

SAFE OPERATING PROCEDURE (SOP) & ACCREDITATION GUIDE	Jointer & Planer/Thicknessers	Accreditation Code	W4
<p><b>Safety Requirements whilst operating the Jointer &amp; Thicknessers.</b></p>	<div data-bbox="488 331 632 472"></div> <p><b>Compulsory</b></p> <div data-bbox="488 528 632 672"></div> <p><b>When hazardous or significant dust likely</b></p> <div data-bbox="488 685 632 734"> <p>Wear masks</p> </div>	<div data-bbox="887 315 1031 456"></div> <p><b>If using the machine for extended periods or if high noise level</b></p> <div data-bbox="887 472 1031 613"></div> <p><b>Long and loose hair must be contained.</b></p> <div data-bbox="887 629 1031 770"></div> <p><b>Do not wear gloves unless handling blade during blade exchange</b></p>	<p><b>Use dust extractor. Ensure dust hose is connected and that dust gate is open. Close all other gates on machines not in use.</b></p>
<ul style="list-style-type: none"> <li>Knowledge of Key features of the Jointer &amp; Thicknessers must be understood and clearly evident during competency assessment. Safe operation of the Jointer &amp; Thicknessers must also be demonstrated.</li> <li>This document applies to the <u>6" Major Jointer</u>, <u>16" Jet Planer/Thicknesser</u> &amp; <u>12" Hafco T-128 Thicknesser</u> and must be read in conjunction with the Manuals and appropriate guides. Recognition of the main parts of the Jointer &amp; Thicknessers is necessary in order to understand descriptions below. Reference to diagrams in the Manuals and observation of the actual machines may be useful information sources. Web tutorials are also an excellent informer eg <a href="#">.....</a> (NB This .....)</li> <li>A clear knowledge of our Shed's Safety Induction Package should also be evident and practised by aspiring Jointer &amp; Thicknesser operators.</li> <li>Persons who have had a driver's licence renewal declined because of failure to pass their driver's competency test should not operate the Jointer even if under instruction unless special Accreditation approval has been given in negotiations with the Shed's management committee..</li> </ul>			
<p><b>Key Features of Jointer &amp; Thicknessers</b></p> <ul style="list-style-type: none"> <li>These machines produce smooth, flat, straight surfaces on timber by removal of thin shavings, most of which should be extracted via ducts to the Shed's main dust extractor.</li> <li>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.</li> <li>The Jointer and Jet Planer/Thicknesser are fitted with Shelix cutters whereas the Hafco Thicknesser is fitted with blades. 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.</li> <li>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.</li> <li>These machines are mounted on wheels and are movable to allow for operation in a clear work zone and for accessing longer work pieces.</li> <li>Surface "tearing" can be due to machining "against" the grain, "cranky" grain, poor condition of the cutters or high moisture content in timber.</li> </ul>			

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- Burnt surface finish can indicate blunt cutters, incorrect feed rate of work, or material not suitable for these machines eg 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 work tables 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.
- 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.
- The Thicknessers have 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. This limits the load on the machine and should not normally be removed. (refer to manual for more detail)
- Undersize material can dangerously splinter and be thrown from or jam these machines.

### Machine Capabilities

Machine	Minimum Length	Minimum Thickness	Maximum Thickness	Maximum Width	Minimum Width	Max Depth of Cut
<b>6” Major Jointer</b>	8”(200mm)	1/4”(6mm)	Not specified	6”(150mm)	3/4”(19mm)	1/8”(3mm) Rebate-1/2”(13mm)
<b>16”Jet Planer/Thicknesser</b>	8”(200mm)	1/8”(3mm)	6”(150mm)	16”(400mm)	Not specified	3/16”(4mm) no limiter, Full width 1/8”(3mm)
<b>12”Hafco Thicknesser</b>	8”(200mm)	3/16”(4.2mm)	6”(150mm)	12”(300mm)	Not specified	1/8”(3mm)

## Safety & Procedural Issues

1. Ensure that the wood to be machined is appropriate for the machine chosen. For old palings and rough thicknessing, the 12” machine is to be used. The two Shelix fitted machines are reserved for better quality timber.
2. Do not machine composite boards such as laminates, particleboard or MDF (particularly if plastic coated).
3. *If in doubt about the operation you are about to do, seek a Coordinator’s assistance.*
4. 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.
5. 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.
6. These machines generate shavings rather than dust and hence maximum efficiency of the extraction system is required. AFTER ENSURING ALL POWER TO MACHINE IS OFF AND MACHINE IS UNPLUGGED FROM WALL OUTLET, inspect and ensure the dust extraction connection is clear of shavings inside the hood which connects to the duct. This is done by removing the duct and gate from machine hood inlet and inspecting inside hood. Manually clear if necessary. Reassemble dust extraction system, close all unused gates to other machines and open gate to machine to be used. Turn on main extractor unit at SE wall.
7. Ensure that Safety Guards are in place over cutters and that the Jointer guard returns automatically if using this machine.
8. Do not exceed the working capacity for the machine.
9. Make sure depth setting locking mechanisms are released prior to attempting to change settings.
10. 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.
11. Ensure all depth settings are locked after adjustment and prior to machine use. **Both** hand screws should be tightened on the 26” Thicknesser.
12. Ensure all foreign materials such as rags and previously machined materials are free of the machine area prior to operation.
13. If using the 12” Thicknesser, wear earmuffs or plugs and inform other ‘shedders’ that it is to be used and that Ear Muffs are advisable.
14. Wear eye protection when machining.
15. Check that the anti-kickback pawls on the Thicknesser are free to swing down onto the work when checking the machine before operation. If they are “gummed-up” they may need cleaning and a thin lubricant applied. See Coordinator for this procedure.
16. Check that Thicknesser feed roller is free from wood chips and dust and can maintain a good grip on the work. See Coordinator if clogged roller.
17. During operation, stand to one side of machine away from area directly in front of or behind cutter head and keep hands clear of cutter input and output areas.
18. Note that if the machine appears to be operating incorrectly or unusual noises are evident in the machine, seek advice from the Shed Coordinator. Metallic noises are of particular concern and may indicate loose or broken components.
19. Slowing of the motor indicates overload and too heavy a cut. Switch machine off immediately and reduce depth of cut.
20. If the motor cut-out is activated, switch the machine off at power outlet and allow machine to cool before attempting to reset machine.
21. If workpiece becomes jammed in Thicknesser, turn machine off immediately and allow it to come to complete stop before attempting to clear it. Switch off wall outlet prior to clearing machine.
22. Use full width of machine to ensure even cutter wear. Alternate across the machine when planning narrower pieces.
23. Use shallower cuts for wider material to avoid machine overload.
24. Never reach into a machine whilst it is in operation or running down.

25. Always plane timber *with the grain* to minimise the possibility of kickback. Timber should be checked for straightness. Bowed or twisted surfaces should be placed down on the machine table to remove the bow or twist. Excessively distorted timber should be sawn or hand planed straight prior to machine planing.
26. Maintain a comfortable and safe stance to enable full control of timber during planing operations.
27. Do not attempt to plane material that is too short, thin or narrow.
28. Grooves or ridges which can be felt by hand or observed by eye on the machined surface of the work can indicate loose or damaged cutters. Maintenance is required before any further use of the machine.
29. Make several lighter cuts in preference to a deep cut which could be dangerous.
30. Never attempt to feed the work into the output side of the machine.
31. Never leave unattended machine running.
32. When finished, turn off machine, DO NOT leave machine running or switched on after completion of job. Isolate machine at wall outlet. Close dust gate, clean up machine and work area by sweeping and vacuuming, and replace machine against wall. Leave work area safe for other "shedders".

### **Special considerations when using Jointer**

33. Fence locking mechanisms must be secure prior to turning machine on. Always check fence angle with try square when vertical setting is critical. Ensure machine electrically isolated when checking or adjusting fence angle.
34. Use safety paddles to guide timber and DO NOT guide timber over cutter area with hands. Grip the timber firmly keeping the hands on the top surfaces away from cutters and the table.
35. Hands in contact with the timber should never pass over the blades. When enough of the timber is on the outfeed table, the left hand should be lifted from the infeed side, over the guard, and then placed on the timber on the outfeed side. Keep hands and fingers away from the trailing end of the timber.
36. When long timber is being planed and the position of one hand is moved, the other hand controls the pressure and maintains the feed rate. Both hands should be placed on the outfeed side to complete the cut.
37. Always use a properly constructed push block when planing short or thin timber.
38. A steady, even feed rate is necessary for a good finish.
39. Safely re-set the machine for general planing operations after completing other types of work such as rebates or bevels.

### **Special consideration when using Thicknesser.**

40. When the height (thickness) of the workpiece is unknown, set the work piece on the table, under the planing cutters NOTE: The machine must be turned "OFF". Raise/lower the cutting head until the planer cutters just make contact with the workpiece, do not place stress on the workpiece, or cutting head by over tightening the cutting head. Remove the work piece and place it at the centre of the in-feed table.
41. Press the green "ON" button to start the planer/thicknesser.
42. ONLY adjust the feed rate whilst the machine is operating AND before commencing planing operations. DO NOT adjust the feed rate while planing operation is underway.
43. Hands should never be placed-closer than 200mm to the in-feed table to avoid being caught and trapped by the workpiece. There is a risk of being pulled into the in-feed side of the machine if care is not maintained.
44. The material should never be force-fed.
45. When intending to thickness matched pieces, process each one in sequence at the same thickness and finish thicknessing with all pieces reduced to the same thickness: note the thickness on the height gauge.
46. Twisted material should be cut into short lengths and planed flat on one side using the jointer before thicknessing.

UNDER NO circumstances are users to attempt to undertake any adjustments to the Jointer or planer/thicknessers other than outlined above. Other adjustments must only be undertaken by approved personnel.

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COORDINATORS' OPTIONAL CHECK LIST AND NOTES				INITIAL	DATE
1. Carry out appropriate checks of machines prior to using them.					
2. Set up for straight planing and thicknessing of timber and demonstrate action of feeding workpiece through machines.					
3. Setup Jointer fence to produce chamfer and show how to machine the work.					
4. Set Jointer to cut a rebate and demonstrate cutting of work.					
5. Other options: Stopped Chamfer					
6. Tapered jointing					
7.					
8.					
9. Carry out normal procedures at completion of work					
Version Date:	Draft 13/6/13	Version Prepared by:	K Callinan	Version Authorised by:	M Bailey
Please tick ONLY ONE of the boxes:					
New Accreditation to be added to records <input type="checkbox"/>			Confirmation of existing accreditation <input type="checkbox"/>		
Accreditation seekers signature:	Date:	Accred Code:	1 <sup>st</sup> Assessor's signature:	2 <sup>nd</sup> Assessor's signature:	
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Print Name: .....			Print Name: .....	Print Name: .....	

**NB** A copy of this document is to be completed and filed in the member's personal file at the Shed. Additional copies are available through email or hard copy by if requested. The member's Shed computer records and name tag will be amended when Accreditation is finalised.