

LAGUNA TOOLS

LAGUNA

Laguna Tools-PX-16 SHEARTEC II Planer

Owner's Manual-

Overview of Machine,
Start-Up Procedure,
Control Software Introduction,
Running a Program, Troubleshooting,
Maintenance

Lagunatools.com



Owner's Manual MPLANPX16-0130T2

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Thank you for investing in a PX-16 Planer by Laguna Tools. This planer is one of a family of unique machines proudly offered by Laguna Tools. Every Laguna machine is engineered for years of dependable service. Please feel free to contact Laguna Tools if you have a question or suggestion. We appreciate working with you and your choice of a Laguna Tools machine for your shop.

Regards,

Torben Helshoj

President & Founder Laguna Tools

Dealer Machinery Warranty

New woodworking machines sold by Laguna Tools carry a two-year warranty effective from the date of dealer invoice to consumer. Machines sold through dealers must be registered with Laguna Tools within 30 days of purchase to be covered by this warranty. Laguna Tools guarantees all new machine sold to be free of manufacturers' defective workmanship, parts, and materials. We will repair or replace, without charge, any parts determined by Laguna Tools, Inc. to be a manufacturer's defect. We require that the defective item/part be returned to Laguna Tools with the complaint. An RMA (return merchandise authorization) must be requested, from Laguna Tools, and included with all parts or machines returned to Laguna Tools for warranty consideration. Any machines returned to Laguna Tools must be returned with packaging in the same way it was received. If a part or blade is being returned it must have adequate packaging to ensure no damage is received during shipping. In the event the item/part is determined to be damaged due to lack of maintenance, cleaning or misuse/abuse, the customer will be responsible for the cost to replace the item/part, plus all related shipping charges. This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, lack of or inadequate dust collection, misuse/abuse or damage caused where repair or alterations have been made or attempted by others.

This manual applies to the PX-16 Planer.

Enter the model number and serial number below for quick reference when ordering accessories, supplies or parts.

NOTE: The model and serial number plate can be found on the side of the planer.

Model: _____

Serial: _____

Laguna Tools

744 Refuge Way, Suite 200

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Contact Information and Customer Service Phones-

For immediate service on any Laguna Tools products:

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Safety Protocols-

Read and understand all warnings and operation instructions before using any tool or equipment. Always follow basic safety precautions to reduce the risk of personal injury. Improper operation, maintenance or modification of tools or equipment could result in serious injury and property damage. There are certain applications for which tools and equipment are designed. This product should NOT be modified and/or used for any application other than for which it was designed. It is important for you to read and understand this manual. The information it contains relates to protecting your safety and preventing problems.

Safety Call-outs

⚠ DANGER!

A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY. SOMETIMES DISPLAYED AS **⚠ DANGER!**

⚠ WARNING

A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY. SOMETIMES DISPLAYED AS **⚠ WARNING!**

⚠ CAUTION!

A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, MAY RESULT IN MINOR OR MODERATE INJURY. SOMETIMES DISPLAYED AS **⚠ CAUTION!**

NOTICE!

A HELPFUL TIP FROM OUR TECHNICAL STAFF. SOMETIMES DISPLAYED AS NOTICE!

Safety Symbols

	Disconnect from power before proceeding.		Wear ear protection.
	Be aware of possible laceration danger.		Wear Eye Protection.
	Be aware of possible crushing danger.		Wear a full face shield.
	Be aware of possible crushing danger.		Wear lung protection.
	Electrical Hazard.		Requires X People

Safety Protocols-

PROP 65 WARNING

SOME DUST CREATED BY POWER SANDING, SAWING, GRINDING, DRILLING, AND OTHER CONSTRUCTION ACTIVITIES CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. SOME EXAMPLES OF THESE CHEMICALS ARE:

- LEAD FROM LEAD-BASED PAINTS.
- CRYSTALLINE SILICA FROM BRICKS, CEMENT AND OTHER MASONRY PRODUCTS.
- ARSENIC AND CHROMIUM FROM CHEMICALLY-TREATED LUMBER.

YOUR RISK FROM THESE EXPOSURES VARIES, DEPENDING ON HOW OFTEN YOU DO THIS TYPE OF WORK. TO REDUCE YOUR EXPOSURE TO THESE CHEMICALS: WORK IN A WELL VENTILATED AREA, AND WORK WITH APPROVED SAFETY EQUIP-MENT, SUCH AS THOSE DUST MASKS THAT ARE SPECIALLY DESIGNED TO FILTER OUT MICROSCOPIC PARTICLES.

APPLICATIONS WARNING

- THIS MACHINE WAS DESIGNED FOR CERTAIN APPLICATIONS ONLY. WE STRONGLY RECOMMEND THAT THIS MACHINE NOT BE MODIFIED AND/OR USED FOR ANY APPLICATION OTHER THAN THAT FOR WHICH IT WAS DESIGNED. IF YOU HAVE ANY QUESTIONS RELATIVE TO A PARTICULAR APPLICATION, DO NOT USE THE MACHINE UNTIL YOU HAVE FIRST CONTACTED THE MANUFACTURER TO DETERMINE IF IT CAN OR SHOULD BE PERFORMED ON THE PRODUCT.
- IF YOU HAVE ANY QUESTIONS RELATIVE TO ITS APPLICATION DO NOT USE THE PRODUCT UNTIL YOU HAVE CONTACTED THE MANUFACTURER AND WE HAVE ADVISED YOU.

WARNING!

Machine & Workshop Safety Instructions

Read and understand all warnings and operating instructions before using this equipment. Failure to follow all instructions listed below, may result in electric shock, fire, and/or serious personal injury or property damage. Machinery can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result. Safety equipment such as guards, push sticks, hold-downs, feather boards, goggles, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. Always use common sense and exercise caution in the workshop. If a procedure feels dangerous, don't try it. Figure out an alternative procedure that feels safer. REMEMBER: Your personal safety is your responsibility.

OWNER'S MANUAL. Read and understand this owner's manual BEFORE using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make your workshop kid proof!

DANGEROUS ENVIRONMENTS. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

DISCONNECT POWER FIRST. Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended start-up or contact with live electrical components.

EYE PROTECTION. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are NOT approved safety glasses.

Safety Protocols (Cont'd.)-

WEARING PROPER APPAREL. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

HAZARDOUS DUST. Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. Always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications, modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly BEFORE operating machine.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine OFF and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

DAMAGED PARTS. DAMAGED PARTS. Regularly inspect machine for damaged, loose, or improperly adjusted parts—or any condition that could affect safe operation.

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

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WARNING!

Planer Specific Safety Instructions

Safety Protocols (Cont'd.)-

LIKE ALL MACHINES, THERE IS DANGER ASSOCIATED WITH THE MACHINE. INJURY IS FREQUENTLY CAUSED BY LACK OF KNOWLEDGE OR FAMILIARITY. USE THIS MACHINE WITH RESPECT. IF NORMAL SAFETY PRECAUTIONS ARE OVERLOOKED OR IGNORED, SERIOUS PERSONAL INJURY MAY OCCUR.

1. KICKBACK

"KICKBACK" IS WHEN THE WORK PIECE IS THROWN OFF THE PLANER TABLE BY THE CUTTER HEAD. THE "KICKBACK ZONE", IS THE PATH DIRECTLY BACK THROUGH THE IN-FEED TABLE. NEVER STAND OR ALLOW OTHERS TO STAND IN THIS AREA DURING OPERATION. IF KICK BACK OCCURS, SEVERE INJURY MAY RESULT.

2. CUTTER HEAD ALIGNMENT

TO REDUCE THE POSSIBILITY OF KICKBACK, KEEP THE TOP EDGE OF THE OUT-FEED TABLE ALIGNED WITH THE CUTTER HEAD INSERT AT TOP DEAD CENTER (TDC).

3. SUPPORTING THE WORK

ONLY MAKE CUTS IF THE WORK PIECE IS STABLE AND NEVER ATTEMPT TO CUT UNSTABLE PLANKS, OR INJURY MAY OCCUR.

4. CUTTING DEPTH

NEVER EXCEED THE MAXIMUM CUTTING DEPTH of 3/32" or 2.388mm, AS STATED IN THE SPECIFICATION FOR YOUR MACHINE. IT IS FAR BETTER TO TAKE SEVERAL SMALL CUTS RATHER THAN LARGE CUTS.

5. DIRECTION OF CUT

PLANING AGAINST THE GRAIN OR PLANING END GRAIN IS DANGEROUS AND COULD PRODUCE CHATTER OR EXCESSIVE CHIP OUT. ALWAYS PLANE WITH THE GRAIN.

6. GUARDS

GUARDS ARE DESIGNED TO REDUCE THE RISK OF INJURY. ALWAYS USE THE GUARDS. IF IT IS IMPERATIVE TO USE THE MACHINE WITHOUT THE GUARDS, [RABBETING] ALWAYS REPLACE THE GUARDS.

7. CUTTING DIRECTION

ONLY CUT FROM THE IN-FEED TABLE TO THE OUT-FEED TABLE, AND ALWAYS COMPLETE THE CUT. DO NOT STOP THE WOOD PROGRESS UNTIL THE JOB HAS CLEARED THE CUTTER HEAD COMPLETELY. ONLY CUT WITH THE GRAIN OR AT A SLIGHT ANGLE TO THE GRAIN.

8. STOCK

YOUR SAFETY WILL BE GREATLY ENHANCED IF YOU ONLY USE GOOD LUMBER. ONLY WORK WITH LUMBER AFTER YOU HAVE INSPECTED IT COMPLETELY. STAPLES, NAILS LOOSE KNOTS AND ANY OTHER METAL IN THE PLANK WILL DAMAGE YOUR CUTTER HEAD AND COULD CAUSE INJURY AND OR FIRE. IF YOU HAVE ANY QUESTION ABOUT A PIECE OF LUMBER, DO NOT USE IT.

SAVE THESE INSTRUCTIONS.

Refer to them often and use them to instruct others.

Electrical Safety- A Electrical Cord and Plug is not provided with Ordered Machine. Make sure to follow Electrical Installation stated in the instructions below.

⚠ WARNING!

- RUNNING ON A DIFFERENT VOLTAGE THAN STATED BELOW WILL DAMAGE THE MACHINE. NEVER RUN THE MACHINE IN WET OR DAMP CONDITIONS.
- ELECTROCUTION, FIRE, SHOCK, OR EQUIPMENT DAMAGE MAY OCCUR IF MACHINE IS NOT PROPERLY GROUNDED AND CONNECTED TO POWER SUPPLY.

Power Supply

A separate electrical circuit should be used for each machine. This circuit should not be less than the wiring listed below and should be protected with an appropriate circuit breaker based on the total running and start-up amperage's (listed below). If an extension cord is used, use only 3-wire extension cords which have 3-prong grounding type plugs and matching receptacle which will accept the machine's plug.

Model Number	MPLANPX16-0130 T2
VOLTAGE	220 Volts or 220V
PHASE	1PH
HERTZ	60Hz
FULL LOAD AMPERAGE	23 AMPS
WARNING- Below are RECOMMENDATIONS to be used for this machine based on the above information. Variables that may affect this are: *Actual voltage supplied to the machine *Electrical Code that must be met in your local state (USA) or province (CSA). An electrician will verify that all the demands are met to properly wire the machine. If you have absolutely any doubt when wiring this machine - please consult with a qualified electrician.	
PLUG/RECEPTACLE	Not Included
WIRNG (Gauge)	See Jacket Printing
CIRCUIT BREAKER	30 Amp Minimum

Electrical Safety (Cont'd.)- A Electrical Cord and Plug is not provided with Ordered Machine. Make sure to follow Electrical Installation stated in the instructions below.

⚠ WARNING!

- RUNNING ON A DIFFERENT VOLTAGE THAN STATED BELOW WILL DAMAGE THE MACHINE. NEVER RUN THE MACHINE IN WET OR DAMP CONDITIONS.
- ELECTROCUTION, FIRE, SHOCK, OR EQUIPMENT DAMAGE MAY OCCUR IF MACHINE IS NOT PROPERLY GROUNDED AND CONNECTED TO POWER SUPPLY.

If this information is different than what is stated on the Motor Specification Plate - omit this information. It is possible that the documentation is outdated to a machine change - such as a different motor. Always check the motor plate prior to any wiring. If any doubts, please consult a certified electrician. Know when to use a time delay fuse! AKA Slow blow fuse. Generally, if the motor uses a start capacitor, a time delay fuse is required. This type of fuse (circuit breaker) will not trip with the initial amperage needed to start the machine, which is typically double that of the running amperage. Most woodworking machines use this type of fuse.

Electrical Safety- Electrical Cord and Plug is not provided with Ordered Machine. Make sure to have a Qualified Electrician install required a qualified/standardized electrical cord and plug for purchased machine. ***Electrical Code that must be met in your local state (USA) or province (CSA).** An electrician will verify that all the demands are met to properly wire the machine. If you have absolutely any doubt when wiring this machine - **please consult with a Qualified Electrician.**

Electrical Safety (Cont'd.)- A Electrical Cord and Plug is not provided with Ordered Machine. Make sure to follow Electrical Installation stated in the instructions below.

***Electrical Code that must be met in your local state (USA) or province (CSA).**

Grounding Methods- Electrical Cord and Plug is not provided with Ordered Machine.

When a proper qualified electrical cord and plug is installed please follow the following ground methods and procedures.

⚠ DANGER!

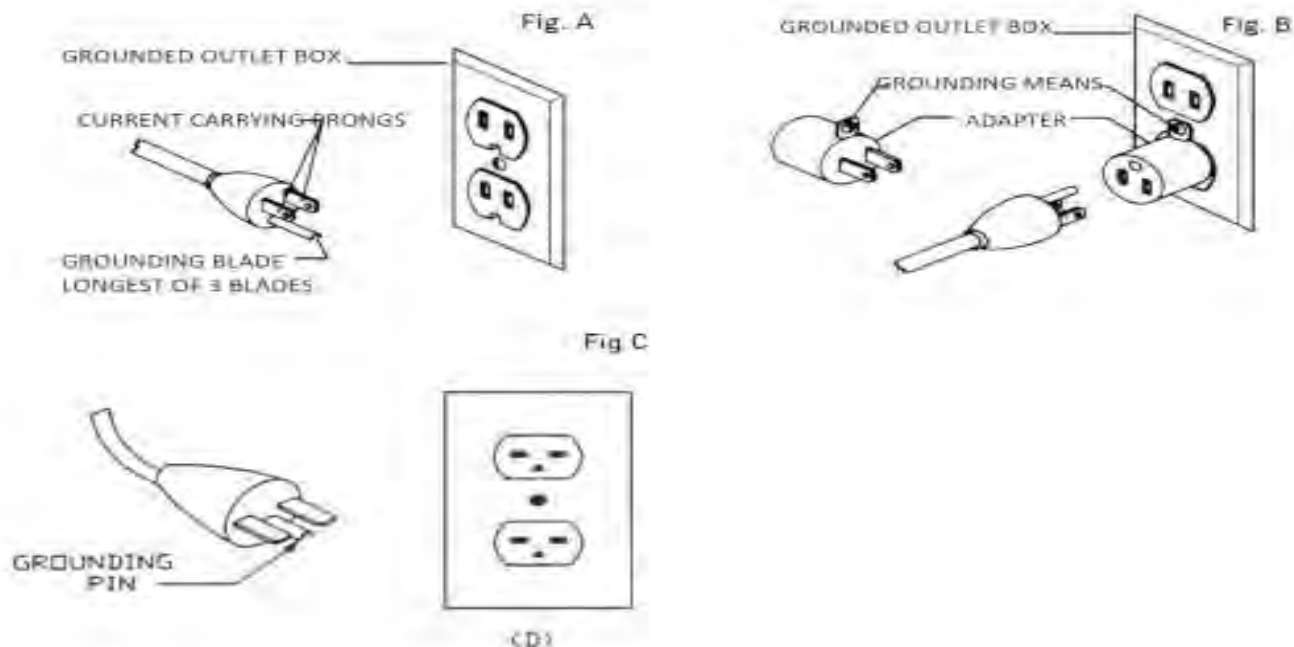
THIS MACHINE MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK. IN ALL CASES, MAKE CERTAIN THAT THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE, HAVE A QUALIFIED ELECTRICIAN CHECK THE RECEPTACLE.

Grounding Methods Provided by CSA Group.

Fig. (A) Receptacle with nominal rating less than 150 volts.

Fig. (B) 150 Volt receptacle without grounding pin fitted with adapter.

Fig. (C) 150-250 Volt receptacle.



Electrical Safety (Cont'd.)-

1.) All Grounded, Cord-Connected Machines:

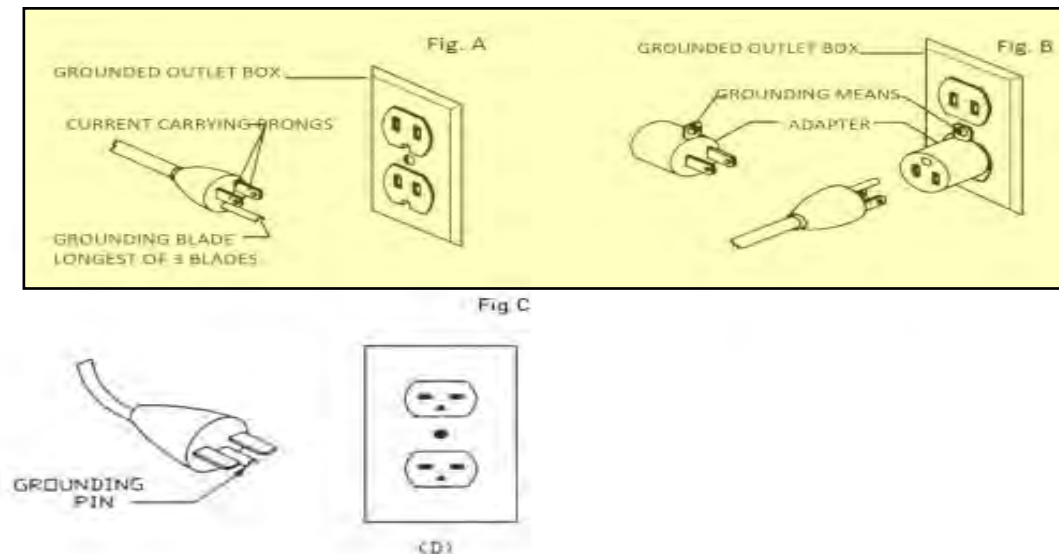
In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into a matching outlet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

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

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

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

Electrical Safety (Cont'd.)-



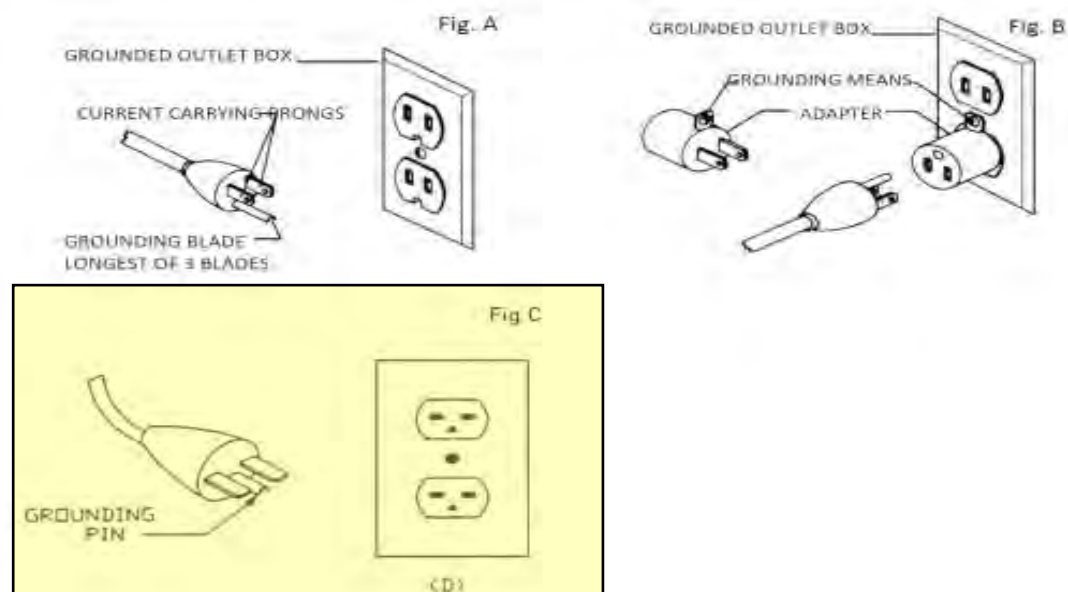
2.) Grounded, cord-connected machines intended for use on a supply circuit having a nominal rating less than 150 volts:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Fig. A.) The tool has a grounding plug that looks like the plug illustrated in Fig A.) A temporary adapter, which looks like the adapter illustrated in Fig B may be used to connect this plug to a 2 Pole receptacle as shown in Fig. B.) if a properly grounded outlet is not available. **The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. This adapter is not permitted in Canada.** The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

Electrical Safety (Cont'd.)-

3.) Grounded, Cord-Connected tools intended for use on a supply circuit having a nominal rating between 150 – 250 volts, inclusive:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Fig. C. The tool has a grounding plug that looks like the plug illustrated in Fig. C. Make sure the tool is connected to an outlet having the same configuration as the plug. No adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, qualified service personnel should make the reconnection; and after reconnection, the tool should comply with all local codes and ordinances.



Warning: EXTENSION CORDS ARE NOT RECOMMENDED. If the customer needs to use an extension cord, the **Extension Cord must be qualified to fall within Local Electrical Code (USA, CSA, etc.).** If the customer utilizes an Extension Cord that does not fall within Code and causes damage to machine, **the Warranty will be Voided.**

The All-New PX-16 Planer signals an innovative new design for Laguna planers. The Laguna PX-16 is loaded with new ergonomic features to make woodworking safer and more enjoyable.

Features:

Infeed and Outfeed Rollers – The PX-16 features infeed and outfeed rollers to assist with material loading and feeding while keeping a compact footprint.

Digital Readout – The DRO has been moved to the control panel to provide better ergonomics and make precision settings easier.

Ergonomic Control Panel – Machine controls have been moved to the control panel at the top of the machine and angled toward the machine operator for easy access and better visibility. Combined with the new cabinet, the PX-16 sports a sleek, modern design.

Improved Dust Collection – The 4" diameter dust chute offers the option to point to right or left to optimize dust collection system layout.

4-Post Bed Support – Provides precise and consistent performance with every cut.

The all-new PX-16 planer signals an innovative new design for Laguna planers. The Laguna PX-16 is loaded with new ergonomic features:

Shear Tec II Cutterhead – The Shear Tec II cutterhead comes as standard equipment on PX-16 Planer. The Shear Tec II is a 6-row carbide insert cutterhead that produces a superior surface finish on all woods including challenging hardwoods. The Shear Tec II knives and fasteners have a T-step design to maximize clamping force on the knives preventing knife cracking and chatter. The 4-sided carbide insert knives produce a shear cut for flawless results. The Shear Tec II cutterhead has deep grooves that make the cutterhead very quiet and improve shaving ejection. The 4-sided knives can be rotated for a new cutting edge without the need for a knife setting jig.

Serrated Infeed Roller – The serrated infeed roller and pressure bar are mounted close to the cutterhead to virtually eliminate snipe.

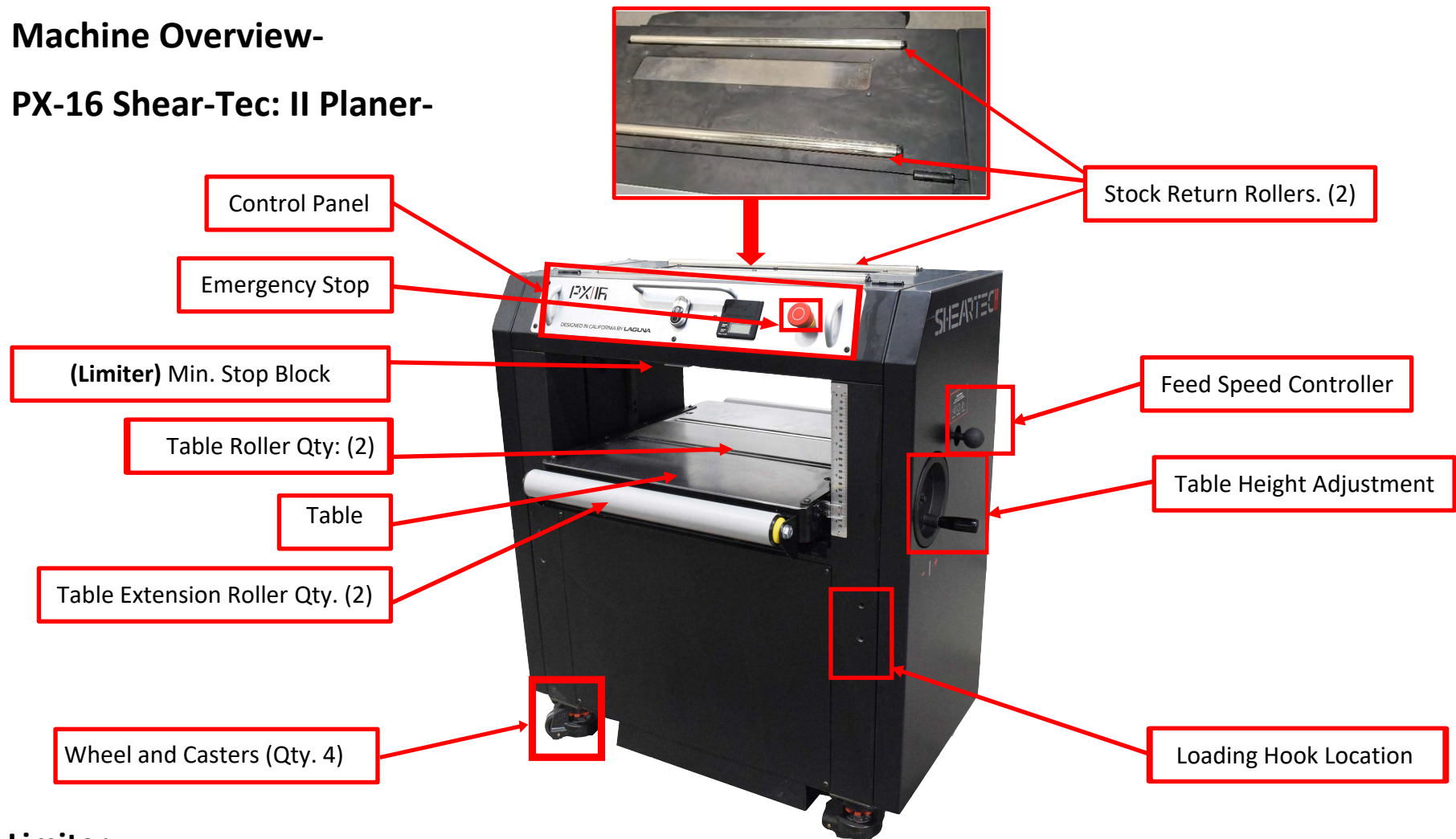
Specifications for the PX-16 SHEARTEC II Planer-

PX-16: Sheartec: II Planer
Model #: MPLANPX216-0130 T2

Motor	220v 5HP 1 Phase 60hz/23 Amp.
Switch	On/Off for Main Motor
CSA – Canada Standards Association	Yes
Bed Size	16" x 21-1/2"
Pull-out Extension	4"
Wheels Built-In	Yes
Min. Depth of Cut	1/32"
Max. Depth of Cut	3/32" (up to 1/8" for edgeplaning or soft woods)
Max. Stock Thickness	8"
Min. Stock Thickness	1/4"
Min. Stock Length	8"
Max. Stock Width	16"
Feed Speed	16 & 28 FPM (Feet per Minute)
Dust Port Diameter	4" Left & Right
Cutterhead RPM	5000
Cutterhead Diameter	3"
Cutterhead Insert #	108 x 4-Sided Carbide, 6 Row
Thickness Readout	Wixey DRO
Noise (1m away)	83dB
Dimensions Set Up Approx.	33" x 36"
Dimensions Shipping	38" x 30" x 46"
Net/Ship Weight	493/597 lbs.

Machine Overview-

PX-16 Shear-Tec: II Planer-



The Limiter:

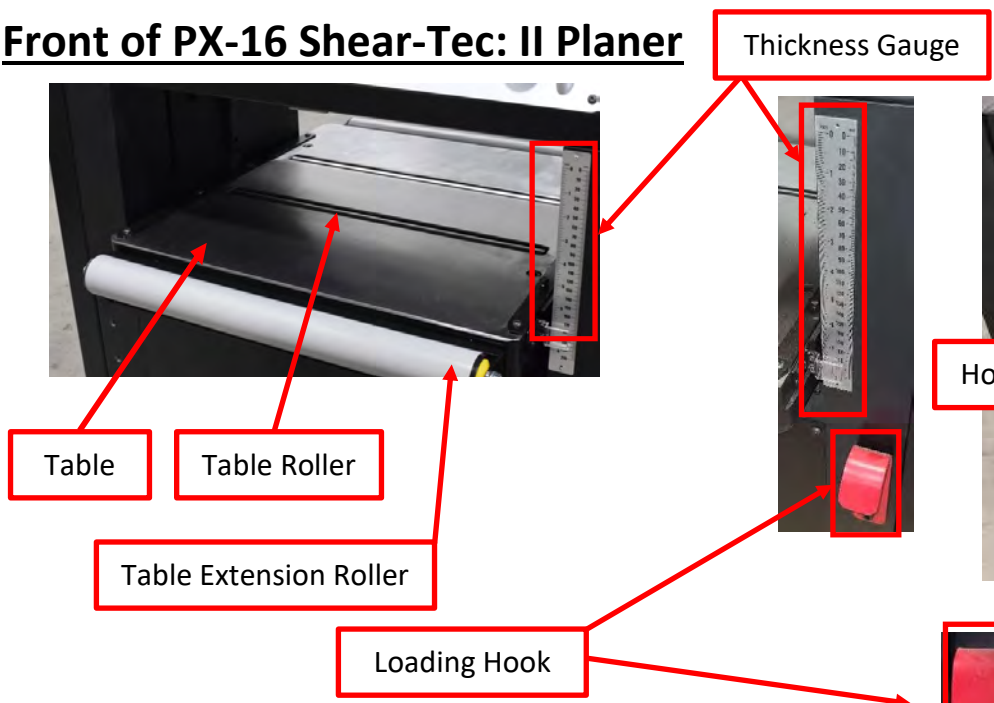
Acts as a stop to prevent the cutterhead from contacting the table and to prevent stock from sliding past the edge of the cutterhead.

Table Rollers: The Roller facilitates movement of the Work Piece across the Table.

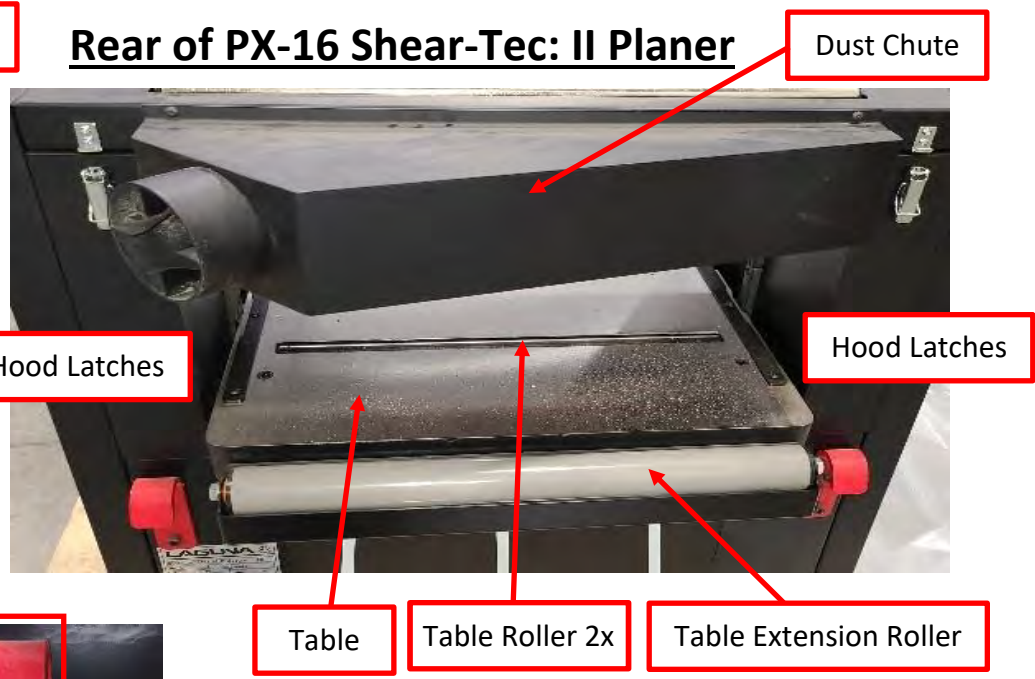
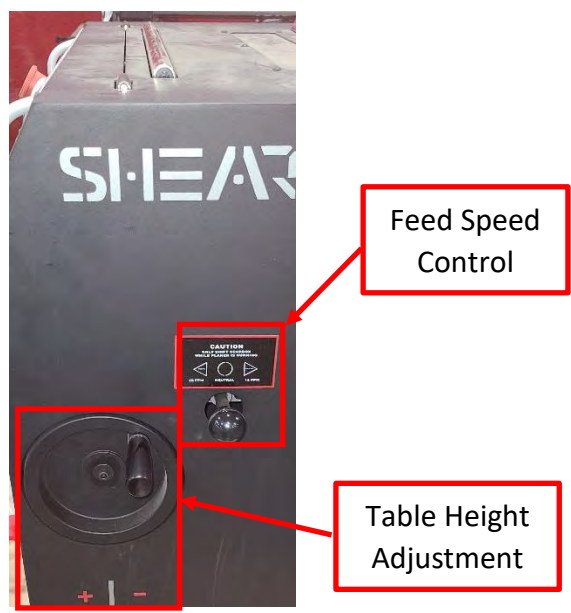
Casters: The casters have wheels and feet that allow the machine to move around freely and also be secured in place. Turn the red dial clockwise to raise the feet and move the machine. Turn the dial counterclockwise to lower the feet and secure the machine in place.

Machine Overview (Cont'd.)-

Front of PX-16 Shear-Tec: II Planer



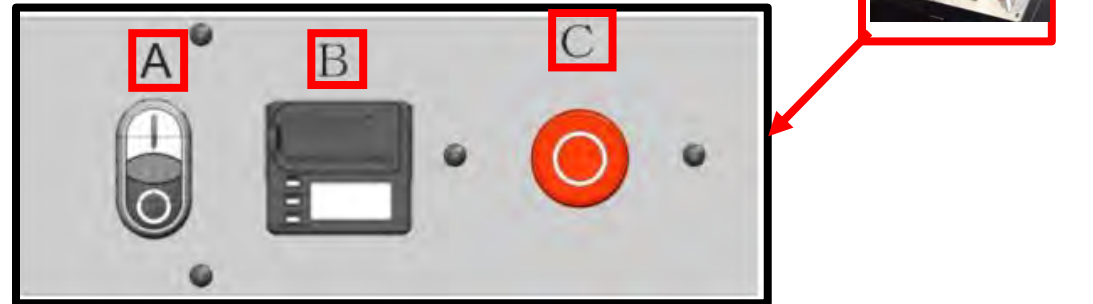
Rear of PX-16 Shear-Tec: II Planer



Side of PX-20 Shear-Tec: II Planer

Machine Overview (Cont'd.)-

Main Components of PX20-



A.) “ON/OFF” Switch: Starts and Stops rotation of cutterhead.

B.) Digital Read Out (DRO): Thickness Display.

NOTICE! The Planer will not work if the **E-STOP is engaged** or if the **Hood is Open**.

C.) Emergency Stop (E-STOP): Stops all functions of machine, however, power continues to machine. NOTICE! To reset E-STOP, rotate switch clockwise until the button “pops” out.

Limiter:

The Limiter:

Acts as a stop to prevent the cutterhead from contacting the table and to prevent stock from sliding past the edge of the cutterhead.

Table Rollers:

The Rollers act as a stop to reduce the chance of stock from sliding past the edge of the cutterhead or table.

Machine Overview (Cont'd.)-

Extension Rollers:

Adjustable Rollers that extend for increased workpiece support.

Feed Speed Selector:

CAUTION! AS WITH ALL GEAR BOX SHIFTERS, IT IS VERY IMPORTANT TO ONLY CHANGE SPEEDS WHEN THE MACHINE IS RUNNING.

The **Feed Speed Selector** offers **(2) two feed speeds, 16 FPM & 28 FPM (Feet per Minute)**.

Move Lever (Push/Pull) until it locks in place. The middle setting is neutral.

Stock Return Rollers:

Allows users to return stock back to feed zone quickly and safely with less strain on workers.

Setup Machine **(MUST READ)-**

Setup Overview (MUST READ)-

When setting up your PX-16 Shear-Tec: II Planer, please take a moment to read this overview prior to starting.

The machine comes mostly assembled. You will have to assemble the dust chute and calibrate the height. After Setup, there may be a few adjustment to be made.

All these adjustments are done prior to shipping the machine, but if additional adjustments are required, please follow the adjustment guides.

CAUTION!- If you have any doubt about the described procedure, seek professional assistance. Do not attempt any procedure that you feel is unsafe, or that you do not have the physical capability of achieving.

Placement of Machine & Unboxing-

Your Machine will likely be delivered by a third-party delivery service. Before unpacking your new machine, first inspect the packaging, the invoice, and the shipping documents supplied by the driver. When unpacking your machine, separate all enclosed items from the packing materials and inspect them for damages. Ensure that there is no visible damage to either the packaging or the machine **BEFORE** the driver leaves. Save all packaging materials until you are satisfied with the machine and/or have resolved any issues concerning any missing or damaged items.

NOTICE!

- ALL SHIPPING DAMAGE MUST BE NOTED UPON DELIVERY AND SIGNED BY THE OWNER AND THE DELIVERY DRIVER. IF YOU FIND ANY DAMAGED ITEMS IN YOUR PACKAGE, YOU MUST CONTACT LAGUNA TOOLS TO FILE A COMPLAINT. IN ORDER TO RETURN DAMAGED GOODS UNDER THE LIMITED WARRANTY TO LAGUNA TOOLS, INC., YOU MUST HAVE THE ORIGINAL PACKAGING. ALL CLAIMS OF LOSS OR DAMAGED GOODS MUST BE REPORTED TO LAGUNA TOOLS WITHIN 24 HOURS OF DELIVERY. PLEASE CONTACT THE LAGUNA TOOLS, INC. CUSTOMER SERVICE DEPARTMENT TO MAKE CLAIMS FOR ANY DAMAGED ITEMS/PARTS.
- IT IS PROBABLE THAT YOU WILL FIND SAWDUST WITHIN YOUR MACHINE. THIS IS BECAUSE THE MACHINE HAS BEEN TESTED PRIOR TO SHIPMENT FROM THE FACTORY AND OR LAGUNA TOOLS. WE TEST MACHINES PRIOR TO SHIPPING TO CUSTOMERS, BUT MOVEMENT CAN TAKE PLACE DURING TRANSPORTATION. SOME ADJUSTMENTS MAY HAVE TO BE UNDERTAKEN BY THE CUSTOMER. THESE ADJUSTMENTS ARE COVERED IN THE VARIOUS SECTIONS OF THIS MANUAL.

Machine Placement-

Before you remove your machine from the packaging, select the area where you will use your machine. There are no hard and fast rules for its location, but below are a few guidelines:

- 1.) There should be **sufficient area at the front** of the machine to allow you to work on it comfortably.
- 2.) There should be **sufficient area at the back** of the machine to allow access for adjustments and maintenance to be conducted.
3. **Adequate Lighting:** The better the lighting the more accurately and safely you will be able to work.
4. **Solid floor:** You should select a solid flat floor, preferably one made of concrete or something similar.
- 5.) **Power Source:** Locate it close to a power source and dust collection.
- 6.) **Storage Area:** Allow an area for the storage of blanks, finished products and tools.

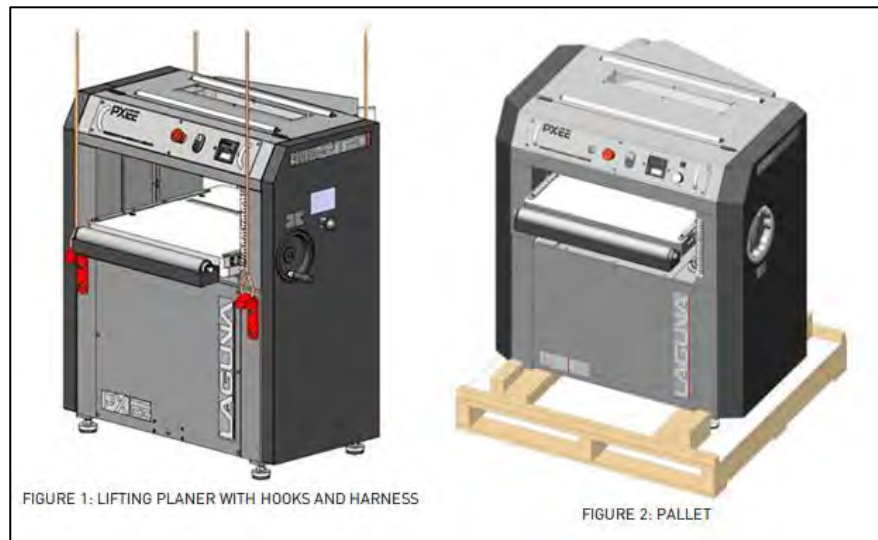
Unboxing-

WARNING!

- THE MACHINE WEIGHS 638 LBS (289KG). ENSURE THAT YOU HAVE ENOUGH PEOPLE TO DO THE JOB SAFELY.
- IF YOU HAVE ANY DOUBT ABOUT THE DESCRIBED PROCEDURE, SEEK PROFESSIONAL ASSISTANCE. DO NOT ATTEMPT ANY PROCEDURE THAT YOU FEEL IS UNSAFE, OR THAT YOU DO NOT HAVE THE PHYSICAL CAPABILITY OF ACHIEVING.

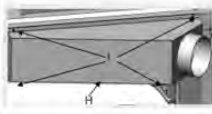
This step requires a forklift. The PX-16 is heavy, be careful when lifting and handling it! Failure to comply may cause serious injury and/or damage to the machine and/or property! Use a forklift to remove PX-16 from pallet and place on floor.

NOTE: Another option to remove the planer from the pallet is to attach the included hooks to frame of machine at each of the four corners (Fig. 1). The hooks and bolts are included in the hardware kit. The machine can then be lifted with a harness and forklift. Remove and save hooks for later movement scenarios.



Inventory List-

The following depicts items shipped with your machine. Before assembling, ensure that you have received all parts shown below. Machine parts should arrive sealed in plastic bags. Remove parts from plastic bags before laying them out to inventory them.

PX-16 Sheartec: II Planer Inventory Items			
Reference (Pictorial)	Description	Quantity	Packaging
	Dust Chute	1	Bubble Wrap Stored
	Hex Head Screws M6x10	4	Bubble Wrap Stored
	T25 Torx Wrenches	2	Bubble Wrap Stored

Tools/items Required: Assembly & Adjustment-

- T-25 Torx Wrench, included.
- 9/16" Wrench.
- 1/2" Wrench · 5mm Hex Wrench.

DANGER!-FOR YOUR OWN SAFETY, DO NOT CONNECT THE MACHINE TO THE POWER SOURCE UNTIL THE MACHINE IS COMPLETELY ASSEMBLED! PLEASE ALSO MAKE SURE THAT YOU READ AND UNDERSTAND THE ENTIRE MANUAL.

Assembling (Cont'd.)-

Machine Preparation and Setup:

2.) Clean all rust protected surfaces with a commercial de-greaser (mineral spirits. **DO NOT use acetone, gasoline, lacquer thinner or any type of cleaner that could damage paint.** Coat cleaned surfaces with WD-40® or 20W machine oil.

3.) Table Roller and Table Blade Adjustment leveling Procedure:

3a.) Table Roller Adjustment: Turn the Bolts (See Fig. G) to move the Lower table roller up or down to the desired position.

NOTICE! The bottom roller is typically set higher when handling rough stock. When planing smooth stock, the bottom roller should be set slightly above the table.

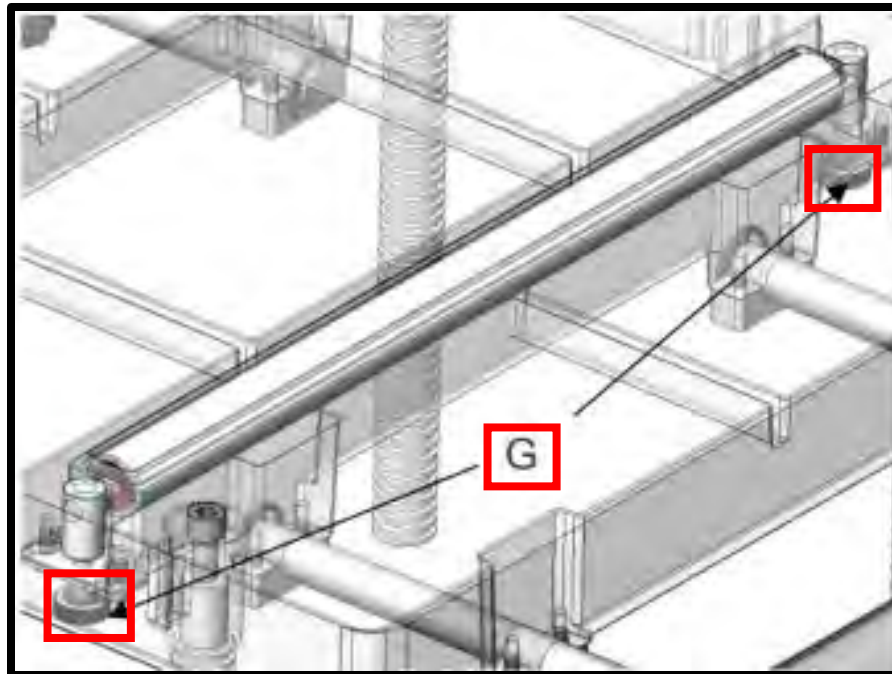
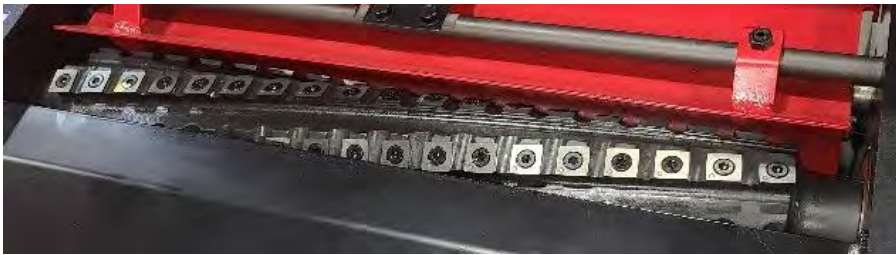


Figure G.) TABLE ROLLER ADJUSTMENT

3a. Cont'd.) Turn the knobs (**See Figure G**) to move the table roller up or down to the desired position, then secure Bottom Roller in position.

3b.) Top Roller verify Bottom Dead Center-

1.) Select on top which 2- Carbide Cutters on both sides of the Table Blade Roller.



3b.) Top Roller Adjustment Procedure (Cont'd.)-

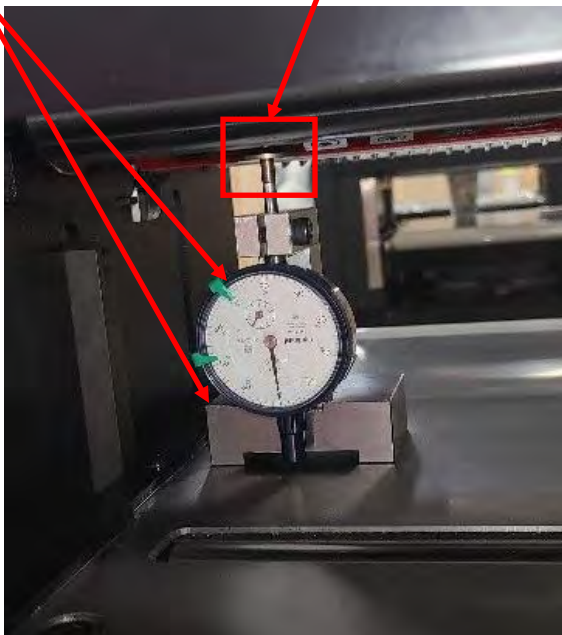
The roller(s) is preset from Laguna so there is no adjustment needed upon unboxing.

If adjustment is needed due to damage or operator use, follow the steps below. A dial indicator (sold separately) will need be to be purchased to calibrate.

2.) Make sure the 2-Bottom Carbide Cutters one will be verifying corresponds to the 2-Carbide cutters selected on top to assure consistent level across the Carbide Blade Cutter.



Leveling Indicator



3b.) Blade Roller Adjustment Procedure (Cont'd.)-

2.) (Cont'd.)-Make sure level the Carbide Blade Roller using a **Calibrated** Leveling Indicator & Leveling Block.

Using these instruments **verify readouts** of Bottom Dead Center of the Carbide Blade Roller.

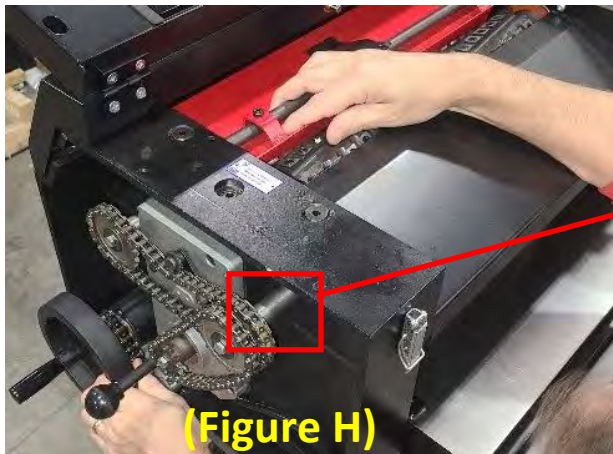
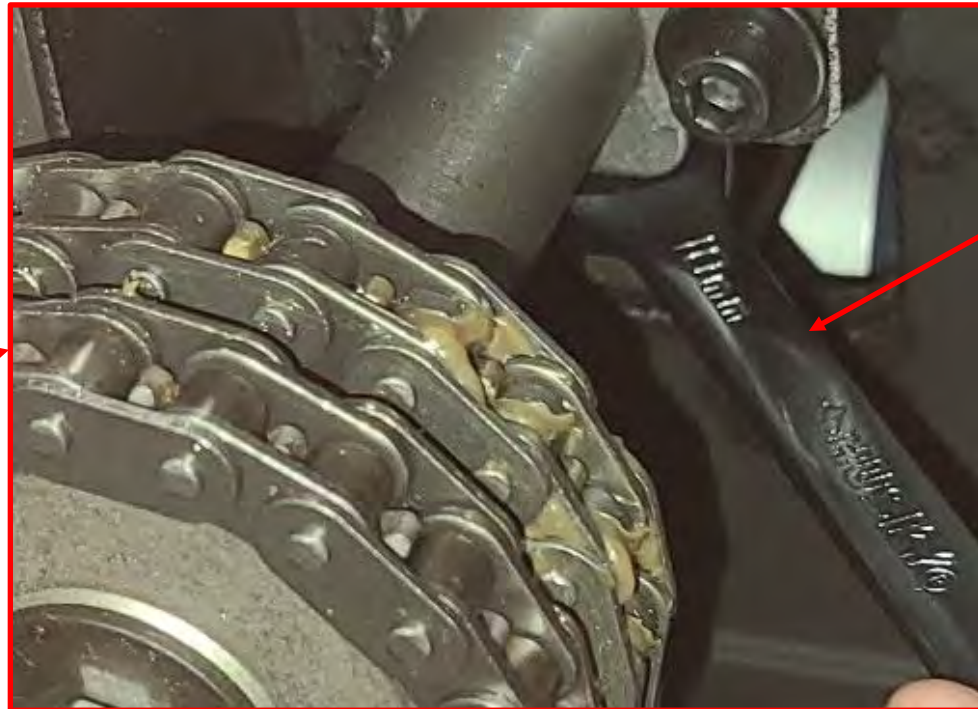
3.) To level and secure the Top Roller, use the same technique, and use the same Calibrated Leveling Indicator & Leveling Block as applied to the Carbide Blade Roller.



Make sure the Top Roller is adjusted to the **same verification readouts** at both ends of the Top Roller, Bottom Dead Center, the same as the Carbide Blade Roller.

3b.) Top Roller Adjustment Procedure (Cont'd.)-

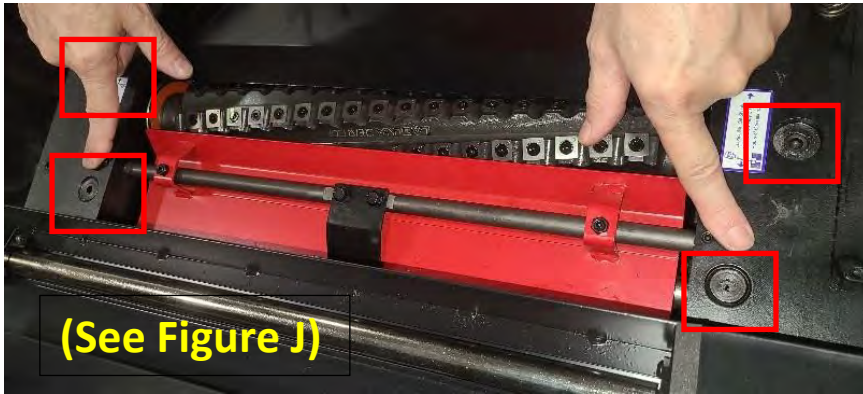
4.) When appropriate level is reached, on the Table Height Adjustment Wheel side, open or remove the Panel Cover, just below the main Top Roller Axle (**Figure H**) there is **Adjustment Bolt to adjust the height and the Hex Nut**, tighten to secure and lock height of the Top Roller.



Wrench to use on the Adjusting bolt & Lock Hex Nut for the Top Roller.

3c.) To Adjust Pressure & replace the pressure Springs for the Top Roller-

1.) On the Top of the exposed Carbide Blade Roller area, locate 4 large Allen Set Screws on the Corners of the Planer (**See Figure J**), to adjust the amount of pressure (Increase/Decrease) on the Top Roller, use appropriate T-Wrench as pictured below. If the pressure needs to be increased turn Allen Set Screws-Clockwise, to decrease pressure turn Allen Set Screws-Counterclockwise



3d.) To remove the 4-Internal 7-Coil Springs that adjusts the pressure of the Top roller, locate 4-Large Allen Set Screws on the Corners of the Planer, to remove these use appropriate T-Wrench as pictured below. Remove Allen Set Screws completely, remove the 7-Coil Springs then replace Springs.



Assembling (Cont'd.)-

Machine Preparation and Setup:

3.) Table Roller Adjustment (Cont'd.):

4.) The **Dust Chute** can be attached with the port facing either to the right or left. To attach use **4-four included screws** (Fig. H) to mount to the rear (outfeed) side of the planer head.

NOTICE- **MAKE SURE THE DUST COLLECTION SYSTEM HAS SUFFICIENT CAPACITY AND CFM FOR THIS PLANER. ALWAYS TURN ON THE DUST COLLECTOR BEFORE PLANNING.**

Hood Clips, (2)

Hood

Dust Chute

Hood Clips, (2)

(4) Screws to Mount Dust Chute

Opening Hood

- 1.) Release the 2 Hood Clips (Fig. H) on each side of the hood.
2. Remove the two lower screws holding the dust chute in place (Fig. H).
3. Raise hood until automatic latch secures hood in open position.
4. To close, press IN automatic latch while lowering hood.

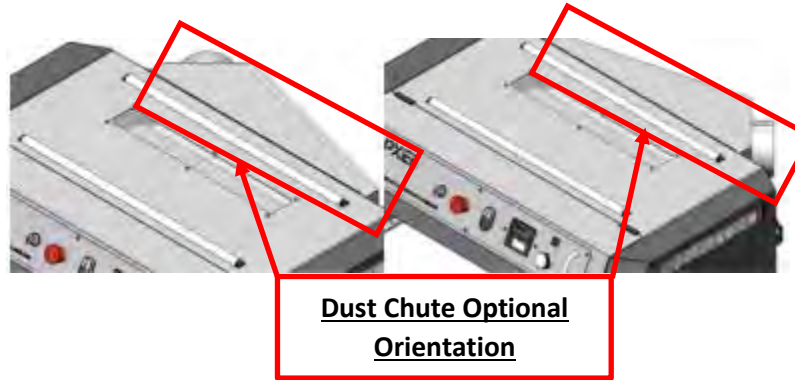


FIGURE H: DUST CHUTE & HOOD CLIPS

Power Supply Circuit Requirements-

The power source circuit for your machine must be grounded and rated for the amperage given below. Never replace a circuit breaker on an existing circuit with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. If you are unsure about the wiring codes in your area or plan to connect your machine to a shared circuit, consult a qualified electrician.

Circuit Size (208-230V, Single Phase)30 Amp (minimum)

DANGER! IN ALL CASES, MAKE CERTAIN THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE, HAVE A QUALIFIED ELECTRICIAN CHECK THE RECEPTACLE.

Motor Specifications-

The typical main motor is 5 HP and is typically wired for 220 Volt, Single Phase, 60 HZ, AC current. Confirm your motor electrical configuration before connecting power! Before connecting the machine to the power source, make sure the starter and switches are in the "OFF" position. Cord and "plug" are NOT included. These must be installed by a Qualified Technician/Electrician to local codes.

NOTICE! A "Electrical Plug" and "Power Cord" are NOT included and must be installed by a **Qualified technician/Electrician**, or the power cable connected (hard wired) to an appropriate disconnect according to local codes.

Motor Specifications (Cont'd.)-

WARNING!- WHEN COMPLETED, THE MACHINE MUST CONFORM TO THE NATIONAL ELECTRIC CODE AND ALL LOCAL CODES AND ORDINANCES.

Connecting Power (See also Wiring Diagram page XX)-

1. Remove screws securing cover to connection box.
2. Insert power cable through strain relief, tighten cinch nut and attach wires to terminals.
3. Re-install the Connection Box Cover, see Page XX for Wiring Diagram.

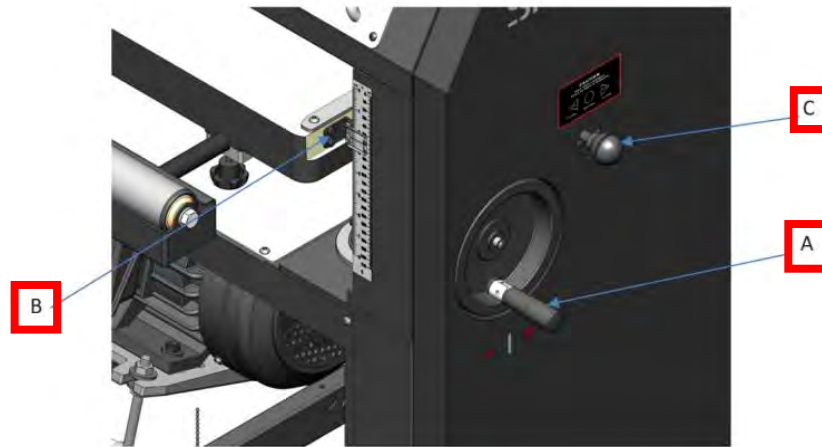
WARNING!- DISCONNECT POWER SUPPLY TO PLANER BEFORE CONTINUING! ONLY CONNECT POWER WHEN REQUIRED.

Calibrating the Thickness Scale-

NOTICE! The following procedures describe the use of a **"Calibrating Board."** It is a piece of hardwood which has been surfaced on one side with a jointer, drum sander or wide belt sander.

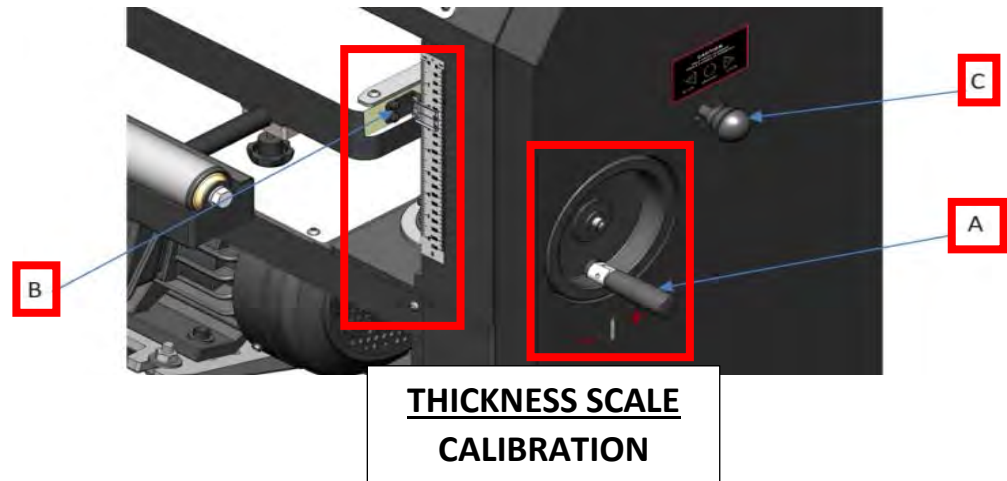
With the Planer **"OFF"**-

- Make sure the cutter head is not rotating.
- Disconnect Power, place the Calibrating Board on the table, with the previously machined (flat) face **"down."**
- Slide under the cutterhead.



THICKNESS SCALE CALIBRATION

Calibrating the Thickness Scale (Cont'd.)-



- 1.) Use the Table Height Adjustment handle (**Fig. A**) to raise the table until the infeed roller is “**approximately 1/16**” above the calibrating board.
- 2.) Remove the calibrating board from the planer.
- 3.) Connect power to the planer and turn **“ON.”**
- 4.) Turn the height adjustment handle clockwise, one complete revolution, to lower the carriage and run the calibrating board (previously machined face “Down”) through the planer.
- 5.) Repeat Step 5 until the planer removes the entire top surface of the calibrating board.

NOTICE! Drawing pencil marks across the width of the top of the calibrating board in several locations can make it easier to determine when the entire surface has been planned.

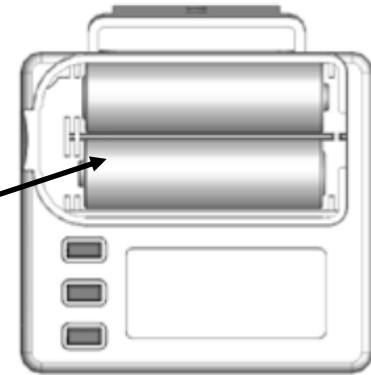
- 6.) Measure the thickness of the calibrating board with a caliper.
- 7.) Loosen the two screws of the Thickness Scale pointer and adjust the pointer (**Fig. B**) until it corresponds to the measured thickness and then tighten the screws.

Calibrating the DRO (Digital Read Out)-

1.) Remove the battery cover of the DRO and install (2) AAA batteries.

DRO Button Reference and Use It is helpful to familiarize these buttons and their purpose with the Wixey™ DRO.

DRO BATTERIES



DRO (Digital Read Out) ADJUSTMENT

The diagram shows the Wixey DRO device with the 'ABS IN' label flashing on the display, indicating it is in calibration mode. The display shows '0.000'. An arrow points to the 'HOLD TO CAL' button.

- PUSH MOMENTARILY TO TURN OFF AND ON
- HOLD FOR 3-5 SECONDS TO ENTER CALIBRATION MODE. THE "ABS IN" FLASHES
- TO CHANGE THE DISPLAY VALUE FROM 0.000 USE THE + OR - BUTTONS.

The diagram shows the Wixey DRO device with the display showing '2.655'. Arrows point to the '+' and '-' buttons, indicating they are used to adjust the value.

- A SHORT PRESS INCREASES ONE DIGIT. HOLDING THE BUTTON COUNTS FAST.
- PRESS THE ON/OFF BUTTON MOMENTARILY TO SET THE CALIBRATION VALUE. THE "ABS IN" WILL STOP FLASHING

The diagram shows the Wixey DRO device with the 'IN/MM' button being pressed. The display shows '2.375' and '3/8'. Labels indicate 'Toggles between inches and millimeters' and 'Absolute measuring mode'.

The diagram shows the Wixey DRO device with the 'ABS/INC' button being pressed. The display shows '60.3'. Labels indicate 'Toggles between Absolute and Incremental modes' and 'Incremental mode re-sets to 0.000'.

The diagram shows the Wixey DRO device with the 'ON/OFF' button being pressed. The display shows '2.375' and '3/8'. Labels indicate 'Toggle back to ABS mode and the dimension is remembered'.

Operation-

CAUTION!-PLACE THE PLANER ON A “SECURE AND STABLE SURFACE” FOR OPERATION.“CLAMP OR BOLT” THE PLANER INTO POSITION.

- 1.) Establish the proper depth of cut (Equal to or less than 1/16”), using either the **DRO (Digital Read Out)** or **Scale**.
- 2.) Pull out and lock each extension roller to support long stock.
- 3.) Start Dust Collection Machine.
- 4.) Start Planer.



“On/Off” Switch

- 5.) **Adjust & Set Feed Rate Speed (See Fig. C Below) to desired Speed (16 or 28 FPM), while planer is running.**



WARNING! **“THIS ACTION WILL VOID WARRANTY!”** IF OPERATOR **DOES NOT ADJUST DESIRED SPEED WHILE PLANER IS RUNNING.**

Operation (Cont'd.)-

6.) Feed stock into planer, maintain control and support of stock until the stock is securely feeding through planer.

7.) Reposition yourself to the outfeed side of planer and control and support stock until it has exited the outfeed roller.

Helpful Tips-

- PLANERS WORK BEST IF ONE FACE OF STOCK IS FLAT. IF NOT, FLATTEN WITH A JOINTER OR DRUM SANDER.
- IF NOT POSSIBLE TO FLATTEN ONE FACE, PROCESS CUPPED MATERIAL WITH THE CUP “UP” SO THE MATERIAL IS STABLE ON THE PLANER BED.
- IF MATERIAL IS SEVERELY CUPPED, ANOTHER OPTION IS TO RIP THE MATERIAL, PLANE IT AND GLUE IT BACK TOGETHER.
- PLANE WITH THE DIRECTION OF GRAIN TO REDUCE TEAR-OUT AND PROVIDE THE BEST SURFACE FINISH.

Maintenance-

CAUTION! FAILURE TO MAINTAIN THIS MACHINE USING REQUIRED ROUTINE UPKEEP, SAFEGUARDING & PREVENTIVE MEASURES **WILL VOID WARRANTY.**

General Keep your machine clean. At the end of each day, clean the machine. Wood contains moisture, and if sawdust or wood chips are not removed they will cause rust.

In general, we recommend that you only use a Teflon-based lubricant on the hinges, return rollers, and other noncritical items. Regular oil attracts dust and dirt. Teflon lubricant tends to dry and has less of a tendency to accumulate dirt and sawdust.

Periodically check that all nuts and bolts are tight.

Routine Inspections-

It is a good idea to routinely inspect any quality woodworking tool to keep it in optimum condition. This includes inspecting all hardware for tightness, ensuring the filter is clean, and cleaning debris and grime from any surfaces and moving parts. In addition, make sure to:

- Clean out-feed rollers and table with a non- flammable solvent to remove pitch, gum, and unwanted build-up.
- Periodically clean the inside of the machine for dust control.
- Keep pulleys and belts free from dirt, dust, oil, and grease.
- Replace worn belts as needed.
- Replace or rotate worn knives.
- There is one limit switch on the planer that triggers if the hood is opened. Keep it clean and blown out with an air hose.

Shear-Tec II Knife Rotation/Replacement-

CAUTION! KNIFE INSERTS ARE DANGEROUSLY SHARP. **USE EXTREME CAUTION** WHEN INSPECTING, REMOVING, OR REPLACING KNIFE INSERTS.

WARNING!-

- TURN PLANER OFF AND DISCONNECT POWER BEFORE PERFORMING ANY MAINTENANCE OR ADJUSTMENTS!
- MAKE SURE ALL KNIFE INSERT SCREWS ARE TIGHTENED SECURELY. LOOSE INSERTS CAN BE PROPELLED AT HIGH SPEED FROM A ROTATING CUTTERHEAD, CAUSING INJURY.

TORQUE EACH SCREW TO 52-60 IN/LBS or 231-267 Newtons.

- KNIVES ARE EXTREMELY SHARP. BE VERY CAREFUL WHEN HANDLING KNIVES. FAILURE TO COMPLY MAY CAUSE SERIOUS INJURY.

The knife inserts on the Planer are four-sided. When dull, remove each knife, rotate it 90° for a fresh edge, and re-install it. No further adjustment is necessary. **Use a Torx wrench (T25)** to remove the knife insert screw. Use a second Torx wrench to hold the cutterhead (from rotating) in position (in another screw). **DO NOT USE YOUR HAND TO HOLD THE CUTTERHEAD!**

(See Figure to the Right.).



Shear-Tec II Knife Rotation/Replacement (Cont'd.)-

It is advisable to rotate all inserts at the same time to maintain consistent cutting. However, if one or more knife inserts develops a nick, rotate only those inserts that are affected. Each knife insert has an etched reference mark so you can keep track of the rotation.

Torque each screw to 52-60 in/lbs. or 231-267 Newtons.

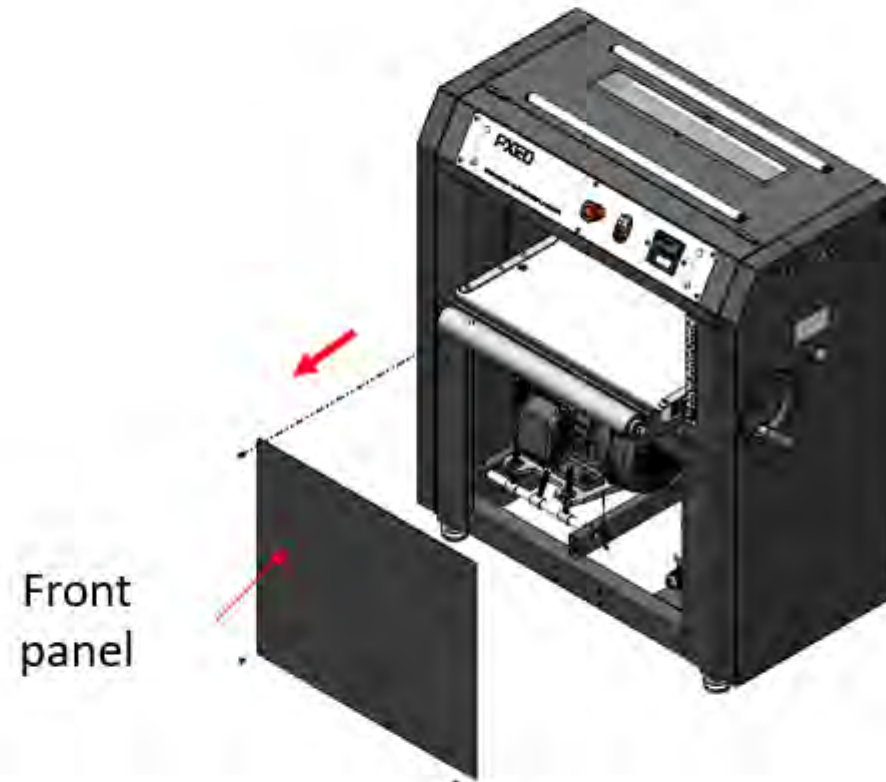
IMPORTANT! When removing or rotating inserts, **clean sawdust from the screw**, the insert, and the cutterhead platform **(***Failure to this procedure or protocol will result in a stripped screw.***)**.

Dust accumulation between these elements can prevent the insert from seating properly and may affect the quality of the cut. Before installing each screw, lightly coat the screw threads with machine oil and wipe off any excess. Securely tighten each screw which holds the knife inserts before operating the jointer!

PX-16 (16") Planer Front/Rear Precision Adjustment SOP-

Step 1

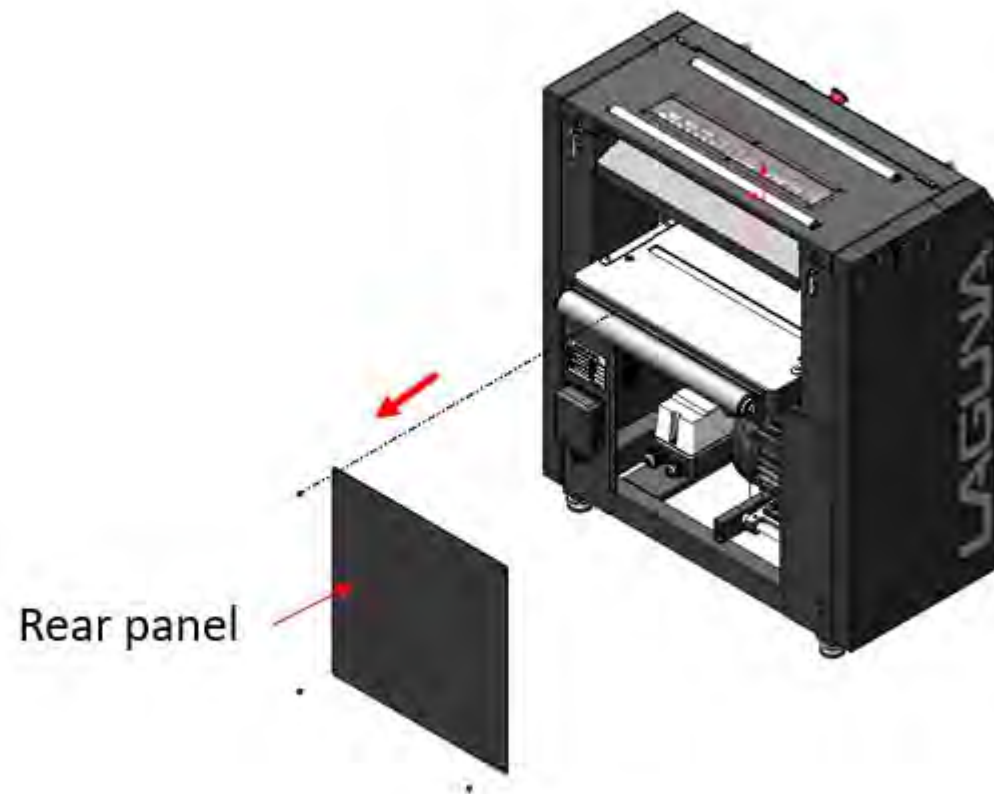
remove front panel with 4mm hex wrench



PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 2:

Remove rear panel with 4mm hex wrench



PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

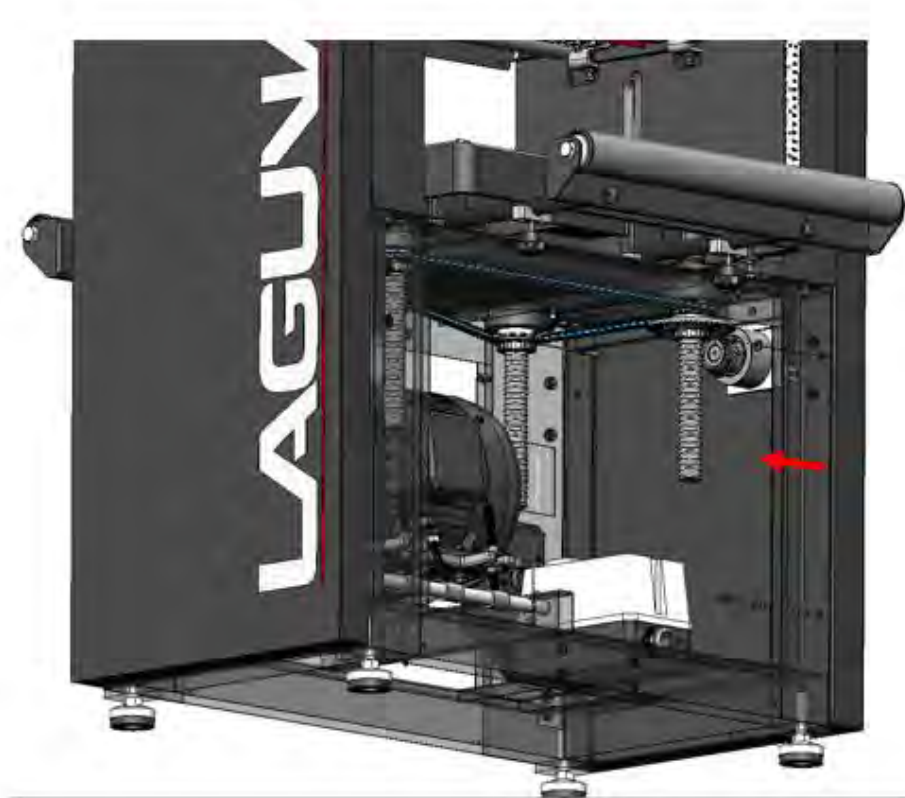
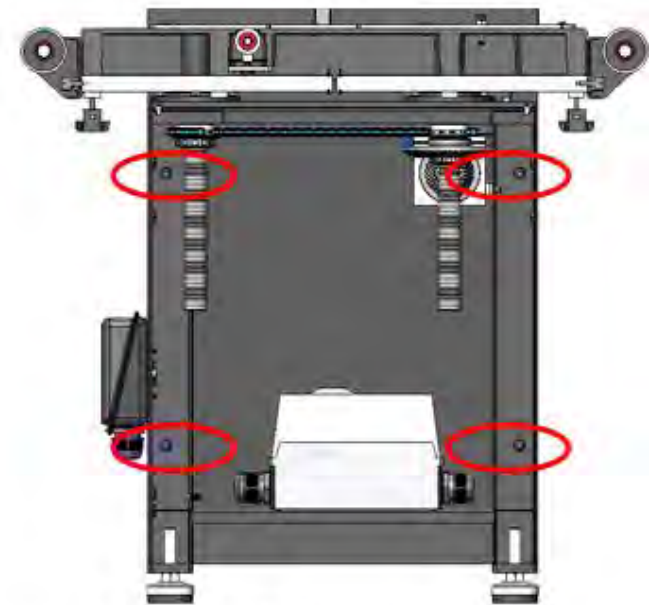
Step 3: remove crank wheel and knob with 5mm hex wrench



PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 4:

Remove right side panel with 5mm hex wrench

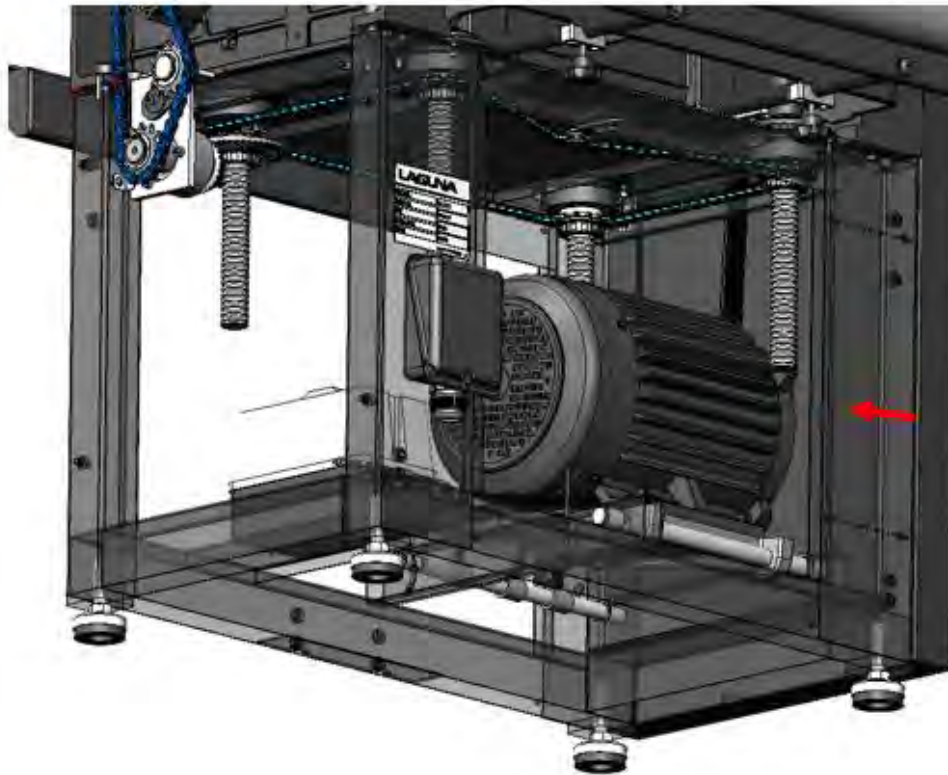
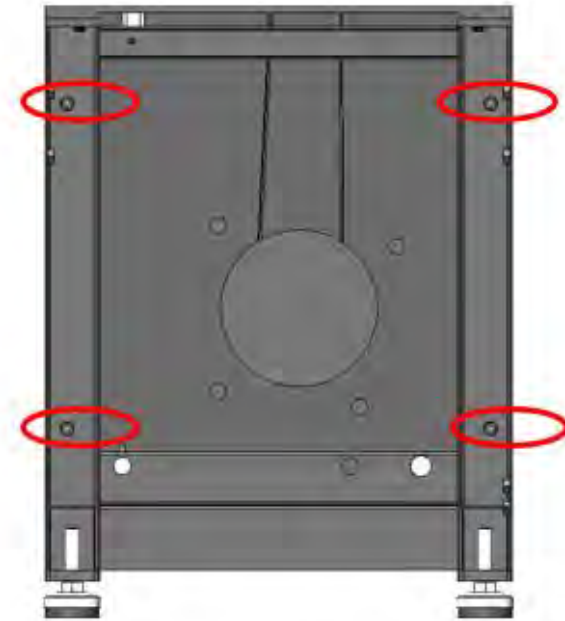


Remove 4 screws of right
side panel

PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 5:

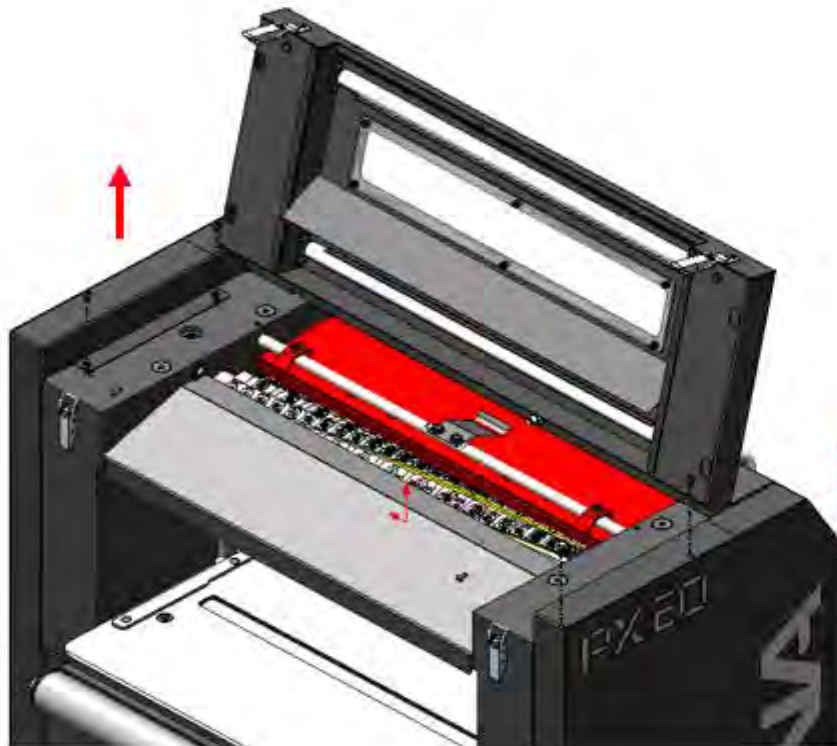
Remove left side panel with 5mm hex wrench



**Remove 4 screws of left
side panel**

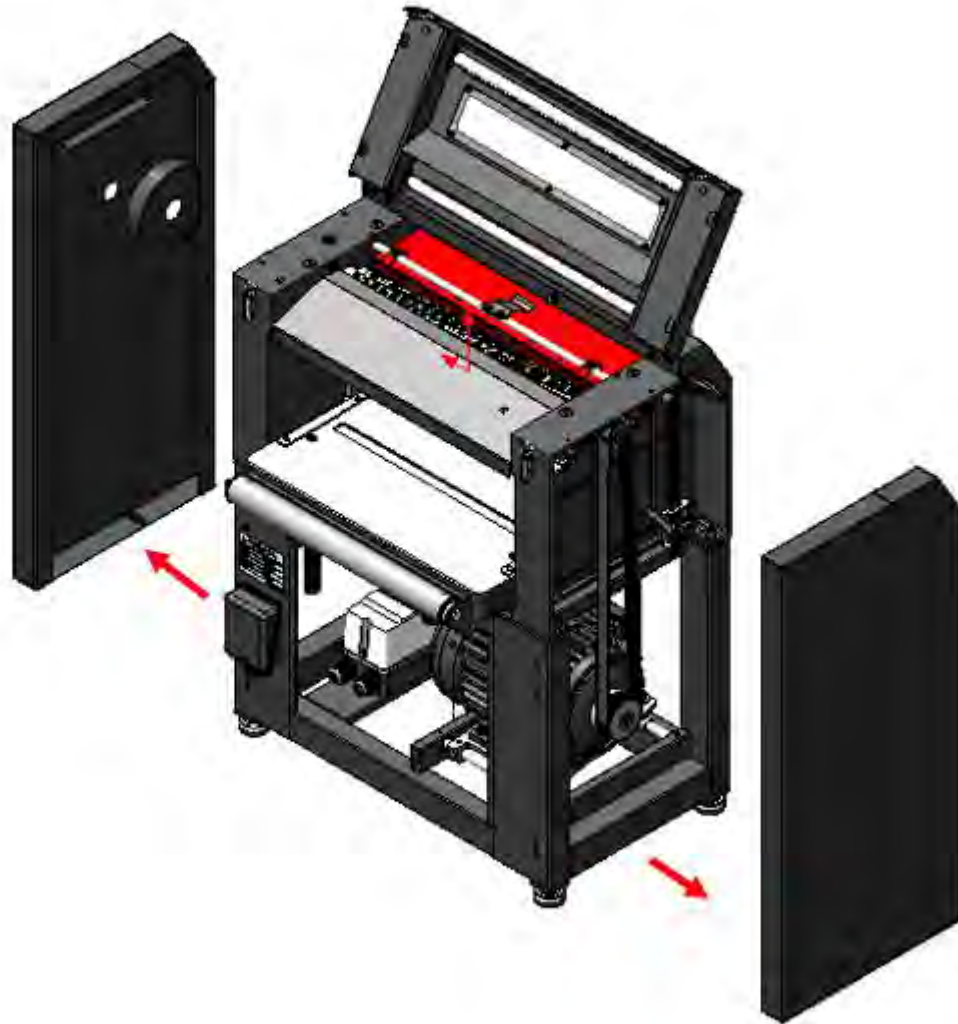
PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 6: open lid, remove right and left side covers with 4mm wrench

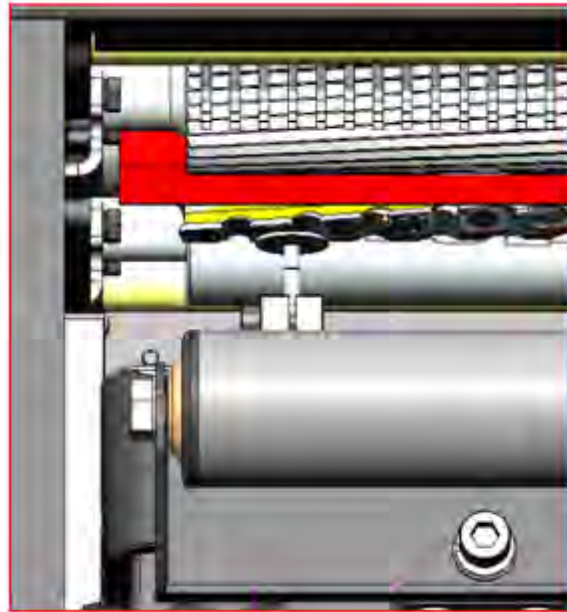
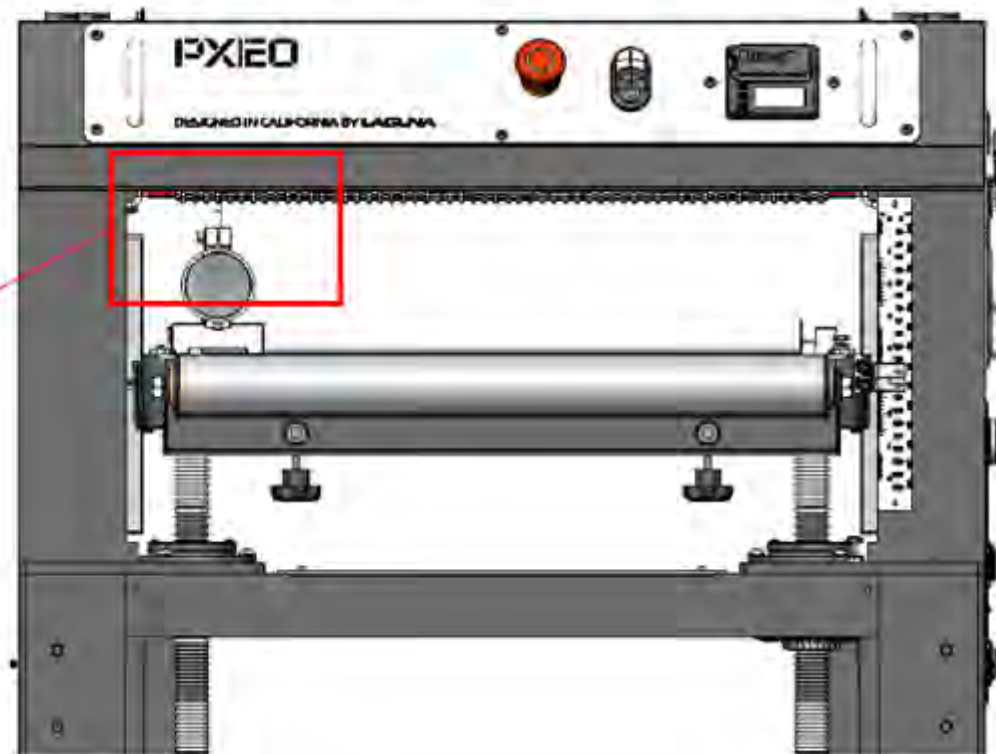


PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 7: remove left and right side covers

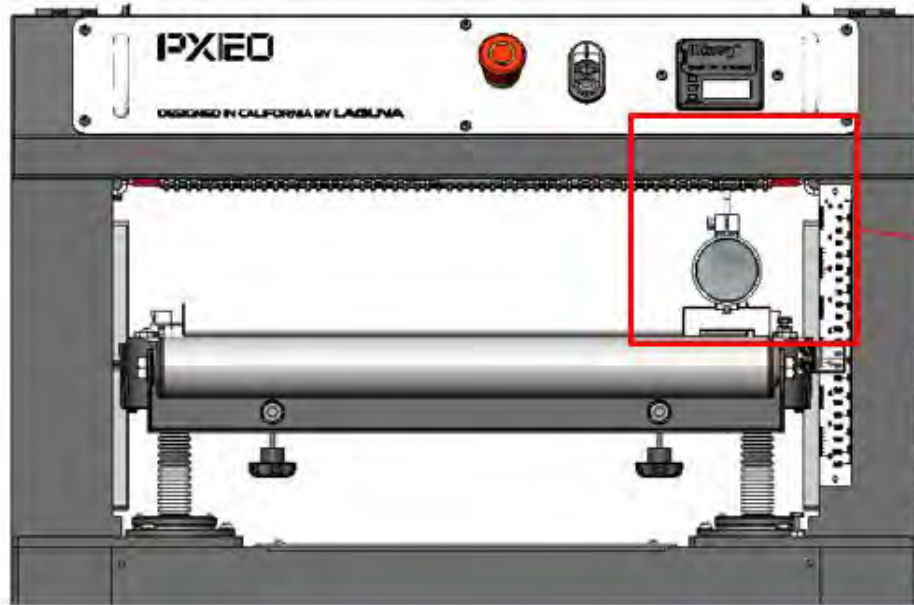
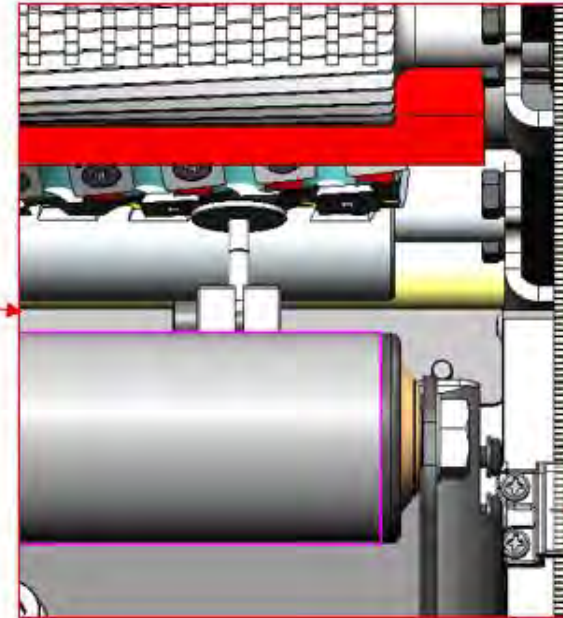


Step 8: Put Dial Gauge Fixture on the Left Blade Insert Tip, Set Zero.

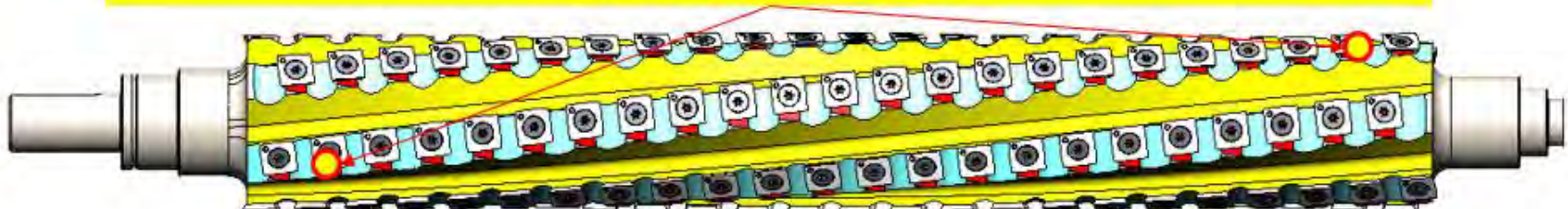


PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 9: move dial gauge fixture to the right blade insert tip, check left and right tips are close to zero.

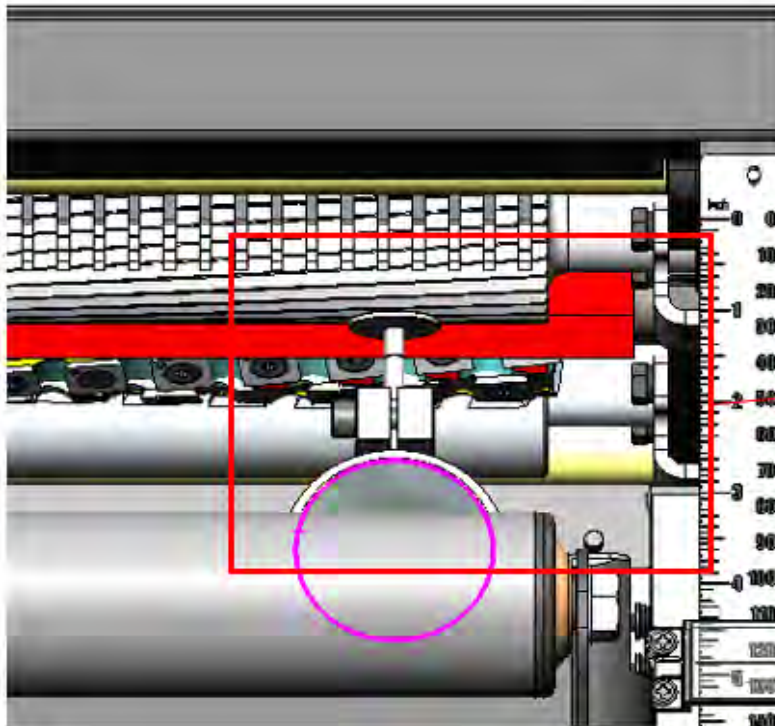
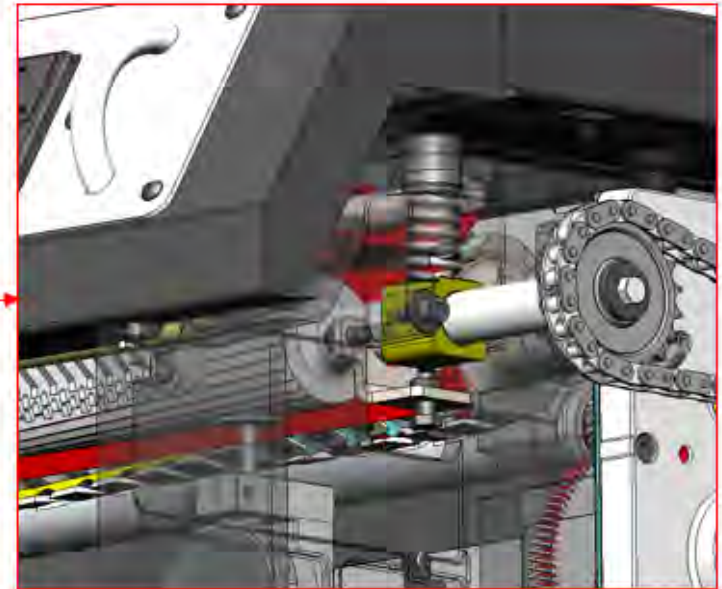


Dial gauge fixture probe to contact the left insert and right insert of the same helical line



PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 10: move dial gauge fixture to the right of front roller then check/adjust roller height

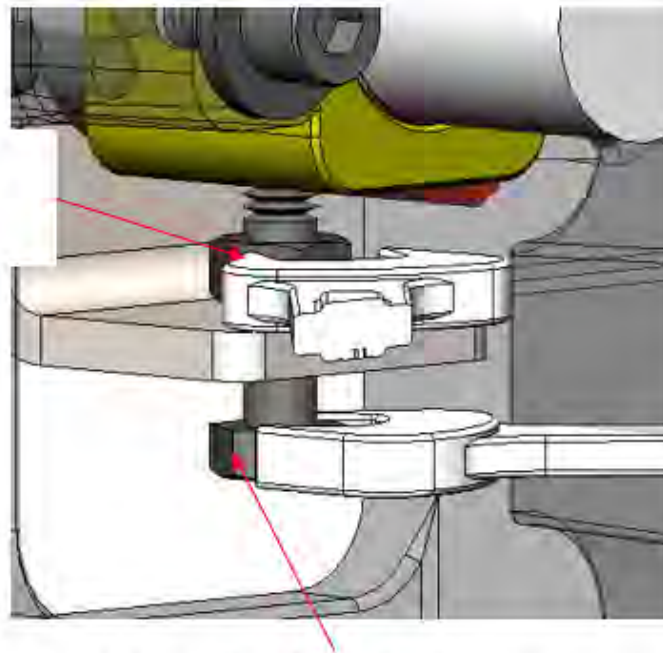


**Criteria- Front Roller 0.6~0.8mm lower than blade tip
Rear Roller 0.6~0.8mm lower than blade tip**

PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

STEP 11: Height adjustment: release nut with 10mm wrench, adjust screw to make roller height right then secure nut again. (adjustment positions refer to slide 13)

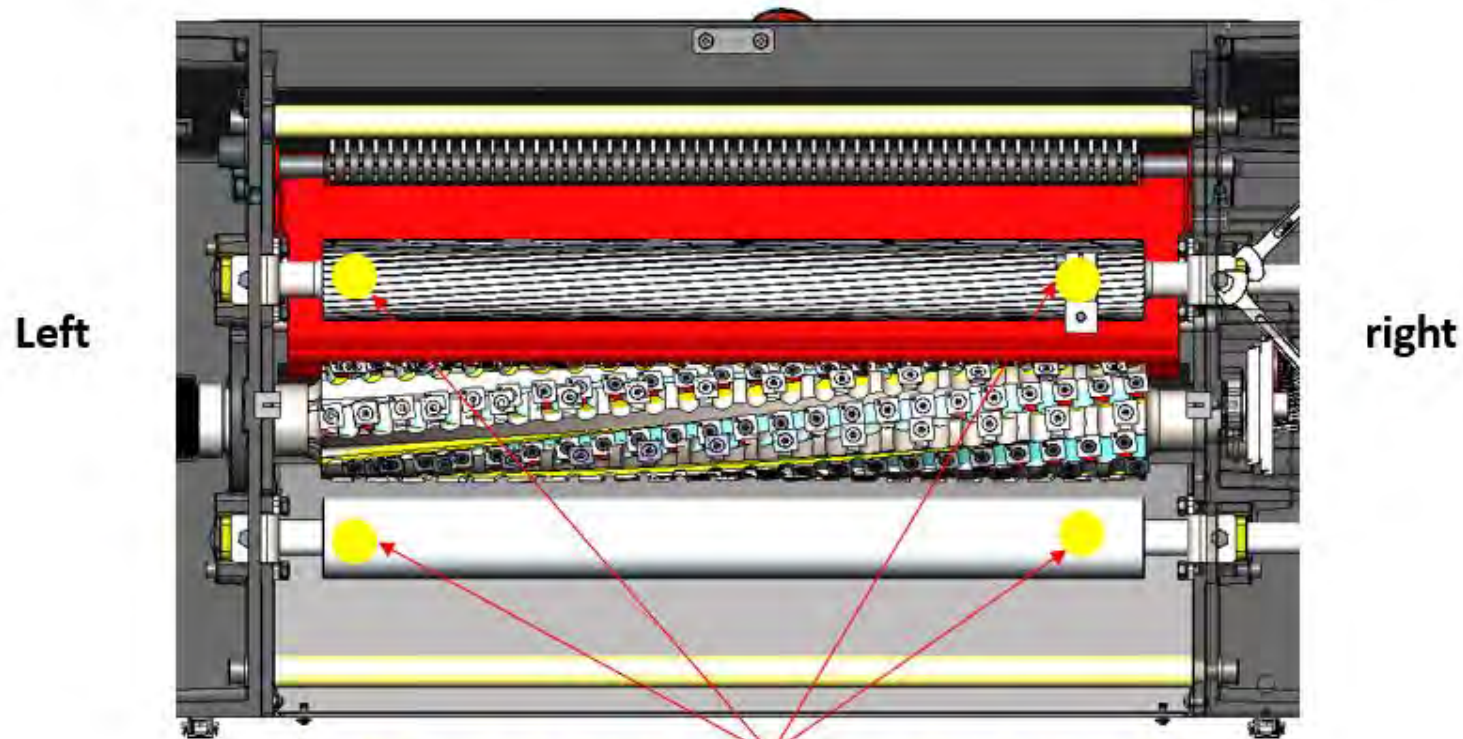
Release nut with 10mm
wrench



Adjust screw to make roller height right then secure the nut

PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

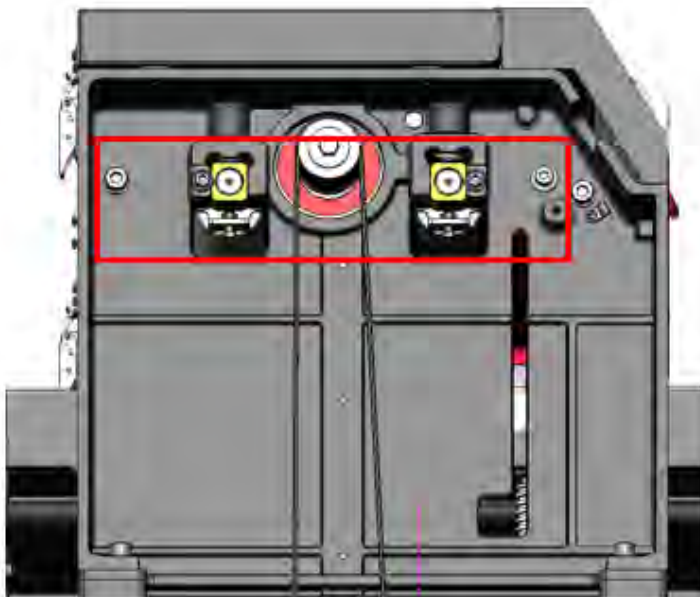
Step 12: repeat the same procedure other 3 adjustments: the left of front roller, right of rear roller, left of rear roller



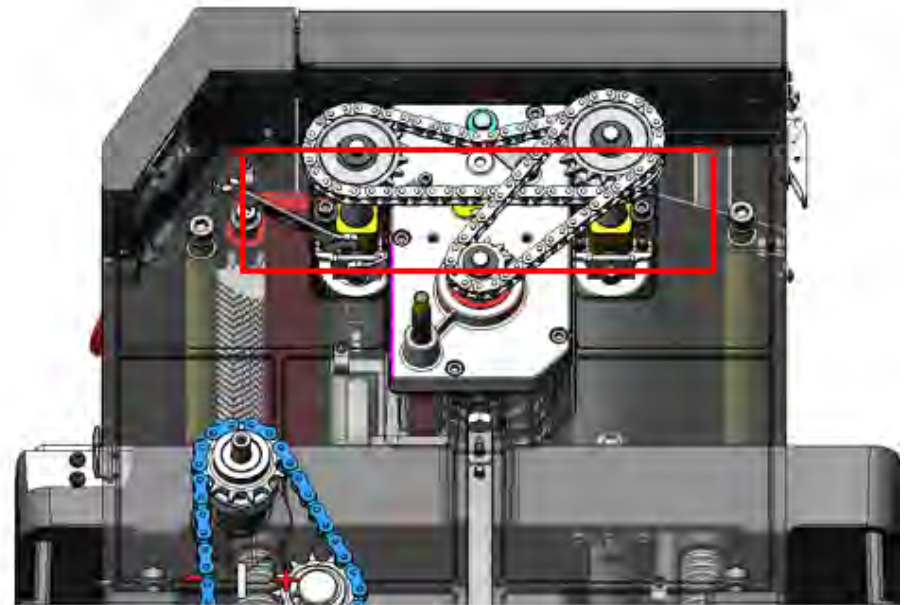
Check 4 Positions : front roller left and right, rear roller left and right

PX-16 (16") Planer Front/Rear Precision Adjustment SOP (Cont'd.)-

Step 13: front and rear rollers height adjustment positions



Left view: front and rear rollers adjustment positions

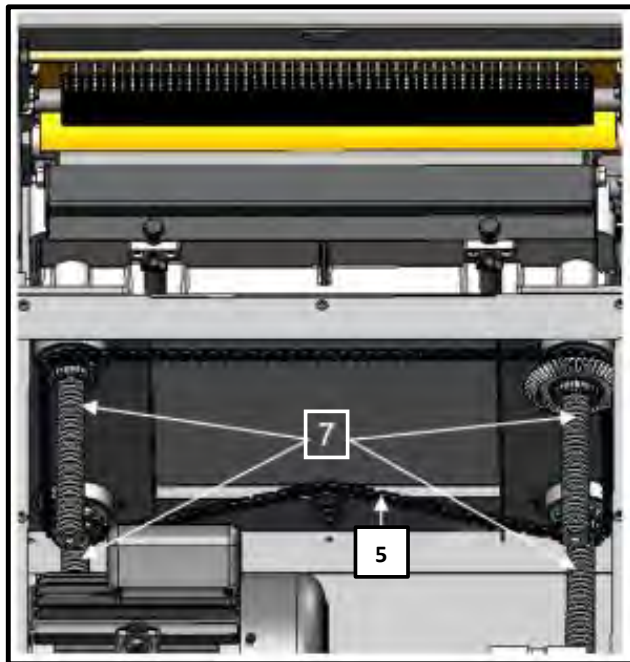
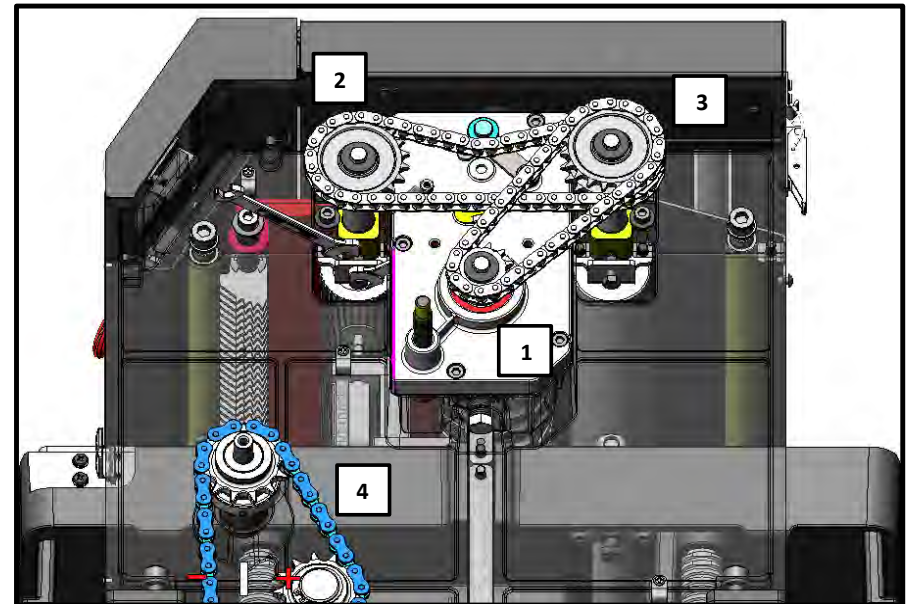
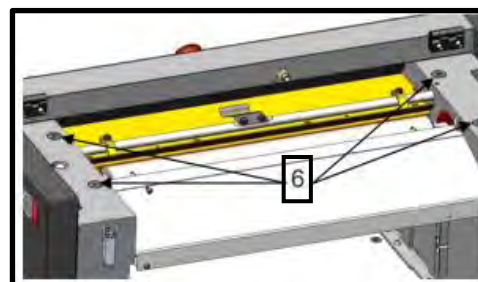


Right views: front and rear rollers adjustment positions

Lubrication-

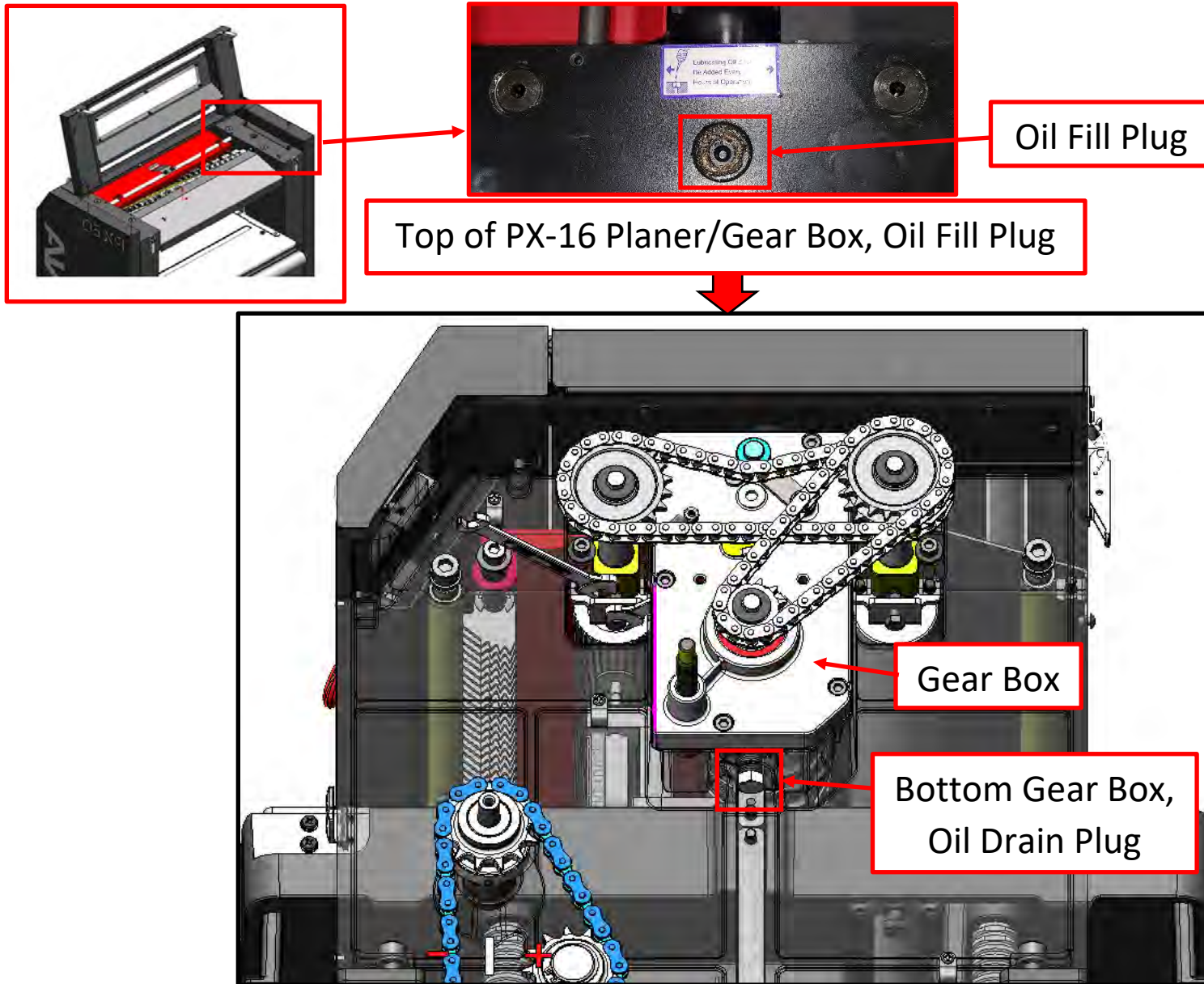
Regular monitoring and replacement of lubrication is needed-

LUBRICATION TABLE				
No.	Position	Grease	Oil	Interval
1	Gear Box	No	Yes. 75W-90, 80W-90, or SAE 90 Gear Oil	Every 2500 hours
2	Chain	Yes. General purpose automotive grease. If dirty, wipe or spray clean then apply light coat of grease.	No	Every 160 operating hours.
3	Chain	Yes. General purpose automotive grease. If dirty, wipe or spray clean then apply light coat of grease.	No	Every 160 operating hours.
4	Chain	Yes. General purpose automotive grease. If dirty, wipe or spray clean then apply light coat of grease.	No	Every 160 operating hours.
5	Chain	Yes. General purpose automotive grease. If dirty, wipe or spray clean then apply light coat of grease.	No	Every 160 operating hours.
6	Infeed and Outfeed Rollers	No	Yes. 75W-90, 80W-90, or SAE 90 Gear Oil	Every 8 operating hours.
7	Lead Screw	Yes. General purpose automotive grease. If dirty, wipe or spray clean then apply light coat of grease.	No	Every 40 operating hours.



Lubrication-

The Gear Box Oil (75W-90, 80W-90, or SAE 90 Gear Oil) must be changed after 2500 hours of work (Instructions to replace Gear Box Oil is as follows).



Lubrication (Cont'd.)-

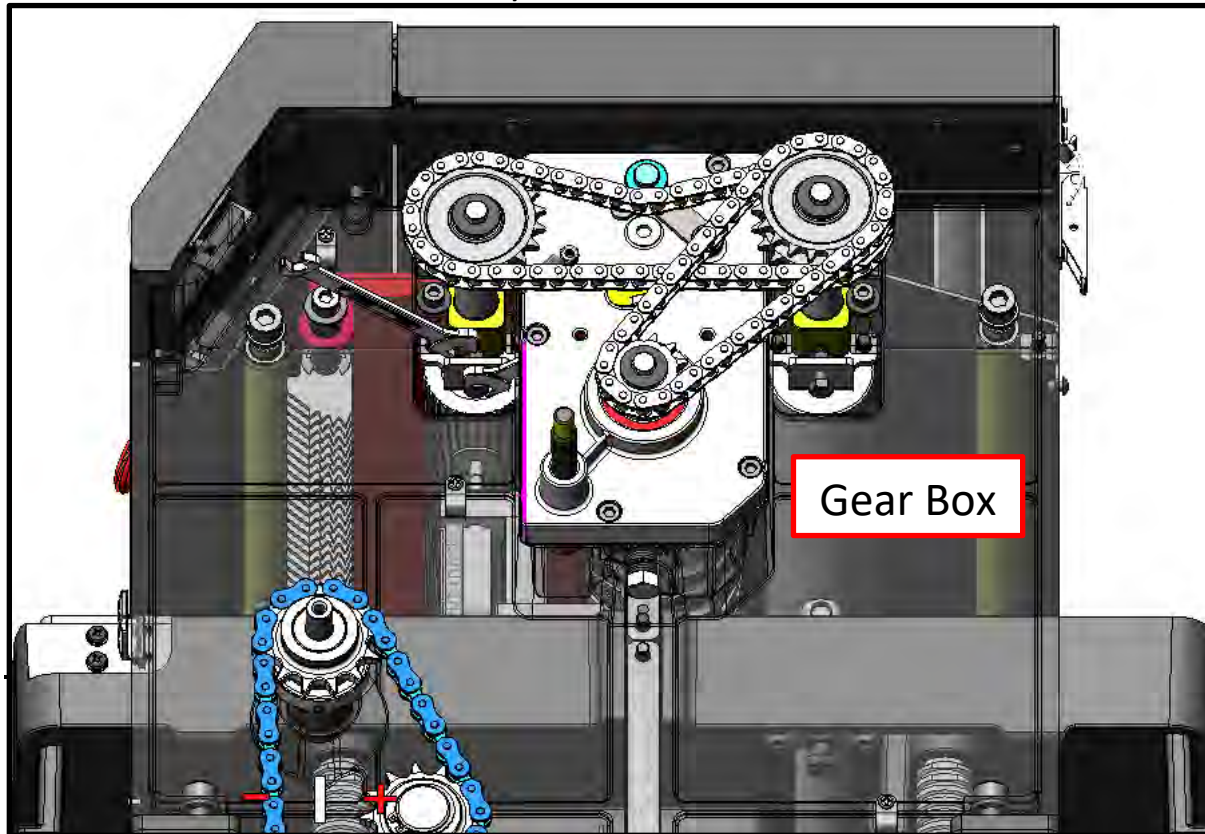
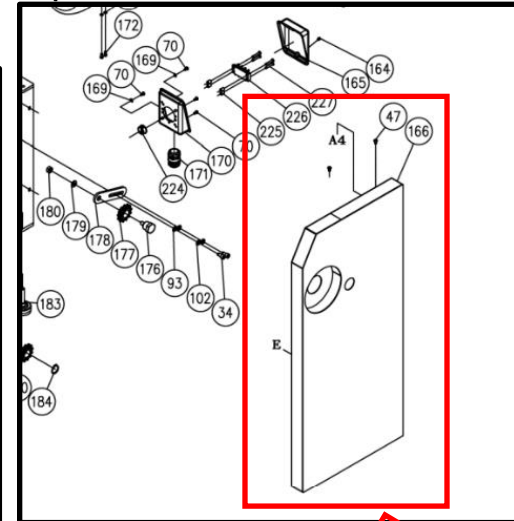
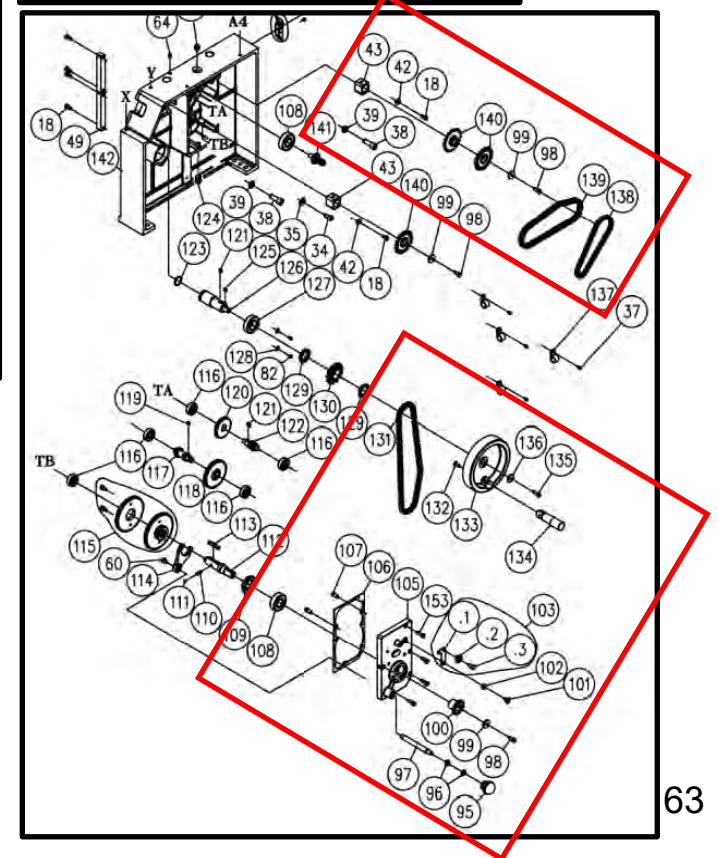
The lubricant in the gear box must be drained and replaced every 2,500 hours. Multi-purpose gear box lubricant (75W-90, 80W-90, or SAE 90 Gear Oil) will be suitable.

To Replace the lubricant:

- 1.) Remove the Bottom Gear Box Oil Drain Plug. Drain dirty oil thoroughly.
- 2.) Re-insert and tighten the Bottom Gear Box Oil Drain Plug.
- 3.) Remove , Oil Fill Plug and fill with 400 ml or 13.5 fl. oz. of clean lubricant (75W-90, 80W-90, or SAE 90 Gear Oil) through the hole.
- 4.) Install and tighten Oil Fill Plug.

Lubrication (Cont'd.)-

- The Gear Box Oil must be changed after 2500 hours of work (Instructions to remove Gear Box Oil Cover is as follows).



Lubrication (Cont'd.)-

(Instructions on how to remove Gear Box Oil Cover & change Inner Gears is as follows-Cont'd.)

Tools to Use- T25 Torx Wrench.

- 1.) **Safety-Shut Down all Power to PX-16 Planer, Pull Electrical Plug from Outlet.**
- 2.) Remove Part#135 (M6 Cap Screw), 136-M6 Washer.
- 3.) Remove Pt. #166-Side Cover-R.
- 4.) Remove the Drive Chains, Pt.#138 &139, then remove Pt.#140-Chain Sprocket, Pt.#98 Hex Screw & Pt.# 99 Washer.
- 5.) Remove Parts #97- Shaft, #96-Retaining Ring, #95-Knob, #98- Hex Screw, #99-FlatWasher, and Pt.#100- Chain Sprocket.
- 6.) Remove Part's., .1-Roller, .2-Roller Bracket, & .3-Hex Screw.
- 7.) Remove Pt.# 101- Shoulder Screw, Pt.#103- Idler Assembly, Pt.#153-Cap Screw.
- 8.) Remove Gear Box Cover-#105.
- 9.) Oil Inner Box mechanism with **(75W-90, 80W-90, or SAE 90 Gear Oil)**.
- 10.) Replace Gear Box Cover-#105. Replace and Install Parts in Reverse Order.

- All chains must be lubricated regularly.
- Every 30 hours, lubricate the bushings.
- Lubricate the four lead screws regularly with the recommended lubrication listed on page 60.

Troubleshooting-

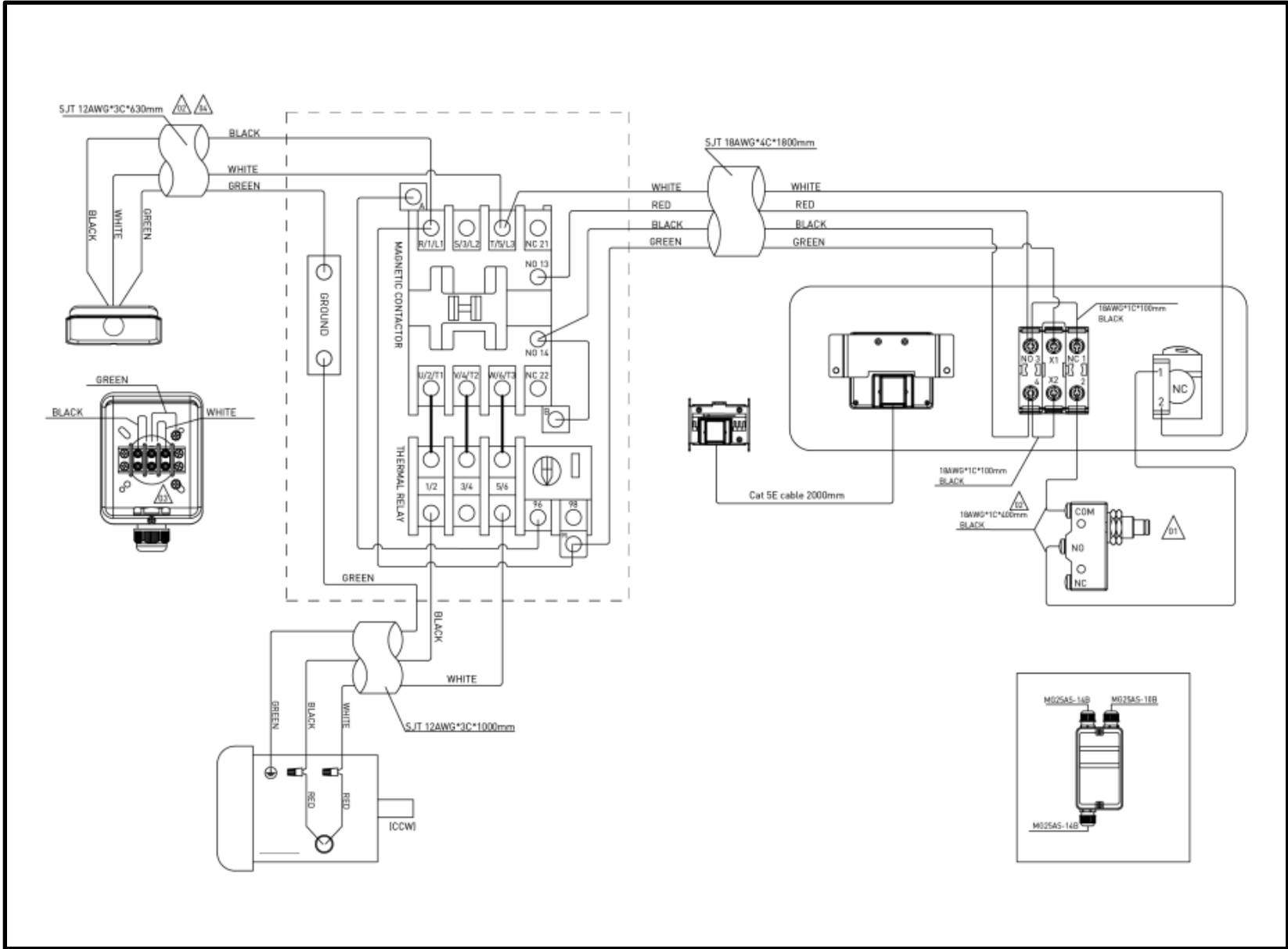
<u>Symptom</u>	<u>Possible Cause</u>	<u>Possible Solution</u>
Machine will not start.	1.) Fuse blown or circuit breaker tripped. 2.) Cord damaged. 3.) Not connected to power source. 4.) Connected to wrong voltage. 5.) Top cover is open. 6.) Emergency stop button pressed. 7.) Overload tripped.	1.) Replace fuse or reset circuit breaker. 2.) Have cord replaced. 3.) Check connection. 4.) Check voltage. 5.) Close top cover. 6.) Rotate emergency stop button clockwise until it pops out. 7.) Remove lower rear cover on the base and press reset switch found inside.
Cutterhead does not come up to speed.	1.) Low current. 2.) Motor not connected to correct voltage.	1. Contact local electric company. 2. Refer to motor nameplate for correct voltage.
Workpiece stops when feeding.	1.) Too much material being removed in one pass. 2.) Chip breaker or pressure bar set too low. 3.) Insufficient pressure on in-feed or outfeed rollers.	1. Reduce the amount of material being removed. 2. Raise the pressure. 3. Increase pressure on in-feed or outfeed rollers.
Snipe.	1.) Incorrect setting for infeed, out-feed rollers, pressure bar. 2.) Inadequate support of long boards. 3.) Table roller not set properly.	1.) Adjust feed system. 2.) Support long boards with extension rollers. 3.) Adjust table roller until desired results are achieved.
Fuzzy Grain.	1. Planing wood with a high moisture content. 2. Dull knives.	1.) Allow wood to dry properly. 2.) Rotate or replace knives.
Poor feeding of lumber.	1.) Inadequate feed roll pressure. 2.) Planer bed dirty. 3.) Drive-belt(s) slipping. 4.) Dirty feed rollers. 5.) Incorrect setting for in-feed, out-feed rollers, pressure bar.	1.) Lubricate the bed with paste wax or dry silicone spray. 2.) Adjust feed roll tension or lower feed rollers. 3.) Clean pitch and residue off table with a non-flammable solvent. 4.) Increase drive-belt tension. 5.) Clean feed rollers with a nonflammable solvent. 6.) Adjust feed system.

Wiring-

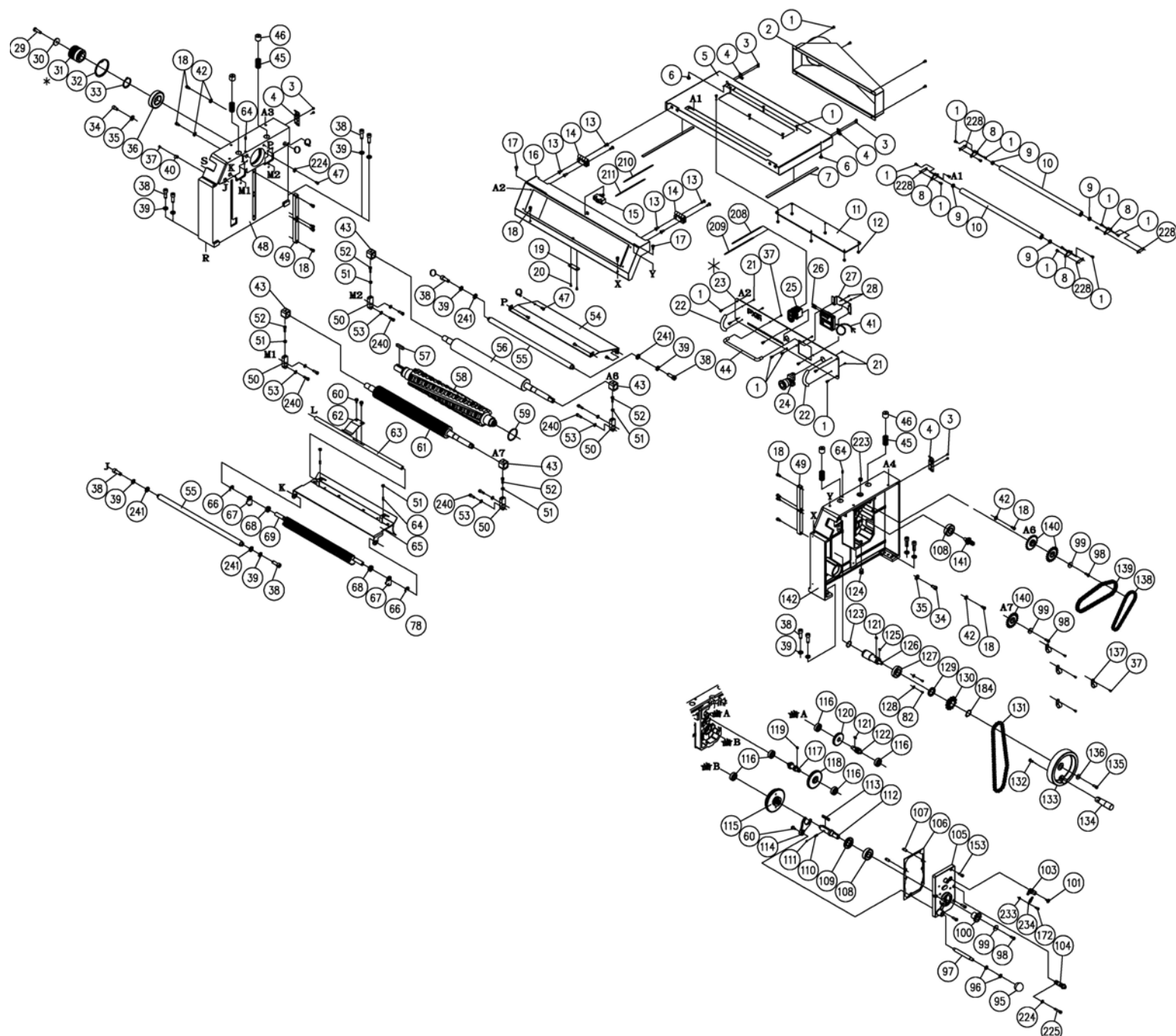
WARNING!- REVIEW ELECTRICAL SAFETY (Pg's.#11-16) PRIOR TO ANY WIRING PROCEDURES.

Model #	MPLANPX16-0130T2	
VOLTAGE	220 VOLTS	
PHASE	1PH	
HERTZ	60Hz	
FULL LOAD AMPERAGE	23 AMPS	
<p><u>WARNING!</u>- Below are <u>RECOMMENDATIONS</u> to be used for this machine based on the above information.</p> <p><u>Variables that may affect this are:</u></p> <p><u>*Actual voltage</u> supplied to the machine.</p> <p><u>*Electrical Code</u> that must be met in your local province.</p> <p>An Electrician will verify that all the demands are met to properly wire the machine. If you have absolutely any doubt when wiring this machine - please consult with a <u>Qualified Electrician</u>.</p>		
PLUG/RECEPTACLE	<u>NOT INCLUDED</u>	
WIRING (Gauge)	See Jacket Printing.	
CIRCUIT BREAKER	30 Amp Minimum	

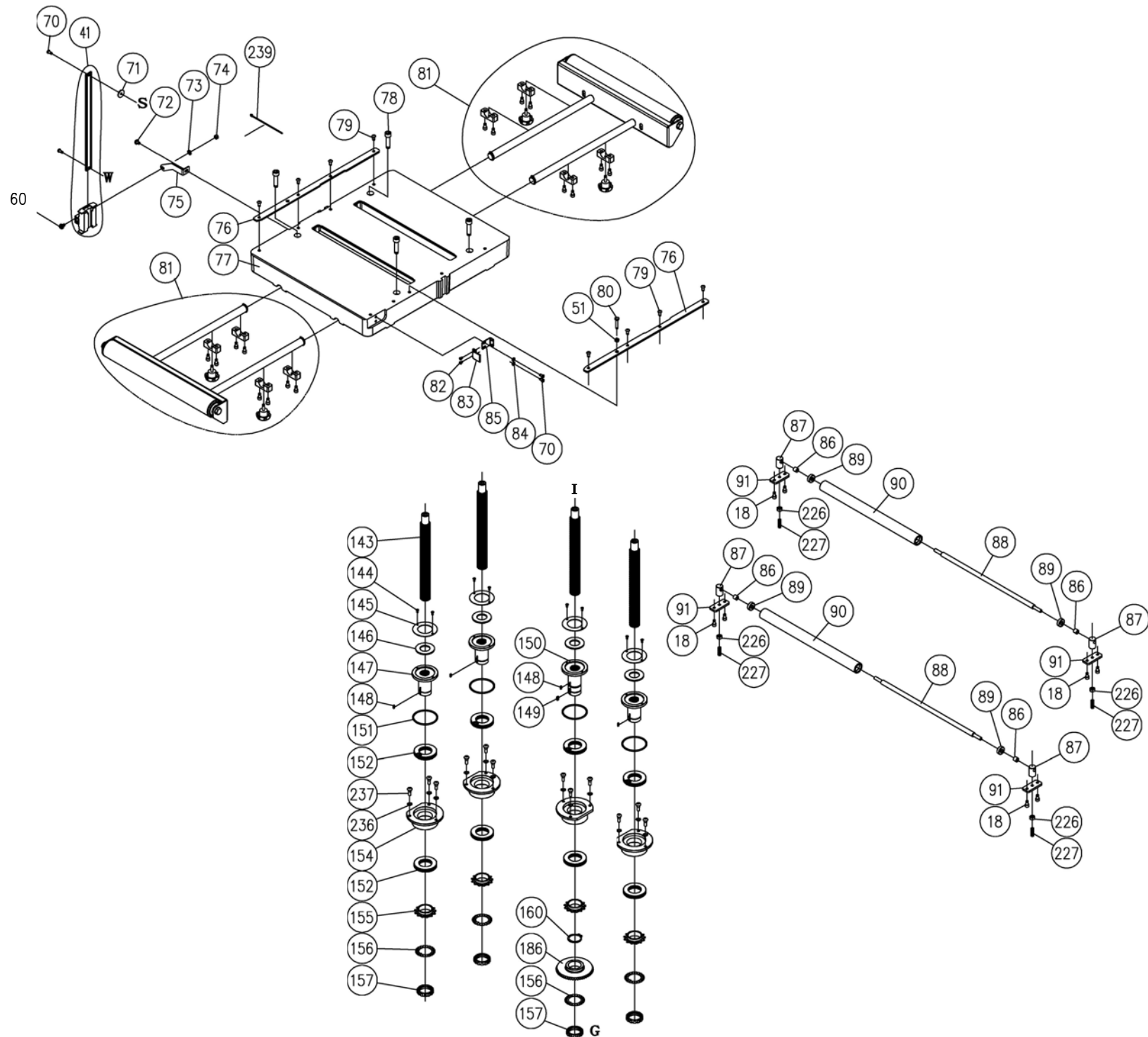
Wiring-Diagram:



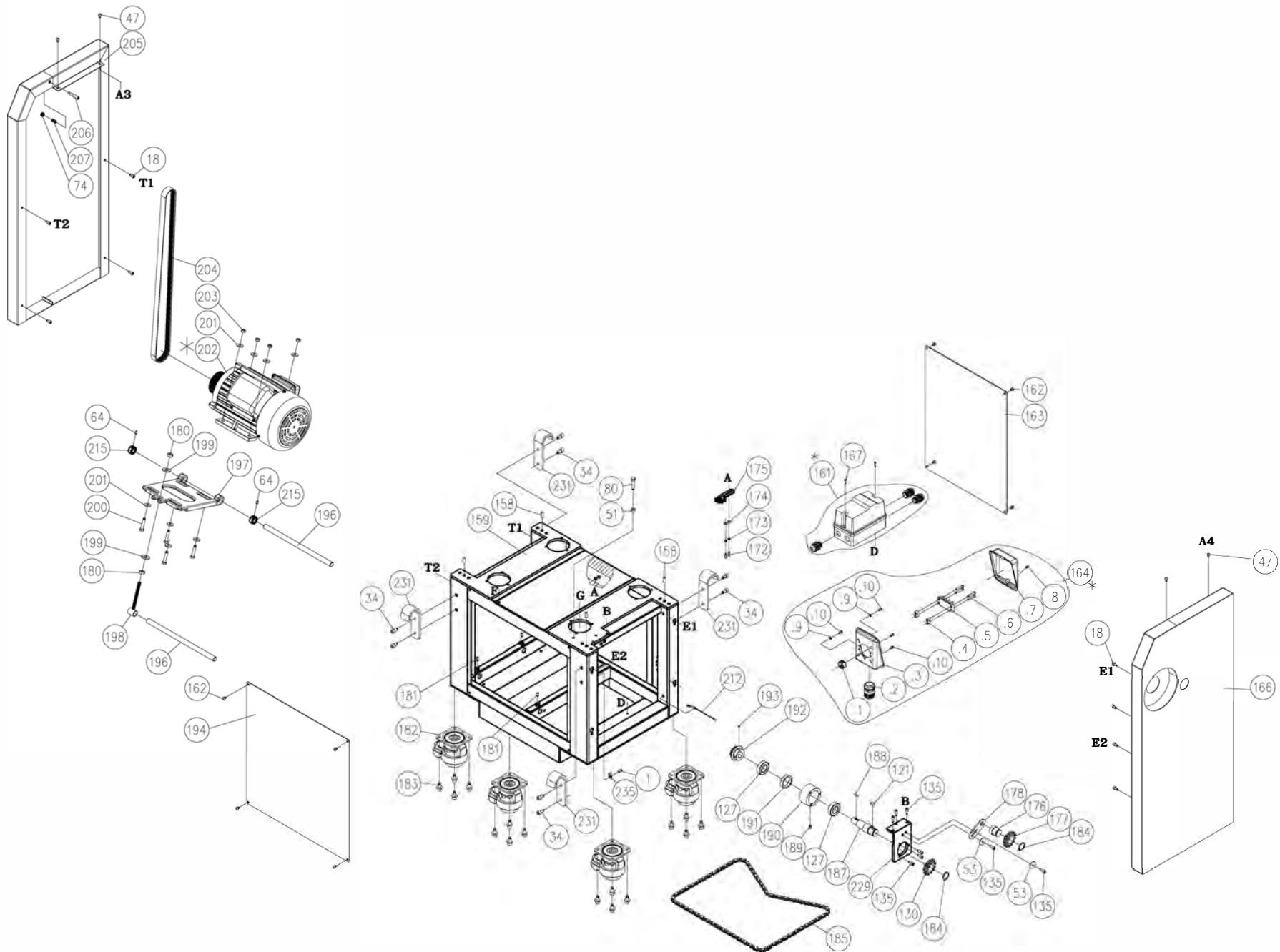
Replacement Parts Diagram- Cutterhead and Gearbox



Replacement Parts Diagram- Table



Replacement Parts Diagram- Stand and Base



Parts List-

Key	Part No.	Descriptions	Specification	Q'ty
1	000804-107	Round Head Hex Screw	M5*0.8P*12	31
2	174818-308	Dust Chute		1
3	000302-201	Round Head Phillips Screw	M4*0.7P*6	8
4	230409-905	Buckle	CT-22	2
5	174817-000	Top Cover		1
6	340007-615	Block		2
7	200113-615	Sponge		2
8	174723-904	Roller Bracket		4
9	030119-000	Ball Bearing	605	4
10	361387-906	Roller		2
11	251405-620	PC Board		1
12	008302-100	Hex. Lock Nut	M5*0.8P/(8B*6H)	6
13	000403-207	Flat Head Phillips Screw	M6*1.0P*16	8
14	679030-008	Butterfly Hinge	AZ2510B	2
15	491101-000	Limited Switch	MJ2-1307	1
16	174816-308	electrical box		1
17	000002-101	Hex. Screw	M6*1.0P*12	2
18	000103-103	CAP Screw	M6*1.0P*12	30
19	174828-000	Limit Plate		1
20	002102-201	Flat Head Phillips Lock Screw	M4*0.7P*10L	2
21	000301-101	Round Head Phillips Screw	M3*0.5P*6	4
22	300117-909	Switch Guard		2
24	491153-000	Emergency Stop	NPB22-H01R(600V/10A)	1
25	491127-000	Power Switch	M22DP-SF11E230WB(I,O)	1
26	490488-000	Battery	AAA	2
27	174750-000	Fixing Plate		1
28	001202-602	Self Tapping Screw	M3*1.06P*6	2

Key	Part No.	Descriptions	Specification	Q'ty
29	048201-101	Hex. Locking Screw	M8*1.25P*20	1
30	006001-043	Flat Washer	8.2*30*4.0t	1
31	381423-902	Cutterhead Pulley	60HZ	1
32	010121-000	Retaining Ring	RTW-80	1
33	010025-000	Retaining Ring	STW-40	1
34	000104-104	CAP Screw	M8*1.25P*16	10
35	006001-054	Flat Washer	8.5*20*2.0t	2
36	030223-002	Ball Bearing	6208	1
37	000302-102	Round Head Phillips Screw	M4*0.7P*8	7
38	000105-102	CAP Screw	M10*1.5P*25	12
39	006307-300	Spring Washer	10.2*18.5	12
40	021107-100	Wire Fixing Buckle	UC-0.5BK	1
41	924681-001	Digital Read Out Assembly	Wixey Model WR5502CT	1
42	006001-034	Flat Washer	6.7*16*2.0t	4
43	130384-000	Bushing		4
44	230435-000	U Handle		1
45	280288-000	Spring		4
46	380200-901	Screw		4
47	000801-202	Round Head Hex Screw	M6*1.0P*12	9
48	051446-000	Column-L		1
49	381405-902	Fixing Plate		4
50	130423-903	Adjustable Block		4
51	008005-100	Hex. Nut	M6*1.0P(10B*5H)	9
52	000002-111	Hex. Screw	M6*1.0P*20	4
53	006001-115	Flat Washer	6.2*13*1.5t	10
54	174815-308	Chip Guide		1
55	361382-901	Rod		2
56	361416-000	Outfeed Roller		1

Replacement Parts Table (Cont'd.) -

Key	Part No.	Descriptions	Specification	Q'ty
57	012006-001	Key	8*8*40	1
58	925090-001	Helical Cutterhead Assembly	SHEAR-TEC II	1
	040703-000	Torx Driver	T-25	2
	038201-702	Torx Screw	#10-32UNF*12.5	10
	922841-001	Insert with Box	10Pcs/Box	1
59	043343-000	Retaining Ring	NBR/46.3*3.1	1
60	000902-102	Hex. Screw W/Washer	M6*1.0P*12	4
61	361491-000	Infeed Roller		1
62	270015-901	Spring Plate		1
63	361380-901	Support Rod		1
64	000203-104	SET Screw	M6*1.0P*12	8
65	174824-156	Front Chip Guide		1
66	010208-000	Retaining Ring	ETW-12	2
67	174722-905	Anti-Kick-back Finger		45
68	250060-615	Spacer		46
69	361381-901	Anti-kick-back Shaft		1
70	000303-804	Round Head Phillips Screw	M5*0.8P*12	4
71	006001-127	Flat Washer	5.5*22*2.0t	1
72	001603-102	Round Head Phillips Screw w/Flat Washer	M6*1.0P*10/6*13.2*1.0t	1
73	006001-032	Flat Washer	6.6*13*1.0t	1
74	008304-100	Hex. Lock Nut	M6*1.0P(10B*7H)	2
75	174827-904	Bracket		1
76	174826-904	Guide Plate		2
77	051511-196	Table	T2 Upgrade	1
78	000105-104	CAP Screw	M10*1.5P*35	4
79	000801-102	Round Head Hex Screw	M6*1.0P*12	8
80	000002-106	Hex. Screw	M6*1.0P*30	2

Replacement Parts Table (Cont'd.) -

Key	Part No.	Descriptions	Specification	Q'ty
81	925301-001	Extension Roller Assembly	T2 Upgrade 10"	1
82	000302-701	Round Head Phillips Screw	M4*0.7P*6	4
83	250463-620	Pointer		1
84	006001-009	Flat Washer	5.2*10*1.0t	2
85	174561-308	Pointer Fixing Plate		1
86	381494-901	Spacer		4
87	361500-901	Guide Block		4
88	361497-901	Roller Shaft		2
89	030005-001	Ball Bearing	608	4
90	190026-000	Roller		2
91	174763-904	Adjustable Plate		4
95	230442-615	Knob		1
96	043303-000	Retaining Ring	P12	2
97	360358-901	Shaft		1
98	000002-203	Hex. Screw	M6*1.0P*16	3
99	006001-021	Flat Washer	6.2*22*3t	3
100	150008-000	Chain Sprocket		1
101	290104-902	Shoulder Screw		1
103	924699-001	Idler Assembly		1
104	925079-001	Idler Bracket		1
105	090358-000	Gearbox Cover		1
106	340012-615	Gearbox Gasket		1
107	360355-901	Pin		2
108	030208-002	Ball Bearing	6204	2
109	043505-000	Oil Seal	SC25*47*6	1
110	280052-000	Spring		1
111	017002-000	Steel Ball	Ø6	1
112	360357-000	Shaft		1

Replacement Parts Table (Cont'd.) -

Key	Part No.	Descriptions	Specification	Q'ty
113	012004-003	Key	6*6*40	1
114	130404-000	Shifting Claw		1
115	924811-001	Gear Assembly		1
116	030205-002	Ball Bearing	6201	5
117	320356-000	Shaft		1
118	320198-000	Gear		1
119	012003-002	Key	5*5*10	1
120	320406-000	Gear	52T	1
121	012003-003	Key	5*5*12	3
122	320160-000	Shaft		1
123	043337-000	O-Ring	P22	1
124	043401-000	Plug	PT1/4"-19	1
125	012002-011	Key	4*4*15	1
126	361513-901	Handwheel Assembly		1
127	030104-001	Ball Bearing	6005	3
128	006001-003	Flat Washer	4.3*12*1.0t	2
129	174700-902	Spacer		1
130	380259-000	Sprocket		2
131	016019-000	Chain	#40*42P	1
132	000702-104	Flat Head Hex. Screw	M6*1.0P*16	1
133	090392-000	Hand Wheel		1
134	230284-000	Folding Handle	HL-65	1
135	000103-105	CAP Screw	M6*1.0P*15	9
136	006001-026	Flat Washer	6.4*20*3.0t	1
137	021103-100	Wire Fixing Buckle	ACC-3-B	4
138	016322-000	Chain	#06B*42P	1
139	016311-000	Chain	#06B*54P	1
140	150029-000	Chain Sprocket		3

Replacement Parts Table (Cont'd.) –

Key	Part No.	Descriptions	Specification	Q'ty
141	320405-000	Gear		1
142	051447-196	Column-R		1
143	361314-901	Lifting Lead Screw		4
144	000805-705	Round Head Hex Screw	M4*0.7P*8	8
145	175016-902	Pressure Plate		4
146	660289-000	Packing		4
147	051416-901	Lead Screw Seat		3
148	012001-003	Key	3*3*10	4
149	012002-005	Key	4*4*12	1
150	051415-901	Main Lead Screw Seat		1
151	043217-000	Retaining Ring	G63	4
152	920133-000	Thrust Bearing		8
153	000103-107	CAP Screw	M6*1.0P*20	4
154	051490-901	Bearing Housing - Top		4
155	150016-000	Lifting Sprocket		4
156	170746-901	Teeth Washer		4
157	130094-903	Lock Nut		4
158	360413-901	Fixing Pin		4
159	175275-308	Base		1
160	010014-000	Retaining Ring	STW-35	1
161	938207-001	Magnetic Switch Assembly	5HP*220V*60HZ*1PH	1
162	000801-108	Round Head Hex Screw	M6*1.0P*8	8
163	175277-000	Stand Rear Cover		1
164	925021-001	Power Cord Assembly		1
.1	021803-000	Buckle	NB-1925	1
.2	023701-007	Strain Relief	MG25AS-14B	1
.3	491116-000	Connect Box		1
.4	250573-615	Bushing		4

Replacement Parts Table (Cont'd.) -

Key	Part No.	Descriptions	Specification	Q'ty
.5	490336-000	Terminal Blocks		1
.6	000303-110	Round Head Phillips Screw	M5*0.8P*30	4
.7	490124-000	Terminal Cover		1
.8	003303-102	Round Head Phillips Screw	3/16"-24NC*1/4"	1
.9	006502-100	Teeth Washer	5.3*10(BW-5)	2
.10	000303-804	Round Head Phillips Screw	M5*0.8P*12	4
166	175278-308	Side Cover - R		1
167	000302-204	Round Head Phillips Screw	M4*0.7P*12	2
172	000102-104	CAP Screw	M5*0.8P*12	3
173	006302-300	Spring Washer	5.1*9.3	2
174	006003-012	Flat Washer	5.3*12*1.0t	2
175	920135-000	Tension Wheel Assembly		1
176	361431-902	Idler Shaft		1
177	150001-000	Idler		1
178	175052-902	Idler Bracket		1
180	008008-100	Hex. Nut	M10*1.25P(17B*8H)	2
181	000204-105	SET Screw	M8*1.25P*20	4
182	230424-000	Heavy Duty Caster		4
183	001501-101	CAP w/Spring Washer&Flat Washer	M8*1.25P*20/8.2*13.7/8.5*19*2t	16
184	010011-000	Retaining Ring	STW-25	3
185	016228-000	Chain	Z410*120P	1
186	320418-000	Bevel Gear		1
187	361312-902	Lifting Shaft		1
188	012003-004	Key	5*5*15	1
189	000204-102	SET Screw	M8*1.25P*10	1
190	381402-902	Bearing Housing		1
191	381403-902	Spacer		1
192	320419-000	Bevel Gear		1

Replacement Parts Table (Cont'd.) -

Key	Part No.	Descriptions	Specification	Q'ty
193	000202-102	SET Screw	M5*0.8P*8	1
194	175276-308	Stand Cover		1
196	361385-901	Support Rod		2
197	050287-008	Motor Plate		1
198	380148-000	Adjustable Rod		1
199	006003-091	Flat Washer	13*28*3.0t	2
200	000003-108	Hex. Screw	M8*1.25P*40	4
201	006001-041	Flat Washer	8.2*22*3.0t	8
202	901226-001	Motor Assembly	5HP*220V*60HZ*1PH	1
	012202-002	Key	5*5*30	1
	381435-902	Motor Pulley		1
203	008006-800	Hex. Nut	M8*1.25P(13B*6.5H)	4
204	014371-000	Poly-V-Belt	560J-12	1
205	175279-308	Side Cover - L		1
206	360579-902	Support Pin		1
207	280089-901	Spring		1
208	471037-084	Connect Cord	18AWG*1C*100	1
209	471037-085	Connect Cord	18AWG*1C*100	1
210	471037-091	Connect Cord	18AWG*1C*400	1
211	471037-111	Connect Cord	18AWG*1C*400	1
212	230297-615	Cord Fixed Chain		4
213	040003-000	Hex. Wrench	3*63mm	1
215	380049-901	Spacer		2
223	043406-000	Plug	PT1/4"-19	1
224	006003-114	Flat Washer	6.4*16*1.6t	2
225	000103-109	CAP Screw	M6*1.0P*30	1
226	008006-100	Hex. Nut	M8*1.25P(13B*6.5H)	4
227	000204-116	SET Screw	M8*1.25P*25	4

Replacement Parts Table (Cont'd.) -

Key	Part No.	Descriptions	Specification	Q'ty
228	175019-000	Packing		4
229	310575-909	Bevel Gear Base		1
231	174568-156	Hook		4
233	008004-100	Hex. Nut	M5*0.8P(8B*4H)	1
234	280050-000	Spring		1
235	174953-000	Fixing Plate		1
236	006729-100	Waves Washer	BWW-624	12
237	290071-901	Shoulder Screw		12
239	021010-000	Wire Clip	ALT-150M-B	1
240	002602-102	Cap Locking Screw	M6*1.0P*20	8
241	006003-079	Flat Washer	10.5*19*2.0t	4

Thank You!

Welcome to the Laguna Tools® group of discriminating woodworkers. We understand that you have a choice of where to purchase your machines and appreciate the confidence you have in the Laguna Tools® brand.

Through hands-on experience, Laguna Tools® is constantly working hard to make innovative, precision products. Products that inspire you to create works of art are a joy to operate and encourage your best work.

Laguna Tools®
Imagination, Innovation, and Invention at Work

Warranty & Registration

Every product sold is warranted to be free of manufacturer's defective workmanship, parts, and materials. For any questions about this produce, the intended use or what it was designed for, customer service, or replacement parts, please contact our customer service department:

Laguna Tools® Customer Service
744 Refuge Way, Grand Prairie, Texas 75050, USA
1-800-234-1976
www.lagunatools.com/why/customer-service/
8AM. To 5PM PSF. Monday through Friday

For warranty claims or to report damage upon receiving-please reach out to our warranty department:

Laguna Tools® Warranty Service
744 Refuge Way, Grand Prairie, Texas 75050, USA
1-800-234-1976
www.lagunatools.com/policies/warranty
8AM to 5PM PST, Monday through Friday

Registration

To prevent voiding this warranty, all products sold must be registered within thirty (30) days of receiving the product. Registering the product will enable the original purchaser to receive notifications about important product changes, receive customer service, and be able to file a warranty claim against defective workmanship, parts, or materials.



Who is Covered

The applicable warranty covers only the initial purchaser of the product from the date of receiving the product. To file such claims, the original purchaser must present the original receipt as proof of purchase.

What is Covered

The warranty covers any defects in the workmanship of all parts and materials that make up the machine unless otherwise specified. Any part determined by Laguna Tools® to have a defect will be repaired or replaced (and shipped), without charge. The defective item/part must be returned to Laguna Tools® with the complaint and proof of purchase in the original packaging that it was received in. In the event the item/part is determined to be not covered by this warranty, the customer will be responsible for the cost to replace the item/part and all related shipping charges.

Warranty Limitations

This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, or lack of inadequate dust collection. The warranty may be voided against proof of misuse/abuse, damage caused where repair or alterations have been made or attempted by others, using the product for purposes other than those described as intended use (unless with consent by Laguna Tools®), modification to the product, or use with an accessory that was not designed for the product. It is the responsibility of the user to understand basic woodworking machinery settings and procedures and to properly maintain the equipment in accordance with the standards provided in this manual.

Length of Warranty

All new machines and optional accessories sold through an authorized dealer carry a two-year warranty effective from the date of receiving the product. Machines sold for either commercial or industrial use have a one-year warranty. Wearable parts like throat plates, bandsaw guides, etc., have a ninety-day warranty.

Table A-1 Warranty Lengths

<i>2 Year – New Machines Sold Through an Authorized Dealer</i>
<i>2 Year – Accessories Sold as Machine Options (excluding blades)</i>
<i>1 Year – Machines Sold for Commercial or Industrial Use</i>
<i>1 Year – Blades and Accessories outside of Machine Options</i>
<i>90 Days – Wearable Parts</i>

Aside from being free of defects upon receiving, consumable parts, like cutters and abrasives, are not covered by this warranty unless otherwise stated by Laguna Tools®. These parts are designed to be used at the expense of the operator and are available for replacement or inventory purchase. The determination of a consumable part will be made on a case-by-case basis by Laguna Tools®.

Shipping Damage

Laguna Tools® is not responsible for damage or loss caused by a freight company or other circumstances not in the direct control of Laguna Tools®. All shipping-related claims for loss or damage to goods must be made to Laguna Tools® within twenty-four hours of delivery.

How to Receive Support

To file a warranty claim, please contact the warranty department at 1-800-234-1976. To receive customer service or technical support, please contact the customer service department at 1-800-332-4094. Parts, under warranty, are shipped at the expense of Laguna Tools® either by common carrier, FedEx ground services, or similar method. Technical support to install replacement parts is primarily provided by phone, fax, email, or the Laguna Tools® Customer Service Support Website.



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