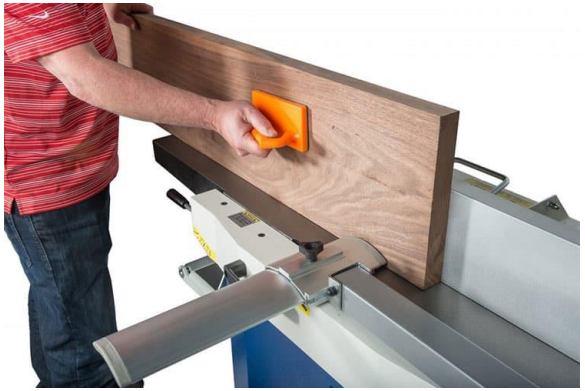
Kushed Procedures

Jointer and Thicknesser | W4



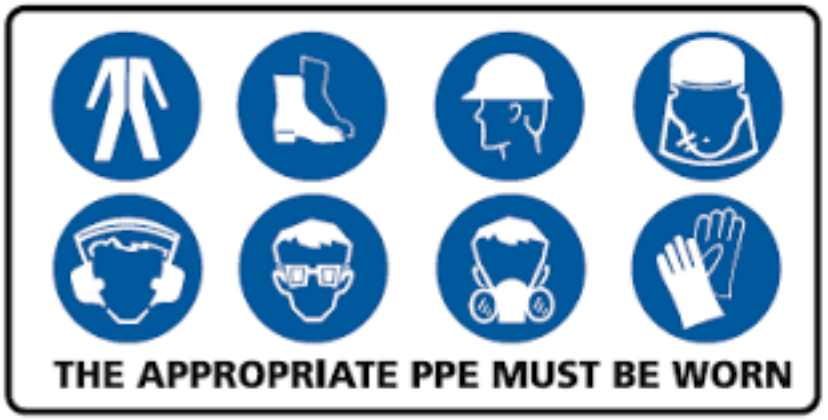
Squaring the edges on a jointer

The jointer (planer) flattens and squares a board to give a reference face and 90° adjacent edge.(settable)

A thicknesser makes the top side of the board parallel to the bottom side at a consistent thickness.

If that board happens to be twisted, it'll come out still twisted, but smoother and thinner

The jointer creates a flat surface on wood, and it can be used to correct bow and warp on one side of a board at a time.



The Shed provides items such as welding masks and gloves.

Members are required to provide their own footwear, eyewear, hearing protection and masks.

Safety

This is a very high priority for our Shed members. There are some aspects that are mandatory under our insurance policies and some which the The Shed requires members to adhere to for everyone's benefit.

The Shed Safety Induction

It is a requirement of attendance at The Shed that members have reviewed the Safety Induction Presentation

Personal Protective Equipment

This is required in various forms depending upon the equipment being used or the activity being undertaken.

Protective eyewear is always mandatory when using machinery.

The Shed schedules a Coordinator and a First Aid Safety Officer for each day of attendance and their safety directions are final and must be adhered to.

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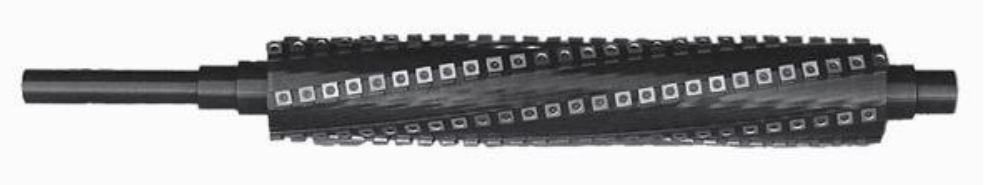
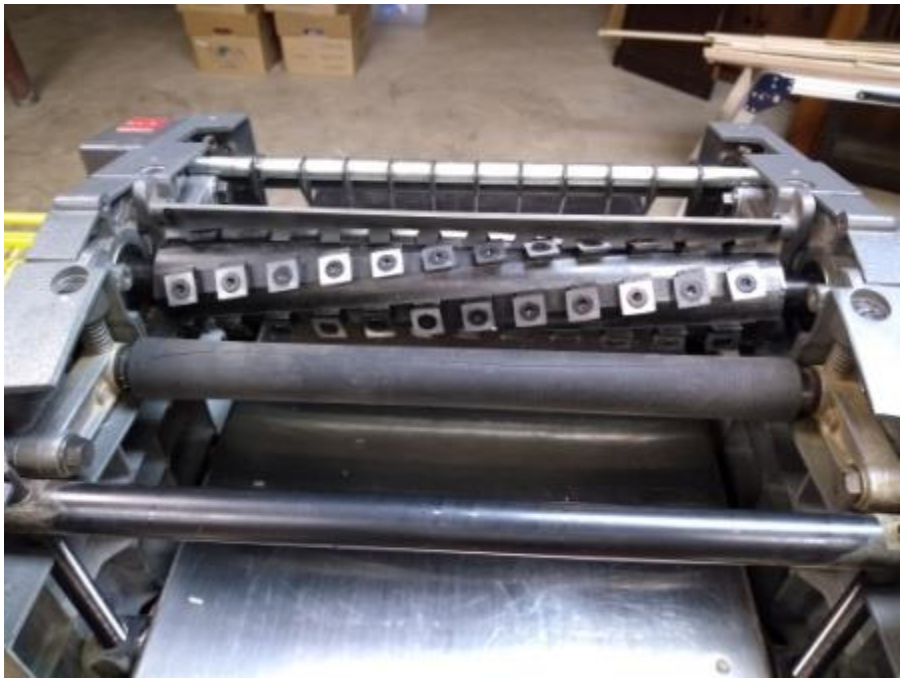


Shellix Cutter head



Cutter Head Installed in Planer

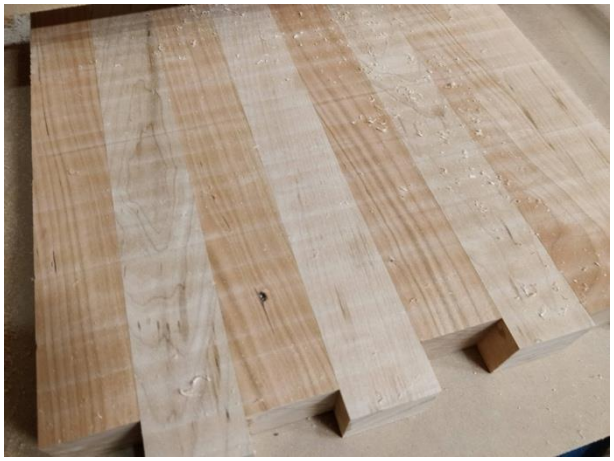
Key Features of Jointer & Thicknessers

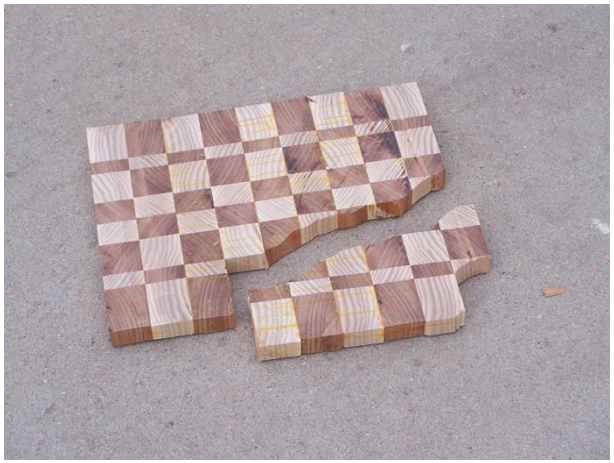
These machines produce smooth, flat, straight surfaces on timber by removal of thin shavings, most of which should be extracted by the automated dust and particle collection system.

In each machine, timber removal is achieved by cutters which rotate, on a drum, towards the timber being fed into the machine. The depth of cut and hence the material removal rate can be adjusted on each machine and is dependent on the “bite” of the cutters. A series of shallower cuts, rather than deep cuts, produces a better finish and puts less strain on the machines.

The Jointer and Jet Planer/Thicknesser are fitted with Shelix cutters.

Shelix cutter heads accommodate spiral rows of 15 mm square tungsten carbide cutters held on to the drum by torx T25 screws. **Correct torque (with tension wrench) on these screws is critical** to ensure cutters are not loose but do not crack under pressure.





End grain through the planer is not good

Operation

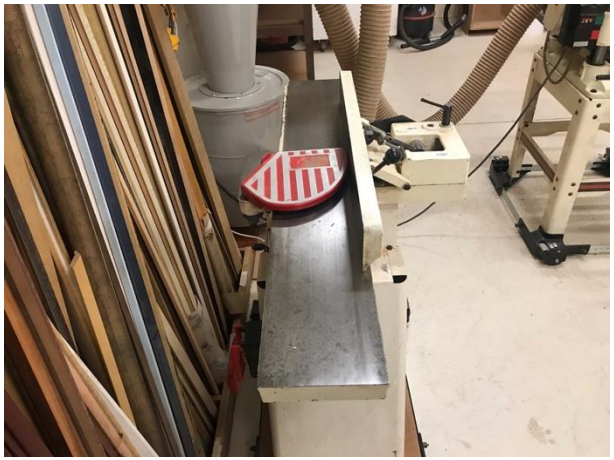
The drums are driven through belts and gears by electric motors which are controlled by push button on/off switches. The machines are connected to 240 volt power outlets via three pin plugs and cords.

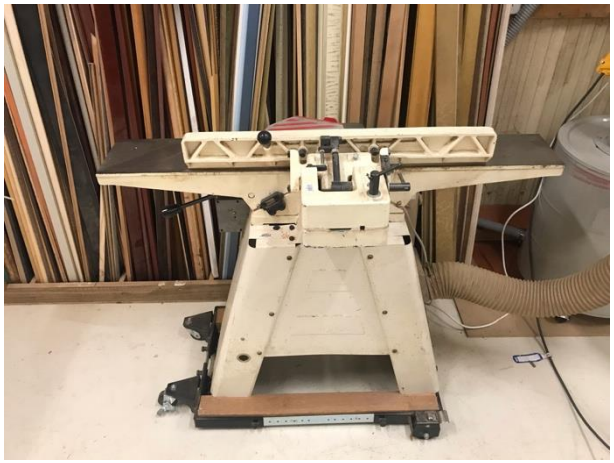
These machines are mounted on wheels and are movable to allow for operation in a clear work zone and for accessing longer work pieces.

Surface “tearing” can be due to machining “against” the grain, “cranky” grain, poor condition of the cutters or high moisture content in timber.

Burnt surface finish can indicate blunt cutters, incorrect feed rate of work, or material not suitable for these machines e.g. too dense and hard.

These machines are not designed to machine end grain or across the grain because this will cause splitting at the trailing edge





The Jointer is also known as a Planing machine. Its main purpose is to remove waste material from wood, to prepare a straight and flat surface and then using an accurately set fence, it can produce another flat straight surface at right angles (90 degrees) to first surface. This can be a preliminary step prior to using the Thicknesser which can then “dress” the timber parallel and to sectional size. The length of the cutter heads determines the sizes of these machines.

The infeed and outfeed tables on the Jointer are independently adjustable with the difference between the tables and/or the height of the knives determining the depth of the cut.

The Jointer is fitted with an adjustable, tilting fence and a spring loaded guard to cover the portion of the cutter head not being used.

The guide fence along the back of the input and output worktables of the Jointer can be angled towards, upright or away from the operator. This allows for chamfers and bevel cuts. A small swing tab can be released to provide adjustment off vertical.

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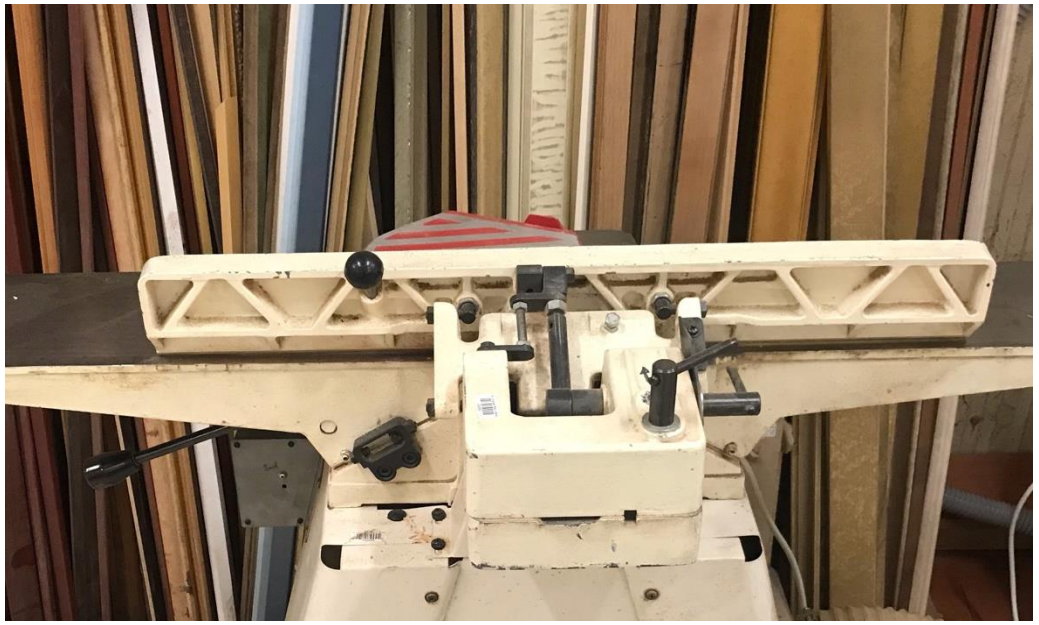
The Jointer fence provides a flat, straight surface which supports the face of the timber when planing an edge.

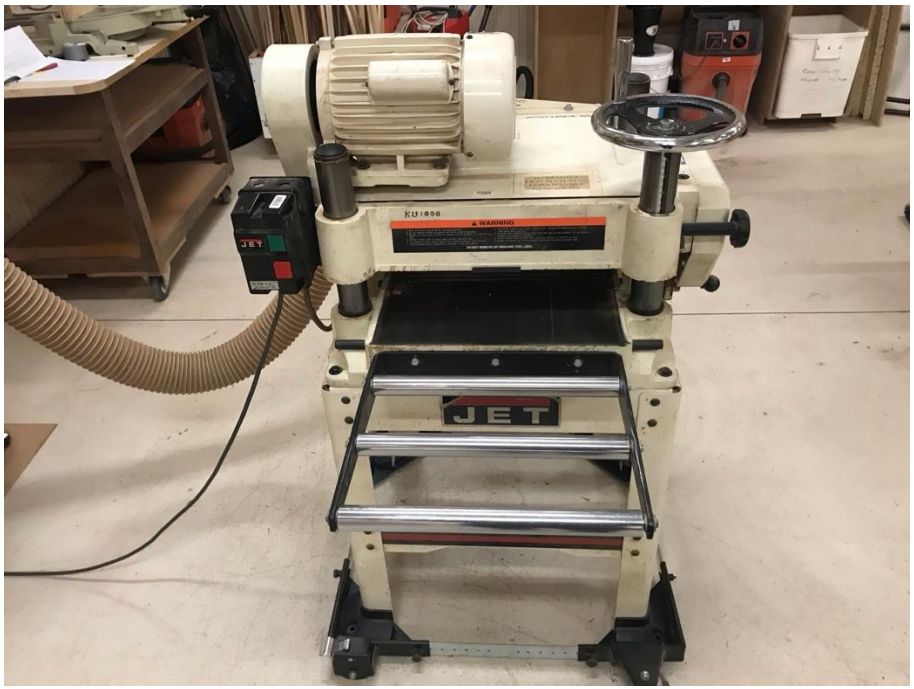
The work on a Jointer is fed towards and from the cutters by hand and with appropriate push sticks.



Jointer adjustments

The Fence angle is adjustable so always check that it is set correctly for your requirement before feeding material

Refer to the manual for the procedure to set the fence angle.



Thicknesser/Planer

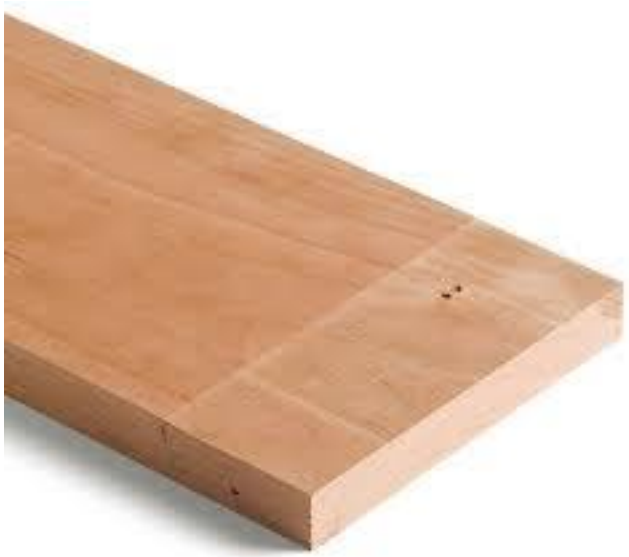
- The Thicknesser has automatic input feed rollers with a coarse straight knurl to grip the work. The amount of timber removal must exceed the depth of imprint from these rollers if a smooth finish is to be obtained.
- The rate of feed of the Jet 26” Thicknesser may be adjusted to 16 or 20 ft per minute. This should only be done when the machine is in motion in a no load situation. Raising or lowering the cutting head of the Thicknessers adjusts the depth of cut.
- In the Thicknessers the in-feed and out-feed extension rollers are set at the same height as the main table which houses the adjustable bed (feed) rollers.
- The Thicknessers have a set of anti-kickback pawls (fingers) which swing down onto the surface of the work and prevent it from being thrown back or withdrawn from the input side unless the cutter head is manually raised above the pawls.
- The 26”Jet Thicknesser is fitted with a removable depth limiter on the input side of the machine. Undersize material can dangerously splinter and be thrown from or jam these machines.

The depth of the first cut should be set by sliding wood through under the cutters whilst slowly lowering the cutters until wood is “grabbed” by the feed in rollers.

These rollers are then lifted higher to release the wood before lowering back to just below ’grab” height.

Now turn the machine on and feed wood through at appropriate depth for its width and density.

Learn how to avoid problems such as snipe and surface tearing before you process your workpiece



Avoiding Snipe

6 Ways to Reduce Snipe

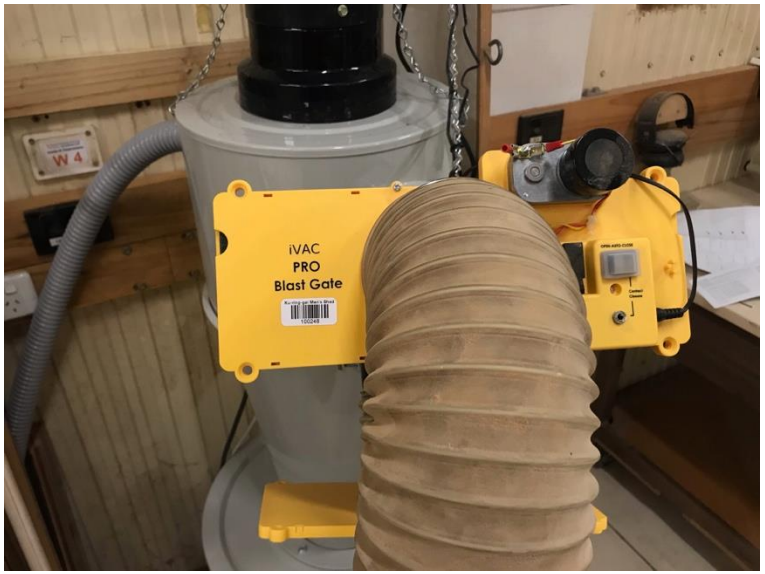
- Cut the Snipe Off the Ends.
- Adjust the Infeed/Outfeed Tables Up.
- Use a Sacrificial Board Before and After.
- Use Sacrificial Side Runners for Glue Ups.
- Run the Boards Through on an Angle.
- Lift the Board In and Out of the Planer.

What Causes Snipe ?

Planers have two pressure rollers, on either side of the cutter. The rollers hold the board down so that it registers consistently as it passes through the machine. But at the beginning and also at the very end of the pass, the board is only being held down by one roller. Snipe occurs when the board lifts slightly, due to the fact that it is only being held down by this single roller. The end result is a board that is just a hair thinner at the leading and trailing 5-8 cms.

Safety & Procedural Issues

- Ensure that the wood to be machined is appropriate for the machine chosen.
- Do not machine composite boards such as laminates, particleboard or MDF (particularly if plastic coated).
- If in doubt about the operation you are about to do, seek a Coordinator's assistance.
- Check and do not machine timber with splits, "short" grain, loose knots and foreign objects such as nails or screws. Glues, epoxies and other foreign matter should be removed before machining lumber.
- Move the machine on its mobile mounting so as to ensure free passage of work when feeding timber into and out of machine. If long lengths are being machined use roller stands or seek assistance of another 'shedder' to support the work. Ensure that wheels on machine trolley are locked prior to use and that trolley is in stable position.



Automatic Gate

These machines generate shavings rather than dust and hence maximum efficiency of the extraction system is required.

- The automatic cyclonic extraction system is designed to capture both large shavings and dust.
- Ensure that Safety Guards are in place over cutters and that the Jointer guard returns automatically if using this machine.
- Do not exceed the working capacity for the machine.
- Make sure depth setting locking mechanisms are released prior to attempting to change settings.
- To adjust depth of cut use the adjusting lever on Jointer and crank handles on Thicknessers. NB Do not twist the adjusting lever on the Jointer as this simply unscrews it from the machine. It is not a locking mechanism.
- Ensure all depth settings are locked after adjustment and prior to machine use. Both hand screws should be tightened on the 26” Thicknesser.
- Ensure all foreign materials such as rags and previously machined materials are free of the machine area prior to operation.

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If the jointer or thicknesser is shedding savings rather than extracting them it is highly likely that the collection bin is full and the outlet from the machine has become blocked.

Call a coordinator if you are not familiar with how to resolve this.

The bin can collect a large amount of material in one day of steady use.

It only takes a moment to check it before you start work.