

LMCS – Safe Work Procedure

HAND HELD ROUTERS



DO NOT use this equipment unless you have been instructed in its safe use and operation and have passed the safety accreditation

PERSONAL PROTECTIVE EQUIPMENT

- Safety glasses must be worn at all times in work areas.
- Long and loose hair must be contained.
- Hearing protection must be worn.
- Sturdy footwear must be worn at all times in work areas.
- Close fitting/protective clothing must be worn.
- Rings and jewellery must not be worn.

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Locate and ensure you are familiar with all machine operations and controls and emergency stops.
- ✓ Ensure the machine, power cords etc. are in safe working condition.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present and that no one will be harmed by you operating the machine.
- ✓ Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- ✓ Ensure table and work area is clear of all tools, off-cut timber and sawdust.
- ✓ Check with a piece of wood that the cutter can rotate.
- ✓ Check that you are feeding in from the correct side.
- ✓ Timber is straight, square and thicknessed.
- ✓ Unplug the machine and install the router bit.
- ✓ When not using a bearing type router bit ensure that the offset of the fence is adequate.
- ✓ Adjust the router speed to the correct speeds as indicated
- ✓ Ensure you have set aside a safe area to put the machine when finishing the section.
- ✓ Start the dust extraction unit before using the machine (if not operating automatically).

OPERATIONAL SAFETY CHECKS

- ✓ Plug in the machine.
- ✓ Allow the cutter to obtain maximum speed before making a cut.
- ✓ Router with the grain if possible. Hold the workpiece firmly and apply even feed rate.
- ✓ If end grain routing is required it is usually beneficial to operate in an anti-clockwise direction so that damage is avoided. If the work is critical and or the timber fractures easily enveloping the trailing edge with a piece of timber is usually best.

ENDING OPERATIONS AND CLEANING UP

- ✓ Switch off the machine when work completed.

- ✓ Unplug and remove the router bit and return to storage area.
- ✓ Reset all guards to a fully closed position after use.
- ✓ Leave the machine in a safe, clean and tidy state.

POTENTIAL HAZARDS AND INJURIES

- ⓘ Kickback: wood may catch or jam and be flung back violently.
- ⓘ Airborne dust.
- ⓘ Eye and hearing injuries.
- ⓘ Contact with blade at point of operation, potentially severe injuries.

DON'Ts

- ✗ Do not use operate equipment without wearing appropriate PPE.
- ✗ Do not use faulty equipment. Immediately report suspect equipment.
- ✗ Do not surface irregular stock, branches or wood with embedded nails or screws.
- ✗ Do not put your hands any closer than 150 mm from the cutter head when it is rotating.
- ✗ Do not router surface stock less than 300mm long by 20mm wide or 6 mm thick
- ✗ Do not router stock with structural defects.
- ✗ Do not cut pieces with shattered ends.
- ✗ Never leave the machine running unattended.
- ✗ Do not use heavy pressure to a point the machine slows down audibly at a starkly reduced pitch.

This SWP does not necessarily cover all possible hazards associated with this equipment and should be used in conjunction with other references. It is designed as a guide to be used to compliment training and as a reminder to users prior to equipment use.

This information is modified from Frontline Safety www.frontline.edu.au

Issued	Issued For	Prepared	Checked	Approved	Rev.
24.10.2022	Endorsement by Safety Com	A Oldham C de Groot			06

Safe Operating Procedures – HAND HELD ROUTERS

BACKGROUND INFORMATION & READING

This video will assist you in following safe work practices:

[How to Use a Router Freehand - Beginners #11 - woodworkweb - Bing video](#)

[Home Remodeling Tools : How to Round Edges with the Handheld Router - Bing video](#)

[8 Jigs for Hand-Held Routers | WWGOA Class - Bing video](#)

The video “Router Basics” shows a technique not permitted at LMCS when the operator puts the machine aside the cutter facing towards the operator: IT MUST BE POINTED AWAY.

Videos need to be viewed prior to arranging an assessment.

FITNESS TO OPERATE ROUTERS

Members are expected to refrain from working on these power tools and machines if they acknowledge their own level of physical ability inhibits them from doing so safely.

However, if assessors determine that a member has some level of physical impairment that makes it unsafe to use machines, they will have no option other than to assess the member as not having the capacity to do so safely.

You can still do your projects, just mark the timber and ask another shed member to cut/machine the timber for you. You are not compelled to cut the timber yourself and in this environment, you will easily find others that are more than able and willing to do the cutting for you.

GENERAL RULES & TIPS

- If recycled material is used, all timber **MUST** be visually checked for nails and screws. After that the timber **MUST** also be checked with the metal detector. Processing CCA treated timber is not permitted.
- All pieces of timber of a run must be identical in sectional area and all sides must be dressed.
- Where possible, connect a dust vac to the router
- Feed the router at a steady pace.
- Don't try to remove too much wood in one pass, if you do, the result will be poor. Make multiple passes and consider using the table saw to remove bulk on an edge, or the drill press for a mortise.
- If you can hear the motor distinctly slowing down you may be feeding in too fast.
- If you can see smoke the bit may be blunt, or your feed rate is too slow.
- **REMEMBER - ROUTERS ALWAYS (try to) GO LEFT; Thus start from the left!**

BASIC OPERATION OF A HANDHELD ROUTER

Handheld routers are versatile machines that may be used to trim/shape edges, produce accurate shapes from templates, can cut dados, rebates and mortises.

Selecting the right machine and bit.

A fixed base or trim router may be more stable to shape an edge.

A ½” plunge router will be more powerful and can be set to cut multiple depths.

Spiral bits (generally) give a cleaner result.



Fitting the router bit

- Make sure the router is unplugged
- Turn the router upside down, make sure it is stable, lock the plunge mechanism so the collet nuts are accessible
- Check the collet is the right size for your bit and it is clean - remove dust if necessary
- Insert the bit at least 25mm, if it 'bottoms-out' pull it back by ~3mm
- Tighten the collet using the correct size spanner(s), note some routers only require one spanner as they have a lock button
- Undo the plunge lock so the bit is retracted into baseplate, turn the router the right way up

• Making an edge cut – Profiling or rebating

- Make sure your work piece is secure and won't move during your cut
- If you are using a fence, set the offset to determine how wide the cut will be (if you need to remove more than ~5mm do multiple passes)
- If you are using a bit with a bearing, the bearing diameter will determine the width of the cut
- Set the plunge depth and lock it in place (do not try to plunge too deep, again more than ~5mm do multiple passes)
- As a rule, ALWAYS cut from left to right (the router will try to move to the left keeping the fence in contact with the workpiece)
- At the end of the cut, be careful that the bit does not tear out at the end of the cut (consider carefully coming in from the other direction, taking multiple very light cuts or use sacrificial block to protect the workpiece)
- At times it may be easier to bring the router slide past the left side of the piece. Then to the right of the start work your way back to the edge.
- When you have finished, turn off the router and before moving it away from the workpiece WAIT until it has stopped before you put it down.

• Making a Dado or Rabbet cut

- Make sure your work piece is secure and won't move during your cut
- Set the plunge depth zero on a scrap piece of wood,
- Use the plunge depth stop to set the maximum travel of the plunge
- If the dado depth is more than ~5mm make a few passes, most routers have a wheel that will divide up the plunge into multiple depths
- Clamp a fence to work-piece to control the cut
- Place the router, at the start of the cut (fence MUST be to the left) with the plunge in the raised position
- Start the router and after it reaches full speed, gently plunge to the first depth stop whilst moving the router forward
- At the end of the cut, turn the router off, before moving the router away from the work piece
- Raise the plunged collet to protect the bit before you put down the router

Router bit speed guideline		
Speed setting	Max speed	Outer diameter of cutter bit
Fast	22,000	Up to 25 mm
Fast	20,000	25-30 mm
Medium	16,000	32-50 mm

50 mm is generally the maximum diameter for handheld routers

LAKE MONGER COMMUNITY SHED



Picture 1 collection of hand-held routers kept in the machine room