



LOW-ANGLE SMOOTHING PLANE

Owner's Manual

Record the invoice number and date of purchase in your manual for future reference.

Invoice Number:

Date of Purchase:

Low-Angle Smoothing Plane Specifications: MTC-49414

Effective sole length	244mm
Sole Width	63mm
Weight	1.5kg
Blade Bed Angle	12°
Blade Steel	M2 HSS
Blade Width	51mm
Blade Thickness	3.2mm
Included Blade	25° Bevel Angle

Additional Blades

Product Code	Bevel Angle	Effective Cutting Angle
MTC-49476	25°	37°
MTC-49483	38°	50°
MTC-49490	50°	62°

Blade Kit: MTC-49421-BLK-2

Product Code	Included In Kit
MTC-49421-BLK-2	38° & 50° Blades

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INTRODUCTION

Melbourne Tool Company

The most human thing you can do is make things. And there is no more natural way to-do this than work with wood. Yet wood working is not without its challenges it takes focus and discipline to learn the craft. Good makers stick at it and work hard because nothing else really matters.

Woodworking also requires great tools. Tools that are simple, authentic and accessible. Knowing this led to the creation of the Melbourne Tool Company. Designed and developed in Melbourne Australia, for all you passionate woodworkers out there.

Low-Angle Smoothing Plane

Your MTC Low Angle Smoothing Plane is the perfect tool for taking your project from nearly-finished to finish-ready.

With a short sole, adjustable mouth and a range of blades available to suit the timber in front of you, every project you tackle will be silky smooth from now on.

Welcome to the MTC family.



SECTION 1: SAFETY

General Safety Rules

For your own safety, please read and understand this instruction manual before installing and operating the tool.

Owner's Manual:

Read and understand this owner's manual before using the tool.

Handle With Care:

Hand tools include sharp blades that will cause serious injury if handled improperly. Dropping the tool will likely cause damage to the tool and anything it lands on, including but not limited to your toes.

Keep the Tool Sharp:

A blunt tool will require excessive force to be used, which greatly increases the chance of injury.

Awkward Positions:

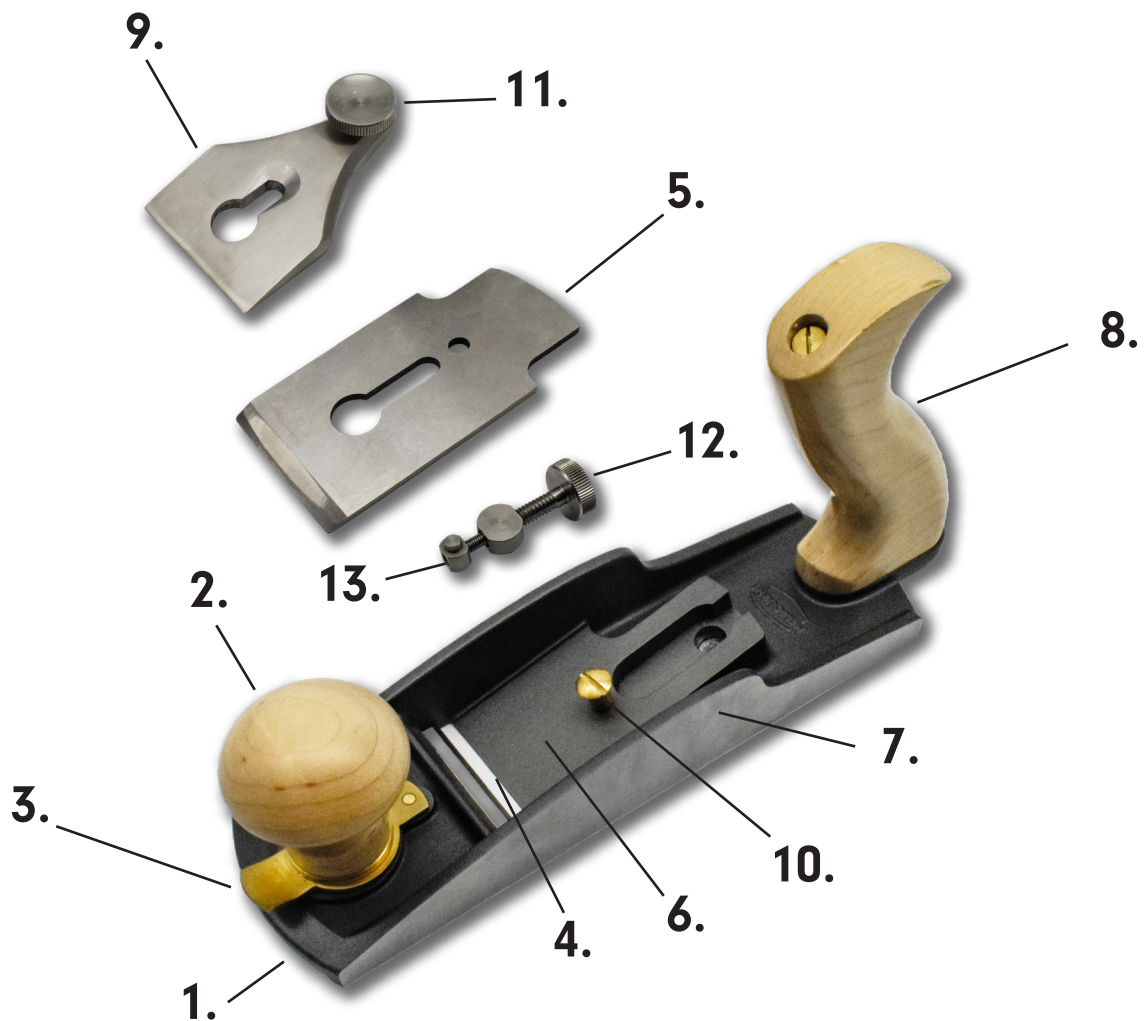
Keep proper footing and balance at all times when using the tool. Arrange the workpiece so that you can bring the tool to the work in a comfortable manner.

Experiencing Difficulties?

If at any time you experience difficulties in performing the intended operation, stop using the tool and consult this owner's manual. For further technical support, please contact support@melbournetool.com or the retailer from which you purchased the tool.

SECTION 2: COMPONENT DIAGRAM

Diagram



- 1. Toe
- 2. Front knob
- 3. Mouth Adjustment Lever
- 4. Mouth
- 5. Blade
- 6. Blade Bed
- 7. Sole

- 8. Rear Handle
- 9. Lever Cap
- 10. Lever Cap Screw
- 11. Lever Cap Thumb Screw
- 12. Depth & Lateral Adjustment Wheel
- 13. Adjuster Pin

SECTION 3: OPERATION

First Use

Your plane ships with a coating of rust-inhibiting oil to ensure it arrives to you in good condition, but this must be removed prior to use.

Disassemble the plane by loosening the Lever Cap Thumbscrew and removing the lever cap, blade, and adjuster assembly, taking care with the sharp edge of the blade.

Unscrew the Front Knob completely, and remove the Toe and Mouth Adjuster.

Using a clean rag, wipe all components to remove all but the lightest coating of oil.

The blade is ground to the correct angle but will require sharpening before use. The back of the blade may also benefit from final flattening.

Reassemble the plane, noting the correct orientation of the blade (bevel facing up) and taking care not to damage the edge.

Do not over-tighten the lever cap thumbscrew – it only needs a quarter-turn or so once the slack is taken out.

Sharpening the Blade

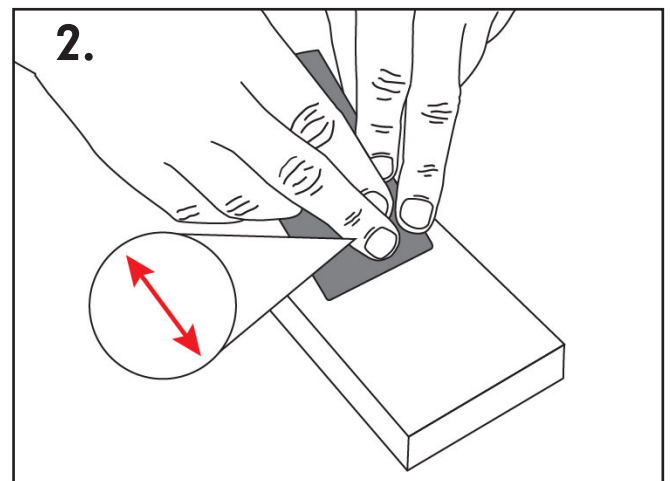
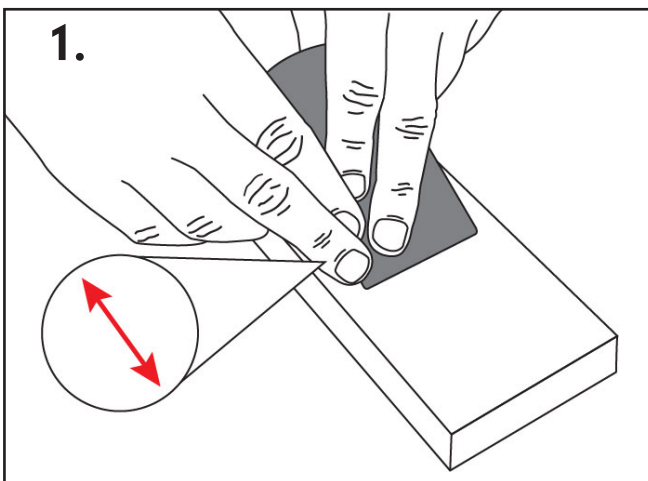
Periodically check the condition of the blade and sharpen as required. A sharp blade is the single biggest factor in enjoying the use of your plane, and the quality of the surface it produces.

When replacing the blade, check the bed is free from wood shavings and any build-up of wax or oil.

Camber and Rounded Corners

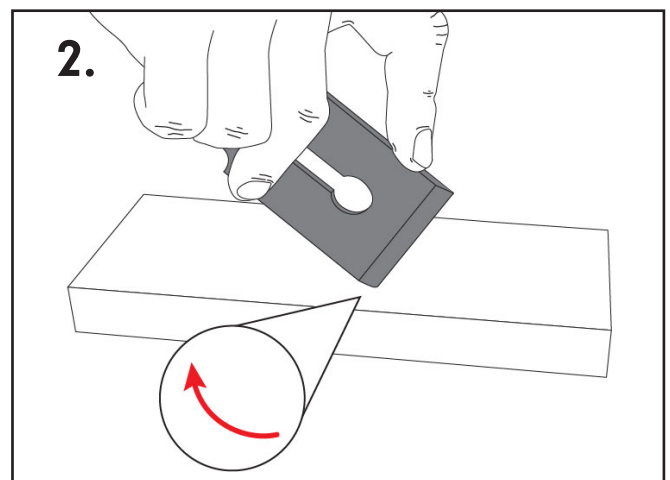
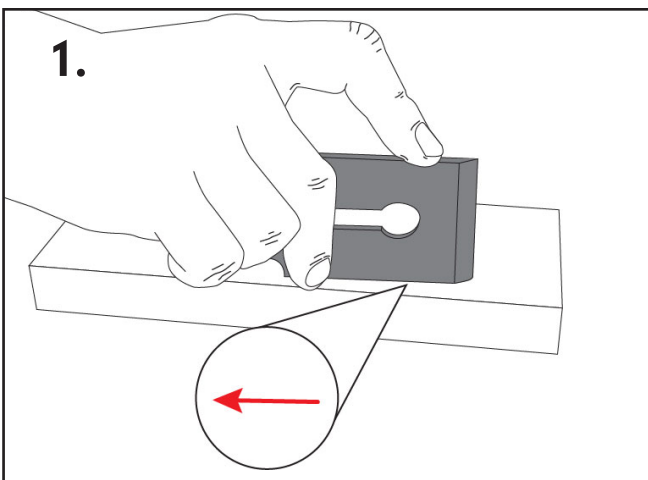
When smoothing a board that is wider than the plane, it is common to camber (or curve) the cutting edge of the blade. A blade sharpened this way will take a slightly heavier cut in the centre of the plane, and a slightly shallower cut at the sides. As you work across the board, each pass will blend into the previous one leaving a surface that appears smooth and flat. Rounding the corners of the blade further reduces the risk of leaving 'tracks' along the board.

Creating the Camber



To create the camber, simply sharpen the blade as normal and then take 10 or so strokes with pressure applied only to one side of the blade. Repeat the same number of strokes with pressure on the other side of the blade and observe the resulting camber. Continue until you reach the desired camber, but a subtle curve is all that is required.

Rounding Corners



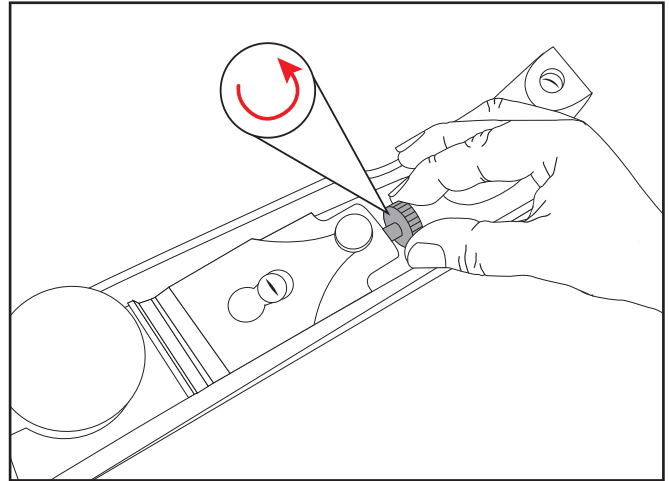
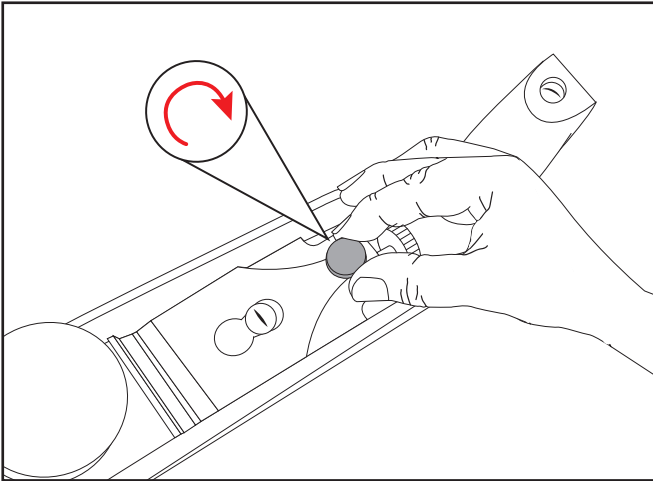
Round the sharp corners of the blade by running them along the abrasive, turning the blade as you go. This step may damage soft waterstones use a diamond plate, oilstone or sandpaper on a flat scrap of timber for this step.

Setting the blade

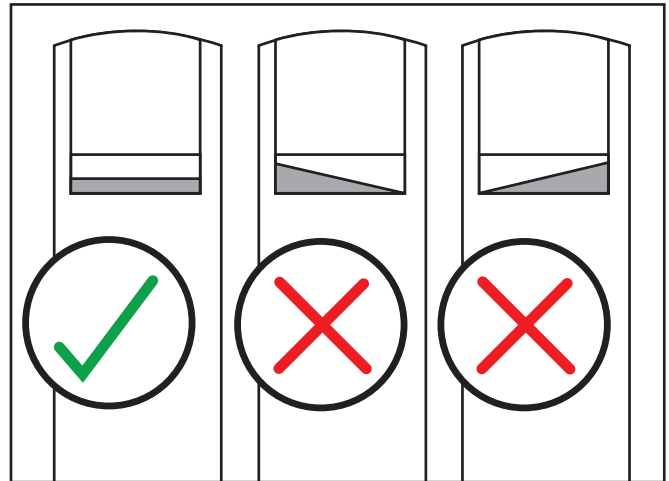
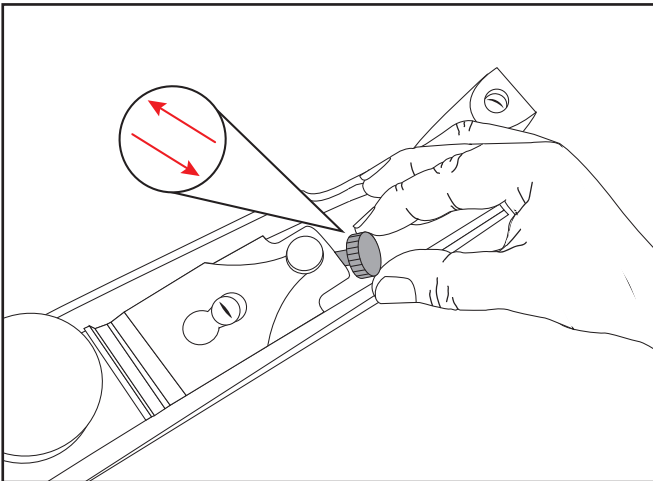
The Depth & Lateral Adjustment Wheel controls both the projection of the blade below the sole and the lateral angle of the blade.

Turning the wheel clockwise lowers the blade, while turning it anticlockwise retracts it. Pushing the wheel to the left skews the blade to the right and vice versa.

Depth & Lateral Adjustment



Blade Mouth Adjustment



1. Loosen the lever cap thumbscrew just enough so that adjustments can be made without excessive force.
2. Open the mouth of the plane to avoid advancing the blade into the mouth.
3. Place the plane on a flat timber surface and advance the blade until it just touches the surface.
4. Holding the plane upside-down check the blade is parallel to the mouth opening.
5. Tighten the lever cap wheel (do not over-tighten) and take a test cut. Repeat the procedure to advance the blade as necessary.

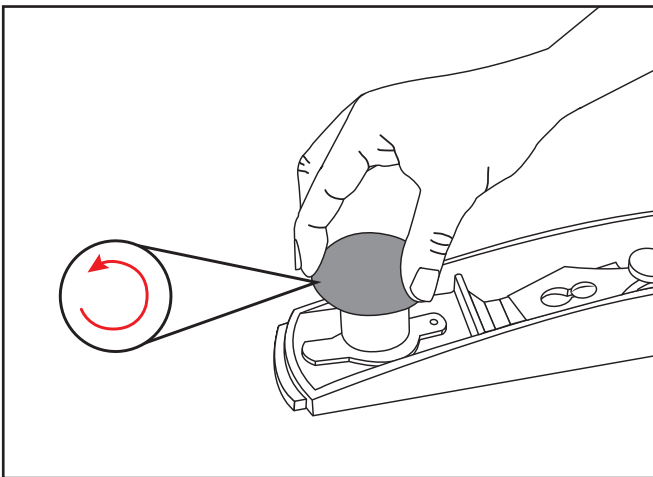
Mouth Adjustment

The Toe pushes down on the wood fibers in front of the blade preventing the wood from splitting and tearing out ahead of the cut.

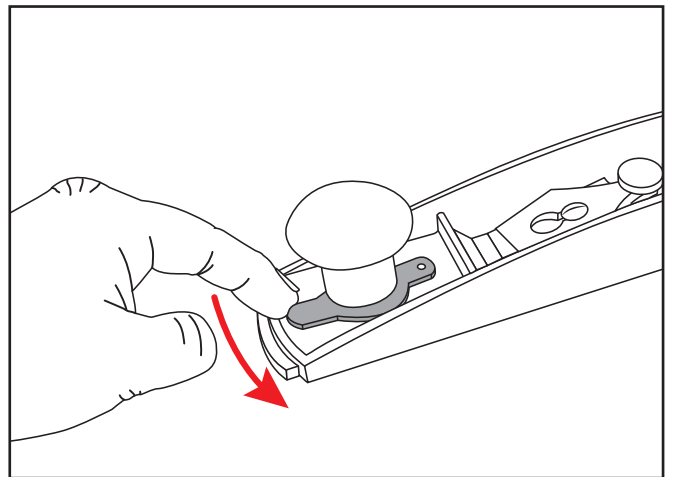
To maximise the effect of the Toe, set it so that the mouth opening is as small as possible while still allowing a shaving to escape. The deeper the cut you are taking the thicker the shaving will be and so the wider the mouth will need to be.

To adjust the mouth opening loosen the front handle and swing the Mouth Adjustment Lever right or left to move the Toe forward or backward. Take care not to move the Toe into the blade. Tighten the front handle to lock the position of the Toe.

Adjusting the front handle.



Swinging the mouth lever.

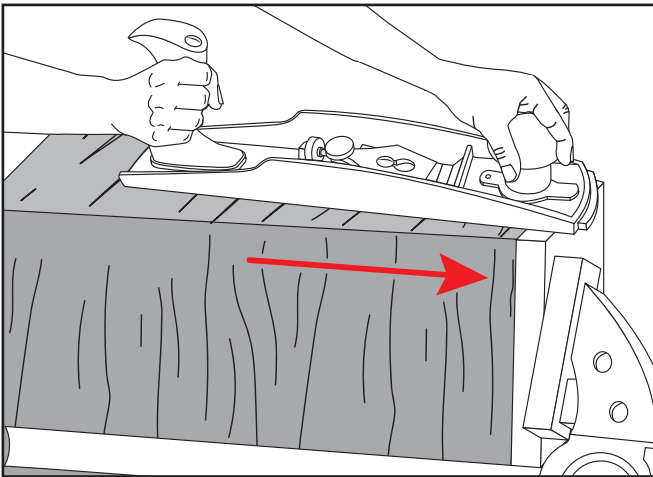


Bevel Angles & Grain Direction

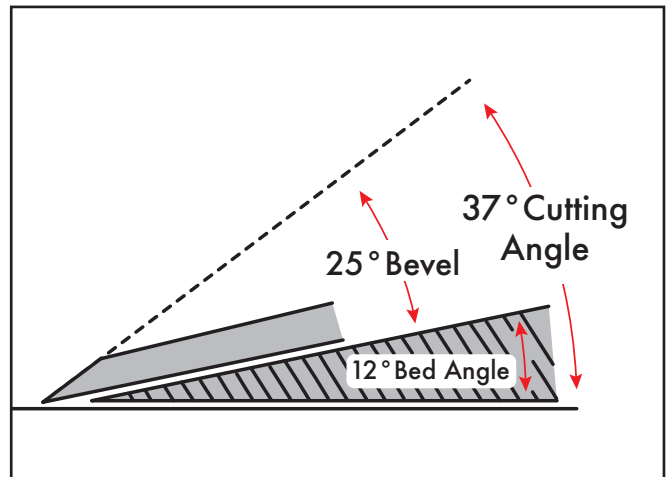
The MTC-49414 has a bed angle of 12° and comes standard with a blade sharpened to 25° giving a cutting angle of 37° . This angle is well suited for end-grain work and jointing tasks in softwood and some hardwoods where it is possible to plane with the grain.

When cutting end grain the plane should be set for a very light cut. Beware of 'break-out' on the rear edge of the workpiece, where the edge grain breaks away as the blade exits the cut. You can prevent this by clamping a piece of scrap to the rear edge to support the fibers or by stopping the cut before the end of the board and beginning a new cut from the opposite direction.

End Grain



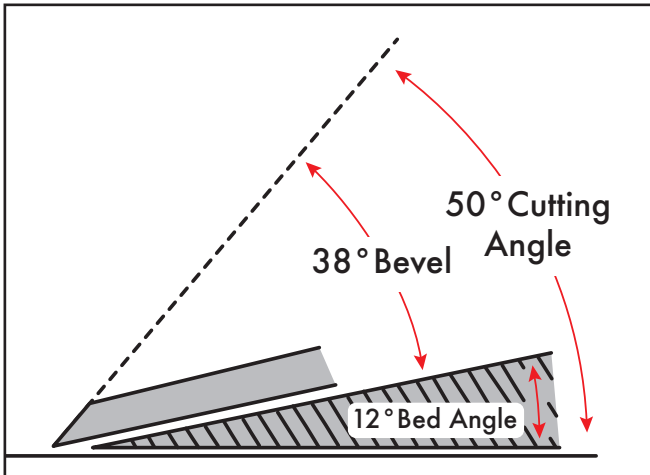
25° Bevel Angle



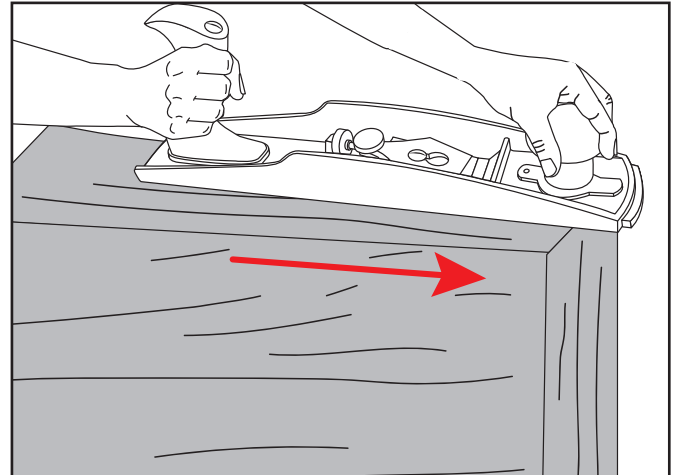
Planing end grain with the 25° blade

Smoothing jobs are often better handled with a higher cutting angle. The 38° blade gives an overall cutting angle of 50°, an excellent general-purpose smoothing angle. The 38° blade is also ideal when traversing (planing panels across the grain).

38° Bevel Angle



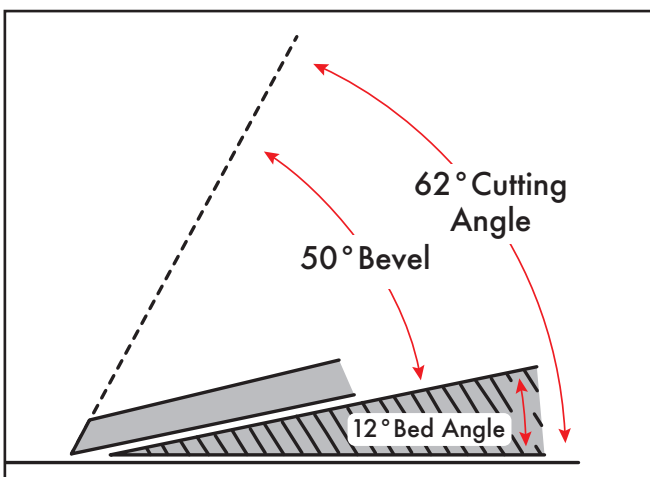
Planing with grain



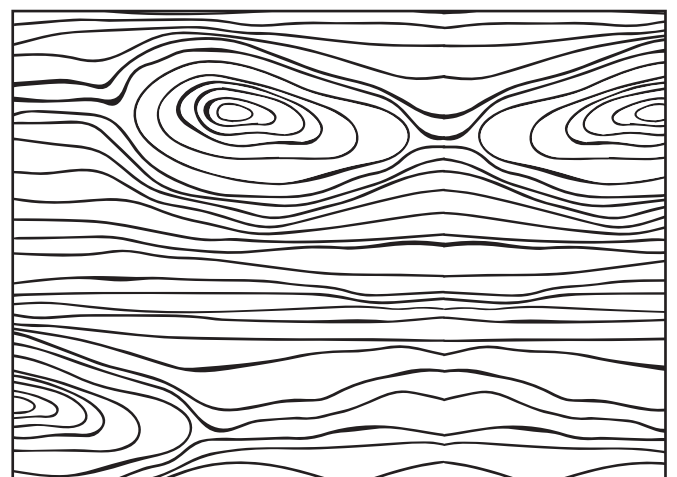
Smoothing using the 38° blade

Timbers with birdseye, interlocked grain, fiddleback or other kinds of cranky grain will be more easily smoothed with a 50° blade, yielding an overall cutting angle of 62°.

50° Bevel Angle



Figured grain



Planing figured timber using the 50° blade

While you can change the bevel angle of a single blade, this is very labour-intensive especially when going from a higher to a lower angle. Additional blades are available from Melbourne Tool Company that come pre-ground to the angles mentioned above. Having multiple blades that can be swapped out allows the user to change cutting angle quickly and will make the MTC-49414 a very versatile tool.

User Guide

Angle	Primary Purpose	Product Code
25°	End grain	MTC-49476
38°	General smoothing	MTC-49483
50°	Smoothing figured timber	MTC-49490
38° & 50°	Kit	MTC-49421-BLK-2

SECTION 4:

MAINTENANCE

Maintenance

- After each use, disassemble the plane and clean off accumulated dirt, grease, resin and rust, especially from the threads and blade bed. An old toothbrush is ideal for this
- If the plane is stored in damp or humid conditions or when overnight temperatures drop significantly, the plane should be stored wrapped in cloth or in a plane sack.
- A light layer of paste wax with rust inhibiting ingredients is ideal for protecting the raw metal parts of the plane. Alternatively, a light machine oil can be applied. In either case ensure that any excess is removed leaving only a very light coating on the tool
- It is a good idea to also wipe off finger marks after use to minimise the chance of surface rust.

SECTION 5:

TROUBLESHOOTING

Ensure the blade is sharp

The first step of any troubleshooting is to ensure that blade is sharp. If sharpening the blade does not resolve the issue please see below for further suggestions.

Tear-out

Tear-out occurs when the wood splits ahead of the blade. The blade then acts as a wedge and removes chunks rather than shavings.

There are three main causes of tear-out:

1. The mouth opening is too large. Adjust the mouth to be as tight as possible whilst allowing the evacuation of the shaving.
2. The grain direction is incorrect. Ensure that the plane is used with the grain.
3. The cutting angle is too acute. Try a blade with a higher bevel angle.

The plane leaves tracks on a board's surface.

This usually occurs when the blade isn't level, or there's a nick in the blade.

1. Align cutting edge of blade with mouth opening using lateral adjustment lever.
2. Check blade for damage and sharpen to remove any nicks.
3. Camber the blade and/or round the corner.

The plane is hard to push

1. Retract the blade slightly to take a lighter cut.
2. Lubricate the sole with light oil or an old candle.
3. Note that the higher angle 50° blade will require greater pushing force than the lower angle 25° blade.

SECTION 6: WARRANTY & SUPPORT

Melbourne Tool Company Warranty Statement

The metal parts of this Plane carry a Limited Warranty against manufacturing defects. The warranty does not cover modifications, willful misuse, accidental damage, or damage arising from the owner's failure to reasonably maintain the product.

Non-metal parts carry a two-year warranty against defects. The warranty does not cover modifications, willful misuse, accidental damage, or damage arising from the owner's failure to reasonably maintain the product.

If your Melbourne Tool Company product has a warrant-able fault, please contact the retailer that it was purchased from.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Disclaimer

Customers should ensure that they take all reasonable safety precautions when operating MTC products. MTC will not be held liable to you in respect of any personal injury (including without limitation serious injury or death) that you may suffer or sustain directly or indirectly as a result of the use of products sold by us. Nor will we be liable to you in respect of any other losses arising as a result of any such personal injury.

Nothing in this disclaimer shall: limit or exclude our liability for death or personal injury resulting from negligence, limit or exclude our liability for fraud or fraudulent misrepresentation, limit any of our liabilities in any way that is not permitted under applicable law, or exclude any of our liabilities that may not be excluded under applicable law.

Manual Accuracy

We have made every effort to be exact with the specifications, instructions, drawings, and photographs in this manual. Our policy of continuous improvement can sometimes mean that sometimes the machine you receive is slightly different to that shown in the manual.

If you find this to be the case, and the difference between the manual and the product leaves you confused or unsure about something, check the retailer's website for an updated version. Alternatively, you can contact us directly at **support@melbournetool.com**

Technical Support

If you have a question about your MTC product that isn't covered in this manual, please email us directly at **support@melbournetool.com**

Notes:

Notes:



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www.melbournetool.com