



ROUTER TABLE SAFETY

Reproduced/adapted from an article published by the Hornsby Mens Shed

Table routers can be very **hazardous**. A search through forums on the internet should provide a wealth of **Router table** designs and ideas that incorporate both safe operation and facilitate dust collection.

The use of push blocks, feather boards and fence dust collection makes the use of a **router table** a much safer operation, and the router table can be quite safe if one uses the proper techniques and safety guidelines.

Although most router bits are small, routers and bits deserve your attention and respect. As with all power tools, you can enjoy them safely by following safety guidelines,

The most serious hazards when operating the router table are:

- 1. Accidentally contacting the bit which is rotating at an extremely high speed.. Touching the rotating bit, particularly large diameter bits, can cause serious injury to fingers and hands.**
- 2. Kickback that can occur if the bit grabs the work-piece and throws it at high velocity from the table. Kickback is a major cause of 1 above.**

Safe Feed Direction to Avoid Kickback is from Right to Left

With very few exceptions, the work-piece always moves against the rotation of the bit which on a router table is from right to left as shown in Photo A right.

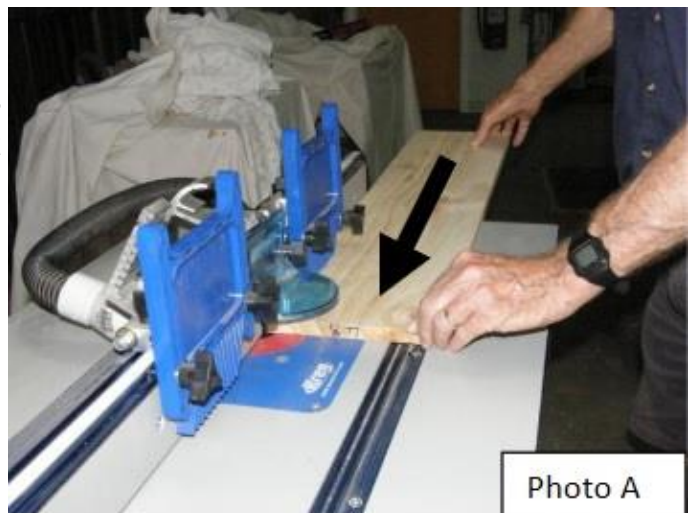
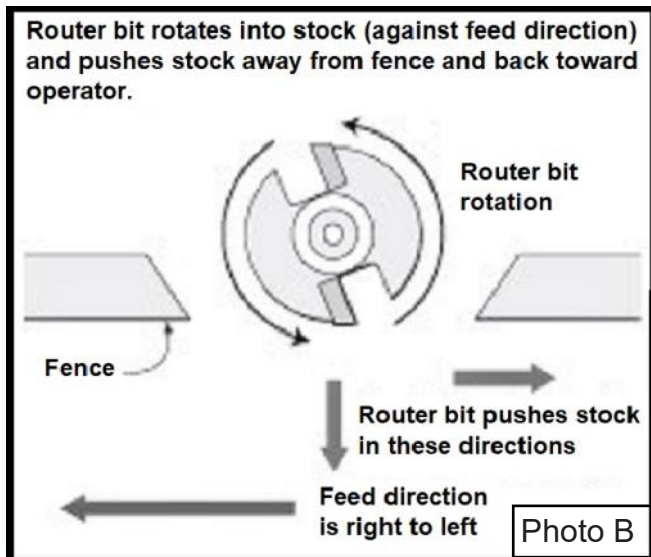


Photo A



Making a mistake with feed direction can easily initiate a very dangerous kickback with little or no warning.

Feeding the material against the rotation of the cutter as shown in Photo B affords control because the cutting action creates resistance to

the force being applied by the operator to move the wood across the bit. This balance of forces makes controlling the wood much easier.

If the wood is introduced from left to right in the same direction as the bit is rotating the bit cutter edges instantly become very efficient high-speed power feeders that can suddenly eject the wood, leaving your empty hands dangerously close to the cutter.

This situation is particularly dangerous because the force you were applying to the wood before it kicked immediately causes your now empty hands to lurch toward the bit. Serious injury can be the instantaneous result

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General Router Safety Requirements

1. Wear eye protection (e.g safety glasses) when performing an operation on the router table.
2. Wear hearing protection. The router emits a very loud noise that can cause hearing damage.
3. Wear a dust mask when routing timber that generates a lot of dust.
4. Switch power off at the power point when fitting the bit to the router
5. Keep fingers well clear of the rotating bit. Be especially careful that your fingers are not in the path of the bit at the end of a cutting pass, use feathers and push stick whenever possible.
6. If your fingers are likely to come anywhere near the bit use a push tool to position your hands a safe distance from the bit.
7. Take light cuts. Make multiple cutting passes removing only a few mm on each pass. Heavy cuts invite problems and often lead to tear out. If necessary, move the fence forward to reduce the depth of cut, or if using a bearing guided bit switch to a larger guide bearing.
8. Always ensure that the work-piece is held firmly down of the table and against the fence or bearing guide and, whenever practical use feather boards to support the work-piece against the table and fence.
9. If practical always use the bit-guard.
10. Never start the router with the bit in contact with the stock.
11. Don't force the work-piece into the bit or overload the router. Feed the work-piece at a steady speed.
12. When fitting the bit don't bottom out the bit in the collet or partially insert the bit. Instead, completely insert the bit, and then back it out approximately 1 to 2mm and make sure the collet nut is securely tightened.
13. Avoid shaping very small stock. Instead, shape a larger piece and reduce it in size afterwards. If you must shape a small piece, build an appropriate jig or secure the work within the jaws of a wooden handscrew clamp.
14. Check that the vacuum is on and the dust extraction hoses are connected before commencing routing operations.
15. Reduce the router speed to its lowest setting when using a large diameter bit.
16. Freehand cuts (i.e. without the fence to support the work-piece) must be done with a bearing bit.
17. Always use the mitre fence for end shaping. (i.e. cutting a tenon)
18. Do not attempt to clear shavings from the router table while the router is running.
19. Do not attempt to make a cut with the work-piece between the fence and the bit as shown in Photo C right. **(it is very dangerous)**

If you are uncertain as to how to conduct any operation on the router table request the assistance of a Supervisor or other member with appropriate experience. Some operations, such as cutting stopped slots or shaping curved surfaces may require special techniques or templates to be made to allow them to be carried out safely.

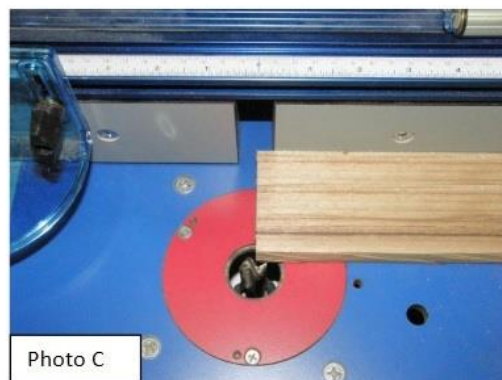


Photo C