure that the current is off and the cutters have stopped spinning.

All persons except the operator should stand at least 8 m (8.5 yards) from the machine while it is running.

Do not wear loose clothing, scarves, rings, bracelets, watches, or anything that can get caught in the moving parts.

Make sure that your work area has adequate light within the area that your machine is placed. Never use the machine in poor lighting conditions

Never use the machine while under the influence of alcohol or drugs.

Keep your work area clean. Leave nothing on the floor that you can trip over.

Do not step on the power supply cable, or place it where someone can either step or trip on it. For greatest safety, the cable should be suspended from the ceiling.

Never climb on to the machine.

Your PH260 may not be modified or rebuilt. If repairs are necessary, use only original Logosol spare parts. **After service, the machine must be returned to its original condition.**

The machine main power feed should be fitted with an **accidental ground circuit breaker**

## Before starting the machine:

-Check that all handles, bolts, nuts, guides, hoses connected to chip outlets, cutters and knives, and protective covers are securely fastened.

-Check that all cutters can rotate freely, and that there are no tools or loose parts left in the machine

-Check that the cover is completely closed and that all chip outlet hoses are connected.

For your own safety, read all safety precautions carefully. Do not start the machine before you have understood all of them. Do not allow persons who have not read the safety instructions to operate the machine

Use approved hearing protection and safety glasses. Even short exposure to high-frequency sounds can damage your hearing.

Always wear gloves when you work with the knives, as there is a danger of cutting yourself.

**Rotating tools:** do not insert your fingers past the protective plates or into the chip outlets.

**Tools Needed**

**30 mm wrench (supplied)**
**10 mm wrench (supplied)**
**4 mm Allen wrench (supplied)**
**6 mm Allen wrench**
**13 mm wrench**
**10 mm wrench**
**Calipers**
**30-50 cm ruler**

Several tools are supplied with the planer as noted above:

**30mm wrench for removing the side cutter locking nuts**
**10 mm narrow wrench for tightening and loosening chip breaker locking bolts**
**4 mm Allen wrench for adjusting planer knives in heads**

## Glossary

**Air-dried** – Lumber seasoned by exposure to the atmosphere, in the open or under cover, without artificial heat. Lumber dried this way should be stacked so air can evenly flow between the boards. Air-dried lumber reaches equilibrium at around 12% moisture content.

**Board foot** – The basic unit of measurement for lumber. One board foot is equal to a one–inch board, twelve inches in width and one foot in length. A ten-foot long, twelve inch wide, and one inch thick piece of lumber would contain ten board feet.

**Board** – A piece of lumber less than two inches in nominal thickness and one inch or more in width.

**Bow -** A deviation from a straight line (a curve along the face of the piece of lumber) from end to end of a piece, measured at the point of greatest deviation.

**Center matched** – Lumber that has been worked to contain a tongue in the center of one edge of each piece and groove in the center of the opposite edge, to provide a close, tongue–and–groove, joint by fitting the two pieces together.

**Check** – A lengthwise separation of wood, normally occurring across or through the rings of annual growth and usually the result of seasoning. Classified for the purpose of grading as surface check, small, medium, or large; end check; and through check. Surface check occurs on the surface of the piece, end check occurs on and end, and through check extends from one surface through the piece to the opposite surface.

**Clear** – 1. Free or practically free of all blemishes, characteristics, or defects. 2. A select grade of lumber.

**Common** – 1. A term applied to the board sizes. 2. Lumber that is suitable for general construction and utility purposes. 3. Equal or shared characteristics, such as a common joist, the joists in a single floor.
**Cup -** A distortion of a board in which there is a deviation from a straight line across the width of the board.

**E.E.** – Eased Edge. A part of the planing or surfacing operation in which the edges of dimension and many other products are slightly rounded to reduce splintering. Lumber of one and two-inch nominal thickness may be rounded to a radius of no more than 1/16 and 1/8 inch respectively.

**Equilibrium Moisture Content -** The moisture content at which wood neither gains nor loses moisture when surrounded by air at a specified relative humidity and temperature.

**Grain** – A general term referring to the arrangement, appearance, and direction of wood fibers. Among the many types of grain are fine, coarse, straight, curly, open, flat, vertical, and spiral.

**Kiln dried** – Lumber that has been seasoned in a kiln to predetermined moisture content.

**Knot** – A branch or limb embedded in a tree and cut through in the process of manufacturing.

**Millwork -** Planed and patterned lumber for finish work in buildings, including items such as sash, doors, cornices, panel work, and other items of interior or exterior trim, but not flooring or siding.

**Moisture content** – The weight of the water in wood, expressed as the percentage of the weight of the wood.

**Molding -** A wood strip having a curved or projecting surface used for decorative purposes.

**Pitch -** The accumulation of resin in wood.

**Planer** – A machine used to surface rough lumber or timber.

**Raised Grain -** A roughened condition of the surface of dressed lumber in which the hard latewood is raised above the softer early wood but not torn loose from it.

**Rough lumber** – Lumber which has not been dressed or surfaced but has been sawn, edged, and trimmed.

**S1S1E** – Surfaced one side and one edge
.
**S1S2E** – Surfaced one side and two edges.

**S2E** – Surfaced two edges.

**S2S1E** – Surfaced two sides and one edge.

**S2S** – Surfaced two sides.

**S4S** – Surfaced four sides
.
**Sawdust** – Small particles of wood removed by the saw in cutting.

**Seasoning -** The process of drying lumber either naturally, or in a kiln, to a moisture content appropriate for the conditions and purposes for which it is to be used.

**Shavings** – Small slices of wood that is produced when planing lumber and timbers.

**Shiplap** – Lumber that has been worked to make a lapped, or rabbeted joint on each edge so that pieces may be fitted together snugly for increased strength and stability

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**Surfaced** – Refers to lumber that has been dressed by a planing machine for the purpose of attaining smoothness of surface and uniformity of size. Surfacing may be done on one side or edge, or all sides.

**Tongue & groove** – Lumber machined to have a groove on one side and a protruding tongue on the other so that pieces will fit snugly together, with the tongue of one fitting into the groove of the other.

**Twist -** Warping in which one corner of a piece twists out of the plane of the other three.

**V-joint** – (V-groove) A pattern applied to tongue and groove lumber in which the edges of the pieces are clamped so that a v-shaped groove is formed on the surface where the 2 pieces meet.

**Warp -** Any deviation from a true or plane surface. Warp includes bow, crook, cup and twist, and any combination of these.

**Workability -** The degree of ease and smoothness with which wood can be worked.

## PH260 Terms

**Cast Iron Table -** The flat cast iron portion of the table on which the material rests as it passes through the machine. This table is raised and lowered to determine the finished thickness of the material planed in the machine.

**Collection Port -** A point on the machine where chips are collected and pulled from the machine via a suction system. A 4" round port, which a 4" flexible hose attaches to for the purpose of removing chips from the machine.

**Chip Extractor -** A machine that provides suction to the machine for the purpose of removing chips caused by planing a piece of wood.

**Cutter Head -** A rotating piece in which knives are placed for the purpose of removing material from the work piece.

**Fence -** A support piece on the machine that is used to guide and support the workpiece as it is moving through the machine

**Infeed -** The end of the machine in which material to be planed is placed to enter the machine.

**Leading End -** The end of a work piece that is pushed into the machine first.

**Outfeed -** The end of the machine in which the material exits the machine.

**Planing -** Removing material from a work piece in order to make it flat and smooth.

**Work piece -** The material on which the work is being performed.

**Wedge -** A wedge shaped piece of material that is used to hold a molding or planer knife in a cutter head.

## Woodworking Terms

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# Chapter 3.
# Installation

## Overview

This chapter is a guide to unpacking and placing your PH260 in your work place. Be sure and observe all safety procedures

### Unpacking

The PH260 comes packaged in a plywood packing crate designed to handle travel over long distances with minimum damage to the planer. Please note the condition of this crate when you receive the planer. If you notice any damage to this crate, please make a note of this with the freight company that delivered the planer to you.

This is a picture of a packing crate that has two 4' Bed Extension Tables attached to it.

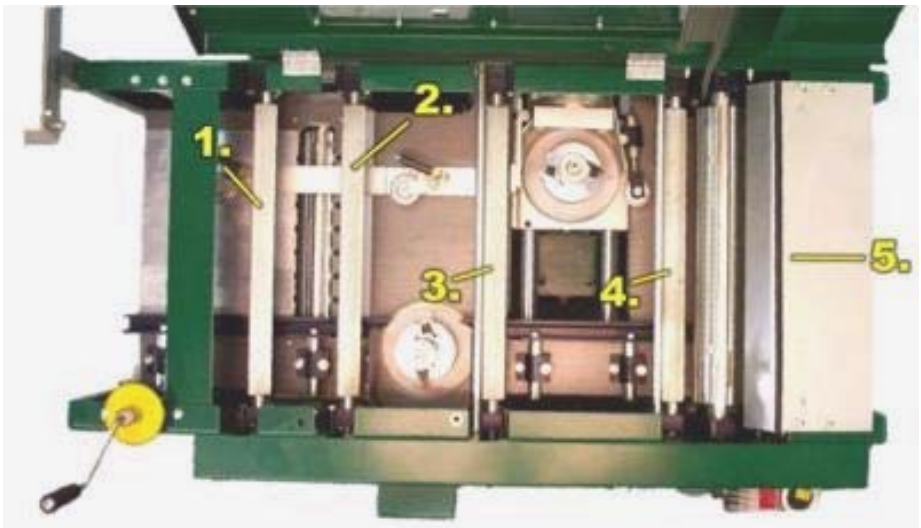

**Positioning**

The machine should be positioned so that you have easy access to the controls on the front of the machine, and plenty of space around the infeed and outfeed ends of the planer to allow for easy handling of lumber.

Here are the different sides of the planer

1 - 4 Infeed Rollers

5. Out Feed end of planer - Rubber Feed Roller under this plate.




Infeed

Right Side

Left Side

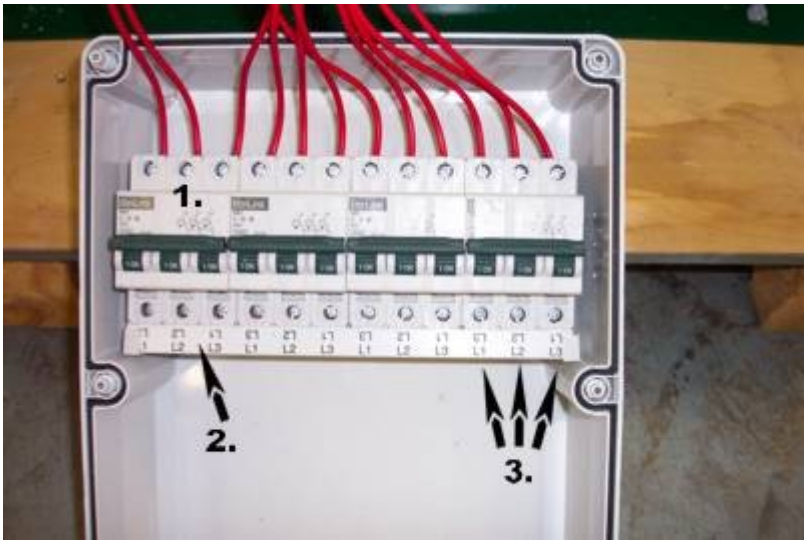
Outfeed

**Electrical Installation**

The only person that should complete electrical connections to this machine is a LICENSED ELECTRICIAN. The following information is to be used only by this person when installing this machine to an electrical supply.

**Electrical Breaker Box on the PH260**

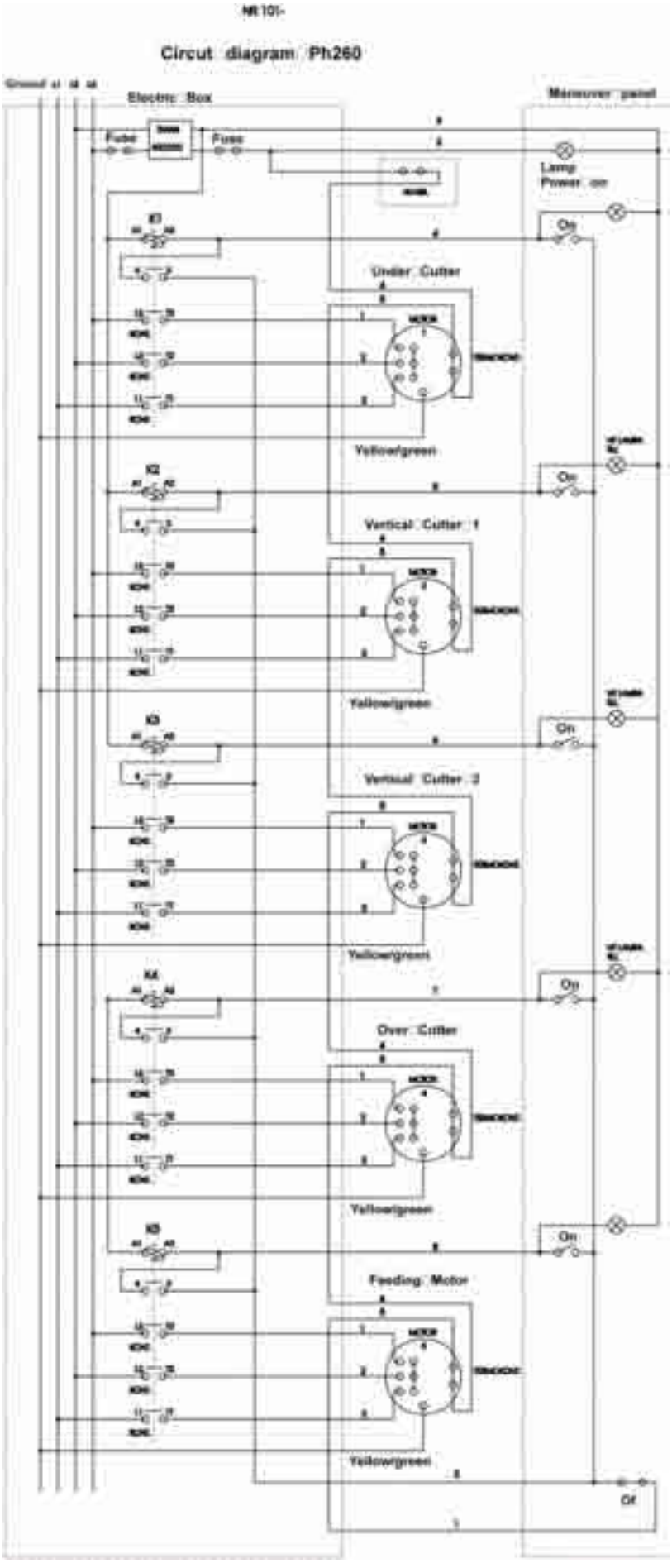
The electric supply is routed into the electrical breaker box on the back of the PH260. This box has a protective cover, and inside there are four 3-pole 16-amp circuit breakers, one for each motor. Each one of the circuit breakers is shared between one motor and the small feeding motor.




1. Four 3-Pole Electric 16 Amp Circuit Breakers.
2. Buss Bar attached to rear of breakers (The Buss Bar distributes power to each of the four circuit breakers).
3. Attach three Voltage Leads to L1, L2, and L3 connections located under the Buss Bar in the first Breaker on the right side of box.

Route the four wires (three power, one ground) through the access hole located on the side of the box. Leave enough wire for routing the power supply lines to the circuit breakers as shown in the picture. Also, route the ground wire to the green ground bar found in the Electric Breaker Box.

**Electric Schematic for PH260**



**3-Phase Converter**

If the PH260 you are installing is a 3-phase unit, you will need 3-phase power from the power company or a generator, or you will have to supply 3-phase power via a phase converter.

In many areas of the United States, a 3-phase power supply is either not available, or if it is, it's very expensive to install. If it is available, your monthly power bill may have reflect additional charges from the power company, such as minimum monthly charges, demand billing based on peak usage, and higher per-kilowatt-hour rates. Because of this, acquiring 3-phase power for just one machine may not be economical, even if it's the installation requires a minimal amount of work.

A Rotary phase converter can supply the power you need for the energy efficient 3-phase version of the PH260. The phase converter we sell at Logosol is built by GWM Corporation in Harrisonville, MO. The Website for GWM is: http://www.gwm4-3phase.com/

We have sourced 3 phase converter manufactured by GWM that is sufficient for both your planer and chip collector. The specific model we use is: RTG 256, GWM TEFC (Totally Enclosed Fan Cooled) Rotary Phase Converter. If you are selecting a phase converter from another company, use the following specs to size the phase converter:

60 Amps
220 Volt
20 HP Motor

Please note that if you have other 3-phase equipment connected to your 3-phase converter, in addition to the PH260 and the Logosol 3 kW Chip Extractor (Logosol # 700-000-2030), you may need to select a larger phase converter for your installation

**Installation instructions for a phase converter**

The 3-phase converter is connected to 220 Volt, 100 Amp, Single Phase electrical service from an electric panel in your building.

Two 230 Volt, 100 Amp services will be needed from the power panel. Follow Local Electrical Code regulations in sizing the conduit and wire to be used in providing this service.

Attach power supply and ground connections to the power distribution block inside the 3-Phase converter according to instructions supplied with the converter. A power panel breaker should not be the means used to turn the 3-Phase converter on and off. Install a disconnect switch in series with the power supply leads to the 3-Phase converter. The 3-Phase converter will generate a third phase leg called T3, which together with L1 and L2 sourced by a second 100-amp breaker comprise the three-phase supply voltage for the planer and chip extractor. Take L1, L2 and T3 to a small main-lug-only 3-phase distribution panel and use 1) One 50-amp three-pole breaker to feed the planer and 2) One 20-amp three-pole circuit breaker to feed the Logosol 3 kW Chip Extractor.

The electrical supply connections for your PH260 are finalized inside the electrical control box, which is fastened the side of the planer. Remove the cover of the box and lay it down right in front of the box. Route the three phase conductors to the right end of the 3-phase power distribution buss bar and terminate them at the three right-most breakers in the breaker lineup. There is an attached label that reads

L3, L2, L1

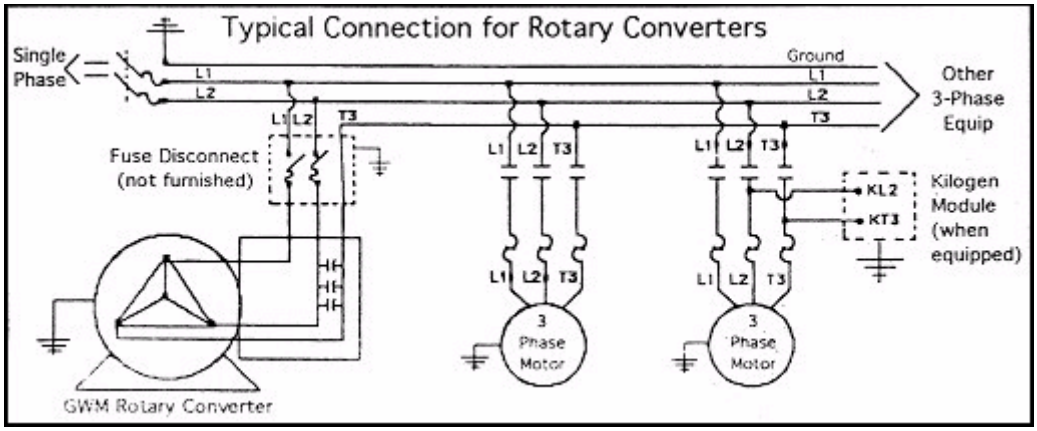
to guide the installer to the correct location for this connection. Note: It may be necessary to utilize fork crimp-on terminals on the ends of the wires to facilitate making a good connection. The ground lead of the incoming power supply is to be connected at the green grounding block located inside the box.

**Note:** There is a bus bar that reads (L3 L2 L1) all the way across the bottom of the breakers. The service should be installed into the first 3 slots on the back of the first set of breakers. This buss bar will feed the other breakers. **No additional wiring is needed to feed the other breakers.**

After making power connections, replace the control box cover and turn on the power source breakers. The control power indicator light on the control console should illuminate, indicating the unit's readiness for operation. Start the feeding motor on the planer and check for correct rotation direction. All motors will be either rotating the right direction or the wrong direction. If the direction is wrong, turn off the feeding motor, switch off the supply breakers, and reverse two of the three supply voltage leads, either at the breaker or at the planer. Turn power back on and check rotation direction again.

The correct rotation direction will also need to be checked for the chip extractor. If it is rotating backwards, follow the same procedure to correct

Phase Converter Wiring diagram from GWM Corporation:




**INSTALLATION INSTRUCTIONS FOR 230V 3-PHASE POWER**

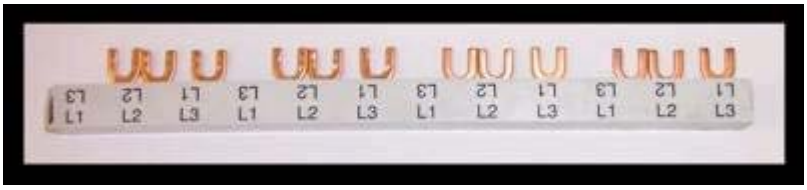
The PH-260 Planer and the Logosol 3 kW Chip Extractor are designed to run on 230V 3-phase AC power. The planer will typically draw between 18 and 32 amps when a board is passing through it, depending on the actual voltage level, the size of the board, and the condition of the cutters. The planer will need 50-amp service, and the chip extractor will need 20-amp service. Follow National Electrical Code regulations in sizing the conduit and wire to be used in providing power to these machines.

The electrical supply connections for the planer are made inside the electrical control box on the side of the machine. Remove the cover of the control box, and place it where it will not be damaged. Route the three phase conductors to the right end of the 3-phase power distribution buss bar and terminate them at the three right-most breakers in the breaker lineup. There is an attached label that reads:

**L3 L2 L1**

to help guide the installer to the correct location for this connection. **Note:** It may be necessary to utilize fork crimp-on terminals on the ends of the wires to facilitate making a good connection. The ground lead of the incoming power supply is to be connected at the green grounding block located inside the box under the contactors.

**Note:** There is a bus bar that reads L3 L2 L1 all the way across the bottom of the breakers. The service should be installed into the first 3 slots on the back of the first set of breakers. This buss bar will feed the other breakers. **No additional wiring is needed to feed these other breakers.**




This Buss Bar is fitted onto the four 3-Pole Circuit Breakers in electric supply box on back of planer.

**Checking Rotation Direction**

After making power connections, replace the breaker box cover and turn on the power source breaker. The control power indicator light on the control console should illuminate, indicating the unit's readiness for operation


Start the feeding motor on the planer and check for correct rotation direction.

**WARNING: DO NOT START CUTTER MOTORS BEFORE ROTATION DIRECTION IS CHECKED!**


1. Feeding Motor Start Button

All of the motors will be either rotating in the correct direction or the incorrect direction.

The following picture denotes the correct direction all of the cutting heads and feeding rollers should turn on the PH260:

If the direction is wrong, turn off the feeding motor by depressing the red stop button, switch off the supply breaker, and reverse two of the three supply voltage leads, either at the breaker or at the planer.


1. Rotation of Bottom Cutter.
2. Rotation of Top Cutter.
3. Rotation of Feeding Rollers
4. Direction of Wood Through the Machine.

Turn power back on and check rotation direction again.

The correct rotation direction will also need to be checked for the chip extractor. If it is rotating backwards, follow the same procedure to correct.

# Chapter 4.
# Operation

**Overview**

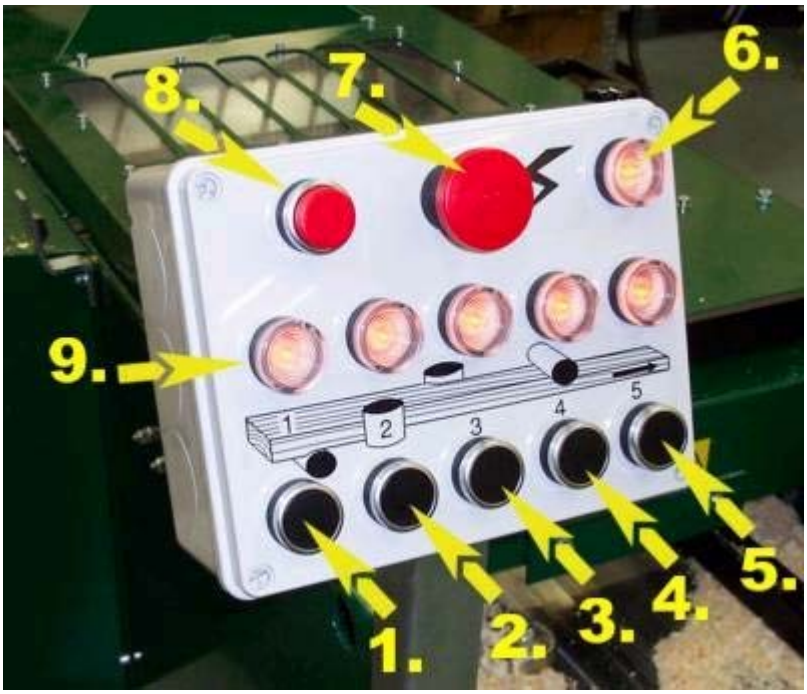
Operating the PH260 is simple. Always follow the safety rules outline in the sections on safety in this manual

**Control Panel Operation**

The PH260 is started and stopped via the control panel located at the infeed end of the machine. The top right light on the control panel will illuminate when power is being supplied to the machine. The bottom row of black buttons starts each motor independently of the others. After you are certain the machine is correctly set up and clear of any tools or loose items, start only the motors you will be using.

**NOTE: None of the motors will start if the planer's observation/protective lid is not securely closed, or if the Emergency Stop Button is depressed.**

**The PH260 is equipped with a lid switch that must be engaged before the machine can be started by the control panel buttons.**




1. Start Button for bottom cutter.
2. Start Button for right side cutter.
3. Start Button for left side cutter.
4. Start Button for top cutter.
5. Start Button for Feeding Rollers.
6. Power Indication Light - If this light is illuminated, power is being supplied to the machine.
7. Emergency stop button - When this button is depressed, all motors will stop and **CANNOT BE RESTARTED by the control panel start buttons** until this button is **PULLED OUT**.
8. Stop Button - this button stops all motors.
9. Row of motor indicator lights - these lights indicate if a motor has been started.

## Starting the Planer

Read and understand all information and warnings contained in the sections of the Operators Manual titled: SAFETY RULES and BEFORE STARTING THE PLANER. If you have any questions, contact Logosol!


Close the lid and make sure the Emergency Stop Button is not pressed in.

The best way to ensure that it is in the correct position is to depress the Emergency Stop Button in and then pull it out until you here a click.

The lid must be securely fastened down before the PH260 can be operated.

1. Direction Stop Button must be pulled out to allow motors to be started.

Always make sure all tools used in the setup of the machine are removed from the machine before starting any of the motors. Also, always check for rotation of all cutter heads before closing the lid and starting the machine. Each cutter head should move freely and not impact any fences before starting. Always wear gloves when handling the cutter heads.

**Stopping your planer under normal operating conditions**

Under normal operating conditions, use the top left red button to stop the machine. This stops all motors at once. All of the motors can be restarted again after this stop button is pressed.

**Stopping your planer in an emergency**
If an emergency occurs, and you need to quickly stop the machine, you can press the big red button until you hear it click. Once this button is pressed, the machine cannot be restarted until this button is pulled out and reset.

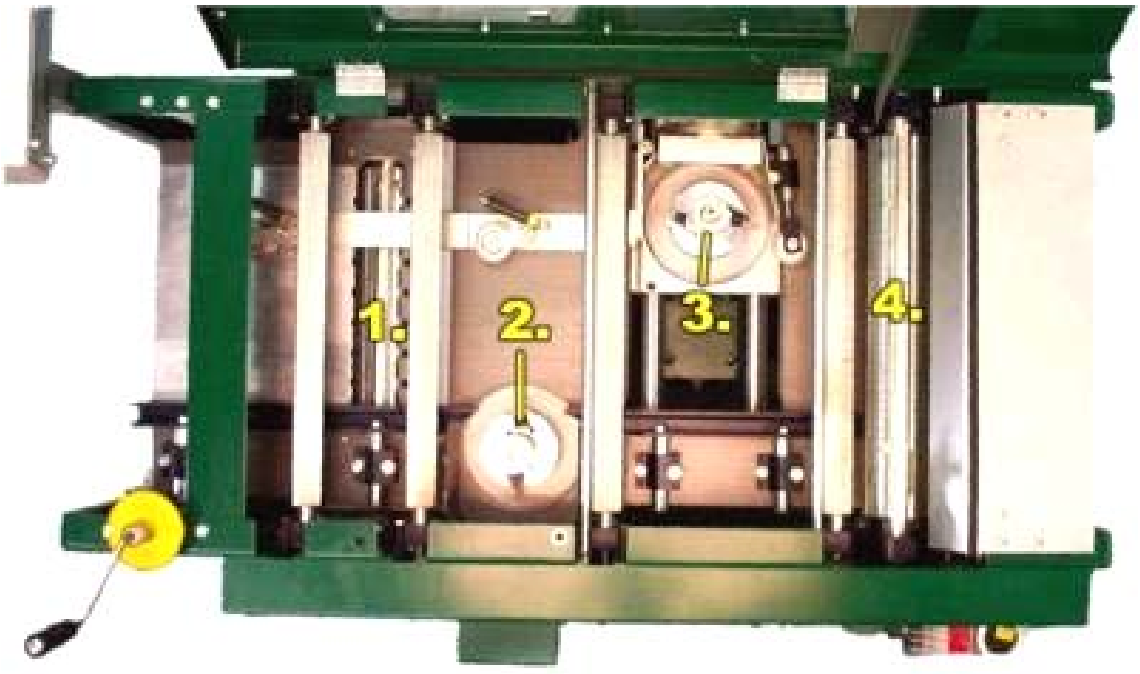
**Setting Up For 4 Sided Planing**

Since this machine can accomplish a variety of tasks, we will take the most common tasks one at a time in order to provide instructions as specific as possible to the task you are trying to accomplish with your planer.

One of the most common jobs on the PH260 is to plane a board on 4 sides (S4S). Once your machine is setup correctly, you can insert a piece of rough lumber into the infeed side of the planer, have the board planed on all 4 sides, and it will automatically exit on the outfeed end of the machine.

**Bottom Cutter Setup**

The Bottom Cutter is located under the planer table at the infeed end of the machine. This cutter head comes shipped with two straight planer knives preinstalled in the cutter head. It is recommended that you check these knives to ensure that they are properly set before planing with the machine.




(View from top of the machine with the lid opened - Infeed is from Left to Right)
**1. Bottom Cutter Head Location - Cutter #1**
2. Stationary Side Cutter - Cutter #2

3. Moveable Side Cutter - Cutter #3
4. Top Cutter - Cutter #4

**Safety**

**Warning! Before adjusting the knives on this machine always turn off the electrical circuit supplying power to the machine.**

**Always wear gloves when working with knives in the machine.**

**When work is completed always check for tools used in the operation and remove from the machine before closing the lid.**

**Always check for free rotation of cutter heads before closing the lid.**

To perform this operation you will need the following tools:

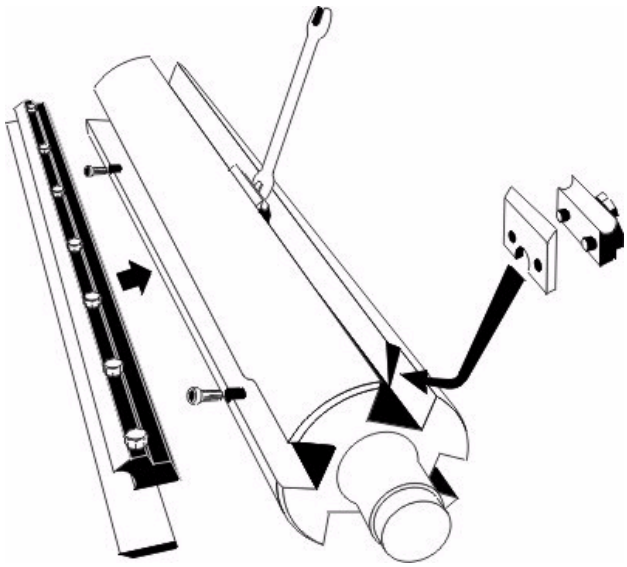

1. 10 mm open-end wrench (supplied)
2. 4 mm Allen wrench
3. Small carpenter's square
4. Gloves

**Bottom Cutter Design**

The bottom cutter head has the following specs:

Diameter: 2 7/8" (72mm)
Width: 11 13/16" (300mm)
Rotation Speed: 7000 rpm
4 – available slots for planer knives
Planing Depth: 0 - 3/32" (0-4mm)

This head is shipped with straight planer knives installed in two of the knife slots. The head can be fitted with 2 additional straight planer knives, or molding knives, in the two empty slots



**Leveling Straight Planer Knife in Bottom Cutter Head with a Carpenter Square**

Remove the ruler from the base of the square, utilizing just the base for setting the knives.

The Bottom Cutter straight planing knives should be adjusted so they lie level with and parallel to the cast iron cutter table.

**NOTE: Turn off electrical circuit supplying the machine with electricity before adjusting knives.**

Take care while adjusting the Bottom Cutter knives level with and parallel to the cast iron table. Do not put a straight edge through the machine across the nylon inserts to adjust these knives. Use the following procedure to set these knives accurately:

Use the base of a small carpenter's square as a straight edge for adjusting the knives.

**Note:** You can use a short piece of straight metal or a metal block for this, just ensure that the metal part is straight and long enough to bridge across the planer opening as shown in pictures below.

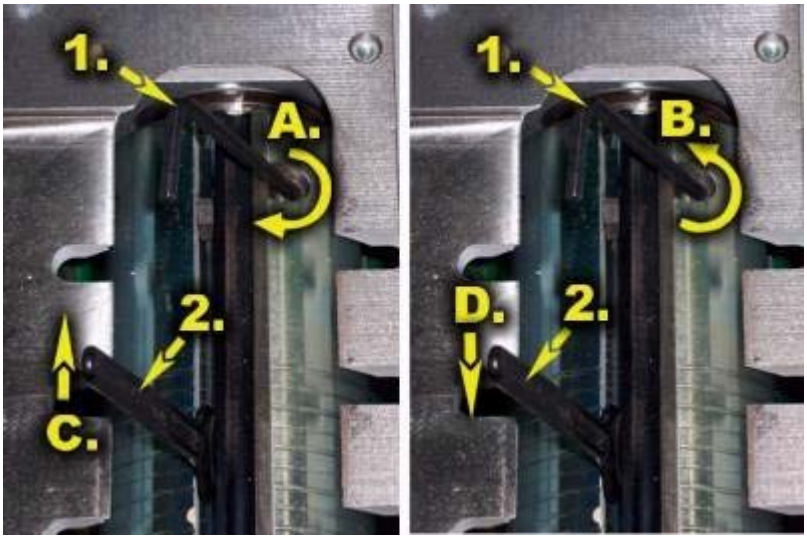
Place the base of the square across the corner of the cast iron table bed as shown below

1. Base of square

2. Corner of Cast Iron Table
Rotate the head so that the edge of the planer knife is directly under the square. If the knife is adjusted too high within the cutter head, the square base will be pushed out of position. If the knife it is positioned too low in the cutter head, the planer knife will not make contact, and the square base will not move at all. The objective is to get the square base to move slightly when the knife edge passes beneath it. You should see the square base move only slightly - about 1/16 - 1/8" in either direction, with maximum movement about 1/4 of an inch when the knife passes below it.


1. Rotate the head as shown above.
2. Square Base

In order to raise or lower the knife, the knife chip breaker lock bolts should be slightly loosened. Then the knife can be raised or lowered using a 4 mm Allen wrench (supplied).




1. 4 mm Allen wrench inserted into adjusting screw.
2. 10mm open-end wrench used to loosen chip breaker lock bolts.
A. Direction to turn the Allen wrench to raise the knife blade.
B. Direction to turn the Allen wrench to lower the knife blade.
C. Direction to move the wrench to tighten the chip breaker in head.
D. Direction to move the wrench to loosen the chip breaker in head.

-Insert the 10 mm wrench in the track between the chip breaker (D) and the cutter. Loosen the lock bolts (D), which hold the knives.
-Knife height is set by either adjusting the knife up (A) or down (B) using the two recessed adjustment screws (5 mm Allen head) next to the cutter track. The knife sides have a recess that allows access to the adjustment screw heads. The knives should extend 1 mm in order to fit against Logosol profile knives.

Check the knife level in the cutter head by rotating the head to see if the knife blade comes in contact with and moves the square base slightly. Adjust one side until correct, and then adjust the other side in similar fashion.

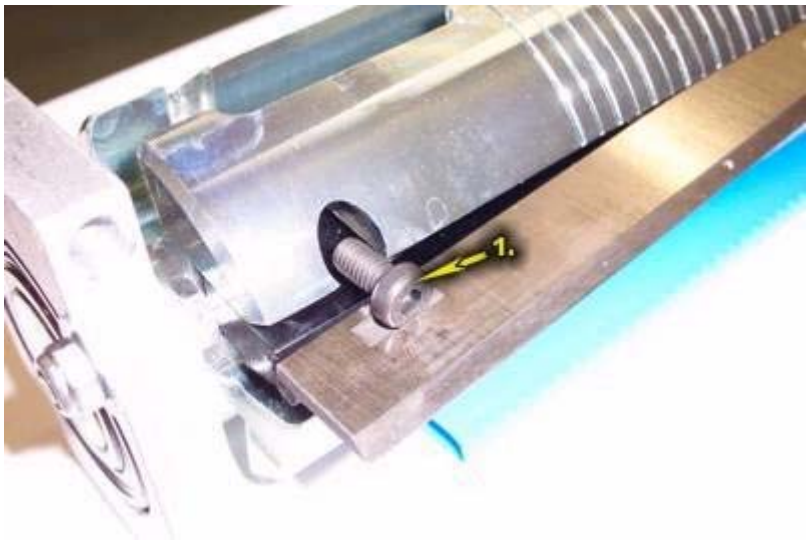

1. Rotating the head.
2. Square base across table on the side with the stationary side cutter.

**Note:** Adjusting the second side can cause the first side that you just adjusted to become a little bit off. Check the level of both sides of the knife again, and continue adjusting until the square base moves only slightly when the cutter head is rotated beneath it.

Once one knife is adjusted correctly, securely tighten the chip breaker lock bolts.

**Note:** Tighten the bolts simultaneously, at the same rate, moving back and forth between both bolts. Continue repeating the procedure between both bolts until they are very tight.

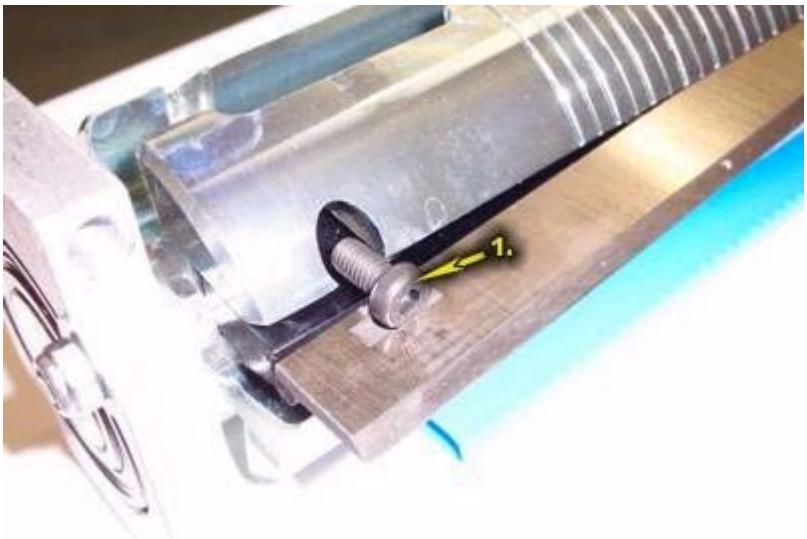
Rotate the head so that the next knife can be adjusted in the same manner. Repeat this procedure until all straight knives you have installed in the head are level with the cast iron table.



**WARNING: Ensure that ALL of the chip breaker lock bolts are very tight, and that all of the knives are secure in the cutter head and before using the machine! Rotate the cutter head completely to make sure it does not impact with anything when rotating.**

**WARNING: Check to be sure all parts and wrenches used to set the Bottom knives have been removed from the machine before closing the lid of the machine!**

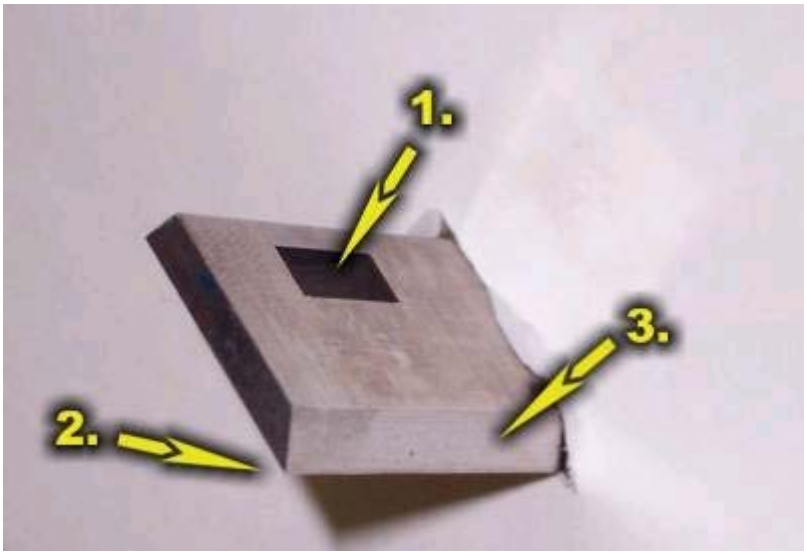
**Replacing Bottom Cutter Straight Planer Knives**
The bottom cutter knives are removed from the cutter head by first loosening the top cutter chip breaker lock bolts, and then loosening the knife adjustment screws.




1. Knife Height Adjusting Screw
The knives are fitted in the bottom cutter head as shown:

**NOTE:** Always place the leading edge of the knife against the chip breaker. This is true for both straight planing knives and molding knives in both the horizontal cutter heads (Top and Bottom) and the side cutter heads.

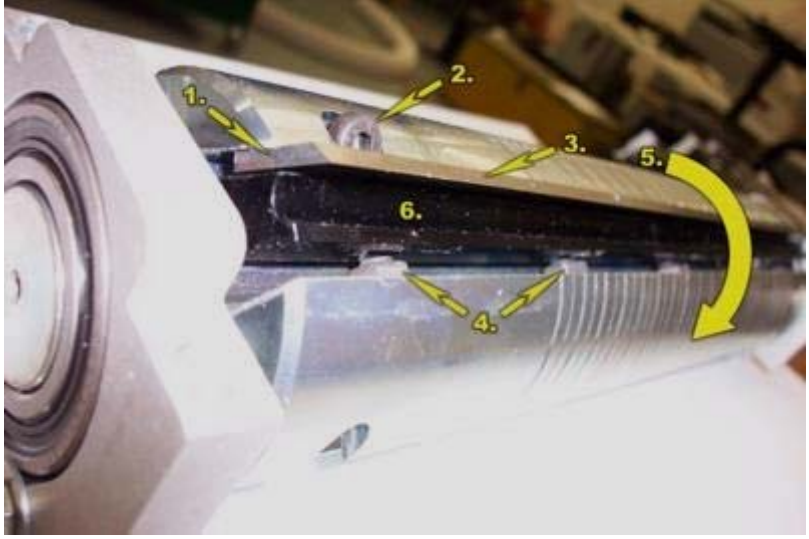
**Anatomy of a planer knife:**




1. Adjusting screw slot

2. Leading Edge (Cutting Edge) of the Knife Face **NOTE: THIS SIDE OF THE KNIFE SHOULD BE PLACED AGAINST THE CHIP BREAKER.**

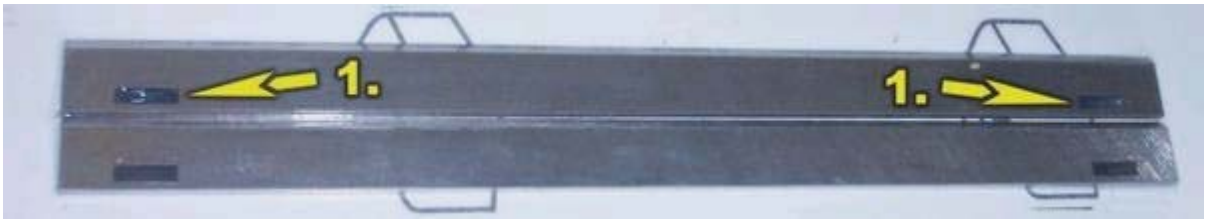
3. Knife Bevel




**Bottom Cutter Head Detail** (Note: The Bottom Cutter head has been removed from the planer to show detail)

1. Straight Planer knife. NOTE: Leading edge of knife against the Chip Breaker.
2. Knife height adjusting screw - use a 4 mm Allen wrench to facilitate the raising and lowering of the knife.
3. Beveled Edge of the knife.
4. Chip Breaker Lock Bolts.
5. Rotation cutter head turns to plane wood.
6. Chip Breaker with locking bolts.

Part Number for Replacement Logosol PH260 Bottom Cutter HSS Knives: 7000-002-8300




1.

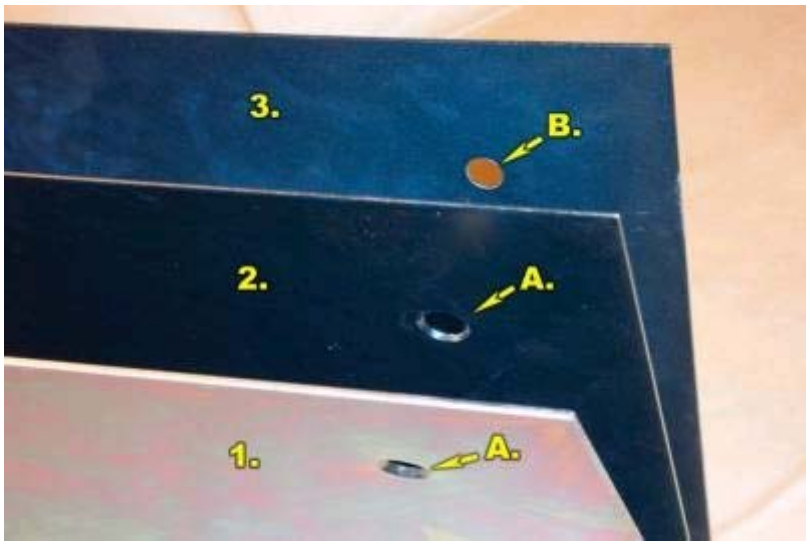
1.Adjusting Screw Slot

Part Number for Replacement Logosol PH260 Bottom Cutter CARBIDE Knives: 7000-003-8300

**Adjusting Cutting Depth of the Bottom Cutter**

The cutting depth of the bottom cutter is set by adding or removing the adjusting plates located on the cast iron planer table in front of the bottom cutter.

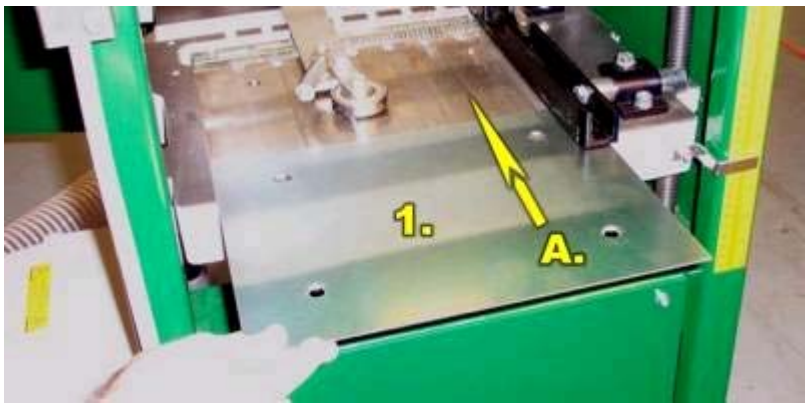
There are three takeoff-adjusting plates available:




1. 2 mm thick with conical holes (A.)
2. 1 mm thick with conical holes (A)
3. 1 mm thick with round holes. (B)

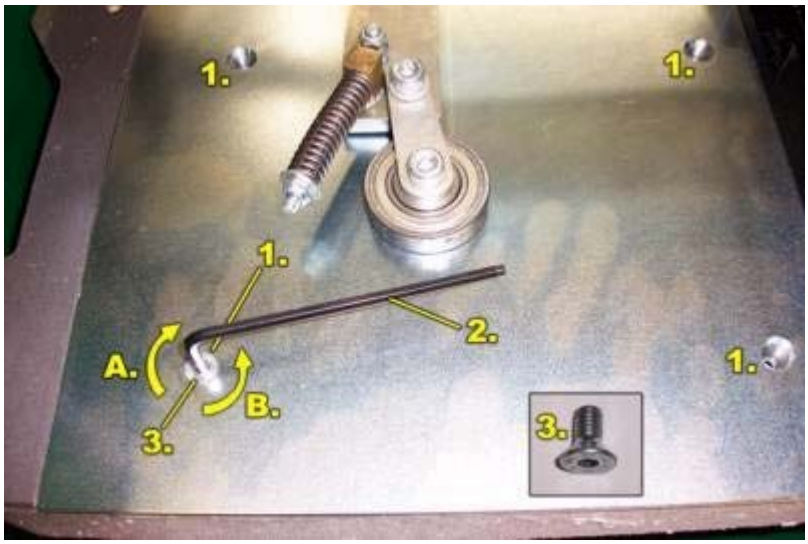
A close-up picture so you can see the differences in the holes in the plates:


The adjusting plates are held in place by carriage screws. Use the 5mm Allen wrench to remove these screws and add or replace plates.



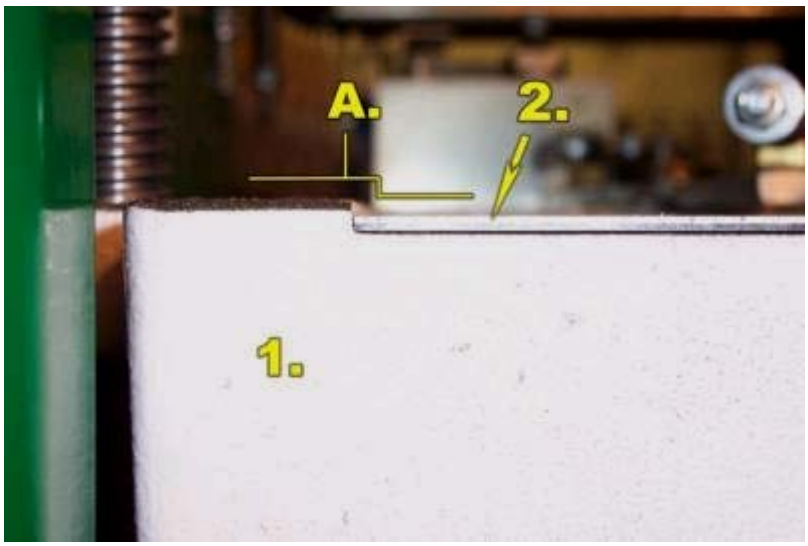

1. Takeoff Adjustment Plate.

A. Slide into position in this direction.




1. Takeoff Adjusting Plate Mounting Holes
2. 4 mm Allen Wrench
3. Allen Head Carriage Bolt
A. Tighten Bolt.
B. Loosen Bolt.

Upon delivery, you will find that your machine is supplied with the 2 mm spacer installed, as this is the basic setting



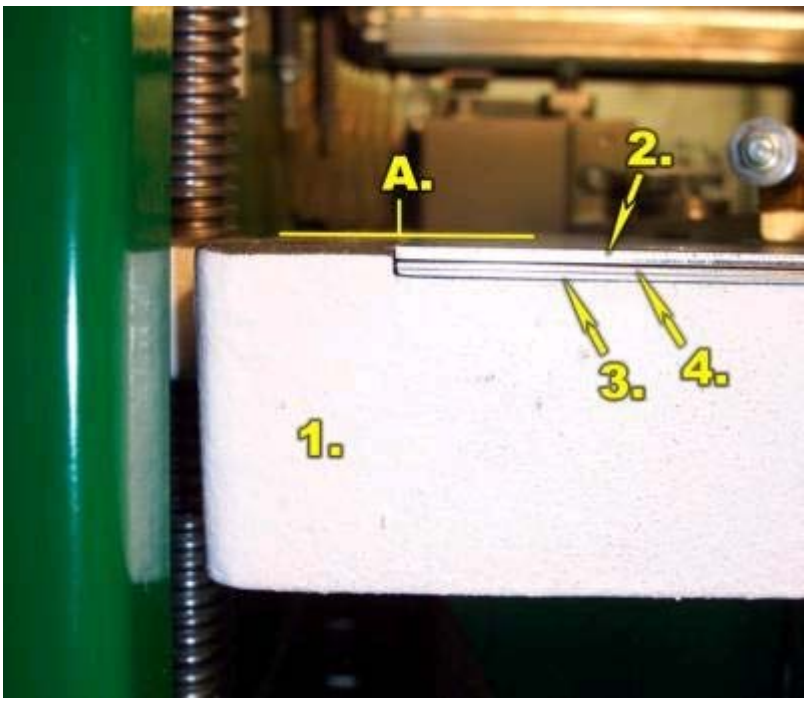

1. Cast Iron Table
2. 2 mm Adjustment Plate
A. Top of Cast Iron Table and amount of takeoff of bottom cutter (2mm)

**Note:** The spacer plates can be fitted in two ways. For normal planing, fit the spacer so that the front plate edge is close to the lower cutter. This provides maximum support to the material while the bottom cutter head is cutting it.

When profile knives are fitted to the lower cutter, the spacer is placed so that the tracks in the planer table are visible. This allows longer knives, such as bottom relief knives used for making flooring, the ability to cut without impacting the spacer plate.

Various configurations used to remove wood:
- **4 mm**, do not use any takeoff adjustment plate.
- **3 mm**, use the 1 mm takeoff adjustment plate with conical holes.
- **1 mm**, use the 1 mm takeoff adjustment plate with round holes **AND** the 2 mm takeoff adjustment plate.
- **2 mm**, use the 2 mm takeoff adjustment plate.
- **0 mm**, use the 1 mm takeoff adjustment plate with conical holes, the 1 mm takeoff adjustment plate with round holes, and the 2 mm takeoff adjustment plate.

**Picture: All Three Plates installed - Level with the Cast Iron Table: No material takeoff with the Bottom Cutter.**




1. Cast Iron Table.

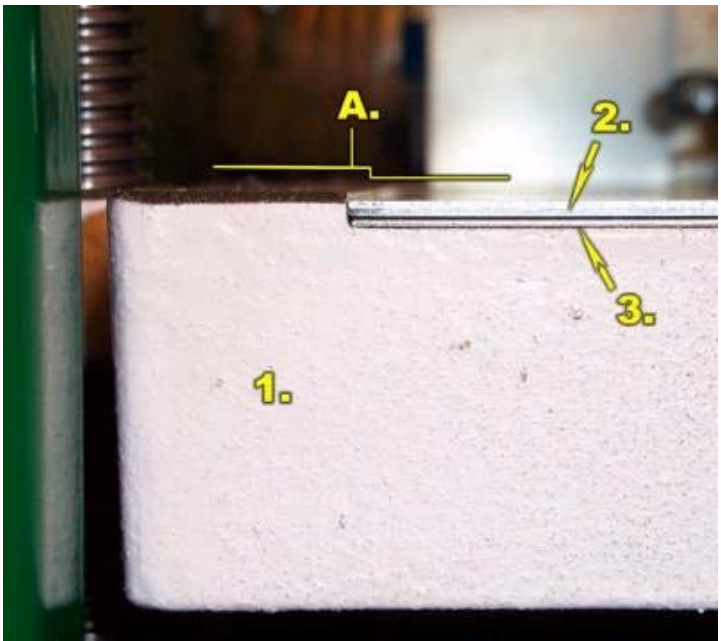
2. 2 mm Takeoff Adjustment Plate.

3. 1 mm Takeoff Adjustment Plate with Round Holes.

4. 1 mm Takeoff Adjustment Plate with Conical Holes.

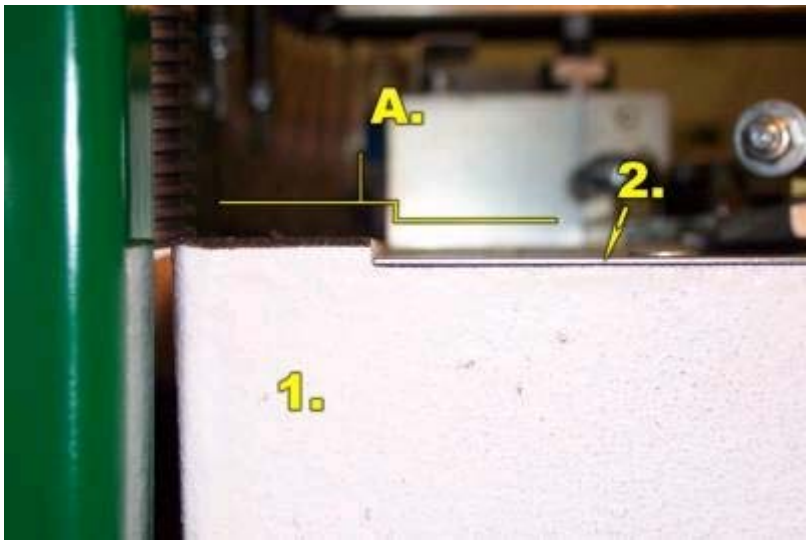
A. Plates are **level** with the top of the Cast Iron Table: Therefore, no material takeoff with bottom cutter.

**Picture: Two plates installed: - 1 mm material takeoff with Bottom Cutter.**




1. Cast Iron Table.
2. 2 mm Takeoff Adjustment Plate.
3. 1 mm Takeoff Adjustment Plate with Round Holes (Notice this plate in on the bottom - **Do not install this plate on top of the thicker plate**.)
A. Amount of material takeoff with bottom cutter (-1 mm).

**Picture: One plate installed: -3 mm material takeoff with Bottom Cutter.**

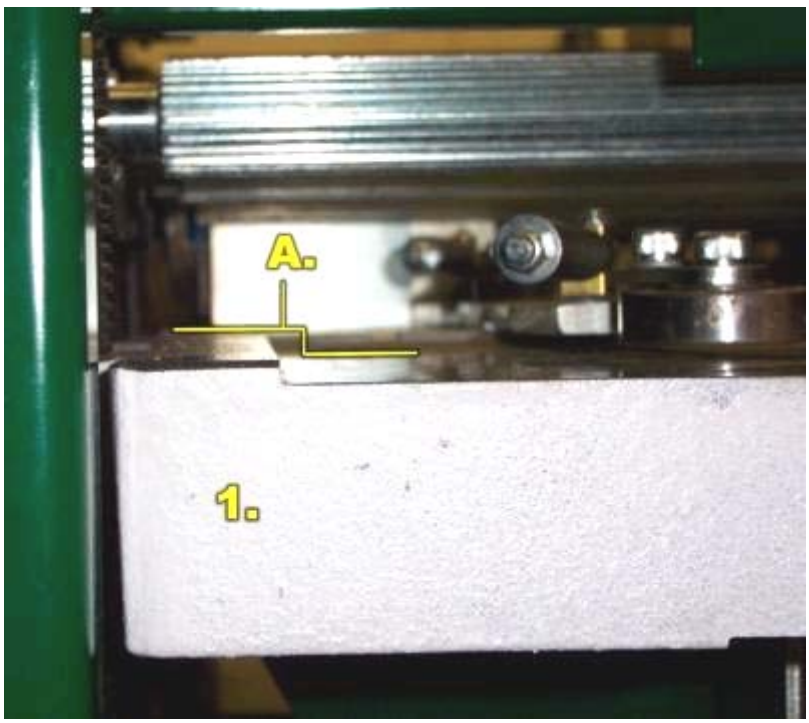



1. Cast Iron Table

2. 1 mm Takeoff Adjustment Plate with Conical Holes.

A. Amount of material takeoff with bottom cutter (-3 mm).

**Picture: No plates installed: -4 mm material takeoff with Bottom Cutter.**




1. Cast Iron Table with no Takeoff Adjustment Plates installed.

A. Amount of material takeoff with bottom cutter: (- 4 mm maximum).

**Top Cutter Setup**

**Safety Warning! Before adjusting the knives on this machine always turn off the electrical circuit supplying power to the machine.**

**Always wear gloves when working with knives in the machine.**

**When work is completed always check for tools used in the operation and remove from the machine before closing the lid.**

**Always check for free rotation of cutter heads before closing the protection/observation lid.**

**Tools Needed**

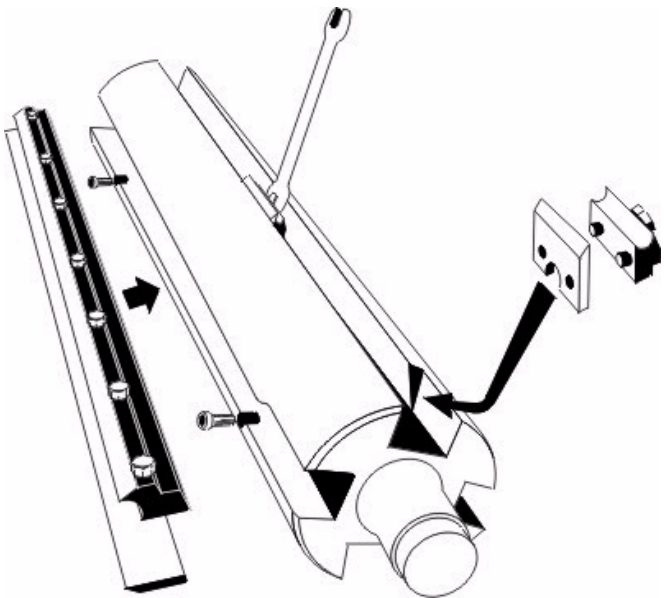
To perform this operation you will need the following tools:


1. 10 mm open-end wrench (Supplied).
2. 4 mm Allen wrench (Supplied)
3. Planer Knife Setting Block (Supplied)
4. Gloves

**Top Cutter Design**

The top cutter head has the following specs:

Diameter: 2 7/8" (72mm)
Width: 16 1/4" (410mm)
Rotation Speed: 7000 rpm
4 = Number of available slots for planer knives
Planing Depth: Max 5/16" (8mm)
Molding Depth: Max. 3/8" (10mm)



The top cutter is shipped with straight planer knives installed in two of the four available knife slots. The head can be fitted with 2 additional straight planer knives, or with 2 molding knives in the two empty slots.

**Leveling the Straight Planer Knife**

The Top Cutter knives are adjusted in a similar way to the Bottom Cutter knives. However, there is an aluminum knife-setting block that is supplied with the machine for the purpose of setting the Top Cutter Knives. This setting block can be found in the parts box that is shipped with the machine.

In order to level a knife in the top cutter, begin by slightly loosening the lock bolts in the chip breaker. Then, place the aluminum setting block next to one of the adjustment screws located in the top cutter's head. Adjust the knife up or down until it just barely touches the underside of the setting block.


1. Setting Block sitting across Planer Knife.
2. 4 mm Allen Wrench.
3. Planer Knife.
4. Chip Breaker Lock Bolts.
A. Direction to turn Allen Wrench to **Raise** knife in head (Counter-clockwise).
B. Direction to turn Allen Wrench to **Lower** knife in head (Clockwise).

The knives can be set in this fashion, using this block.

An alternative method is to set one side of the knife using this block. Then, rotate the cutter head so that the knife you just adjusted is now facing down. Adjust the table bed so that the block, when sitting on its legs, is just touching the knife. When you rotate the head, the block should just barely move, similar to the method used to set the under cutter.


1. Setting Block placed on Cast Iron Table

The knives can be set in this fashion, using this block.

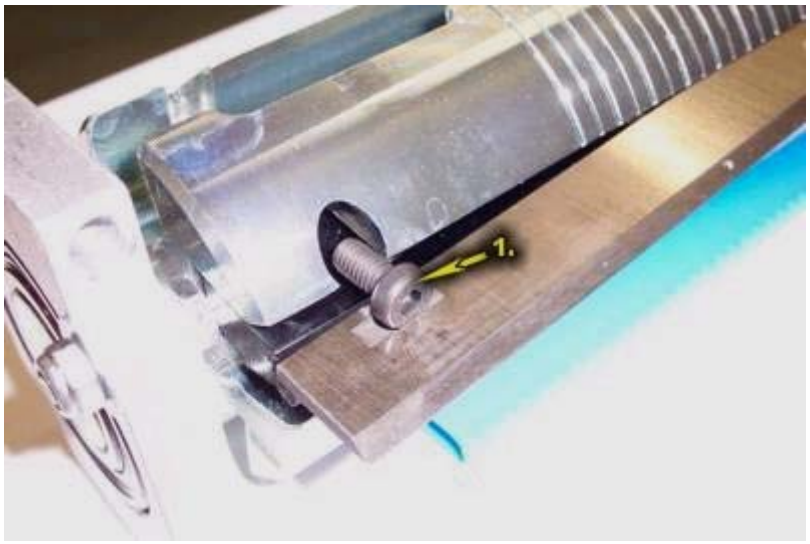

1. Setting Block
2. Top Cutter Head
3. Last Metal Feed Roller before Top Cutter Head
4. Cutting edge of straight planer knife in Top Cutter Head

Elevated the table to the point to where the setting block barely moves when the knife is rotated above it. Then, move the setting block to the other end of the cutter head to where the block is under the knife height adjustment screw in the head. Adjust this screw clockwise or counter clockwise to adjust the knife to the right height. The knife is at the right height when the setting block barely moves when the knife is rotated in the cutter head lying above it.

Repeat this procedure for the every straight knife in the head.

**Replacing the Top Cutter Straight Knives**

The top cutter knives are removed from the cutter head by first loosening the top cutter chip breaker lock bolts, and then loosening the knife adjustment screws.

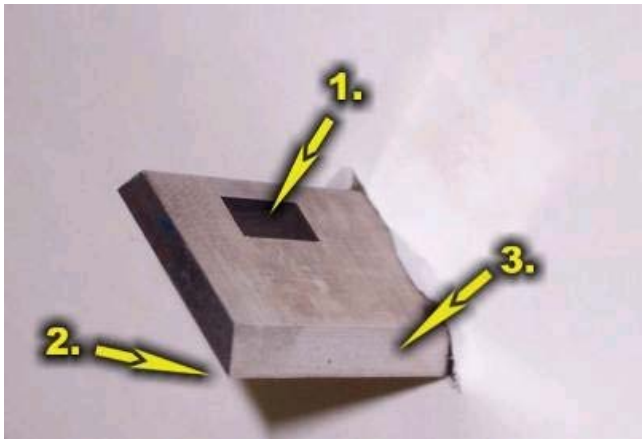



1. Knife Height Adjusting Screw

The knives are fitted in the Top cutter head as shown:

NOTE: Always place the leading edge of the knife against the chip breaker. This is true for both planing knives and molding knives in both the top and bottom cutter heads, and the vertical side cutter heads.

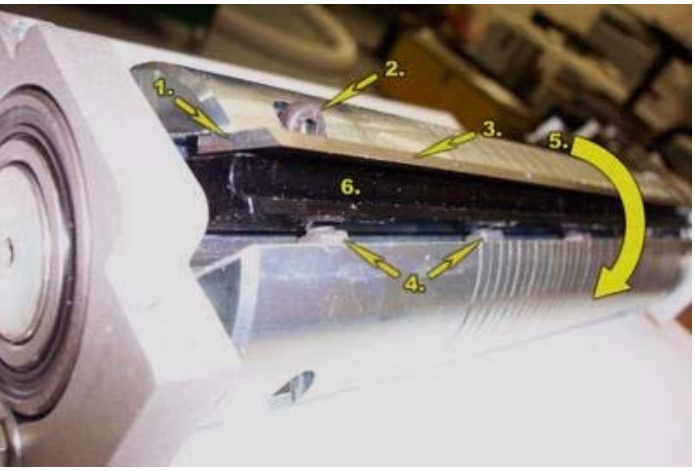
**Anatomy of a planer knife:**




1. Adjusting screw slot.

2. Leading edge or Cutting edge or Face of Knife. **THIS SIDE OF KNIFE SHOULD BE AGAINST THE CHIP BREAKER.**

3. Bevel of knife.




**Top Cutter Head Detail** (Note, this head has been removed from the planer to show detail).
1. Straight planer knife. **NOTE:** The leading edge of knife is against the chip breaker.

2. Knife height adjusting screw - use 4 mm Allen wrench to raise and lower.

3. Bevel Edge of the knife.

4. Chip breaker lock bolts.

5. Rotation cutter head turns to plane wood (clockwise).

6. Chip Breaker with locking bolts


1. Adjusting Screw Slots on Knives

Part Number for Replacement Logosol PH260 Top Cutter HSS (High Speed Steel) Knives: 7000-002-8410

Part Number for Replacement Logosol PH260 Top Cutter CARBIDE Knives: 7000-003-8410


**Adjusting Cutting Depth**

The cutting depth of the top cutter is adjusted by turning the top crank handle that raises and lowers the cast iron table in the planer. The scale on the front of the machine indicates the thickness of the finished material.

1. Thickness of Finished Board Scale.

The depth of cut is determined by the thickness of the rough board before it enters the planer, less the amount of takeoff from the bottom cutter, less the amount of the thickness of the finished board.

Here is a typical example in Inches:

Rough Lumber Thickness = 1 1/16 "
Takeoff of Bottom Cutter = 1/16"
Resulting Thickness = 7/8"
Top Cutter Head removes = 1/8"

A similar example in Metric:

Rough Lumber Thickness = 26 mm
Takeoff of Bottom Cutter = 2 mm
Resulting Thickness = 21 mm
Top Cutter Head removes = 3 mm

**Side Cutter Knife Setup**

**Safety**

**Warning! Before adjusting the knives on this machine always turn off the electrical circuit supplying power to the machine.**

**Always wear gloves when working with knives in the machine.**

**When work is completed always check for tools used in the operation and remove from the machine before closing the lid.**

**Always check for free rotation of cutter heads before closing the lid.**

**Tools Needed**

To perform this operation you will need the following tools:


1. 12 mm open-end wrench.
2. 30 mm open-end wrench (supplied with Planer).
3. 4 mm Allen wrench.
4. Gloves.

**Side Cutter Design**

The side cutters have the following specifications:

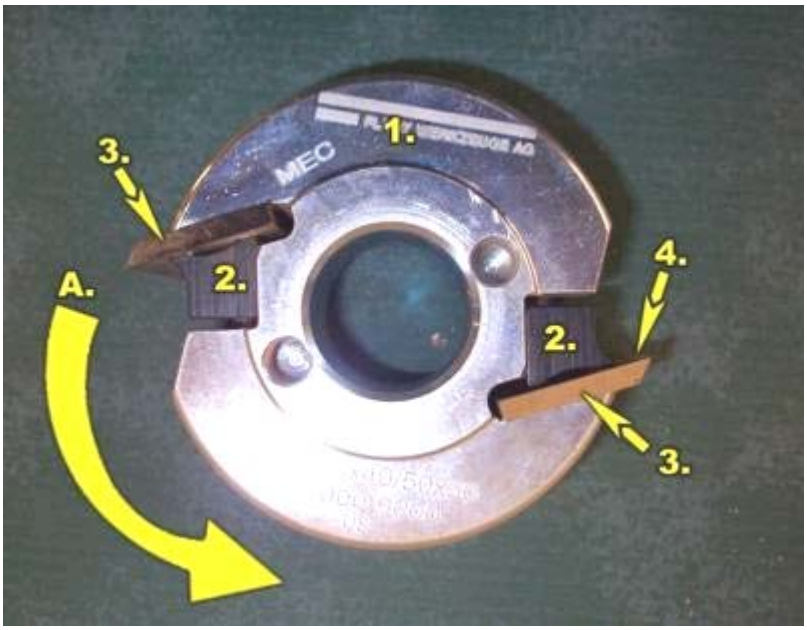
Spindle Axle: Diameter 30 mm
Cutting Height: Maximum 3 15/16" (100 mm)
Rotation Speed: 7000 rpm
Cutting Depth: Maximum 1 3/32" (28 mm)

Specifications of the Side Cutter Heads shipped with the machine:

Type: TB90
Diameter: Body 3 1/2" (90 mm)

Height: Body 1 9/16" (40 mm)
Planer Knives: HSS (High Speed Steel)
Knives: Width 1 33/32" (50 mm)

Anatomy of a Side Cutter Head:




1. TB90 Side Cutter Head

2. Chip Breaker or "Wedge"

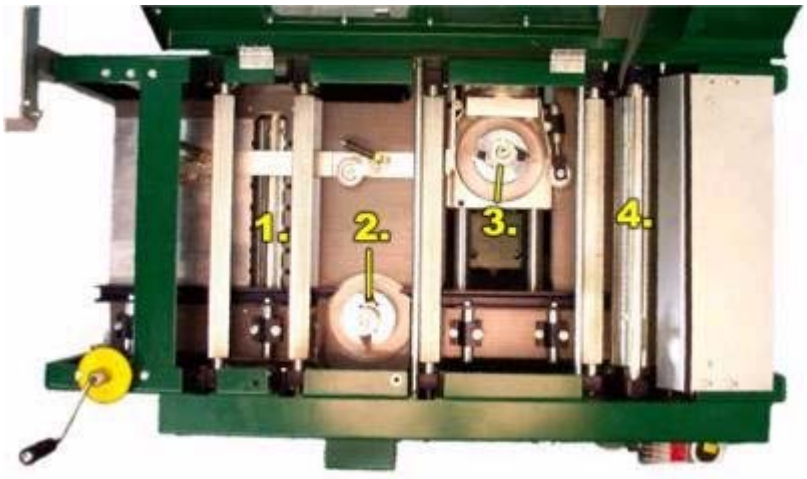
3. Side Cutter Knives in Head

4. Face of knife

A. Direction of Cut

**Removing Right Side Cutter**

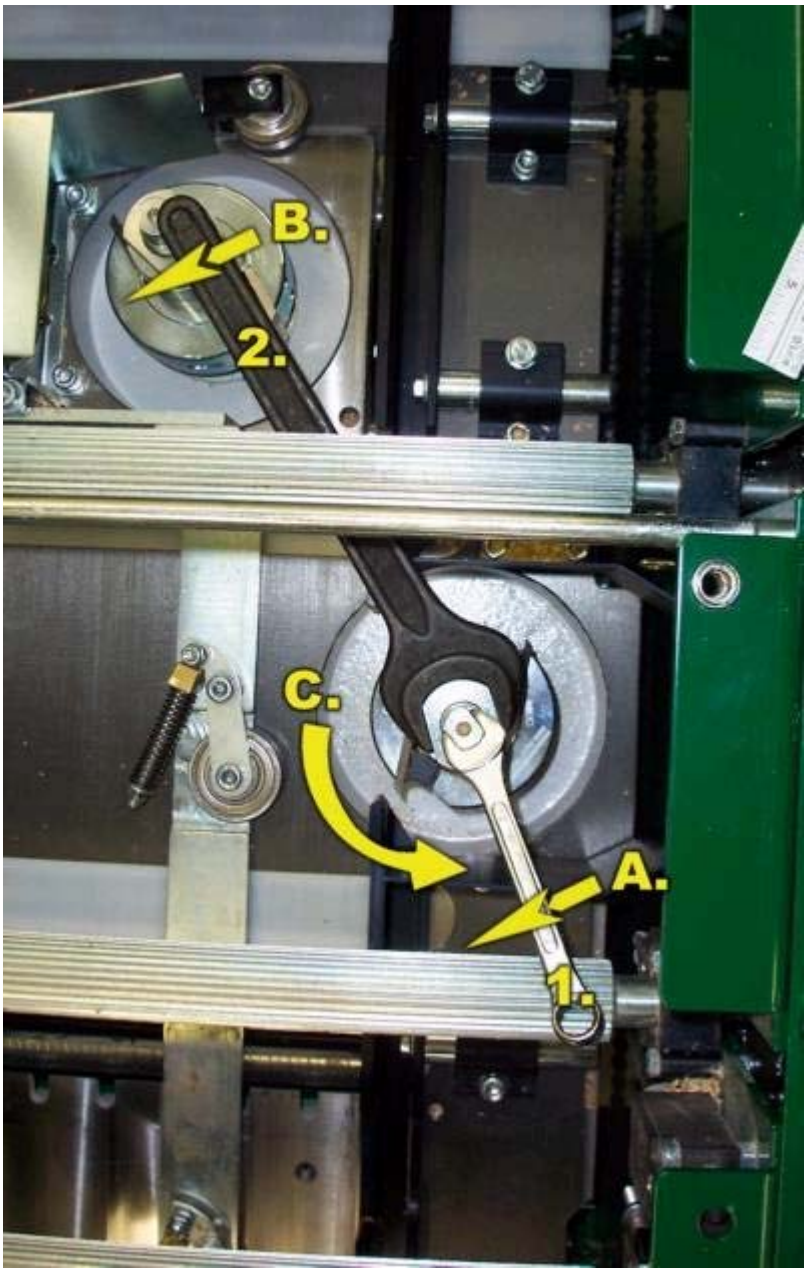
Location of the Right Side Cutter (Stationary Side Cutter or Cutter # 2 on panel)




(View from the top of the machine with the lid opened - Infeed is from Left to Right)

1. Bottom Cutter Head Location - Cutter #1.
**2. Stationary Side Cutter - Cutter #2.**
3. Moveable Side Cutter - Cutter #3.
4. To Side Cutter - Cutter #4.

To remove the Right Side Cutter Head, use the 30 mm open-end wrench in combination with a large adjustable wrench to loosen the nut on the top of the shaft.



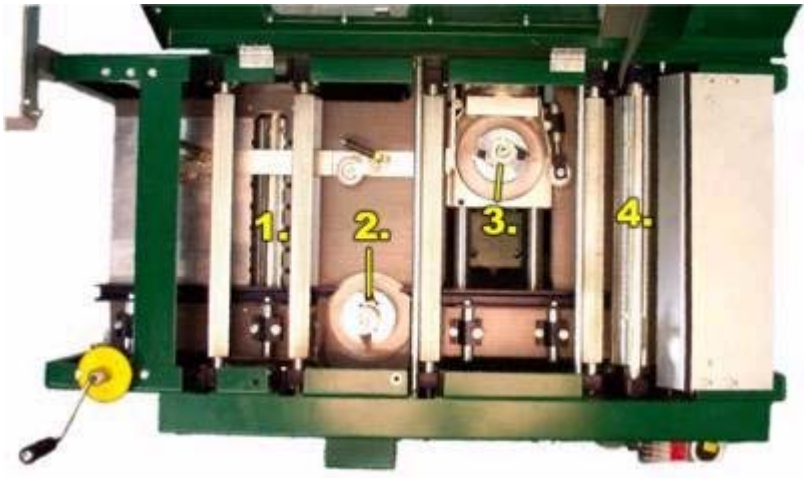

RULE OF THUMB: Remember - Each side cutter fastening nut loosens in the direction the cutter turns. Turn the wrench in the direction the side cutter turns when running.

The nut is then removed from the shaft threads.

Then the cutter head can now be removed from the shaft – Always wear gloves when working with cutter heads because the knives are sharp!

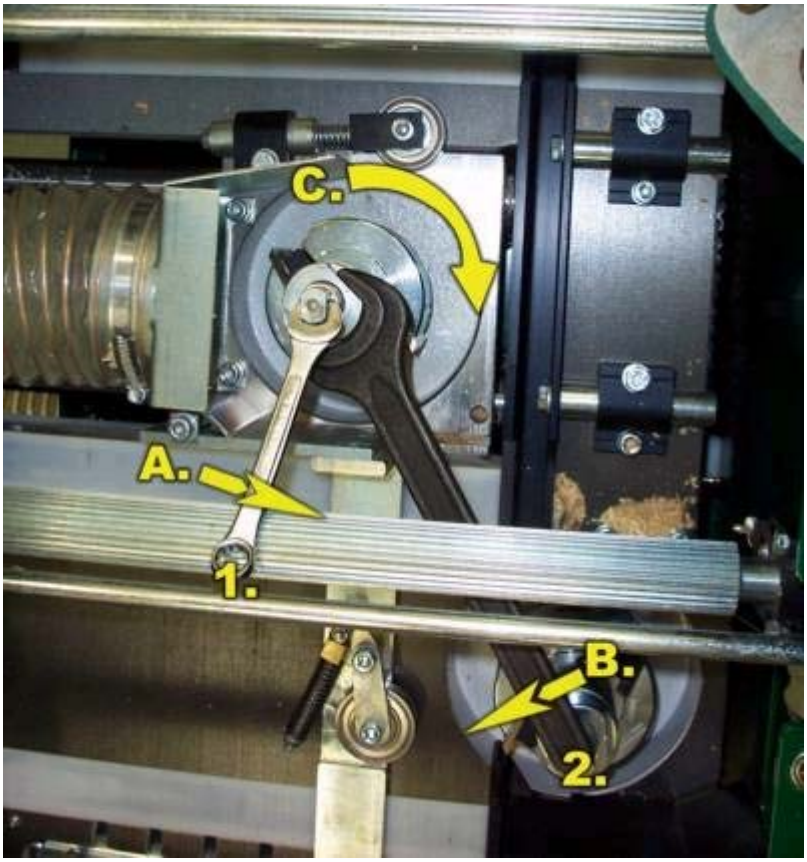
**Removing Left Side Cutter**

Location of the Left Side Cutter (Moveable Side Cutter or Cutter # 3 on panel)




(View from top of the machine with the lid opened - Infeed is from Left to Right
1. Bottom Cutter Head Location - Cutter #1
2. Stationary Side Cutter - Cutter #2
**3. Moveable Side Cutter - Cutter #3**
4. To Side Cutter - Cutter #4

To remove the Left Side Cutter Head, use the 30 mm open-end wrench and a large adjustable wrench to loosen the nut on the top of the shaft.




Notice that this nut turns the opposite way from the other side cutter.

RULE OF THUMB: Remember - Each side cutter fastening nut loosens in the direction the cutter turns. Turn the wrench in the direction the side cutter turns when running.

**Setting Side Cutter Knife Height**

Included with your planer is a package of shims/spacers of various thicknesses for the side cutter heads. These shims are packed in the parts box that is packed with your planer.

Side cutter shims are used to raise the cutter head up and down on the cutter shaft. Using shims allows the precise setting of the cutter head, and when locked in place, your setting will not change. Also, shims provide you the ability to easily change your settings, as well as the ability to return to specific settings, as long as you record the shims that are used in that particular setup

.

For straight planing we are just insuring that the knife is impacting the full side of the board.

**Side Cutter Spacers**

Here are the various sized spacers available for this machine:
40 mm Spacer
20 mm Spacer
10 mm Spacer
5 mm Spacer
Set of Spacers (0.1 - 2.0mm)

To order spacers use the following part numbers:
7502-001-0038 40 mm Spacer
7502-001-0042 20 mm Spacer
7502-001-0044 10 mm Spacer
7502-001-0046 5 mm Spacer
7502-001-0230 Set of Spacers (0.1 - 2.0mm)

**Raising the Cutter Head**

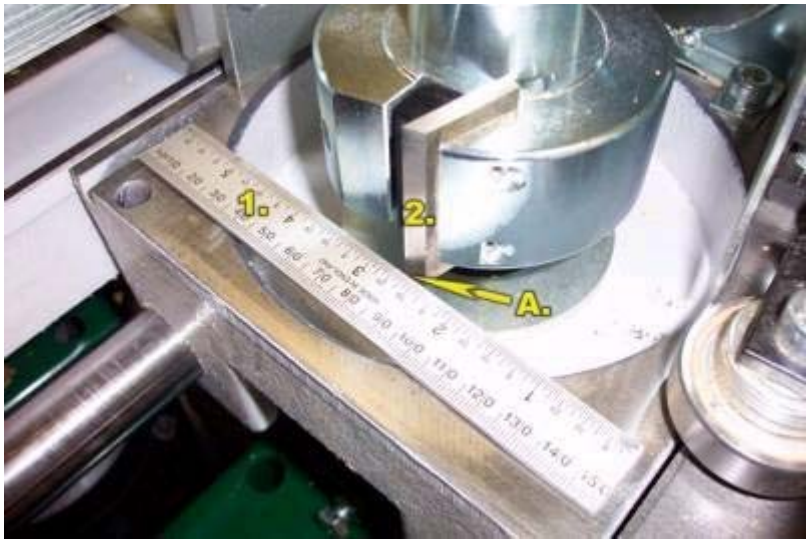
To raise the cutter head for either side, remove the cutter head and determine the amount of shims to place under the cutter head to achieve the correct height of the head.

You may have to try several combinations of shims in order to achieve the correct height setting for the side cutter knives.

**Lowering the Cutter Head**

To lower the height of the cutter head, remove the cutter head from the shaft, and then remove the appropriate shims to lower the head in the machine.

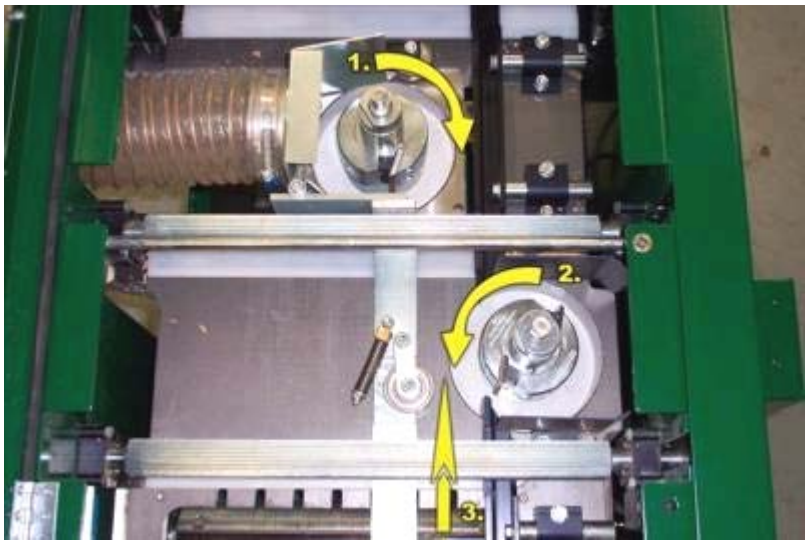
You may have to try several different combinations of shims to achieve the correct height for the head.
Check the level with a straight edge as shown below.




1. Straight Edge.
2. Straight Knife Edge.
A. Knife edge should be below the level of the Cast Iron Table.

**Cutter Head Direction**

It is important that the cutter heads are replaced back in the machine with the knives facing the correct direction. Please refer to the pictures below to confirm the cutter heads are re-installed properly.




1. Rotation direction of the Left Side Cutter.
2. Rotation direction of the right Side Cutter.
3. Path of wood through the machine.

RULE OF THUMB: The leading edge of the knife should always turn into the wood. Make sure this knife is cutting into the wood when the head is rotating.

**Placing the Cutter Head in Position**

Replace the cutter heads back on the shaft as shown in the picture. Make sure that the cutter head slides all the way down the shaft, and seats onto the shims at the bottom of the shaft.

**Locking the Cutter Head in Position**

The large spacer rings should be placed above the cutter head. Enough spacers should be placed so that the only potion of the shaft that you are able to see is the threaded portion.

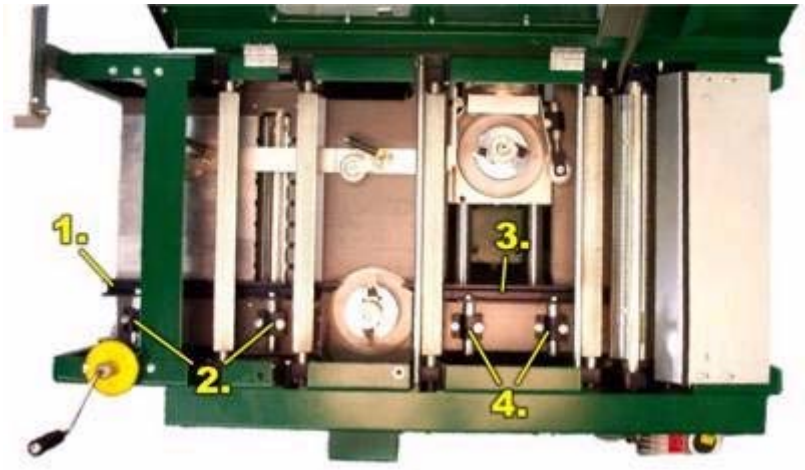
**Warning: If the spacer rings are not stacked properly, the cutter head could spin on the shaft, causing the shaft to become scarred, thus damaging it.**

**Also, if the spacer rings are not stacked to the point where you can see only the threaded portion of the shaft, the top nut will to spin into the shaft, and be very hard to loosen the next time the head is changed.**

The top nut should then be replaced on the top of the shaft using two open-end wrenches – one to hold the shaft, and one to tighten the nut.

**Side Cutter Fence Setup**

The Right Side Cutter has two fences. We refer to them as the First Side Cutter Fence, and the Second Side Cutter Fence. They are both attached in similar fashion to the cast iron table. Here is their location in the machine:




(View from top of the machine with the lid opened - Infeed is from Left to Right)

1. First Right Side Cutter Fence.

2. Fence Hold Down Bracket Locking Bolts.

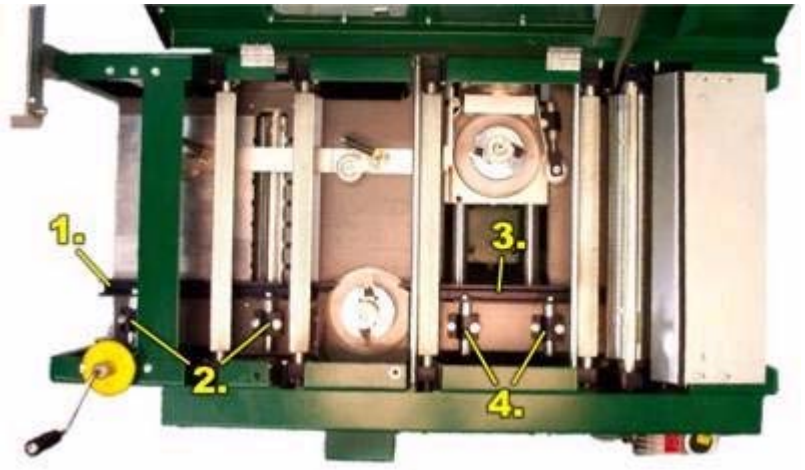
3. Second Right Side Cutter Fence.

4. Fence Hold Down Bracket Locking Bolts.

**Setting the Second Side Cutter Fence - Step One**

The second side cutter fence is located on the other side of the stationary cutter. It is set back away from the path of the wood initially so that the wood can travel through the machine straight and then stopped. This second side cutter fence is then brought up to the wood and bolted into place firmly against the wood as it travels through the machine.

Here is the location of the second side cutter fence:




(View is from the top of the planer with the lid opened – Infeed is from Left to Right)

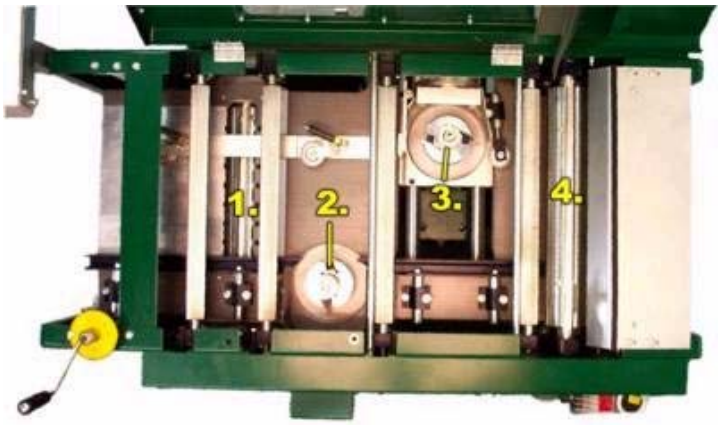
1. First Side Cutter Fence.

2. Hold Down clamps for First Side Cutter Fence.

**3. Second Side Cutter Fence.**

4. Hold Down Clamps for Second Side Cutter Fence.

**Setting the Moveable Side Cutter Head**




(View from top of the machine with the lid opened - Infeed is from Left to Right)

1. Bottom Cutter Head Location - Cutter #1.
2. Stationary Side Cutter - Cutter #2.
**3. Moveable Side Cutter - Cutter #3.**
4. To Side Cutter - Cutter #4.


This side cutter can be moved by turning a crank on the back side of the machine.


Before being able to move this side cutter head, check to make sure the moveable side cutter locking bolt is loosened.

1. Locking Bolt Lever

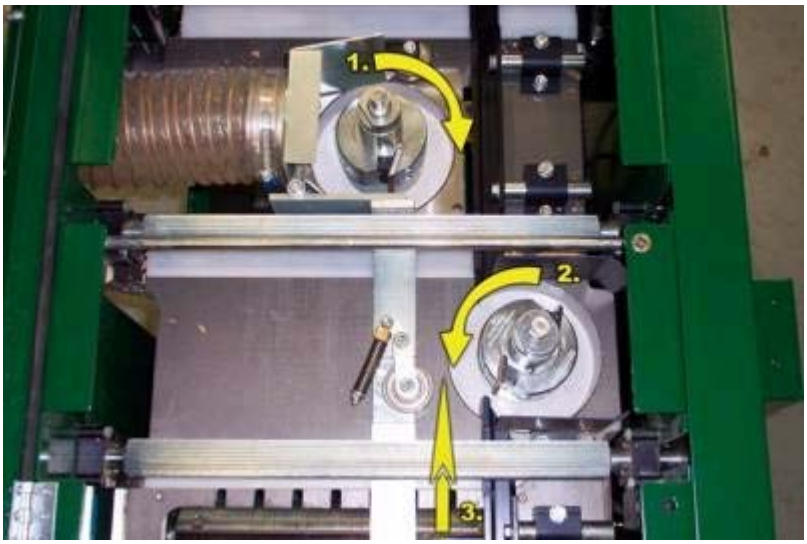
A. Turn this direction to Loosen.

B. Turn this direction to Tighten. Once this bolt has been loosened, move the side cutter in or out to the desired location to cut the left side of the board you will be feeding through the machine. This initial setting will only be close to the end result desired, as for now we are mainly setting the second right side fence. Once this second right side fence is set, you will be able to measure more accurately to achieve the width you desire.


1. Reach in under the Cast Iron Table Bed to loosen this bolt at the outfeed end of the planer.

**Checking for Rotation of Cutter Head**

Be sure and check rotation of the cutter head before closing the lid and using the machine.

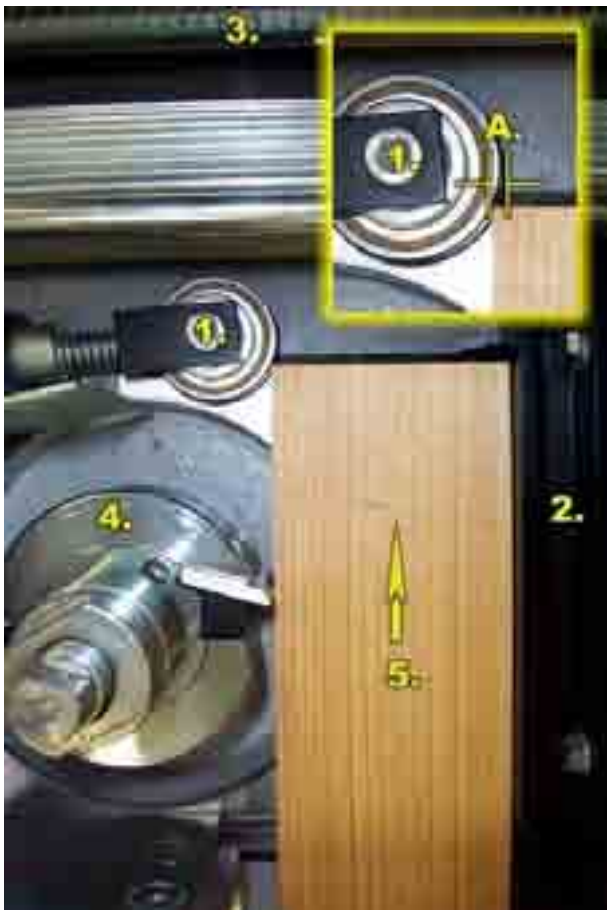



1. Cutter Rotation Direction. Make sure the cutter will turn completely around without hitting anything.
2. Right Side Cutter Direction. Make sure the cutter head will turn completely around without hitting anything.
3. Direction of Wood feeding through machine.

**Setting the pressure roller**


The Moveable Side Cutter has a pressure roller located just past it.

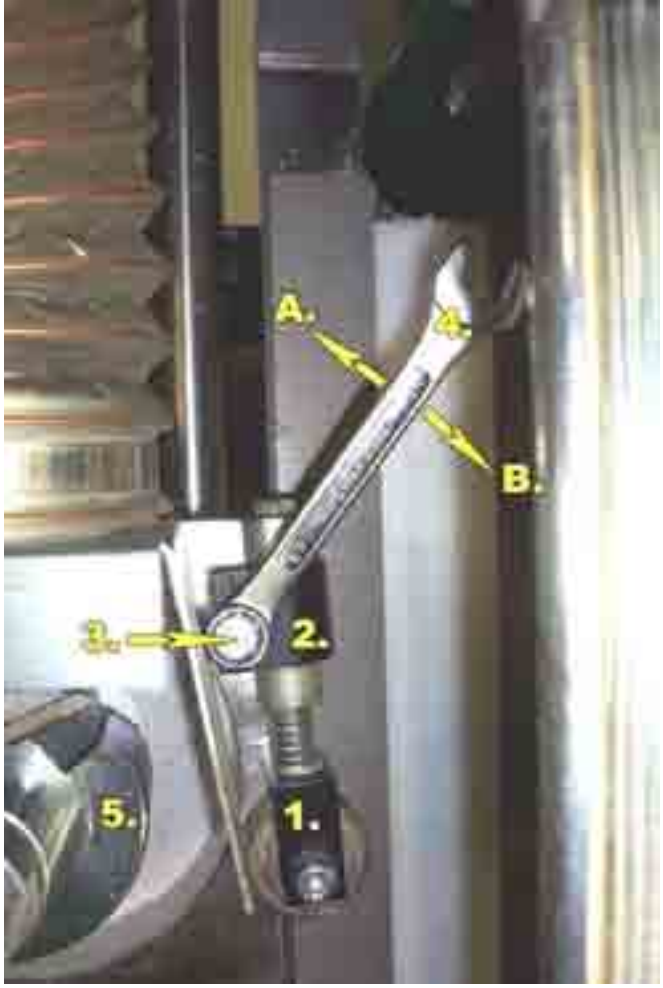
1. Pressure Roller Bearing.
2. Pressure Roller Bracket Locking Bolt.
3. Pressure Roller Bracket Pressure Spring.
4. Moveable Side Cutter Head.
5. Top Cutter Head.




The pressure roller just past the Moveable Side Cutter should be set to around 1/8" less than the board width.

1. Pressure Roller
2. Second Right Side Fence
3. Top Cutter Head
4. Side Cutter Head
5. Direction of Board Running through Machine.

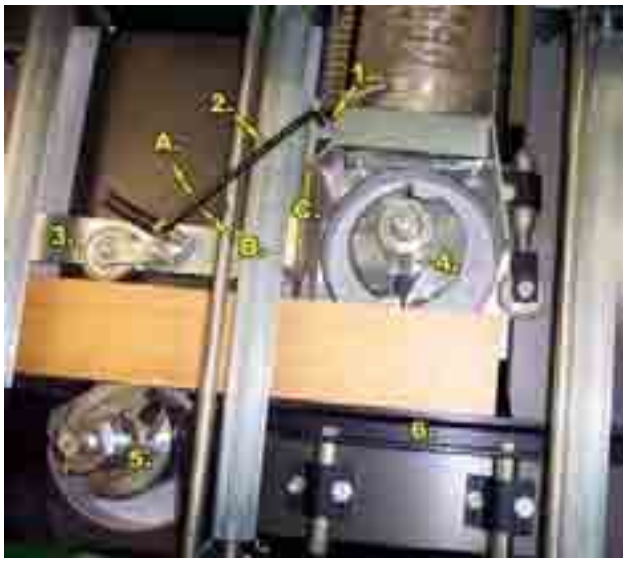
A. 1/8" Inset of Pressure Roller
In other words, it should extend 1/8" past the largest radius of the side cutter as shown.




Adjust this pressure roller by loosening the nut with a 13 mm wrench and moving it to the proper location and then tightening it in place.

1. Pressure Roller.
2. Pressure Roller Hold-Down Bracket.
3. Pressure Roller Hold-Down Bracket Lock Bolt.
4. 13 mm Wrench.
A. Turn this direction to LOOSEN.
B. Turn this direction to TIGHTEN.

**Setting the location of the infeed pressure rollers**




The infeed pressure rollers are mounted on an aluminum L bracket that is attached to the Moveable Side Cutter and moves with the Side Cutter. It fits into a groove just in front of the side cutter and can be moved in or out as needed. This bracket allows for varying width boards to be fed into the machine. Where this bracket is placed also determines the widest board the machine will accept.

1. Infeed Pressure Roller L Bracket Hold-Down Bolt.
2. 4 mm Allen Wrench.
4. Moveable Side Cutter Head.
5. Right Side Cutter .
6. Second Right Side Infeed Fence.
A. Turn this direction to Tighten.
B. Turn this direction to LOOSEN.
C. Slide this bracket in or out as necessary.

**Running the first test board**

**Safety**

**Check for tools used in the operation and remove from the machine before closing the lid.**

**Always check for free rotation of cutter heads before closing the lid.**

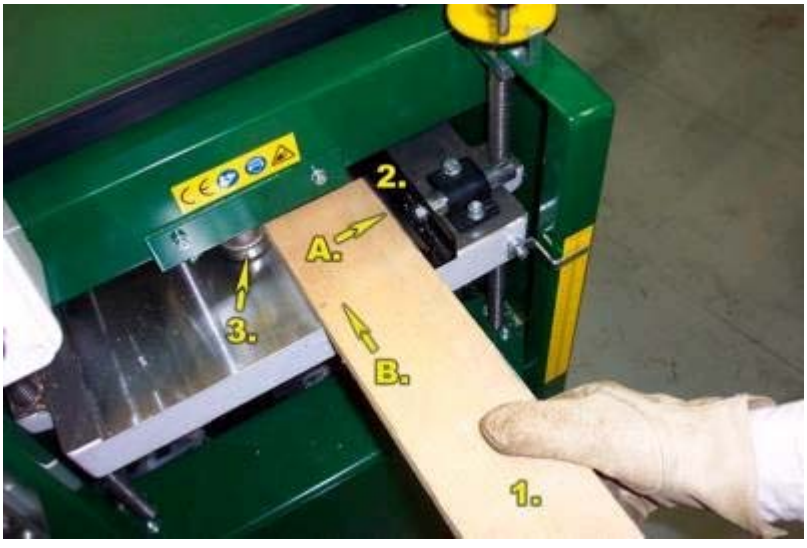
**Turning on the machine**

Select a board that is about 3 feet in length, and uniform in dimension, for the first run of the machine. In order to set the second right side cutter fence this board should be stopped before it runs completely through the machine. Specifically, the board should be stopped just in front of the pressure roller located just after the left side cutter.


Turn the machine on using the start buttons located on the control panel, starting the cutter heads one at a time. Start the feeding motor last. Each light above the start buttons should illuminate as the motors are started.

Before you put the first board through the machine, slow the speed of the feeding rollers down using the knob on the right front side of the machine that is on the feeding motor assembly. Turn the knob until you see the rollers slow down to their lowest speed.

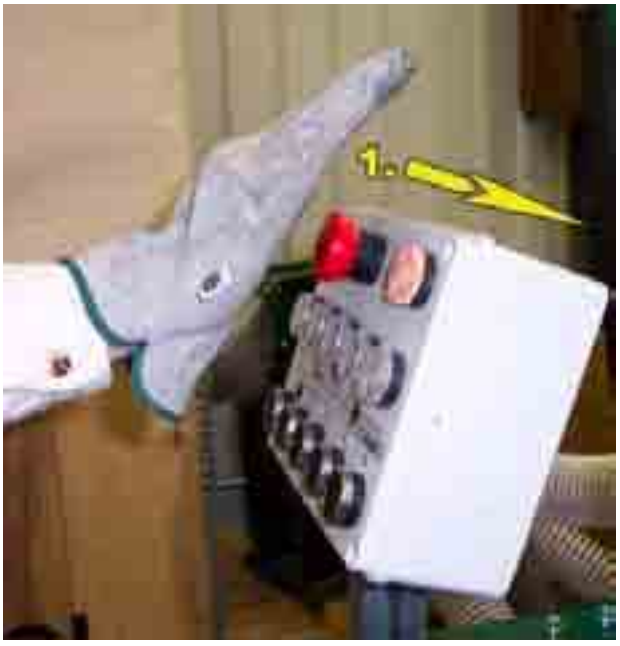
Place the board on the infeed side of the table against the fence. Slide the board into the machine, with the right side firmly against the fence, until you feel the feeding rollers begin to pull the board through the machine.




1. Wood board to be planed.
2. First Right Side Cutter Fence.
3. Infeed Pressure Roller.
A. Make sure wood has contact with the fence.
B. Direction board should be placed into the machine.

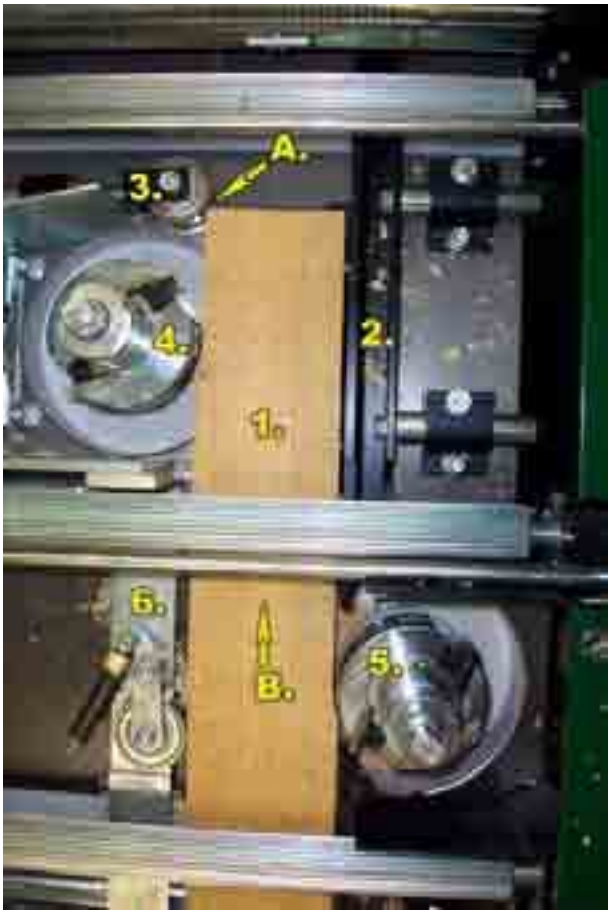
**Stopping the machine**

Watch the board feed through the planer through the observation window that is integrated into the lid. Stop the machine with the stop button when the board gets just past the left side cutter, just before it comes in contact with the pressure roller next to the left side cutter.




**Completing the Setup**

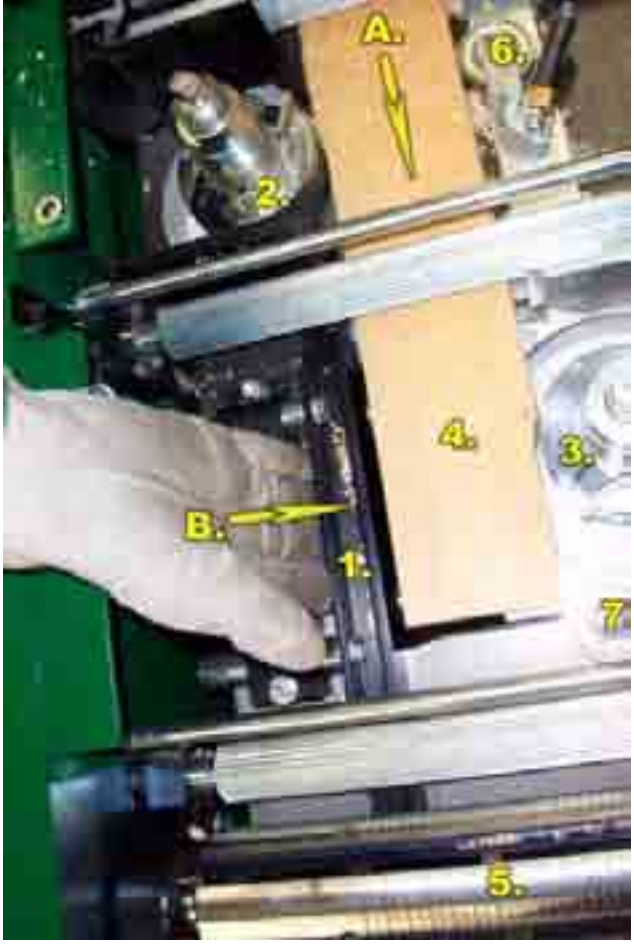
**Setting the Second Right Side Fence**




Once this board is stopped in the machine, the second right side cutter fence can be moved into position.

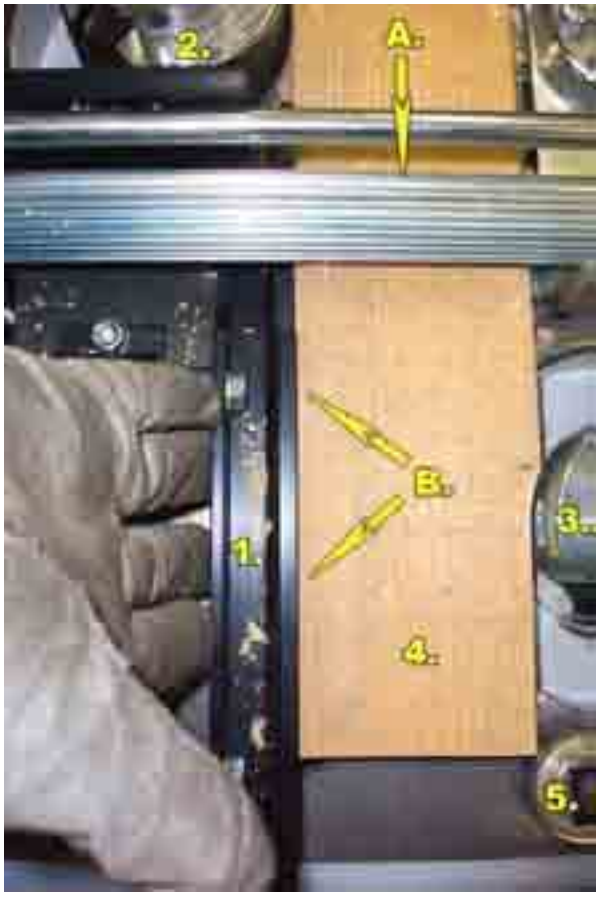
1. Board stopped in machine
2. Second Right Side Fence
3. Pressure Roller
4. Moveable Side Cutter Head
5. Right Side Cutter Head
6. In-Feed Pressure Rollers Arm

A. Point at which to stop Wood in Machine - before it hits the pressure roller.
B. Wood traveling through the machine.




Open the machine, and loosen the bolts holding the right side fence in place. Slide this fence firmly against the finished side of the wood in the machine. Make sure this fence is in contact with the wood down it's complete length.

1. Second Right Side Fence.
2. Right Side Cutter Head.
3. Moveable Side Cutter Head.
4. Wood stopped in machine.
5. Top Cutter Head.
6. Left Infeed Pressure Roller.
7. Moveable Side Cutter Pressure Roller.
A. Direction of Wood Through Machine.
B. Direction to move Right Side Fence against side of wood.




1. Second Right Side Fence.
2. Right Side Cutter Head.
3. Moveable Side Cutter Head.
4. Wood stopped in machine.
5. Top Cutter Head.
A. Direction of Wood Through Machine.
B. Make Sure Right Side Fence is snug against the wood!


1. Right Side Cutter Fence.
2. 13 mm Lock Down Bolt.
3. Moveable Side Cutter Head.
4. Wood stopped in Machine.
A. Holding the fence flush against wood as the bolt is tightened.
B. Direction to turn the bolt to tighten.


1. Right Side Cutter Fence.
2. 13 mm Lock Down Bolt.
3. Moveable Side Cutter Head.
4. Wood stopped in Machine.
A. Hold the fence flush against wood as the lock down bolt is tightened.
B. Direction to turn the lock down bolt to tighten it.

Check the length of the fence. If needed, loosen the bolts holding the front of the fence to the mounting brackets, sliding the fence to the correct position. Be sure and check rotation of the right cutter head before setting.

**Setting the Feeding Rate**
The feeding rate of the machine is variable from 11 to 52 feet per minute (3 to 16 meters). The feeding rate control knob, located on the side of the feeding motor assembly, adjusts this rate.

## WARNING: Do not turn this knob unless the feeding motor is turned on – you can damage your machine!

The feeding rate control knob is connected to a planetary gear assembly, and it should only be adjusted when the planer is running. Turning the knob to the right increases the feeding speed. Turning the knob to the left decreases the feeding speed.

When you are setting up your machine, start with the lowest feeding speed. Once all the fences and knives are properly set, then begin to increase the feeding rate using this knob.

Increase the feed speed until you begin to notice “chatter marks” on the finished board. Then, decrease the feeding speed until the board surface becomes smooth, and the board feeds easily through the machine. Your optimal

feeding speed will vary depending on the type of wood you're processing; it's moisture content, and the type of molding knives that you have in installed in your machine. Over time, the more you use your PH260, the better you will get a feel for the best speed at which to process projects.

**Running Material Through the Machine**

When your test boards are complete, and you are satisfied with your setup, you can begin running material through the machine.

**Feeding the Machine**

Make sure you have adequate room for the material that you will be putting in to and taking out of your planer. Your work area should be well lit, and clear of loose items on the floor, so there is little risk of tripping when handling long material. The paths to the infeed and outfeed ends of the machine should be clear.

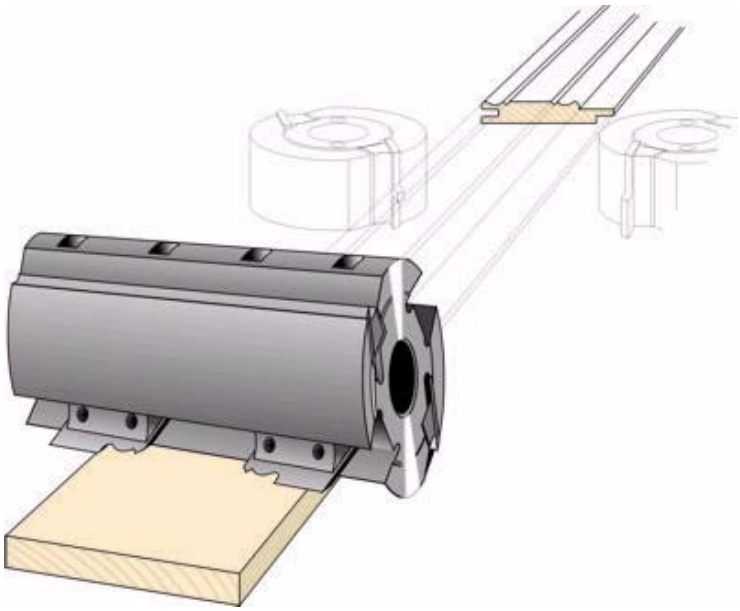
Material should be placed close to the infeed end of the machine for quick feeding into the machine and a stacking area should be prepared at the outfeed end.

Once the machine is started and boards are fed into the machine, it is recommended to keep the material going through the machine one board after another, with the two boards touching.

Place the straightest edge of the material against the right side fence. Make sure it is fed into the machine with the edge against the first right side fence. Material that is fed into the machine at an angle will not straighten up in the machine and may cause problems with fences.

**Setting Up for 4 Sided Molding**

The PH260 is more than a 4-sided Planer; it is also a 4-sided Molder. To accomplish molding on four sides, molding knives are installed in the cutting heads of the PH260.

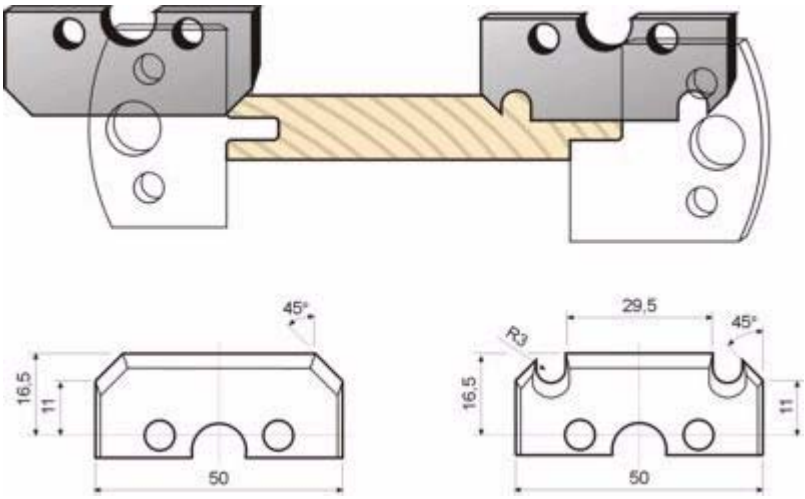


Setting up your planer to do four-sided molding is not much different than setting up for four sided planing. The difference is that we will now be putting molding knives into the side heads and adding molding knives in the bottom and top heads.

**Molding Knives**

Molding knives are knives that have a pattern cut into them, when compared to a planing knife, which has the characteristic of being a straight edge knife. Adding these knives allows us to produce patterns such as tongue and groove, paneling, and door and crown moldings.

Below is a wood pattern that uses a combination of straight knives on the top and bottom cutters, two different molding knives in the top cutter head, and two different molding knives in the side cutter heads. The end result will be a beaded V-Groove paneling board.



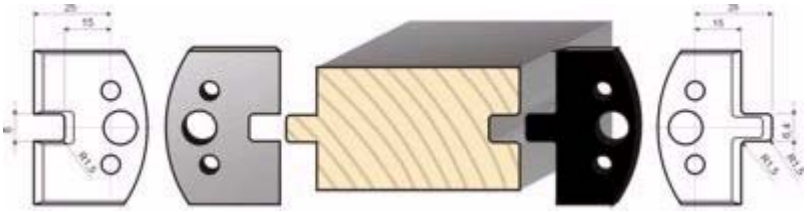

**Side Cutter Molding Knives**


The Molding Knives for the TB90 Side Cutter Heads are similar to the straight knives, but have a profile or pattern on the sharp edge

1. TB90 side cutter head.
2. Chip breaker or "wedge."
3. Side cutter knives in head.
4. Face of knife.
A. Direction of cut.

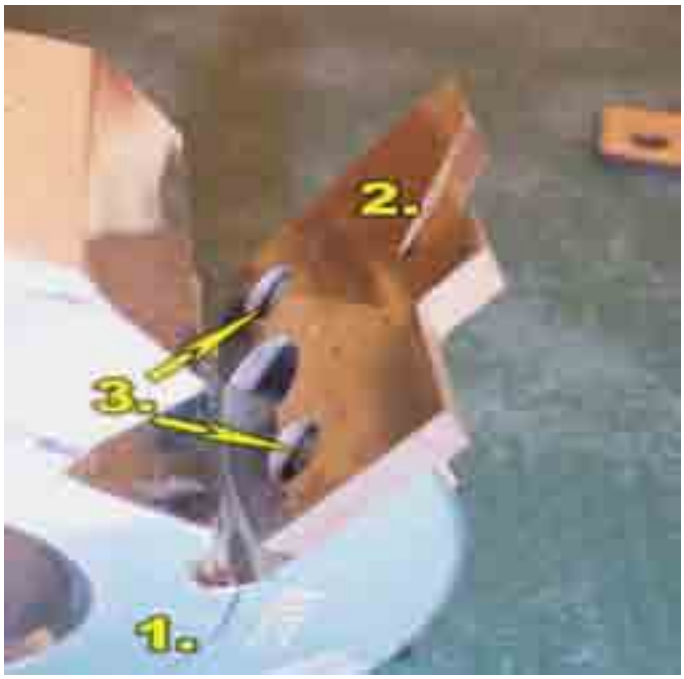
**Anatomy of a Side Cutter Molding Knife**

Side molding knives are similar to top molding knives - they have two holes in the base of the knife that index the knife into the head.



Side Molding Knives are different from top and bottom cutting head knives in that they can be much longer in length and can have a rounded base, whereas a molding knife for the top or bottom cutter heads must have a flat base.

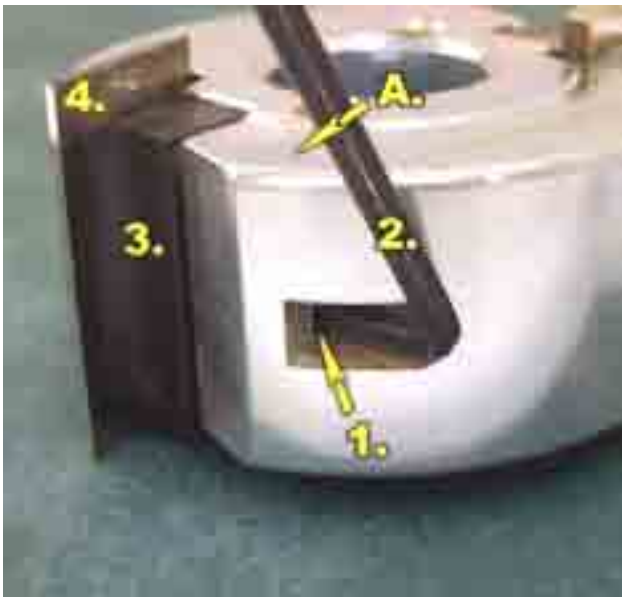
A much deeper profile can be cut with the side cutter knives when compared to the top or bottom cutter head knives.




1. TB90 cutter head.
2. Face of molding knife.
3. Mounting pins/dowels in TB90 cutter head.

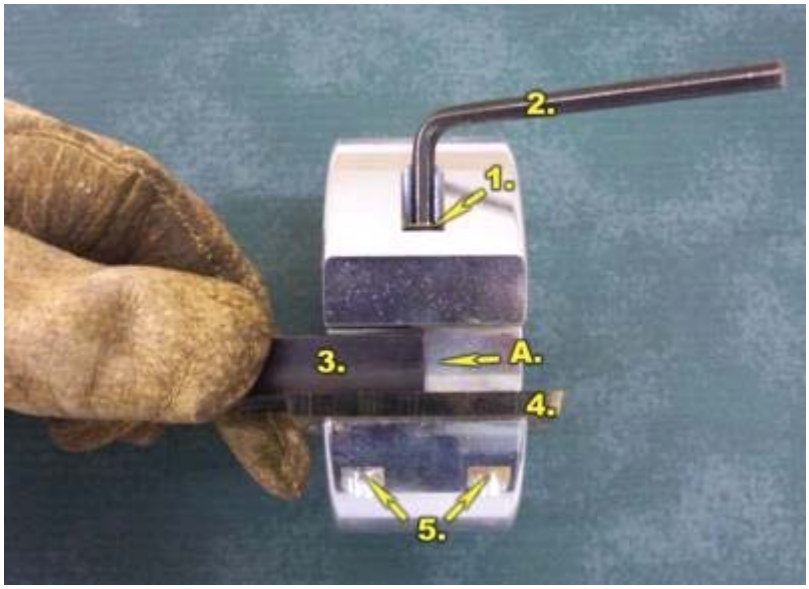
**Removing Knives from Side Cutter Head**

Take the Side Cutter Heads out of the machine as outlined under Removing Right Side Cutter Section.

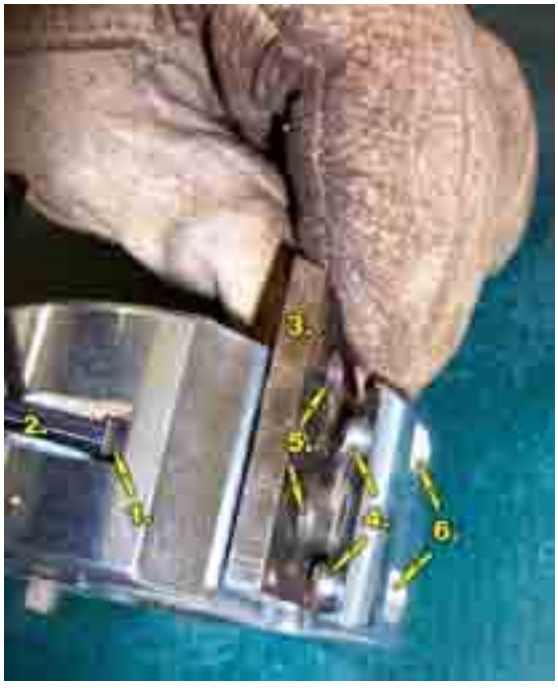



Use a 4 mm Allen Wrench to loosen the set screw that secures the knife in the cutter head as shown below:

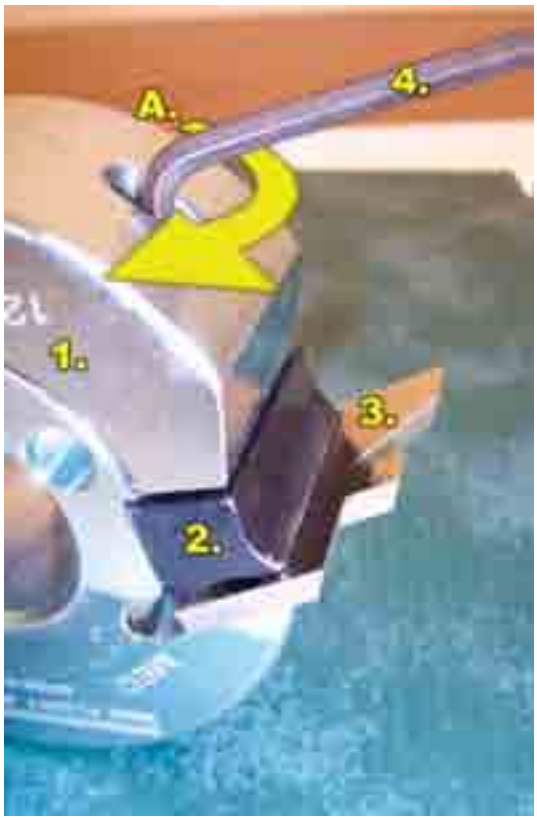
1. Allen head set screw.
2. 4 mm Allen Wrench.
3. Chip breaker wedge.
4. Knife.
A. Direction to turn screw to loosen.



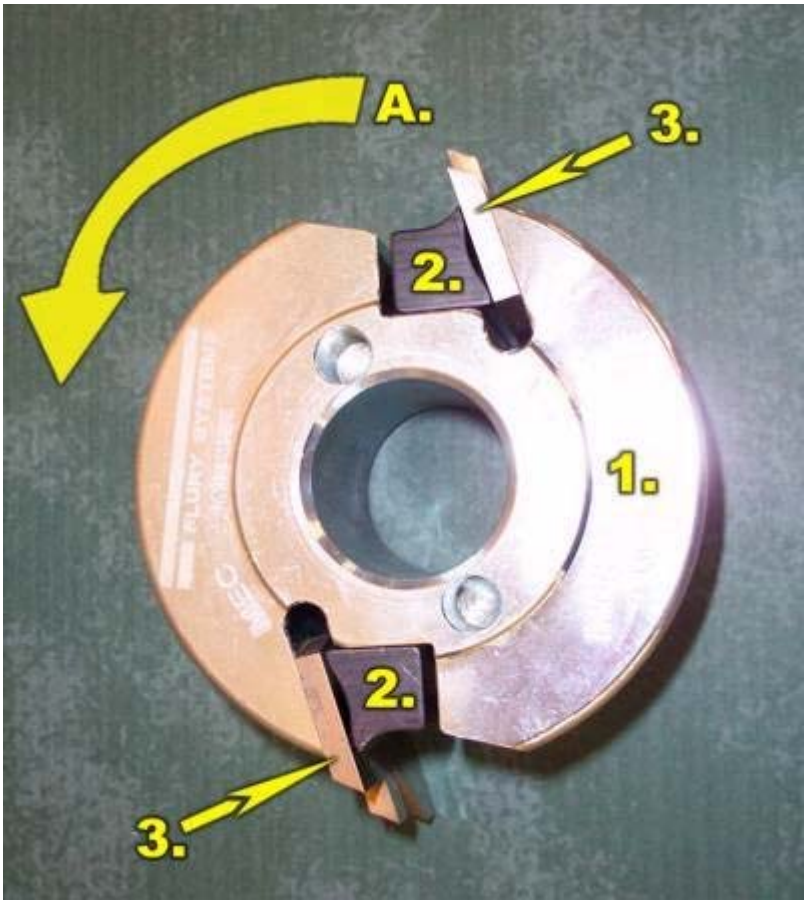

1. Allen set screw loosened in head.
2. 4 mm Allen Wrench.
3. Chip breaker wedge.
4. Knife.
5. Dowel pins.




1. Allen screw in cutter head.
2. 4 mm Allen Wrench.
3. Molding knife.
4. Pins/Dowels in head on which the knife is placed.
5. Dowel holes in knife.
6. Holes in head in which dowels are secured.




1. TB90 Cutter Head
2. Chip breaker
3. Face of molding knife (Part Number 94276).
4. 4 mm Allen Wrench
A. Direction to turn wrench to tighten.




1. TB90 Cutter Head
2. Chip breaker
3. Molding knife
A. Direction of rotation of head in machine.

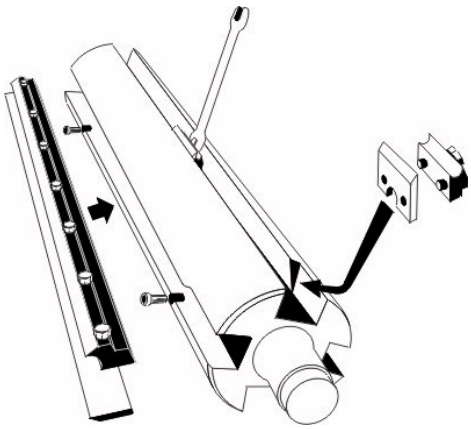
**Setting Cutting Head Height for Molding Knives**

Insert the molding knives into the cutting head, and make sure that you securely tighten the Allen screws with the Allen wrench. The heads can then be placed back into the machine. Raise and lower the heads using the supplied shims until they are in the correct position as outlined in the section Raising the Cutter Head.

When molding knives are installed, setting the correct side cutter head heights is critical. In the case of tongue and groove, this can be more complicated as you are trying to set the knife to hit not only in the center of the board, but also match up with the other side. It is best to measure as outlined in the section Raising the Cutter Head and then to run a short piece of material (approximately 3 feet) through the machine. Cut the piece into short pieces, and fit them together to see how they match up. Shim the appropriate head up or down until the pieces match up. Don't be surprised if this process takes several trials.

**Horizontal Cutter Molding Knives**

The top cutter head has four available slots for knives. The machine comes with two straight planing knives installed. In the remaining two slots you can add molding knives of various size and patterns.

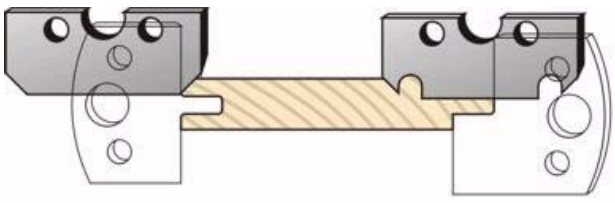


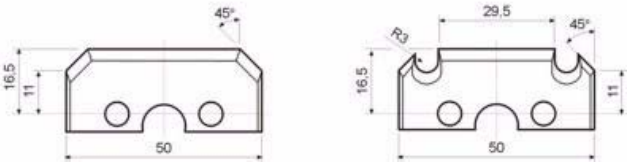
The molding knives are held in place by "gibs," "chip breakers," or "clamps." They are referred to by various names in different parts of the world. The knives are fitted onto the dowel pins in the gib, and then fitted into the slot to the desired position. Then they are tightened into the cutter head using the 10 mm wrench that is supplied with the planer.

The cutter head is indexed with lines to assist with the lining up of these knives in the head.

Setup is similar to the setting up for four sided planing, with the exception that the molding knife should also be lined up in the head.

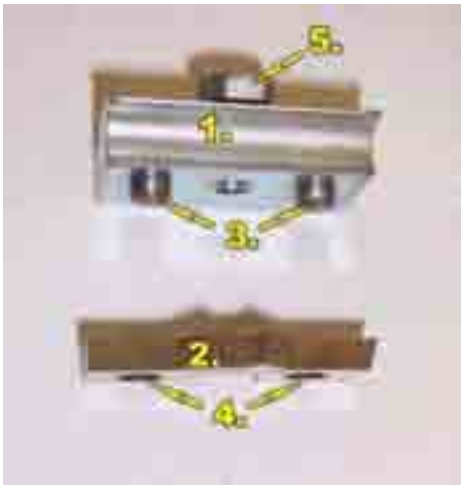
**Anatomy of a Top Cutter Molding Knife**





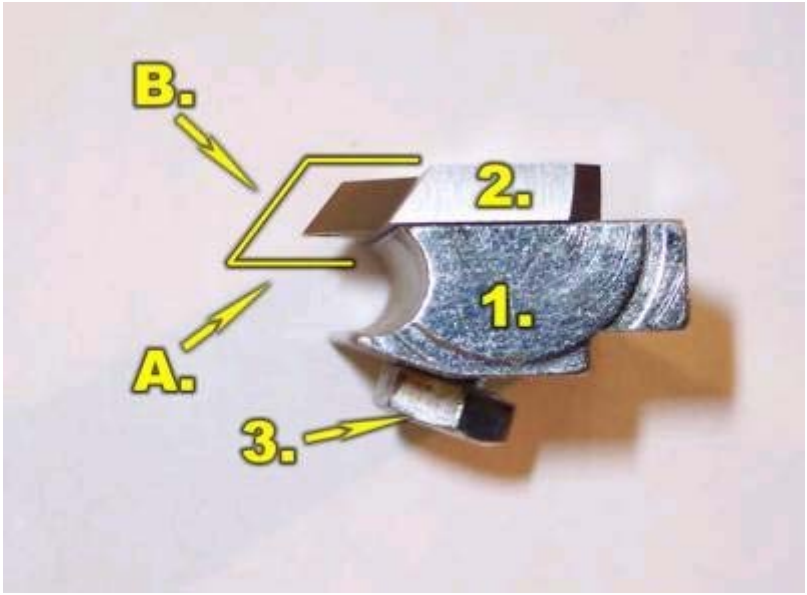

The top molding knives are similar to side cutter molding knives. They mount on a chip breaker (or multiple chip breakers), depending on the knife length. Here is a sample planer knife configuration for a Beaded V-Groove Paneling:

Molding knives for the top head have to be placed on a chip breaker (or Gib), in order to be held securely in the head.




1. Chip Breaker for Horizontal Cutter Head (Gib)
2. Molding knife for Horizontal Cutter Head - Face of molding knife is against the chip breaker.
3. Mounting Pins in Gib
4. Mounting Holes in knife
5. Lock Bolt in Chip Breaker

Here is the molding knife and chip breaker together:




1. Chip Breaker
2. Molding Knife on Chip Breaker
3. Locking Bolt
A. Face of Knife against Chip Breaker
B. Bevel of Knife

**Inserting Molding Knives into Horizontal Cutters**

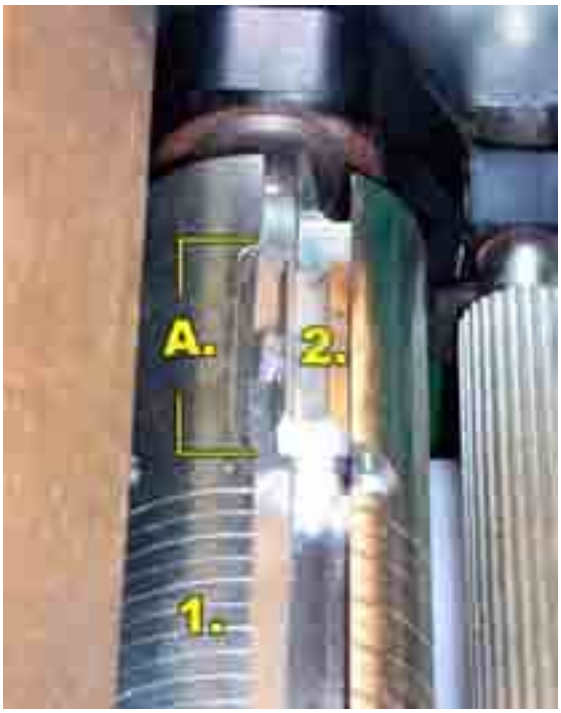
Here are the tools you need to add knives to the Horizontal Cutter Heads (Top and Bottom Cutter Heads).


1. 10 mm Open End Wrench
2. Chip Breakers for Horizontal Heads
3. Molding Knives
4. Gloves

To insert the molding knife in the top head, assemble the knife and chip breaker together, then slide assembly into slot in head.

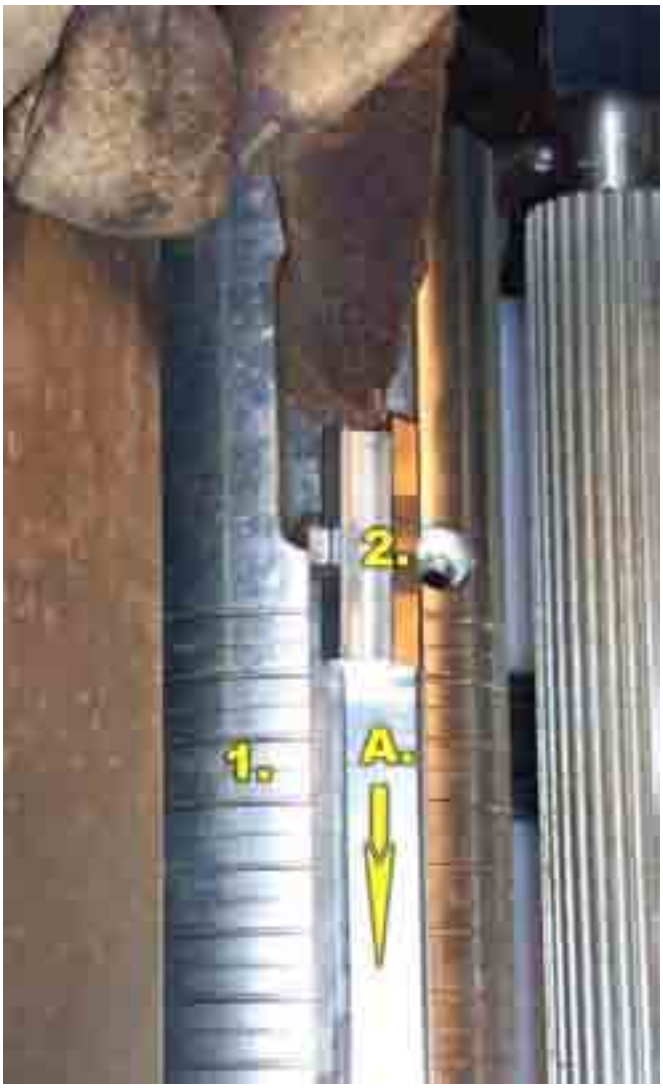

1. Molding Knife in Chip Breaker
2. Top cutter Head

A. Slot in head for inserting profile knives

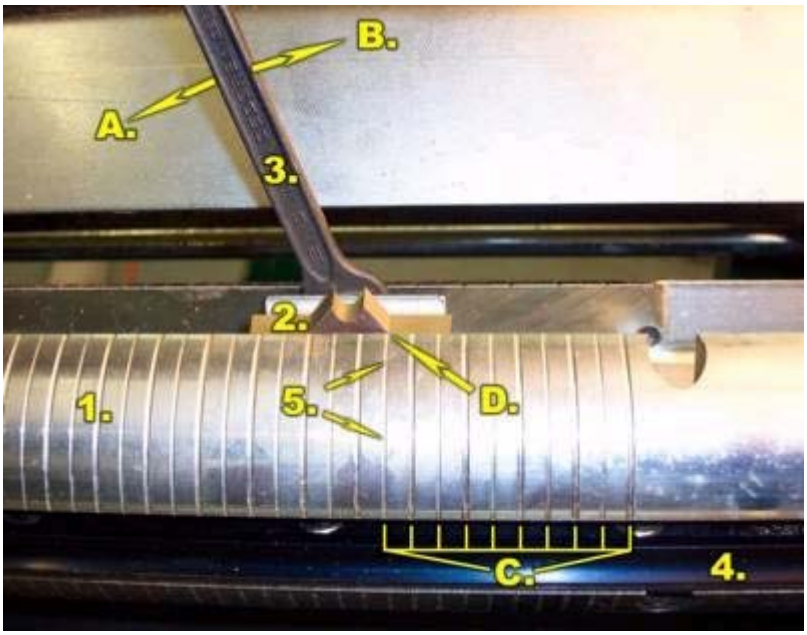



1. Indexing Marks on Top Cutter Head
2. Chip Breaker with Knife on pins inserted into Slot

A. Slot for inserting molding knives into head.




1. Top Cutter Head
2. Knife assembles with Chip Breaker
A. Direction to slide knife into position



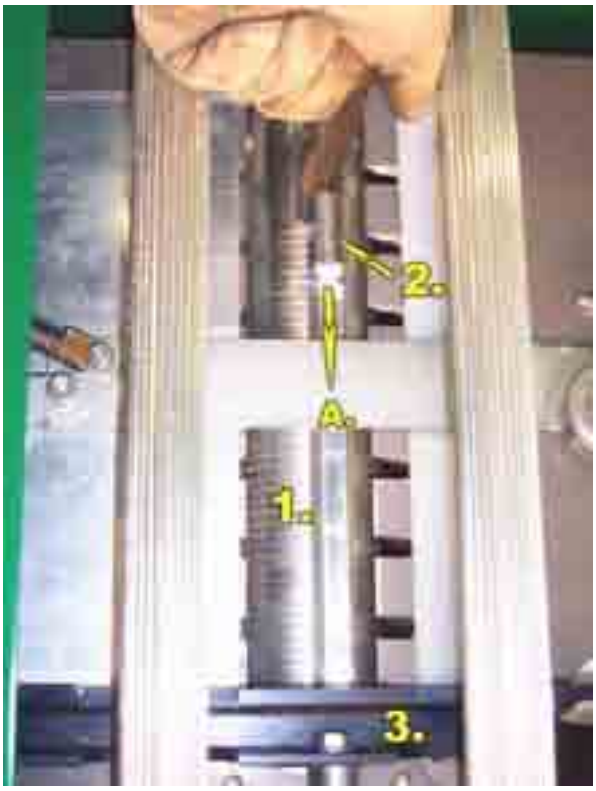

1. Top Cutter Head
2. Center Bead Profile Knife in Chip Breaker in Slot in Head.
3. 10 mm Open End Wrench
4. Straight Planing knife in Top Cutter Head.
5. Index Marks on Top Cutter Head – (these are used to align pairs of knives in head).
A. Direction to turn wrench to loosen Chip Breaker in Head.
B. Direction to turn wrench to tighten Chip Breaker in Head.
C. Indexing marks that are used to count off to position of knife in head.
D. Point on the knife that we are using to line up with index mark on head.

Slide the chip breaker with the knife over to the desired position in the head. Use the indexing marks on the cutting head to line up the knives. The index marks are especially helpful to line up the second molding knife. This second knife is inserted in the groove that is located on the direct opposite side of the cutter head (180° opposite) from the first molding knife.

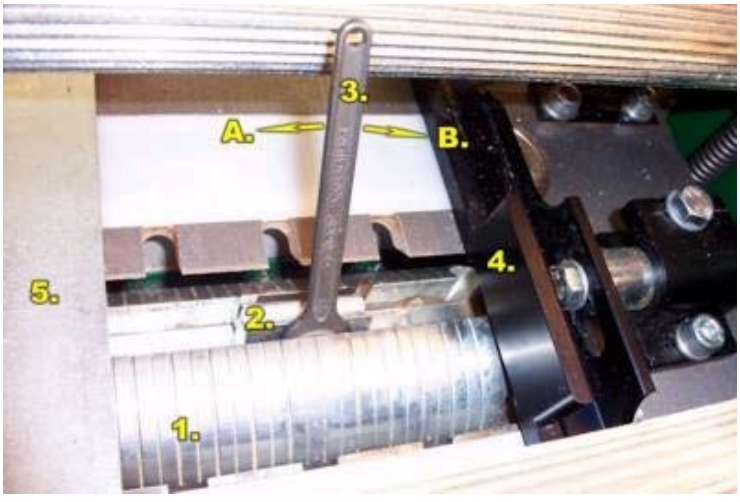
**NOTE: Always install pairs of molding knives in the cutter head. These pairs should be installed on opposite sides of the head.**

**Inserting Molding Knives into Bottom Cutter Head**

Profile knives fit in the bottom Cutter Head in a similar fashion to the top Cutter Head. However, please note that the cast iron table lies close to the bottom cutter head, and has slots located before and after the head. These slots allow the ability to position longer back relief knives into the head for the removal of grooves in the underside of the wood. Also, notice that if you are not using these longer knives in the bottom cutter head, the takeoff adjustment plate located before the bottom cutter head can be turned so that it covers these grooves, providing a better results when processing wood. Covering the grooves provides better support for the wood as it is being planed. If you are using longer knives that require using these grooves, then reverse the plate by removing the four screws that hold the plate, and turn the plate around so that these slots are open for the knife. Refer to the section: Adjusting Takeoff of Bottom Cutter for more information on making this change.




1. Bottom Cutter Head
2. Knife on Chip Breaker
3. First Right Side Fence
A. Direction to slide knife into position.




1. Bottom Cutter Head
2. Knife on Chip Breaker
3. 10 mm Open End Wrench
4. First Right Side Fence
5. Left Fence L-Bracket
A. Direction to turn bolt to tighten Chip Breaker in Head
B. Direction to turn bolt to loosen Chip Breaker in Head

The knives are positioned in the head in a similar fashion to the top cutter head molding knives. Utilize the indexing marks to reference where to line up the knives.

**Shortcut to Setting up Horizontal Cutter Knives**

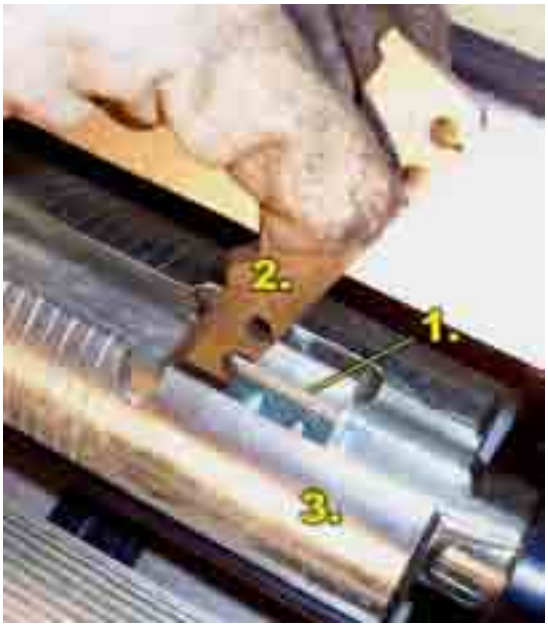
One way to speed up the setting up of the top molding knives is to reference a finished piece of molding that you are setting up for again. You can position that piece of molding in the machine, rotating the head and sliding the knife into position on top of the molding. Having a reference piece of finished material makes it easier to restore your former settings on the machine.

**Inserting Long Molding Knives in the Top Head**

To insert long molding knives in the top cutter head, such as knives for crown moldings, use two Chip Breakers/Gibs. For the longest molding knives, it might be necessary to remove one of the pins on the chip breaker or gib. These dowel pins are removable. Use a pair of pliers to loosen the pin and then unscrew the pin and remove from the gib.


1. Dowel Pin Screws
2. Chip Breaker (Gib)

Place the knife with the leading edge against the chip breaker on the remaining pin, and place the chip breaker into the slot and then slide it into the head.

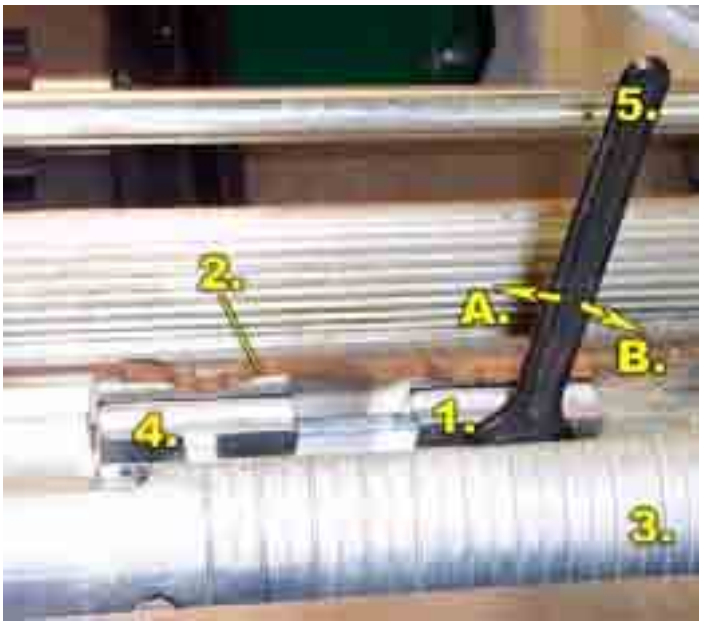



1. Chip Breaker
2. Long Molding Knife
3. Top Cutter Head


1. Chip Breaker
2. Long Molding Knife
3. Top Cutter Head
A. Direction to slide knife into slot in cutter head.


1. Chip Breaker
2. Long Molding Knife
3. Top Cutter Head
4. Second Chip Breaker - Molding knife mounted on both pins
A. Insert knife with second chip breaker into slot in head


1. Chip Breaker
2. Long Molding Knife
3. Top Cutter Head
4. Second Chip Breaker - Molding knife mounted on both pins
A. Direction to slide knife mounted on chip breakers into slot in head.




1. Chip Breaker
2. Long Molding Knife
3. Top Cutter Head
4. Second Chip Breaker - Molding knife mounted on both pins
5. 10 mm Wrench (supplied)
A. Tighten Chip Breaker Lock Bolt
B. Loosen Chip Breaker Lock Bolt.

Use the index marks on the head to line up the pair of knives in the head as you would for smaller molding knives.

**Warning! Be sure and securely tighten ALL Lock Bolts, and remove all tools, before closing the lid and starting the machine.**

**Sharpening Knives**

The condition of your machine's knives will affect the quality and precision of the cut. Pay close attention to the quality of the cut to get an idea about the condition of the machine's knives. Dull knives will tear, not cut the wood fibers, producing a fuzzy appearance on the wood. A raised ridge (or ridges) running along the length of a wood plank can occur when a nicked knife impacts the wood.

On planer knives and molding knives, it is possible to bring the knives back to a sharp condition by sharpening the face of the knife. Running a diamond stone against the face will bring knives back to a sharp condition. This can be done about 3 times before the knives will need to be sharpened by a sharpening machine.

If a raised ridge occurs the entire length of the plank that you are processing, then the knife/knives have been nicked. Sharpened the knife/knives to remove the nick.

Knives that are not sufficiently sharp will heat up when cutting. If you see blackened edges on molding knives, this is an indication that the knives are not sharp. Continuing to use these knives will cause excessive wear on the machine, and will further degrade the knives themselves. Remove and sharpen the knives.

**Note:** The speed of the material that is being fed through the machine can have an affect on knife life. Ideally, with each revolution of the cutting head, the planer knife should be removing new material. The new material will absorb a portion of the heat created by the knife cutting the wood, and will cool the knife as it is cut away. However, if the knife is not cutting new material each time the cutting head makes a revolution, the friction created will cause the knife to heat up. Excessive heat will dull your machines knives, and shorten their life.

Utilizing a test board, set the feeding speed of the machine so that chatter marks become visible, and then reduce the speed until a smooth finish is seen. This method will ensure that the knives are cutting new wood on each revolution. The optimal feeding speed will vary between the type of wood being processed, and the type of molding knives being used.

**Troubleshooting**

| Problem | Possible Cause | Remedy |
|---|---|---|
| Snipe | Dull Knives | Replace knives per instructions |
| | Horizontal planer knives set at improper depth - too high or too low | Set knives per instructions |
| | Lumber not butted as it passes through machine | Butt end to end each workpiece as it passes through the planer |
| | Bed extensions misaligned | Adjust bed extension tables properly. |
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# Chapter 6. Plaining tips

**Overview**

This section will cover planing and molding tips, such as how to center match Tongue and Groove, how to handle chips, how to use templates, etc.

**Sizing Stock**

This planer/molder works best as a finishing planer/molder. You can take rough lumber right out of the stack and plane it smooth. However, to achieve the best results with this machine, it is best to have your stock as close to the size of the finished product as possible. If you are planing with lumber that has a wide variance on thickness, it is best to run this lumber through either this planer or another planer to size it to a uniform thickness before finish planing and molding it with this planer.

Although your planer can handle a wider variance regarding the width of the stock, it is best to have the width closer to the finished size of the material. Some types of wood are prone to splinter. If you are taking too deep of a side cut, the wood can splinter and pull into the left side cutter. You can prevent this by reducing the depth of cut that is taken off of that side of the stock.

For certain applications such as flooring, the lumber might need to have one side ripped to provide a straight edge. Your planer will not make a crooked board straight. If straight material coming out of the planer is a requirement, then straight material will have to be fed into the machine. Subjecting lumber to a straight-line rip will take the wane out of a board. Place the ripped edge against the right side fence when feeding this ripped material through the machine.

**Planing Narrow Stock**

The PH260 can process very narrow stock. However, a motion-limiting block is positioned in the machine between the two tubes that the left side vertical cutter head moves on. This limiting block is held in place by two bolts that are accessible underneath the block. Take out the two bolts that hold the top and bottom halves of this block together, and remove the block.

Logosol recommends that you replace the motion-limiting block back into the machine when you are not planing narrow stock, as this block provides additional support to boards as they move through the machine, and across the width of the cast iron table.

**Planing stock thicker than 2 Inches**

The planer can mould and plane stock thicker than two inches with the side heads. To accomplish this two cutter heads must be stacked. When placing these cutter heads in the machine, be sure to place the cutting knives on the second head halfway between the two knives on the first cutter head on that spindle.

Spacers can be used to add height to the top cutter head; however, it is best if there is some overlap of the knives, especially with straight knives.

**Tongue & Groove**

When setting up this machine for Tongue and Groove material, start with several short pieces of stock similar in size (width and thickness) of the material you will be turning into Tongue & Groove. First set the side cutters to the initial height by measuring with straight edges from the cast iron table to the bottom of the groove. After installing the knives, run a short test board through the planer, and then cut it in half and test the match. To determine how much to move the heads up or down if the match is not correct, put the two boards together and find a thickness spacer that will bring the head that is low to the same level.

For tongue and groove that you have kept a sample from a previous run of this material, place the tongue and groove board from this previous run in the machine and match the knife height to match this original board.

# Appendix

**Accessories**

The following accessories are available for the PH260:

**Infeed/Outfeed Tables**

These 4-foot long polished steel tables extend the bed of the PH260.

They bolt onto the machine at the infeed and outfeed ends of the machine and follow the cast iron table as it is moved up and down. These extensions add to the accuracy of the machine and make the handling of long boards easier.

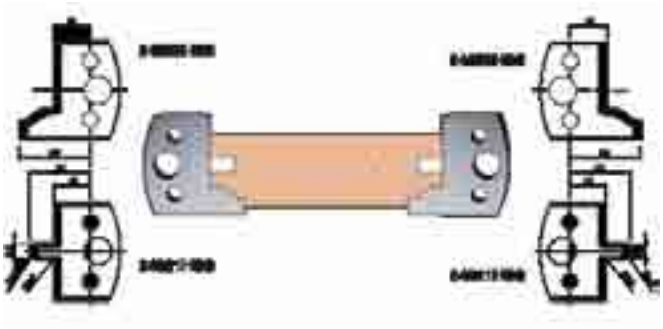
Part. Number: 7500-000-1000 Feeding Table (one side)

**4 Knife Side Cutter Head**

The TB90 Side Cutter Head is available with 4 slots for knives.

Part Number: 7000-000-9094 Side Cutter Head TB90 - 4 knives
Part Number: 7000-000-9092 Side Cutter Head TB90 - 2 knives

This cutter head provides the ability to mix side head knives to do combination patterns such as Norway Siding (shown below). The cutter head is shipped with 4 straight knives pre-installed.



Two knife cutter heads are also available for stacking side heads for taller cutting

**Rubber Wheel Set**

A rubber wheel set is available for the PH260. These are double rubber wheels that can be bolted through the holes in the bottom of the PH260 chassis.

Part Number: 7500-000-1025 Rubber Wheel Assembly Set (4 wheels)

**Running Meter Counter**

This counter will measure how many linear meters of lumber you run through the PH260. This accessory mounts onto a horizontal tube that runs across the outfeed end of the PH260. The counter has a reset knob that resets the counter to zero. The counter has a rubber wheel that should be lined up so the material moving through the planer also moves under the counter wheel. This item is currently not available in feet based measurements.

Part Number: 7500-000-1040 Running Meter Unit PH260

**Chip Extractor**

The Logosol Chip Extractor is a direct drive blower that has the power to pull chips from the planer and transport them to a collection area. This low maintenance blower is available in 3-phase and single-phase 220 volt.

4 intake ports are made onto the Chip Extractor and it is ready to be placed in service next to the PH260. The Chip Extractor has an 8" outlet to which pipe or flexible hose can be mounted for transporting chips out of the work area to a safe collection point.

Part Number: 7000-000-2045 Chip Extractor 3.0 KW - 3 Phase
Part Number: 7000-000-2050 Chip Extractor 3.0 KW Single Phase

# PH260 Parts List

| Logosol Part Number | Schematic Number | Description |
|---|---|---|
| 7502-001-0210 | 1 | Crank Handle, Table elevation |
| 7502-001-0005 | 1 | Crank journal |
| 7502-001-0007 | 2 | Protective plate |
| 7502-001-0370 | 3 | Prooved feed roller |
| 7502-001-0020 | 4 | Bearing seat (compl) |
| 7502-001-0022 | 5 | Switchpin |
| 7502-001-0024 | 5 | Main switch |
| 7502-001-0026 | 6 | Clear plastic |
| 7502-001-0028 | 6 | Hinge |
| 7502-001-0032 | 6 | Sealing strip |
| 7502-001-0034 | 6 | Handle |
| 7502-001-0036 | 6 | Locking handle |
| 7502-001-0020 | 7 | Vertical cutter spindle right thread |
| 7502-001-0010 | 7 | Spindle nut right hand thread |
| 7502-001-0038 | 7, 11 | Distance ring H=40mm |
| 7502-001-0042 | 7, 11 | Distance ring H=20mm |
| 7502-001-0044 | 7, 11 | Distance ring H =10 mm |
| 7502-001-0046 | 7, 11 | Distance ring H =5 mm |
| 7502-001-0230 | 7, 11 | Set of spacers (0,1 - 2,0mm) |
| 7502-001-0048 | 7, 11 | Locking ring |
| 7502-001-0052 | 7, 11 | Upper track bearing |
| 7502-001-0054 | 7, 11 | Lower track bearing |
| | 7 | Track ring |
| 7502-001-0056 | 8 | Cover support |
| 7502-001-0058 | 9 | Chip deflector, #2 Cutter 2 |
| 7502-001-0062 | 10 | Cutter 3 carriage |
| 7502-001-0020 | 11 | Vertical cutter spindle left thread |
| 7502-001-0030 | 11 | Spindle nut left hand thread |
| | 12 | Carriage shaft |
| 7502-001-0064 | 13 | Chip outlet upper section |
| 7502-001-0140 | 14 | Cutter wedge, 410 mm, 1 pair |
| 7502-001-0066 | 14 | Upper horizontal cutter 410 mm |
| 7502-001-0040 | 14 | Track bearing |
| 7502-001-0068 | 15 | Chip outlet lower section |
| 7502-001-0380 | 16 | Rubber feed roller |
| 7502-001-0072 | 16 | Brake pin rubberfeeder |
| 7502-001-0074 | 17 | Protective plate exit |
| 7502-001-0076 | 18 | Bearing bracket |
| 7502-001-0120 | 18.33 | O-ring, 2 pcs |
| 7502-001-0078 | 18.33 | Roller bearing, horiz. cutters |
| 7502-001-0082 | 19 | Trapezoidal thread bar (3) |
| 7502-001-0310 | 20 | Distance metal plate, 1mm, upper |
| 7502-001-0320 | 20 | Distance metal plate, 1mm |
| 7502-001-0330 | 20 | Distance metal plate, 2 mm |
| 7502-001-0084 | 20 | Table |
| 7502-001-0086 | 20 | Plastic runners |
| 7502-001-0088 | 20 | Plastic runners |
| 7502-001-0092 | 21 | Carriage Locking handle |
| 7502-001-0094 | 21 | Inserted locking piece |
| 7502-001-0096 | 22 | Belt gear housing cutter 2. 3. |
| 7502-001-0300 | 23 | Poly V pully, motor |
| 7502-001-0104 | 23 | Poly V pully, set screw |
| 7502-001-0106 | 23 | Poly V pully, spindle |
| 7500-001-2005 | 23 | Poly V belt |
| 7502-001-0350 | 24 | Electric motor side cutters |
| 7502-001-0142 | 25 | Lower bearing washer |
| 7502-001-0112 | 25 | Bronze bushing (8) |
| 7502-001-0114 | 26 | Elevation journal chain sprocket |
| 7502-001-0116 | 27 | Table chain |
| 7502-001-0118 | 27 | Chain lock |
| 7502-001-0340 | 28 | Electric motor horizontal cutters |
| 7502-001-0122 | 29 | Motor support |
| 7502-001-0124 | 30 | Control box. compl. |
| 7502-001-0126 | 30 | Control box Cover (lid) |
| 7502-001-0128 | 30 | Emergency stop |
| 7502-001-0132 | 30 | Control button, ON black |
| 7502-001-0134 | 30 | Lamp holder with cap |
| 7502-001-0136 | 30 | Control button, OFF red |
| 7502-001-0138 | 30 | Lamp for switch panel, 220/240 V |
| 7502-001-0147 | 31 | Control box bracket |
| 7502-001-0144 | 32 | Trapezoidal thread bar, with handle |
| 7502-001-0146 | 33 | Bearing bracket under cutter |
| 7502-001-0150 | 34 | Cutter wedge, 300 mm, 1 pair |
| 7502-001-0500 | 34 | Lower horizontal cutter |
| 7502-001-0112 | 34 | Track bearing |
| 7502-001-0154 | 34 | Belt Polly for under horizontal cutter |
| 7502-001-0156 | 35 | Lower horizontal cutter housing |
| 7502-001-0158 | 36 | Motor support bracket |
| | 37 | Electric motor horizontal cutters |
| 7502-001-0162 | 38 | Case |
| 7502-001-0164 | 39 | Upper bearing washer, crank handle |
| 7502-001-0166 | 40 | Upper bearing washer |
| 7502-001-0168 | 41 | Chain tensioner Comp. |
| 7502-001-0220 | 42 | Handle for cutter 3 |
| 7502-001-0172 | 43 | Housing cutter 3 |

**4 Inch Vacuum Hose**
A strong, durable, lightweight ducting hose with a smooth interior. This flexible hose is constructed so chips flow smoothly from the planer to the chip extractor. Available in one diameter only - 4".

Part Number: 7000-000-1000 Vacuum Hose 100 mm

**Parts Listing**

The numbers in the second column below correspond to the fold out schematic sheets included in this manual. Locate the part you need on the schematic and find it in the table below to obtain the correct Logosol Part Number for ordering a replacement. Call 1-877-LOGOSOL if you need assistance.

**Molding Knife Catalog**

The Logosol Molding Knife Catalog contains listings of stock knives made by Logosol in Sweden

**New U.S. Molding Knives**

| New Logosol, Inc. Knives for the PH260 | | |
|---|---|---|
| | | |
| Logosol | | |
| Part Number | | Description |
| 7000-002-4009 | | V-Groove -Center Bead - Top Knife |
| 7000-002-4276 | | V-Groove -Tongue |
| 7000-002-4277 | | V-Groove -Groove |
| 7000-002-4293 | | Double V-Groove -Tongue |
| 7000-002-4294 | | Double V-Groove -Groove |
| | | |
| | | |
| | | |
| | | |

**Custom Knives**

Custom knives can be ordered through Logosol, Inc.

**Price Lists**

This section of the appendix is reserved for Logosol Price Lists. The manual will include initial price sheets and listings, but keep in mind that prices may change without notice. When you receive new price listings, remove the original price sheets and replace with the new ones. Logosol reserves the right to change prices at any time without notice.

# Chapter 5. Maintenance

## Overview

Your planer is a precision machine, and will provide you with professional results if kept in good condition. Proper setup, alignment, cleaning, and lubrication are essential to the successful operation of the machine. Also, all knives must be kept sharp (and uniform) to ensure the quality of cut and efficiency of operation. Operating your planer with dull knives will put undue stress on the machine, shortening its life.

## Safety

Keep your work area Clean and Organized! We cannot emphasize this enough!!!

Having a Clean and Organized work area helps prevent most of the types of accidents that commonly occur in a workshop environment.

Your work space should have designated areas for tools, knives, shims, cleaning rags, scraps of material, or anything else that can either accidentally get placed/left in the machine. Constructing a tool board with designated spaces is an excellent way to always know where your planer tools and accessories are located. Locate you tool board close by your planer. That way, before you start your machine, you can look at the tool board and see if any tools are missing, and possibly left in your machine.

Always pay special attention to the area surrounding your machine, making sure that there is nothing you can trip over.

## NEVER perform maintenance or place your hands inside of the machine until you disconnect it from its power source!

### Cleaning the Machine

This machine generates a lot of wood chips, so maintaining a regular cleaning schedule is necessary! When the machine is unplugged, open the observation lid, and vacuum out (or blow out) the excess chips that might be built up on the cast iron table, and the areas surrounding the cutter heads.

Regularly clean the build up of chips in the base of the machine. Remove the planers exterior housing plates at both ends of the machine, and vacuum out (or blow out) the excess wood chips that have accumulated in the area underneath the cast iron table.

Clean off any pitch that has accumulated on the cast iron table and take off plate with a liquid cleaner (i.e. kerosene, diesel, or WD-40) and an old rag.

Designate and keep separate cloths/rags to be used with cleaning fluid and lubricating fluid.

The exterior finish of your planer can be maintained by waxing it with a high-quality automotive wax.

### Cleaning the Metal Feed Rollers

Pitch may build up on the metal feed rollers if you are planing wood that has high resin content. Periodically clean the feed rollers with a soft wire brush (i.e. a brush with brass bristles) and some cleaning solution to assist in loosening the pitch (i.e. kerosene, diesel, or WD-40). Do not spray/pour cleaning fluid directly on to the feed rollers, because it might enter areas of the machine where it can cause damage, or remove necessary lubricant. Instead, put the cleaning fluid on a terry cloth (high-nap cloth) and wipe down the rollers with it. Then, use your wire brush to assist in removing the pitch from the grooves on the roller.

When the rollers are clean, wipe them down with a high nap terry cloth. Finish by spraying a cloth with lubricant, and wiping down the rollers. This will help in preventing the future buildup of pitch. A high-quality silicone spray or WD-40 works best for this purpose.

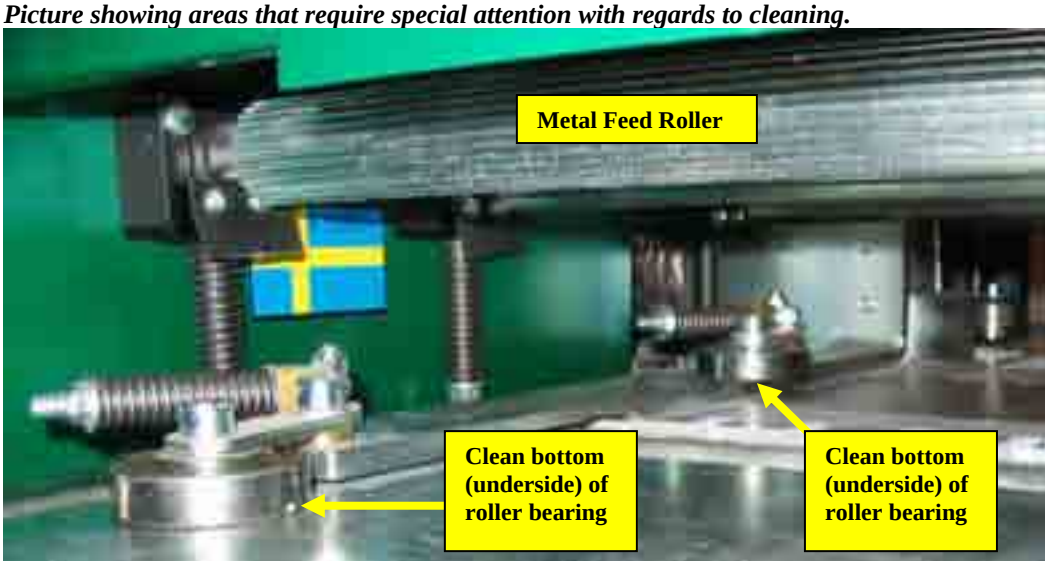
Note: If you are selling your shavings for livestock purposes, this may limit the type of cleaning fluid you can use for this purpose.

### Cleaning, Lubricating, and Adjusting the Pressure Roller Bearings

From time to time it might become necessary to remove the pressure roller bearings because they are sticking to the surface of the cast iron table. After removal, clean their underside, as pitch can build up. Do not pour cleaning fluid directly on the bearing as it can seep inside and ruin the bearings lubricating grease! Instead, put some cleaning fluid on a cloth, and then wipe the bearings surface clean.

Pay special attention to the bottom (underside) of both the First and Second Pressure Roller Bearings!

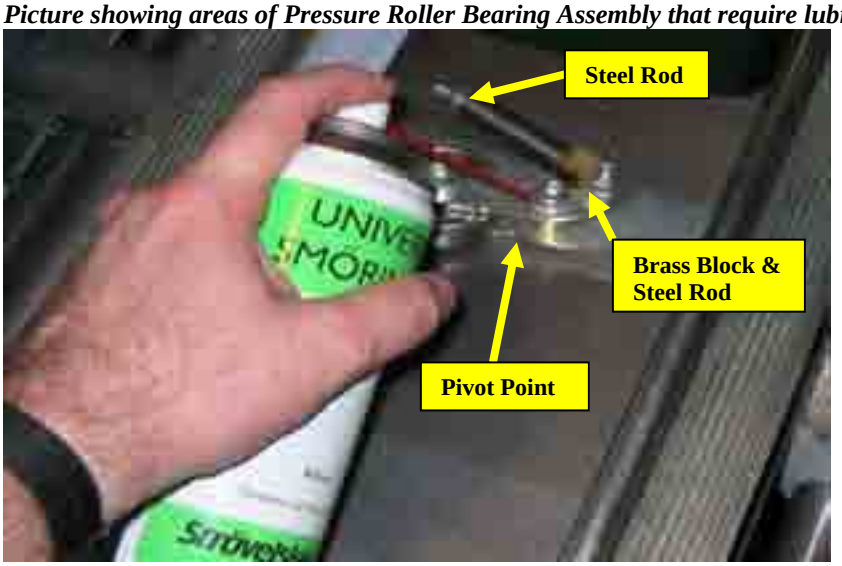
***Picture showing areas that require special attention with regards to cleaning.***




The bottom (underside) of the first pressure roller bearing has a close tolerance with the take-off plate attached to cast iron table, and it can get gummed up with pitch. The second pressure roller bearing travels within a close tolerance machined channel, and it too can get gummed up with pitch, causing it to stick. Use a 6mm Allen wrench to remove the pressure roller bearing from the self-adjusting assembly, and clean off the pitch that has accumulated underneath the bearing.


Additionally, as part of your regular maintenance, spray a high-quality, lightweight lubricating oil on the moving components that make up the self-adjuster assembly that is connected to the roller bearings. In particular, lubricate the self-adjuster's pivot point, and the rod that extends through both the brass block and the spring.

***Picture showing areas of Pressure Roller Bearing Assembly that require lubrication.***




After this is done, if you find that the pressure roller bearing is not fully extending outwards, gradually adjust (tighten) the tension adjusting nut on the end of the adjuster rod that travels through the adjuster spring until the arm fully extends. Utilize a 10 mm wrench for this procedure.

***Picture of 10mm wrench on tension adjusting nut for Pressure Roller Bearing.***


## Lubricating the Machine

**Threaded Rods**

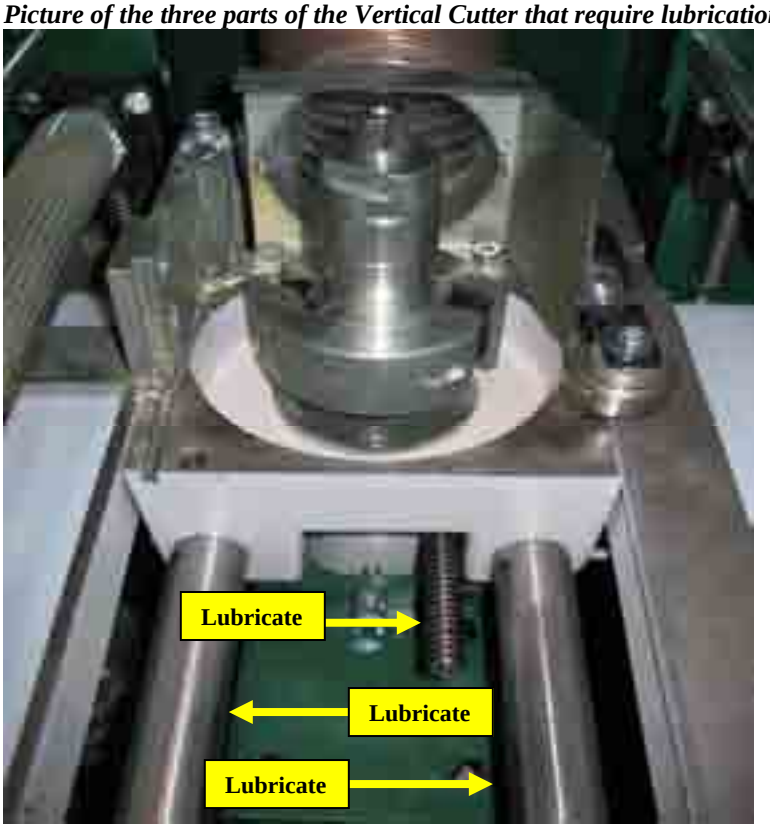
Maintain your machine with a high quality lubrication spray. Periodically spray the four threaded rods, one located at each corner of the cast iron table. Make sure to spray around the area of the cast iron table where the threaded rod passes through it. The threads on the steel rods mesh directly with the threaded holes on the cast iron table, which makes it possible for the table to be lifted and lowered. .

***Picture showing one of four Threaded Rods that require lubrication.***


**Vertical Cutter**

Spray lubricant on a cloth, and wipe down the surface of the two steel rods that the moveable side cutter travels on. This will prevent rust from forming on these exposed, unfinished metal surfaces. Also spray the threaded rod that is placed between the two steel rods, and moves the vertical cutter inwards and outwards.

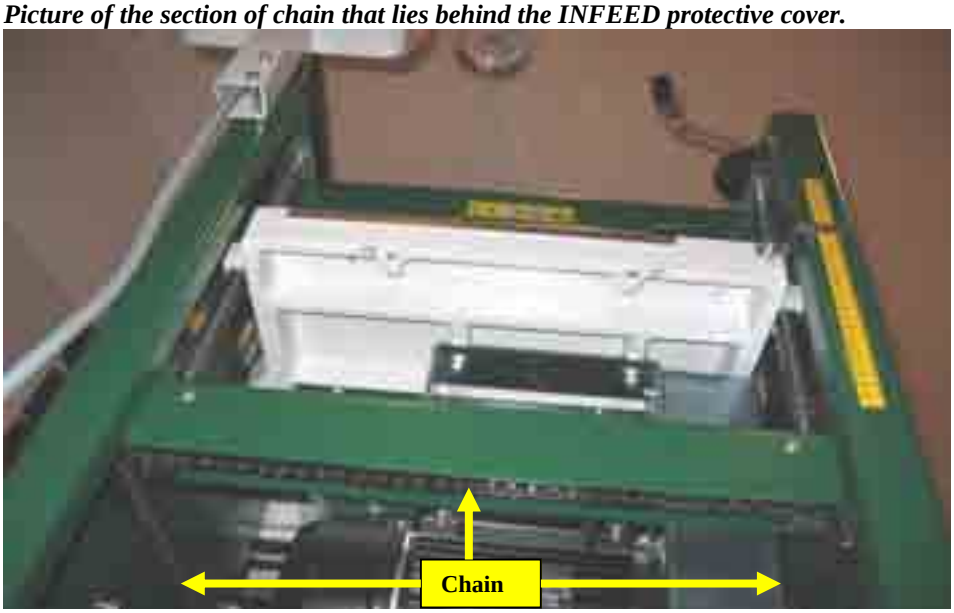
***Picture of the three parts of the Vertical Cutter that require lubrication.***



**Chains that assist in Raising and Lowering the Cast Iron Table**
Periodically spray the chain that raises and lowers the cast iron table with a high quality lubricant. This chain lies horizontally, and is connected to each of the four threaded rods that raise and lower the cast iron table. The chain runs the entire circumference of the machine, and you can access it in a number of locations.

Remove the protective covers on the infeed and outfeed ends. Use a 5mm Allen Wrench to remove the four Allen Screws that hold on each the infeed and outfeed end protective covers. Spray exposed areas of the chain and raise and lower the table and spray again until all of the chain has been lubricated.

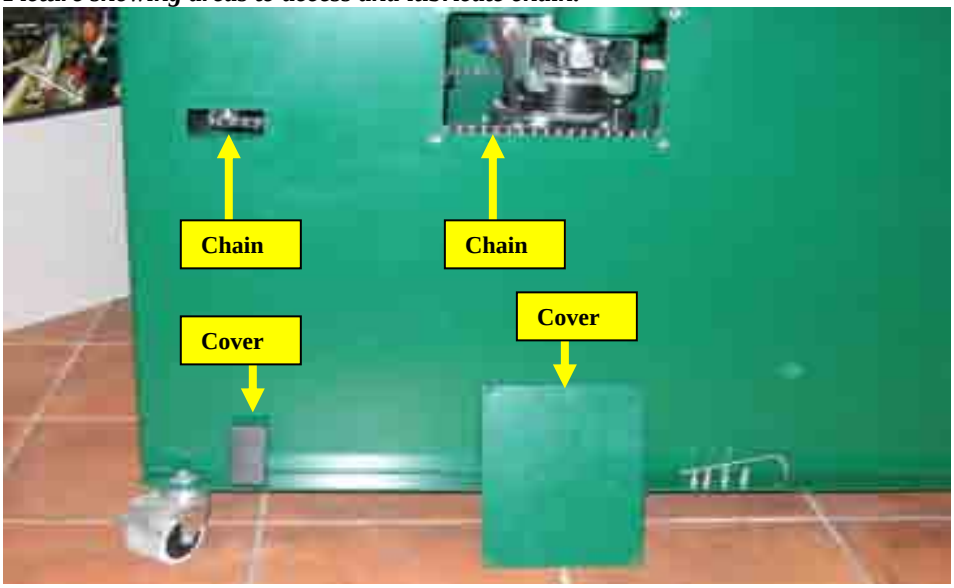
***Picture of the section of chain that lies behind the INFEED protective cover.***




***Picture of the section of chain that lies behind the OUTFEED protective cover.***

The chain can also be accessed by using removing the steel protective cover, located under the chip collector (on the electric feed motor side of the machine), with a 5mm Allen Wrench. You can also remove the three black plastic protective covers, located on the corners of the machine. This will expose the section of chain that winds around the star wheel, which is attached to the bottom of each of the four threaded rods.

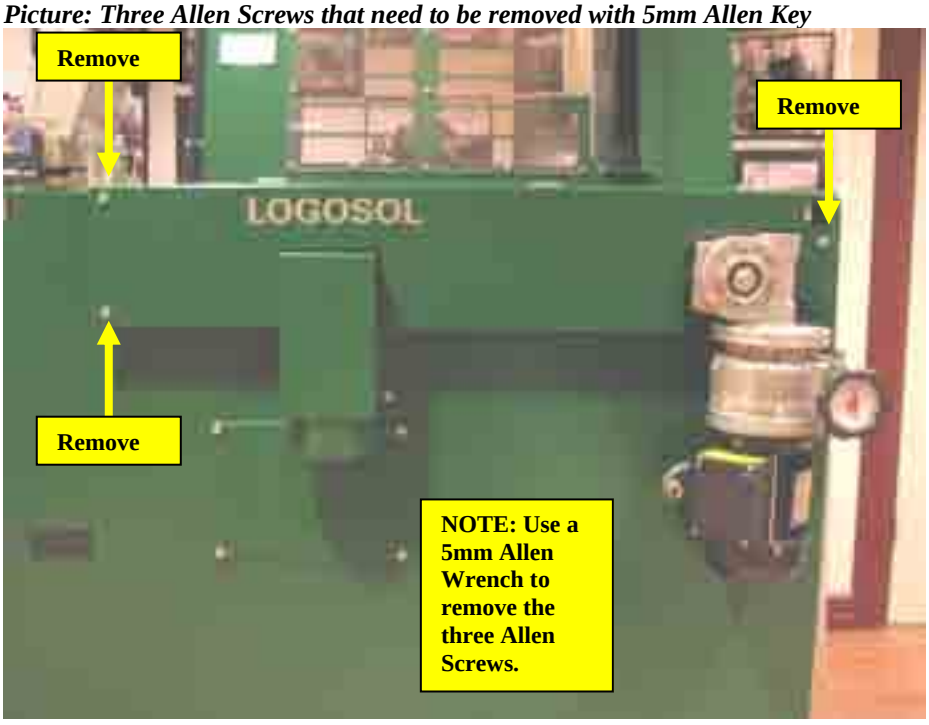
***Picture showing areas to access and lubricate chain.***



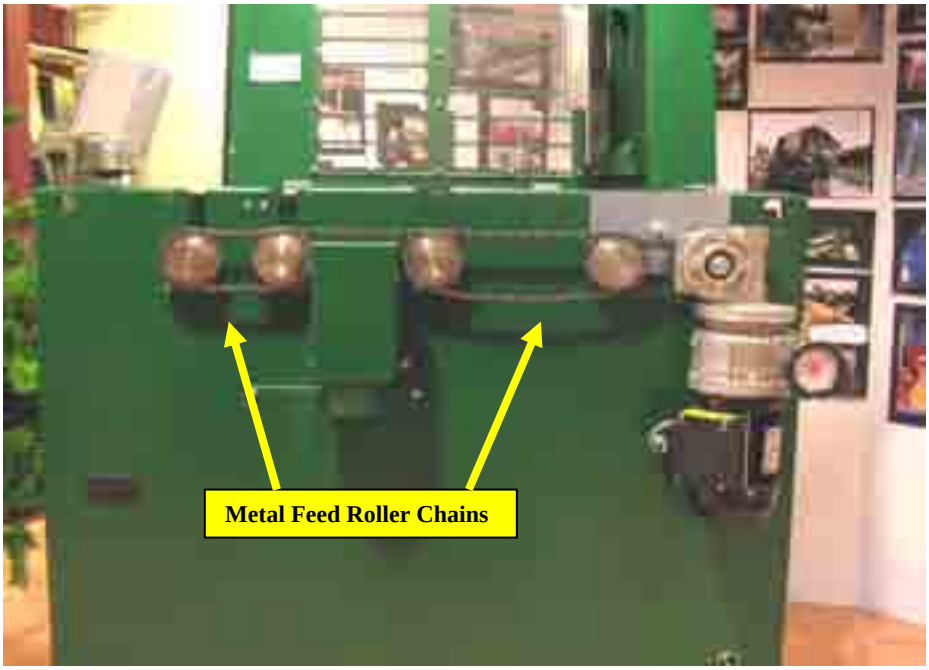

**Feed Chains**

The feed chains, which are connected to the feed rollers, are located under the cover on the right side of the machine. These chains need to be kept clean of accumulated sawdust, and periodically lubricated.
Using a 5 mm Allen key, remove the three Allen screws that hold on the protective cover (two screws on the left, and one on the right).

***Picture: Three Allen Screws that need to be removed with 5mm Allen Key***



Take off the protective cover that surrounds the chip collection port and feed motor, and spray the chains with a high quality lubrication spray.

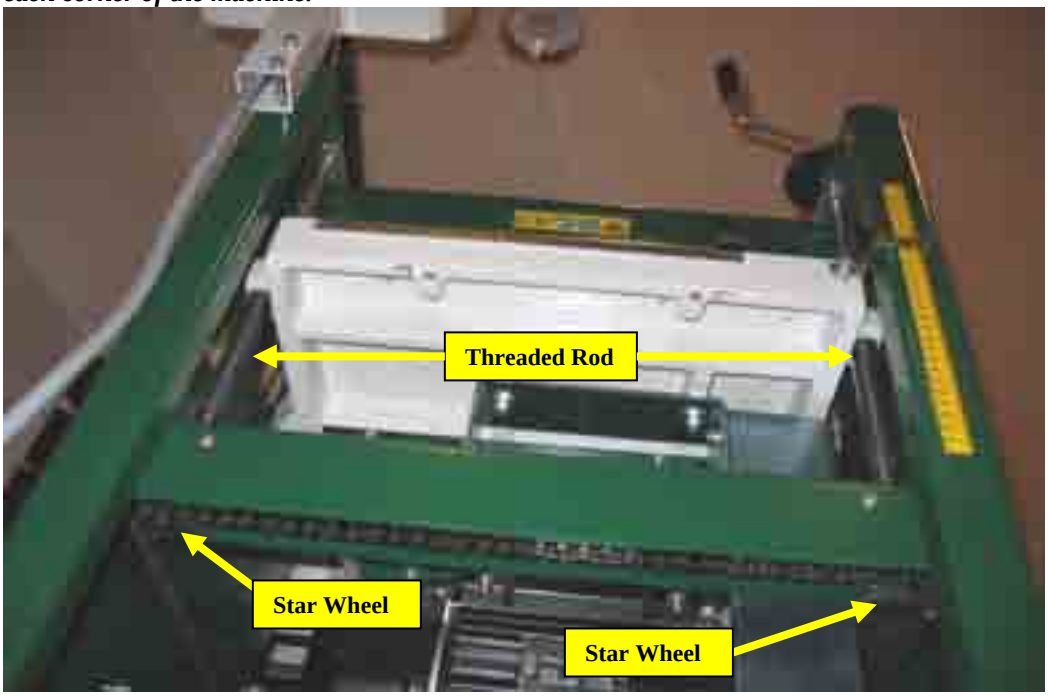



**Adjusting the Chain that Raises & Lowers the Cast Iron Table**

The height of the cast iron table on your machine is adjusted by operating the removable crank handle located on the infeed end of the machine. The crank handle is connected to a chain, which in turn is connected to the four threaded steel rods, which are threaded through the cast iron table. Eventually, through use, the chain will stretch slightly.

When this chain becomes extremely stretched/slack, there is the possibility that one of the Star Wheels, located at the bottom of the threaded rods, can skip over a link when the removable crank handle is being operated. If this occurs, the threaded rods will not be synchronized with each other. If this is the case, when you operate the removable crank handle, the effect of non-synchronized threaded rods will be that the cast iron table will not be level. Another way to say it is that the "timing" of the four threaded rods is now out of synchronization, and the four corners of the cast iron table will not raise and lower at the same rate.

***Picture showing two Star Wheels (there are four total), which are located at the bottom of the Threaded Rods, on each corner of the machine.***

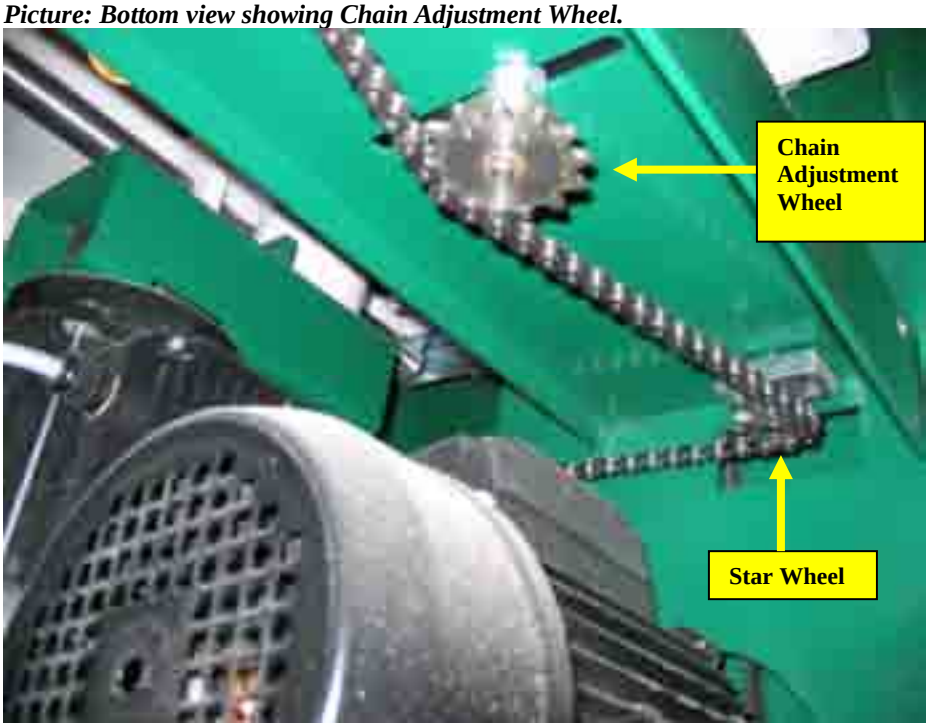



Your PH 260 is equipped with a chain adjustment wheel, located on the outfeed end of the machine, used to remove slack from the chain. Removing slack from this chain will help prevent this situation explained in the previous paragraph from occurring.

***Picture: Top View, Chain Adjustment Wheel Lock Nut - use 17mm Wrench.***


First, remove the 4 Allen bolts that hold on the protective cover by using a 5 mm Allen wrench. When the cover is removed, you will be able to see the Chain Adjustment Wheel. This wheel is adjusted by loosening the nut on the TOP of the machine, shown in the above picture utilizing a 17 mm wrench. Loosen the adjustment nut, and move the adjustment wheel towards the infeed side of the machine, thus taking the slack out of the chain, and then tighten the adjustment nut.

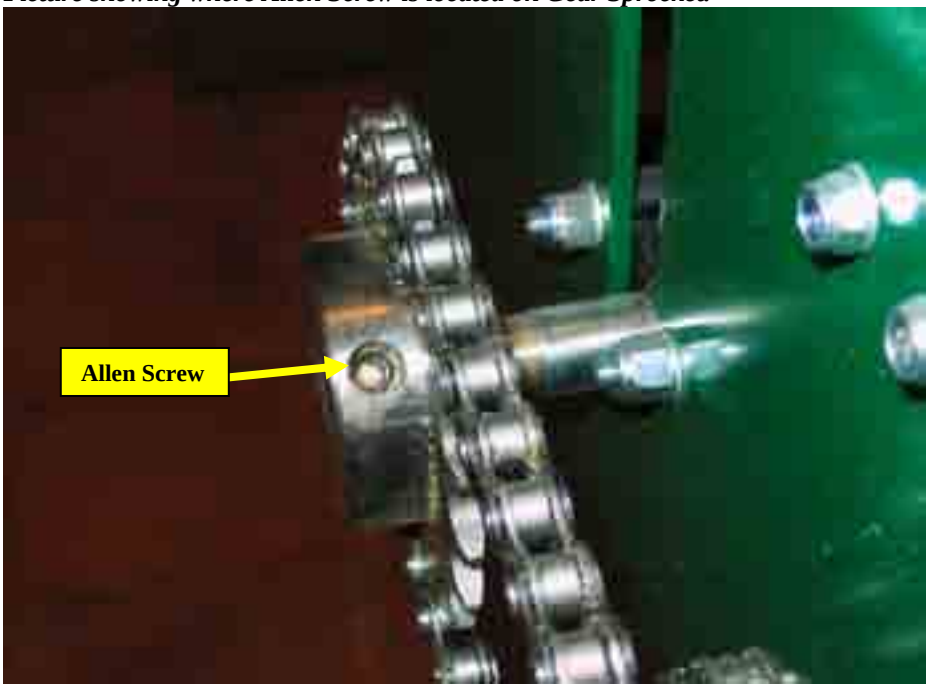
***Picture: Bottom view showing Chain Adjustment Wheel.***




**Replacing Feed Chain Gear Sprocket Allen Screw**

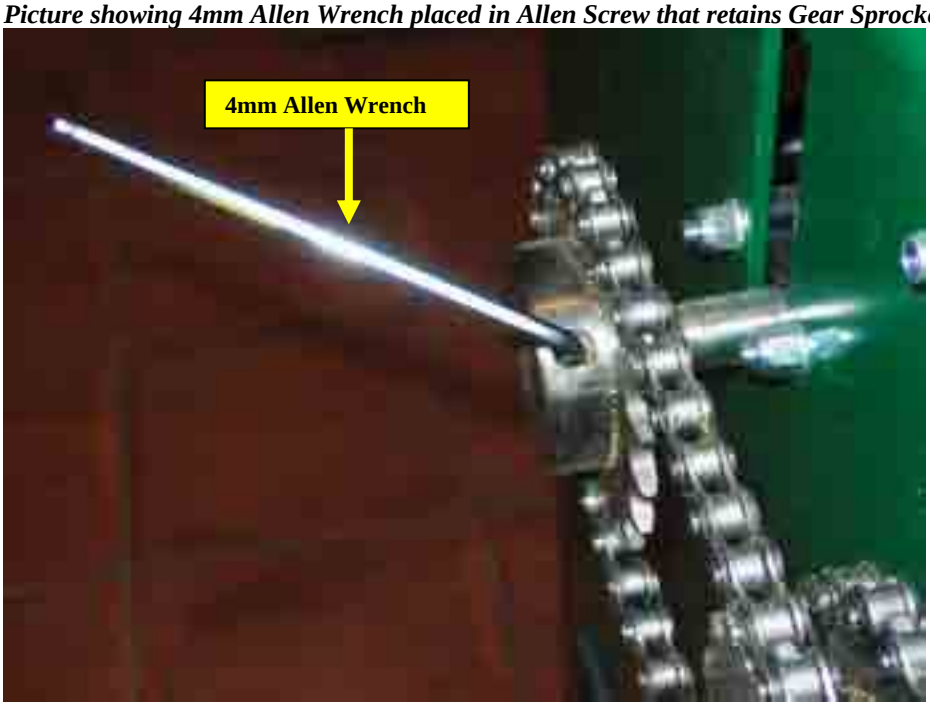
The feed roller sprockets in the PH260 are equipped with Allen Screw(s) that are designed to will shear off their head if your planer gets in a bind. For example, if the size of the material being fed into the machine is more than the machine can handle, the feed roller sprocket will break off the contact point of the Allen Screw in order to protect the feed motor and drive train of the machine. (NOTE: Previous versions of the PH 260 were equipped with a Shear Pin instead of an Allen Screw).

***Picture showing where Allen Screw is located on Gear Sprocket.***



When sheared, these Allen Screws must be removed from and re-installed in the feed roller sprocket. Utilize a 5mm Allen Wrench, and remove the 3 Allen Screws that fasten the protective cover that surrounds the chip collection port and feed motor. When the protective cover has been removed, you will be able to see the drive system for the various feed rollers. Establish which feed sprocket has broken Allen Screws, and utilize a 4mm Allen Wrench remove them.

***Picture showing 4mm Allen Wrench placed in Allen Screw that retains Gear Sprocket.***



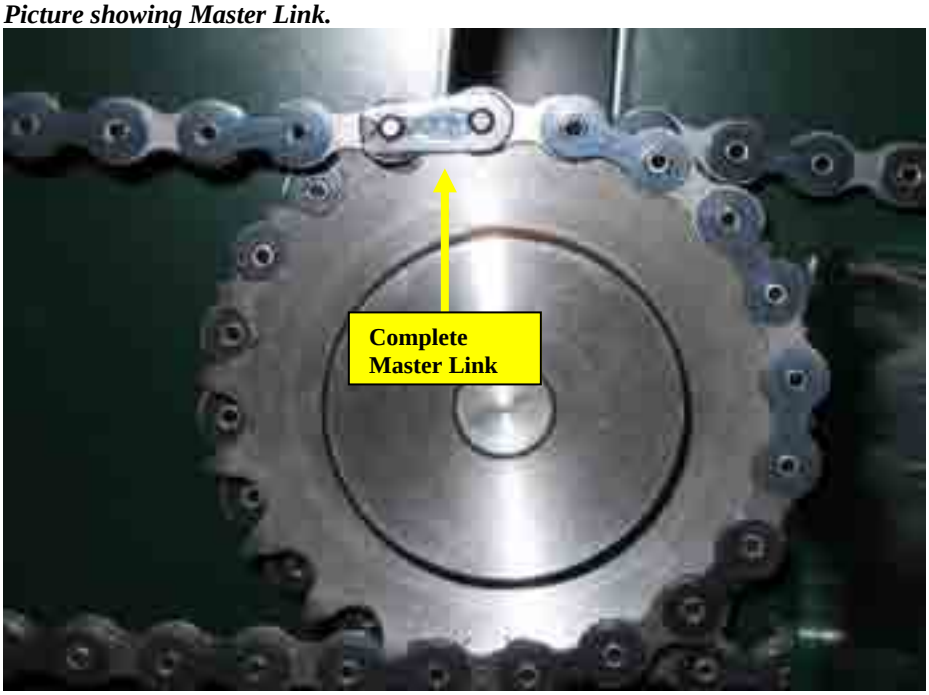

In the example shown above, the Allen Screw that retains the feed roller gear/sprocket is facing upwards. In order to remove the head of the sheared Allen Screw, the gear must be facing downwards, so that the remaining portion can drop out. So in a case like this, after removing the threaded portion of the Allen Screw, you would need to activate the automatic feed mechanism to get the sprocket/gear facing downwards. Tap the front of the sprocket/gear with a piece of wood, causing the head of the sheared Allen Screw to fall free. Replace with a new Allen Screw.

***Picture of a 4mm Allen Wrench, necessary to remove the Allen Screw (also shown) that securely locks feed roller/gear sprocket.***

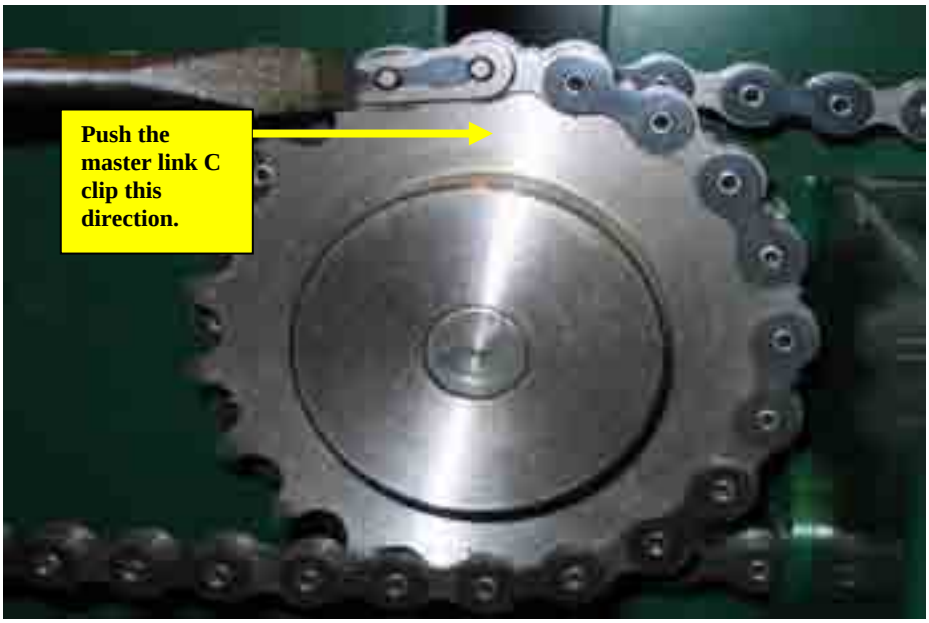
**Removing and Replacing Feed Chains**

There are occasions when it might be necessary to remove the feed chains, i.e. deep cleaning followed by lubrication. Each chain has a master link, which must be disassembled in order to remove the chain. The master links come from the factory facing outward, and they are easily recognizable because they look different from the rest of the links.

***Picture showing Master Link.***




To remove the master link, place a wide, flathead screwdriver behind the ends of the "c" clip, apply pressure, and carefully push the "c" clip off of it's mounting points. It is a good idea to only perform this operation in a clean, well-lit area. The concern being that the "c" clip, which is made from spring steel, can easily fly off and accidentally get lost during the removal operation.

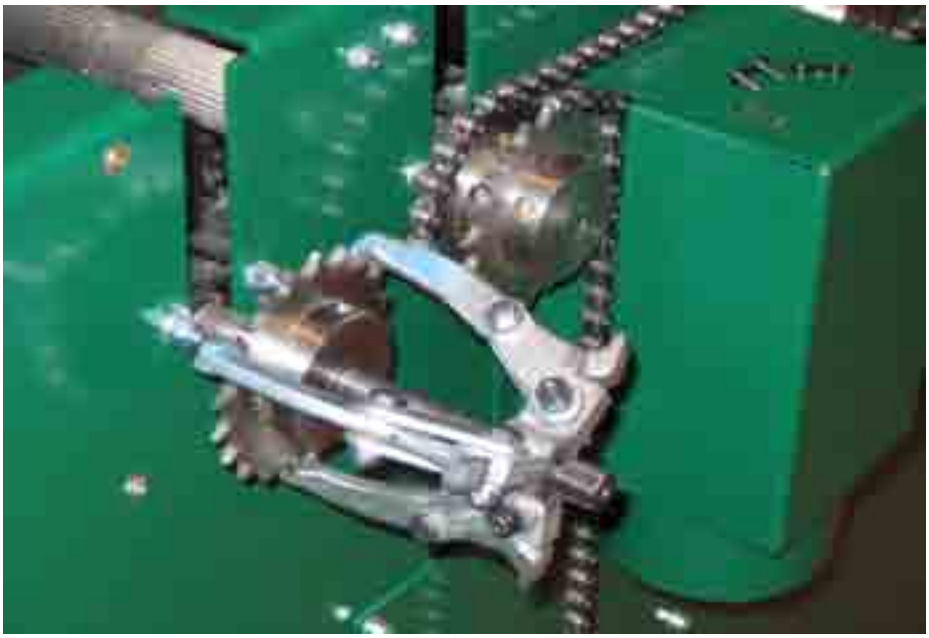


***Picture of disassembled master link, with "c" clip on the bottom of the picture.***

***Picture of chain removed from sprocket/gear.***

**Removing Feed Sprocket/Gear**

If your machines feed rollers get in a bind, it is possible that the head of the Allen Screw can get sheared off, causing the axel to rotate within the sprocket/gear. In order to properly re-align the hole in the sprocket/gear with the channel in the axel, the gear must be removed and re-aligned. Use a common automotive gear puller for this purpose. Make sure that you do not place the gear puller "arms" behind any of the sprocket/gear teeth, because you can possibly bend or damage them.



**Replacing the Feed Sprocket/Gear**

During the assembly process, a rust preventing varnish was applied to the feed sprocket/gear and the feed roller axel. Before replacing the feed sprocket/gear to the feed roller axel, it is recommended that this varnish be removed to assist in easy reassembly. You can utilize emery cloth for this – lightly polish and remove the varnish that is on/around the axel of the feed roller. Wrap emery cloth around a wood dowel, and lightly polish and remove the varnish that is on the inside of the hole in the feed sprocket/gear. After this has been done, place the feed sprocket/gear onto the feed roller axel. Pay close attention to lining up the Allen Screw hole on the feed sprocket/gear to the corresponding area on feed roller axel.

## Removing and Replacing Belts

The power to your machines vertical and horizontal cutters is transferred from electric motors via multi-ribbed rubber belts. These belts will stretch and wear from a combination of time and use, and may periodically require replacement.

**NOTE:** Recent Versions of the PH 260 use belts with 8 ribs, while previous models use belts with 6 ribs. The part numbers for belts listed throughout the following procedures will be for recently produced PH 260 machines. At the end of this section, part numbers will be listed for previous version machines.

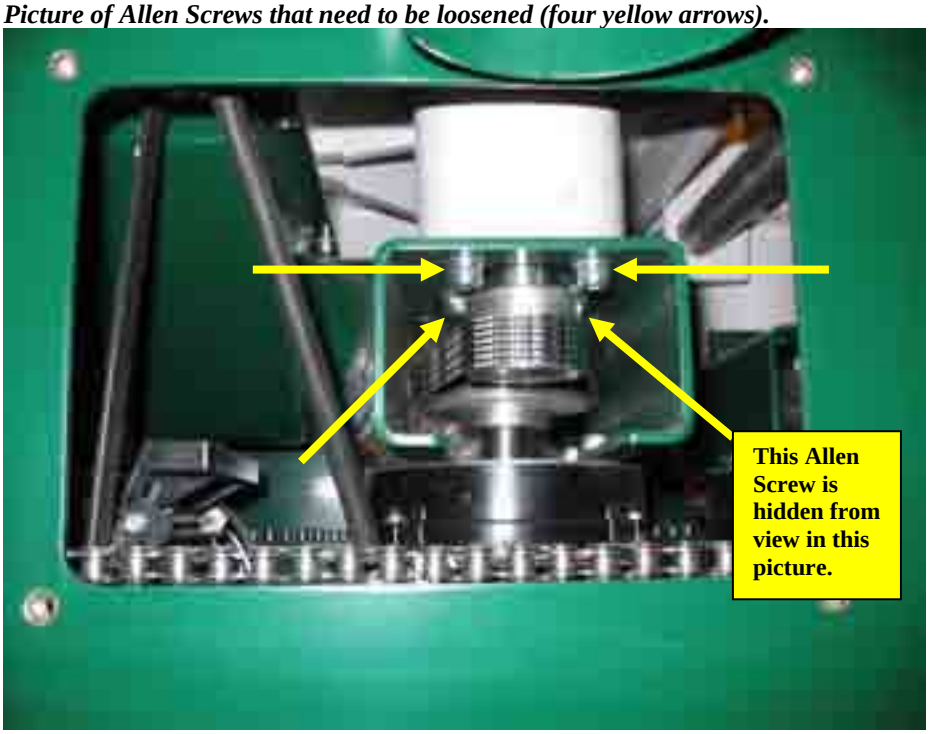
### Removing and Replacing Stationary Vertical Cutter Belt (Logosol Part #7500-001-2005, 180J8)

To access the stationary vertical cutter belt, remove the steel protective plate that covers the observation port, located under the chip collector (on the electric feed motor side of the machine), with a 5mm Allen Wrench.

***Picture of location of Vertical Cutter Belt (yellow arrow).***


Four (4) vertically orientated Allen Screws (located near yellow arrows in picture below) surround the driven wheel that is connected directly to the stationary vertical cutter. These screws pass through slots in the motor mount, and fasten into the cast iron table.

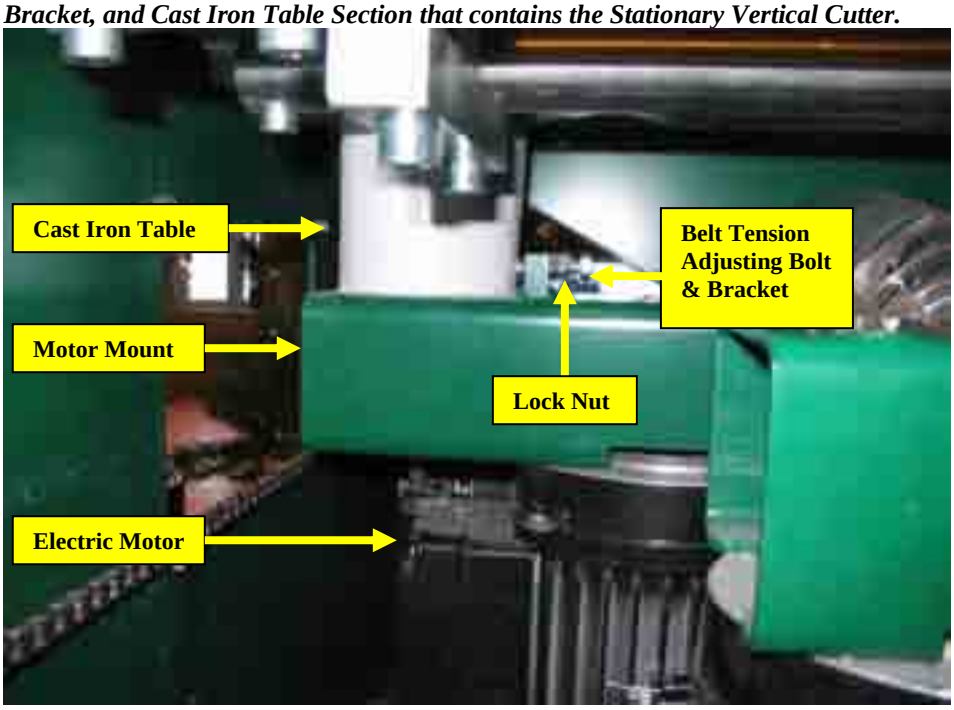
***Picture of Allen Screws that need to be loosened (four yellow arrows).***



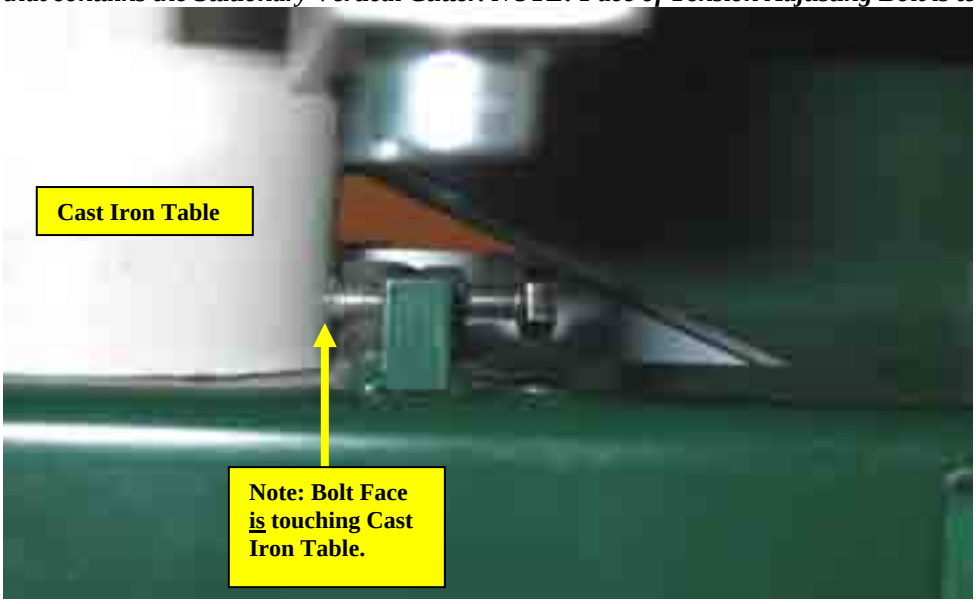

Loosen each of these screws approximately 1 turn, utilizing a 6mm Allen Wrench. **DO NOT** remove the Allen Screws, as this will unnecessarily complicate the procedure.


A belt tension adjustment bolt passes through a bracket that is welded to the electric motor mount assembly. The adjustment bolt needs to be completely loosened in order to remove the tension from the drive belt, which will then allow you to then subsequently remove the belt.

***Wide Angle Picture Showing Electric Motor and Mounting Assembly, Belt Tension Adjusting Bolt/Lock Nut & Bracket, and Cast Iron Table Section that contains the Stationary Vertical Cutter.***



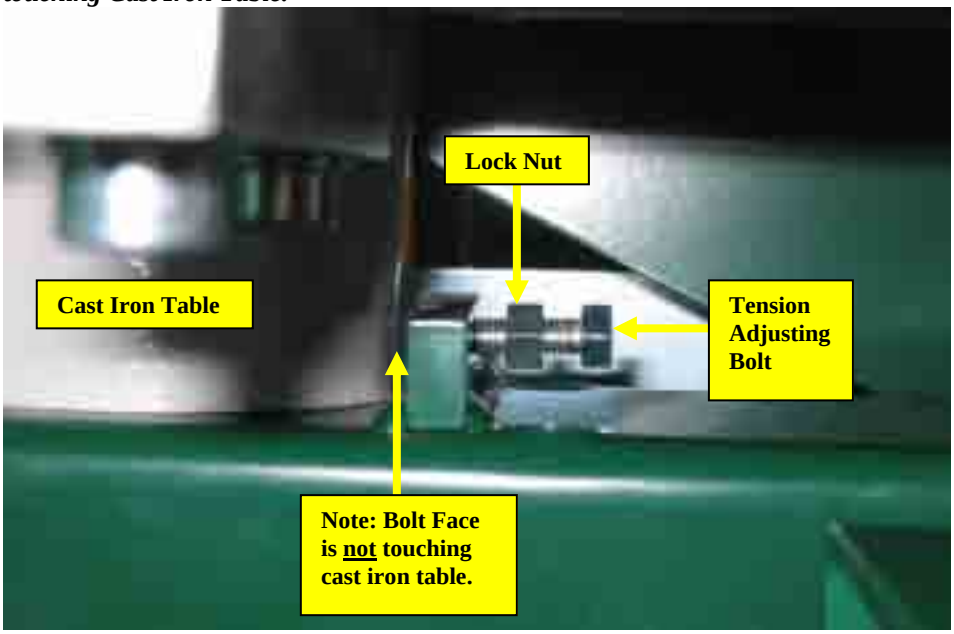
***Close Up Picture of the Belt Tension Bolt Bracket & Tension Adjusting Bolt/Nut, and Cast Iron Table Section that contains the Stationary Vertical Cutter. NOTE: Face of Tension Adjusting Bolt is touching Cast Iron Table.***




Use a 13mm open-end wrench, and completely loosen the locking nut that secures the tension adjusting bolt in place. Loosen the tension adjusting bolt until the front of the bolt is flush with the front of the belt tension bolt bracket, but do not remove the bolt from the bracket.

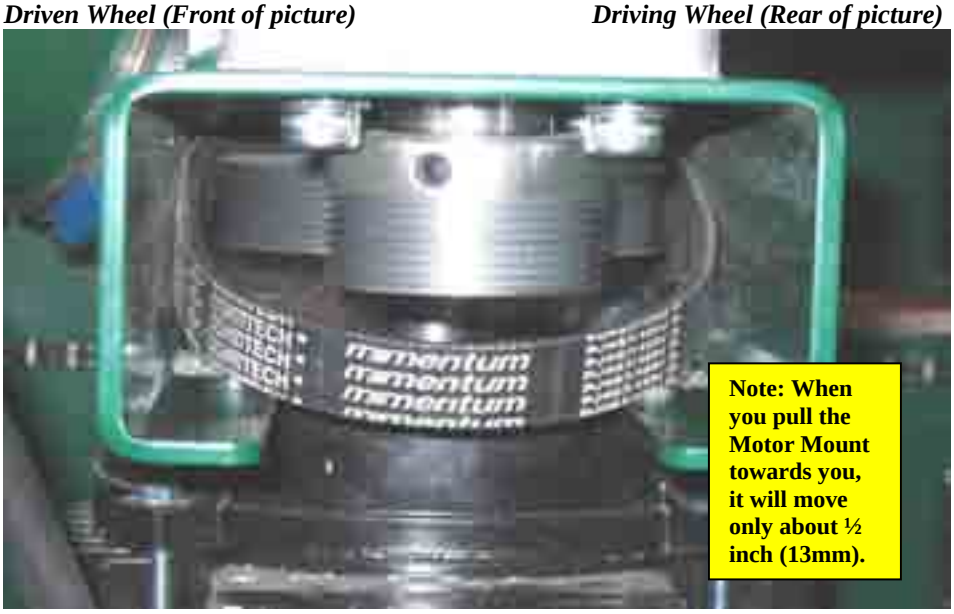
***Picture of 13mm wrench placed on Belt Tension Adjusting Bolt & Lock Nut.***

***Picture of Tension Adjusting Bolt after being loosened. NOTE: Face of Bolt is flush with Bracket, and is not touching Cast Iron Table.***



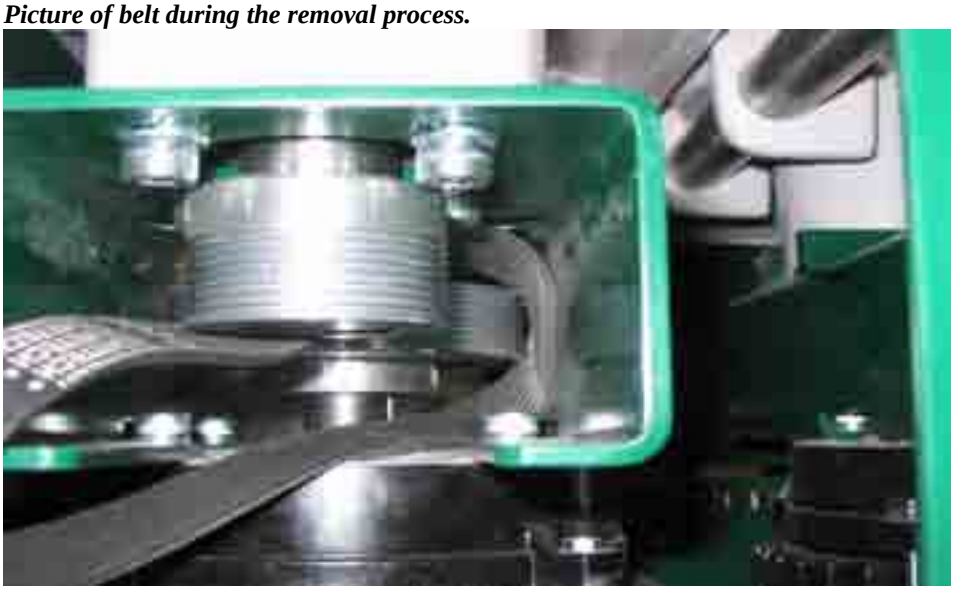

Reaching through the observation port, grasp both sides of the green motor mount assembly with both of your hands, and pull the entire assembly towards you. **Note:** The motor mount assembly's movement towards you is limited to approximately ½ inch (13 mm), at which point the bracket that holds the belt tension adjustment bolt will make contact with the cast iron table, preventing any more movement.

***Picture after motor mount assembly has been pulled towards you.***
***Driven Wheel (Front of picture)*** ***Driving Wheel (Rear of picture)***



In order for the belt to be removed, it must be finessed over the top of the driving wheel (larger wheel connected to motor), then under the bottom of the driven wheel (smaller wheel), and finally pulled straight out. The clearances are tight, so do not get frustrated – the belt can be removed! Look carefully at the pictures and take your time!

***Picture of belt during the removal process.***



Replace the belt **(Logosol Part #7500-001-2005, 180J8)** in the reverse order of how you removed it.

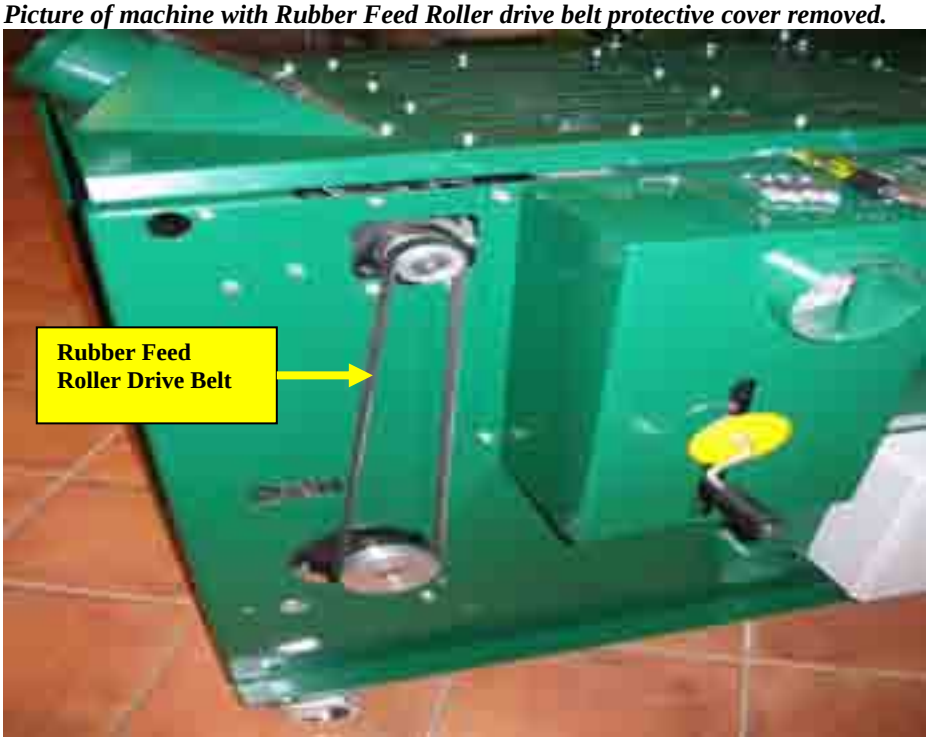
## Removing and Replacing Adjustable Vertical Cutter Belt (Logosol Part #7500-001-2005, 180J8)

This process is very similar to removing and replacing the Stationary Vertical Cutter Belt, but with a few minor differences. The minor differences are related to the exterior parts of the machine you need to remove to gain access to the belt.

***Picture showing the side of machine that you access the Adjustable Vertical Cutter Belt***

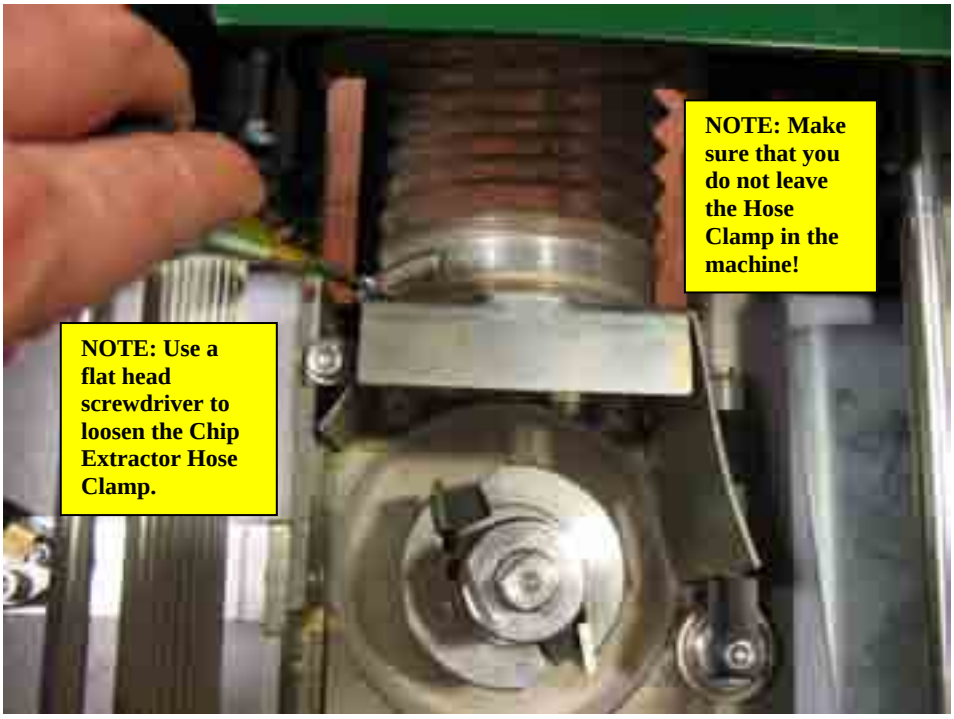

Begin by removing the four Allen Screws that fasten the protective cover that surrounds the Rubber Feed Roller drive belt. Utilize a 5mm Allen Wrench for this procedure.

***Picture of machine with Rubber Feed Roller drive belt protective cover removed.***

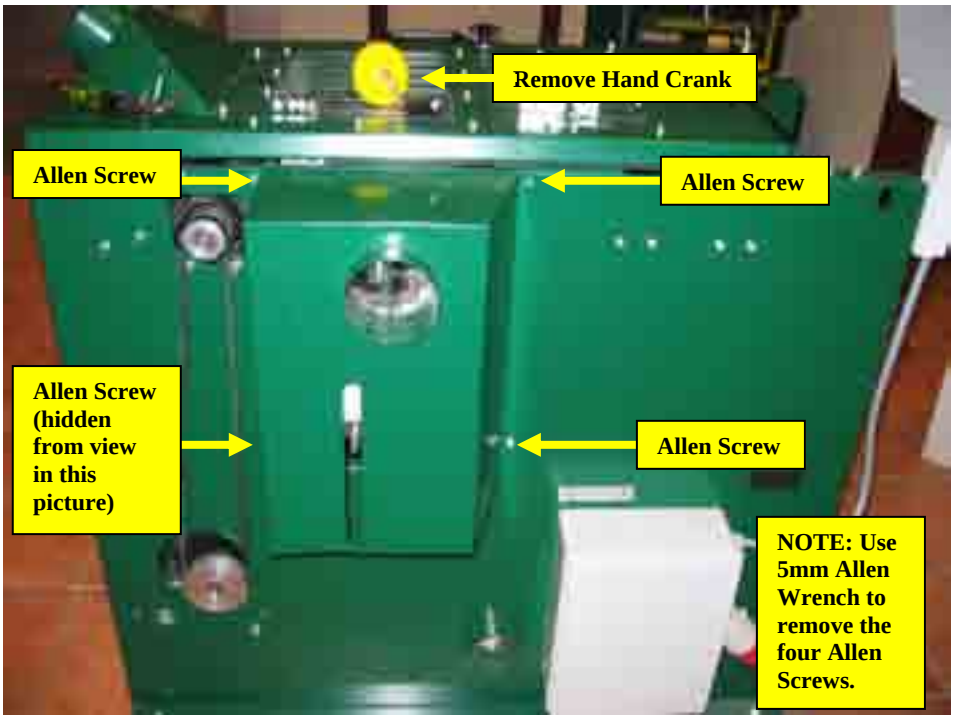



Open the Observation Cover of the machine, and loosen the Hose Clamp that secures the Chip Extractor Hose that is mounted next to Adjustable Vertical Cutter. Remove the Chip Extractor Hose from its mount, and remove the Hose Clamp.

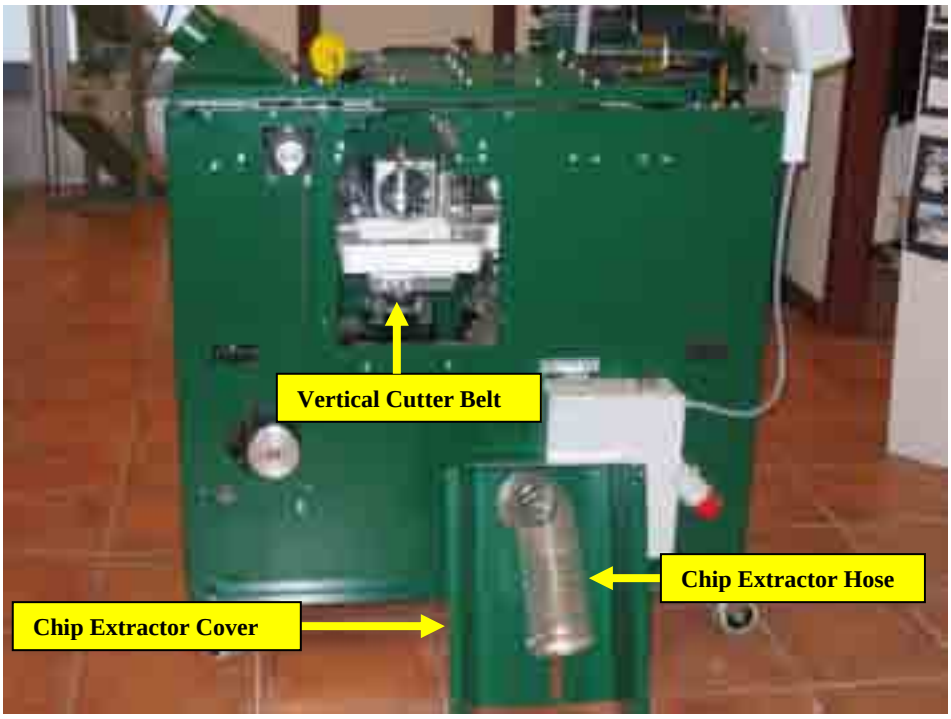
***Picture of Chip Extractor Hose and Mount, and Hose Clamp.***




Once the Chip Extractor Hose is removed from its mount, close the Observation Cover, remove the Adjustable Vertical Cutter Removable Hand Crank, and remove the four Allen Screws that fasten the Chip Extractor Cover to the machine. Utilize a 5mm Allen Wrench to remove the four Allen Screws. The Chip Extractor Cover will come off with the Chip Extractor Hose attached to it. Make sure the Chip Extractor Hose Clamp that you have loosened is not left in the machine.

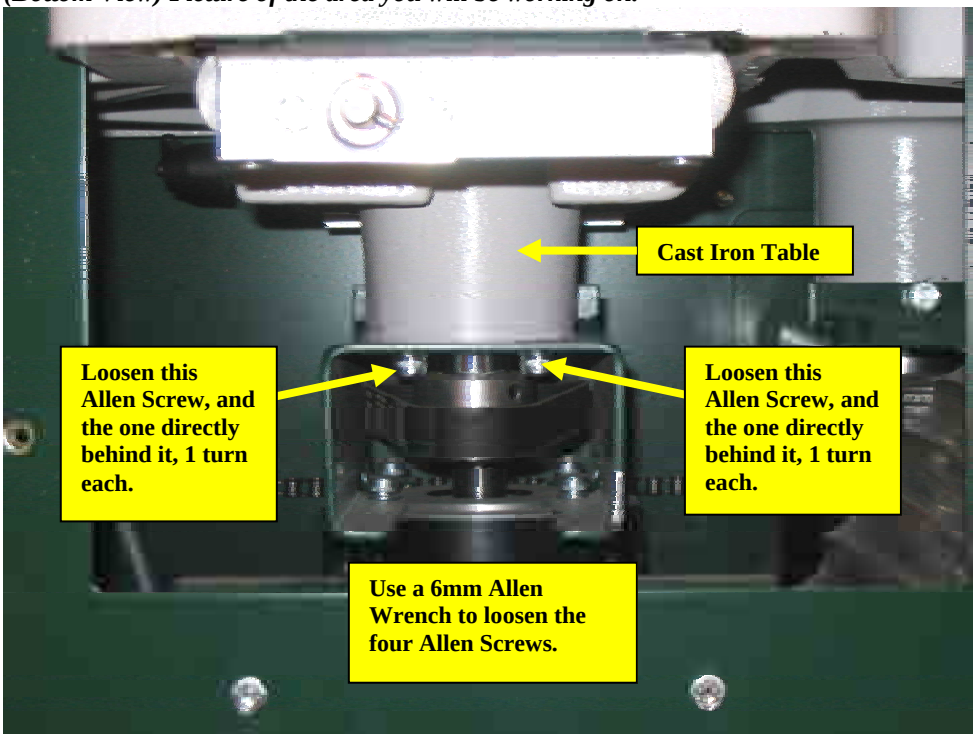



***Picture of PH260 with Chip Extractor Cover removed.***

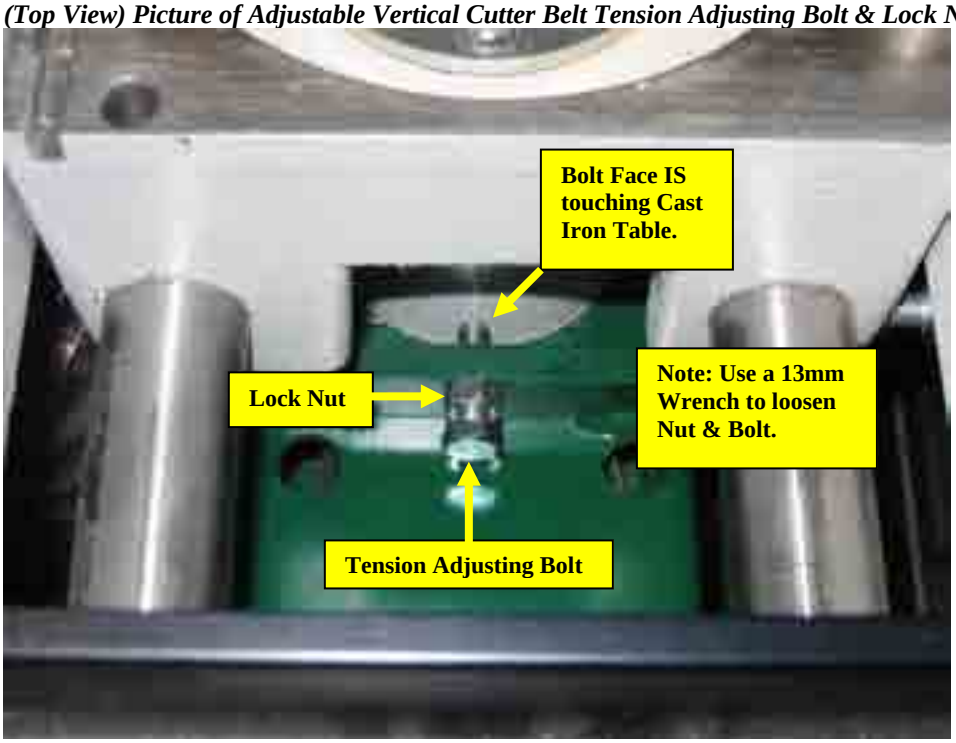



The remaining steps in this process are the same as those explained in the section titled: ***Removing and Replacing Stationary Vertical Cutter Belt.*** Utilizing a 6mm Allen Wrench, loosen the four (4) vertically orientated Allen Screws that surround the driven wheel that is connected directly to the Adjustable Vertical Cutter. These screws pass through slots in the motor mount, and fasten into the cast iron table.

***(Bottom View) Picture of the area you will be working on.***

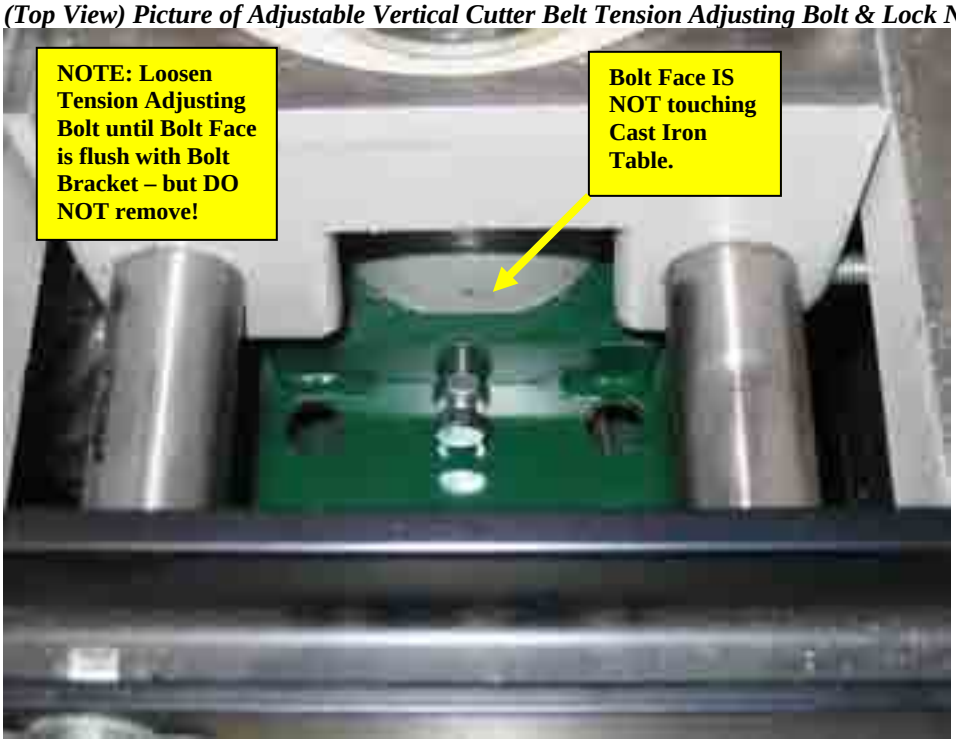


*(Top View) Picture of Adjustable Vertical Cutter Belt Tension Adjusting Bolt & Lock Nut –BEFORE loosening.*



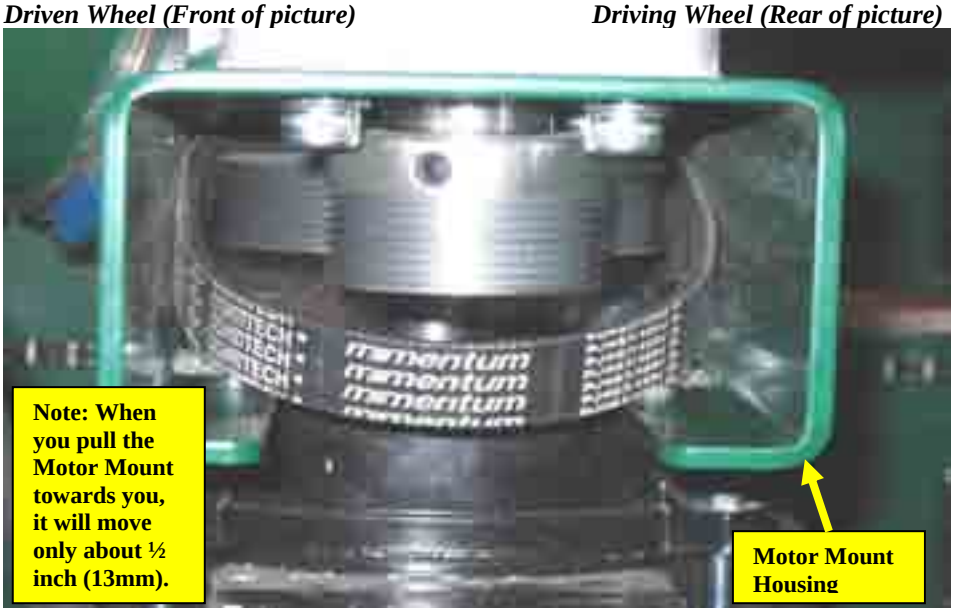

Use a 13mm wrench, and completely loosen the locking nut that secures the tension adjusting bolt in place. Loosen the tension adjusting bolt until the front of the bolt is flush with the front of the belt tension bolt bracket, but do not remove the bolt from the bracket.

*(Top View) Picture of Adjustable Vertical Cutter Belt Tension Adjusting Bolt & Lock Nut – AFTER loosening.*



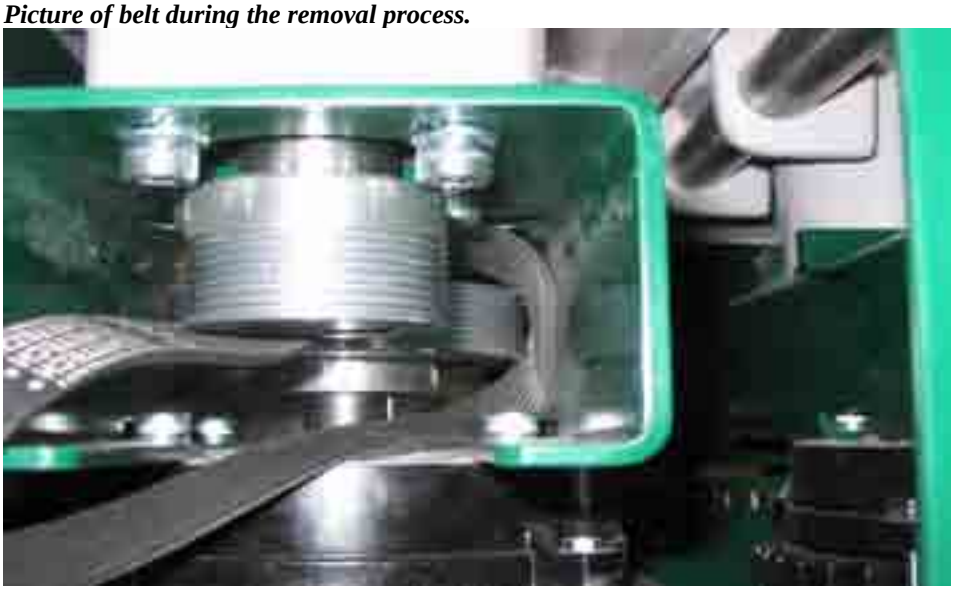
Reach through the area that the chip extractor housing covered, grasp both sides of the green motor mount assembly with both of your hands, and pull the entire assembly towards you. **Note:** The motor mount assembly's movement towards you is limited to approximately ½ inch (13 mm), at which point the bracket that holds the belt tension adjustment bolt will make contact with the cast iron table, preventing any more movement.

***Picture after motor mount assembly has been pulled towards you.***
***Driven Wheel (Front of picture)*** ***Driving Wheel (Rear of picture)***




In order for the belt to be removed, it must be finessed over the top of the driving wheel (larger wheel connected to motor), then under the bottom of the driven wheel (smaller wheel), and finally pulled straight out. The clearances are tight, so do not get frustrated – the belt can be removed! Look carefully at the pictures and take your time!

***Picture of belt during the removal process.***



Replace the belt **(Logosol Part #7500-001-2005, 180J8)** in the reverse order of how you removed it.

## Removing and Replacing Rubber Feed Roller Belt (Logosol Part #7500-001-2009, 520J8)

Removing and Replacing the Rubber Feed Roller Belt is relatively easy process. Remove the four Allen Screws that fasten the outfeed end protective cover to the machine. Utilize a 5mm Allen Wrench for this procedure.

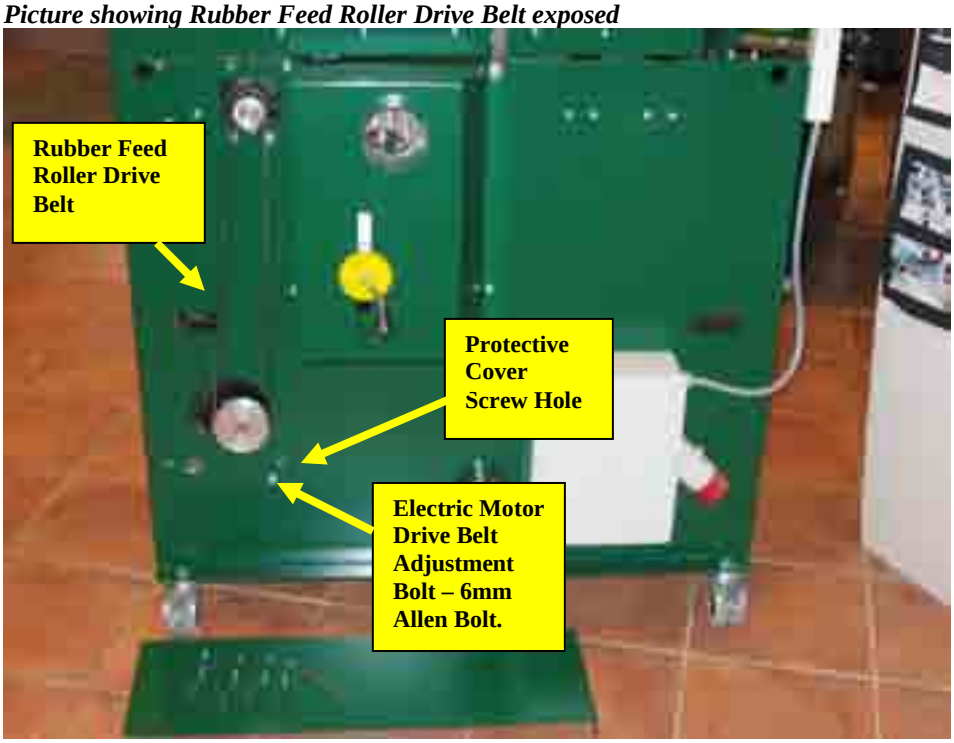
***Picture of the Outfeed end of machine.***

The next step is to remove the protective cover that surrounds the Rubber Feed Roller Drive Belt. Use a 5mm Allen Wrench to remove the four Allen Screws that fasten the cover to the machine.

***Picture showing side of machine where you access Rubber Feed Roller Drive Belt***

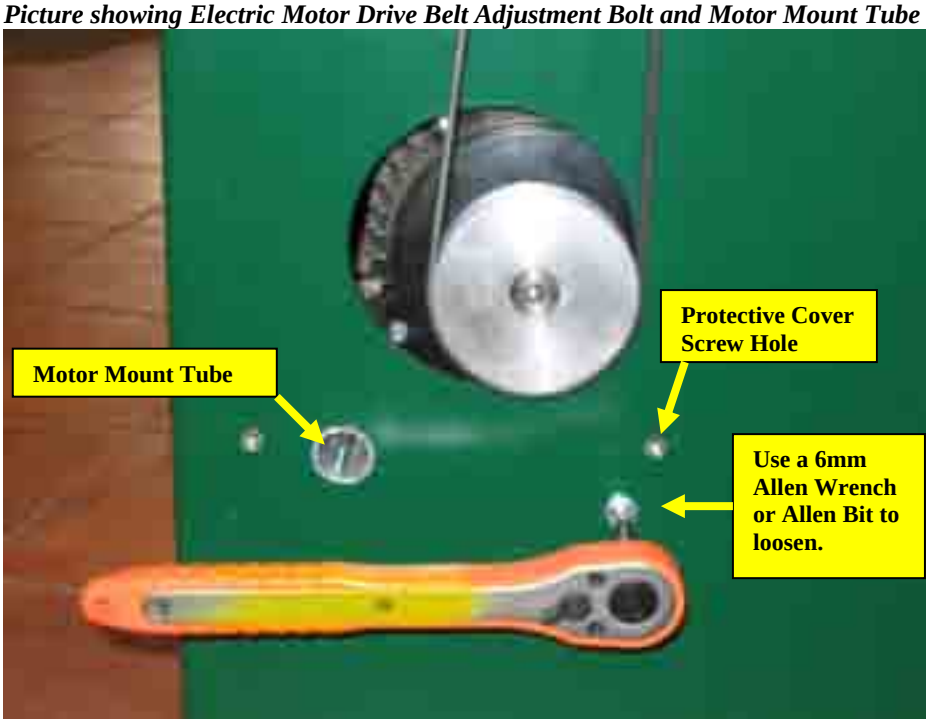

When the protective cover is removed, you will be able to see the Electric Motor Drive Belt Adjustment Bolt. It is located below the lower right hand side protective cover screw hole.

***Picture showing Rubber Feed Roller Drive Belt exposed***



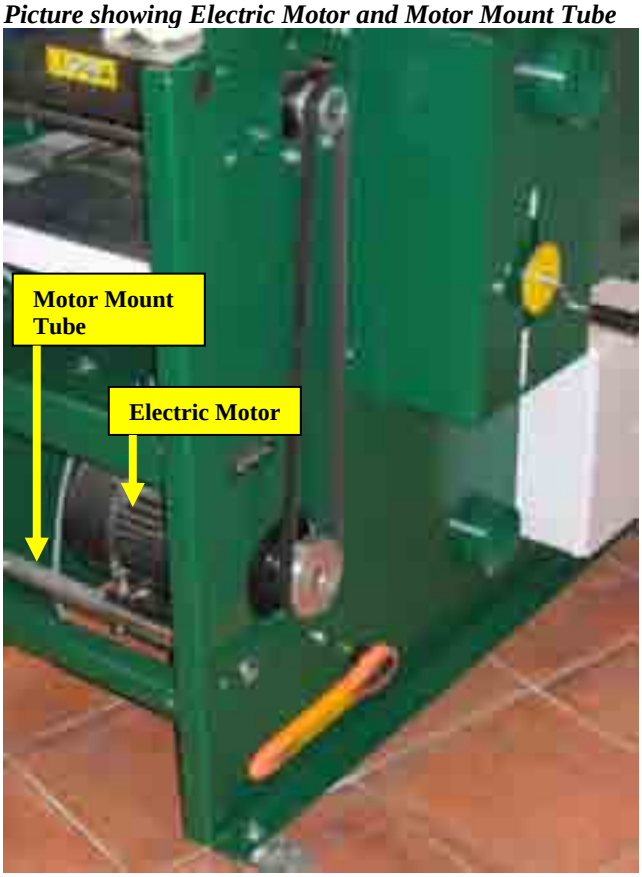
Use a 6mm Allen Wrench or Allen Bit to loosen the Electric Motor Drive Belt Adjustment Bolt.

***Picture showing Electric Motor Drive Belt Adjustment Bolt and Motor Mount Tube***



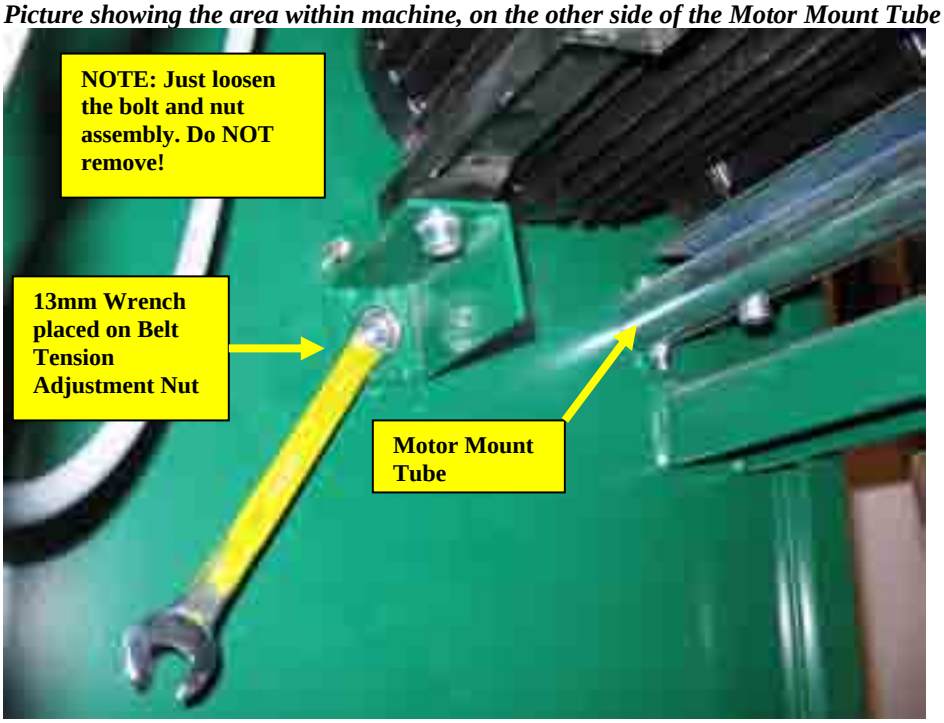

The 6mm Electric Motor Drive Belt Adjustment bolt is coupled to a 13mm nut. You will need a 13 mm Wrench to hold onto the nut in order to loosen and tighten it. The location of this is nut will be shown in the following photographs, as it somewhat hidden from view

***Picture showing Electric Motor and Motor Mount Tube***



Loosen the Bolt and Nut. There is no need to remove the nut from the bolt for this procedure. Doing so will just unnecessarily complicate the procedure.

***Picture showing the area within machine, on the other side of the Motor Mount Tube***




The electric motor is mounted on a tube that extends from one side of the machine to the other. This tube makes it possible for the motor to pivot up and down when the Belt Tension Bolt and Nut are loosened. Grasp the motor as shown in the picture, and pull it towards you, thus releasing tension from the drive belt. Hold the motor towards you while at the same time rotating and removing the drive belt from the pulley.

***Picture showing where to grasp Electric Motor***

While grasping the motor, and pulling it towards you, gradually remove the drive belt from the pulley attached to the electric motor (Driving Pulley). Be careful not to get your fingers caught between the drive belt and the pulley.

***Picture showing the drive belt being gradually removed. Rotate the drive belt while at the same time removing it.***

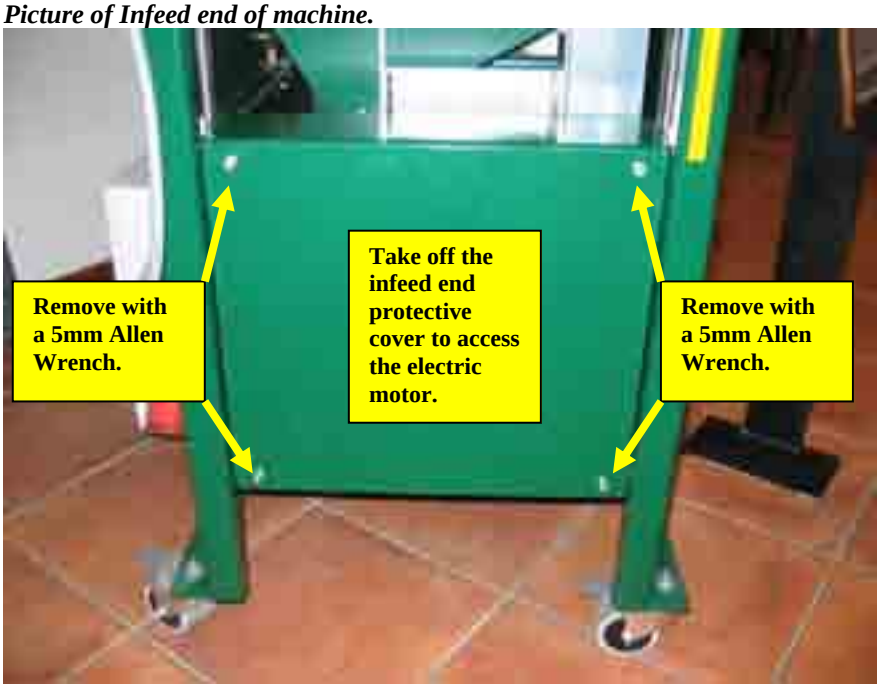
Remove the drive belt and replace it with a new belt **(Logosol Part #7500-001-2009, 520J8)**, in the reverse order of how you have removed it. Pull the motor towards you, and place the belt around both pulleys (Driving and Driven). Then, push the electric motor away from you to put tension on the belt, and then tighten the drive belt adjustment bolt.

***Picture of Drive Belt completely removed.***

## Removing and Replacing Bottom Cutter Drive Belt (Logosol Part #7500-001-2009, 520J8)

Removing and Replacing the Bottom Cutter Drive Belt is relatively simple process. Remove the four Allen Screws that fasten the infeed end protective cover to the machine. Utilize a 5mm Allen Wrench for this procedure.

***Picture of Infeed end of machine.***

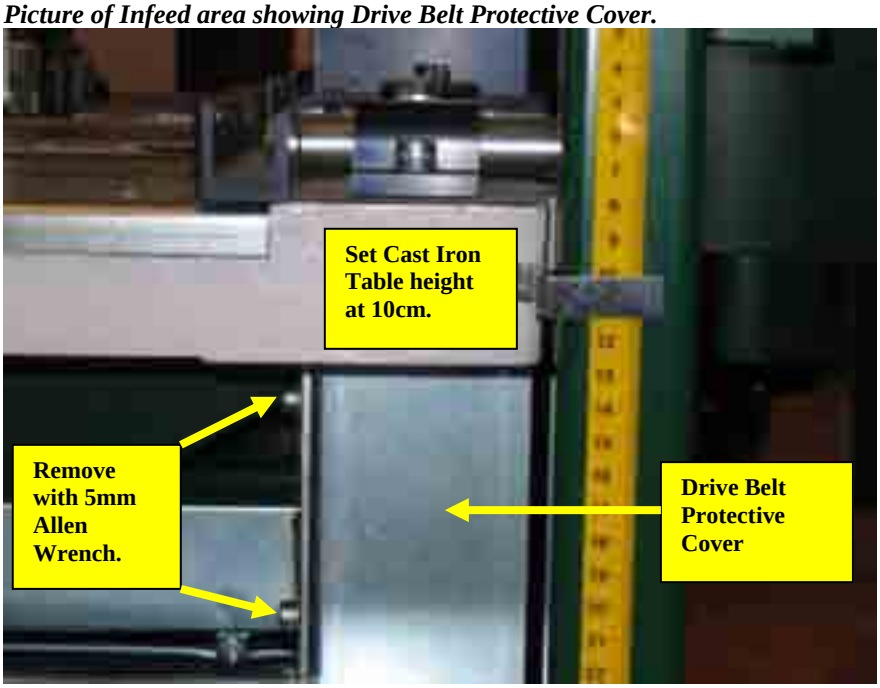



Remove the steel protective cover located under the chip collector (on the electric feed motor side of the machine), with a 5mm Allen Wrench. This is necessary to access the drive belt and remove it from the driven wheel.

***Picture of observation port, after protective cover has been removed.***

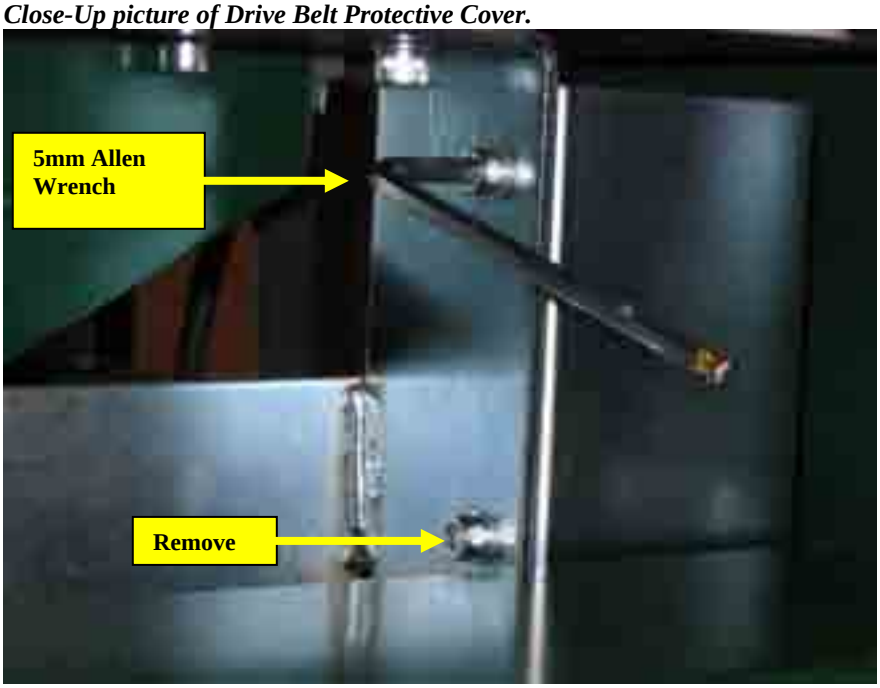
Set Cast Iron Table height at 10cm, as indicated on the scale.

***Picture of Infeed area showing Drive Belt Protective Cover.***



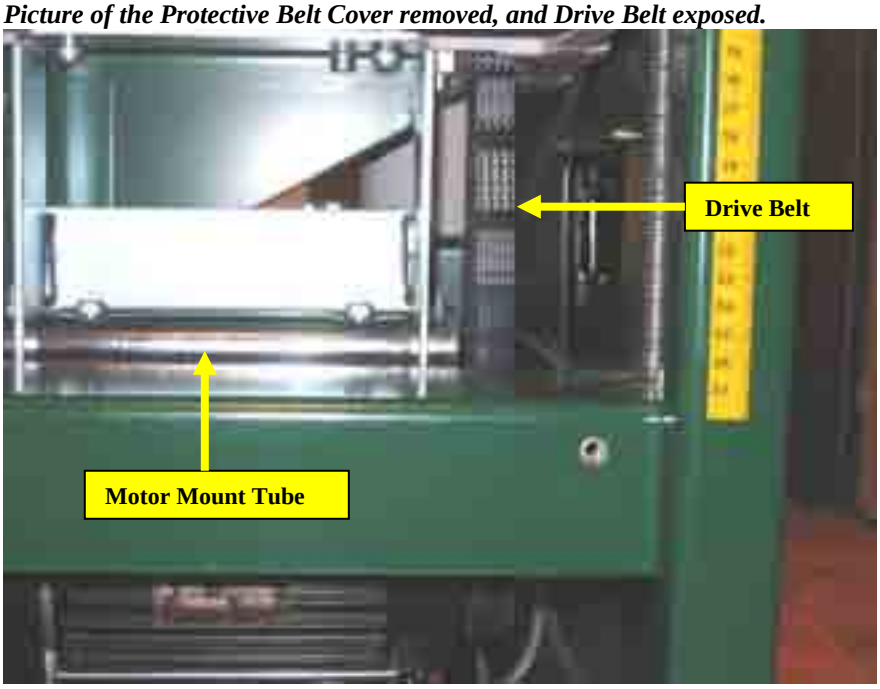

Remove the two Allen Screws that fasten the Drive Belt Protective Cover with a 5mm Allen Wrench.

***Close-Up picture of Drive Belt Protective Cover.***



The Bottom Cutter Electric Motor automatically adjusts the drive belt tension, through a combination of the weight of the motor and the forces of gravity. You do not need to loosen a bolt/nut combination to move the electric motor assembly, as is required in removing/replacing other drive belts in your machine.

***Picture of the Protective Belt Cover removed, and Drive Belt exposed.***




While you are sitting on the floor of your work area, place your left foot on the motor, and push inwards, releasing tension from the drive belt. As your left foot is pushing inward on the motor, use your right hand to pull the drive belt down, while at the same time dragging the belt to the right, removing it carefully rib by rib.

***Picture of belt being removed rib-by-rib, with operators left foot assisting in releasing tension.***

When you have removed approximately ½ of the belt (4 ribs), you can remove your foot from the motor, and complete the process. Continue to pull the belt downwards, while at the same time dragging it to the right.

***Picture of belt being removed, without assistance from operators left  foot.***


***Picture of motor with belt removed.***

The last step in the belt removal process involves removing the belt from the driven pulley. The clearance between the face of the drive pulley and the cast iron table is very tight, and it can make the process a little frustrating.

***Picture of driven pulley and drive belt (tension removed), as seen through observation port.***


The idea is that you turn and fold the belt over the face of the pulley. Once this is accomplished, at the same time slide the belt over and off.

***Picture taken from directly below the driven pulley.***

Finesse, rather than brute strength, will make this step much easier.

***Picture showing belt sliding over the face of the driven pulley.***

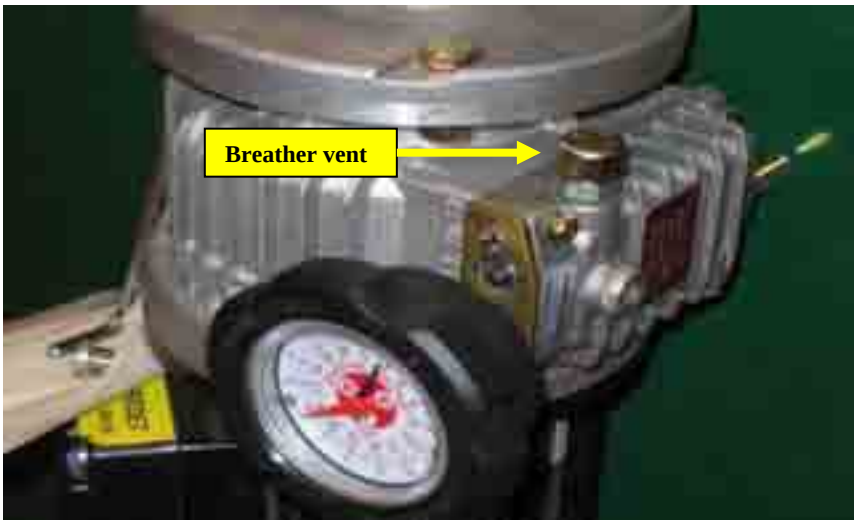
Take your time, as it can be done, and the last picture in this series shows.

***Picture showing belt being removed from driven pulley.***

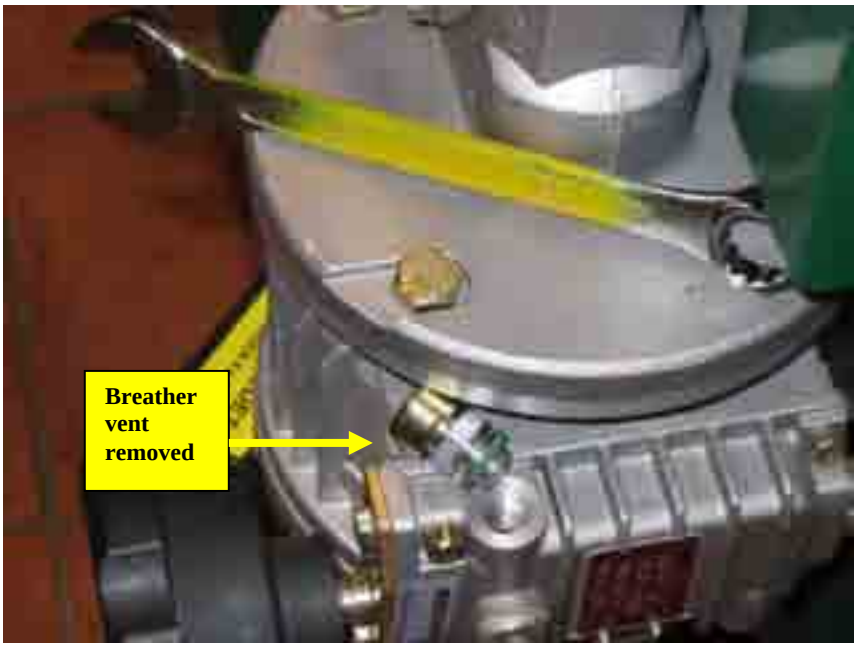
Remove the drive belt and replace it with a new belt **(Logosol Part #7500-001-2009, 520J8),** in the reverse order of how you have removed it.

## Filling your PH260 Transmission with Lubricant

The Transmission on your PH260 is equipped with a Breather Vent to allow for the expansion of gasses and fluids within the transmission case. Sometimes during shipping, small quantities of oil will seep out of the Breather Vent. The Breather Vent is located directly above the Transmission Speed Regulator.




Remove the Breather vent with a 14mm Open End Wrench.



Removing the Oil Level Plug regulates the oil level for the transmission.

Remove the Oil Level Plug with a 5mm Allen Wrench.

Fill oil through the hole that the Breather Vent screws into, and stop when oil flows out of the Oil Level hole. Replace the Oil Level Plug and Breather Vent when the process is complete.


**Logosol recommends using: Shell Donax TX**

Donax TX is a superior quality automatic transmission fluid fully approved by General Motors to meet their GM DEXRON III specification.