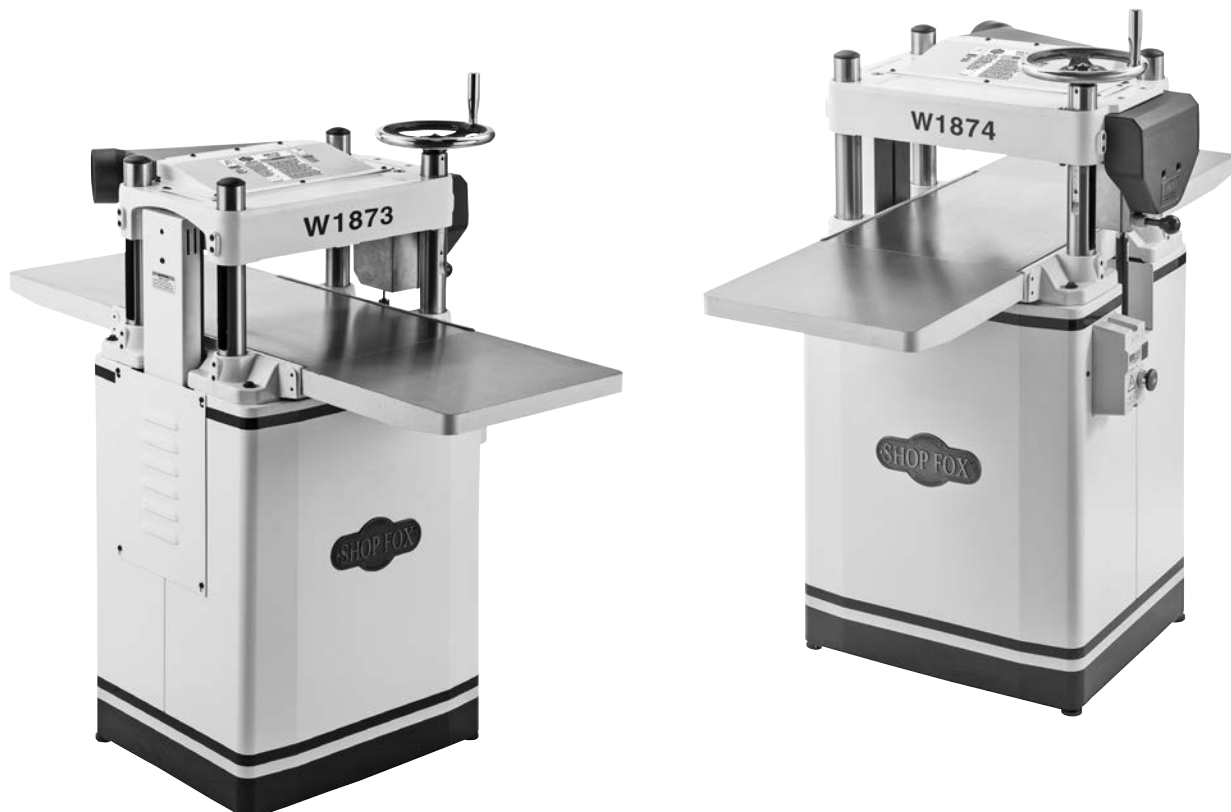


MODEL W1873/W1874 15" FIXED-TABLE PLANERS



OWNER'S MANUAL

(FOR MODELS MANUFACTURED SINCE 10/20)

Phone: (360) 734-3482 • Online Technical Support: techsupport@woodstockint.com

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WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT

THE WRITTEN APPROVAL OF WOODSTOCK INTERNATIONAL, INC.



WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



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 equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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INTRODUCTION

Machine Description

Models W1873 and W1874 are CSA-certified, 3 HP, 15" planers with the following differences:

- **Model W1873** has a 3-knife cutterhead.
- **Model W1874** has a helical cutterhead.

Woodstock Technical Support

This machine has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

Woodstock International, Inc. is committed to customer satisfaction. Our intent with this manual is to include the basic information for safety, setup, operation, maintenance, and service of this product.

We stand behind our machines! In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 Ext. 2 or send e-mail to: techsupport@woodstockint.com. Our knowledgeable staff will help you troubleshoot problems and process warranty claims.

If you need the latest edition of this manual, you can download it from <http://www.woodstockint.com/manuals>.

If you have comments about this manual, please contact us at:

Woodstock International, Inc.
Attn: Technical Documentation Manager
P.O. Box 2309
Bellingham, WA 98227
Email: manuals@woodstockint.com



MACHINE SPECIFICATIONS



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MODEL W1873 15" 3 HP FIXED-TABLE PLANER

Product Dimensions

Weight..... 300 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 25 x 49 x 47-1/2 in.
 Footprint (Length x Width)..... 21 x 18-1/2 in.

Shipping Dimensions

Type..... Wood Crate
 Content..... Machine
 Weight..... 374 lbs.
 Length x Width x Height..... 30 x 24 x 49 in.
 Must Ship Upright..... Yes

Electrical

Power Requirement..... 230V, Single-Phase, 60 Hz
 Full-Load Current Rating..... 12A
 Minimum Circuit Size..... 20A
 Connection Type..... Cord & Plug
 Power Cord Included..... Yes
 Power Cord Length..... 10 ft.
 Power Cord Gauge..... 12 AWG
 Plug Included..... Yes
 Included Plug Type..... 6-20
 Switch Type..... Magnetic Switch w/Thermal Overload Protection

Motors

Main

Horsepower..... 3 HP
 Phase..... Single-Phase
 Amps..... 12A
 Speed..... 3450 RPM
 Type..... TEFC Capacitor-Start Induction
 Power Transfer V-Belt Drive
 Bearings..... Shielded & Permanently Lubricated
 Centrifugal Switch/Contacts Type..... External



Main Specifications

Main Specifications

Planer Size.....	15 in.
Max. Cut Width.....	15 in.
Min. Stock Length.....	6 in.
Min. Stock Thickness.....	3/16 in.
Max. Stock Thickness.....	6 in.
Number of Cuts Per Inch.....	81, 46
Number of Cuts Per Minute.....	15,600
Cutterhead Speed.....	5200 RPM
Planing Feed Rate.....	16, 28 FPM
Max. Cut Depth Planing Full Width.....	1/8 in.
Max. Cut Depth Planing 6-Inch Wide Board.....	3/16 in.

Cutterhead Info

Cutterhead Type.....	Straight Knife
Cutterhead Diameter	2-5/8 in.
Number of Knives.....	3
Knife Type.....	HSS, Single-Sided, Solid
Knife Size Length.....	15 in.
Knife Size Width.....	1 in.
Knife Size Thickness.....	1/8 in.
Knife Adjustment.....	Jack Screws

Table Info

Table/Headstock Movement.....	6 in.
Table Bed Size Length.....	21 in.
Table Bed Size Width.....	15 in.
Floor-to-Table Height.....	30-3/4 in.
Table Wings Size Length.....	14 in.
Table Wings Size Width.....	15-1/2 in.

Construction

Table.....	Precision-Ground Cast Iron
Body.....	Cast Iron
Stand.....	Steel
Cutterhead Assembly.....	Steel
Infeed Roller.....	Serrated Aluminum
Outfeed Roller.....	Rubber
Paint Type/Finish.....	Powder Coated

Other

Measurement Scale.....	Inch & Metric
Number of Dust Ports.....	1
Dust Port Size.....	4 in.
Mobile Base.....	D4666



MACHINE SPECIFICATIONS



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MODEL W1874 15" 3 HP FIXED-TABLE PLANER W/HELICAL CUTTERHEAD

Product Dimensions

Weight..... 302 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 25 x 49 x 47-1/2 in.
 Footprint (Length x Width)..... 21 x 18-1/2 in.

Shipping Dimensions

Type..... Wood Crate
 Content..... Machine
 Weight..... 377 lbs.
 Length x Width x Height..... 30 x 24 x 49 in.
 Must Ship Upright..... Yes

Electrical

Power Requirement..... 230V, Single-Phase, 60 Hz
 Full-Load Current Rating..... 12A
 Minimum Circuit Size..... 20A
 Connection Type..... Cord & Plug
 Power Cord Included..... Yes
 Power Cord Length..... 10 ft.
 Power Cord Gauge..... 12 AWG
 Plug Included..... Yes
 Included Plug Type..... 6-20
 Switch Type..... Magnetic Switch w/Thermal Overload Protection

Motors

Main

Horsepower..... 3 HP
 Phase..... Single-Phase
 Amps..... 12A
 Speed..... 3450 RPM
 Type..... TEFC Capacitor-Start Induction
 Power Transfer V-Belt Drive
 Bearings..... Shielded & Permanently Lubricated
 Centrifugal Switch/Contacts Type..... External



Main Specifications

Main Specifications

Planer Size.....	15 in.
Max. Cut Width.....	15 in.
Min. Stock Length.....	6 in.
Min. Stock Thickness.....	3/16 in.
Max. Stock Thickness.....	6 in.
Number of Cuts Per Inch.....	108, 62
Number of Cuts Per Minute.....	20,800
Cutterhead Speed.....	5200 RPM
Planing Feed Rate.....	16, 28 FPM
Max. Cut Depth Planing Full Width.....	1/8 in.
Max. Cut Depth Planing 6-Inch Wide Board.....	3/16 in.

Cutterhead Info

Cutterhead Type.....	Helical
Cutterhead Diameter	2-5/8 in.
Number of Cutter Rows.....	4
Number of Indexable Cutters.....	48
Cutter Insert Type.....	Indexable Carbide
Cutter Insert Size Length.....	15mm
Cutter Insert Size Width.....	15mm
Cutter Insert Size Thickness.....	2.5mm

Table Info

Table/Headstock Movement.....	6 in.
Table Bed Size Length.....	21 in.
Table Bed Size Width.....	15 in.
Floor-to-Table Height.....	30-3/4 in.
Table Wings Size Length.....	14 in.
Table Wings Size Width.....	15-1/2 in.

Construction

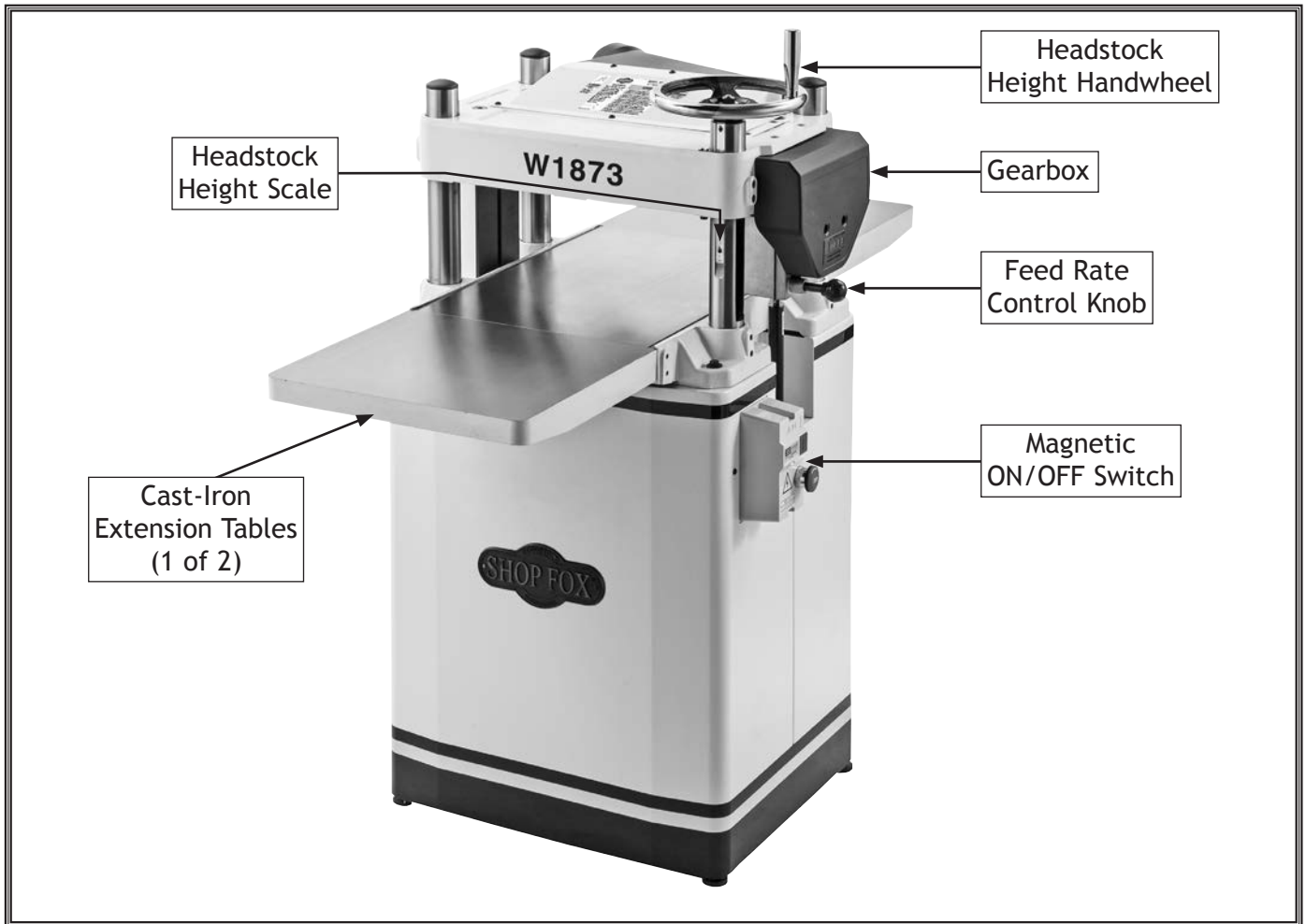
Table.....	Precision-Ground Cast Iron
Body.....	Cast Iron
Stand.....	Steel
Cutterhead Assembly.....	Steel
Infeed Roller.....	Serrated Aluminum
Outfeed Roller.....	Rubber
Paint Type/Finish.....	Powder Coated

Other

Measurement Scale.....	Inch & Metric
Number of Dust Ports.....	1
Dust Port Size.....	4 in.
Mobile Base.....	D4666

Identification

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.



WARNING



To reduce your risk of serious injury or damage to the machine, read this entire manual **BEFORE** using machine.

Controls & Components

Refer to **Figure 1** and the following descriptions to become familiar with the basic controls and components of this machine. Understanding these items and how they work will help you understand the rest of the manual and stay safe when operating this machine.

- A. **Headstock Height Handwheel:** Raises and lowers headstock to accommodate different workpiece thicknesses. One complete revolution moves the headstock approximately $5/32$ " (4mm).
- B. **Feed Rate Control Knob:** Selects 28 FPM feed rate when pushed in and 16 FPM feed rate when pulled out.
- C. **Magnetic ON/OFF Switch:**
 - Green start button turns motor **ON** when pressed.
 - Red Stop button turns motor **OFF** when pressed; for safety purposes, this button will remain depressed and prevent restarting until reset. Reset by rotating clockwise until it pops out.
- D. **Depth Limiter:** Limits depth of cut to a maximum of $1/8$ " at full width.
- E. **Dust Port:** Connects to a dust collection system to extract shavings and dust during operation. Dust port size 4".

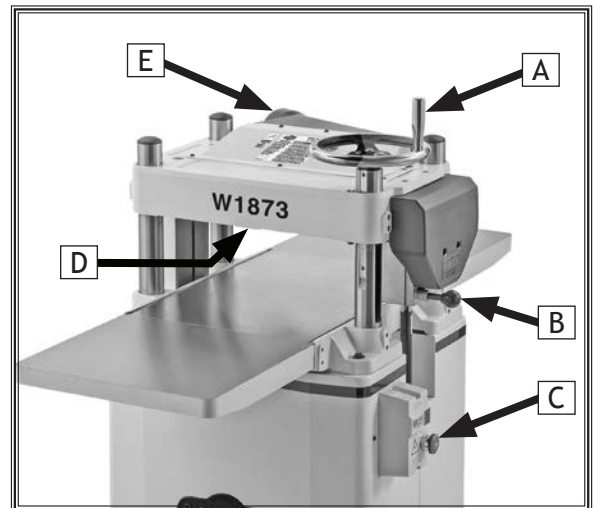
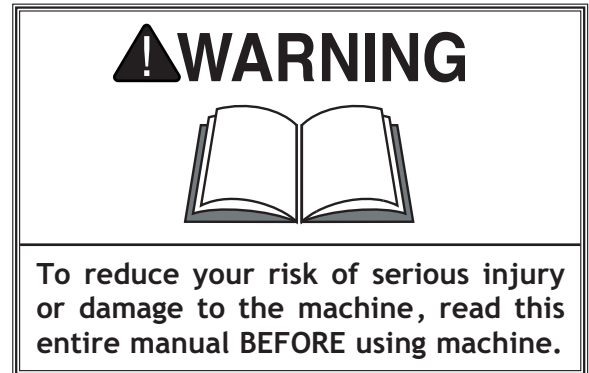


Figure 1. Main controls and components.

Internal Components

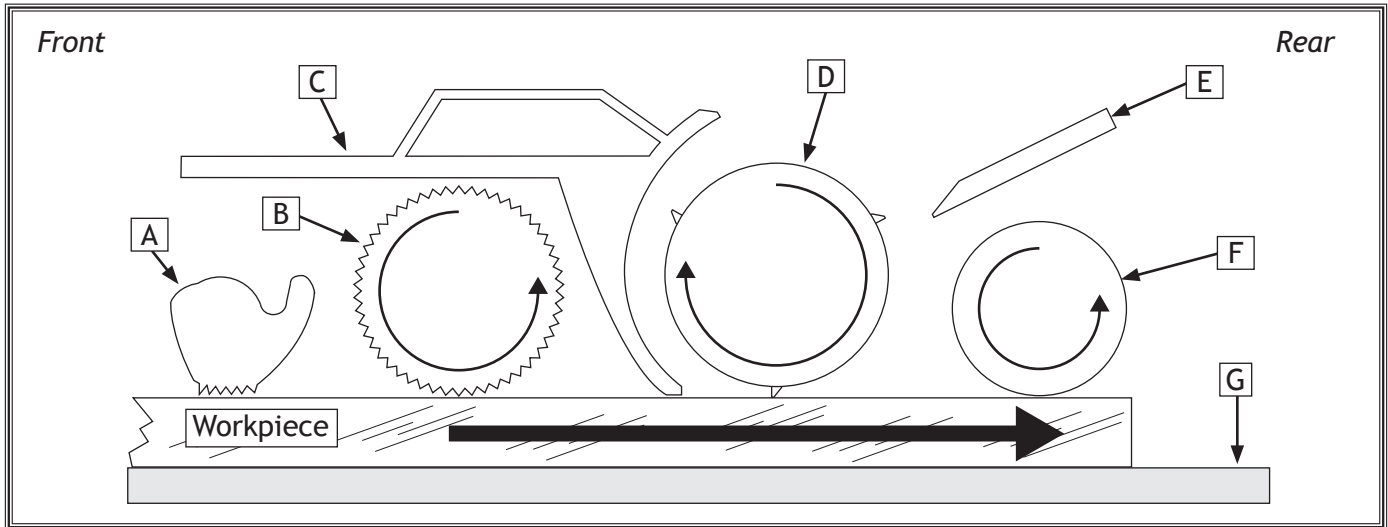


Figure 2. Workpiece path and major planing components (side cutaway view).

- | | |
|--|--|
| <p>A. Anti-Kickback Fingers: Provide additional safety for the operator.</p> <p>B. Serrated Infeed Roller: Pulls the workpiece toward the cutterhead.</p> <p>C. Chip Breaker: Breaks off chips created by the cutterhead to prevent tear out and diverts the chips to the dust port.</p> <p>D. Cutterhead: Holds the knives/inserts that remove material from the workpiece.</p> | <p>E. Chip Deflector: Directs chips into the dust port.</p> <p>F. Rubber Outfeed Roller: Pulls the workpiece through the planer.</p> <p>G. Planer Table: Provides a smooth and level path for the workpiece as it moves through the planer.</p> |
|--|--|

WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

SAFETY

For Your Own Safety, Read Manual Before Operating Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures—this responsibility is ultimately up to the operator!



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the equipment or a situation that may cause damage to the machinery.

Standard Machinery Safety Instructions

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 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 an electrician or 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 eliminates the risk of injury from unintended startup 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.

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 avoid accidental slips, which could cause loss of workpiece control.

HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and 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!

INTENDED USAGE. Only use machine for its intended purpose—never make modifications without prior approval from Woodstock International. Modifying machine or using it differently than intended will void the warranty and may result in malfunction or mechanical failure that leads to serious 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.

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 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.

CHECK DAMAGED PARTS. Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

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, resulting in a short. 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.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact Technical Support at (360) 734-3482.

Additional Safety for Planers

Amputation, serious cuts, entanglement, or death can occur from contact with rotating cutterhead or other moving parts! Flying chips can cause eye injuries or blindness. Workpieces or knives thrown by cutterhead can strike nearby operator or bystanders with deadly force. To reduce risk of these hazards, operator and bystanders **MUST** completely heed hazards and warnings below.

KICKBACK. Know how to reduce the risk of kickback and kickback-related injuries. “Kickback” occurs during operation when the workpiece is ejected from the machine at high speed. Kickback is commonly caused by poor workpiece selection, unsafe feeding techniques, or improper machine setup/maintenance. Kickback injuries typically occur as follows: (1) operator/bystanders are struck by the workpiece, resulting in impact injuries (i.e., blindness, broken bones, bruises, death); (2) operator’s hands are pulled into blade, resulting in amputation or severe lacerations.

AVOID CONTACT WITH MOVING PARTS. Never remove guards/covers or reach inside the planer during operation or while connected to power. You could be seriously injured if you accidentally touch the spinning cutterhead or get entangled in moving parts. If a workpiece becomes stuck or sawdust removal is necessary, turn planer **OFF** and disconnect power before clearing.

DULL/DAMAGED KNIVES/INSERTS. Only use sharp, undamaged knives/inserts. Dull or damaged knives/inserts increase the risk of kickback.

INSPECTING STOCK. To reduce the risk of kickback injuries or machine damage, thoroughly inspect and prepare the workpiece before cutting. Verify workpiece is free of nails, staples, loose knots or foreign material. Workpieces with minor warping should be jointed first or planed with the cupped side facing the table.

BODY PLACEMENT. Stand to one side of planer during the entire operation to avoid getting hit if kickback occurs.

GRAIN DIRECTION. Planing across the grain is hard on the planer and may cause kickback. Plane in the same direction or at a slight angle with the wood grain.

PLANING CORRECT MATERIAL. Only plane natural wood stock with this planer. **DO NOT** plane MDF, OSB, plywood, laminates or other synthetic materials that can break up inside the planer and be ejected towards operator.

LOOKING INSIDE PLANER. Wood chips fly around inside the planer at a high rate of speed during operation. To avoid injury from flying material, **DO NOT** look inside planer during operation.

CUTTING LIMITATIONS. To reduce the risk of kickback hazards or damage to the machine, do not exceed the maximum depth of cut or minimum board length and thickness found in the **Data Sheet**. Only feed one board at a time.

INFEED ROLLER CLEARANCE. The infeed roller is designed to pull material into the spinning cutterhead. To reduce the risk of entanglement, keep hands, clothing, jewelry, and long hair away from the infeed roller during operation.

FEED WORKPIECE PROPERLY. To reduce the risk of kickback, never start planer with workpiece touching cutterhead. Allow cutterhead to reach full speed before feeding, and do not change feed speed during cutting operation.

WORKPIECE SUPPORT. To reduce the risk of kickback, always make sure workpiece can move completely across table without rocking or tipping. Use auxiliary support stands for long stock.

SECURE KNIVES/INSERTS. Loose knives or improperly set inserts can become dangerous projectiles or cause machine damage. Always verify knives/inserts are secure and properly adjusted before operation.

ELECTRICAL

Circuit Requirements

This machine must be connected to the correct size and type of power supply circuit, or fire or electrical damage may occur. Read through this section to determine if an adequate power supply circuit is available. If a correct circuit is not available, a qualified electrician **MUST** install one before you can connect the machine to power.

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating 12 Amps

Circuit Requirements


This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

- Nominal Voltage..... 208V, 220V, 230V, 240V
- Cycle.....60 Hz
- Phase Single-Phase
- Power Supply Circuit..... 20 Amps
- Plug/Receptacle NEMA 6-20
- Cord..... "S"-Type, 3-Wire, 12 AWG, 300 VAC

⚠ WARNING

The machine must be properly set up before it is safe to operate. **DO NOT** connect this machine to the power source until instructed to do so later in this manual.

⚠ WARNING



Incorrectly wiring or grounding this machine can cause electrocution, fire, or machine damage. To reduce this risk, only an electrician or qualified service personnel should do any required electrical work on this machine.

NOTICE

The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult with an electrician to ensure that the circuit is properly sized for safe operation.

ELECTRICAL

Grounding Requirements

This machine **MUST** be grounded. In the event of certain types of malfunctions or breakdowns, grounding provides a path of least resistance for electric current to travel—in order to reduce the risk of electric shock.

Improper connection of the equipment-grounding wire will increase the risk of electric shock. The wire with green insulation (with/without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

For 230V Connection

This machine is equipped with a power cord that has an equipment-grounding wire and NEMA 6-20 grounding plug. The plug must only be inserted into a matching receptacle (see **Figure**) that is properly installed and grounded in accordance with local codes and ordinances.

Extension Cords

We do not recommend using an extension cord with this machine. Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases with longer extension cords and smaller gauge sizes (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

- Minimum Gauge Size at 220V 12 AWG
- Maximum Length (Shorter is Better) 50 ft.

ELECTRICAL

⚠ WARNING

The machine must be properly set up before it is safe to operate. **DO NOT** connect this machine to the power source until instructed to do so later in this manual.

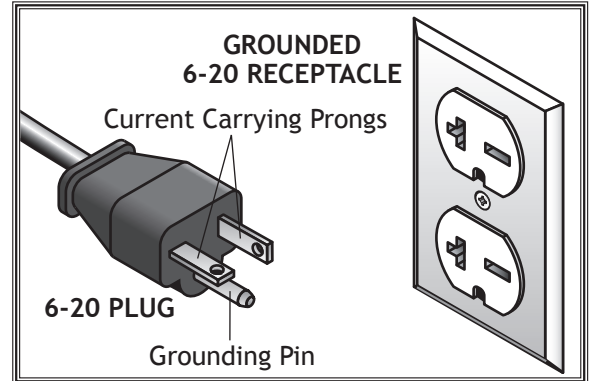


Figure 3. NEMA 6-20 plug & receptacle.

⚠ CAUTION

No adapter should be used with the required plug. If the plug does not fit the available receptacle or the machine must be reconnected to a different type of circuit, the reconnection must be made by an electrician or qualified service personnel and it must comply with all local codes and ordinances.

SETUP


Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.

Items Needed for Setup

The following items are needed, but not included, to set up your machine.

Description	Qty
• Assistant for Lifting	1
• Safety Glasses for Each Person	1
• Degreaser or Solvent for Cleaning	Varies
• Disposable Rags for Cleaning	Varies
• Straightedge 4'	1
• Dust Collection System	1
• 4" Dust Hose	1
• 4" Hose Clamp.....	1
• Gearbox Oil.....	Varies
• Wrench or Socket 12mm, 17mm	1 Ea
• Wrenches or Sockets 13mm.....	2
• Wrench or Socket 10mm	1
• Hex Wrench 4mm.....	1



!WARNING

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!



!WARNING

Wear safety glasses during entire setup process!



!WARNING

USE helpers or power lifting equipment to lift this machine. Otherwise, serious personal injury may occur.

SETUP

Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

Note: If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

Box 1 (Figure 4)	Qty
A. Planer Unit (Not Shown).....	1
B. Cast-Iron Extension Tables	2
C. Dust Port	1
D. Headstock Elevation Handwheel	1

Tools and Hardware (Figure 5)

E. Hex Bolts M8-1.25 x 25 (Ext. Tables)	6
F. Button Head Cap Screws M6-1 x 12	6
G. Set Screws M8-1.25 x 20 (Ext. Tables)	6
H. Hex Wrench 4mm.....	1
I. LOW/HIGH Direction Label (Handwheel).....	1
J. Hex Nut M10-1.25 (Handwheel)	1
K. Flat Washer 10mm (Handwheel)	1
L. Key 4 x 4 x 10 (Handwheel).....	1
M. Handwheel Handle (Handwheel).....	1
N. Wrenches 10/13, 12/14, 17/19mm	1 Ea.
O. T-Handle Torx Drivers T-25	2
P. T-Handle Torx Driver T-30	1

W1873 Only (Figure 6)

Q. Knife-Setting Jig	1
–E-clips 9mm	4
–Jig Feet	2
–Jig Shaft.....	1

W1874 Only (Figure 7)

R. Flat Head Torx Screws #10-32 x 1/2"	10
S. Indexable Carbide Inserts 15 x 15 x 2.5	5

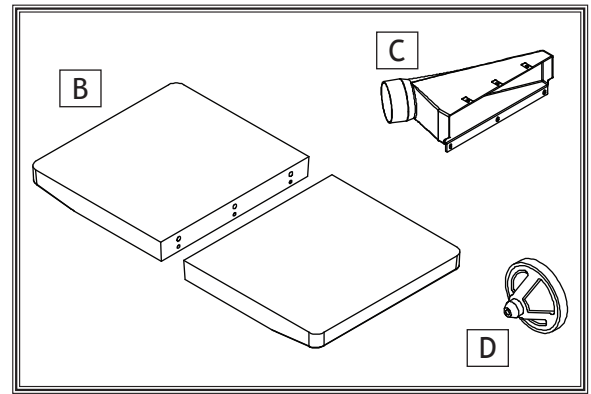


Figure 4. Box inventory.

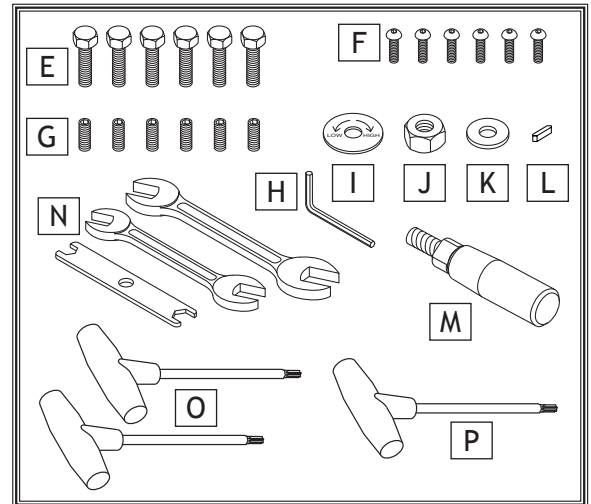


Figure 5. Tools and hardware.

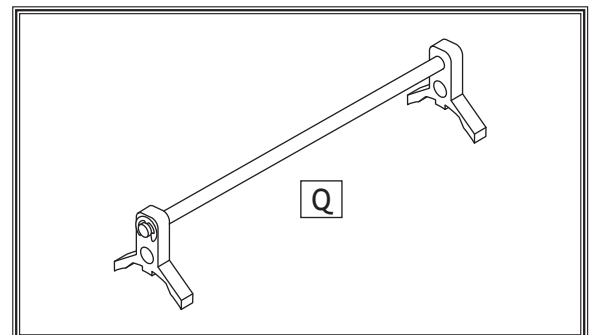


Figure 6. Tools and hardware (W1873 only).

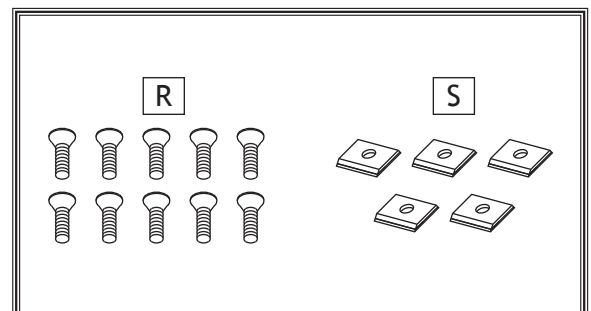


Figure 7. Tools and hardware (W1874 only).

Cleaning Machine

To prevent corrosion during shipment and storage of your machine, the factory has coated the bare metal surfaces of your machine with a heavy-duty rust prevention compound.

If you are unprepared or impatient, this compound can be difficult to remove. To ensure that the removal of this coating is as easy as possible, please gather the correct cleaner, lubricant, and tools listed below:

- Cleaner/degreaser designed to remove storage wax and grease
- Safety glasses & disposable gloves
- Solvent brush or paint brush
- Disposable Rags

To remove rust preventative coating, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Put on safety glasses and disposable gloves.
3. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5-10 minutes.
4. Wipe off surfaces. If your cleaner/degreaser is effective, the coating will wipe off easily.

Tip: *An easier way to clean off thick coats of rust preventative from flat surfaces is to use a PLASTIC paint scraper to scrape off the majority of the coating before wiping it off with your rag. (Do not use a metal scraper or you may scratch your machine.)*

5. Repeat cleaning steps as necessary until all of the compound is removed.
6. To prevent rust on freshly cleaned surfaces, immediately coat with a quality metal protectant.

! WARNING	
	<p>Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. Avoid using these products to clean machinery. Many cleaning solvents are toxic if inhaled. Minimize your risk by only using these products in a well ventilated area.</p>

NOTICE
<p>In a pinch, automotive degreasers, mineral spirits or WD•40 can be used to remove rust preventative coating. Before using these products, though, test them on an inconspicuous area of your paint to make sure they will not damage it.</p>

SETUP

Machine Placement

Weight Load

Refer to the **Machine Specifications** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. See below for required space allocation.

Physical Environment

The physical environment where your machine is operated is important for safe operation and the longevity of its components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°-104°F; the relative humidity range exceeds 20-95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device.

Lighting

Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

SETUP

	<h3>⚠ CAUTION</h3> <p>Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.</p>
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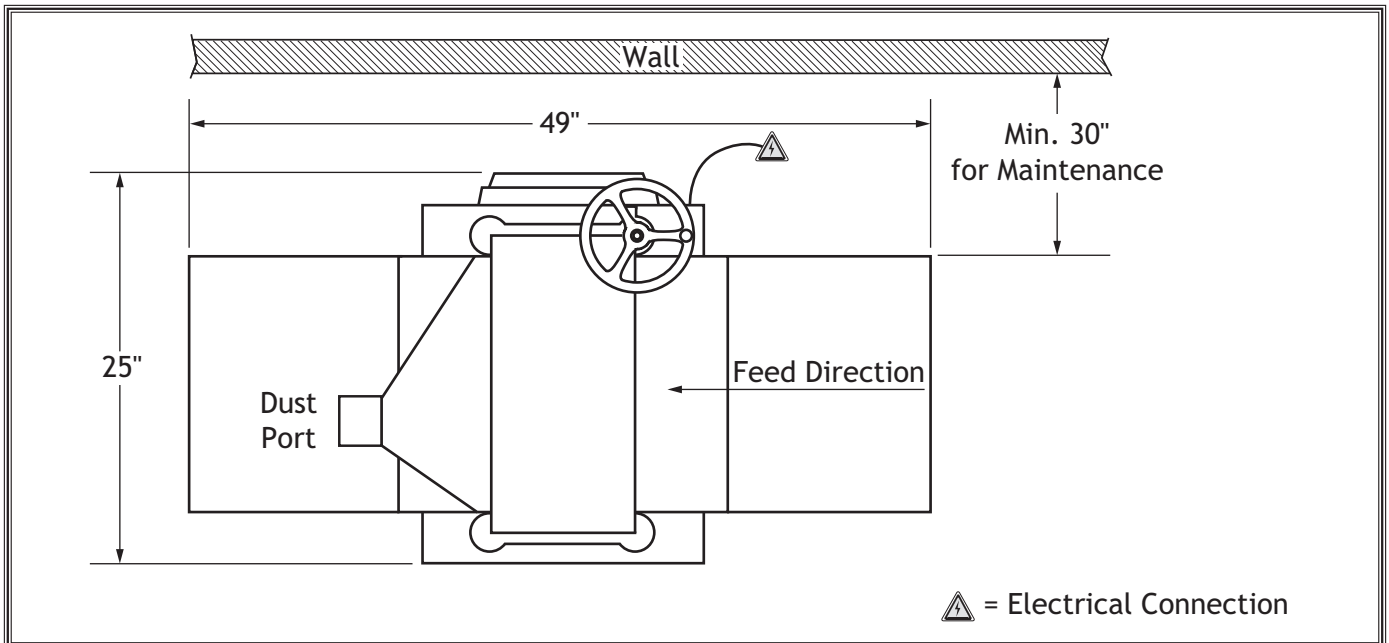


Figure 8. Minimum working clearances for Models W1873 and W1874.

Assembly

Before beginning the assembly process, refer to **Items Needed for Setup** and gather everything you need. Ensure all parts have been properly cleaned of any heavy-duty rust-preventative applied at the factory (if applicable). Be sure to complete all steps in the assembly procedure prior to performing the **Test Run** or connecting the machine to power.

To assemble machine, do these steps:

1. Attach each cast-iron extension table (see **Figure 9**) to planer table with (3) M8-1.25 x 25 hex bolts. Do not fully tighten hex bolts at this time.
2. Thread (3) M8-1.25 x 20 set screws into each extension table at locations shown in **Figure 9**.
3. Using a straightedge as a guide, rotate set screws until extension tables are in plane with main table, then fully tighten hex bolts installed during **Step 1**.
4. Insert key into keyway on handwheel shaft on top of planer.
5. Line up notch in handwheel bore with key, then slide handwheel onto shaft.
6. Slide LOW/HIGH direction label onto handwheel shaft, and secure handwheel with 10mm flat washer and M10-1.25 hex nut (see **Figure 10**).
7. Thread handwheel handle into handwheel (see **Figure 10**) and tighten with wrench.
8. Attach dust port to planer with (6) M6-1 x 12 button head cap screws (see **Figure 11**).

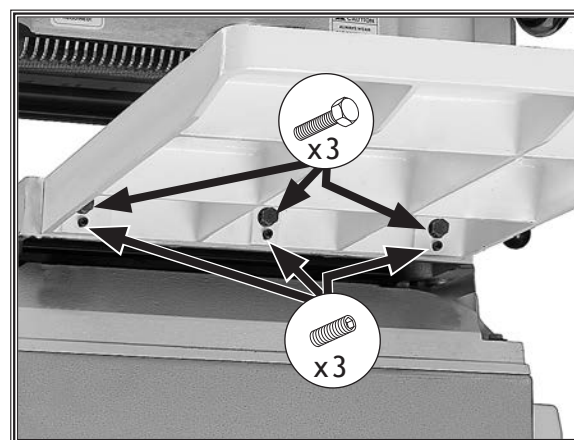


Figure 9. Extension table mounting locations.

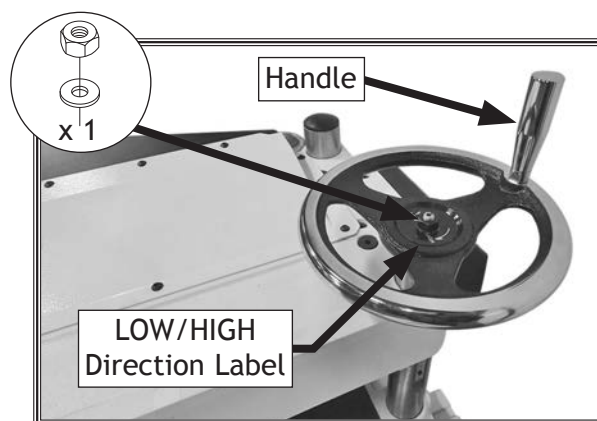


Figure 10. Headstock elevation handwheel installed.

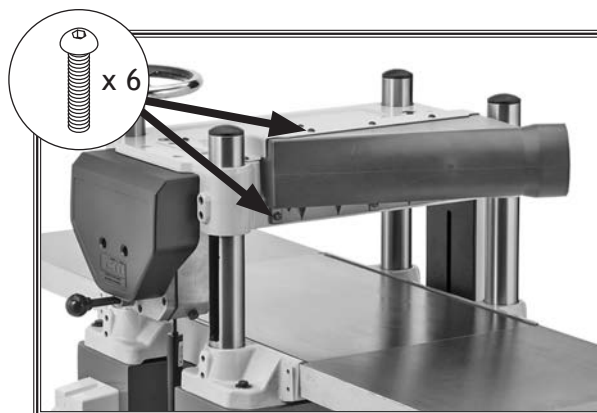


Figure 11. Dust port installed.

SETUP

Dust Collection

Recommended CFM at Dust Port: 400 CFM

Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must consider these variables: (1) CFM rating of the dust collector, (2) hose type and length between the dust collector and the machine, (3) number of branches or wyes, and (4) amount of other open lines throughout the system. Explaining how to calculate these variables is beyond the scope of this manual. Consult an expert or purchase a good dust collection “how-to” book.

CAUTION

This machine creates substantial amounts of dust during operation. Breathing airborne dust on a regular basis can result in permanent respiratory illness. Reduce your risk by wearing a respirator and capturing the dust with a dust collection system.

SETUP

Tools Needed	Qty
Dust Collection System	1
Dust Hose 4"	1
Hose Clamps 4"	2

To connect a dust collection hose, do these steps:

1. Fit a 4" dust hose over the dust port, as shown in **Figure 12**, and secure it in place with a hose clamp.
2. Tug the hose to make sure it does not come off.

Note: A tight fit is necessary for proper performance.

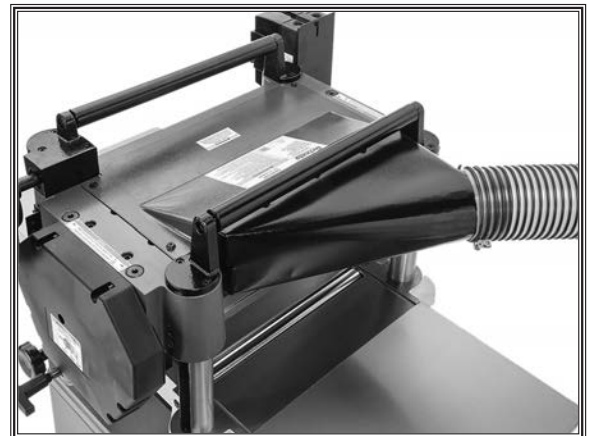


Figure 12. Example of dust hose connected to dust port.

Checking Gearbox Oil Level

Before starting your machine for the first time, check the gearbox oil level. The proper oil level is just even with the bottom of the fill plug hole. The gearbox uses ISO 320, SAE 140 gear oil, or SAE 85W-140 multi-weight gear oil. DO NOT mix oil types.

Note: For easier access to the fill plug, remove the gearbox cover (see **Figure 13**).

To check gearbox oil level, do these steps:

1. Remove gearbox fill plug (see **Figure 13**).
2. Dip short end of a clean 6mm hex wrench inside fill hole, and then remove it.
 - If the end of the hex wrench *is* coated with oil, then the gearbox oil level is okay. Replace the fill plug and continue setup.
 - If the end of the hex wrench *is not* coated with oil, then you need to add more oil. Refer to **Gearbox Oil on Page 38** for instructions on how to do this.

Note: We recommend that you replace the gearbox oil after the first 20 hours of operation. This is a normal break-in procedure and will help maximize the service life of the machine by flushing away any particles from the break-in and manufacturing process.

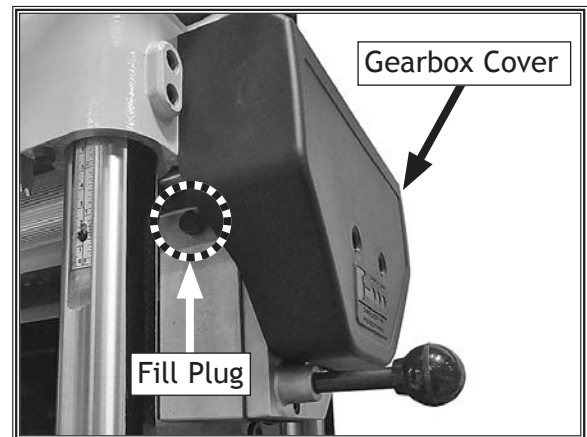


Figure 13. Location of gearbox fill plug.

Test Run

Once assembly is complete, test run the machine to ensure it is properly connected to power and safety components are functioning properly.

If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem BEFORE operating the machine again. The **Troubleshooting** table in the **SERVICE** section of this manual can help.

The Test Run consists of verifying the following: 1) The motor powers up and runs correctly, and 2) the STOP/ reset button safety feature functions properly.

To test run machine, do these steps:

1. Clear all setup tools and loose objects away from machine.
2. Push STOP button in.
3. Connect machine to power supply.
4. Twist STOP button clockwise until it springs out (see **Figure 14**). This resets the switch so the machine can start.
5. Press green START button to turn machine **ON**. Verify motor starts up and runs smoothly without any unusual problems or noises.
6. Press STOP button to turn machine **OFF**.
7. WITHOUT resetting STOP button, try to start machine by pressing the START button. The machine should not start.
 - If the machine *does not* start, the STOP button safety feature is working correctly. Congratulations! Test Run is complete.
 - If the machine *does* start with the STOP button pushed in, immediately disconnect power to the machine. The STOP button safety feature is not working correctly and must be replaced before further using the machine. Call Tech Support for help.

⚠ WARNING

Serious injury or death can result from using this machine **BEFORE** understanding its controls and related safety information. **DO NOT** operate, or allow others to operate, machine until the information is understood.

⚠ WARNING

DO NOT start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

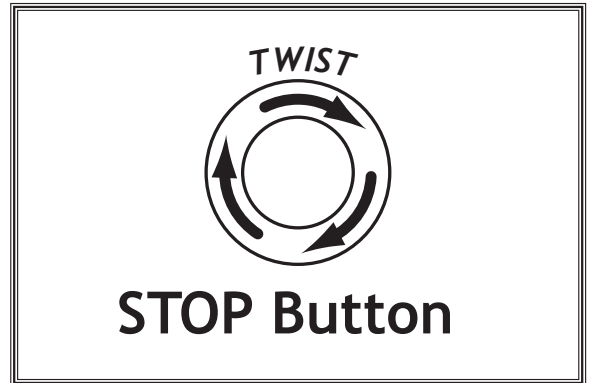


Figure 14. Resetting the switch.

SETUP

Recommended Adjustments

The adjustments listed below have been performed at the factory. However, because of the many variables involved with shipping, we recommend that you verify the adjustments to ensure the best possible results from your new machine.

Step-by-step instructions for these adjustments can be found in the **SERVICE** section starting on **Page 39**.

Factory adjustments that should be verified:

- Tensioning/replacing V-belt (**Page 39**).
- Calibrating headstock elevation scale (**Page 46**).

NOTICE

After approximately 16 hours of operation, V-belts will stretch and seat into pulley grooves and need to be properly tensioned to avoid severely reducing life of V-belts. Refer to Tensioning/Replacing V-Belt on Page 39 for detailed instructions.

OPERATIONS

Operation Overview

The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand.

Due to the generic nature of this overview, it is **not** intended to be an instructional guide. To learn more about specific operations, read this entire manual and seek additional training from experienced machine operators, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.


To complete a typical operation, the operator does the following:

1. Examines workpiece to make sure it is suitable for planing.
2. Puts on safety glasses or face shield, a respirator, and hearing protection.
3. Places workpiece on table with flat side down and correctly adjusts headstock height for workpiece thickness and depth of cut.
 - If workpiece is bowed, operator surface planes workpiece on a jointer until one side is flat. Doing so ensures that it sits solidly on planer table during operation.
4. When all safety precautions have been taken, turns planer **ON**.
5. Stands to one side of planer path to reduce risk of kickback injuries, then feeds workpiece into planer until infeed roller grabs it.

Note: *Infeed and outfeed rollers control feed rate of workpiece as it passes through planer. Operator should not push or pull on workpiece.*

– If cut is too deep and bogs down planer, operator immediately reduces depth of cut.

! WARNING



To reduce your risk of serious injury or damage to the machine, read this entire manual **BEFORE** using machine.

! WARNING



Eye injuries, respiratory problems, or hearing loss can occur while operating this tool. Wear personal protective equipment to reduce your risk from these hazards.

NOTICE

If you are an inexperienced operator, we strongly recommend that you read books or trade articles, or seek training from an experienced operator of this type of machinery before performing unfamiliar operations. Above all, safety must come first!

6. Once workpiece is clear of outfeed roller and stops moving, operator removes workpiece from outfeed table and measures workpiece thickness. If further planing is required, operator lowers headstock slightly (approximately 1/4 to 1/2 turn of headstock height handwheel), then feeds workpiece into front of planer again.
7. Operator continues process until desired thickness is achieved, then turns machine **OFF**.

Workpiece Inspection

Some workpieces are not safe to use or may require modification before they are. **Before cutting, inspect all workpieces for the following:**

- **Material Type:** This machine is only intended for workpieces of natural wood fiber. Attempting to use workpieces of any other material that may break apart during operation could lead to serious personal injury and property damage.
- **Foreign Objects:** Inspect workpiece for defects and foreign objects (nails, staples, embedded gravel, etc.). If you have any question about the quality of your workpiece, DO NOT use it. Remember, wood stacked on a concrete floor can have small pieces of stone or concrete pressed into the surface.
- **Large/Loose Knots:** Loose knots can become dislodged during operation. Large knots can cause kickback and machine damage. Always use workpieces that do not have large/loose knots.
- **Wet or "Green" Stock:** Avoid using wood with a high water content. Wood with more than 20% moisture content or wood exposed to excessive moisture (such as rain or snow), will cut poorly and cause excessive wear to the machine. Excess moisture can also hasten rust and corrosion of the machine and/or individual components.
- **Excessive Warping:** Workpieces with excessive cupping, bowing, or twisting are dangerous to cut because they are unstable and often unpredictable when being cut. DO NOT use workpieces with these characteristics!
- **Minor Cupping:** Workpieces with slight cupping can be safely supported if the cupped side is facing the table. On the contrary, a workpiece supported on the bowed side will rock during operation and could cause severe injury from kickback.

Wood Types

The species of wood, as well as its condition, greatly affects the depth of cut the planer can effectively take with each pass.

The chart in the figure below shows the Janka Hardness Rating for a number of commonly used species. The larger the number, the harder the workpiece, and the less material should be removed in any one pass for good results.

Note: *The Janka Hardness Rating is expressed in pounds of force required to embed a 0.444" steel ball into the surface of the wood to a depth equal to half the ball's diameter.*

Species	Janka Hardness
Ebony	3220
Red Mahogany	2697
Rosewood	1780
Red Pine	1630
Sugar Maple	1450
White Oak	1360
White Ash	1320
American Beech	1300
Red Oak	1290
Black Walnut	1010
Teak	1000
Black Cherry	950
Cedar	900
Sycamore	770
Douglas Fir	660
Chestnut	540
Hemlock	500
White Pine	420
Basswood	410
Eastern White Pine	380
Balsa	100

Figure 15. Janka Hardness Rating for some common wood species.

Planing Tips

- Inspect your workpiece for twisting or cupping, and surface one face on a jointer if necessary before planing workpiece.
- Scrape off all glue when planing glued-up panels. Dried glue can quickly dull knives/inserts.
- DO NOT plane more than one piece at a time.
- Never remove more than the recommended amount of material on each pass. Only remove a small amount of material on each pass when planing wide or dense stock.
- Support the workpiece on both ends. Get assistance from another person if you are planing a long workpiece, or use roller stands to support the workpiece.
- Measure the workpiece thickness with calipers to get exact results.
- Carefully inspect all stock to make sure it is free of large knots or foreign objects that may damage your knives/inserts, cause kickback, or be ejected from the planer.
- When possible, plane equal amounts on each side of the board to reduce the chance of twisting or cupping.
- Use the entire width of the planer to wear knives/inserts evenly. With narrow workpieces, alternate between far left, far right, and the middle of the table. Your knives/inserts will remain sharp much longer.
- To avoid "chip marks," always plane WITH the grain direction of the wood. Never plane cross-grain or end-grain.
- Plane ONLY natural wood fiber. Do not plane wood composites or other materials that could break up in the planer and cause operator injury or damage to planer.
- Always flatten cupped or warped workpieces on a jointer before planing.

Cutting Problems

Below is a list of wood characteristics you may encounter when planing. The following descriptions of defects will give you some possible answers to problems you may encounter while planing different materials. Possible solutions follow the descriptions.

Chipped Grain

Problem: Usually a result of cutting against the grain, planing workpieces with knots or excessive amount of cross grain, or using dull knives/inserts.

Note: *Some amount of chipping is normal with highly figured wood.*

Solution: Decrease the depth of cut. Reduce the feed rate. Inspect your workpiece and determine if its grain pattern is causing the problem. If the workpiece does not show substantial crossgrain, inspect your knives/inserts.

Fuzzy Grain

Problem: Usually caused by surfacing workpieces with too high of a moisture content. Sometimes fuzzy grain is an unavoidable characteristic of some woods, such as basswood. Fuzzy grain can also be caused by dull knives/inserts.

Solution: Check the workpiece with a moisture meter. If moisture is greater than 20%, sticker the workpiece and allow it to dry. Otherwise, inspect the knife/insert condition.

Snipe

Problem: Occurs when board ends have more material removed than the rest of the board. Usually caused when the workpiece is not properly supported as it goes through the machine. In many cases, however, a small amount of snipe is inevitable.

Solution: Hold workpiece up slightly as it leaves the outfeed end of the planer. The best way to deal with snipe is by planing the workpiece longer than your intended work length and then cutting off the excess after planing is completed.

Chip Marks or Indentations

Problem: Chip indentation or chip bruising is the result of wood chips not being ejected from the machine. Instead they are carried around the cutterhead, deposited on the planed surface and crushed by the outfeed roller. Some causes of chip indentation are:

- Wood chips/sawdust not being properly expelled from the cutterhead.
- The type of workpiece being planed. Certain species of wood have a tendency to chip bruise.
- High moisture content (over 20%) or surface moisture (refer to **Workpiece Inspection**).
- Dull knives/inserts.
- Excessive depth of cut.

Solution:

- Use a proper dust-collection system; adjust chip deflector in or out as necessary.
- Workpiece must be completely dry, preferably kiln-dried (KD). Air-dried (AD) lumber must be seasoned properly and have no surface moisture. **DO NOT** surface partially-air-dried (PAD) workpiece.
- Make sure planer knives/inserts are sharp.
- Reduce depth of cut.

Pitch & Glue Buildup

Problem: Glue/resin buildup on the rollers and cutterhead will cause overheating by decreasing cutting sharpness while increasing drag in the feed mechanism. This can result in scorched workpieces, uneven knife/insert marks, and chatter.

Solution: Clean the rollers and cutterhead.

Rippled Cut

Problem: Regularly spaced indentations across face of workpiece are caused by excessive outfeed roller pressure or excessive feed rate.

Solution: Reduce outfeed roller pressure; reduce feed rate.

Depth of Cut

Headstock Movement per Handwheel Revolution

One Full Revolution..... $\frac{5}{32}$ " (4mm)

Material Thickness Range

Minimum-Maximum Stock Thickness $\frac{3}{16}$ "-6"

The depth of cut on a planer means the amount of material that is removed from the top of the workpiece as it passes underneath the cutterhead.

The depth of cut is set by adjusting the distance of the table below the cutterhead. This distance is the thickness of the workpiece minus the depth of cut. The planing depth of cut is controlled by using the headstock elevation handwheel (see **Figure 16**) on the right side of the machine. Rotating the handwheel clockwise raises the headstock.

Although the correct depth of cut varies according to wood hardness and workpiece width, we recommend the maximum depth of cut (per pass) be no more than $\frac{1}{16}$ ". A series of light cuts will give better end results and put less stress on the planer than trying to take off too much material in a single pass.

The depth of cut can be referenced directly from the inch/millimeter scale on the front of the planer, as shown.

Note: *The scale functions as a general guide only, and is not intended for low-tolerance, precision results.*

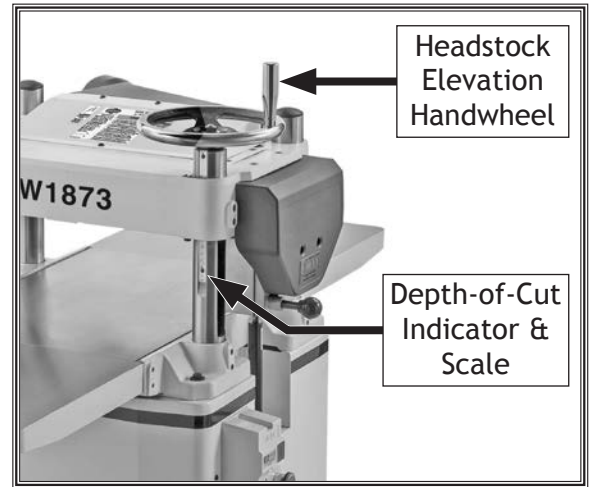


Figure 16. Location of depth-of-cut controls.

Setting Feed Rate

High Feed Rate 28 FPM
 Low Feed Rate 16 FPM

The infeed and outfeed rollers move the workpiece through the planer while keeping it flat and providing a consistent rate of movement. The speed that these rollers move the workpiece through the planer is the feed rate.

Generally, low feed rates are used for dimensioning, while higher feed rates are used for finishing.

The figure below illustrates the three different positions of the feed rate control knob:

- Push knob in to use high feed rate.
- Pull the knob out to use the low feed rate.
- Move knob to center position to place gearbox in neutral.

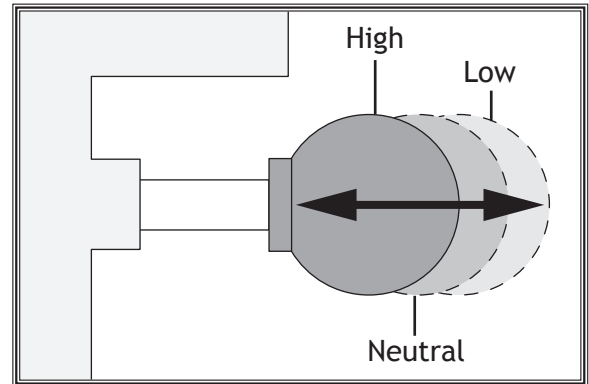


Figure 17. Feed rate control knob positions.

NOTICE

Only change the feed rate when the planer is running, but **DO NOT** attempt to change the feed rate during any cutting operations or damage to the gearbox will result.

Adjusting/Replacing Knives (W1873)

! WARNING

To reduce risk of shock or accidental startup, always disconnect machine from power before adjustments, maintenance, or service.

Setting the height of the knives correctly is crucial to the proper operation of your planer and is very important in keeping the knives sharp. If one knife protrudes higher than the others, it will do the majority of the work, dull much faster, and produce poor cutting results.

The knife-setting jig included with this planer is designed to set the knives at a uniform distance of 0.060" above the cutterhead surface.

Note: If you need to replace or sharpen a knife, you can remove the knife from the cutterhead during **Step 4** of the following procedure. Thoroughly clean out any debris from the knife slots before replacing the knives.

! CAUTION

Cutterhead knives are extremely sharp. Contact with knives can result in severe cuts. Take great caution whenever working with or around cutterhead knives. Wear heavy leather gloves to reduce risk of severe cuts.

NOTICE

To maintain accurate and consistent planing results, we do not recommend sharpening knives yourself. Instead, just replace dull knives or have them professionally sharpened.

OPERATIONS

Items Needed	Qty
Hex Wrench 4mm	1
Wrench or Socket 12mm, 13mm.....	1 Ea.
Knife-Setting Jig	1
Heavy Leather Gloves.....	1 Pair

To adjust height of knives, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove dust hood and top cover to expose cutterhead.
3. Put on heavy leather gloves.
4. Remove belt cover, then rotate cutterhead pulley to provide access to one of the knives.
5. Loosen cutterhead gib bolts until knife is completely loose.
 - If you are replacing the knives, remove the old knife and install the new one, making sure the beveled edge of the new knife is facing the correct direction.
6. Position knife-setting jig over knife so that knife edge is directly under center pad, as shown in Figure to right.

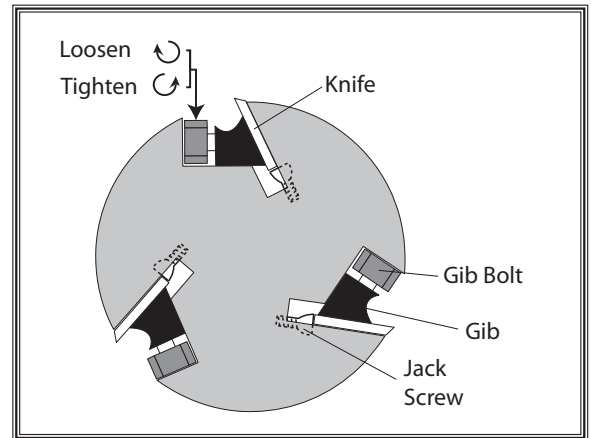


Figure 18. W1873 cutterhead components.

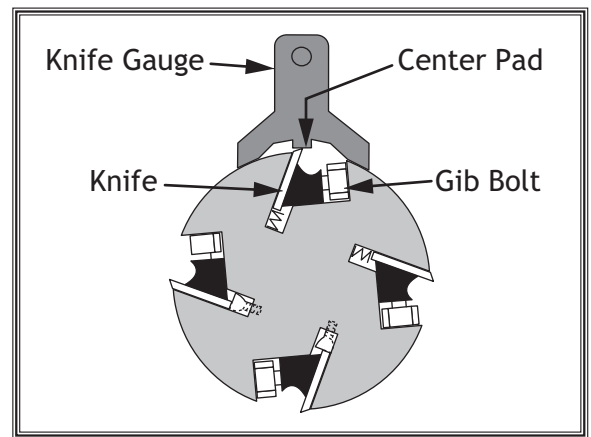


Figure 19. Knife-setting jig correctly positioned over knife.

7. Insert hex wrench into access holes in cutterhead (see **Figure 20**), and rotate jack screws to raise or lower knife until it barely touches center pad of knife-setting jig with all legs of jig still firmly on cutterhead, then snug gib bolts enough to hold knife in place without fully tightening gib bolts (see **Figure 21**).

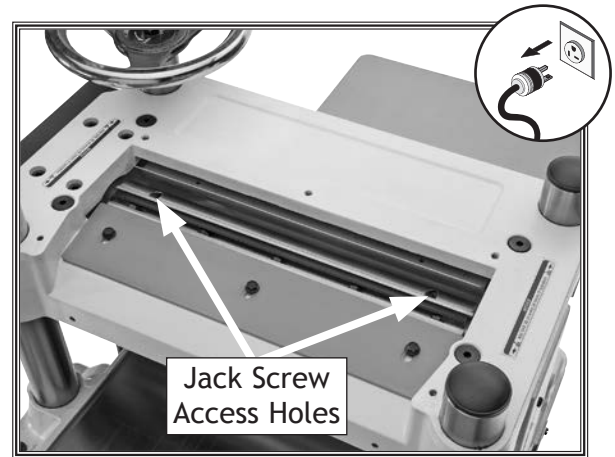


Figure 20. Example of jack screw access holes in cutterhead.

8. Incrementally snug gib bolts in an even manner, starting at middle and working your way to ends by alternating left and right, as illustrated in **Figure 22**.
9. Repeat **Step 8**, snugging gib bolts a little more.
10. Repeat **Step 8**, this time fully tightening all gib bolts.
11. Repeat **Steps 4-8** for remaining knives.

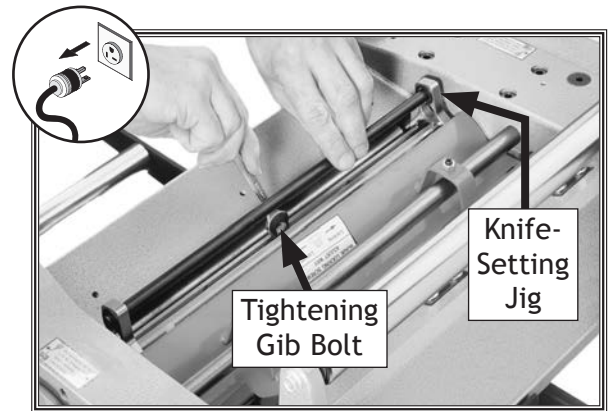


Figure 21. Example of using knife-setting jig to set knife height.

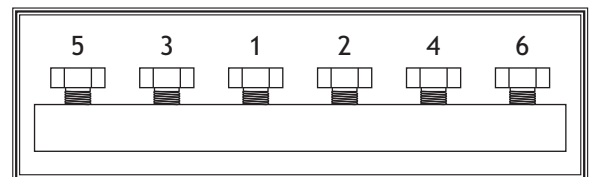
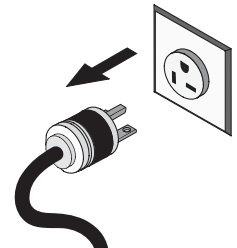


Figure 22. Gib bolt tightening sequence.

Rotating/Replacing Cutterhead Inserts (W1874)



⚠ WARNING
To reduce risk of shock or accidental startup, always disconnect machine from power before adjustments, maintenance, or service.

The helical cutterhead is equipped with indexable carbide inserts that can each be rotated to reveal one of four cutting edges. If one edge of the insert becomes dull or damaged, simply rotate it 90° to reveal a fresh cutting edge, as shown in **Figure 23**.

Items Needed	Qty
Hex Wrench 4mm	1
Torque Wrench	1
T-20 Torx Bit	1
Heavy Leather Gloves	1 Pair
Light Machine Oil	As Needed

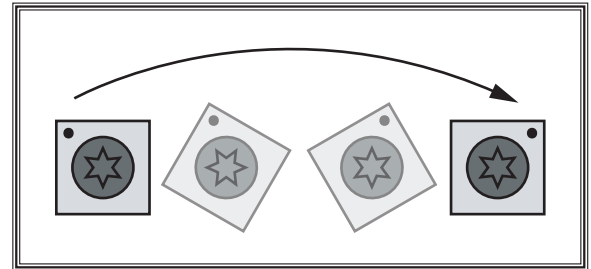


Figure 23. Rotation of insert to reveal fresh cutting edge.

To rotate or replace a helical cutterhead insert, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove top cover and belt cover.
3. Put on heavy leather gloves to protect your fingers and hands.
4. Remove any sawdust or debris from head of insert, Torx screw, and surrounding area (see **Figure 24**).
5. Remove Torx screw and insert, then clean all dust and debris from both parts and cutterhead pocket.

Note: Proper cleaning of insert, Torx screw, and cutterhead pocket is critical to achieving a smooth finish. Dirt or dust trapped between insert and cutterhead will raise insert, and make marks on your workpiece when planing.

Tip: Use low-pressure compressed air or a vacuum nozzle to clean out cutterhead pocket.

⚠ CAUTION

The carbide inserts are very sharp and can quickly cut your hands. ALWAYS use caution and heavy leather gloves when handling these parts to reduce the risk of personal injury.

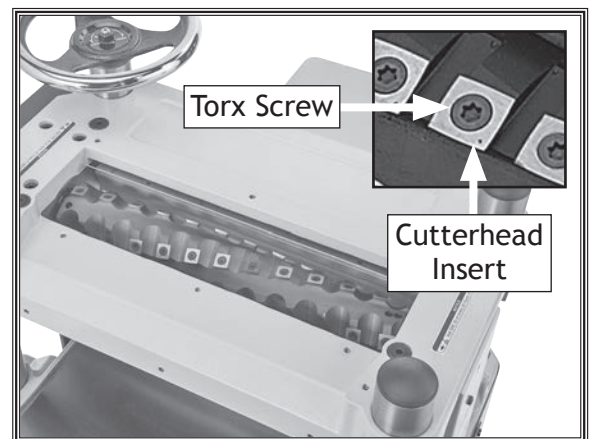


Figure 24. W1874 cutterhead inserts and Torx screws.

6. Rotate insert 90° and install so that a fresh cutting edge faces outward (see Figure 25).
 - When all four insert cutting edges have been used, replace insert with a new one. Always position new insert reference dot in same position to aid in rotational sequencing.
7. Lubricate Torx screw threads with a very small amount of light machine oil, wipe excess off, and torque screw to 50-55 inch/pounds.

Note: *If too much oil is applied to the threads, excess oil will attempt to squeeze out of the threaded hole and raise insert during installation, bringing it out of height alignment.*

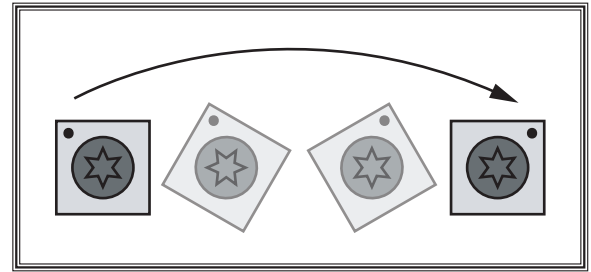


Figure 25. Insert rotating sequence.

ACCESSORIES

Planer Accessories

The following planer accessories may be available through your local Woodstock International Inc. Dealer. If you do not have a dealer in your area, these products are also available through online dealers. Please call or e-mail Woodstock International Inc. Customer Service to get a current listing of dealers at: 1-800-840-8420 or at sales@woodstockint.com.

W1218A—Rotacator™ Precision Planer Tool

The Rotacator is a dial indicator on a magnetic base, designed for quickly and accurately setting the critical tolerances needed when making planer adjustments. Perfect for adjusting infeed/outfeed rollers, pressure bars, chip breakers, and bed rollers. Also a great setup tool for other machines! Accurate to 0.001". Indicator rotates 360°.

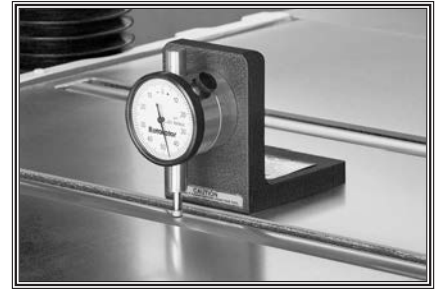


Figure 26. W1218A Rotacator™ Precision Planer Tool.

D4112—Fractional Digital Caliper 6"

Large LCD readout converts to decimal inch, fractional inch, and millimeters, with the push of a button. Measure internal and external dimensions, depth, steps, and differential measurements. Features thumb roll and stainless steel construction. Range: 0-6", 0-150mm. Resolution: 0.0005", 0.01mm, 1/128".

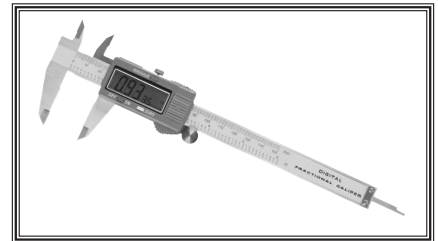


Figure 27. Model D4112 Fractional Digital Caliper 6".

D2273—Single Roller Stand

Large diameter ball bearing roller stand features smooth operation for a variety of processing and work support applications. Heavy pedestal base is stable and secure.

D2274—5-Roller Stand

For greater work stability and support, this 5 roller stand features large diameter, ball bearing rollers mounted on a sturdy adjustable pedestal base.



Figure 28. Models D2273 and D2274 Roller Stands.

SB1365—South Bend Way Oil-ISO 68

Engineered for the high pressure exerted on horizontal or vertical ways and slides. Protects against rust and corrosion. Ensures stick-free, smooth motion which maximizes finishes and extends the life of your machine. Won't gum up! 12 oz. AMGA#2 (ISO 68 Equivalent).



Figure 29. SB1365 Way Oil.

For W1873:

D3635—15" Planer Knives, Set of 3

These planer knives are made from high-speed steel and fit Model W1873 15" Planer. Set of 3.

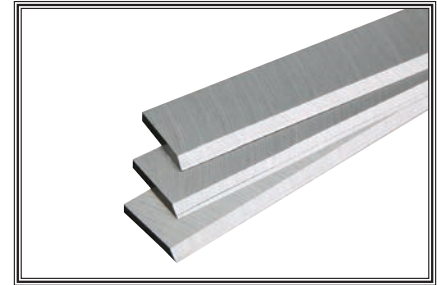


Figure 30. D3635 15" Planer Knives.

For W1874:

H9893—Indexable Carbide Inserts, 10 Pack

These Indexable Carbide Inserts are designed for use in helical and spiral cutterhead systems and made to last up to 10 times longer than a set of HSS steel inserts. Made of solid carbide. Size: 15 x 15 x 2.5mm.

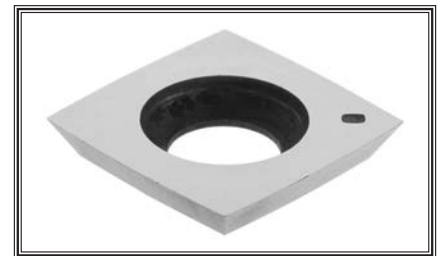


Figure 31. H9893 Indexable Carbide Inserts.

D2675—Safety Glasses w/Metal Frame

A metal band across the top of these glasses is not only stylish, but it adds strength. This band is linked to the metal ear pieces through a tough hinge. These glasses have a wide field of view and side shields for added protection. Exceeds ANSI Z87.1 - 1989 standards for impact resistance.



Figure 32. D2675 Safety Glasses.

OPERATIONS

MAINTENANCE



Cleaning & Protecting

Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin-dissolving cleaner to remove it.

Protect the unpainted cast-iron table by wiping it clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Keep your table rust-free with regular applications of quality lubricants.

Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Note: *This maintenance schedule is based on average daily usage. Adjust the maintenance schedule to match your usage, to keep your planer running smoothly, and to protect your investment.*

Ongoing

- Clean machine and protect unpainted cast-iron surfaces.
- Lubricate feed roller bushings (Page 37).
- Tighten loose mounting bolts.
- Check/sharpen/replace damaged or worn knives/inserts (Pages 29 & 32).
- Check/repair/replace worn/damaged wires.
- Resolve any other unsafe condition.

Every 40 Hours of Operation

- Clean cutterhead and, for W1873, check knife height (Page 29).
- Lubricate columns and leadscrews (Page 37).

Every 160 Hours of Operation

- Check/tension/replace V-belt (Page 39).
- Clean/vacuum dust buildup from inside cabinet and off motor.
- Lubricate headstock height chain and sprockets (Page 37).
- Lubricate drive chain and sprockets (Page 38).

Yearly

- Change gearbox oil (Page 38).

Lubrication

NOTICE

Failure to follow reasonable lubrication practices as instructed in this manual for your machine could lead to premature failure of components and void the warranty.

This planer features bearings that are lubricated and sealed at the factory. These bearing do not require any further attention unless they need to be replaced. If a bearing fails, your planer will probably develop a noticeable rumble or vibration, which will increase when the machine is under a load. The bearings are standard sizes and can be replaced through Woodstock International.

Follow the maintenance schedule on this page and the procedures beginning on Page 37 to properly lubricate the other planer components, which are essential for long life and trouble-free operation of your planer.

Feed Roller Bushings

Oil Type..... ISO-68
 Oil Amount 2-3 Drops
 Frequency Every 8 Hours of Operation

The infeed and outfeed rollers rotate inside bushing blocks on both ends of the rollers. Add 2-3 drops of ISO 68 machine oil to the center hole of the four feed roller tension adjustment bolts on top of the head casting, as shown in **Figure 33**.

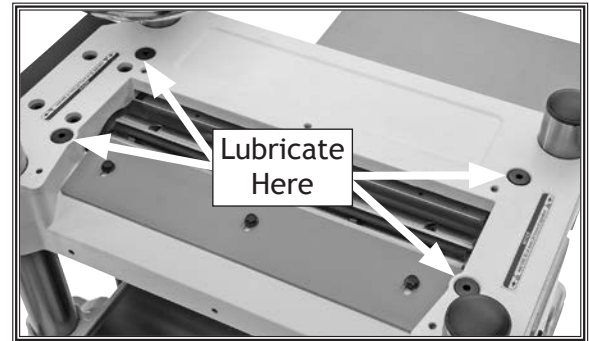


Figure 33. Example of lubrication locations for feed roller bushings.

Columns & Leadscrews

Oil Type..... ISO-68
 Oil Amount Thin Coat
 Grease Type..... NLGI#2 Equivalent
 Frequency Every 40 Hours of Operation

The headstock rides on the columns and is moved by the rotation of the leadscrews inside the columns. Loosen the dust sleeve to access the columns and leadscrews (see **Figure 34**). Apply a thin coat of ISO 68 machine oil to the outside surface of the columns and brush on a light application of multi-purpose grease to the leadscrew threads. Move the headstock up and down to distribute the lubricant.

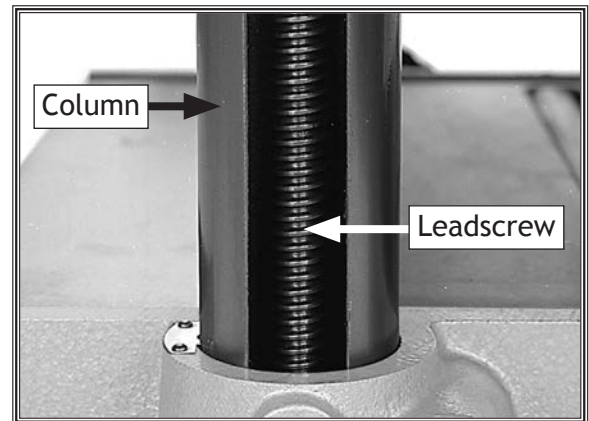


Figure 34. Location of column and leadscrew.

Headstock Height Chain & Sprockets

Grease Type..... NLGI#2 Equivalent
 Frequency Every 160 Hours of Operation

The headstock leadscrews are synchronized by the headstock height chain and sprockets located underneath the planer base (see **Figure 35**). Use shop rags and mineral spirits to clean away debris and grime, then brush on a light coat of multi-purpose grease to the chain and sprockets.

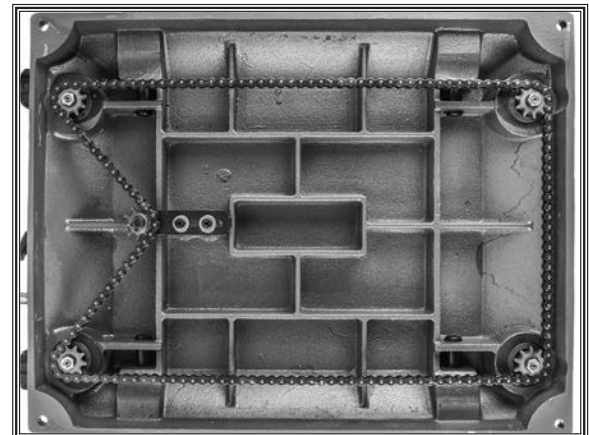


Figure 35. Example of headstock height chain and sprockets (viewed from underneath the base).

Drive Chain & Sprockets

Grease Type..... Synthetic Grease
 Frequency..... Every 160 Hours of Operation

The infeed and outfeed rollers receive the transferred power from the cutterhead through the drive chain system on the right side of the machine, as shown in **Figure 36**.

Remove the table height handwheel and the safety covers attached to the inside of the drive chain cover, then remove the cover to access these parts.

Use shop rags and mineral spirits to clean away any debris and grime, then brush on a light coat of multi-purpose grease to the chain and sprockets.

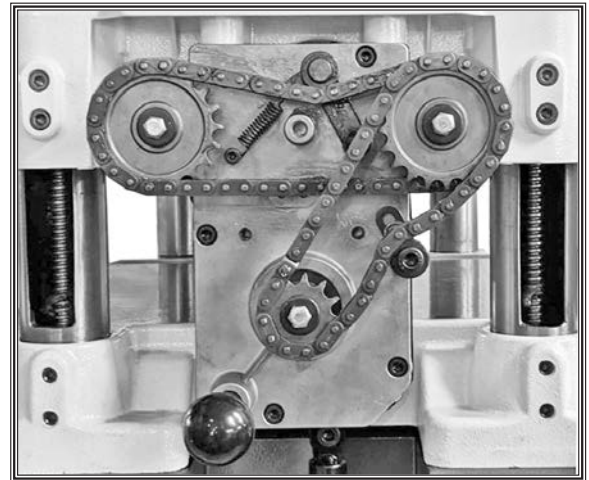


Figure 36. Drive chains and sprockets for infeed and outfeed rollers.

Gearbox Oil

Oil Type..... ISO-320
 Oil Amount..... 20 Oz.
 Frequency..... After First 20 Hours, Then Yearly

Note: We recommend that you replace the gearbox oil after the first 20 hours of operation. This is a normal break-in procedure and will help maximize the service life of the machine by flushing away any particles from the break-in and manufacturing process.

Although it is not necessary to remove the drive chain cover to access the fill and drain plugs, it is more convenient to do so (see **Figures 37-38**). Replace the gearbox oil with ISO 320 or equivalent oil until it just reaches the fill plug.

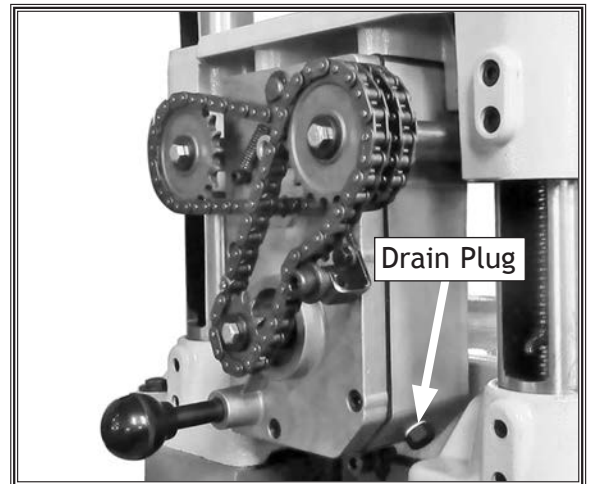


Figure 37. Location of gearbox drain plug.

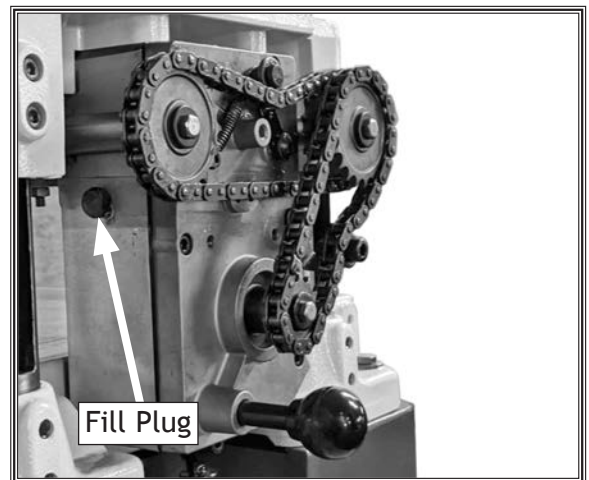


Figure 38. Location of gearbox fill plug.

SERVICE

General

This section covers the most common service adjustments or procedures that may need to be made during the life of your machine.

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: techsupport@woodstockint.com.

Tensioning/Replacing V-Belt

A V-belt transfers power from the motor to the cutterhead, and then to the infeed and outfeed rollers with the use of the drive chain system. To ensure efficient transfer of power to these systems, make sure the V-belt is always properly tensioned and in good condition. If the V-belt is worn, cracked, or damaged, replace it.

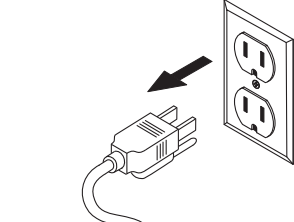
Items Needed	Qty
Hex Wrench 4mm	1
Hex Wrench 6mm	1

To tension/replace V-belt, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove side panel and belt cover from left side of machine to expose belt and pulleys, as shown in **Figure 39**.

Note: A collection of black belt dust at the bottom of the belt cover is normal during the life of the belt.

⚠ WARNING



MAKE SURE that your machine is unplugged during all service procedures! If this warning is ignored, serious personal injury may occur.

NOTICE

After approximately 16 hours of operation, V-belts will stretch and seat into pulley grooves and need to be properly tensioned to avoid severely reducing life of V-belts.

⚠ CAUTION

V-belts and pulleys will be hot after operation. Allow them to cool before handling.

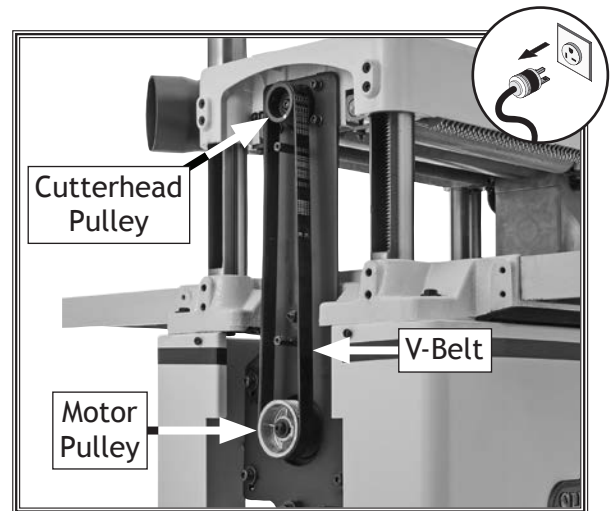


Figure 39. Belt cover and side panel removed to expose V-belt and pulleys.

3. If V-belt needs to be replaced, raise motor to release belt tension (see next step for instructions), roll belt off pulleys, then install new belt.
4. To adjust V-belt tension, loosen (4) motor mount cap screws (see **Figure 40**), then raise or lower motor.

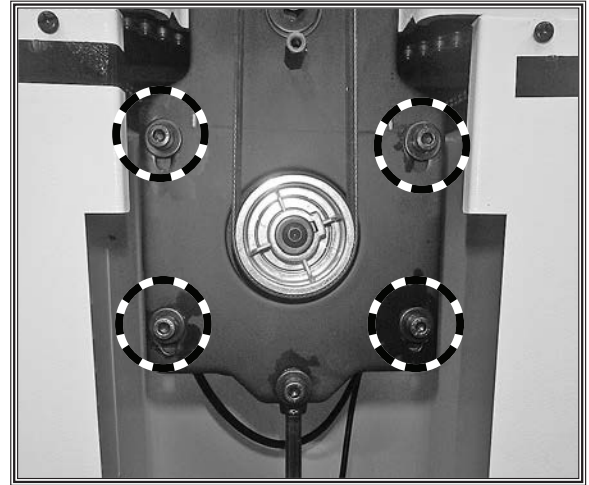


Figure 40. Location of motor mount cap screws.

Note: V-belt is correctly tensioned when there is approximately $\frac{1}{2}$ " deflection when moderate pressure is applied to them midway between pulleys, as illustrated in **Figure 41**.

5. After V-belt is correctly tensioned, tighten motor mount cap screws, then re-install side panel and belt cover.

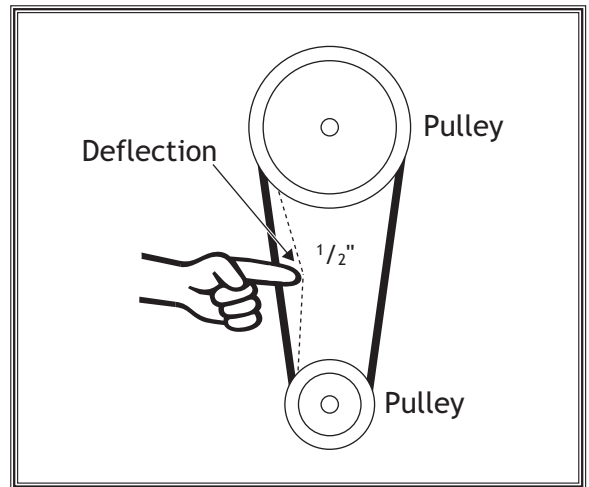


Figure 41. Belt deflection when V-belt is correctly tensioned.

Adjusting Feed Roller Heights

It is essential that the feed rollers are set at the correct distance below the cutterhead knives at BDC (bottom dead center) to ensure that the workpiece moves through the planer evenly and the correct distance from the cutterhead knives.

To ensure accurate results and make the adjustment process quicker and easier, we recommend using a Rotacator for these adjustments (refer to **Accessories**).

If a Rotacator is not available, a 6' 2x4 cut into two even sized pieces and a feeler gauge set can be used, but care must be taken when jointing the wood to achieve accurate results.

Note: The chip breaker is spring mounted, which allows it to adjust automatically to the workpiece. No adjustment is necessary.

Distance Below Knife/Insert at BDC (Figure 42)

- A. Infeed Roller 0.040"
- B. Outfeed Roller 0.020"

Using a Rotacator

Items Needed	Qty
Hex Wrenches 3mm, 4mm.....	1 Ea.
Wrench or Socket 10mm.....	1 Ea.
Rotacator (see Page 34).....	1

To use a Rotacator, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Make sure knives are set to correct height (refer to **Adjusting/Replacing Knives** on Page 29 for detailed instructions). If machine is a helical cutterhead, make sure all inserts are properly installed (refer to **Rotating/Replacing Cutterhead Inserts** on Page 32 for detailed instructions).
3. Raise headstock at least 4" above table.
4. Remove top cover, belt cover, and gearbox cover.
5. Using your Rotacator, find bottom dead center (BDC) of any knife/insert edge by slowly rocking cutterhead pulley back and forth, then set Rotacator dial to "0" (see Figure 43).

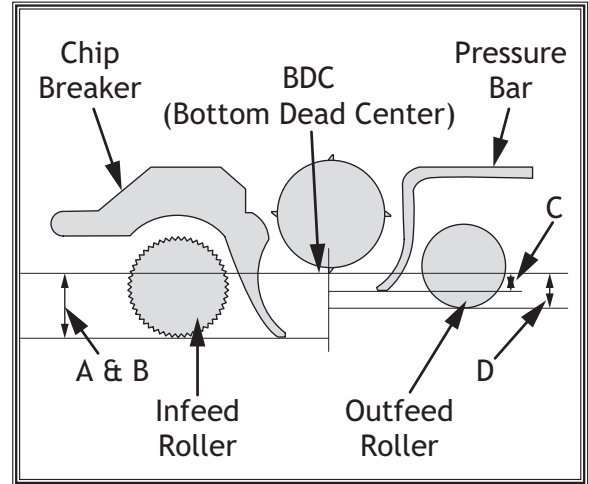


Figure 42. Planer component recommended clearances (illustration is not to scale).

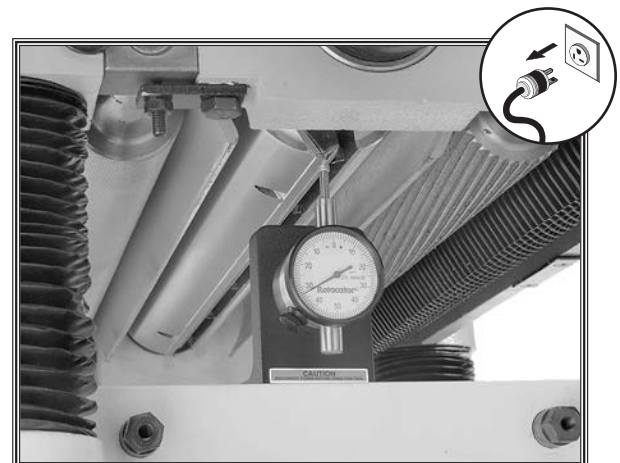


Figure 43. Example of using a Rotacator to find BDC.

SERVICE

6. Move feed speed knob to neutral position to allow infeed roller to freely rotate.
7. Keeping Rotacator dial at "0", position it under right-hand side of infeed roller and find BDC of a serrated edge by rocking infeed roller back and forth.
8. Loosen jam nuts and use set screws on each side of feed roller (see **Figure 44**) to adjust height of infeed roller bushing block until Rotacator dial shows 0.040", which is the recommended distance for infeed roller below cutterhead.
9. Repeat **Steps 7-8** on left side of infeed roller.
10. Re-check both sides of infeed roller and, if necessary, make further adjustments until infeed roller height from side-to-side is 0.040" below BDC of cutterhead knife, then retighten both jam nuts.
11. Keeping same "0" reference on Rotacator dial from **Step 5**, repeat **Steps 7-10** for outfeed roller, but adjust it until it is 0.020" below BDC of cutterhead knife.
12. Re-install belt cover, top cover, and gearbox cover.

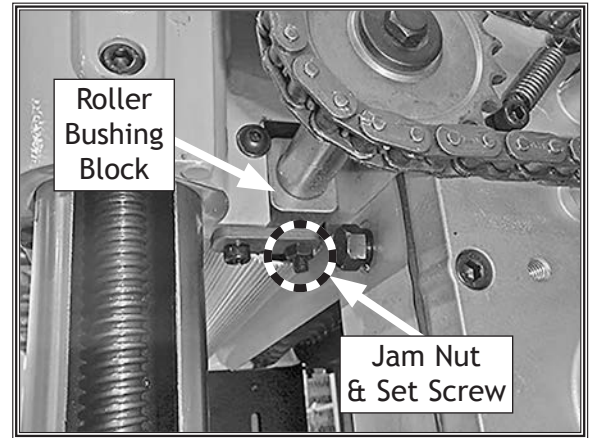


Figure 44. Example of infeed roller bushing block and height adjustment controls.

Using Wood Blocks

Items Needed	Qty
Hex Wrench 3mm, 4mm	1
Wrench or Socket 10mm	1
2x4 6' Long	1
Feeler Gauge Set	1

To use wood blocks, do these steps:

1. Build wood blocks by cutting a straight 6-foot-long 2x4 in half.

Note: Having the wood blocks at an even height is critical to the accuracy of your overall adjustments. For best results, make the 2x4 square with a jointer and table saw before cutting it in half.

2. **W1873 Only:** Make sure knives are set to correct height (refer to **Adjusting/Replacing Knives** on **Page 29** for detailed instructions).
3. **DISCONNECT MACHINE FROM POWER!**
4. Place wood blocks along sides of table, as illustrated in **Figure 45**.

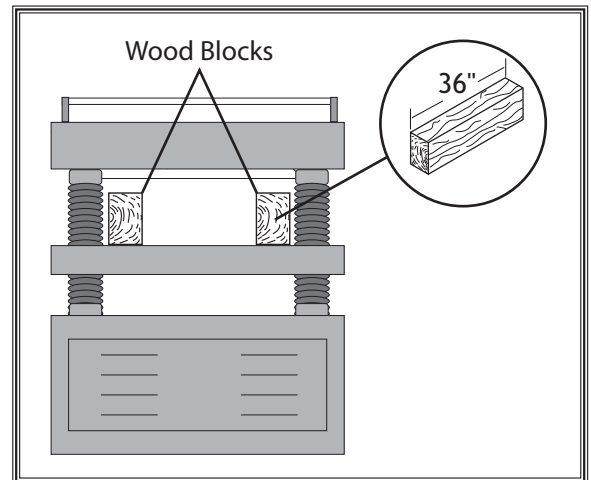


Figure 45. Wood blocks properly positioned on the planer table.

5. Remove top cover, belt cover, and gearbox cover.
6. Lower headstock until wood blocks get close to cutterhead.
7. Use belt to rotate cutterhead and continue lowering headstock until blocks just barely touch cutterhead knife/insert at its lowest point of rotation (BDC).
8. Upward pressure of wood blocks will be holding infeed and outfeed rollers at same level as knife/insert at BDC.
9. Loosen jam nuts and set screws on each side of infeed roller (see **Figure 46**).
10. Using a feeler gauge, adjust set screw so it is 0.040" from roller bushing block (see **Figure 46**), then tighten jam nut. Repeat on other side of infeed roller.
11. Repeat **Steps 9-10** with outfeed roller; only adjust the gaps to 0.020".
12. Re-install belt cover, top cover, and gearbox cover.

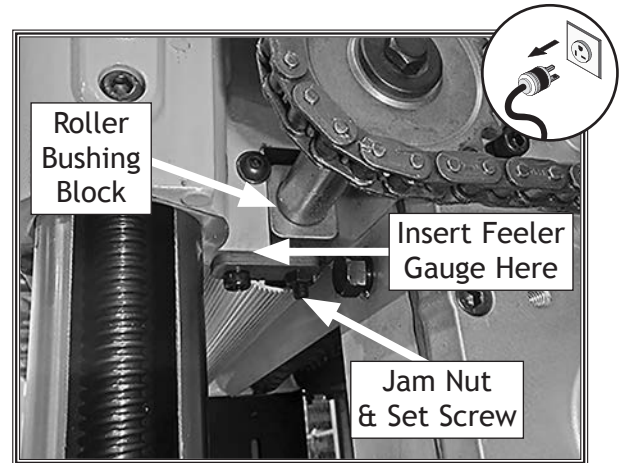


Figure 46. Example of feeler gauge location for adjusting infeed roller height when using wood blocks (one of two locations shown).

Adjusting Feed Roller Spring Tension

The infeed and outfeed rollers keep the workpiece moving through the planer. Springs exert downward pressure on the feed rollers while allowing them to rise with an uneven workpiece surface. Proper spring tension is crucial to keep the workpiece moving through the planer during operation.

The ideal feed-roller spring tension varies depending upon the type of wood you plane. When adjusting spring tension, keep the following in mind:

- If you are planing milled lumber with a consistent surface, use less spring tension to reduce the risk of marring the workpiece.
- If you are planing rough lumber with inconsistent surfaces, use greater spring tension to keep the stock moving through the planer.
- If the workpiece consistently stops feeding during operation, the spring tension may need to be increased.

Items Needed	Qty
Hex Wrench 6mm	1

To adjust feed-roller spring tension, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Rotate tension screws (see **Figure 47**) clockwise to increase tension or counterclockwise to decrease tension.

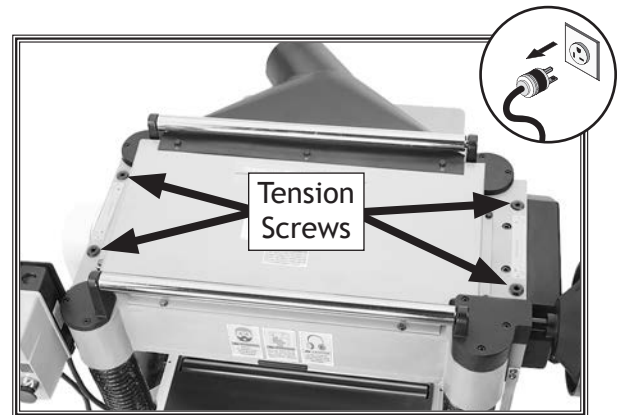


Figure 47. Example of roller spring tension adjustment screws.

Positioning Chip Deflector

Chip Deflector Gap Setting..... $\frac{1}{16}$ "- $\frac{1}{8}$ "

When properly distanced from the cutterhead, the chip deflector directs the chips into the dust hood, and keeps them from falling onto the outfeed roller and being pressed into the workpiece.

Items Needed	Qty
Wrench or Socket 10mm.....	1

To adjust chip deflector gap, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove dust hood, top cover, and belt cover.
3. Use cutterhead pulley to rotate cutterhead until a knife/insert reaches closest distance to chip deflector (see **Figure 48**), then measure distance between knife/insert and chip deflector.
4. If distance measured in **Step 3** is *not* equal to correct chip deflector gap setting, then loosen flange bolts (see **Figure 48**) that secure chip deflector and adjust gap to correct setting.
5. Re-tighten flange bolts, then replace belt cover, top cover, and dust port.

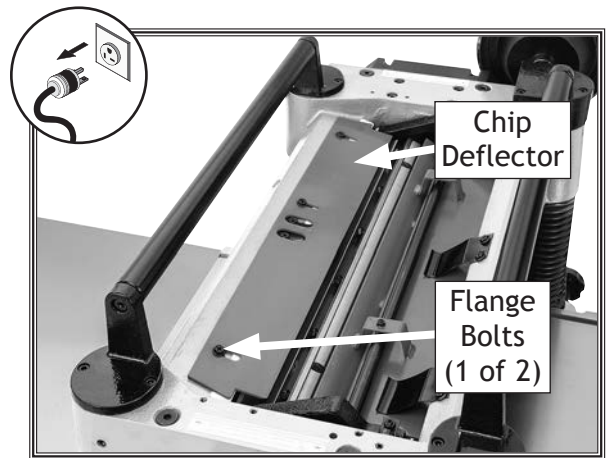


Figure 48. Example of chip deflector and mounting hardware.

Calibrating Headstock Elevation Scale

Although correctly set at the factory, the table elevation scale can be adjusted for accuracy if necessary.

Items Needed	Qty
Phillips Screwdriver #2.....	1
Scrap Piece of Stock.....	1
Calipers.....	1

To calibrate table elevation scale, do these steps:

1. Plane a scrap piece of stock until it is flat and of even thickness along its length.

Note: Turn board over between each pass.

2. Use calipers to measure board thickness.
3. If there is a discrepancy between board thickness and reading on table elevation scale, loosen the screw shown in **Figure 49**, adjust scale as necessary, then re-tighten screw.



Figure 49. Location of adjustment screw for table elevation scale.

Checking Anti-Kickback Fingers

The anti-kickback fingers are an important safety feature of your planer. The fingers hang from a rod suspended across the head casting and in front of the infeed roller, as shown. This design allows the workpiece to easily enter the planer but reduces the risk of kickback by digging into the workpiece if it moves backward.

Check the anti-kickback fingers regularly to ensure they swing freely and easily. If the fingers do not swing freely and easily, first clean them with a wood-resin solvent, then inspect them for damage. If any of the fingers are damaged, the device must be replaced before using the machine.

Do not apply oil or other lubricants to the anti-kickback fingers that will attract dust and restrict free movement of the fingers.

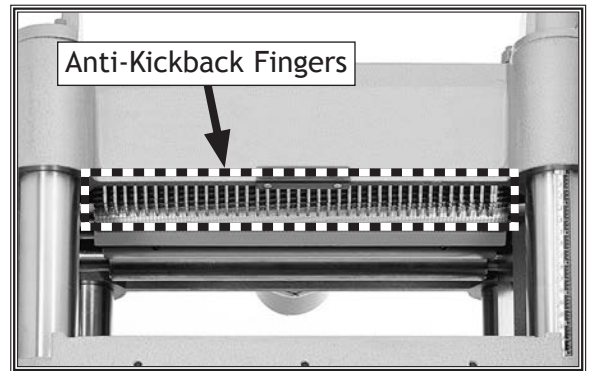


Figure 50. Anti-kickback fingers.

WARNING

Proper operation of anti-kickback fingers is critical for safe operation of this planer. **DO NOT** operate planer if anti-kickback fingers are not operating correctly. Failure to heed this warning could result in serious personal injury.

Tensioning Headstock Height Chain

The headstock height chain transfers movement from the elevation handwheel to the columns that control headstock height. The chain drive can be adjusted to remove slack if the chain stretches over time or is loosened during headstock leveling procedures.

Items Needed	Qty
Hex Wrench 5mm	1
Wrench or Socket 12mm.....	1

To adjust headstock height chain tension, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove motor access panel to access headstock height chain shown in **Figure 51**.
3. Loosen two chain tension lock bolts, then push idler sprocket against chain with moderate pressure to eliminate slack in chain. While maintaining pressure on idler sprocket, re-tighten bolts (see **Figure 51**).
4. Clean and lubricate chain and sprockets (refer to **Headstock Height Chain & Sprockets** on **Page 37** for instructions), then re-install motor access panel.

NOTICE

DO NOT let chain fall off sprockets. It can be very difficult to return chain to its proper location on sprockets without changing table adjustments.

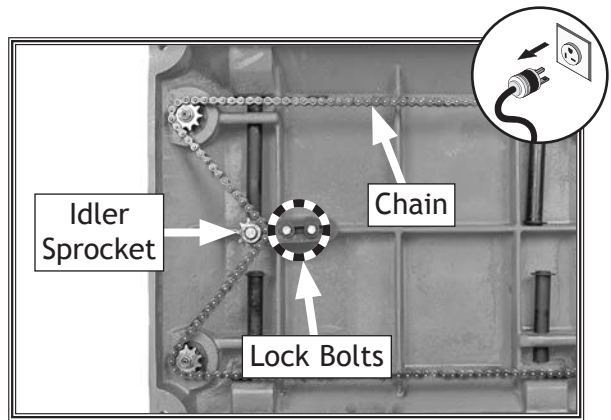


Figure 51. Headstock height chain adjustment (shown without stand for purpose of illustration).

Adjusting Cutterhead Parallelism

Maximum Allowable Tolerances:

Cutterhead/Table Side-to-Side	0.002"
Head Casting/Table Front/Back	0.020"

Cutterhead parallelism is critical to the operation of the machine. As such, it is essential that the cutterhead is parallel with the table (within 0.002") from side-to-side, as illustrated in Figure 52.

Items Needed:	Qty
Rotacator	1
Phillips Screwdriver #2	1
Wrench or Socket 14mm	1
Hex Wrench 6mm	1

How the table sits in relation to the head casting from front-to-back is also important (see Figure 53). Because the feed rollers and chip breaker will be adjusted off the table position, the tolerances on the front-to-back positioning are not as critical as the cutterhead/table side-to-side positioning. Therefore, the maximum allowable tolerance for the front-to-back parallelism is not more than 0.020".

Cutterhead Parallelism Inspection

Use your Rotacator to inspect the cutterhead parallelism. If you do not have a Rotacator, a wood block and feeler gauges may be used, but extra care must be taken to ensure accuracy. If the cutterhead is not within the maximum allowable tolerances, it must be adjusted.

Headstock Parallelism Adjustments

The headstock is adjusted by turning the chain sprockets underneath the table for movements over 0.008" or by adjusting how the headstock is mounted on the columns for movements under 0.008".

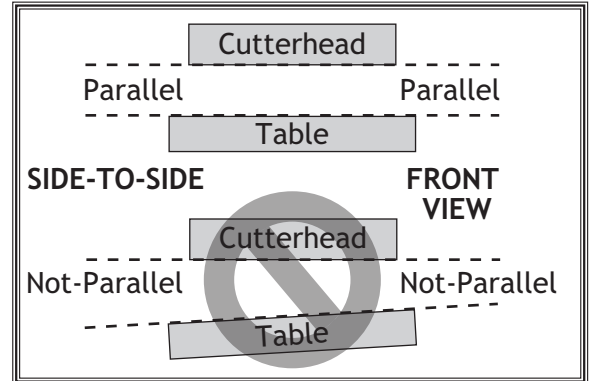


Figure 52. Side-to-side parallelism of table and cutterhead.

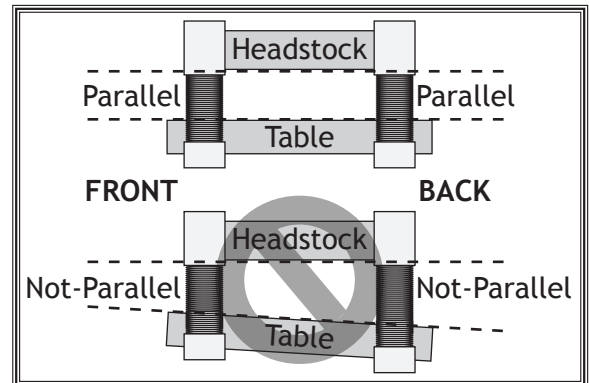


Figure 53. Front-to-back parallelism of table and cutterhead.

NOTICE

When making adjustments, tighten fasteners after each step to ensure the accuracy of your tests. When adjusting the chain sprockets, keep in mind that if the chain becomes too loose, it will fall off of all the sprockets, and returning it to its proper location can be extremely difficult.

To adjust headstock parallelism, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove cabinet panel and locate chain on underside of table.
3. Loosen lock bolts and idler sprocket (see **Tensioning Headstock Height Chain Tension** instructions on **Page 37**).
4. Move chain away from sprocket you want to adjust so only that sprocket can be rotated independent of chain.

Note: *If the left side of the table is too high, the left two sprockets will need to be adjusted. Each tooth on the sprocket represents 0.008" of vertical movement as the cogs are turned. Make sure, as you turn the sprockets, to keep an accurate tooth count to ensure that the table is adjusted equally.*

5. Mark location of one tooth of sprocket that you are adjusting.
6. Carefully rotate sprocket (clockwise to lower table; counterclockwise to raise table) just enough to position next tooth at marked location, then fit chain around sprocket again.
7. Repeat **Steps 4-6** with each sprocket that needs to be adjusted until table-to-cutterhead clearance is within 0.008" from one side to the other.
8. Make sure chain is properly fitted on sprockets, then re-tighten idler sprocket and lock bolts.
9. If necessary, micro-adjust headstock position by loosening cap screws shown in **Figure 54** and raising or lowering headstock until it is properly aligned with cutterhead.

Note: *This process may require adjusting the columns on both the left and right hand sides until you find the correct combination.*

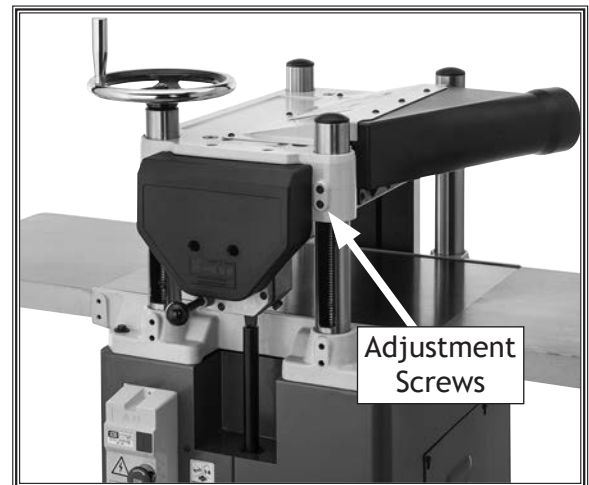


Figure 54. Location of headstock micro-adjustment screws (one side shown only).

Tensioning Drive Chain

The drive chain system transfers power from the cutterhead to the infeed and outfeed rollers. The chain drive can be adjusted to remove slack if the chain stretches over time.

Items Needed	Qty
Phillips Head Screwdriver #2.....	1
Wrench or Socket 10mm.....	1

To tension drive chain:

1. DISCONNECT MACHINE FROM POWER!
2. Remove gearbox cover to access drive chain components (see **Figure 55**).
3. Loosen hex bolt (see **Figure 55**) that secures idler bracket to gearbox, then push idler wheel against chain with moderate pressure to eliminate slack in chain. While maintaining pressure on idler wheel, tighten hex bolt (see **Figure 55**).
4. Clean and lubricate chain and sprockets (refer to **Drive Chain & Sprockets on Page 37**), then install gearbox cover.

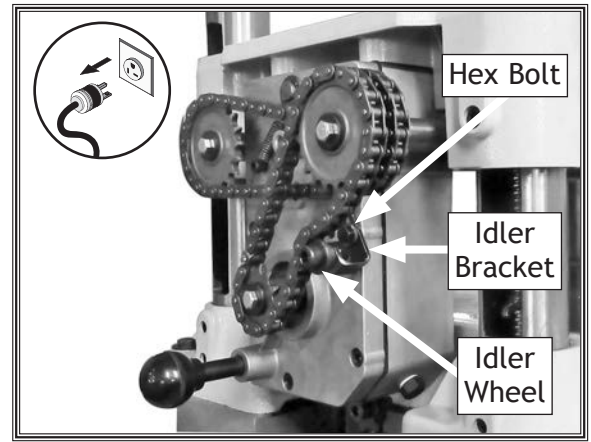


Figure 55. Drive chain adjustment.

Troubleshooting

The following troubleshooting tables cover common problems that may occur with this machine. If you need replacement parts or additional troubleshooting help, contact our Technical Support.

Note: Before contacting Tech Support, find the machine serial number and manufacture date, and if available, your original purchase receipt. This information is required to properly assist you.



Motor & Electrical

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine does not start, or power supply breaker trips immediately after startup.	<ol style="list-style-type: none"> 1. STOP button depressed/at fault. 2. Incorrect power supply voltage or circuit size. 3. Thermal overload relay has tripped. 4. Power supply circuit breaker tripped or fuse blown. 5. Motor wires connected incorrectly. 6. Wiring open/has high resistance. 7. START button switch at fault. 8. Start capacitor at fault. 9. Thermal overload relay has tripped. 10. Contactor not energized; has poor contacts. 11. Centrifugal switch/contact points at fault. 12. Motor at fault. 	<ol style="list-style-type: none"> 1. Rotate button head to reset; replace if at fault. 2. Ensure correct power supply voltage and circuit size. 3. Reset; adjust trip load dial if necessary; replace. 4. Ensure circuit is sized correctly and free of shorts. Reset circuit breaker or replace fuse. 5. Correct motor wiring connections. 6. Check/fix broken, disconnected, or corroded wires. 7. Replace switch. 8. Test/replace if at fault. 9. Reset; adjust trip load dial if necessary; replace. 10. Test all legs for power/replace. 11. Adjust/replace centrifugal switch/contact points if available. 12. Test/repair/replace.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Machine undersized for task. 2. Workpiece not suitable for machine. 3. Motor overheated, causing thermal overload to trip. 4. Belt(s) slipping; oil/grease on belt(s). 5. Dull knives/inserts. 6. Dust collection ducting problem. 7. Motor wired incorrectly. 8. Run capacitor at fault. 9. Pulley slipping on shaft. 10. Contactor not energized/has poor contacts. 11. Centrifugal switch/contact points at fault. 12. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Reduce feed rate/depth of cut. 2. Only cut wood/ensure moisture is below 20%. 3. Allow motor to cool, reset overload if necessary, and reduce depth of cut. 4. Clean/tension/replace belt (Page 39). 5. Sharpen/replace knives (Page 29), or replace inserts (Page 32). 6. Clear blockages, seal leaks, use smooth wall duct, eliminate bends, close other branches. 7. Wire motor correctly. 8. Test/repair/replace. 9. Tighten loose pulley; replace pulley/shaft if damaged. 10. Test all legs for power/replace. 11. Adjust/replace centrifugal switch/contact points if available. 12. Test/repair/replace.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component loose. 2. V-belt worn, loose, or slapping cover. 3. Pulley loose. 4. Plastic chip deflector hitting knives. 5. Motor fan rubbing on fan cover. 6. Knives/gibs at fault. 7. Cutterhead bearings at fault. 8. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Inspect/tighten loose bolts/nuts; replace damaged components. 2. Tension/replace belt (Page 39). 3. Re-align/replace shaft, pulley set screw, and key. 4. Adjust chip deflector (Page 45); replace if necessary. 5. Fix/replace fan cover; replace loose/damaged fan. 6. Sharpen/replace knives; set knife alignment/height correctly (Page 29). 7. Replace bearing(s). 8. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.

Machine Operation

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Excessive snipe (gouge in end of board that is uneven with rest of cut). Note: A small amount of snipe is inevitable with all types of planers. The key is minimizing it as much as possible.	<ol style="list-style-type: none"> 1. Outfeed extension slopes down or is not level with main table. 2. Workpiece is not supported as it leaves planer. 3. Some snipe is inevitable. 	<ol style="list-style-type: none"> 1. Shim outfeed extension wing level with main table. 2. Hold workpiece up slightly as it leaves outfeed end of planer. 3. Plane lumber longer than your intended workpiece length, then cut off excess after planing complete.
Workpiece stops/slow in middle of cut.	<ol style="list-style-type: none"> 1. Taking too heavy of a cut. 2. Feed rollers set too low or too high. 3. Pitch and glue buildup on planer components. 	<ol style="list-style-type: none"> 1. Take a lighter cut. 2. Adjust feed rollers (Page 41). 3. Clean internal cutterhead components with a pitch/resin-dissolving solvent.
Chipping (consistent pattern).	<ol style="list-style-type: none"> 1. Knots or conflicting grain direction in wood. 2. Taking too deep of a cut. 3. Feeding workpiece too fast. 4. Nicked or chipped knife/insert. 	<ol style="list-style-type: none"> 1. Inspect workpiece for knots and grain direction; only use clean stock, and cut WITH the grain. 2. Take a smaller depth of cut. (Reduce cutting depth when planing hard woods.) 3. Slow down feed rate. 4. Replace affected knife (Page 29), or have it sharpened; rotate/replace insert (Page 32).
Chipping/indentation in workpiece surface (inconsistent pattern).	<ol style="list-style-type: none"> 1. Chips aren't being properly expelled from cutterhead. 	<ol style="list-style-type: none"> 1. Use a proper dust-collection system.
Fuzzy grain.	<ol style="list-style-type: none"> 1. Wood may have high moisture content or surface wetness. 2. Dull knives/inserts. 	<ol style="list-style-type: none"> 1. Check moisture content is below 20% and allow to dry if moisture is too high. 2. Replace knives (Page 29) or have them professionally sharpened; rotate/replace inserts (Page 32).
Long lines or ridges that run along length of board.	<ol style="list-style-type: none"> 1. Nicked or chipped knife/inserts. 	<ol style="list-style-type: none"> 1. Replace knives (Page 29) or have them professionally sharpened; rotate/replace inserts (Page 32).
Uneven cutting marks, wavy surface, or chatter marks across face of board.	<ol style="list-style-type: none"> 1. Feeding workpiece too fast. 2. Knives not installed evenly/inserts not properly installed. 3. Worn cutterhead bearings. 	<ol style="list-style-type: none"> 1. Slow down feed rate. 2. Adjust knives with knife gauge (Page 29); remove inserts, properly clean mounting pocket and re-install (Page 32). 3. Replace cutterhead bearings.
Glossy surface.	<ol style="list-style-type: none"> 1. Knives/inserts are dull. 2. Feeding workpiece too slow. 3. Cutting depth too shallow. 	<ol style="list-style-type: none"> 1. Replace knives (Page 29) or have them professionally sharpened; rotate/replace inserts (Page 32). 2. Increase feed rate. 3. Increase depth of cut.
If workpiece twists in machine.	<ol style="list-style-type: none"> 1. Feed rollers not parallel with table. 	<ol style="list-style-type: none"> 1. Adjust feed rollers (Page 41).

Electrical Safety Instructions

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

If there are differences between your machine and what is shown in this section, call Technical Support at (360) 734-3482 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. **Note:** Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.

WARNING

SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

QUALIFIED ELECTRICIAN. Due to the inherent hazards of electricity, only a qualified electrician should perform wiring tasks on this machine. If you are not a qualified electrician, get help from one before attempting any kind of wiring job.

WIRE CONNECTIONS. All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

WIRE/COMPONENT DAMAGE. Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components before completing the task.

MODIFICATIONS. Using aftermarket parts or modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire.

MOTOR WIRING. The motor wiring shown in these diagrams is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the motor junction box.

CAPACITORS/INVERTERS. Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

CIRCUIT REQUIREMENTS. You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

EXPERIENCING DIFFICULTIES. If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-3482.

NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.shopfox.biz.

WIRING DIAGRAM COLOR KEY

BLACK	BLUE	YELLOW	LIGHT BLUE
WHITE	BROWN	YELLOW GREEN	BLUE WHITE
GREEN	GRAY	PURPLE	TURQUOISE
RED	ORANGE	PINK	

Electrical Components

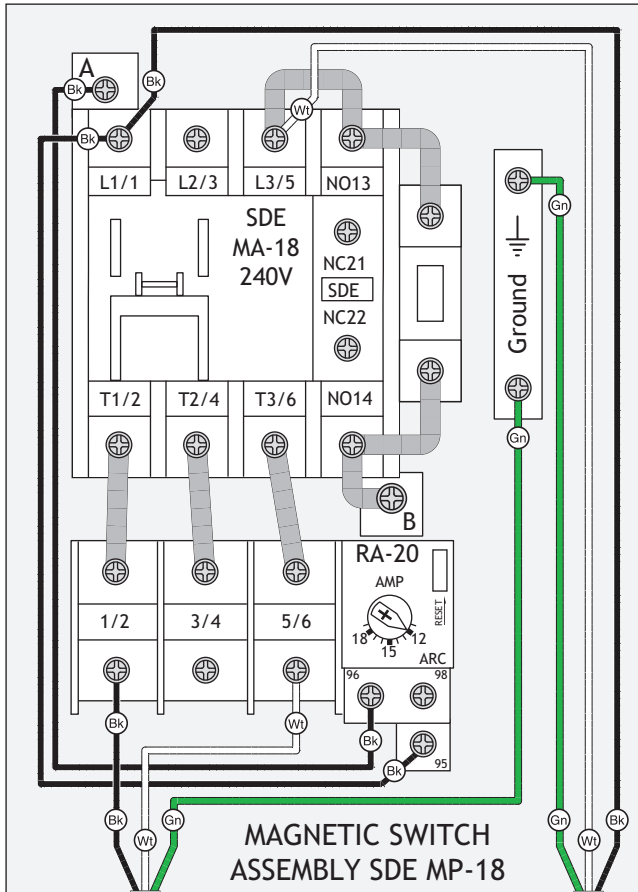


Figure 56. W1873/W1874 magnetic switch with cover removed.



Figure 57. W1873/W1874 motor junction box.

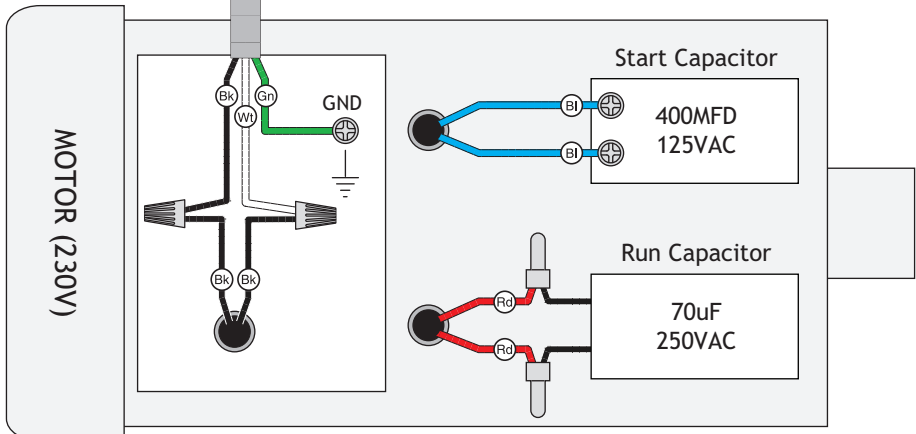
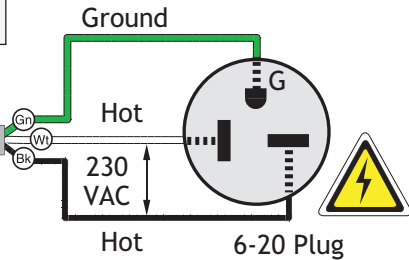
Wiring Diagram



WARNING!
SHOCK HAZARD!
Disconnect power before working on wiring.

NOTICE

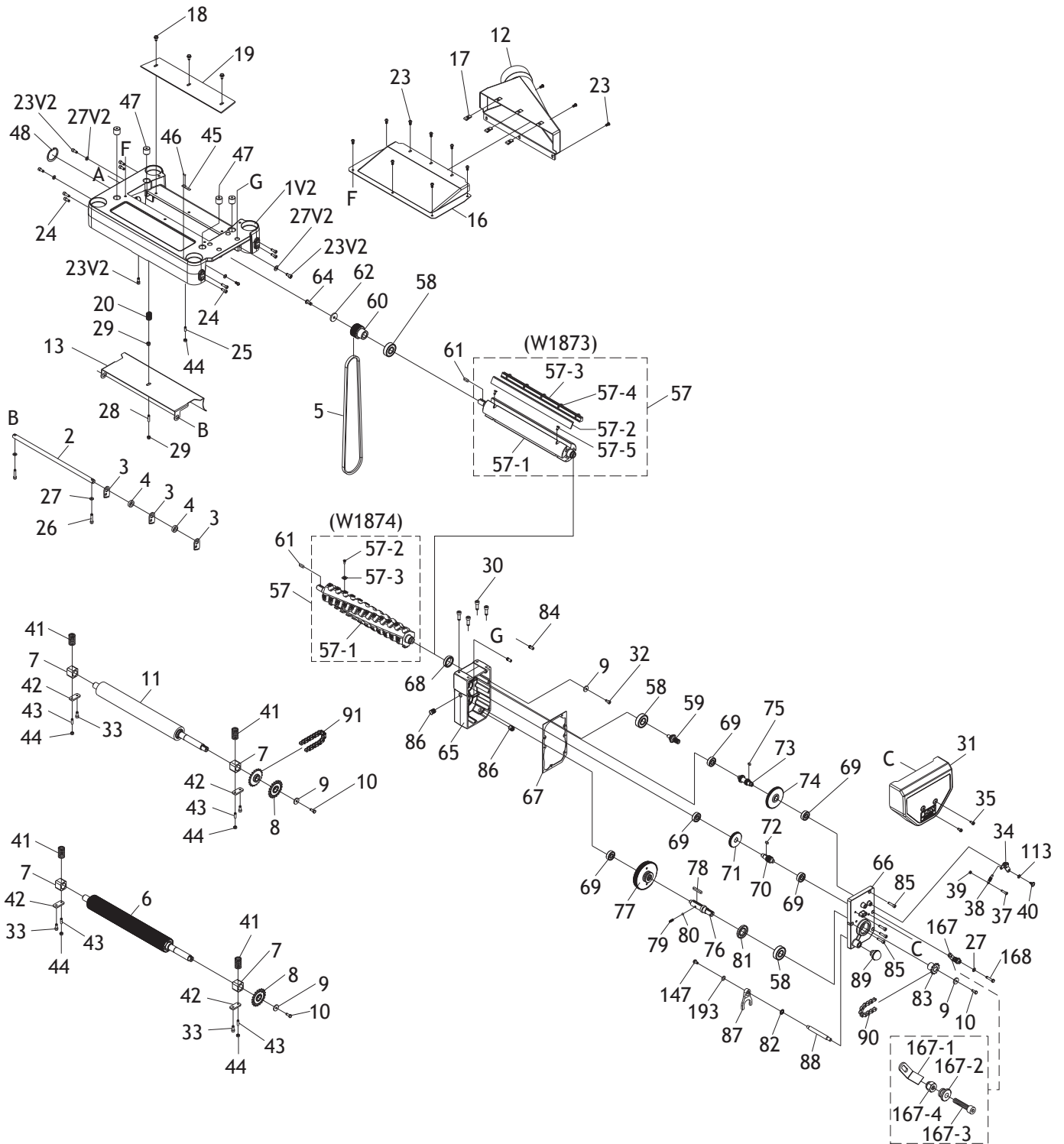
This motor wiring diagram is current at the time of printing; however, always use the diagram on the inside of the junction box cover when rewiring your motor!



SERVICE

PARTS

Headstock

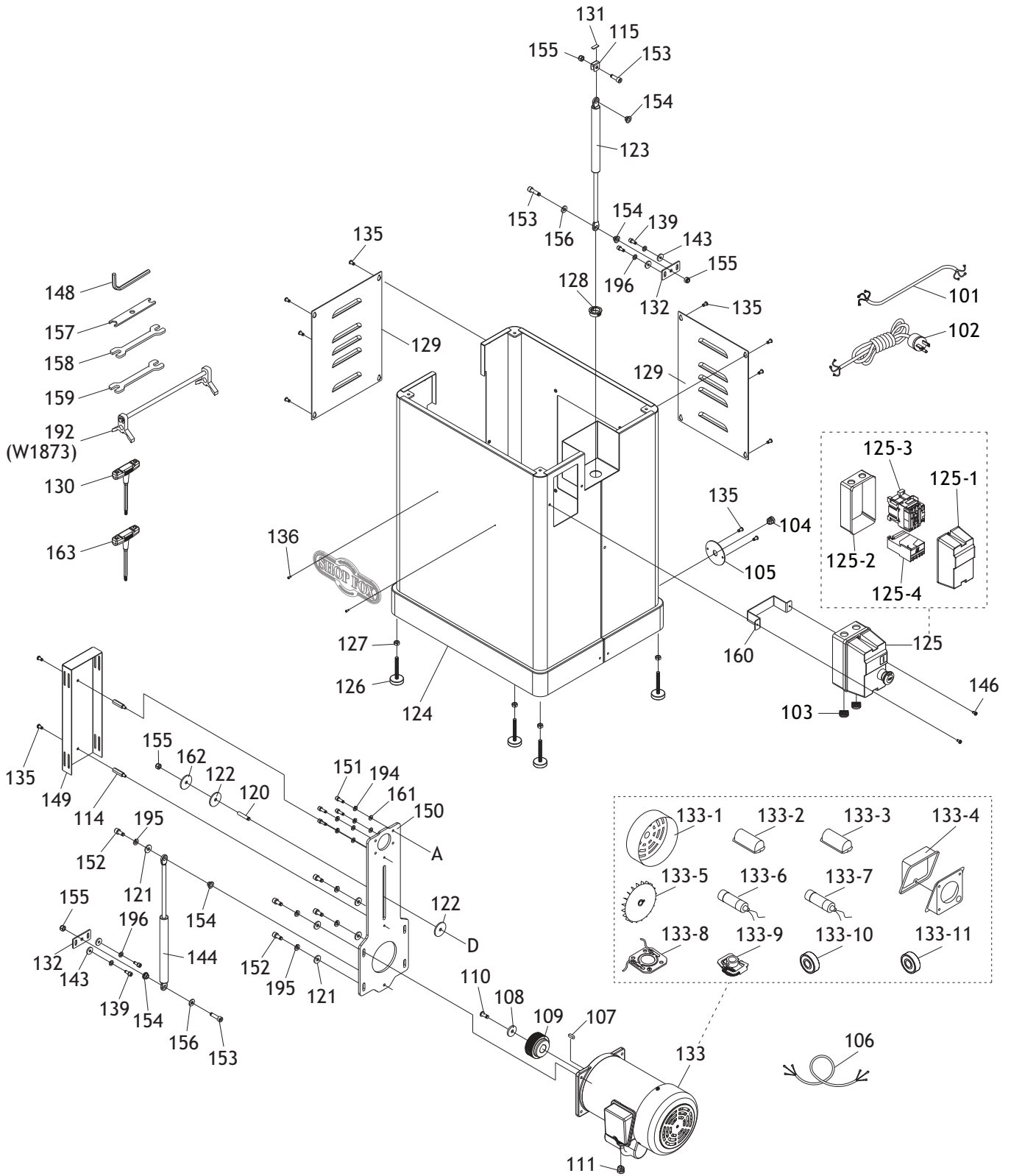


Headstock Parts List

REF	PART #	DESCRIPTION
1V2	X1873001V2	HEADSTOCK V2.10.20
2	X1873002	SHAFT
3	X1873003	ANTI-KICKBACK FINGER
4	X1873004	COLLAR
5	X1873005	POLY V-BELT 360J-9
6	X1873006	INFEED ROLLER
7	X1873007	ROLLER SEAT
8	X1873008	SPROCKET
9	X1873009	FLAT WASHER 6MM
10	X1873010	HEX BOLT M6-1 X 16
11	X1873011	OUTFEED ROLLER
12	X1873012	COLLECTOR HOOD
13	X1873013	CHIP BREAKER
16	X1873016	TOP COVER
17	X1873017	CLAMP
18	X1873018	HEX BOLT M6-1 X 12
19	X1873019	DEFLECTOR PLATE
20	X1873020	SPRING
23V2	X1873023V2	CAP SCREW M6-1 X 12 V2.10.20
24	X1873024	BUTTON HD CAP SCR M6-1 X 20
25	X1873025	SET SCREW M6-1 X 16
26	X1873026	BUTTON HD CAP SCR M6-1 X 25
27	X1873027	FLAT WASHER 6MM
27V2	X1873027V2	BUSHING V2.10.20
28	X1873028	SET SCREW M6-1 X 30
29	X1873029	HEX NUT M6-1 (NYLON)
30	X1873030	BUTTON HD CAP SCR M8-1.25 X 25
31	X1873031	DRIVE CHAIN COVER
32	X1873032	BUTTON HD CAP SCR M6-1 X 12
33	X1873033	BUTTON HD CAP SCR M6-1 X 16
34	X1873034	BRACKET
35	X1873035	PHLP HD SCR M6-1 X 12
37	X1873037	BUTTON HD CAP SCR M5-.8 X 12
38	X1873038	SPRING
39	X1873039	HEX NUT M5-.8
40	X1873040	SHOULDER BOLT M8-1.25 X 14, 4 X 12
41	X1873041	SPRING
42	X1873042	PLATE
43	X1873043	SET SCREW M6-1 X 20
44	X1873044	HEX NUT M6-1
45	X1873045	POINTER
46	X1873046	RIVET 2.5MM X 8MM
47	X1873047	TENSION BOLT
48	X1873048	EXT RETAINING RING 47MM
57	X1873057	CUTTERHEAD ASSEMBLY (W1873)
57-1	X1873057-1	3-KNIFE CUTTERHEAD 15"
57-2	X1873057-2	PLANER BLADE 15" X 1" X 1-1/8"
57-3	X1873057-3	GIB
57-4	X1873057-4	GIB SCREW

REF	PART #	DESCRIPTION
57-5	X1873057-5	ADJUSTMENT SCREW M5-.8 X 12
57	X1874057	CUTTERHEAD ASSEMBLY (W1874)
57-1	X1874057-1	HELICAL CUTTERHEAD 15"
57-2	X1874057-2	FLATHEAD TORX 10-32 X 1/2
57-3	X1874057-3	CARBIDE INSERT 15 X 15 X 2.5MM 10-PK
58	X1873058	BALL BEARING 6204-2NSE
59	X1873059	GEAR
60	X1873060	PULLEY (W1873)
60	X1874060	PULLEY (W1874)
61	X1873061	KEY 6 X 6 X 20 (W1873)
61	X1874061	KEY 6 X 6 X 30 (W1874)
62	X1873062	FLAT WASHER 8MM
64	X1873064	BUTTON HD CAP SCR M8-1.25 X 20
65	X1873065	GEAR BOX
66	X1873066	GEAR BOX COVER
67	X1873067	GASKET
68	X1873068	OIL SEAL 28 X 40 X 8
69	X1873069	BALL BEARING 6201-2NSE
70	X1873070	SHAFT
71	X1873071	GEAR 52T
72	X1873072	KEY 5 X 5 X 12
73	X1873073	SHAFT
74	X1873074	GEAR
75	X1873075	KEY 5 X 5 X 10
76	X1873076	SHAFT
77	X1873077	GEAR ASSEMBLY
78	X1873078	KEY 6 X 6 X 40
79	X1873079	SPRING
80	X1873080	STEEL BALL 6MM
81	X1873081	OIL SEAL 25 X 47 X 6
82	X1873082	OIL SEAL P12
83	X1873083	SPROCKET
84	X1873084	PIN
85	X1873085	BUTTON HD CAP SCR M6-1 X 25
86	X1873086	OIL PLUG 1/4
87	X1873087	CLUTCH FORK
88	X1873088	HANDLE
89	X1873089	KNOB 3/8-16, D1-1/4, BALL
90	X1873090	CHAIN 06B X 41P
91	X1873091	CHAIN 06B X 50P
113	X1873113	WAVY WASHER 8MM
147	X1873147	HEX BOLT M6-1 X 12
167	X1873167	IDLER ASSEMBLY
167-1	X1873167-1	IDLER BRACKET
167-2	X1873167-2	IDLER WHEEL
167-3	X1873167-3	CAP SCREW M8-1.25 X 20
167-4	X1873167-4	LOCK NUT M8-1.25
168	X1873168	HEX BOLT M6-1 X 30
193	X1873193	FLAT WASHER 6MM

Stand & Motor



PARTS

Stand & Motor Parts List

REF	PART #	DESCRIPTION
101	X1873101	SWITCH CORD 12G 3W 34"
102	X1873102	POWER CORD 12G 3W 150" 6-20P
103	X1873103	STRAIN RELIEF TYPE-3 PG13.5
104	X1873104	STRAIN RELIEF TYPE-1 1/2
105	X1873105	MOUNTING PLATE
106	X1873106	MOTOR CORD 12G 3W 24"
107	X1873107	KEY 6 X 6 X 18
108	X1873108	FLAT WASHER 8MM
109	X1873109	MOTOR PULLEY
110	X1873110	BUTTON HD CAP SCR M8-1.25 X 20
111	X1873111	STRAIN RELIEF TYPE-1 1/2
114	X1873114	COVER MOUNT
115	X1873115	STRUT MOUNT
120	X1873120	SET SCREW M8-1.25 X 35
121	X1873121	FLAT WASHER 8MM
122	X1873122	FLAT WASHER 10MM PLASTIC
123	X1873123	GAS STRUT
124	X1873124	STAND
125	X1873125	MAGNETIC SWITCH ASSY MP-18
125-1	X1873125-1	MAGNETIC SWITCH COVER (FRONT)
125-2	X1873125-2	MAGNETIC SWITCH COVER (REAR)
125-3	X1873125-3	CONTACTOR SDE MA-18 220V-240V
125-4	X1873125-4	OL RELAY SDE RA-20 12-18A
126	X1873126	FOOT M8-1.25 X 60
127	X1873127	HEX NUT M8-1.25
128	X1873128	CABLE PROTECTOR
129	X1873129	ACCESS PANEL
130	X1873130	T-HANDLE TORX DRIVER T-25
131	X1873131	PLATE
132	X1873132	ADJUSTABLE BRACKET
133	X1873133	MOTOR 3HP 230V 1PH
133-1	X1873133-1	MOTOR FAN COVER
133-2	X1873133-2	RUN CAPACITOR COVER
133-3	X1873133-3	START CAPACITOR COVER
133-4	X1873133-4	MOTOR JUNCTION BOX

REF	PART #	DESCRIPTION
133-5	X1873133-5	MOTOR FAN
133-6	X1873133-6	R CAPACITOR 70M 250V 1-9/16 X 3-1/2
133-7	X1873133-7	S CAPACITOR 400M 125V 1-9/16 X 3-1/2
133-8	X1873133-8	CENTRIFUGAL SWITCH
133-9	X1873133-9	CONTACT PLATE
133-10	X1873133-10	BALL BEARING 6205ZZ (FRONT)
133-11	X1873133-11	BALL BEARING 6203ZZ (REAR)
135	X1873135	PHLP HD SCR M6-1 X 12
136	X1873136	PHLP HD SCR M3-.5 X 10
139	X1873139	CAP SCREW M6-1 X 16
143	X1873143	FLAT WASHER 6MM
144	X1873144	GAS STRUT
146	X1873146	PHLP HD SCR M5-.8 X 10
147	X1873147	HEX BOLT M6-1 X 12
148	X1873148	HEX WRENCH 4MM
149	X1873149	BELT COVER
150	X1873150	MOTOR PLATE
151	X1873151	BUTTON HD CAP SCR M6-1 X 20
152	X1873152	BUTTON HD CAP SCR M8-1.25 X 20
153	X1873153	BUTTON HD CAP SCR M8-1.25 X 25
154	X1873154	SLEEVE
155	X1873155	HEX NUT M8-1.25 NYLON
156	X1873156	FLAT WASHER 8MM
157	X1873157	OPEN-END WRENCH 10/13MM
158	X1873158	OPEN-END WRENCH 12/14MM
159	X1873159	OPEN-END WRENCH 17/19MM
160	X1873160	BRACKET
161	X1873161	FLAT WASHER 6MM
162	X1873162	FLAT WASHER 8MM
163	X1873163	T-HANDLE TORX DRIVER T-30
192	X1873192	KNIFE SETTING JIG (W1873)
193	X1873193	FLAT WASHER 6MM
194	X1873194	LOCK WASHER 6MM
195	X1873195	LOCK WASHER 8MM
196	X1873196	LOCK WASHER 6MM

Table

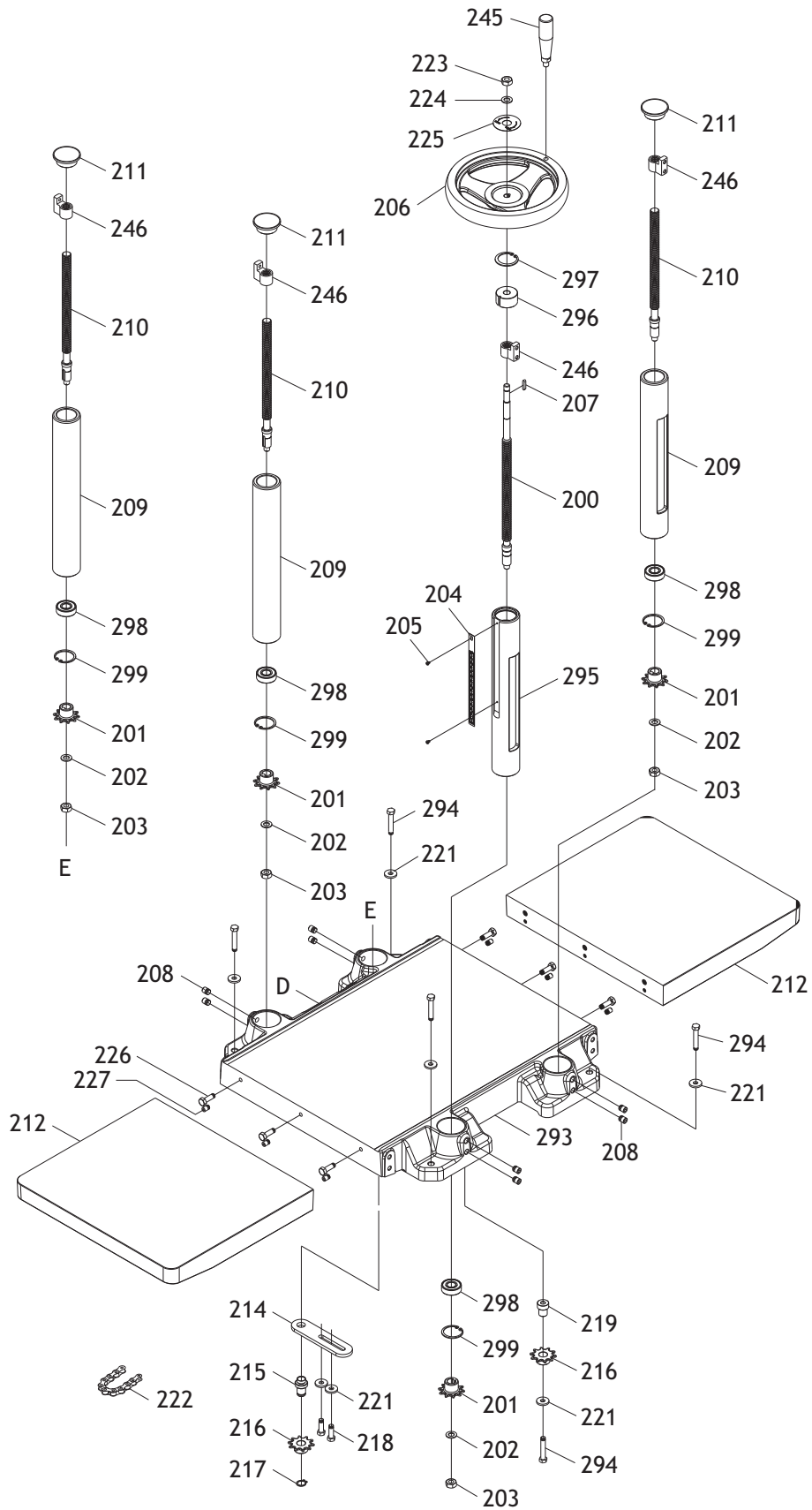


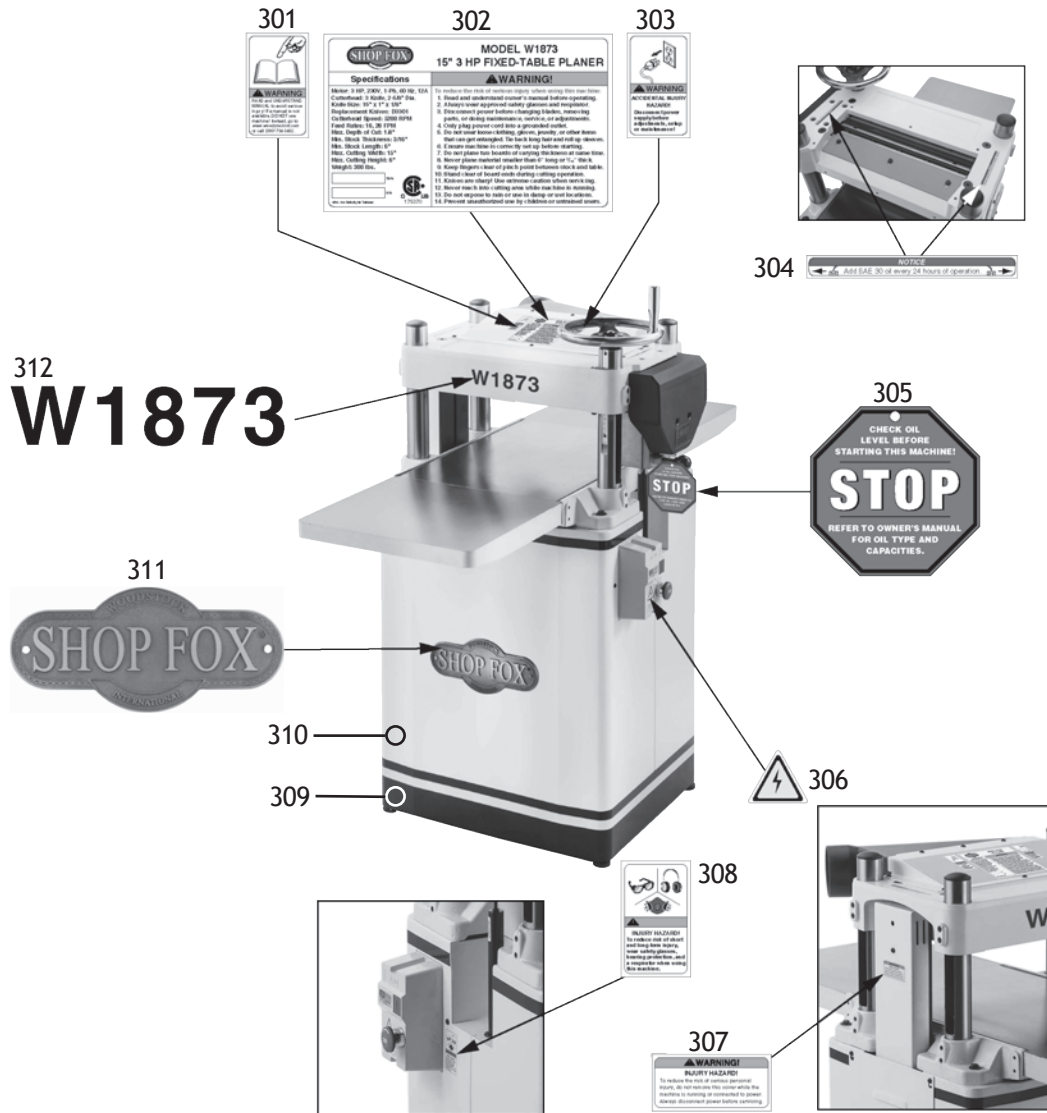


Table Parts List

REF	PART #	DESCRIPTION
200	X1873200	LEADSCREW
201	X1873201	SPROCKET
202	X1873202	FLAT WASHER 10MM
203	X1873203	HEX NUT M10-1.25
204	X1873204	DEPTH-OF-CUT SCALE
205	X1873205	PHLP HD SCR M3-.5 X 4
206	X1873206	HANDWHEEL TYPE-3 216D X 10B-K X M10-1.5
207	X1873207	KEY 4 X 4 X 20
208	X1873208	SET SCREW M10-1.5 X 12
209	X1873209	COLUMN
210	X1873210	LEADSCREW
211	X1873211	CAP
212	X1873212	CAST IRON EXTENSION TABLE
214	X1873214	BRACKET
215	X1873215	SHAFT
216	X1873216	SPROCKET
217	X1873217	EXT RETAINING RING 15MM
218	X1873218	HEX BOLT M8-1.25 X 25

REF	PART #	DESCRIPTION
219	X1873219	SLEEVE
221	X1873221	FLAT WASHER 8MM
222	X1873222	CHAIN 410 X 148P
223	X1873223	HEX NUT M10-1.25
224	X1873224	FLAT WASHER 10MM
225	X1873225	DIRECTION LABEL
226	X1873226	HEX BOLT M8-1.25 X 25
227	X1873227	SET SCREW M8-1.25 X 20
245	X1873245	REVOLVING HANDLE 24 X 92, M10-1.5 X 12
246	X1873246	LEADSCREW MOUNT
293	X1873293	MAIN TABLE
294	X1873294	HEX BOLT M8-1.25 X 45
295	X1873295	COLUMN
296	X1873296	BUSHING
297	X1873297	INT RETAINING RING 38MM
298	X1873298	BALL BEARING 6202Z
299	X1873299	INT RETAINING RING 35MM

Labels & Cosmetics



REF	PART #	DESCRIPTION
301	X1873301	READ MANUAL LABEL
302	X1873302	MACHINE ID LABEL (W1873)
302	X1874302	MACHINE ID LABEL (W1874)
303	X1873303	DISCONNECT POWER LABEL
304	X1873304	ADD OIL LABEL
305	X1873305	STOP OIL FILL TAG
306	X1873306	ELECTRICITY LABEL

REF	PART #	DESCRIPTION
307	X1873307	INJURY HAZARD LABEL
308	X1873308	EYE/EAR/LUNG LABEL
309	X1873309	TOUCH-UP PAINT, SHOP FOX BLACK
310	X1873310	TOUCH-UP PAINT, SHOP FOX WHITE
311	X1873311	SHOP FOX NAMEPLATE-LARGE
312	X1873312	MODEL NUMBER LABEL (W1873)
312	X1874312	MODEL NUMBER LABEL (W1874)

WARNING

Safety labels warn about machine hazards and how to prevent serious personal injury. The owner of this machine **MUST** maintain the original location and readability of all labels on this machine. If any label is removed or becomes unreadable, **REPLACE** that label before allowing machine to be operated again. Contact us at (360) 734-3482 or www.woodstockint.com to order new labels.

WARRANTY

Woodstock International, Inc. warrants all Shop Fox machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund, at its expense and option, the Shop Fox machine or machine part proven to be defective for its designed and intended use, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that Shop Fox machinery complies with the provisions of any law, acts or electrical codes. We do not reimburse for third party repairs. In no event shall Woodstock International, Inc.'s liability under this limited warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all Shop Fox machinery meets high quality and durability standards. We are committed to continuously improving the quality of our products, and reserve the right to change specifications at any time.

To register the warranty, go to <https://www.woodstockint.com/warranty>, or scan the QR code below. You will be directed to the Warranty Registration page on www.woodstockint.com. Enter all applicable production information.





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