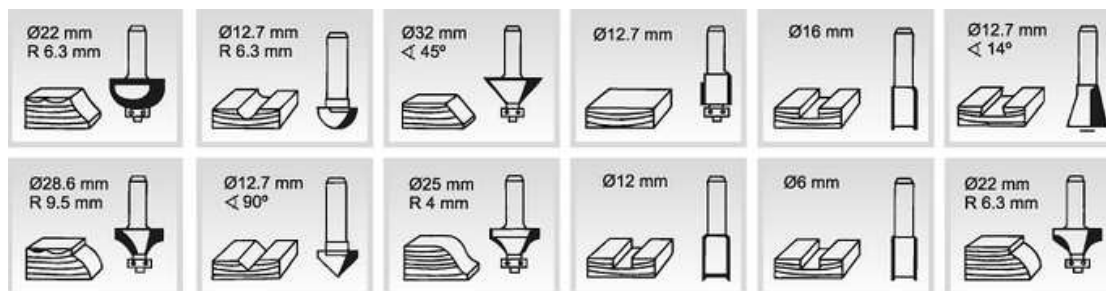


SAFE OPERATING PROCEDURE (SOP) & ACCREDITATION GUIDE	Table Router -Triton Router with Kreg Table	Accreditation Code	W6
<p>Safety Requirements whilst operating the Table Router</p>	<div data-bbox="475 280 619 421"></div> <p>Compulsory</p> <div data-bbox="475 477 624 685"></div> <p>When hazardous or significant dust likely</p> <p>Wear masks</p>	<div data-bbox="874 280 1011 421"></div> <p>Compulsory: This machine emits a high noise level</p> <div data-bbox="874 421 1011 539"></div> <p>Long and loose hair must be contained.</p> <div data-bbox="874 566 1002 696"></div> <p>Do not wear gloves unless handling blade during blade exchange</p>	<p>Always use dust extractor to which this machine can be attached.</p>
<ul style="list-style-type: none"> Knowledge of Key features of the Table Router and Jig must be understood and clearly evident during competency assessment. Safe operation of the Table Router must also be demonstrated. Because of the high risk level involved, greater expectation of safe operation of these machines is required before Accreditation is granted. This document applies to a Triton Router TRA 001 and Gifkins Jig option and is to be read in conjunction with the Manuals: http://www.tritontools.com/Images/Products/media/TRA001%20Discontinued%20Manual.pdf & Shed copy of Gifkins Manual (if to be used) and appropriate guides. Recognition of the main parts of the Table Router set up & Jig is necessary in order to understand descriptions below. Reference to diagrams in the Router, Kreg Table & Gifkins Jig Manuals and observation of the actual machines may be useful information sources. Web tutorials are also an excellent informer. A clear knowledge of our Shed's Safety Induction Package should also be evident and practised by aspiring Table Router & Jig operators. Persons who have had a driver's licence renewal declined because of failure to pass their driver's competency test should not operate the Table Router. 			
<h2>Key features of this equipment</h2> <p>Table-mounted routers are EXTREMELY DANGEROUS MACHINES. Because of the very exposed position of the cutter, they can cause major lacerations to the fingers and hands if not operated correctly. Utmost respect in using these machines is required to avoid accidents. They are akin to spindle moulding machines.</p> <h3>The Router:</h3> <ul style="list-style-type: none"> This is a versatile machine that can be used for many machining operations. It is a machine that incorporates a spindle that revolves at very high speed. The Triton Router has been fixed under a special Kreg table with its cutter protruding above the table surface. The work can be routed by the protruding cutter whilst being held firmly against the table top and a guide fence or against a special 'Gifkins jig' where appropriate. A "starting pin" can also be fitted into the table surface to provide steadying support when starting to cut with a bearing fitted cutter (see page 6 of manual). The router's collet corresponds to the chuck in a drill and is made to take a cutter with a shaft of specific diameter either 6mm or 12.5mm. The Triton router collet has a 'two stage locking mechanism' both must be unlocked to remove the cutter. 			

- AFTER THE ROUTER IS TURNED OFF ON THE MACHINE BODY, THE POLYCARBONATE SWITCH COVER SHOULD AUTOMATICALLY RELEASE TO COVER THE SWITCH. This then allows the router to be raised to its maximum height, exposing the collet and locking the spindle. The collet can then be locked and unlocked using only a single spanner by tightening or loosening the collet onto the cutter. DO NOT FORCE HEIGHT WINDER ADJUSTER TO RAISE THE COLLET ABOVE THE TABLE. Ensure the machine switch is off, switch cover is over switch and the plunge depth lever is released before attempting to fully raise the router.
- Raising or lowering the router on the plunge legs achieves height adjustment. There are three ways in which the depth of cut (height of cutter) can be achieved. Each of our two routers has “free plunge” and “micro adjuster” mechanisms. A “handle plunge winder” is available on one of the machines. (Refer to manuals for more detail) Adjustment can be undertaken in two stages; a coarse adjustment using the large round handle (plunge winder), and fine adjustment using the micro adjuster (smaller black knob). The large round handles which allow free plunge adjustment are released and adjusted by depressing the inner locking ring whilst turning the handle. When the correct height has been set, the router must be locked in position by securing the plunge lock lever against the plunge leg.
- The router tables are fitted with ducting for dust collection. They can be connected to the main Shed extractor system or to a mobile unit. The main Shed extractor unit must be “on” at the wall before routing or if using the mobile unit, it must have its switch turned “on” at the mobile unit. Both the router and the mobile dust extractor can be controlled by the one switch on the front of the table. It has a knee pad Stop facility and controls two power outlets behind the switch. (Note: both the dust collector and router must be plugged into the controlled power outlets and their switches must be on first. The main power lead to the knee switch must also be plugged into a wall outlet and active).
- Plastics can be routed with this machine, however, soft thermo-softening plastics may melt and should be avoided. More rigid and brittle plastics need full support to ensure they don’t shatter. Eye protection is very critical if routing plastics.
- Some of the wide range of cutter shapes are shown below.



Gifkins Jig (Optional):

- The table router’s functionality is improved with the aid of a Gifkins Jig. This device facilitates precision cutting of dovetail and box combing joints.
- **Accreditation to use the table router does not require detailed knowledge and practical application of this jig**, however, it is an option as an advanced skill extension and, if it is to be used, MEMBERS MUST SEEK QUALIFIED COORDINATOR ASSISTANCE WHEN USING THE JIG FOR THE FIRST TIME.
- The work is cut by a ball bearing guided cutter which follows a comb style template. Timber is clamped to the jig. It is essential to ensure that this clamp is clear of the cutting area.
- ONLY AN AUTHORISED SHED MAINTAINER may make paper shim adjustment to this jig or replace its sacrificial backing board when it is no longer serviceable.



1. Handle winder clutch ring
2. Plunge selection button
3. Micro winder
4. Shaft lock pin
5. ½" chuck
6. Turret stops
7. Depth stop lock knob
8. Brush cap
9. Motor
10. ¼" reducing sleeve
11. Retracting power switch cover
12. Illuminated power switch

13. Speed controller
14. Plunge spring access cap
15. Plunge lock lever
16. Baseplate mounting knobs
17. Circle cutting pivot mount
18. Safety guards
19. Fence
20. Dust extraction port
21. ½" TCT Triton router bit.
22. Spanner
23. Extended baseplate
24. Depth stop

Features 3

Safety & Procedural Issues

Before the Cut

SAFETY INSTRUCTIONS AS APPLICABLE TO THE ROUTER TABLE AND WORK AREA

1. Make sure the table is clear of everything that is not needed and the floor and area around the router table is clear of obstacles, cables, off-cuts, rags, etc;
2. Turn the machine off before adjusting. Never adjust the fence, cutter height, reducing rings or any other part of the tool while the machine is running;

SAFETY INSTRUCTIONS AS APPLICABLE TO THE TRITON ROUTER

1. Handle router bits with care, they can be extremely sharp and hot after use;
2. Check the bit carefully for signs of damage or cracks, loose or stiff bearings and grub screw (if any) is not loose, shaft is not scored preventing proper collet grip;
3. Ensure that the cutter is sharp, clean and bright, free of any build-up of gum etc. Dull cutters require excessive force to use and increase the chance of an accident;
4. Ensure workpiece is free from defects such as splits or cracks and there are no foreign objects such as nails or screws;
5. Ensure, if using the mobile router table, that it is in stable location, clear of any obstacles and has the wheels locked. The mobile dust collector with it draws dust and cuttings away from the router but it has a limited filtration ability (not a HEPA filter) and hence it is desirable to use this set-up outside as fine dust will still penetrate through the collection bag to the surrounding environment;
6. If possible, make sure the transparent blue polycarbonate guard is over the router cutter to help prevent hands contacting the cutter and to facilitate better dust extraction. At times it will be necessary to set the guard higher to allow for a push stick to pass under it. The guard will require removal for taller work. Ensure the guard is replaced at completion of routing;
7. Adjust the fence so that no more than half the cutter is in front of the fence surface so the cutter is shielded and better dust extraction is afforded;
8. Use of PPE ie dust mask, EYES PROTECTION AND EAR MUFFS IS ESSENTIAL;
9. Do not force the machine adjusters, such as router height winder, as this can strip the plastic gearing;
10. KEEP YOUR HANDS WELL AWAY FROM THE ROTATING BIT;
11. Have ready and use appropriate push sticks and devices so as to KEEP HANDS AT LEAST 50MM CLEAR OF CUTTER and make sure hands do not follow through past the cutter unless the work is substantial enough to shield or keep the hands well clear of the cutter. Small section workpieces can slip away from a cutter and suddenly a hand pushing such work can sweep onto the cutter if a push stick is not used;
12. Work which is less than 50mm x 50mm in section will usually require a push stick to finish a pass over the cutter. A purpose made or proprietary jig may be used to secure small workpieces for routing;
13. Do not rout workpieces of less than 150 mm in length unless they are secured in a jig or secure holding device;
14. Avoid awkward hand positions, where a sudden slip could cause contact with the rotating bit;
15. NEVER CUT FREEHAND ie without support of table surface, fence, jig or starting pin;
16. Ensure the router is completely isolated electrically by unplugging the machine and then, before turning the router on, make sure the cutter is clear of all fixed parts of the machine by rotating the bit by hand;
17. Before using the machine to make a cut, switch it on and let it run for a while. Watch and listen for vibration or wobbling that could indicate an improperly installed, damaged or bent bit;
18. ENSURE ALL DEPTH SETTINGS, CUTTER COLLET, FENCES, GUARDS AND ANY OTHER ADJUSTABLE FEATURE ON MACHINE ARE ALL SECURELY LOCKED WHEN MACHINING;
19. Make sure the BIT IS NOT IN CONTACT WITH THE WORK WHEN YOU SWITCH THE MACHINE ON. This can lead to bit damage and dangerous throwing of the work;
20. Burn marks on work can also result from feeding the work too slowly across the cutter or using a dull cutter. Some timbers are prone to burning because of their density. A series of shallower cuts can assist in these cases;

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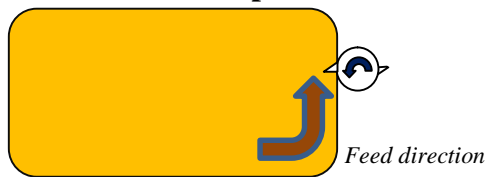
21. The router motor speed should be adjusted according to cutter size. The highest setting is suitable for regular sized cutters, whereas large cutters require a lower setting. Motor speed should also be reduced if burn marks appear on the workpiece. The Speed Control is marked 1 to 5, corresponding approximately with the speeds shown below. Turn the dial to select the desired speed.

Setting rpm

- 1 -8,000
- 2 -10,000
- 3 -14,000
- 4 -18,000
- 5 -20,000

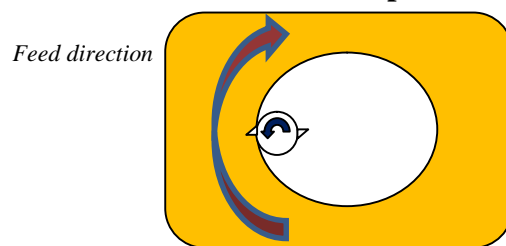
22. Too heavy a cut or feeding the work too quickly can result in tearing of the work and may lead to loss of control of the work;
23. Take notice of the direction of cutter rotation and the direction of feed;
24. ALWAYS FEED THE WORK PIECE FROM RIGHT TO LEFT using the front part of the cutter, or from front of table towards the rear using the left hand side of the cutter;
25. Never rout with work between cutter and fence unless fence is well clear and not being used for this particular operation;
26. If routing an internal shape with a bearing guided cutter, cut around the shape in an anti-clockwise direction - if routing around the outside of a shape with this type of cutter, cut around the shape in a clockwise direction ie feed the work towards the approaching cutter blades.

External Shape



Turn work anti-clockwise ie cut in clock-wise direction around shape

Internal Shape



Turn work clock-wise ie cut in anti-clockwise direction around shape

27. If using ball bearing guide on cutter to follow a template, use cutter with bearing at top of cutter rather than at base in case the workpiece rides up off bearing and is grabbed uncontrollably;
28. Limit depth of cut to about 4mm max unless doing special operation such as dovetailing - multiple cuts can be made to machine deeper profiles such as rebates;
29. Err on the side of too little rather too much when considering depth of cut. It is better to make two cuts at different depths than one and have your work piece ruined or worse still, suffer a kickback. A kickback occurs when the work piece binds-up while being routed, causing it to twist or jump or grab and possibly become airborne;
30. Avoid gripping workpiece tightly on out-feed side of cutter because if it grabs, it can pull your hand extremely quickly into the cutter;
31. Avoid heavy machining of MDF as the dust particles from this material are extremely small and penetrate deeper into the lungs than most timber dusts - they are also most commonly bonded with urea formaldehyde glues which may be carcinogenic;
32. This fine dust can also penetrate into the working of the router and clog up the height adjuster which then necessitates extensive maintenance disassembly to rectify problem;
33. NEVER leave a running router unattended;

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34. ALWAYS SWITCH OFF AND WAIT UNTIL THE BIT HAS COME TO A COMPLETE STAND STILL BEFORE REMOVING THE WORK PIECE OR ATTEMPTING TO CHANGE THE BIT;
35. Do not touch the bit immediately after operation as it may be very hot;
36. Ensure the machine and table are thoroughly cleaned and that all attachments such as fences and guards are put back in place if they have been removed for any reason. DO NOT LEAVE THE MACHINE IN A DISSEMBLED STATE.

NB When using special jigs and for some operations, such as cutting a groove, it may be necessary to have clear access to the cutter and thus the fence may need to be backed away more or the fence may be used as a guide for wider work.

Additional Safety and operational instructions applicable to the Gifkins Jig (advanced skill option) are to be found in the manual filed at the shed.

1. Read the Gifkins instructions before using the a Jig for the first time; Watch the videos.
2. SEEK QUALIFIED COORDINATOR ASSISTANCE IF USING JIG FOR FIRST TIME.
3. When using the Gifkins Jig always check that the clamp(s) are safely above the cutter before turning the router on;
4. Operate the Jig by pushing it away from you, into the cutter, not pulling it towards you;
5. When using the Jig, hold on to both ends of the Jig with your hands also braced on the table;
6. When using the Jig, if you suspect the bit may be moving up or down, turn the machine off immediately and check carefully. This can occur if the bit is faulty or loose, or the Plunge Lock Lever has not been properly engaged. To continue without checking will almost certainly destroy the Jig.

COORDINATORS' OPTIONAL CHECK LIST <i>Suggested practical activities and knowledge to be demonstrated by member prior to Accreditation</i>				INITIAL	DATE
1.	Set up machine and check that all power connections and dust extraction fittings are correct or rectify them				
2.	Remove and replace cutter, adjust cutter height and explain how and why the bearing can be changed on a bearing guided bit.				
3.	Rout a 10mm wide x 5mm deep groove in a 40mm x 19mm straight timber strip or similar				
4.	Use a rounding over bit to round the corners of a rectangular piece of timber				
5.	Explain how a stopped chamfer is routed				
6.	Carry out normal clean up procedures				
7.	Show understanding of material in Accreditation document				
Version Date:	22/9/2013	Version Prepared by:	K Callinan, P Fisher & M Bailey	Version Authorised by:	G Crawford
Please tick ONLY ONE of the boxes: <input style="margin-left: 10px;" type="checkbox"/> New Accreditation to be added to records <input style="margin-left: 10px;" type="checkbox"/> Confirmation of existing accreditation					
Accreditation seekers signature: Print Name:	Date:	Accred Code: W6	1st Assessor's signature: Print Name:	2nd Assessor's signature: Print Name:	

NB A copy of this document is to be completed and filed in the member's personal file at the Shed. Additional copies are available through email or hard copy by if requested. The member's Shed computer records and name tag will be amended when Accreditation is finalised.