

The following must be read in conjunction with SP01 General Workshop Safety Rules.

The Jointer is used to flatten the surface of timber stock. It can also create two flat surfaces that are at right angles to each other. The processes of flattening is called jointing and is the first step in preparing rough or warped timber stock before further processing on the thicknesser and table saw. The Jointer is a potentially dangerous machine with the main hazard being inadvertent contact with the rotating blades that can cause serious finger or hand injury.

General Safety Rules

1. Do not adjust the jointer tables or fence without permission from a Supervisor. The machine has been set up to safely deal with typical shed work.
2. Always wear safety glasses and hearing protection.
3. Be sure to have a firm footing in front of the machine before commencing a jointing operation.
4. Check the stock for foreign objects and never joint stock containing loose or unsound knots.
5. Never try to flatten plywood, MDF or chipboard on the jointer.
6. Check that the blade guard is operating correctly before commencing jointing.
7. Never make "free hand" cuts on the jointer, always push the stock against the fence.
8. Never feed stock with your thumb or fingers on the end of it; keep them on top of the stock.
9. Never let go of the stock during the cut.
10. Never stand behind the stock while pushing it across the Jointer table. *(Jointers can kickback)*
11. Use push paddles to push the stock wherever practical and always use them for thin stock.
12. Never let fingers come within 100mm of the blades when it is running.
13. Never joint stock less than 300mm long.
14. Make sure stock is at least 13mm thick when flattening the wide face. *(Thin stock bends under pressure and cannot be flattened successfully on a Jointer)*
15. Never edge joint material less than 6mm thick.
16. Avoid feeding the stock into the jointer against the grain since this causes tear-out.
17. Turn off the jointer before clearing any materials near the blade.
18. Have someone help support long stock, but don't allow them to push or pull the stock.
19. Always push the work well beyond the blades when finishing a cut so that the blade guard can close.

Timber Preparation

As a general rule it is not advisable to try to flatten boards that are longer than twice the length of the jointer tables which in the case of the 6 inch jointer is 2160mm. Longer lengths can be flattened but the skill level required is higher. It is also not efficient to try to flatten very long stock where the stock length is much greater than any of the individual pieces that will be made from the stock. More passes will be required and more timber will be wasted. Therefore, before using the jointer to flatten stock that significantly exceeds 2000mm in length, consider the final lengths of timber that will be required for your project and, if possible, cut it into shorter lengths that comfortably exceed the minimum 300mm length rule in 13 above.

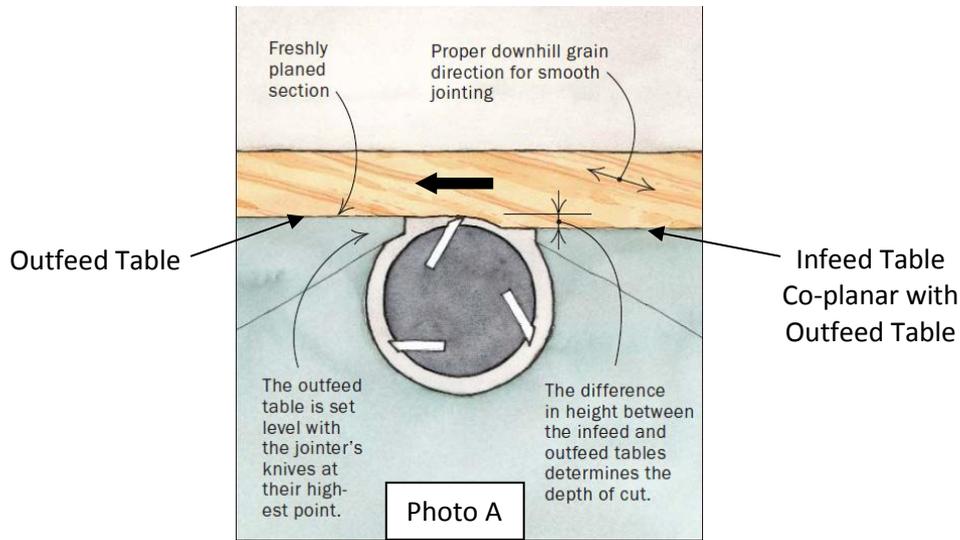
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How Jointers Work

To use a jointer effectively it is important to understand how they work. Photo A below illustrates how the cutter is set up relative to the infeed and outfeed tables.

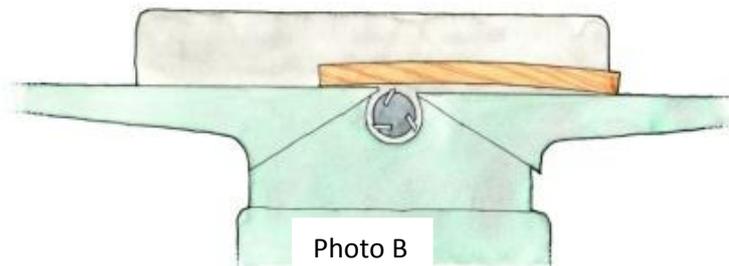


As the stock moves from right to left across the jointer's cutter, downward pressure is applied to the stock on the outfeed table which is the reference plane for the flat surface to be prepared on the stock. The number of passes required to achieve a flat surface depends on how close to flat the surface was at the start of the jointing process.

Achieving a flat surface on the jointer requires practice.

How to Use the Jointer to Flatten a Face and Edge.

Firstly check if the stock is bowed along its length and / or cupped across its width. If it is bowed, it should be placed on the jointer table as shown in Photo B. Similarly if it is cupped the concave cupped side should be placed on the table. Next check the grain direction and align the board so that the grain direction will be downhill as shown in Photo A.



Face Jointing Process

1. If you are planning to flatten both the face and edge of the stock check with a try square that the fence is at 90 degrees to the table along its length.
2. Mark the face to be flattened with a series of chalk or light pencil marks across the face along its length. *(These act as a reference as to how the flattening process is progressing. When they are all removed the face should be flat).*
3. Stand on the side of the jointer opposite the fence and place the surface to be flattened face down on the infeed table, against the fence with its orientation determined as described above. *Continued Pg 3.*

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4. Switch the jointer ON and wait for the motor to come to full speed.
5. Apply light downward pressure onto the stock as you begin to feed it over the cutting head. **Use just enough pressure to comfortably control the stock.**
6. Once the front of the piece has safely passed the cutting head your left hand applies pressure onto the stock on the outfeed table as you continue moving the board ahead. Concentrate your hand pressure on the stock on the outfeed table and use your right hand to propel the stock forward with minimal downward pressure as shown in Photo C.
7. As the rear of the stock approaches the cutting head, remove any remaining downward pressure on your right hand while it is over the infeed table and concentrate all the pressure onto the stock over the outfeed table, keeping hands safely away from the cutting head. Keep moving the board until it clears the cutter.
8. Safely lift the stock, check the markings made in 2 and return to the starting position for another pass if this is required to get the stock flat. i.e. if markings are still visible on the face.
9. Switch Off the jointer when a flat face is achieved.

Forward push to propel board along the table with minimal downward pressure



Light downward pressure on board over out-feed table

Important Note: On relative thin boards that can flex under pressure it is important to not apply too much downward pressure over the outfeed table. On a bowed board, pressure that flexes the board such that it's bottom surface is forced down onto the outfeed table close to the cutter, when it naturally would be above the table surface, will result in each pass reproducing the bow and a flat surface will never be achieved.

Jointing the Edge.

The next step will be to square up one edge perpendicular to the face that was just jointed.

The edge jointing process is essentially the same as described above except that consistent pressure must also be applied towards to the fence to keep the previously flattened face hard against the fence.

Edge Jointing Process

Place the previously flattened face against the fence and move the stock over the cutter as described above for the Face Jointing Process while at the same time keeping the previously flattened face hard against the fence, keeping your hands safely away from the blades. Numerous passes will likely be necessary until the edge against the table is perfectly flat and square to the edge against the fence. Switch off the joiner when finished and clean up.