THE SHED
KU-RING-GAI COMMUNITY WORKSHOP

Kushed Procedures

Portable Routers | P2

Learn how to use a portable router safely and correctly to produce high quality finished work.

Using portable routers

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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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Makita 3709 Router

Portable Routers

The Shed is fortunate to have a wide range of portable routers suitable to tackle most jobs.

- Plunge-cut x 2
- Routers Bosch, Makita, Ozito, Hitachi, Axmister (8)
- Mini Routers / Edge Trimmers x 2 Bosch

If you are unsure whether to use the portable router or the table router to perform a task, then ask your coordinator.

There are great online resources and tutorials on the DVD. Take time to review them to stay safe and do good work.

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Safety First

- Keep hands and loose clothing away from revolving bits and cutters.
- Operate the router in the proper direction, e.g., into or against cutter rotation.
- Do not overload or “bog down” the speed of the router.
- Make several light cuts where large amounts of material are to be removed.

Handheld Router Safety

What should you do before start cutting with a router?

- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles) and appropriate hearing protection.
- Disconnect the power supply before making any adjustments or changing bits. Inspect bits carefully before installing
- Ensure that the bit is securely mounted in the chuck and the base is tight.
- Put the base of the router on the work, template or guide. Make sure that the bit can rotate freely before switching on the motor.
- Secure stock. Never rely on yourself or a second person to support or hold the material. Sudden torque or kickback from the router can cause damage and injury.
- Before using a router, check stock thoroughly for staples, nails, screws or other foreign objects.
- Keep all cords clear of cutting area.

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Hold the router with both hands until the motor has stopped

What should you do to work with a router safely?

- Hold both hands on router handles always, until a motor has stopped. Do not set the router down until exposed router bit has stopped turning.
- Do not overreach. Keep proper footing and balance.
- When inside routing, start the motor with the bit above the stock. When the router reaches full power, lower bit to required depth.
- When routing outside edges, guide the router counter clockwise around the work.
- When routing bevels, moldings and other edge work, make sure the router bit is in contact with the stock to the left of a starting point and is pointed in the correct cutting direction.
- Feed the router bit into the material at a firm, controlled speed.
- With softwood, you can sometimes move the router as fast as it can go.

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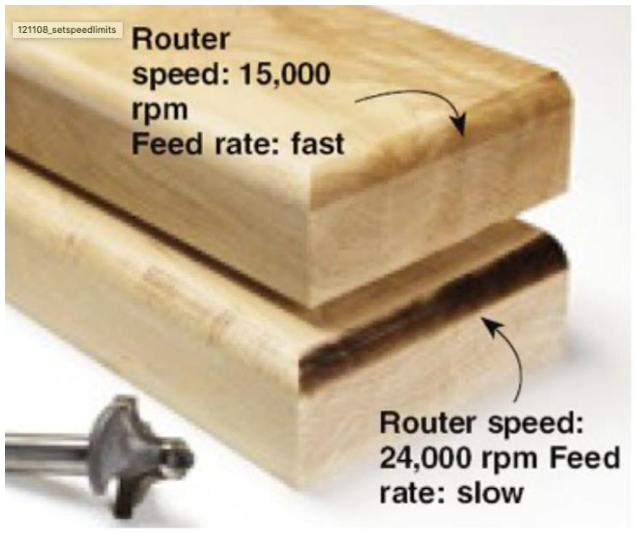
You really don't want to do this



- With hardwood, knotty and twisted wood, or with larger bits, cutting may be very slow.
- The sound of the motor can indicate safe cutting speeds. When the router is fed into the material too slowly, the motor makes a high-pitched whine. When the router is pushed too hard, the motor makes a low growling noise.
- When the type of wood or size of the bit requires going slow, make two or more light passes to prevent the router from burning out or kicking back.
- To decide the depth of cut and how many passes to make, test the router on scrap timber similar to the work
- Ideally, you should wipe your bits clean after each use. Most of us, though, just drop them back in their holders and walk away. Unfortunately, resins and dust build up that cause bits to get hotter faster, making them more likely to burn the wood. If your bits are covered with sawdust, wipe them with a dry cloth. Remove the stubborn build-up with a blade-and-bit cleaner. The benefit: Clean bits stay sharp longer because excessive heat breaks down carbide cutters.
- A dull bit cuts poorly and builds up heat doing so. If you can run the cutter over your fingernail without shearing off a shaving, then your bit needs sharpening.

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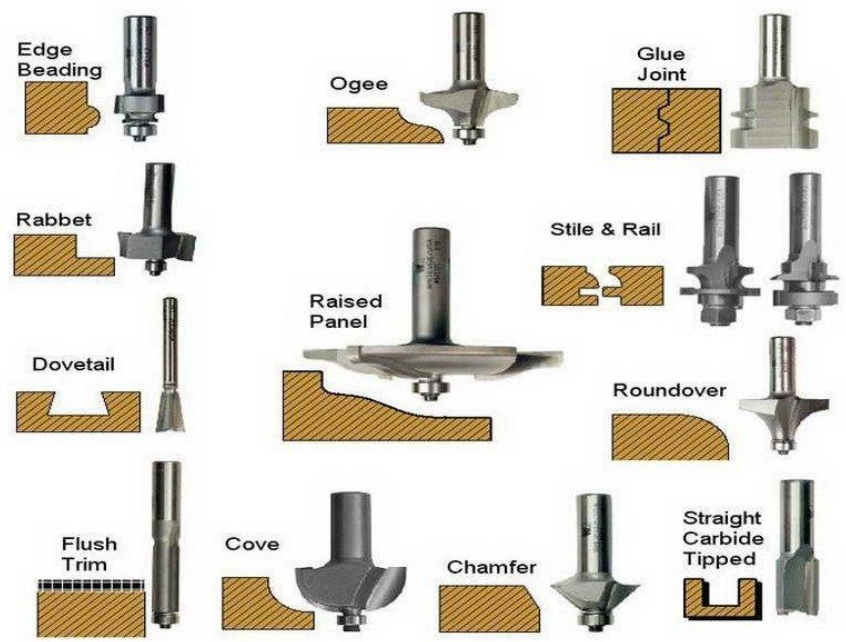

Work Slowly

Router bits are constructed to rotate clockwise. As such, when you are using the router, you should hold it firmly and then work your way from the left to the right side of the wood. This way, you will be feeding the wood into the router bit. When you are routing and working along the grain of the router, the process should be easy, fast and smooth.

- If working from left to right has you working against the grain of the wood, it is important that you place a piece of wood at the very end of the wood to keep it from blowing out from the vibrations caused.
- Unless in a special case where routing from left to right is impossible, you should never work the router moving from the right to the left as this will force the router to run on the wood. This can have you losing control in a matter of minutes and can prove to be highly dangerous.

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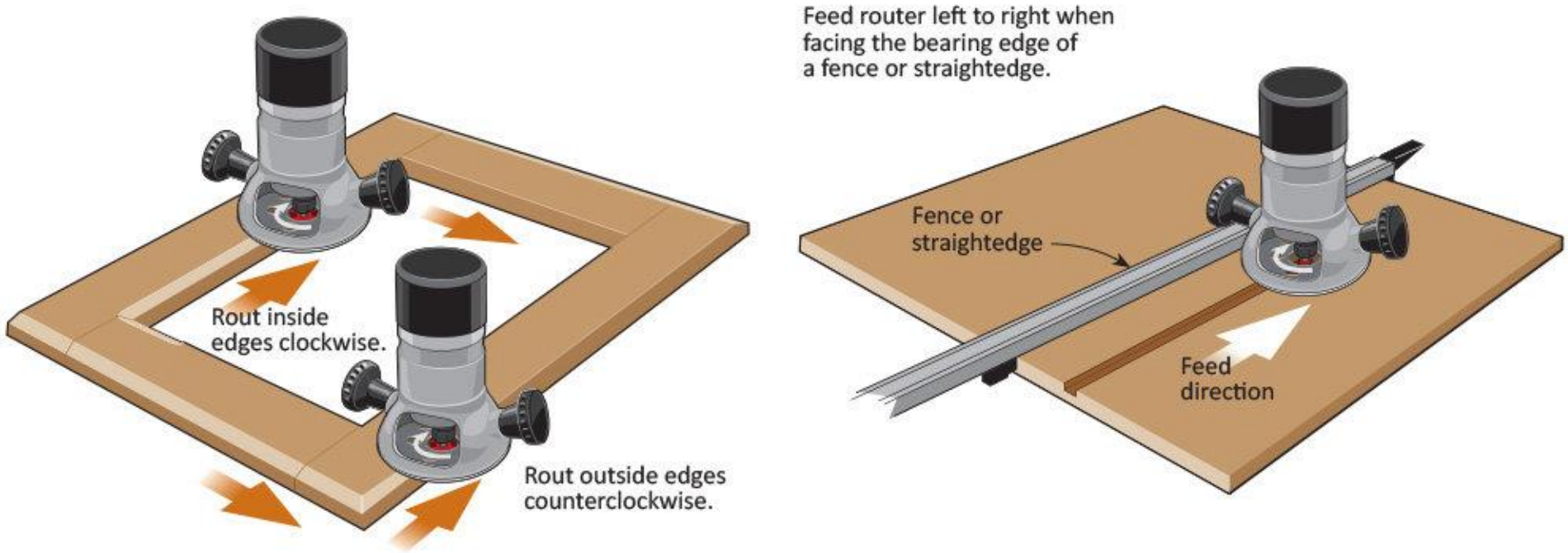
Router Feed Direction

This is an important aspect of using both handheld routers and table routers

When routing by hand, the proper feed direction for inside cutouts **(left) is clockwise**. Feed the router counterclockwise for routing the outer edges. Inverting a router in a router table changes the feed direction from handheld routing. For inside cutouts, feed the workpiece counterclockwise

Figure 1: Router Feed Direction



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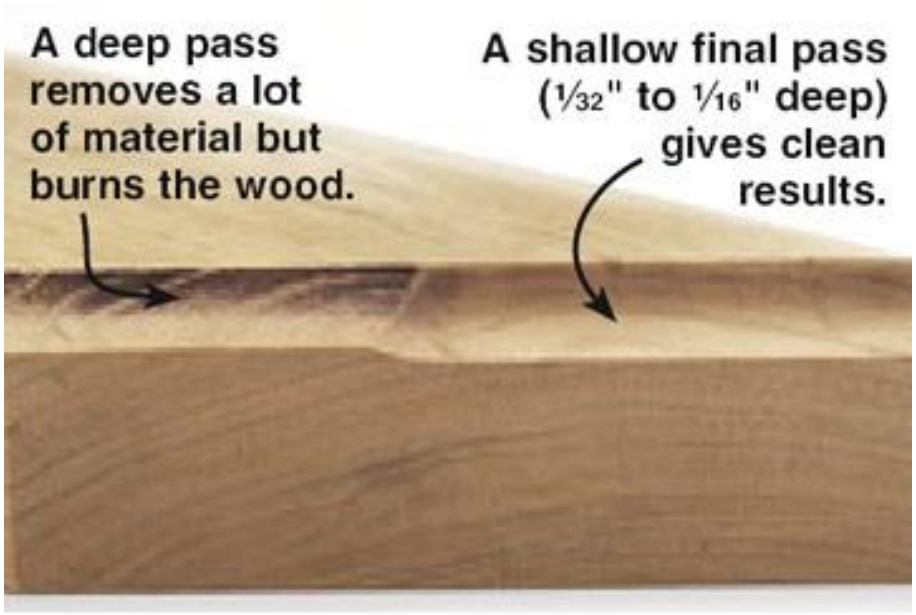

Use Shallow Cuts

When you starting routing, you just do not get into it – you sort of ease into the process for great results. This means that rather than making an initial deep cut, you should start with several shallow cuts. This will help to protect the wood you are working on and keep it from splintering and making you undergo extra costs. In addition to this making shallow cuts followed by progressively deeper cuts will give you greater control.

The shallow cuts are also perfect in compensating for the inadvertent gouges that are made in the wood by your wood router. Most times these gouges are as a result of uneven pressure or knots on the wood router you are using. Making cuts that are slightly deeper than the depth of the cut closest to the gouges will work to remove them.

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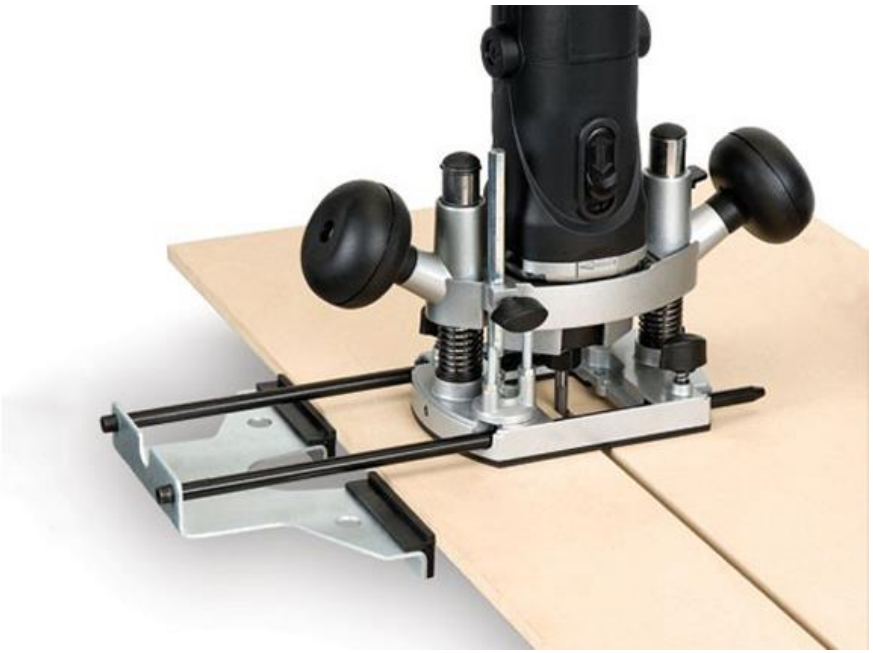

Increase Control of Your Router

If you have never handled a router before, the main problem you will have is with control. Being a power tool, it will take some getting used to. However, there are ways you can quicken the learning process. The best and simplest way you can increase your control over the router is by getting a router work bench. You can either build it yourself or have a professional do it for you. If you do not have this, a portable router fence will do just fine.

Router fences attach to handheld routers and help in guiding the router along the wood cutting path.

Even better, are router bits. These are the most portable of all. They feature ball bearings at their tips. These rest on the wood being cut and guide the unit smoothly on the wooden path. These router bits can be adjusted using different ball bearing sizes for varying router operations.

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When you are finished

- Return the router to the tool store with all the accessories
- Return all router bits to storage
- Clean the area where you have been working

Sharp Bits

Router bits are designed to be strong sturdy durable and most importantly sharp. As such, while handling them, you ought to take great care. But while they may be sharp when they are new, with constant use and with time, the router bits become dull. Now, you probably are thinking to yourself that they are harmless. But far from that, when router bits are dull, they are most dangerous. Their performance is not the best, and one might be tempted to exert more pressure which with the slightest mishap results in great disaster.

Sanding the dull bits with a 220 grit and a 440 grit (in that order) will temporarily clean and sharpen the bits. Best results are however obtained when sharpening with a sandstone or when a professional does the sharpening. Sharp bits makes work light, easy and fast while dull bits cause the user lots of headaches and struggles not to mention they are not safe