THE SHED
KU-RING-GAI COMMUNITY WORKSHOP

Kushed Procedures

Table Routers | W6

Kreg Router table

Sherwood 1800 Watt
10,000 to 22,000 RPM
Router motor

Sherwood Baladonia
Precision router lift

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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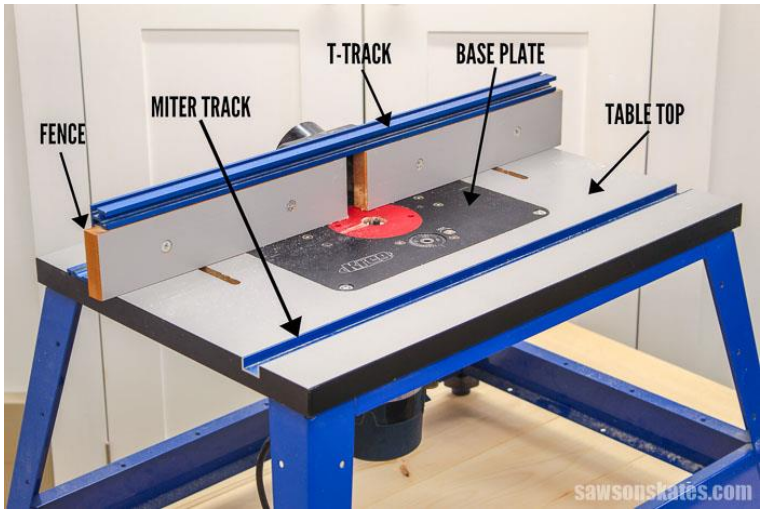

Parts of a router table

The Router table

The **table top** provides a flat, stable surface for workpieces. The top is made of MDF (medium-density fibreboard).

A router motor is attached to the **base plate**. The base plate attaches to the table top. The base plate needs to be level with the table top. The Kreg table top has thumbscrews that can be adjusted to level the base plate.

The **fence** helps us control the workpiece. It guides or directs the workpiece towards the router bit. The fence has a dust collection port and t-track. The **t-track** can be used to attach accessories like featherboards. The Kreg router tables have a split fence that can be used to close the gap around the router bit.

The **bit guard** protects our hands from coming in contact with the bit.

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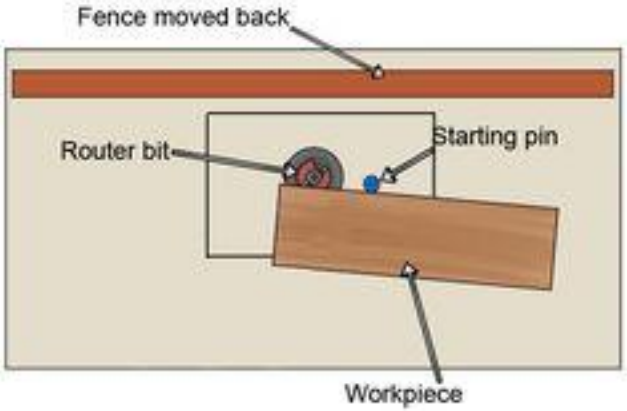
Using the starter pin

Starter Pin

Sometimes a fence just won't work for certain cuts. In those cases, we can use a starter pin. A starter pin is another accessory that gives us better control over a workpiece. It creates a fixed point. This way we can pivot the workpiece on the pin and ease it into the router bit. Easing the workpiece into the bit helps to reduce the chances of kickback. The starter pin helps us more safely rout the ends of narrow workpieces. It's also helpful when working with curved workpieces or patterns and templates.



½ in to ¼ in reducer collet

How to Use a Router Table

The first step to using a router table or any tool is to wear personal protective equipment (PPE). This includes eye protection, hearing protection and a quality respirator to protect our lungs.

Choose a Router Bit

You will need to choose a bit with the profile for the type of cut we want to make. The profile is the shape of the cutting edge. Bits can range from straight cutting bit used for cutting a groove to decorative bits like cove, and ogee with a pilot bearing or guide bearing. The pilot bearing follows the edge of the workpiece.

It's important to choose a bit with the right size shank for our router. The shank is the end of the bit that is held in place by the collet. The collet is what holds the bit in the router.

The shank needs to fit in the collet of the router. Router collets either accept a ¼ inch shank or a ½ inch shank. Our routers have removable collets that can accept both ¼ inch shank and ½ inch shank bits. Use a ½ inch bit if you have a choice. ½ inch bits produce less vibration and produce smoother cuts than ¼ inch bits.

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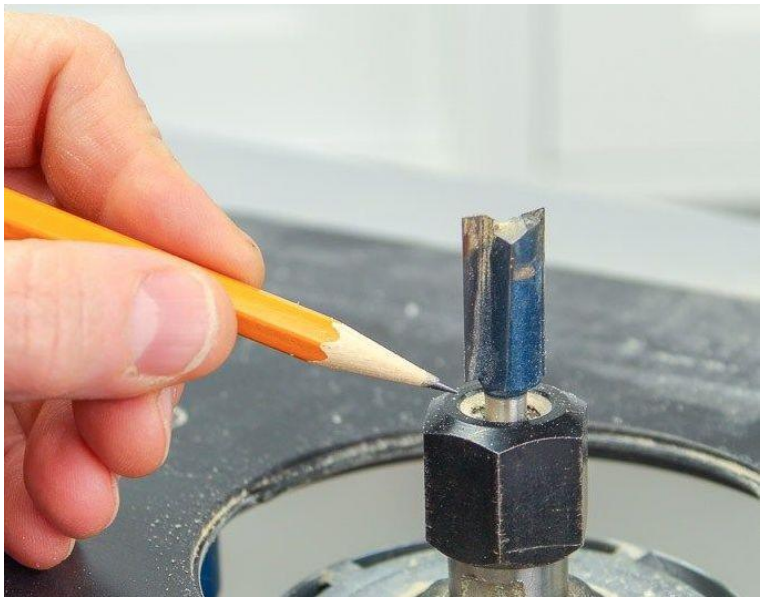


3 mm Gap

Changing a Router Bit

Always unplug the router before changing a bit.

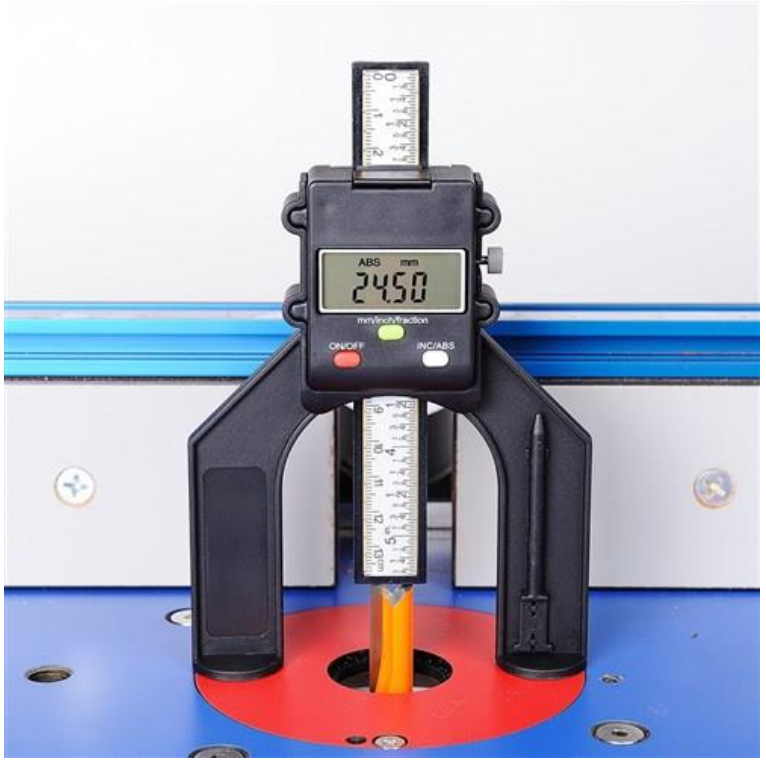
Insert the bit until the cutting edge touches the collet then pull the bit out about 3 mm and finger tighten the collet. It's important to allow 3mm of space between the bit and the collet.

Changing a router bit on a router table

The collet draws the bit in as the locking nut is tightened. The bit may not fully tighten if the cutter is touching the collect. This means the bit could come loose and fly out of the router. This is dangerous.

Router bits heat up quickly. Heat causes expansion. The space between the bit and the collet will also allow for expansion.

Use the correct spanners to tighten the locking nut on the collet.



Setting height with a digital height gauge

Set the Height of the Bit

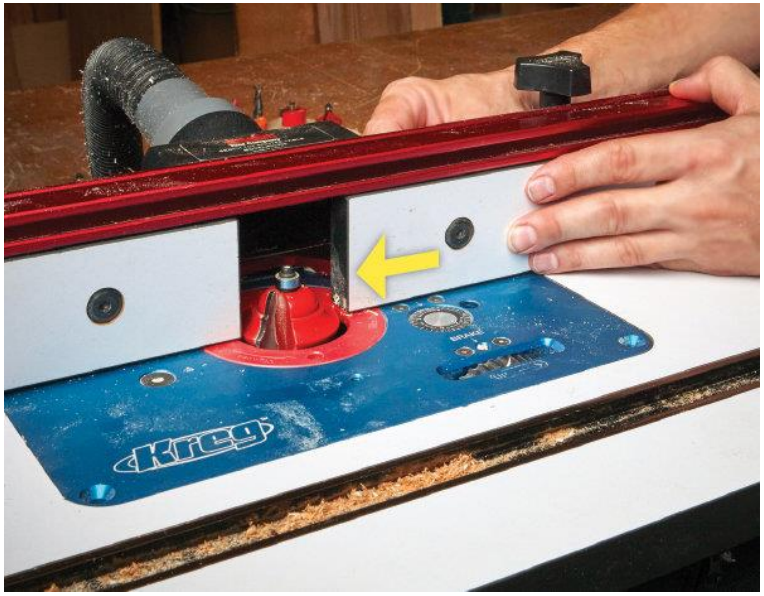
Next, we'll set the height of the bit. The height of the bit is the amount of the bit that is exposed or the amount of the bit that will cut the workpiece.

There are several ways we can adjust the height of the bit. We can raise and lower the height of the bit by using the depth adjustments on the router itself or by using a router lift.

Combination Square – A combination square is one of the easiest and most economical ways to set the height of a router bit. Stand the combination square next to the bit then raise or lower the bit to the desired height.

Gauge Blocks – The gauge blocks are stacked next to the bit. Then the bit is raised until the bit touches the gauge block.

Digital Gauge – A digital gauge allows us to set the bit precisely where we want it.



Setting the gap in the fence to match the router bit

Adjusting the fence

The opening in the table or gap around the bit can catch the edges of workpieces. Our router tables have rings that can be installed to reduce this gap. The opening in the fence or gap around the bit can also catch the edges of workpieces. Split style fences can be adjusted to reduce this gap. A split style fence should be adjusted so it almost touches the bit.

How Much Should You Cut in One Pass?

We should avoid making cuts deeper than about 9 mm in one pass. Making cuts deeper than 9 mm in one pass can cause a few issues:

- Strains the motor
- Puts pressure on the router bit
- Cause tear out which leaves the surface of the wood rough

Instead, we should make several passes. For the first pass adjust the bit or fence to remove about half of the wood. Use a slow, steady feed rate for the first pass.

For the second pass, adjust the bit or fence to remove the rest of the wood. We can use a faster feed rate for the second pass.

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Always feed right to left

PRE-OPERATIONAL SAFETY CHECKS

- Locate and ensure you are familiar with all machine operations and controls.
- Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- Faulty equipment must not be used. Immediately report suspect machinery.
- Use only materials free from defects.
- Ensure cutter size conforms to machine specification.
- Ensure the machine is isolated while cutters are being installed.
- Ensure all cutters are sharp and free of resin build up.
- Check cutter for clearance of rotation before starting machine.
- Adjust fence, guards and extraction for maximum protection and efficiency.

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Safety First

- Do not use faulty equipment. Immediately report suspect machinery to a coordinator
- Never leave the machine running unattended.
- Do not attempt deep cuts.
- Do not leave equipment on top of the machine.

OPERATIONAL SAFETY CHECKS

- Before making adjustments, switch off and bring the machine to a complete standstill.
- Feeding must be against the direction of rotation.
- Feed work slowly into the cutter.
- Jigs, fixtures and templates should be used wherever possible.

ENDING OPERATIONS AND CLEANING UP

- Switch off the machine when work completed.
- Leave the machine in a safe, clean and tidy state.

POTENTIAL HAZARDS AND INJURIES

- Material kickback.
- Flying chips and airborne dust.
- Noise.
- Eye injuries.
- Cuts.
- Hair/clothing getting caught in moving machine parts.