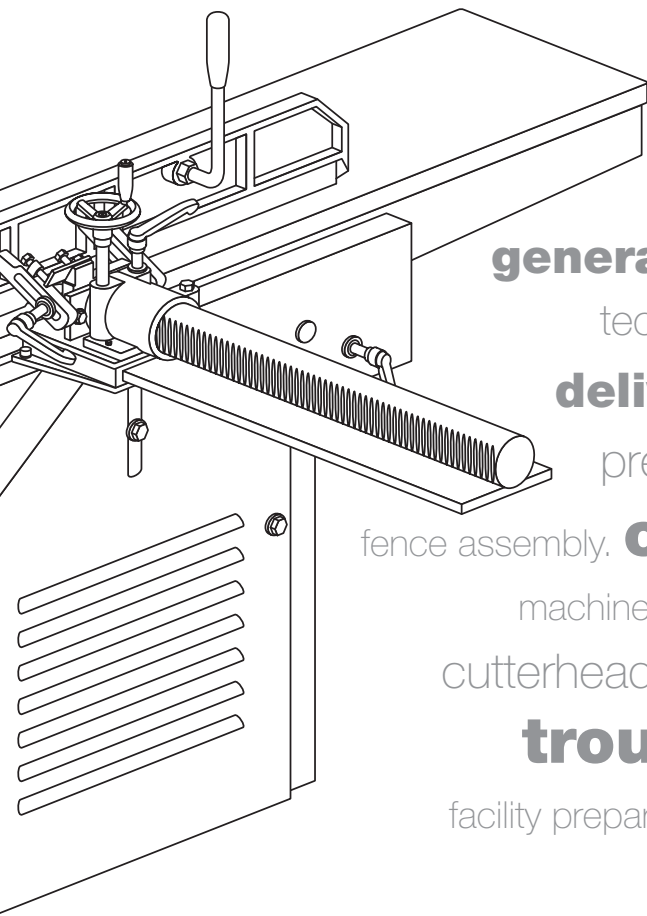


Ironwood JT400

User Manual



general information. features.

technical specifications. safety considerations.

delivery and installation. inspection.

pre-operation cleaning. **assembly.**

fence assembly. **operation and adjustments.**

machine controls. types of cuts. **maintenance.**

cutterhead maintenance. blade care. periodic maintenance.

troubleshooting. electrical print.


facility preparation. connect to power. **safety.**

IRONWOOD

stiles

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 **PLEASE REVIEW AND OBSERVE ALL SAFETY INFORMATION / DIRECTIVES BEFORE INSTALLING, OPERATING, OR PERFORMING MAINTENANCE ON THIS MACHINERY.**

1.0 General Information

1.1 Thank You!

Thank you for your purchase of the Ironwood JT400 jointer. At Stiles Machinery, our goal is to ensure that you are fully satisfied with your purchase. This manual is provided so that you may properly assemble, operate, and maintain your JT400. Should you need help, our team of dedicated service personnel are available to answer your questions and provide any resource recommendations you may need.

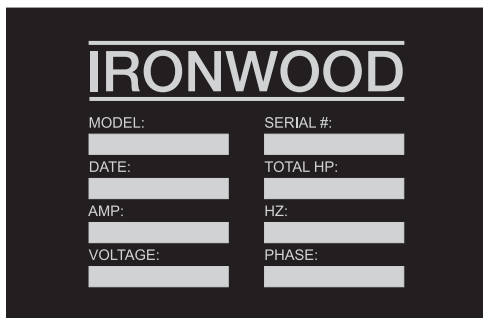
Warranty and Support

All Ironwood machines are designed to meet the exacting standards demanded by craftsmen like you. Ironwood machines include a one (1) year parts warranty and two (2) years of free 24/7 technical support beginning at date of shipment. Standard technical support remains in effect for free for the lifetime of the machine thereafter. Warranty service work is not covered by manufacturer's warranty. Stiles' service team is available for an additional charge.

1.2 Before Contacting Stiles

Please have your machine model and serial number available when contacting Stiles Machinery with questions. The machine's model and serial number are listed on the metallic plate located on the machine's frame.

Information regarding the electrical system and pneumatic supply are also listed on the metallic plate.



Machine information plate

Stiles Technical Support
616.698.6615

Stiles Parts
800.PARTS.80 (800.727.8780)

Website
www.stilesmachinery.com/ironwood/jt400

Machine Model _____

Machine Serial Number _____

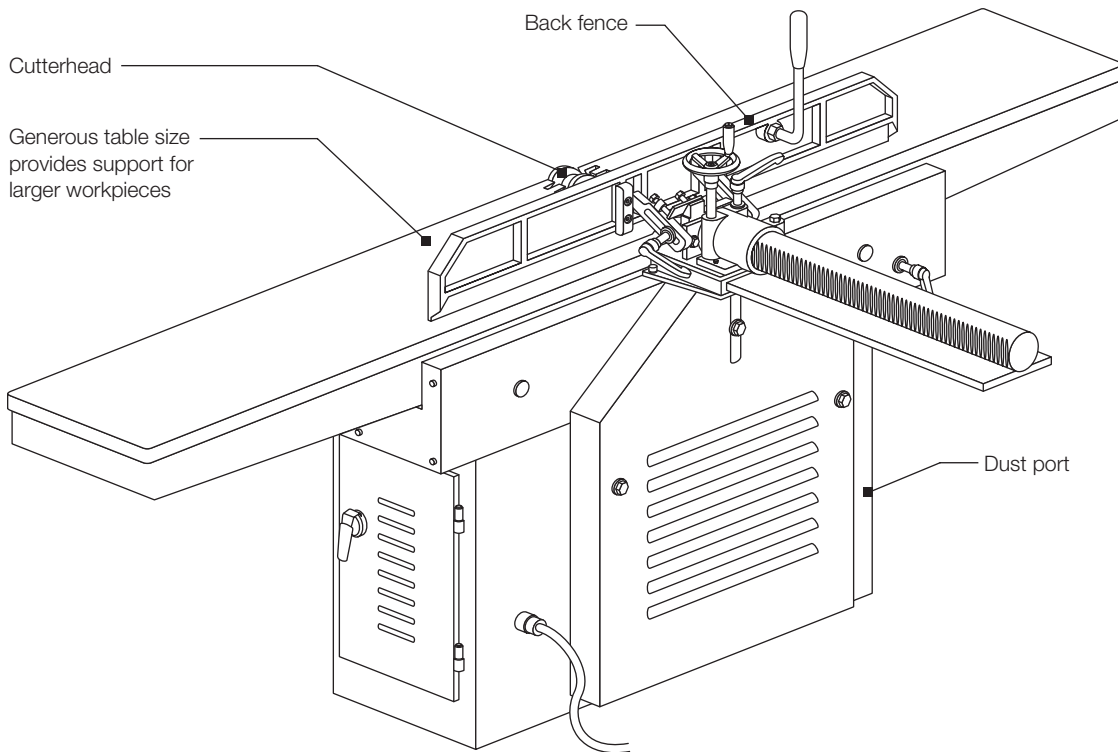
1.3 Features

- Solid construction featuring cast iron tables
- Generous 96" cutting length
- 16" cutting width with up to 3/4" cutting depth
- Heavy duty steel machine base for vibration free jointing operations
- Proven parallelogram table design
- Centralized control panel with power switch, emergency stop switch, and power disconnect
- Quick set-up for the infeed and outfeed tables using vertical adjustment levers
- Spiral cutterhead with carbide inserts for smooth and quiet operation
- Heavy-duty 7.5-hp cutterhead motor
- Easily adjustable back fence with stops at 45, 90 and 135 degrees

1.4 Intended Use

The JT400 jointer is used to flatten and straighten rough lumber, boards, and other wood products before finishing. Face jointing removes bowing and twists in a board that is positioned flat on the machine table. Straight-lining or edge-jointing squares a board that is positioned on its edge on the machine table.

The machine has a 16" (405mm) cutting width, enhanced engineering designs, and superior build construction. It offers intelligent standard features like an interchangeable fold-away bridge guard, helical cutting system for quiet operation, and 96" (2440mm) cutting length.



1.5 Technical Specifications

Description	Ironwood JT400
Max Width of Workpiece	16" (405mm)
Table Length	96" (2,440mm)
Table Width	16" (405mm)
Table Height	31½" (800mm)
Max Cutting Depth	¾" (19mm)
Fence Size	47" x 5.5" (1,195mm x 140mm)
Fence Tilt	+/- 45 degrees
Positive Stops	45, 90, 135 degrees
Cutterhead Speed	5,000 rpm
Number of Knives	60
Cutterhead Insert Size	30mm x 12mm x 1.5mm
Cutting Circle	5½" (140mm)
Rabbeting Capacity	¾" (19mm)
Cutterhead Motor	7.5 hp
Electrical	230v / 460v (3-phase)
Amperage	18.2 amps (230v) / 9.1 amps (460v)
Dust Port Size	6" (152mm) port
Dust Extraction Requirements	450 cfm @ 4,500 feet/min
Shipping Dimensions	100" x 31" x 42" (2,540mm x 780mm x 1,050mm)
Shipping Weight	1,380 lbs. (625 kg)

1.6 Safety Considerations

For your safety, read these instructions thoroughly before you install and operate this machine. Always have these instructions available at the machine for reference.

Observe all codes and regulations that apply to the installation and operation of this machine.

Keep visitors at a safe distance from the workspace.

Keep children away from this and all machines. Childproof your work area!

Familiarize yourself with the safety notices used in this manual.

CAUTION

If cautions are ignored, personal injury and/or machine damage may result.

WARNING

If warnings are ignored, serious injury or death may result.

Warning Labels

This machine has warning labels attached to ensure safe operation. These warning labels are very important and should be kept clean and never be removed. If warning labels become damaged or lost, contact Stiles Machinery immediately for replacements.

Label 1 Safety Rules



LABEL NO.1

WARNING

Never use the JT400 for purposes other than its intended use. Do not modify or remove any guards or other safety features. Improper use or modifications may affect your warranty or result in serious injury or death.

Training

This machine is intended for use by authorized, well-trained operators only.

Do not operate this machine until you have a complete working knowledge of the machine and have been properly trained for its safe operation, correct adjustment, and use. All operators should thoroughly read and understand this manual and the workings of this machine prior to operation.

It is essential that all operators be aware of the following:

- The dangers associated with the operation of this machine
- The use of personal protective equipment for ear and eye protection
- The proper positioning of the operator and operator's hands relative to the cutterhead
- The principles of machine operation
- The safe handling of the workpiece when cutting
- The safe stacking of the workpiece before and after cutting

2.0 Facility Preparation

Prior to uncrating your machine confirm that your location can accommodate the Ironwood JT400. Follow these guidelines:

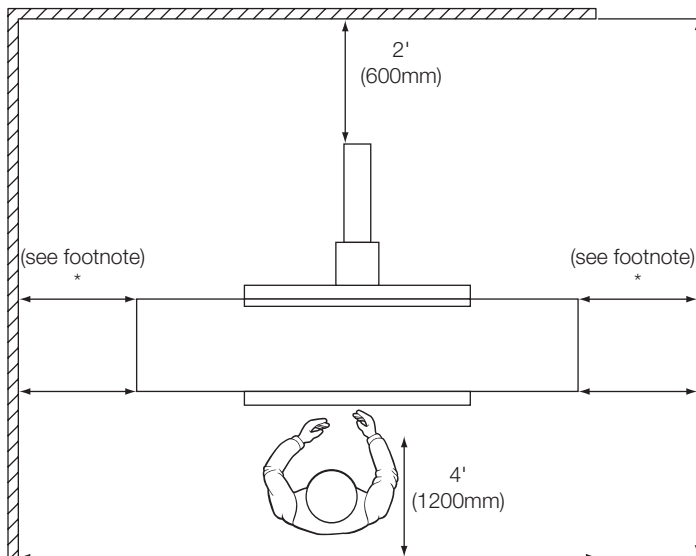
2.1 Floor

- The floor must be flat and level.
- Although no special foundations are required, a concrete floor is recommended.
- All floors must have a load-bearing strength suitable for the machine weight of approximately 1,380 pounds (625 kg).

2.2 Work Space

- Provide adequate work space surrounding the machine.
- Provide proper non-glare, overhead lighting to keep the work space well lit.
- Place the machine so that any potential kickback area is not in line with aisles, doorways, or other work and traffic areas.
- Provide adequate dust extraction system.
The dust extraction system should have a flow rate of 4,500 feet per minute at 450 cfm.
- Avoid exposure to any environment where vibration is present.

Standard machine clearance requirements



Machine clearance requirements*

*Actual clearance requirements may vary depending on length of material to be cut.

2.3 Power

⚠ WARNING

A licensed electrician must connect the JT400 to the building power source.

- Do not use extension cords.
- Be sure that the electrical current of the power source is of the same characteristics as the 230- or 460-volt electrical system supplied with your machine. If other machine voltage capabilities are required, contact Stiles Machinery.

	JT400
Cutterhead Motor	7.5 HP, 3 phase
Power	230v / 460v (3 phase)
Total Required Amperage	18.2 amps (230v) / 9.1 amps (460v)

- Ensure the machine is protected with an external over-current protective device per your local electrical codes.
- Electrical equipment operating conditions:
Air temperatures between +41°F (+5°C) and +113°F (+45°C).
Relative humidity not to exceed 50% at a maximum temperature of +113°F (+45°C).
- Electrical equipment is designed and protected to withstand the effects of transportation and storage temperatures within a range of -13°F (-25°C) to +131°F (+55°C), and for short periods of time not exceeding 24 hours at up to +158°F (+70°C).
- Ensure connection to factory ground system is wired correctly (according to IAW local electrical codes and NEC) and not connected to any electromagnetic interference source such as welders.

3.0 Delivery and Installation

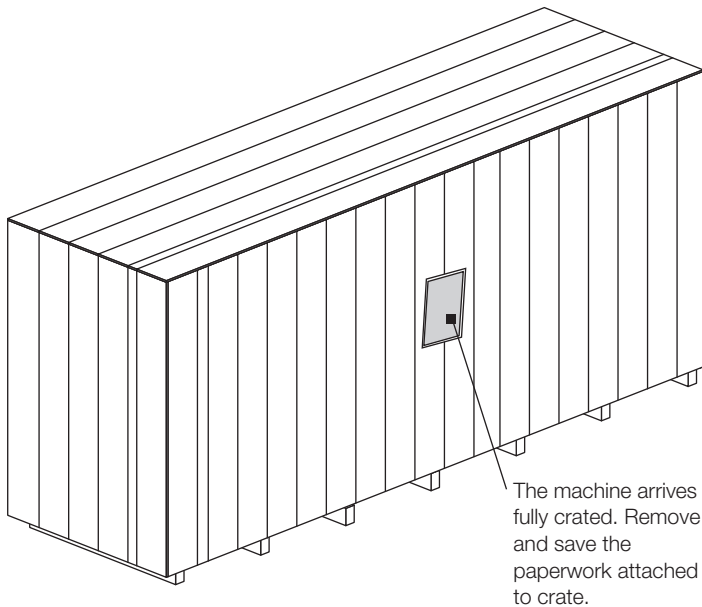
3.1 Receiving Your Machine

You will be contacted to arrange delivery. Your machine will be delivered by truck to your location. If there is no loading dock, be sure that you have informed the carrier in advance so that they deliver using a truck with a lift gate to lower the machine to ground level.

Before accepting the machine and signing the bill of lading from the carrier, please inspect crating and machine condition, note potential damage on the bill of lading, take pictures of potential damage, and contact Stiles Machinery immediately at 616.698.7500.

The machine will arrive fully crated and secured to a pallet. Use a hand truck or fork lift to move the machine on its pallet as close to its final position as possible.

If you do not intend to install the machine immediately after delivery, store it in a protected, cool, and dry location.



3.2 Unpack the Machine

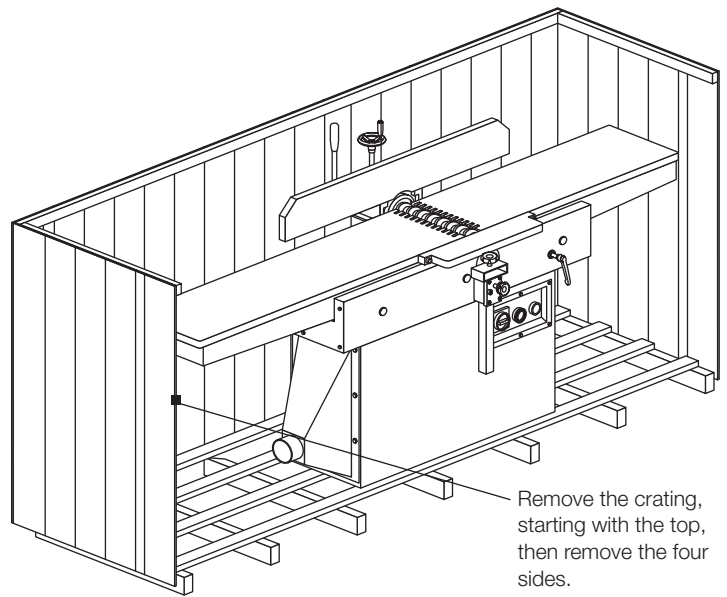
TOOLS REQUIRED:

- Hammer
- Crowbar

Unpack as follows:

Do not remove the machine from the pallet.

1. Remove and save all paperwork attached to the outside of the crate.
2. Remove the crating, starting with the top, then remove the four sides. Use caution to avoid personal injury and prevent damage to the machine's finish.
3. Remove the protective plastic from the machine, starting at the bottom.



Do not remove the machine from the pallet while uncrating.

Do not remove the protective paper that covers the tabletop surface.

4. Remove the plastic sleeve from the side access door handle. The door is locked when the handle is in the vertical position. Turn the handle to the right to unlock and open the access door.
5. Open the access doors and check for hardware, accessories, and tool kit that may be shipped inside the machine. If additional accessories are ordered, they may be delivered separately.
6. Close and lock the access doors.

3.3 Inspection

Save all containers and packing materials until you are satisfied that your machine has arrived in good condition. If you discover the machine is damaged after you've signed for delivery, immediately call Stiles Customer Service at 616.698.7500.

When you are completely satisfied with the condition of your equipment, you should inventory its parts.

Open and check the contents of all containers to ensure all tools, hardware, and accessories are included. The tool kit should contain the following items:

1. 4-piece open end wrench set
2. 4mm, 5mm, 6mm and 8mm short handle Allen wrenches
3. 5mm long-handle Allen wrench
4. Access door handle/key
5. Three (3) 5mm T-handle Allen wrenches
6. Eight (8) extra carbide inserts (30 x 12 x 1.5mm)
7. Two (2) extra angle carbide inserts (30 x 12 x 1.5mm)
8. Seven (7) extra cutterhead gibs
9. Seven (7) extra cutterhead nuts
10. Seven (7) extra cutterhead set screws
11. Four (4) leveling pads
12. Four (4) leveling bolts with nut
13. Two (2) push pads
14. Paint (2 color set)
15. User manual

3.4 Move Machine to Final Position

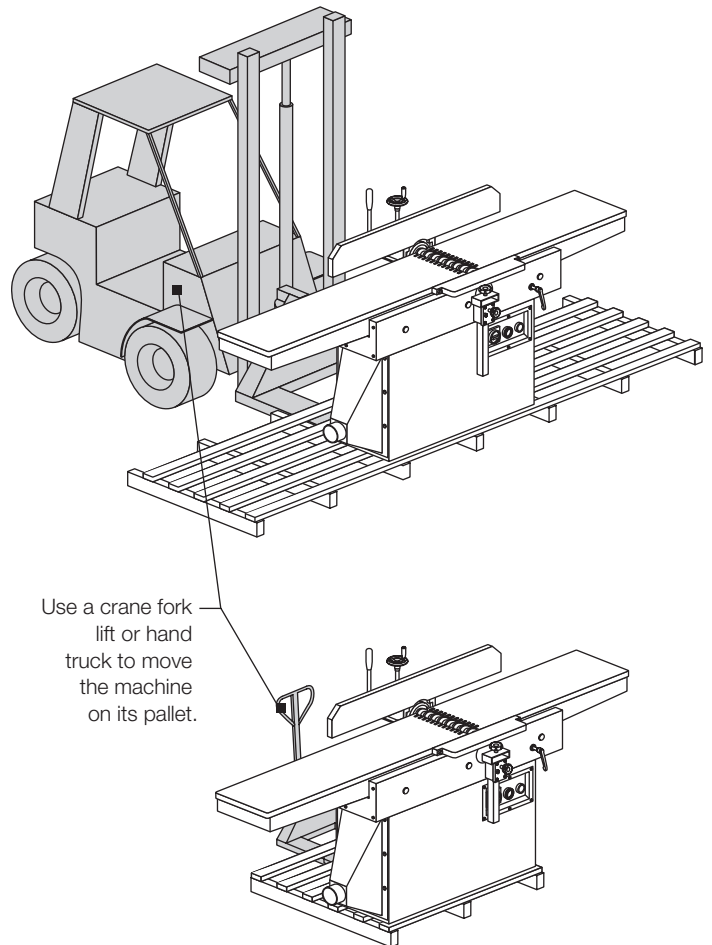
Be sure the site is properly prepared. Refer to section 2.0 for details.

Be sure the cabinet door is closed and locked before transporting.

TOOLS REQUIRED:

- Hand truck or fork lift

Use a hand truck or fork lift to move the machine on its pallet to its final location. If using a fork lift, make sure fork travel is clear of any obstacles.



3.5 Remove Machine from Pallet

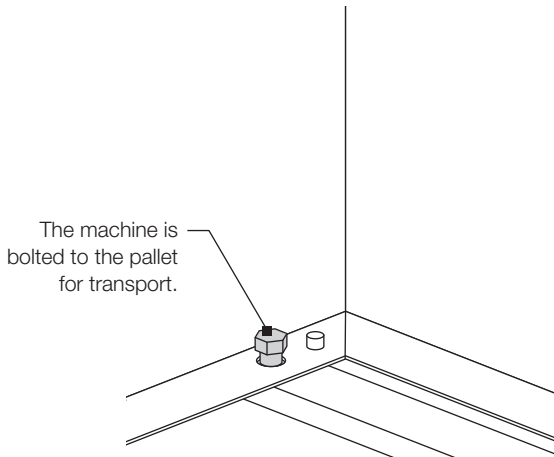
CAUTION

The JT400 weighs approximately 1,380 pounds (625 kg). For this procedure, we recommend using a fork lift or hand truck.

TOOLS REQUIRED:

- Adjustable wrench
- Machine-door key

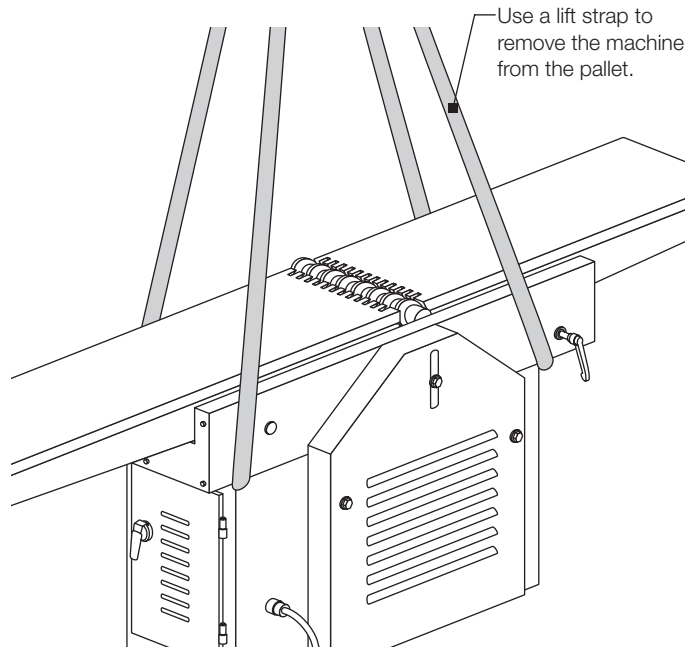
When the machine has been placed at its final location, carefully remove the machine from the pallet.



1. From inside the cabinet, remove the four bolts that secure the machine to the pallet at the interior corners.
2. Lift the machine from the pallet by one of 3 methods:
 - a. Team lift
 - b. Slide machine onto forks of fork lift
 - c. With a fork lift or crane, use a hoist hook and lift strap (suitable to lift 1,380 lbs.) secured to the table supports on the machine to move and place the machine

NOTE: Never pick up a jointer by the infeed or outfeed table. This may move the tables out of level.

3. Carefully slide the machine into final position.



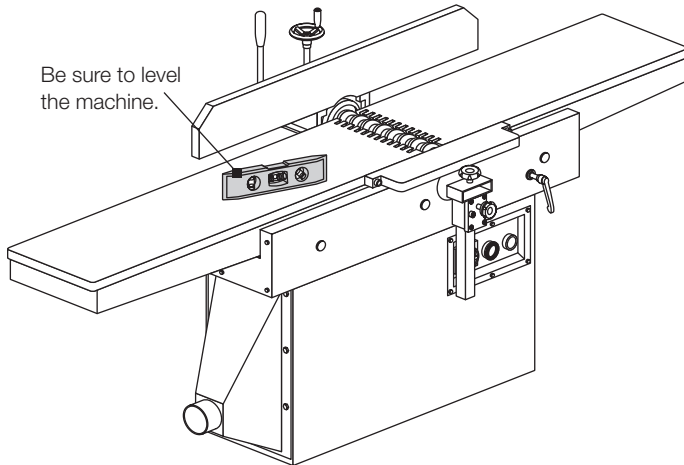
NOTE: Using a hoist hook and lift strap is the preferred method for placing machine.

3.6 Level

TOOLS REQUIRED:

- Bubble Level
- Adjustable wrench

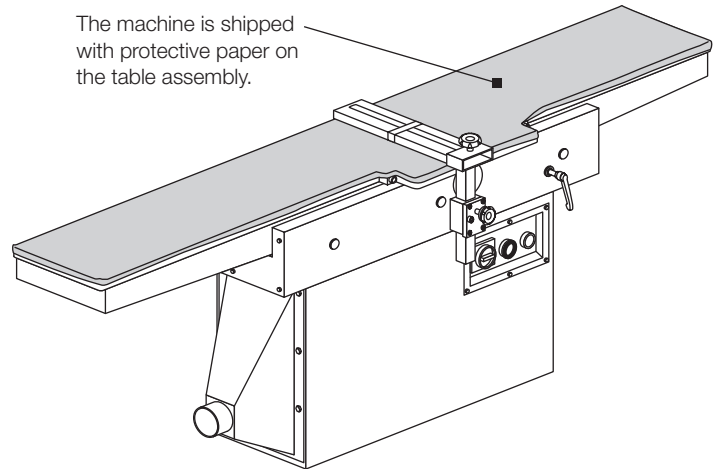
Use a bubble level along the length and width of the tabletop surface to check for level. Use an adjustable wrench to adjust leveling bolts to level machine.



3.7 Pre-Operation Cleaning

⚠ WARNING

Use proper cleaning agents and methods described below. Do not use gasoline or other petroleum-based solvents. There is a risk of explosion and burning if these products are used. Serious personal injury may occur.



Remove and discard the protective paper from the table assembly. Remove the rust-preventative oil that coats the machine using a soft cloth and nonflammable degreasing agent, such as Simple Green or other citrus-based cleaners. Do not use abrasive pads.

⚠ CAUTION

Use extreme care when cleaning or working with the cutterhead. The knives are very sharp.

4.0 Connect to Power

- Voltage – Steady state voltage +/- 10% of nominal voltage.
- Machine needs steady voltage at all times.

WARNING

Before connecting power to the machine, make sure all screws and fasteners are tightened, all mechanical functions work freely, and the cutterhead turns freely.

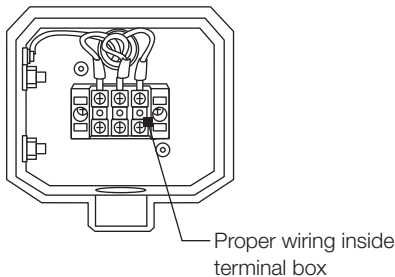
WARNING

All connections to electrical power should be completed by a licensed electrician.

Before connecting to a power source, confirm that the electrical current of the power source is the same as the electrical system supplied with your machine. Ensure the machine is protected with an external over current protective device per your local regulating authorities.

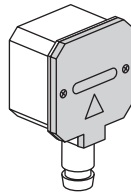
Machine must be properly grounded to prevent electric shock. Never connect the yellow/green wire to a live terminal.

Once connected to power source, terminals are electrified even while the power switch is off.

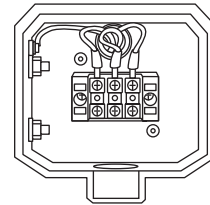


To connect power source to the machine:

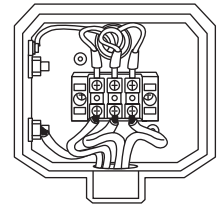
1. Remove the two screws and remove the terminal box cover.
2. Remove the clear plastic insulator that covers the terminals.
3. Insert power source cables through the opening of the terminal box.
4. Connect the three power cables to terminals L1, L2 and L3, and the yellow/green ground wire to ground terminal.
5. Replace the clear plastic insulator and the power box cover.



Remove terminal box covers



Remove the clear plastic insulator that covers the terminals



Connect power and grounding wires

WARNING

Always shut off power at source before removing terminal box cover. Failure to comply with this action may result in electric shock.

CAUTION

We have covered some basic electrical requirements for the safe installation of your machine. These requirements may not cover all installation requirements. You must confirm that your particular electrical configuration complies with all local codes. Ensure compliance by checking with your local municipality and a licensed electrician.

5.0 Safety

WARNING

Like all power equipment, there is danger associated with the Ironwood JT400. Use caution and follow all safety instructions. Take every precaution to protect yourself, others around you, and the machine itself from improper use. Safety is a combination of common sense, training, and being alert at all times while operating your machine. If instructions, warnings, and cautions are not followed, serious personal injury or death may occur.

EYE PROTECTION: Always wear approved safety glasses or a face shield when operating this machine. Only use eye protection that meets or exceeds the standards of the American National Standards Institute (ANSI).

EAR PROTECTION: Always wear ear protection during machine operation.

DRESS CODE: Do not wear loose clothing, neckties, jewelry, or gloves that can get caught in moving parts. Confine long hair and keep sleeves above the elbow.

ELECTRICAL GROUNDING: Your machine must be electrically grounded. If a cord and plug are used, make certain the machine is properly grounded. Follow the grounding procedure indicated by the National Electric Code and local regulating authorities.

GUARDS: Make certain that machine guards are in place and in good working order. The machine should never be operated without safety guards in place.

TOOLING AND ACCESSORIES: Use only recommended tooling and accessories. Improper tooling and accessories may cause personal injury or damage your machine. Always run at the correct speed and feed rate. Never force a tool or accessory to perform a job for which it was not designed. Maintain your tools and accessories. Knives should be sharpened and cleaned for safe, optimal performance. Follow instructions for lubricating and changing tooling and accessories.

POWER: Make sure that the starter is in an OFF position before connecting power to the machine.

Make certain the machine is either unplugged or electrically disconnected and locked out when performing all maintenance, cleaning, or machine adjustments. Never leave the machine running unattended. Always turn the power off and stay by the machine until the cutterhead comes to a complete stop.

HOUSEKEEPING: Before turning on the machine, remove all extra items on or around the machine. Keep the work area clean and free of scrap material, sawdust and other debris to minimize the danger of slipping. Use compressed air or a brush to remove chips or debris. NEVER use your hands.

6.0 Assembly

6.1 Fence Assembly

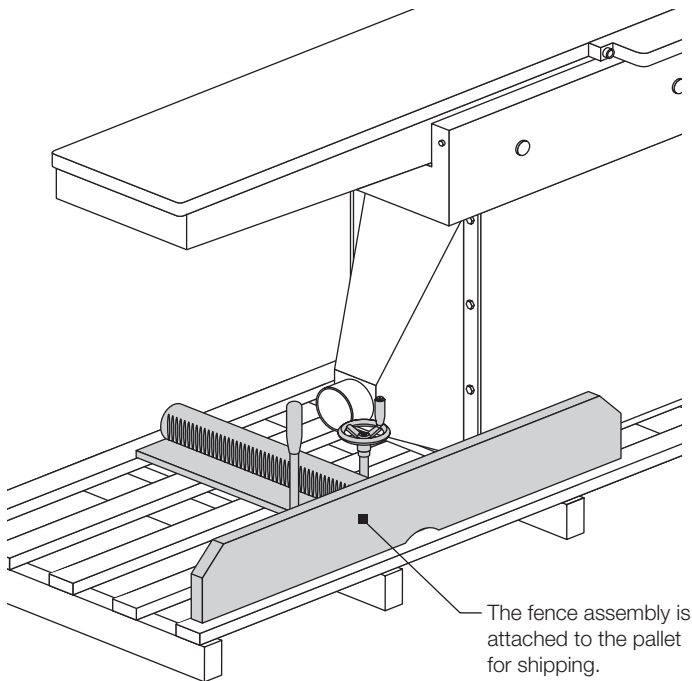
PARTS REQUIRED:

- Fence assembly

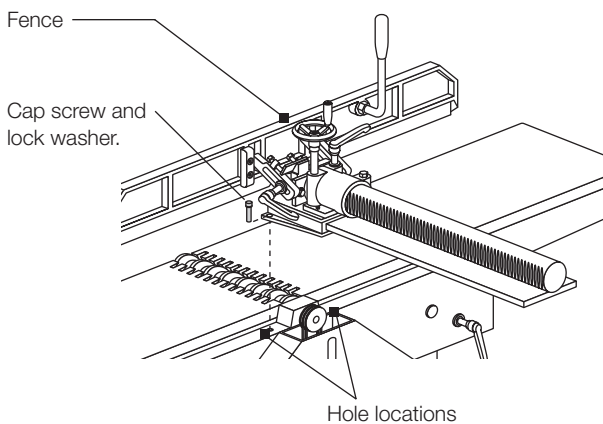
TOOLS REQUIRED:

- Wrenches

The cast iron fence assembly allows the safest and most effective method of jointing. The fence should always be used for straight work cutting to guide the workpiece.



1. Remove the two bolts that secure the fence assembly to the pallet for shipping.
2. Attach the fence assembly to the machine body at the two holes using the provided cap screws and lock washers.



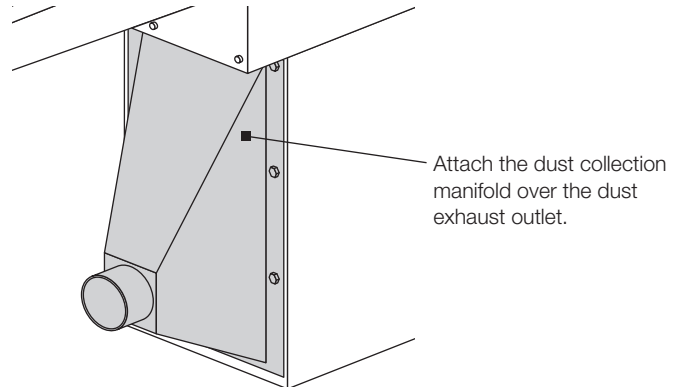
6.2 Dust Collection Manifold

PARTS REQUIRED:

- Dust collection manifold

TOOLS REQUIRED:

- Allen wrenches



The dust exhaust outlet is located at the left-bottom of the machine. Attach the dust manifold using the provided Allen screws.

The outlet diameter is 6" (152mm). Use a proper diameter of dust pipe to connect the exhaust outlet to a dust collector.

NOTE: Make sure access door inside dust manifold is closed prior to installing dust collection manifold.

6.3 Cutterhead Guard

PARTS REQUIRED:

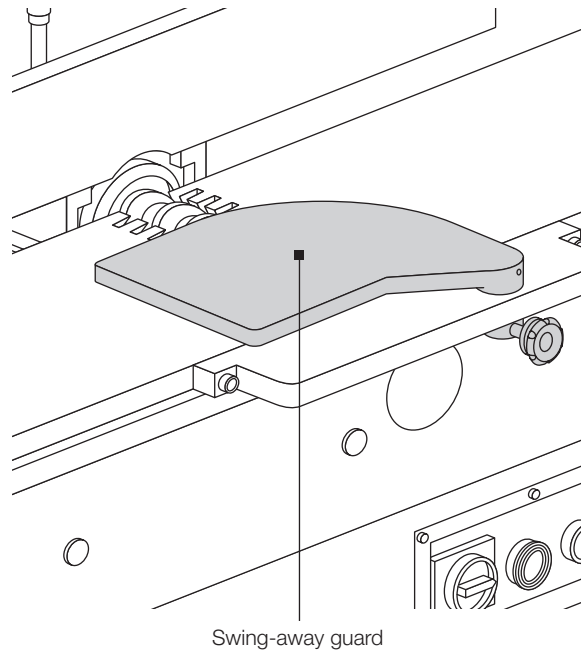
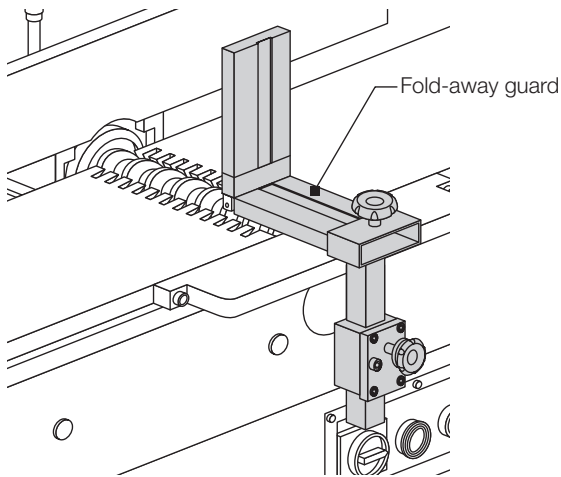
- Cutterhead Safety Guard

TOOLS REQUIRED:

- Allen wrenches

WARNING

For your safety, always use the cutterhead guard assembly when using the JT400.



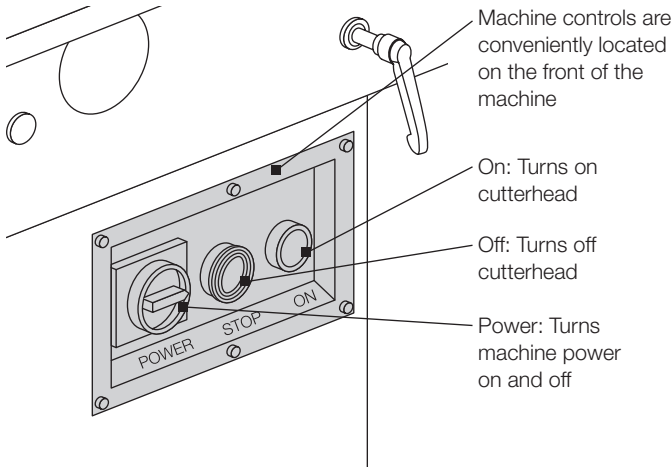
The interchangeable cutterhead guard protects your hands and helps guide the cut. There are two styles of guards available on the JT400 jointer:

- The fold-away guard comes standard with the JT400 jointer.
- The swing-away guard is available as an option from Stiles Parts Dept. Call 1.800.727.8780.

Slide the spring-loaded cutterhead guard into the slot on the fold-away bridge guard. Tighten the locking knob to secure.

7.0 Operation and Adjustments

7.1 Machine Controls



7.2 Machine Operation

Prior to machine set-up or performing any adjustments, repair work, or trouble shooting, it is very important to check the applicable safety functions to ensure they are all in proper working condition.

To operate and adjust the machine, follow these steps.

⚠ WARNING

Disconnect the machine from its power source.

Step 1: Adjust V-Belt Tension

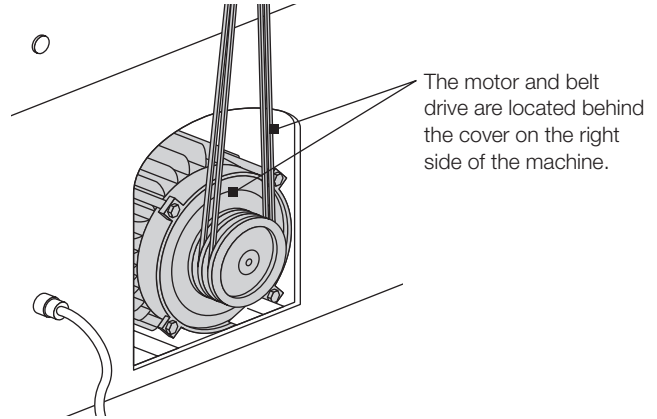
Re-check the v-belt tension weekly for the first 3 months of operation. There should be a small amount of deflection in the belt when pressing it midway between the pulleys. Adjust if necessary. Check tension periodically as belts may gradually stretch over time.

1. Detach the belt cover by removing the 3 cap nuts with an Allen wrench.

NOTE: Leave the hex nuts and flat washers on the threaded rods in place. They keep the belt cover from bending during tightening.

2. Loosen the lower hex nut on the motor base with an Allen wrench.
3. Turn the top hex nut clockwise until proper belt tension is achieved.
4. Retighten the lower hex nut.

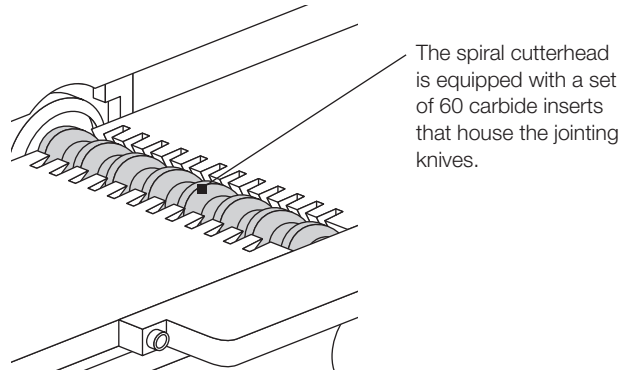
5. Replace the belt cover.



Step 2: Check the Cutterhead

⚠ WARNING

The knives in the cutterhead are very sharp. Handle with extreme care when cleaning, sharpening, or replacing.



The cutterhead should be inspected before each operation. Be sure the carbide inserts are secure and not chipped in any place. Loose or damaged inserts may be thrown from the machine and pose extreme danger. Chipped or missing inserts can cause imbalance in the cutterhead and lead to bearing failure.

Also check the knives for sharpness. The knives are two sided and can be rotated when dull. Once both sides of a knife are dull, the carbide inserts should be replaced. To obtain replacements, call Stiles Parts Dept. at 1.800.727.8780. Reference part # 56-010-12005.

To remove and replace inserts, proceed as follows:

1. Loosen the knife gib by turning the Allen head screw in the knife gib.
2. Remove the knife gib and knife.
3. Remove the remaining knives in the same manner.
4. Thoroughly clean the knife slots and knife gibs.
5. Check the screws. If they appear worn or stripped, replace them.
6. In sequence, insert the knife and knife gib into the slot of the cutterhead.
7. Fasten knife and gib with a spacer and Allen head screw.
8. Repeat the process until all knives are set in position and tight.

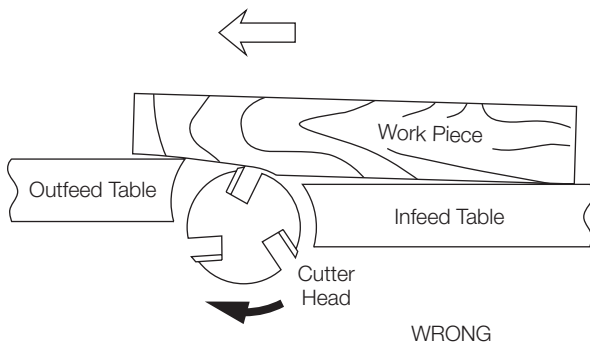
Step 3: Align and Adjust Outfeed Table

⚠ CAUTION

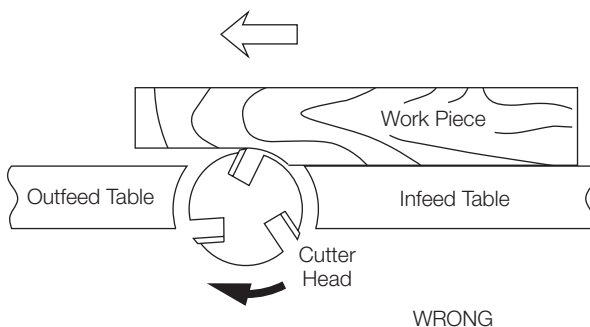
The proper outfeed table height is preset at the factory. To ensure the setting did not change during shipping, check outfeed table height before you use the machine for the first time. Re-check periodically.

For accurate work in most jointing operations, the outfeed table must be exactly level with the knives at their highest point of revolution.

If the outfeed table is too high, the finished surface of the workpiece will be curved.

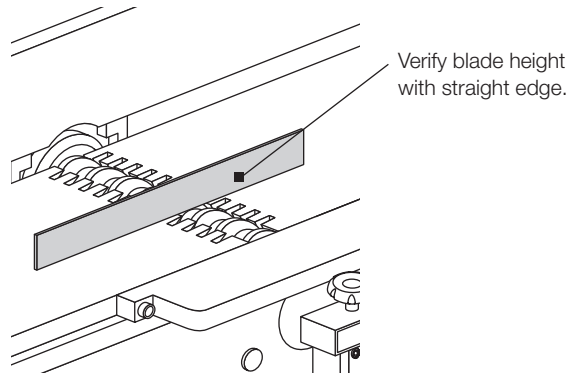


If the outfeed table is too low, the work will be gouged or sniped at the end of the cut.



To properly align the cutterhead with the outfeed table:

1. Place a straight edge on the outfeed table and over a knife tip on the cutterhead. Be careful not to damage the carbide inserts.

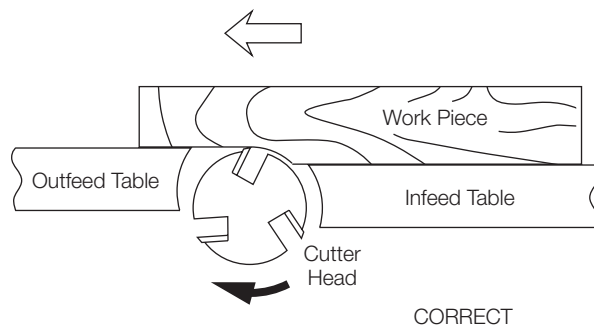


2. Carefully turn the cutterhead by hand.
 - If a knife tip makes contact with the straight edge, but the straight edge does not move, the outfeed table is set properly.
 - If a knife tip does not touch the straight edge, the outfeed table is too high.
 - If the straight edge lifts slightly when knife makes contact, the table is set too low.

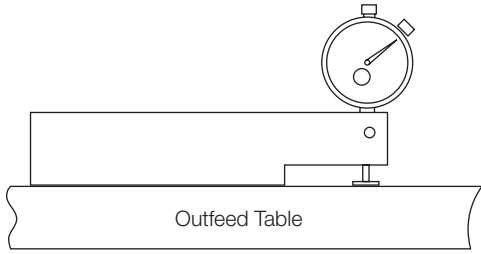
To adjust the outfeed table height:

1. Loosen the table lock lever.
2. Move the adjustment handle up or down.
3. Tighten the table lock lever.

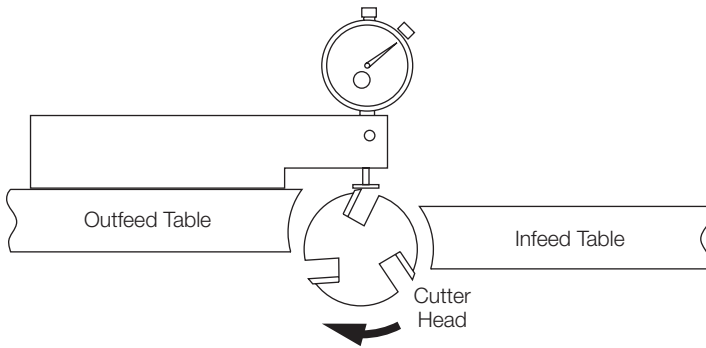
As a final check, run a piece of wood slowly over the knives for 6 to 8 inches. The wood should rest firmly on both tables with no open space under the finished cut.



For more precise adjustment, use a dial indicator. Place the gauge on the outfeed table and adjust the dial to “0” on the indicator.



Place the dial indicator on the outfeed table with the flat indicator point touching a knife edge.



Adjust the table height. When the pointer reaches “0”, the knife edge and outfeed table are even.

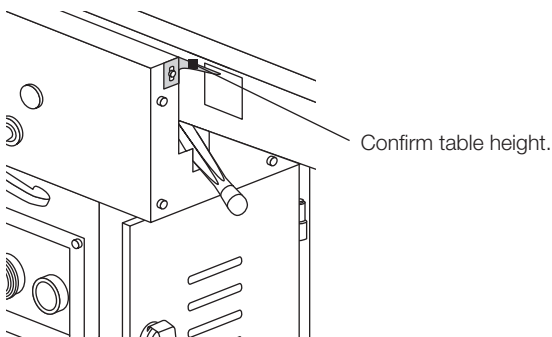
CAUTION

After the outfeed table has been set at the correct height, it should not be changed except for special operations or after replacing knives.

Step 4: Align and Adjust Infeed Table

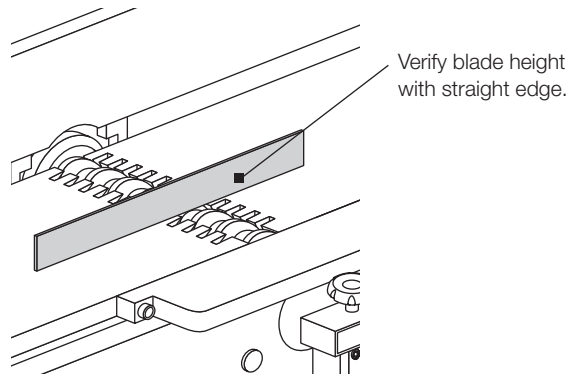
The depth of cut is determined by the distance between the infeed table surface and the knife edge at its highest point on the cutting circle.

For an accurate depth of cut, make sure the gauge on the side of the table reads “0” when the table surface is exactly level with the knives at their highest point of revolution.



To check table height:

1. Place a straight edge on the infeed table and over a knife tip on the cutterhead. Be careful not to damage the carbide inserts.



2. Carefully turn the cutterhead by hand.

- If a knife tip makes contact with the straight edge, but the straight edge does not move, the table is set properly.
- If a knife tip does not touch the straight edge, the table is too high.
- If the straight edge lifts slightly when the knife makes contact, the table is set too low.

To adjust the infeed table height:

1. Loosen the table lock lever.
2. Move the adjustment handle up or down.
3. Tighten the table lock lever.

When the table surface is even with the knife edges, make sure the red gauge indicator is at “0”. If it is not:

1. Loosen the indicator with a screwdriver.
2. Adjust the indicator to “0”.
3. Retighten the screw.

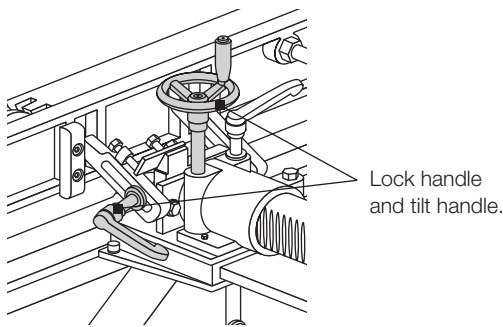
Step 5: Set Depth of Cut

1. Loosen the infeed table lock handle.
2. Move table adjustment arm to raise or lower the infeed table. The gauge indicates the distance that the table has been raised or lowered from the “0” point.
3. Tighten the table lock handle.

Step 6: Adjust Fence Assembly

Using the fence is the safest and most accurate method of jointing, and should always be used when work permits.

The fence tilts forward and backward to 45 degrees. It has a 90-degree stop, 135-degree stop, and 45-degree stop.



To tilt the fence forward:

1. Loosen the lock handle.
2. Use the tilt handle to tilt the fence forward. Lift up slightly on the fence while tilting to prevent scratching of the table surface.
3. Tighten the lock handle.

To tilt the fence backward:

1. Loosen the lock handle.
2. Pivot the stop block out of the way.
3. Use the tilt handle to tilt the fence forward. Lift up slightly on the fence while tilting to prevent scratching of the table surface.
4. Tighten the lock handle.

To move the fence forward or back:

1. Loosen the lock handle.
2. Rotate the handwheel counterclockwise to move the fence forward. Rotate the handwheel clockwise to move the fence back.
3. Tighten the lock handle.

To check and adjust the 90-degree stop:

1. Loosen the lock handle.
2. Tilt the fence until the stop screw contacts the stop block.
3. Place a square or machinist's protractor (not provided) on the table and against the fence surface.
4. If the angle is not 90 degrees, loosen the hex nut on the stop screw.
5. Turn the stop screw until the fence is flush with the square.
6. Tighten the hex nut.
7. Tighten the lock handle.

To check and adjust the 45-degree stop:

1. Loosen the lock handle.
2. Tilt the fence until it contacts the 45-degree stop.
3. Place a square or machinist's protractor set (not provided) at 45 degrees on the table and against the fence surface.
4. If the angle is not 45 degrees, loosen the hex nut on the stop screw.
5. Turn the stop screw until the fence is flush with the protractor.
6. Tighten the hex nut.
7. Tighten the lock handle.

Step 7: Adjust Cutter Guard Tension (For Swing-Away Guard Only)

Set the cutter guard tension so that:

- The guard conceals the unused part of the cutterhead
- After the workpiece clears the cutterhead, the guard swings back to contact the fence

To adjust:

1. Loosen the tension knob.
2. Push the knob to the right to increase tension; turn to the left to decrease tension.
3. Tighten the knob.

Step 8: Feed the Workpiece Through the Jointer

WARNING

Do not attempt to operate the machine if you are not completely familiar with its operation. Obtain immediate advice from a supervisor, instructor, or other qualified personnel.

Use of this machine requires that you give your work your undivided attention, and careless acts or not paying close attention to work being performed may result in serious injury to yourself and/or others. Never operate this or any machine under the influence of drugs, alcohol, or any medication that may impair judgment.

Dust created by manufacturing activities may be harmful to your health. Your risks from exposure may vary. Always work in a well-ventilated area and wear safety approved, protective dust masks specifically designed to filter out microscopic particles. Utilize wood dust collection systems appropriate to your machine type.

Avoid Kickback

It is very important that each workpiece be carefully inspected for stock condition and grain orientation before running through the machine. "Pull-out" and the dangerous kicked back material can result when the workpiece has knots, holes, or foreign materials such as nails. Kickback can also occur when the material is fed against the grain on the cutterhead.

CAUTION

During certain applications, it may be necessary to plane against the grain. This application requires that the operator use a shallow depth of cut and a slower feed rate.

CAUTION

If you are inexperienced at jointing, use scrap pieces of lumber to become familiar with the machine and its operation before doing normal work.

WARNING

Do not operate this machine with the safety guard removed.

Before starting the machine, inspect the machine to ensure it is free of all debris.

Inspect area around cutterhead to ensure the cutterhead is free of debris.

Never start the machine with the workpiece in contact with the cutterhead.

Make sure the workpiece is free of nails, loose knots, and other defects that could cause personal injury or damage the knives.

Remove wood chips and shavings only with the power off.

Stand to the side of the workpiece when feeding it through the jointer to avoid potential injury from kickback and loose chips.

Keep your hands at least 3" (7.6cm) away from the cutterhead area. Never pass your hands directly over the cutterhead.

Do not perform jointing operations on material shorter than 8" (20cm), narrower than 3/4" (2mm), or less than 1/4" (.65mm) thick.

To stop a workpiece before it is entirely fed through the machine, press the Off button. Wait until the cutterhead has completely stopped before removing material. Attempted removal while cutterhead is turning may cause kickback.

To feed a workpiece:

1. Turn the red power switch on the control panel to on.
2. Press the green on button to turn on the cutterhead.
3. Feed the workpiece through the machine.

NOTE: If only workpieces of the same dimensions are run through the jointer, the operator may want to occasionally adjust the fence forward or backward to prevent wear on only one area of the knives.

Hand Placement When Feeding a Workpiece

At the start of the cut, your left hand holds the workpiece firmly against the infeed table and fence while your right hand pushes the workpiece toward the knives.

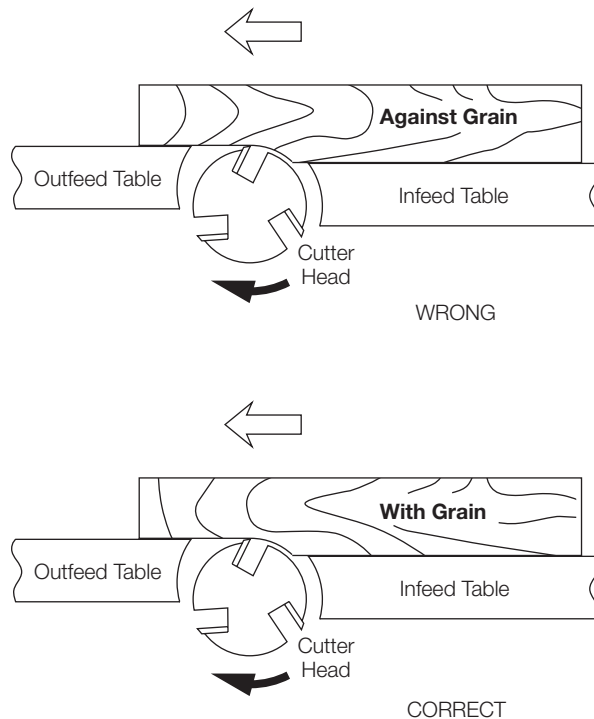
After the cut is under way, your left hand presses down on the new wood surface so it rests firmly on the outfeed table and maintains flat contact with the fence.

Before your right hand reaches the cutterhead area, move it to the workpiece on the outfeed table. NEVER PASS HANDS DIRECTLY OVER THE CUTTERHEAD.

NOTE: Push blocks are recommended for additional safety.

Proper Grain Direction

Avoid feeding workpieces into the jointer against the grain to prevent chipped and splintered edges. Feed with the grain to obtain a smooth surface.



7.3 Types of Cuts

Edge Jointing

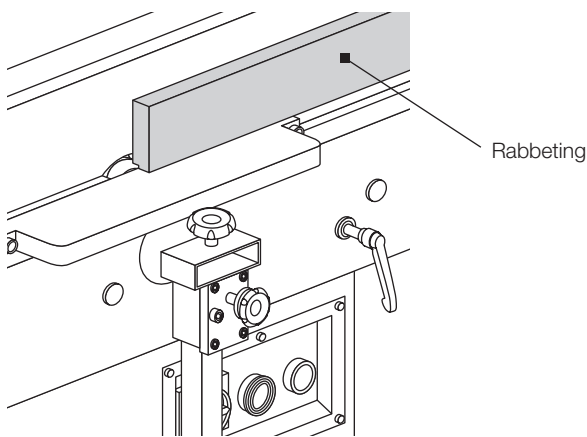
Depth of cut should be the minimum required to obtain a straight edge. Do not make cuts deeper than 1/8" (3.2mm) in a single pass. Hold the best face of the workpiece firmly against the fence throughout the feed.

Surfacing

Depth of cut should be the minimum required to obtain a straight edge. Do not cut more than 1/16" (1.5mm) per pass to allow control of the workpiece. Always use a hold-down device or push block when surfacing short stock or stock less than 3" (7.6cm) thick.

Rabbeting

The width and thickness of your workpiece is dependent upon your preferred width and length of the rabbet (a groove cut along the edge of a workpiece). Never rabbet a workpiece less than 12" (30.5cm) long.



⚠ WARNING

Rabbet cuts require removal of the cutterhead guard. Always use extreme caution while rabbeting. Keep hands clear of the cutterhead. When rabbeting is complete, immediately replace the guard.

Jointing Warped Pieces

If the workpiece is deformed or warped, make shallow cuts with multiple passes until the surface is flat. Do not force the workpiece down against the table; excessive pressure prevents the jointer from flattening the workpiece so it remains warped, curved, or cupped.

Jointing Short or Thin Workpieces

Always use a push block to prevent injury when jointing short or thin workpieces.

Beveling

Lock the fence at the required angle, and keep the workpiece firmly against the fence and tables. Several passes may be necessary to remove enough material and achieve the desired result.

Taper Cutting

Lower the forward end of the workpiece onto the outfeed table instead of starting the workpiece on the infeed table. Do this very carefully, as the piece will span the cutterhead, which will begin cutting at the point of contact with the workpiece. Firmly hold the workpiece when placing it on the jointer to prevent kickback. Push the workpiece forward as in ordinary jointing. The effect is to plane off all the stock in front of the knives to increase depth, leaving a tapered surface. The taper can be determined by the amount of stock removal and the number of passes performed.

To remove any ridge left by the knives when starting the taper, make a very light cut using the regular jointing method, with the infeed table raised to its usual position. Practice is required for this operation, and the beginner is advised to make trial cuts on waste material.

Use extra precautions when performing such procedures.

8.0 Maintenance

⚠ WARNING

Before performing any type of maintenance or adjustments, make certain that the machine is disconnected from its power source and completely shut off.

⚠ WARNING

Never operate the machine until it has been properly lubricated and all necessary maintenance work has been completed.

NOTE: After changing a setting, making an adjustment, performing repair/maintenance work, or troubleshooting, please check that all applicable safety functions are working properly before performing another operation.

Clean all machinery parts and surrounding areas every day.

Keep a maintenance record and perform recommended maintenance checks.

8.1 Lubrication

Periodically lubricate the height-adjustment mechanisms of the infeed and outfeed tables using a high-quality white lithium grease. To purchase grease, call Stiles Parts Dept. at 1.800.727.8780.

The cutterhead runs in two single-row sealed and shielded ball bearings, which are pre-lubricated for their entire life and do not require maintenance.

Do not get oil on the pulleys and belts. If they are dirty, use a paper towel or a soft rag to clean and dry them.

8.2 Inspection

FEATURE	INTERVAL/SITUATION
Cutterhead	Daily
Belt	Every week for the first 3 months and monthly thereafter
Emergency stop	Daily - by functional test
Safety guard	Daily
Electrical cabinet/system	Monthly - Check wiring, loose terminals, insulation deterioration, voltage check

NOTE: After changing a setting, making an adjustment, performing repair/maintenance work, or troubleshooting, please check that all applicable safety functions are working properly before performing another operation.

8.3 Cutterhead Maintenance

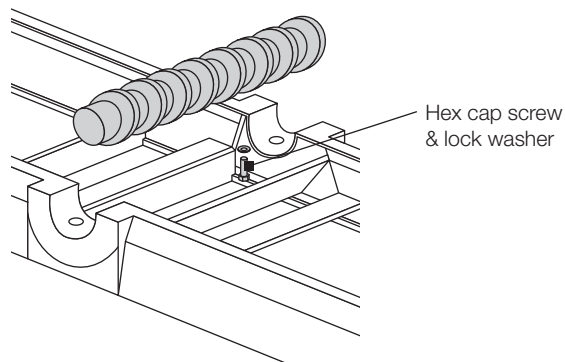
⚠ WARNING

Before removing cutterhead, wrap it with cloth to protect the tooling and to prevent injury from sharp edges.

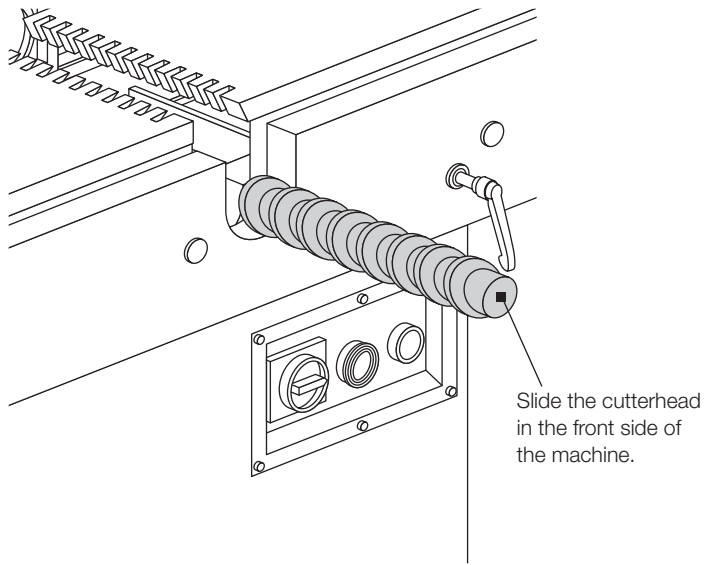
The entire cutterhead assembly may be removed for cleaning, blade replacement, or other cutterhead maintenance procedures.

To remove the cutterhead:

1. Disconnect the machine from its power source.
2. Remove the rabbeting ledge and fence assembly.
3. Lower the infeed and outfeed tables until they stop.
4. Remove the drive belts.
5. Remove the two hex cap screws and lock washers that hold the cutterhead to the bed. These can be accessed from the underside of the bearing blocks.



6. Slide the cutterhead out the front side of the machine.
7. Loosen the hex cap screw.
8. Remove the pulley and key.
9. Loosen the screws on both sides.
10. Remove the bearing cap plates.



8.4 Blade Care

To ensure long tooling life, keep workpiece free from debris, which may dull or mar the knives' cutting surfaces. Inspect knives regularly for damage and replace as necessary.

8.5 Periodic Maintenance

It is important to clean the inside of the machine daily to help ensure long machine life and superior performance. Take care to prevent dust from embedding on moving parts in the machine.

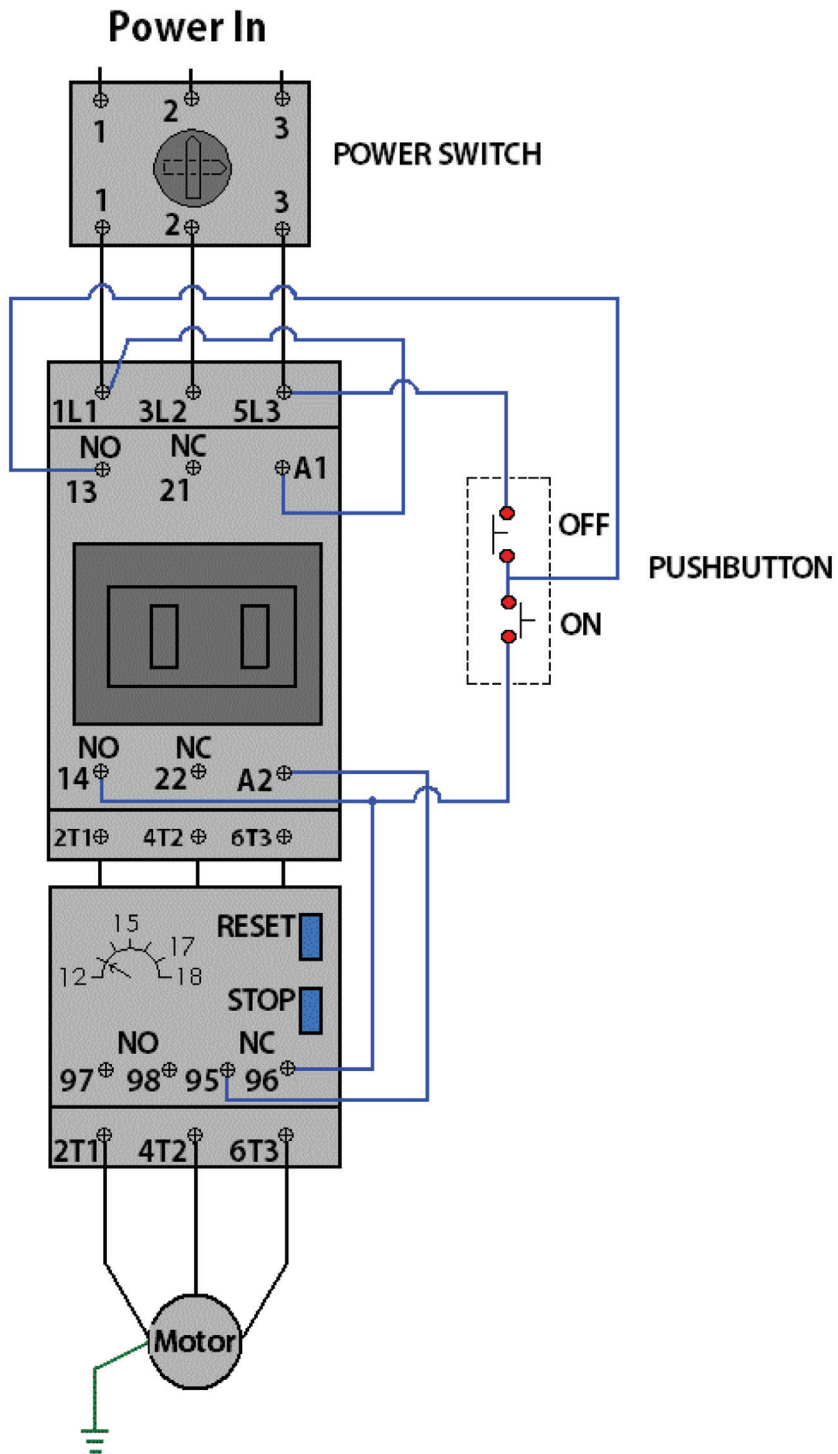
Periodically vacuum the inside of the machine electrical cabinet, as wood shavings, dust or other debris may accumulate.

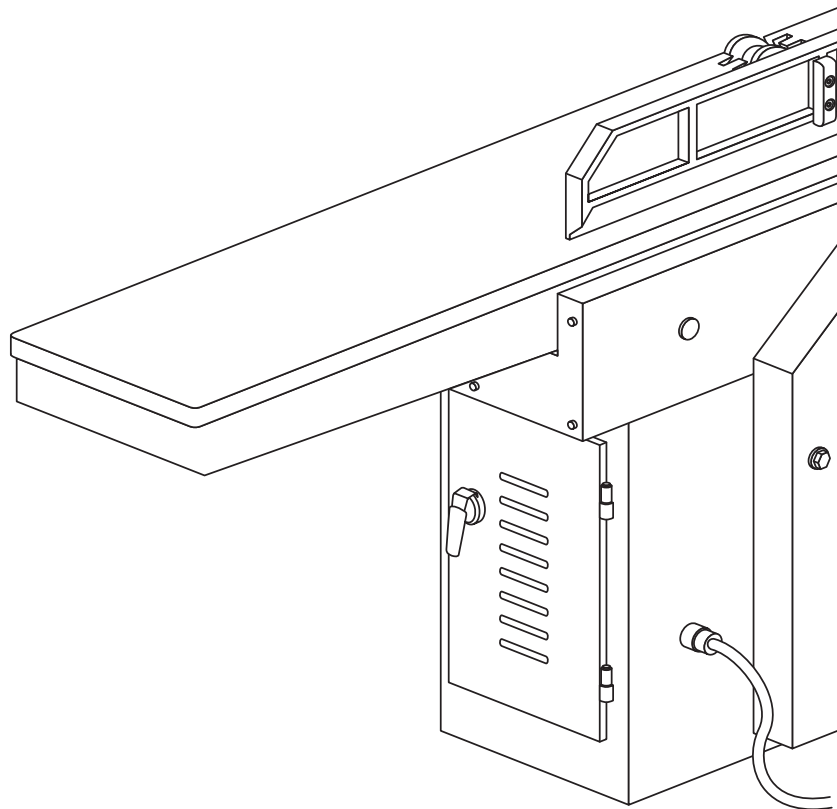
To replace ball bearings, please contact Stiles Parts Dept. at 1.800.727.8780.

9.0 Troubleshooting

Trouble	Possible Cause	Solution
Finished stock is concave on the end.	Knife tip is higher than outfeed table.	Raise outfeed table until it aligns with knife tip.
Back end of stock is thicker than front end.	Knife tip is higher than outfeed table.	Raise outfeed table until it aligns with knife tip.
Finished stock is concave in the middle.	Both tables have too much end fall.	Raise both table ends by adjusting the four screws under the table corners until tables are level.
Ends of finished stock are cut more than the middle.	Table ends are raised higher than the middle.	Lower table ends by adjusting the four screws under the table corners until tables are level.
Chip out.	Cutting against the grain. Dull inserts. Feeding workpiece too fast. Cutting too deeply. Knots, imperfections in wood.	Cut with the grain whenever possible. Replace inserts. Use slower rate of feed. Make shallower cuts. Inspect wood closely for imperfections; use different piece of wood if necessary.
Fuzzy grain.	Wood has high moisture content. Dull inserts.	Allow wood to dry or use different piece of wood. Replace inserts.
Cutterhead slows while operating.	Feeding workpiece too quickly or applying too much pressure. Feed more slowly or apply less pressure to workpiece. Belts are stretched.	Motor single phasing. Tighten belts on pulley per the manual. Measure voltage on motor.
Chatter marks on workpiece.	Inserts incorrectly set. Feeding workpiece too fast or not holding securely.	Set inserts properly. Feed workpiece slowly and consistently while holding firmly.
Uneven knife marks on workpiece.	Inserts are chipped or out of alignment.	Replace chipped inserts; align inserts properly ensuring cutterhead is free of debris before reinstalling inserts.

If you cannot resolve your issue, contact Stiles Technical Support at 616.698.6615.





IRONWOOD

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stiles

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