

## The Biscuit Revisited **Biscuit Joinery**

When building cabinets one of the best ways to make a clean strong joint in the face frame is the use of biscuit joinery. As mentioned in an earlier edition of the MakTimesSA of what biscuit joinery is, a biscuit, in this context, is a small oval piece of wood which comes in varying lengths. Of course you will need a biscuit joiner as well, such as the Makita 3901. This is a power tool that has a small circular saw blade that cuts into the edge of a piece of wood to the proper depth and shape to accept the biscuit.

As in all building projects it is necessary to layout all your components and align how, where and by which method each piece will be joined with another. The use of biscuit joinery when building cabinets is mostly in making the face frame, that portion where the hinges and latches are attached to the final cabinet. You have the choice with biscuit joints to make them either mitered corners or butt joints; the use of biscuits adapts itself easily to either type joint.



After you have built your cabinet box using standard methods of carpentry or preferably, a biscuit joiner, then you are ready to face this box. Measure the perimeter of the box unit for the application of the face frame; having done so and being assured that all measurements are accurate, cut the components of the face frame and lay them out on a flat level surface as the final frame will appear when joined and ready to assemble to cabinet boxes. You will have a loose formation of stiles and rails. Stiles are the vertical pieces of the frame and rails are the horizontal. Dry fit all the pieces of your frame and check that they fit each other smoothly and flush with no burred edges or gaps. At the points that you will be making your joints, i.e.: corners, center stiles and or rails, line up the component pieces exactly as you will have them in a finished product. Establishing the exact center of the component, whose end butts to the

matching piece in butt joints, or where the miter joint components meet, using a straight edge, mark a line with a pencil on both components where they will be joined. In the case of a miter joint the end center of each component. Repeat this process at each point that a joint of either type will be established. Mark each component as to its relationship to the finished product to assure that each piece is properly relocated in relationship to your original layout.



Each in turn, clamp your component pieces to a work table. Be sure to clamp between table and a soft piece of scrap wood so as not to leave clamp marks on the surface of your components. Using your biscuit joiner align the center indicator on the face of the joiner flush against the component piece and inline with your pencil mark and plunge cut the edge of the component as instructed in the safety instructions that come with the joiner. Always remember whenever using any form of power tool, be safe, wear protective eye covering as saw dust and wood chips will be flying around, be sure you are standing in a clear, dry and clean area to avoid slipping, and always be aware of your surroundings for any possible hazards. Do not wear loose clothing, long sleeves should be buttoned or rolled up tight to avoid possible contact and tangling with moving parts of power

equipment, and shirts should be tucked into your waist, not flapping loose around your body. Now that you have your joints cut and grooved for biscuits, working on one joint at a time, slip a dry biscuit in one side of each joint and fit the components together forming the basic face frame. Starting with the top rail, apply carpenter's glue to the interior of each joiner cut and lightly brush each biscuit with carpenter's glue and assemble first the two corner joints and then the center stile joint (s) and clamp. Moving swiftly repeat this procedure on the lower rail joints. Once all are joined with glued pieces and clamped, measure the frame diagonally corner to corner, each measurement should be exactly the same, if not it means you are out of square. Adjust until you obtain the even measurement between opposing corners. Allow the clamped unit to sit clamped over night to assure that the glue is dry and your joints are tight.



**Congratulations, you are ready to assemble face to your cabinets.**

## The Makita 3901

### Biscuit Joiner

Externally Accessible Carbon Brushes

Large, Comfortable Top Handle

Pivot Fence with Positive Stops at 0°, 45° & 90°

Dust collection bag

Depth Adjustment Dial



Rack & Pinion Adjustable Fence

Depth Setting Knob

Truly Flat Aluminum Base

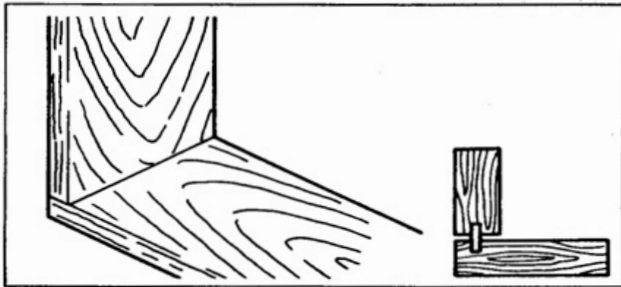
#### Makita Advantage:

- Powerful 590W motor, 11,000r/min.
- Easy to access blade & carbon brushes.
- Complete with set plate for joining thin material.
- Can be used for trimming wall & ceiling panels with accessory blade (A-02744), max depth of cut 25mm.
- Precision rack-and-pinion vertical fence adjustment.
- Cast aluminium pivot fence with positive stops at 0°, 45° & 90°.

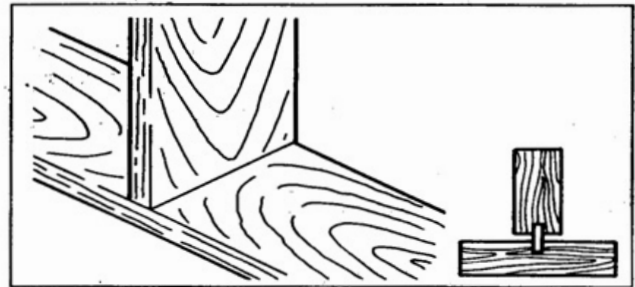
**590W**

## Common Biscuit Joints

Corner Joint



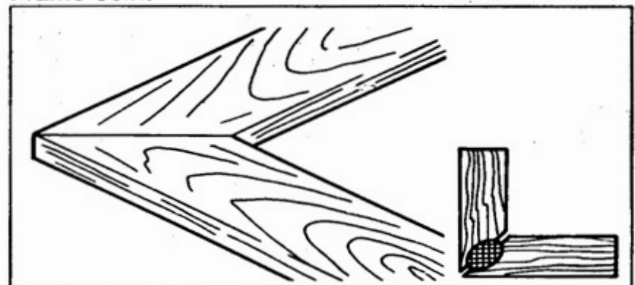
T-Butt Joint



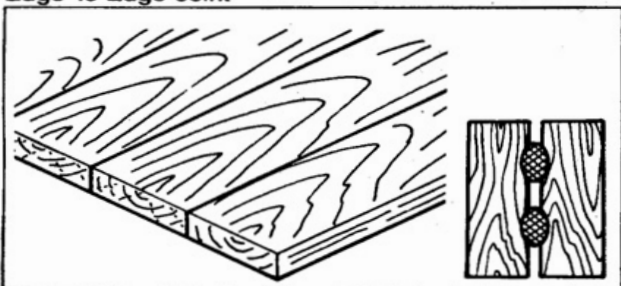
Miter Joint



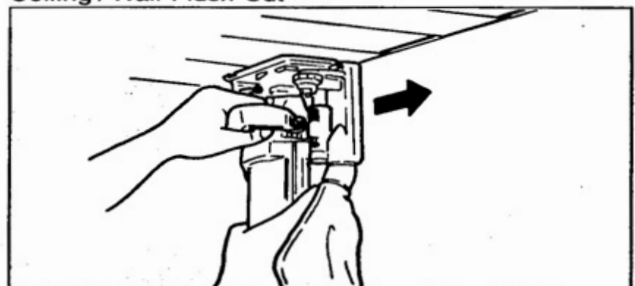
Frame Joint



Edge-To-Edge Joint



Ceiling / Wall Flush Cut



## Makita Feedback

## Netafim SA

Gary Frances, an automation technician from the company Netafim SA, has given some feedback on working with Makita tools. Netafim is the largest low volume irrigation company worldwide and Netafim South Africa is part of this global team. Providing solutions for irrigation is their core business and as a result they take on many large projects in the Southern Africa region. Gary says that he read the August edition of the MakTimesSA, and found the article about the Li-ion BHP454ZK cordless impact drill / driver to be very interesting. He has the older model, BHP451ZK, of which he says is by far the finest tool that he has ever worked with.



Picture on **right** shows Gary's Makita tools, ready for another day of successful work.

To the **left** is a Greenhouse project in Brits NW province. **Bottom** show a Shadenet project in Gaborone Botswana and **bottom left** a small Greenhouse project in Chokwe Mozambique.

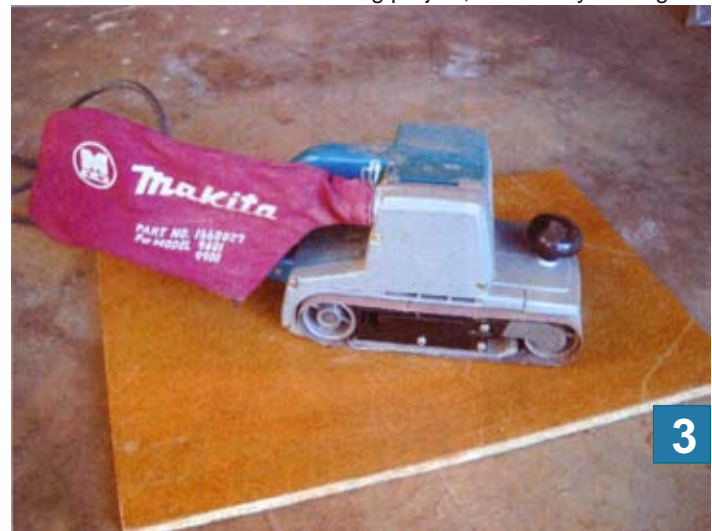


Netafim SA does a fair amount of work in Botswana, Mozambique and Zimbabwe where electricity is not always available. Since purchasing the Makita cordless drill, Gary says that his sheeting screwdriver and larger drill have pretty much taken a backseat. In his latest project the cordless was used on 70% of everything drilled and fastened. Due to the fact that they work in regions where electricity and logistics are limited, it is imperative that Gary and his team have reliable tools to complete their projects. To this end a decision was taken by Netafim Technical Department that they only use Makita tools.

## Makita or bust!

Conrad Stevenson, a tradesman who has a hobby and passion for woodworking which he has been pursuing for 20 odd years, had the following to say about Makita. He has done everything in the time mentioned, including the making of cabinets and installing cupboards to making his own sculptures. He says that he must of been 20 years old when he saw his first Makita advertisement in a publication. Not knowing anything about woodworking then, or of the brand, the ad made such an impression on him that he bought his first power tool - a Makita sander. It lay on his shelf, in its box for a few days before he put it to use. His mother had an old table that had been standing in a shed on his parents plot for a very long time. It was built from meranti, had large square legs and weighed an unthinkable amount. The sander worked overtime and a few days later the table looked as good as new. This is when the woodworking bug really bit him and ever since then he has built and restored many things. Since that day he has believed in Makita and even in these modern days, with all his experience, will not use any other brand.

Pictured **below** is the Makita sander which Conrad used to produce his first successful woodworking project, about 20 years ago.



## Boat Racing Update



Makita's involvement with sponsoring two boats in the South African Pleasure Boat Association (SAPBA) has continued in the 2009 / 2010 season and the championship is growing ever more popular each year. The two boats mentioned are displayed in this article and include, on the left, Ernest Tope, who races in the H1 class for modified outboards (250+ kilowatts) and Lee Allen, bottom, who races in the H2 class which is for 225HP standard (168 - 186 kilowatts). Ernest has recently refurbished his boat, so his involvement in the racing will only start next year while Lee started the championship, in a new boat, from the beginning. Lee, in his 225PRO XS Mercury powered Eliminator, is still getting to grips with this new boat around the corners, but certainly has enough straight line speed to compete with the front runners.

Each race event consists of three heats of about 8-9 laps, but recently, a new addition, 400 meter sprint race has been included to conclude the days proceedings and is rapidly becoming the highlight of the event. This is where Lee's straight line speed becomes very evident. Lee has an overall position, in terms of points gained, with all race classes combined, of 12th in a very competitive field. This includes the following results in his H2 class: **a)** September at Bon Accord - 3 x 3rd place finishes **b)** October at Klerksdorp - 3 x 4th place finishes **c)** November at Morula Sun - 3 x 4th place finishes. The South African Pleasure Boat Association has shown tremendous growth in the last two years and has been awarded the Best Class Association by Powerboat South Africa for the 2008 / 2009 season.



## Makita Mustang

## Cape Town

On the right is a recent picture of the Industrial Abrasive Ford Mustang Cobra GT driven by Wally Dolinschek Jnr. This vehicle outputs a brutal 550HP. The car was originally a SASCAR, but after much work modifying the car, it is now a serious contender in the Sports & GT classes at Killarney race track in Cape Town. Wally Dolinschek Snr is the brains behind the modifications and race preparation. Wally is currently leading his class and has been known to beat the odd Porsche to the finishing line.



Please visit  
[www.formulasupercars.co.za](http://www.formulasupercars.co.za)  
for more great images and  
information on Makita Racing.

## Makita Staff Activity

In October, a number of Makita Cape Town Branch staff embarked on a day hike in the Silvermine mountains above Kalk Bay. The day also included some exciting caving. The Boomslang cave through which one can travel, from the Fish Hoek valley to Echo valley, ensured some additional excitement! A "pit stop" at the Brass Bell in Kalk Bay ended a very enjoyable day for all. This may become a regular activity, and a Lions Head hike was planned for November.



**Miss Makita  
Lisa Lakatos**

**2010**

**Senorita  
Makita  
Elizabeth  
D.Prado**



## Editors Notes

The management and staff of Makita SA would like to thank all our partners for their valued support during 2009. Rutherford will be closed between 24 December 2009 and 4 January 2010.

We wish all our readers a happy festive season and a prosperous and healthy 2010. For those who are travelling over the festive season please drive safely.

**Best Regards**

**Makita SA Marketing Department**

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