

The Home HANDYMAN

March/April 2021 • Vol 31 No 3



**MAKE A DIY
WORKBENCH**



**STEP-BY-STEP
LEANING SHELF**

Flooring takes centre stage

- How to choose flooring: 5 vital questions
- The 4 easiest DIY flooring solutions
- How to screed a floor



- Make a metalwork pen holder
- Improve your home's entrance
- Weekend home renovation projects
- Make a contemporary take on a Shaker shelf
- Upcycle an old chest of drawers



Featuring eight step-by-step projects for the handyman

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FROM THE WORKBENCH

Sometimes simple is better

The story of NASA's million-dollar space pen and the Soviet's pencils has become one of the most enduring tales from the space race.

Rumour has it that when NASA started sending astronauts to space, they quickly discovered that ballpoint pens would not work in zero gravity. To combat the problem, NASA spent years and countless dollars to develop a pen that worked in zero gravity, underwater, on almost any surface and at a temperature ranging from below freezing to 300°C. The Russians, on the other hand, used a pencil.

Despite being an amusing story, this is nothing more than a myth, as both US and Russian astronauts did indeed use both pencils and 'space pens' sourced from the same company. However, the premise behind this myth can be applied to so many things today. Sometimes you can be so wrapped up in a problem or a challenge that you fail to see the most straightforward – and often most appropriate – solution.

This tale with its message of simplicity and thrift goes to show that everybody, including woodworkers and DIY'ers can often lose sight of their objectives. Do you really need such a complicated join for that project? Is the extra time, effort, and quite often, money, worth it, or are you overlooking a simple solution? Granted, we are all wowed by painstakingly intricate work and detailing, but not every project requires this.

Back to NASA, and pencils may not have been the best choice for use in space anyway. The tips flaked and broke off, drifting in microgravity where they could potentially harm an astronaut or equipment. And pencils are flammable, a quality NASA wanted to avoid in onboard objects after the Apollo 1 fire. Knowledge and perspective is key in both life and DIY projects!

After the rough year which we have all experienced, *The Home Handyman* team wishes you all health and safety as we aim to get through 2021. If possible, please try and support our advertisers – without them, and you, the reader, we would not have been able to get through 2020.

Gregg



The Home HANDYMAN



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Address: PO Box 24938 | Gezina | 0031 | RSA

Office: 065 849 3264

Fax: 086 234 5026

Email: editorial@homehandyman.co.za

Publisher Hannes Lindeque

Associate publisher Allan Swart: allan@homehandyman.co.za

Editor Gregg Cocking - editorial@homehandyman.co.za

Feature writers André Gous, Annalien Grensemann,

Catherine Reimers, Clifford Roberts, Kim Roberts and Warren Schmidt

Technical consultant Denis Lock

ADVERTISING REPRESENTATIVES

Wilma Lindeque 065 849 3264

Email: advertise@homehandyman.co.za

Ruth Schultz 083 583 5243

Email: ruth@homehandyman.co.za

HOW TO SUBSCRIBE

Email: subs@homehandyman.co.za

Fax: 086 234 5052

Online www.homehandyman.co.za

Layout & design dee@stormdeezigns.co.za

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The Home Handyman magazine is a specialized D.I.Y. publication and caters for a well-defined niche market since November 1993. The magazine equips its ever-growing readership with relevant D.I.Y. information, knowledge and skills.

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OFF THE SHELF

Your guide to the latest products in the world of DIY

New generation cordless power tools

Range includes power washers, impact drills, angle grinders and more

After recently successfully launching the first of the new WORX products – the Pegasus, Jawhorse and Side Kick worktables – and stating that this will be followed by an exciting range of new innovative power tools at the end of the third quarter of 2020, Ryan Hunt, Director at Vermont Sales, says the company is very excited about this new brand. “Looking at the new WORX’s product range, it is mind boggling, there is a lot of very exciting, very clever, good looking and unique products that will certainly excite all our customers,” say Hunt.

“Our company is winning not only because of our knowledge, but because of our passion,” says WORX President and CEO, Tom Duncan. “It is easy to work hard when you love what you are doing. And I absolutely love what I am doing. Other companies build things, at WORX, we create. After all, it is all about the idea. To do what has never been done. Or taking what has always been done and reimagining it being done better. Faster, easier and more efficiently.”

WORX takes pride in the recognition it has received, such as the World Wildlife Fund’s Platinum award for Low Carbon Manufacturing and the LEEDS-NC Platinum distinction for its green building. It is proof that the company are not only talking the talk, but walking the walk too. The new generation of WORX cordless power tools, Hydro Shot power washers, Hyper Turbo blowers, accessories, and an exciting range of corded powered tools, arrived at the end of last year.

For more information, call 011-314-7711 or visit www.vermontsales.co.za



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Comfortable sanding and a high removal rate for larger flat surfaces

Tackle tough sanding projects with the PBS 75, a belt sander from Bosch, and enjoy comfortable handling with highly effective material removal. Its powerful 710W motor delivers fast progress on larger flat surfaces. Experience ideal handling thanks to a removable auxiliary handle.

Belts are easily changed and the automatic belt system keeps them centred during operation. Perfect for preparation or restoration tasks, it is suitable for use on a wide range of materials from wood to metal including removing paint and varnish. A Microfilter System box reduces dust and aluminium components provide robustness.

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For more information, call 011-651-9870 or visit www.bosch-diy.com/za



Integrating technology with elegantly functional solutions

The essential styling of the Grid Range from D4 offers a clean, functional presence with an almost limitless selection of customised options to meet individual needs

The Grid Range increases efficiency and can suit any office environment with an anodised aluminium body for strong and robust durability.



Single and dual power circuits offer dedicated applications (two completely independent circuits within a single housing), while through wiring allows for 'daisy chain' installations via interconnect leads and splitter block.

Installation mounting options: On Desk, Under Desk and 'Peep-through' Desk. Standard body colours include:

- Polar: Anodised silver body with white end caps.
- Graphite: Texture powder coated black body with black end caps.
- Titanium: Anodised silver body with black end caps.

D4 is a brand of Design 4 Technologies (Pty) Ltd, a level 2 BEE company which was established in 2010. D4 leads the industry with approval by the South African National Regulator of Compulsory Standards (NRCS)

D4 specialises in customised electrical furniture, bringing electrical and data services to your desk. D4's furniture integration solutions are both stylish and functional.

For more information, call 011-701-2024 or visit www.d-4.co.za

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ASK FOR IT BY NAME

Expansion joints in flooring – concrete or tiles – Den Braven Hybriflex-540

A joint with the correct dimensions and suitable seal is able to absorb movements between building materials, extending the longevity of a flooring project. Den Braven Hybriflex-540 is hard wearing and ideal in helping prevent concrete and tiled edges from cracking and filling up with debris.

This sealant is elastic, has a very high resistance to UV degradation and weathering as well as excellent adhesion to a wide range

of substrates with minimum surface preparation. Den Braven polyethylene (foam) backing cord can be used with this sealant in joints, as a bond breaker.

Den Braven Hybriflex-540 is available in white, beige, grey and black and can be painted.



Visit the Den Braven website or scan this QR code to watch HOW TO seal a brick paving joint.



VOICE YOUR VIEWS

Do you have any thoughts or comments on DIY issues?



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Send us your views, ideas and opinions and you could win a 115mm Makita MT M9507B Angle Grinder courtesy of Makita. (disc not included)



Send your queries to:
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Please include your name, physical address and contact number (office hours)

WINNER

Merinda Maritz

wins a MT M8100B Impact Drill courtesy of Makita.

Prizes are not exchangeable

Paving project success

WINNER

Thank you for the step-by-step article on how to do DIY paving in your November/December 2020 issue.

We made this our December project during lockdown, which proved to be perfect timing. The article gave us clear guidance on how to go about it, and we could manage the project without any professional help.

The Home Handyman magazine is a treasure for any DIY enthusiast and we are excited to see what the next project will be that we tackle in issues to come.

Keep up the good work!

Merinda Maritz, by email

Ed replies: Hi Merinda, so glad that the article was of use for you and congratulations on a fine project – the end result speaks for itself!



New riempies for a chair



During the holiday season a riempies chair with broken riempies came my way for repair and with the attached photos, I wish to show you how I did the job with the following steps:

Step 1: Remove all nails and screws underneath the chair which has fixed the old riempies and cut off the ends of the riempies with a side cutter to make it easier to remove them through the holes.

Step 2: With all the old riempies removed, start at any corner and put an end of a new riempie through the hole from the top side of the chair and fix the end from underneath the chair. I have used 3 x 13mm wood screws (16mm panel pins are an alternative).

Step 3: Thread the riempie through the next hole and pull it with a firm hand to strengthen it. At this point it is important to have two pegs, I have used two nail punches. Press the punch into the hole with the riempie, to prevent the riempie slipping back.

Step 4: Thread the riempie through the next hole and again with a firm hand strengthen it and put the second punch in position.

Step 5: Thread the riempie through the next holes and strengthen each one and use the punch to stop the riempie each time, until the first part of the chair is completed.

Step 6: Turn the chair upside down, with the punch still in position, and fix the end of the riempie to the chair and cut off the excess of the riempie.

Step 7: Next is to complete the second part of the chair. Start also in a corner of the chair and fix the end of the riempie. Thread the riempie through the other riempies by following the "up and down" pattern. Strengthen the riempie as describe above.

Step 8: Thread the next riempie, but this time with the "down and up" pattern. Follow the steps until the second part of the chair is completed.

Step 9: With the chair upside down, fix the riempies between the holes with screws to give extra strengthening.



TOP TIP! Before fixing a riempie, make sure that the pattern is correct, because it can be easy to slip somewhere and it is a frustration when the job is finished and to find out that a riempie is in a wrong position.

Chris Mans, Klerksdorp

Ed replies: Thank you for sharing Chris – we are sure that this tutorial will come in handy for many of our readers. Great job!



Reader's projects



The Home HANDYMAN

www.homehandyman.co.za

Willing to share your latest project with our readers? Send a step-by-step write up of how to make the project, along with step-by-step photographs (at least 300kb) and a picture of the finished product.

Email projects and photographs to:

editorial@homehandyman.co.za



Our competitions – the fine print

Prizes may not be exchanged for cash. The closing date is stipulated by the competition box. If not stipulated, it closes on the last day of the issue. For example: Jan/Feb edition. All competitions close on the last day of February. To enter simply e-mail your answer to: editorial@homehandyman.co.za and include your name, surname, address and a day time contact telephone number with your entry. Unless otherwise stipulated, competitions are lucky draws and the correct entry drawn on the closing date will be the winner. The prize may differ from the picture shown. By entering this competition you agree to all rules and accept that the decision of the publisher is final and that no correspondence thereto will be entertained. This competition is open to all readers of *The Home Handyman* except employees of THH, BB Print and employees who work for the company that sponsors the prizes and their immediate families. Prizes not claimed within 60 days will be forfeited.

The passing of an industry icon

South African manufacturer Pratley announced with much sadness the passing of Managing Director Kim Pratley on 19 January 2021.

Kim's father, George 'Monty' Pratley, established the company in 1948. During the 1960s, the company invented and produced the world's first epoxy putty. Initially intended for insulating and affixing terminals to cast iron electrical junction boxes, it was subsequently introduced into the local market as Pratley Plastic Putty, a name that ultimately became Pratley Putty.

The product not only put the company on the world map, but saw it end up on the moon, as the product was used by NASA on the Ranger Moon Module Project in the mid-1960s. This feat ultimately secured the product's place in the history books. Pratley Putty has since become a household and industrial name, used to repair everything from swimming pool leaks to the hulls of partially sunken ships.

After the passing of Kim's father in 1983, Kim took over the company at the young age of 27 and further grew Pratley into the iconic South African brand that it is today. The company now produces over 800 products and has filed over 350 patents worldwide.

In 2018, and to celebrate the 70th anniversary of the company, Kim and sons Andrew and Charles replicated the 1985 memorable launch of Pratley Wondafix® adhesive, which saw all stand underneath a 13 tonne bulldozer, hoisted and held aloft by a Wondafix® adhesive joint.

In 2019, the South African Mint celebrated the 50th anniversary of the first moon landing with its 'South African inventions' series, focusing on Pratley Putty as the only South African product to ever journey to the moon.

"As a company, we mourn the passing of our beloved father, dedicated Managing Director, mentor, friend and colleague. His passing leaves a deep hole in the lives of everyone at Pratley and all those who knew him. He was so many things to so many of us, and as much sadness fills our hearts, we are comforted by the many memories and achievements that he spearheaded during his time as head of Pratley. His legacy will live on through everything we do going forward," comments Andrew.

The company is now left in the capable hands of Andrew and Charles, who worked alongside their father for many years. With degrees in IT and engineering respectively, both also have

extensive knowledge of the company, having worked their way up from grassroots level.

"Even though we are grieving at this time and our sadness is palpable, we are a very resilient company that has been growing from strength to strength over the years. We are a decent and very capable team. We are world leaders in the things that we do and the products that we produce. Going forward, we look to a very bright future for Pratley, with several exciting things in the pipeline."

"Our fundamental principles, policies, ethics and recipe for success are proven and remain rock solid," concludes Charles.

Pratley celebrated its 72nd anniversary in 2020.

For more information, visit www.pratley.com



Father and son make F1 car out of cardboard



A father and son from Johannesburg have the internet gushing with admiration after their cardboard race car project has not only set new standards for 'do-it-yourself' school assignments but also showcased how to take a simple project and turn it into a more profound teaching moment.

Stephen Watson's son Luca received an invite from 'Reddam House Waterfall' to a 'drive-in' movie night for all the Grade 3 students. The project – as father and son – was to build a car out of cardboard boxes that the child would sit in and watch the movie.

Luca asked his dad if they could build the 'Redbull F1 race car' and promptly showed his dad a picture of what it looked like. Watson took the project head on but also decided to use the assignment to demonstrate that with hard work, one can achieve good things.

Builders' new brand platform seeks to bring out the builder inside all of us

Leading retailer in the home improvement sector, Builders has launched its new brand platform and positioning: 'Here's to the builders. Here's to home.' to inform its marketing efforts going forward as it seeks to celebrate the builder inside everyone. Their promise remains 'Whatever you want or need to do, we help you save time and money, with quality solutions.'

"Because people are spending more time at home, they are interested in doing things themselves, whether it's cooking or baking, home workouts or general home maintenance. This also means that new hobbies and habits are birthed, and that is why we want to support these passion points" shares Andre Steyn, vice president at Builders. Steyn took over the helm in February 2020, having been with the group for 20 years when he joined the retailer as a sales associate and worked his way up to marketing and innovations director before being appointed as vice president.

There is no denying that the coronavirus (COVID-19) pandemic took the world by surprise, with people having to quickly adapt to the new normal. This came with an introduction of a work from home culture amongst other changes,

which meant that people had time to take a step back to and re-evaluate their lives and living spaces. Being home has unearthed little flaws in people's living spaces with many wanting to make tangible changes to reimagine their living spaces, thus spiking an interest in DIY and general home care solutions. With this new brand platform, Builders aims to inspire and support its consumers to bring out the inner builder in them.

"As Builders, we are not just for contractors or large and small businesses, but we are also for homemakers, hobbyists, creators, fixers, DIYers, who visualise, build and achieve their plans," explains Steyn. "Whether they are just starting out, are established, or are slowing down, we work together to find

ways to get it done," he adds.

The platform has launched on digital platforms and is also supported by a TVC that is currently airing.

The new TVC brings a fresh take on nature-inspired scenes of homemaking and building, says Sharleen James, creative agency business lead on the Builders advertising account. "Whether you are a human, a stick-insect or an elephant, we've all got something incredible in common. Every single living thing on this earth has a deeply ingrained desire to protect, shelter, have comfort and to be safe at home. This desire brings out the builder in us."

For more information, visit www.builders.co.za



"I decided this was not about the movie but an opportunity to teach my boy that when you want something extraordinary, it takes hard work, patience, mistakes, pain, rethinking, problem-solving and if you stay focused and committed, with hard work you can achieve good things. The task was daunting, and there were moments where both he and I wanted to give up. We got stuck too and had to ask grandpa for advice and help. We asked my brother to help print logos on paper that we could glue on the car etc."

One hundred hours of effort later, fun, laughter, frustration, a few short fuse

moments mixed in there somewhere too and the result is something they are both super proud of.



Have you been wanting to change out those old floors in your home for some time? Are you looking for easy flooring solutions to install yourself? Luckily for you the flooring world has made a lot of technological improvements in recent years to make DIY flooring a real option no matter your skill level.

THE FOUR EASIEST DIY FLOORING SOLUTIONS

It appears that in the middle of this difficult coronavirus outbreak, many people are finding some extra time to tackle projects at home. Here are the top 4 DIY flooring options for 2021.

Carpet tiles

The basics:

Carpet tiles are perhaps the easiest to install DIY flooring. Regular old broadloom carpet (think large rolls that need a pad under them and have to be stretched and tacked down) still should be left for the pros. However, if you have a room in your home you would like to soften up and quiet down on your own, nothing beats carpet tiles. There are endless options from budget-friendly to top of the line luxurious options.

How to install carpet tiles:

Carpet tiles can literally be installed by anyone with some minor DIY ability. Carpet tiles usually have a peel and stick backing or can be adhered down with some double sided carpet tape or tabs. If you would like to float them (not adhere them to your subfloor), they can be taped together on the bottom to keep them together. Cutting them to fit is also fairly easy. Some cheaper tiles can be cut with scissors while other thicker tiles may need you to cut them with a utility knife along the side of a straight edge like a ruler.



Peel and stick vinyl tiles

The basics:

Peel and stick vinyl tiles are also a great DIY flooring idea when you want to add quick accents to a room or give a space a quick flooring makeover. These tiles can be used in any room or on any floor level of your house. You will often find them already installed in bathrooms and laundry rooms of many

homes. A few years ago, the options were somewhat limited to cheap unattractive tiles. However, recent years have brought about a renaissance of design. Current peel and stick vinyl tile options include beautiful accent tiles even beautiful wood-look vinyl planks.

How to install peel and stick vinyl tiles:

Installing peel and stick vinyl tiles is literally as simple as peeling off the backing and sticking them to a level subfloor. You will want your subfloor to be level so that you don't see the underlying floor transpose through your vinyl tiles. It is often recommended to start from the middle of the room with square tiles or from one corner of the room if you are using planks. Thinner tiles can be cut with scissors, and thicker tiles can be cut with a utility knife and straight edge. A tile cutter can also be used if you want to spring for the most efficient equipment possible, but it is not a necessity.



Vinyl plank flooring

The basics:

Vinyl plank flooring is currently the fastest growing category of flooring in the world. Currently there are three names this product tends to go by: WPC (wood plastic composite), SPC (stone plastic composite), and rigid core flooring. So what makes it so great? Well first off it is 100% waterproof and extremely stain proof. Second, it is dimensionally stable meaning it will not expand or contract in varied temperatures. This means it is much more low maintenance than standard wood flooring options which can buckle if they expand or leave gaps at the seams if they contract. Lastly, they are available in virtually every wood-look or stone-look option imaginable so the options are endless.

How to install vinyl plank flooring:

Vinyl plank flooring is currently the easiest wood-look plank flooring option to install yourself. For a long time laminate flooring was considered the easy DIY wood-look flooring because it has an easy to install tongue and groove system, and only needs some minor DIY skills such as properly measuring and sawing your pieces to fit. Well, these modern day vinyl planks are basically installed the same way, only you don't even need a saw. Vinyl planks are usually cut by scoring them with a utility knife alongside a ruler.



Vinyl sheet flooring

The basics:

Vinyl sheet flooring is a classic flooring option that has been around for years. This type of vinyl flooring comes in rolls that are usually 6 or 12 feet wide and they are available in every look imaginable. Vinyl sheets are often installed in kitchens, bathrooms, laundry rooms, or any other place where waterproof flooring is needed. I know what you are thinking, "Is this like that old linoleum flooring in my grandparent's house?" Well it is similar, but I am happy to tell you that modern day vinyl sheets are much better looking than those old patterns, since printing technology has improved greatly over the years. If you are still nervous about considering this option, order some samples to check them out for yourself in person.

How to install vinyl sheet flooring:

Vinyl sheets can usually be installed by the average DIYer in just a few hours. The most important step is to prep your sub floor so it is completely level and devoid of any pits or raised bumps as these will transpose through the floor. Once that is done, you typically only need a utility knife and some double-sided carpet tape around the perimeter to complete the job. The trickiest part of the job will be cutting around obstacles in your room.



Recap

DIY flooring options have never been as abundant as they are today. Advances in flooring technology and a recent shortage of professional installers has led to an increased demand for DIY flooring solutions. Luckily for the average homeowner, there are endless DIY flooring ideas and options that can offer any look and fit any budget.



CONCRETE VS. FLOOR SCREEDS: WHAT IS THE DIFFERENCE?

For those not working in the construction industry and to the untrained eye, it may be difficult to both understand and/or recognise the difference between concrete and floor screeds.

Something that is very odd given that both materials are made from the same basic ingredients; cement, aggregates and water. The basic chemistry is the same for both concrete and screed – the cement and water forms a paste and coats the surface of the sand or the aggregates, and the cement paste hardens by a process called hydration, forming a hardened mass of high strength and durability.

However, the size of aggregates used is different, the grade of the cement used is different, the mix consistency and finish is different – because both materials intended use is very different!

Concrete has a much coarser mixture than screed, consisting of larger, hard-core aggregates, which are the key element that gives it its durability and makes it strong and long lasting.

Because concrete has the potential to hit very high strengths, it is used across the construction industry for structural purposes – including floor slabs. It is the most used man-made material in the world. Screed, however, is a smoother mix, which consists of considerably less aggregates to that of the mix used for concrete.

Screed is usually applied on top of the concrete slab and is most commonly used as a finishing layer on internal floors or to level the floor prior to final floor coverings carpet, tiles, natural stone, linoleum, wood flooring, resin coatings etc.

Screeds are required when a colourful or functional floor is needed rather than a bare concrete surface. For industrial purposes, or commercial locations, which will undergo frequent traffic, a more robust screed is required than is used in DIY or residential projects.

Most screeds are used for internal purposes only; polymer-modified screeds can be installed in external locations, as they are hardwearing, water resistant and able to withstand a more rigorous environment.

Traditionally screeds are sand and cement mixtures, blended and applied on site. However, these are often unpredictable as the ratios and properties cannot be exactly determined and so can lead to a weak flooring layer liable to crack, peel or collapse without warning.

To counter this unreliability there are a number of proprietary screeds and kits available on the market offering enhanced strength and a faster application speed that will react more predictably.

cont. on p14

Sealed with goodness

The Woodoc Way



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How to screed a floor

A common project to carry out on floors for work or home projects is to install a screed layer. This can be extremely difficult to do without prior experience and the correct tools to carry out the work, so it is important to have all the training and equipment necessary if you want to do the job yourself. A floor which is poorly screeded can easily become damaged later on, even to the point of breaking up and forcing you to begin laborious, expensive work again, so it is important to be well prepared before even beginning to prepare a floor for screeding.

Depending on the type of screed used and the size of your intended site, a number of factors about your installation can change. This can include the time it will take for your screed to finish curing, the thickness the screed will need to be poured at and how much it will cost overall to screed your floor.

Because of this, it is important to have a plan in place before your work begins. Be sure to have measured the area you are intending to screed, in order to start the project. You will also need to reinforce the layer your screed will sit on if you are intending to use unbonded screed, or expose the aggregate and apply a bonding agent if your screed is bonded.

The layer should also be cleaned of all dust and debris before work continues, and the site must be proven to be watertight.

You may also need to mix the screed for a concrete floor if you are intending to use unbonded screed. By adding polypropylene fibres into the mix and adding water, you will reduce the chances of your floor developing micro cracks over time.

There is a several step process to installing a screed floor, which we have listed below:

1	Divide up your floor area To begin the process of screeding your floor, you will need to divide it into sections. If you do not have dividers, it is recommended that you use long, straight pieces of timber that are cut to the height of the layer. Wet these pieces down so that they are easily removed after and divide the room into strips.
2	Apply a layer of screed Spread out a compact layer of the screed mix on the section farthest from the room's entrance, using a trowel to move the mixture and compacting it with a screed board or straightedge. Tamp the edges with a tamper to help complete the section. This part of the process often results in one of the most common problems, which is poor compaction. To ensure that your floor is installed smoothly and correctly, you may wish to call a professional service instead.
3	Levelling a floor with screed If your screed is not self-levelling (sand and cement screed), you will need to use a straightedge or a straight piece of timber to level the floor. Place it over the timber pieces you are using to divide the sections and push it forward, tilting it to use the corner as a cutting edge and moving it side-to-side in a sawing motion. This will level the screed layer. If your screed is self-levelling (otherwise known as flowing screed, or liquid screed), it will already have an agent mixed in that will react when the screed is poured, causing it to compact by itself. This ensures that the level will already be smooth when the screed is completely cured.
4	Repeat the process Continue to screed your entire floor until you have filled all the sections available. Once this is done, remove the timber dividers and fill in the gaps left behind. Repeat this process until your entire floor has been screeded.
5	Float your screed You will be able to remove some imperfections from the new screed floor layer as soon as it has been installed, and once again after the concrete has properly bled.
6	Cure your screed How long it takes to screed a floor will partially depend on the size of the area screeded and the type of screed used in the project. In most cases, an average time of seven days is given for the screed to cure, if left undisturbed under a polyethylene sheet which is sealed at its edges. This may be longer if the temperature in the area falls below 10°C in a 24-hour period. When you come to us to install your screed floor, you will find that our liquid screed in particular does not take as long to be cured, and can be walked on just 24-48 hours after it has been poured.
7	Let the floor dry After the floor has been cured, it will still need time to dry. Avoid letting vehicle traffic onto it and avoid installing any other layer of flooring on it for at least three weeks. Heavy traffic in particular should be avoided until all installations are complete. On average, a screed floor should dry at a rate of 1mm per day.



Choosing the right flooring for your home can be difficult, but asking yourself these few key questions will help ease your decision and increase your long-term satisfaction with your new floor.

HOW TO CHOOSE FLOORING: 5 VITAL QUESTIONS

Thinking through the location and the activities that will take place in your space will help you decide on the right flooring

The flooring choices for homeowners have never been so vast and varied, and to be honest it can seem a bit overwhelming at times. So here are five vital questions to ask before choosing new floors.

Question 1: What is my flooring budget?

New flooring is a long-term investment that sets the tone for your home for years to come. To help familiarise yourself with current options and pricing, we recommend visiting your local flooring dealer to discuss your upcoming project with a flooring expert. Your flooring dealer will help you get a sense of your options and discuss the technology, lifespan, and costs involved with various types of flooring. Most people will be working within a tight budget, however, while an inexpensive off-brand carpet may seem like a good idea at the time, you may decide upon further investigation that it is wiser to invest in a durable, waterproof carpet that comes with a 25-year warranty. Paying more for higher quality floor ensures you'll be satisfied with your investment for years to come. The bottom line here is to educate yourself on your options, and then determine how much money you are willing to spend.

Question 2: What type of subfloor do I have and where are the new floors going?

A crucial part of any new flooring installation is to consider what lies beneath it. Your subfloor will dictate which flooring options are best for your space. Knowing your subfloor situation will impact your flooring choices and any special underlays or repair to the subfloor that might be needed.

Thinking through the location and the activities that will take place in your space will help you decide on the right flooring that fits the way you live. Consider the following as you're looking through flooring options:

- Will young children play in this room?
- Do any family members have allergy concerns? Carpet may not be the best choice since they tend to harbour allergens.
- Do you have pets and if so, will they be allowed in this room? Scratch-resistant laminate, engineered hardwoods, or waterproof carpet are good options to consider.

- Is the room attached to other rooms? Consider how your flooring will blend with the surrounding floors.
- Will you cook in this room? Will food or beverages be in this room? Consider durable, easy to clean flooring.
- Will heavy objects such as a piano be in this room? Consider scratch and dent resistant floors.
- Is this floor in a high-traffic area and are there outside entrances to this room? Mud, dirt, and water take a toll on flooring. Choose an easy to clean floor.
- How much moisture is in this room? Is it a wet area such as a bathroom or laundry room? Hardwoods can degrade in high-moisture areas.
- Is the room a place where everyone is sitting on the floor? Look into plush carpeting.

Question 3: What is my design plan for my space?

Design trends come and go, so finding flooring that fits your long-term personal aesthetic is crucial! Designing your space with a 'flooring first' mentality will help you plan and budget for future redecorating. Choosing a neutral-colour floor with classic appeal is the best way to ensure your floors outlast the current trends.

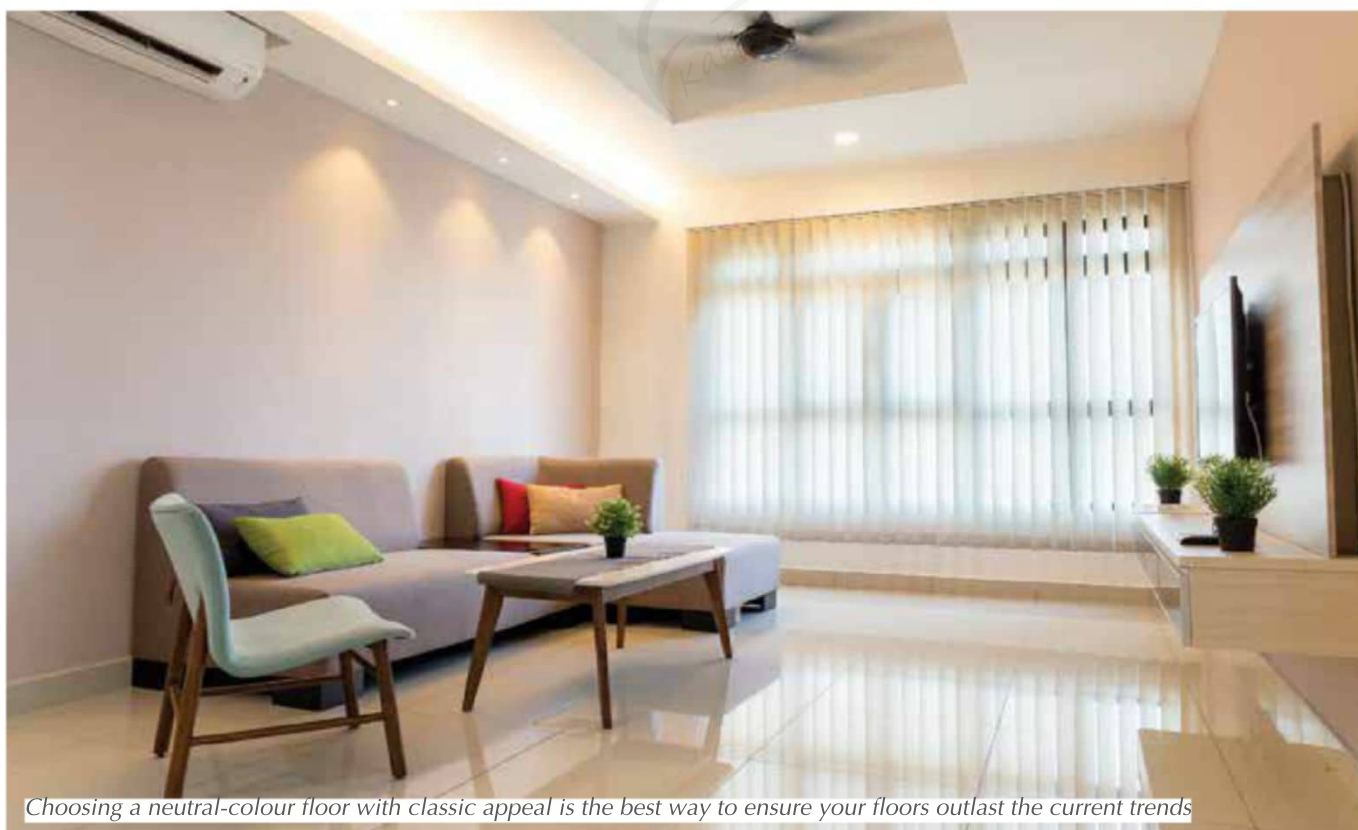
Question 4: Can I do the installation myself?

Installing floors yourself will save you a considerable amount of money, however, depending on the material chosen a DIY application might not be the best option. Incorrectly installed flooring can void warranties and create costly problems down the road. The best floors for a DIY application are laminate, tile, engineered wood, and carpet tiles. If you're confident in your subfloor, underlayment, flooring choice, and (most importantly) skill level, installing your own flooring is a great money-saving option.

Question 5: Am I making the right flooring choice for the style of my home?

Knowing your personal style – traditional, transitional, contemporary, rustic, modern, etc. – is important when choosing flooring, however, it's also equally important to consider the style of your home, neighbourhood, resale values, and flooring expectations for your area. As much as you might adore the look of rustic grey, paint splattered, hand scraped, wide-planked wood floors, they might not be the best choice for your house.

Selecting the perfect flooring is a big investment and shouldn't be a stressful process. By educating yourself on your options, planning ahead, and asking yourself these questions, you'll be able to select the floor that provides the perfect backdrop for you and your life!



Choosing a neutral-colour floor with classic appeal is the best way to ensure your floors outlast the current trends

This is an easy-to-build workbench for you garage or workshop.

CREATE YOUR OWN WORKBENCH

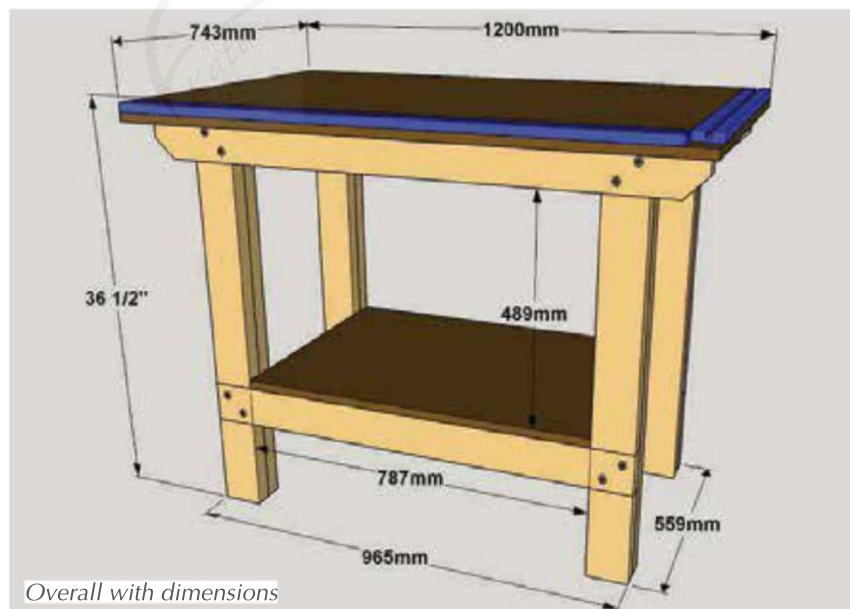
Wood needed

- 6 x 38mm x 90mm x 2440mm stud
- 1 x 20mm x 1220mm x 2440mm MDF

Tools and materials

- Circular saw
- Drill/driver
- Pocket-hole jig
- Miter saw
- Sander
- Tape measure
- 16 x Kreg HD pocket-hole screws
- 24 x Kreg 64mm coarse-thread pocket-hole screws
- 40 x 65mm flathead wood screws
- 1 x Kreg Clamp Trak Kit
- 2 x Bench Clamps
- 1 x Wood glue
- 1 x Wood finish

This workbench is easy to build, but built to withstand heavy use. Plus, it offers a versatile benchtop, thanks to a Universal Clamp Trak Kit from Kreg that's mounted along the front and one end. Combined with a couple of bench clamps, this makes a slick setup for holding pieces while you work.



Step-by-step guide

Step 1: Cut four Legs, and four Short Leg Fillers, and four Long Leg Fillers to length from 38x90mm boards, as shown in the cutting diagram. Sand the parts smooth.

Step 2: Cut two Bottom Rails to length from 38x90mm boards, as shown in the cutting diagram. Drill 6mm-diameter holes where shown. Then, with your pocket-hole jig set up for 20mm material, drill pocket holes along one edge of each Bottom Rail. Sand the Bottom Rails smooth.

Step 7: Attach the side rails to one of the leg/rail assemblies by driving 64mm coarse-thread pocket-hole screws into the Top Rail and Bottom Rail, as shown. Then attach the other leg/rail assembly.

Step 8: From a sheet of 20mm MDF, cut out one Top, one Sub-Top, and one Bottom Shelf to size, as shown in the cutting diagram. The dimensions shown accommodate the Kreg Universal Clamp Trak Kit we installed. If you're not going to add this feature, make both top layers the size shown for the Sub-Top.



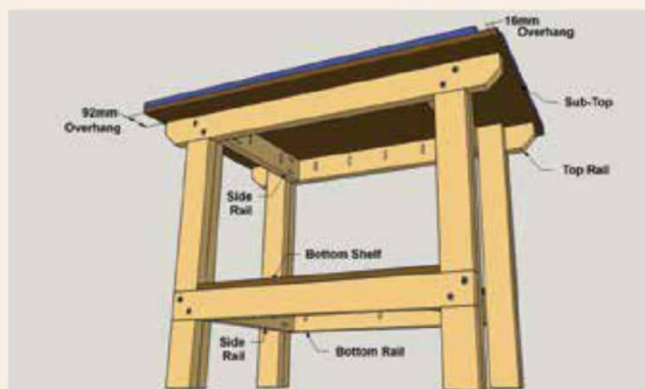
Learn to work with MDF

MDF (medium density fiberboard) is a great material for making a workbench. It's dense, durable, and very flat. MDF does present a few challenges, though. First, the sheets are big and they're heavy. You may want to have the home center crosscut the sheet into two pieces – making the cut at about 1500mm from one end – to make it easier to haul home. Or, for a small fee, you can have them cut the parts from the sheet at the sizes needed. When you cut MDF, it produces a lot of fine dust. Wear a dust mask while you cut to prevent breathing the dust in.

Step 9: Spread glue on the underside of the Top, and then glue it to the Sub-Top keeping one edge and one end flush, as shown. Clamp the parts together while the glue sets, or drive a few 32mm screws in from the underside instead of using clamps.

Step 10: Once the glue is set on the bench top assembly, install the Kreg Clamp Trak Kit to the Sub-Top following the manufacturer's instructions.

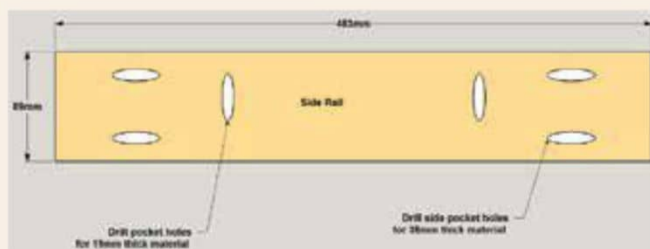
Step 11: Install the bench top assembly by first positioning it, and then checking for equal overhangs at the front and back, and on each end, as shown. Then attach the top assembly using 32mm coarse-thread pocket-hole screws. Install the Bottom Shelf so it fits flush with the outer edges of the Bottom Rails and the Side Rails. Then you can apply a protective finish.



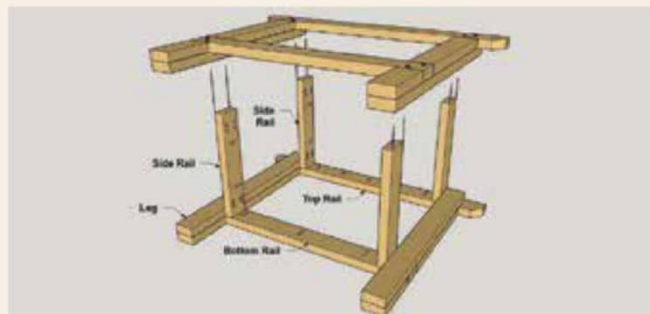
Install the top



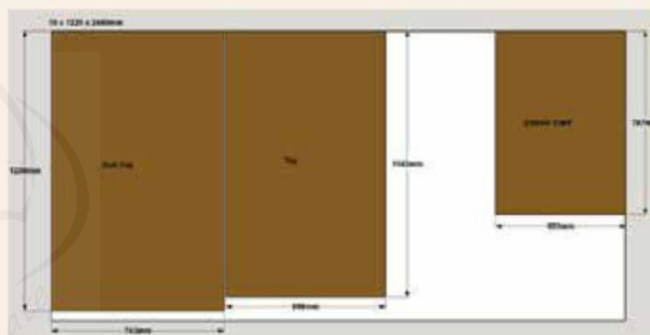
Project copyrighted by Kreg Tool Company. Used with Permission. All rights reserved. For more information, visit www.kregtool.com, and for more projects, visit www.buildsomething.com



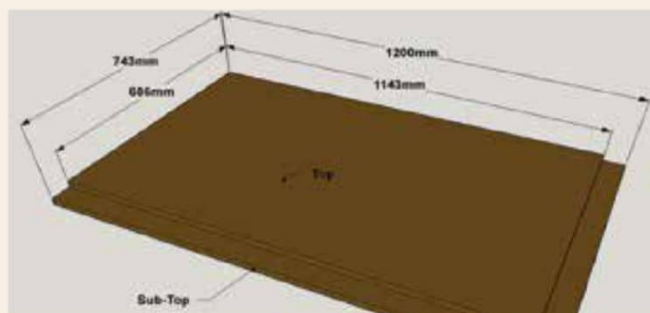
Make the Side Rails



Attach the Side Rails



Cuts of MDF



Assemble the Top



Simple finish for a better bench

To finish our workbench, we simply wiped on a few coats of natural oil finish. Tried and True Varnish Oil is one of our favorites because it's not toxic and it's easy to use. An oil finish is great for a bench because it's easy to apply, it resists glue, and, best of all, it's easy to renew. As your bench gets worn and scratched, you can just give it a light sanding, if needed, and then wipe on more oil. The MDF will soak up a lot of oil, so you'll probably need to apply two or three coats to the bench top and shelf. One or two coats should do it for the bench base.

For a high res version of the dimensions and measurements of this project, email editorial@homehandyman.co.za

Have a small space which needs good lighting? Read on...

LIGHTING

for small spaces

Apartment and townhouse living is becoming increasingly popular with more people moving into urban areas for work and school. While spacious units can occasionally be found, most are definitely on the smaller

side and can feel claustrophobic and cluttered if not decorated with care. Well-considered lighting makes a big difference and can take your compact apartment from dark and dingy to bright and airy.

Say goodbye to bulky floor lamps

Slender floor lamps are great for small apartments because they take up little floor space. Although small in size, they provide sufficient light and can be used in those awkward, narrow corners where lighting is often neglected.

Make the most of wall space

Floor space and countertop surface areas are precious in small apartments and need to be used for things other than lighting. With this in mind, wall sconces are the way to go. Not only do they save space, but they can also serve as a decorative feature on your walls if you choose an interesting design. Wall sconces make for great bedside lighting because they free up space on your



A lampshade that is light in colour will allow the lamp to emit more light into the room

bedside table for other times such as books and water glasses. They're also a useful addition to the bathroom and can be used to flank the mirror above the sink.

Consider lampshades carefully

Lampshades add a decorative touch to a room, but it's important that you choose them wisely when living in a compact space. The type of lampshade you use dictates the quality of light offered by your lamp. A lampshade that is light in colour will allow the lamp to emit more light into the room, while a darker shade will only shine light above and below the fixture.

Use 2-in-1 bathroom fixtures

The bathroom is usually the smallest room in the apartment. If you don't have space for sconces on the wall above your sink, carrying out your morning and evening routine can be challenging due to poor lighting. A combined mirror/light fixture saves on

space and gives your bathroom a clean, contemporary look.

Go dramatic with ceiling fixtures

A bold flush mount ceiling fixture will direct attention upwards and tricks the eye into thinking the space is larger than

it actually is. By installing a dramatic, oversized ceiling fixture you're also allowing for brighter illumination of the room which immediately makes it feel more open.

For more information, visit www.eurolux.co.za



Slender floor lamps are great for small rooms

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SIMPLE INDUSTRIAL PENCIL HOLDER

While I was away at university I didn't have many opportunities to use my tools. As a result, my skills got rusty. I designed this project to be a refresher of sorts, to allow me to become re-accustomed to my workshop.

It's nice and simple to make and doesn't take much time at all.

>> Anton Cohen

What you will need

- A length of square steel tube with inner dimensions big enough to hold your pens/pencils/stationery
- Files
- Hacksaw
- Spray paint (optional)
- 12 gauge steel sheet
- Welder
- Appropriate safety equipment
- Bench vice

Step-by-step guide

Step 1: Cut the steel tube into four sections, with each piece a bit shorter than the last. File (or grind) the top and bottom of each piece smooth. Try to stand the pieces up; continue filing the bottoms until the pieces stand straight up without wobbling.

Step 2: Cut a rectangle from 12 gauge sheet steel. This will be the

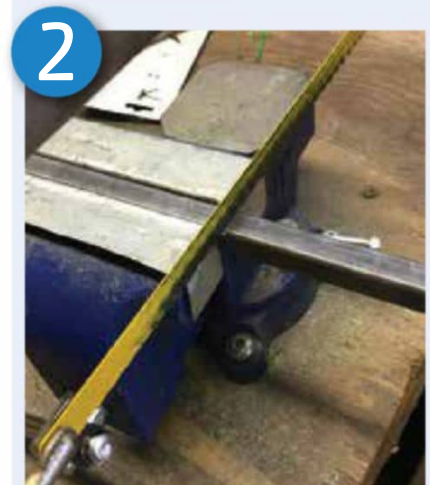
base. File all the edges smooth. By placing the sections of tubing on the base you can get a pretty good idea of what the finished product will look like.

Step 3: Arrange the sections of tubing however you like; I chose to set them up in descending/ascending order. Make sure the sections of tubing are centred on the base and use a magnet to hold them in place. Weld the tubing to the base. I just used tack welds because I liked the look they produced. I tacked every visible side to the base, and found that this securely attached the tubing.

Step 4: I used a wire brush and files to clean up the welds and give the pencil holder a nice industrial look. If you want you can paint the pencil holder; however, I regret doing so because I liked the raw, unpainted look better.

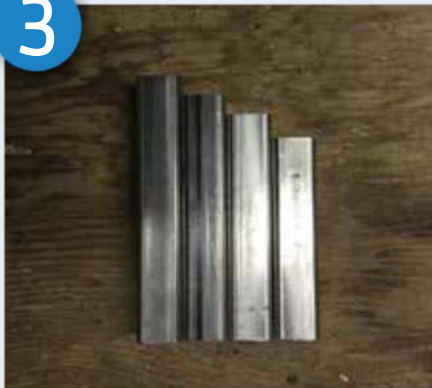


What you will need



Cut the steel tube into four section

3



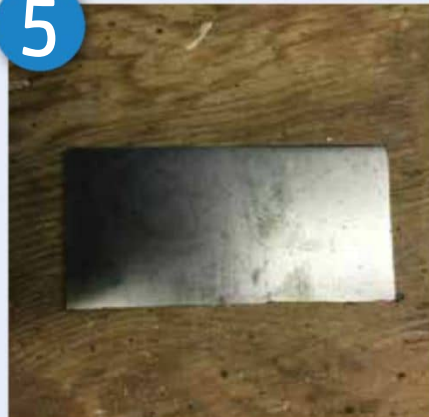
Make each section slightly smaller than the last

4



File (or grind) the top and bottom of each piece smooth

5



Cut some 12 gauge sheet steel for the base

6



File all the edges smooth

7



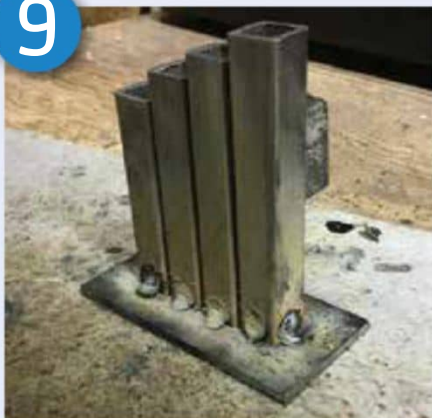
Getting an idea of how it will look

8



Use a magnet to hold the sections in place

9



Weld the tubing to the base

10



Use a wire brush and files to clean up the welds

11



If you want you can spray paint the pencil holder



"The finest steel has to go through the hottest fire." – Richard M. Nixon

Whether for home or commercial application, artificial grass can suit your requirements and budget.

THE BENEFITS OF ARTIFICIAL GRASS



>> Miguel Benedito

Overall, artificial grass remains a top contender in terms of home improvements due to its low maintenance and high-quality finishes. Making it the best choice product when considering how to improve your home.

Why install artificial grass?

Arti-Grass has built its product range to have the most natural looking artificial grass for your lawn. In modern times, time is so minimal and many people are turning to a low maintenance garden.

Experiencing wet and muddy or dry and patchy surfaces – South African gardens battle extreme weather patterns as a result of rising global temperatures – more so in Cape Town. Our gardens require a lot of time, effort and care to maintain, principally because lawn care is so challenging and time consuming. Sustaining healthy, lush, cut-to-size grass is a battle for even the best of gardeners. A fake lawn offers a year-round solution, as well as valuable maintenance savings for your pocket, your planet and your time.

cont. on p26



ARTI-GRASS
EVER GREEN

ARTIFICIAL GRASS



Artificial grass is a top contender for home improvements due to its low maintenance and high-quality finishes, making it the best choice product when considering how to improve your home. Whether for home or commercial applications, artificial grass can suit your requirements and budget.

WHAT ARE THE BENEFITS OF ARTIFICIAL GRASS?

- It saves water
- It's easy to maintain
- Artificial grass can be environmentally friendly
- Durable – lasts up to 20 years
- Long term investment



25mm Augusta



25mm Cruz



30mm Pet Grass



**40mm Soccer
Duo Rye**



13mm Multisport



30mm Autumn



30mm Spring



35mm Supreme



How long will artificial grass last?

When considering installing artificial grass, one must consider its longevity. As artificial lawn is made up of synthetic fibres, either nylon or propylene, they are usually made with a UV resistance durability that allows it to withstand various temperatures and weather conditions.

Just as with natural grass, each blade has an expected durability, and is sewn into a backing material that provides it with further endurance. It is within this manufacturing process that they are able to increase its efficiency thus providing it with its low maintenance benefits.

Added to this, which is key, is proper installation of the artificial grass. Poor installation will result in drainage issues which will cause slippage between the backing material, weed growth, and breakages which will drastically decrease the lifespan of the grass. As each tuft is made to withstand foot traffic, the longevity is impacted by the amount of traffic that passes over the lawn within its lifespan. By choosing a quality product, you are able to maintain your artificial grass with little to no maintenance for a period of 20 years.

This speaks to the quality of the synthetic fibres that the artificial lawn is made of, as this provides further proof into how the initial costs are justified.

In order to ensure the longevity of your grass, you need to do minimal maintenance, namely removing foreign matter, pet waste, organic waste, and ensuring that the grass is washed off occasionally.

A simple brushing with a soft broom will also ensure that the tufts are always maintained and that no foreign matter remains lodged between them. Particularly any chemical residue as this will cause discolouration and fading.

For more information, contact Arti-Grass on 065-849-3264 or email info@artigrass.co.za



Artificial grass prices

If you are in the market to install artificial grass, you might be hesitant to switch over from natural grass because of the initial costs. Synthetic grass is pricier than natural grass, in that it is made from a synthetic fibre material that is sewn into a matted backing that allows it to act like grass but without the maintenance requirements.

Global warming has caused weather patterns to change erratically, with period of sun and rain causing natural grass to become muddy and unsightly.

The decision then lies in, spending a bigger investment on grass that will look perfect all year round, or spending a smaller investment on grass with the added maintenance cost each month to try to get it looking as perfect as possible.

The installation process in the beginning is a lengthy one, as the sod needs to be removed, properly drained, with a base created out of two substrates, a gradient gravel material and sand, to create a level base on which to install your artificial lawn.

Lastly an infill material is poured onto the finished product, spread out to reach the bottom, leaving an immaculate finish that won't be subject to any adverse weather conditions.

After seeing this process, you will understand why the costs of synthetic grass are that much higher, pushing it further into a higher bracket when considering a higher quality grass that mimics natural grass even better.

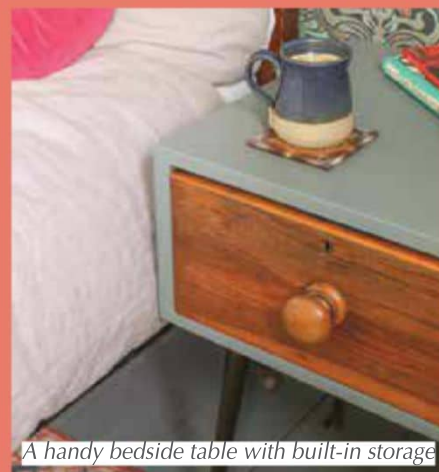
You will note that the price of the grass is related to the tuft height, colour variation and density of the lawn, as this is a manufactured item, all these factors will come into play. However, this should not deter you from making the decision to install artificial lawn, as it will be 100% worth the money spent once it is installed. Not forgetting that it carries no maintenance cost and provides you with the comfort of knowing you will have the best lawn in town all year.



The old chest of drawers



Upcycled into a new bedside table



A handy bedside table with built-in storage

Upcycled bedside tables

If you have an old chest of drawers stored away but they're too big for your room or are falling apart, then why not upcycle them into a useful piece of furniture?

>> Cassie Fairy and Andy Greenacre

We were able to salvage the two small drawers from a bulky chest that had seen better days (the back and sides had broken) and decided to use the drawers as the basis for two bedside cabinets.

An old shelf and the broken top of a unit provided all the additional wood we needed to build a frame. We unscrewed the angled legs from a retro planter, but you could use chair legs or even just offcuts of timber – whatever you already have.

Step-by-step guide

Step 1: Carefully measure the drawers you're using for the bedside cabinets. You want to create a close-fitting frame but with a few extra millimetres so that the drawers can slide in and out easily.

Step 2: Cut some pieces of old wood to the measurements required to build the frame. We used an old shelf and the top of a broken unit to cut two sides, one back piece, a top and a base.

Step 3: Position the pieces together to form a frame and drill pilot holes of about 1 or 1.5mm (depending on the screws you're using) where the screws will attach the frame together. The pilot holes will prevent the timber from splitting when the pieces are screwed together.

Step 4: Use a countersink drill bit to add countersunk holes to the pilot holes. This allows the screw heads to sit flush to the wood when screwed in, so you can easily fill over the top for a smooth finish. Screw the sides together then add the top and base.

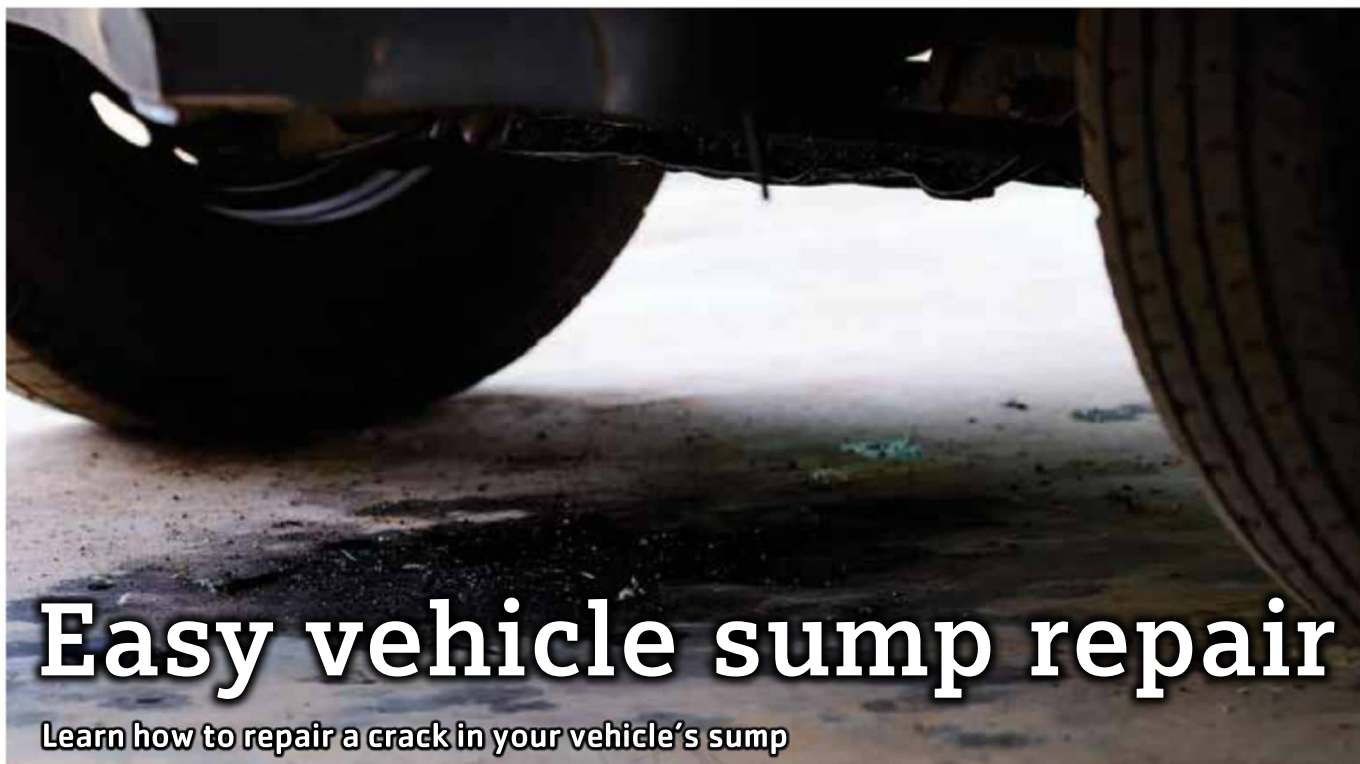
Step 5: Use wood filler to fill in all the screw holes and any other gaps. Allow to dry thoroughly.

Step 6: Carefully sand down the dried wood filler and any splinters using an electric sander and fine grit sandpaper. Alternatively, you can use a sanding block to sand down any rough edges by hand. Wipe away any dust.

Step 7: Paint or stain the frame and drawer in a colour of your choice. We used a dark grey satin emulsion paint and left the drawer in its original wood tone, but you could stain the frame to match the colour of your drawers, or paint the drawer front to coordinate with the frame. A final coat of wax or varnish will seal the surface.

Step 8: Finally, attach any fixings for the legs to the underside of the cabinet. Screw the legs into place from beneath the frame. Slide the drawer into the frame and position your new cabinet bedside your bed.

And there you have it – a handy bedside table with built-in storage! You can customise your own project with any paint colour or stain to coordinate with your walls, floors or bedding to create a seamless look. Other than a few DIY materials that you probably already have in the garage, these bedside cabinets were made entirely from upcycled furniture and offcuts of wood so they cost practically nothing to make.



Easy vehicle sump repair

Learn how to repair a crack in your vehicle's sump

Ever been in need of an on-the-spot automotive repair? Where engineering workshops are sometimes unavailable, such as in rural towns or villages? Here is an easy step-by-step guide to repair a vehicle sump using a handful of products.

What you need

- Pratley Safety Cleaner
- Pratley Quickset Putty

Step-by-step guide

Step 1: Remove any dirt, rust, or oil. Use Pratley Safety Cleaner to flush out any remaining oil or grease. Remove any oil, grease, or dirt on the outside of the sump. Ideally, use Pratley Safety Cleaner to flush out any remaining oil or grease. Industrial-grade acetone can also be used.

Step 2: Sand the area around

the crack to assist with the adhesion of Pratley Quickset® Putty. Clean the surface after sanding to further assist with adhesion.

Step 3: Drill two small holes on either side of the crack to prevent it from spreading further.

Step 4: Carefully read the packaged instructions before using Pratley Quickset Putty. For convenience, the instructions are provided in isiZulu, Sesotho, English, Afrikaans, Portuguese and French.

Step 5: As per the instructions, cut equal parts of each stick and roll the parts together into a sausage form

and then roll it into a ball. Repeat the process until there is a uniform cream colour throughout, with no streaks.

Step 6: Knead and wipe the putty onto the surface around and over the crack. Build up with additional putty until the surface is covered.

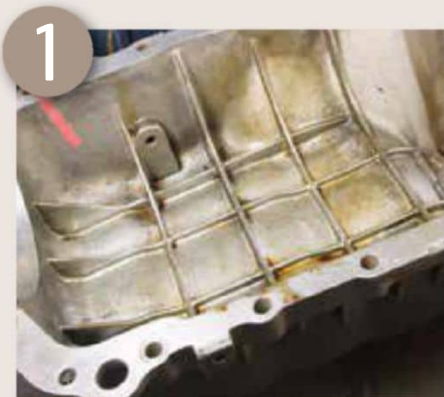
Step 7: Smooth off the putty with a wet finger and wipe off excess with a damp cloth. Repeat this process for the outside of the sump.

Step 8: Pratley Quickset Putty will reach 75% strength in about four hours. Once set, it can be sanded smooth or painted to match any required colour (if required).

About Pratley

Established in 1948 by George 'Monty' Pratley, the various companies in the Pratley stable rest on a foundation of research and innovation in both the manufacturing and mining sectors. The various Pratley companies, drawing from 70 years of experience, have filed over 350 patents worldwide, and are ISO 9001 certified. Operating divisions are Pratley Adhesives, Pratley Electrical, Pratley Analytical, Pratley Perlite & Zeolite Mining, Pratley Craft & Decoupage, Select Hairdressing Supplies.

For more information, visit www.pratleyadhesives.com



Remove any dirt, rust, or oil



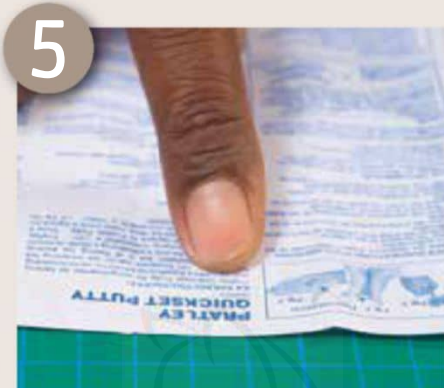
Use Pratley Safety Cleaner to flush out any remaining oil or grease



Sand the area around the crack



Drill two small holes on either side of the crack



Carefully read the packaged instructions



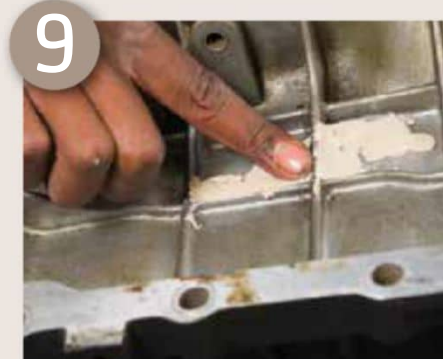
Cut equal parts of each stick and roll the parts together



Roll it into a ball



Knead and wipe the putty onto the surface around and over the crack



Build up with additional putty until the surface is covered



Smooth off the putty with a wet finger



Once set, it can be sanded smooth or painted to match any required colour

For homeowners who are keen to start sprucing up their space a little bit, there is never a better time.

Ceiling fans are a great way to keep your home cool in warmer weather

WEEKEND HOME RENOVATION PROJECTS

Upgrading your home doesn't have to be expensive or difficult and it doesn't have to involve contractors. There are a variety of projects for all price ranges and all levels of skill and enthusiasm that can improve your home's look and feel, and ultimately its value. Putting a few of these home-improvement ideas into action will help you get the most out of your home.

Brights Hardware, a family owned chain of hardware stores based in the Western Cape, has put together a list of summer home renovations and DIY tasks that can be done in a weekend and won't break the bank.

1. Freshen up the exterior

When it comes to homes, looks do count and what's on the outside matters.

"It's surprising what a coat of paint can do to transform the exterior of your home," says Orlando Luis, CEO of Brights Hardware. "But before you pick a final colour, try the Dulux 30ml testers which offer a small quantity of paint in a plastic applicator."

And while you are up on a ladder why not check how your gutters fared through the wet winter months? Clean out any debris that may have built up and repair or replace any damaged sections, seal the joins and secure any loose downpipes.

2. Add some curb appeal

While you are working on the outside of your house why not enhance the curb appeal – after all, first impressions count.

Some ideas to easily refresh the front of your home include replacing dying patchy lawn with stone chip, creating flower beds, and also purchasing some pots and planting them with decorative trees or flowers to stand alongside the front door.

While you are at it, give your front door a fresh coat of paint in a bright colour to complement your new plants and to really make a statement.

3. Mending fences

If your home has an old, tired or broken fence or perhaps the vibracrete has cracked panels, then now is the time to mend fences.

Luis advises that having a strong perimeter fence is an important security feature for homes in SA. "There are several different options available for fencing – whether you opt for wood, wire, cement boards etc. And many come in ready-made panels/sections that are easy to erect in a weekend."

4. Install a fire pit

When the weather starts to warm up, South Africans will start to spend more time outdoors, and what better way to enjoy a



Having a home security system has become essential; these days there are a variety of “plug and play” and DIY alarm systems

summers evening than by sitting around the (newly built) fire pit enjoying the crackling flames.

If you are keen to build the fire pit from scratch there are tutorials on YouTube that show you how – not much more is needed other than some bricks and cement. If you are keen for a quicker solution there are ready made fire pits on the market that can be instantly installed once purchased.

5. Install a security system

“Having a home security system in SA has become essential,” says Luis. “These days there are a variety of “plug and play” and DIY alarm systems - including surveillance cameras, perimeter beams, spot lights and more – that can be installed by the home owner quickly and easily to ensure your family’s safety.”

6. Bathroom makeover

Upgrading a bathroom can be a pricey endeavour if you are wanting to replace sanitary ware and re-tile. If your bathroom is looking a bit tired and outdated there are ways to spruce it up without spending a fortune.

Bathroom tiles can be painted. Choose a suitable quality primer and a good quality paint as well as sealant to go over this. One can also stick vinyl stick-on tiles over your existing ceramic tiles (if they have a smooth finish) to instantly upgrade your bathroom space. Bathroom cabinets can get a lick of paint – whether they are wood or melamine – there are paint products for both. New taps, a new shower head, a new toilet seat and a new mirror will also go a long way to freshening up the space.

7. Kitchen improvements

Much like the bathroom, kitchens can be given a new lease of life without taking a loan to pay for it. Things that can be done in one weekend include painting the walls, painting the kitchen cabinets and replacing the handles, painting the tiles and using vinyl adhesive tiles to create a bold new splash back. Other ideas can include hanging a new blind, replacing the light fixture and installing some open shelving.



If you are keen to build a fire pit from scratch there are tutorials on YouTube that show you how

8. Install ceiling fans

Ceiling fans are a great way to keep your home cool in summer but don’t use as much energy as air conditioners.

“The evolution of the ceiling fan has seen them go from ugly eyesores to designer pieces that can complement any room,” says Luis.

9. Get tanked

“If you don’t already have rainwater tanks in place in your garden it is always a good idea to consider this upgrade to your home. There are many different shapes and sizes of water tanks available and in it a relatively easy DIY installation,” says Luis. “First thing to do is check how much space you have and then choose a tank that fits your budget and capacity needs. Ensure the tank is standing on a level and sound surface – ideally one should lay a concrete slab for the tank to stand on but they can also stand on flat level sand surfaces.”

“Then you need to connect the pipes to access your gutter system. Keep in mind that a rainwater harvesting system will use your roof and gutters as a collection point – which takes us back to the first point, ensure that you have clean gutters in good condition.”



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Learn how to make a wall unit and study area using melamine board.



A PROJECT IN MELAMINE BOARD

>> Willie Marneweck

My friend Steve recently moved into a retirement village in Pretoria. Inside the home there is a small room indicated on the plan as a storeroom. The size is only 1,3m wide by 1,77m long. He asked the developers not to have a door fitted, having in mind to turn it into a mini study. I offered to help him with this project. The before and after pictures give an impression of what it entailed.

Should you have in mind to do a wall unit or study, this article may be of assistance. While one may immediately say that it is not the size or lay-out that you may require at your place, I hope to show that you can design and make your own layout.

Working entirely with melamine chip board and breaking up the lay-out into manageable modules, any handy do-it-yourselfer can undertake such a project.

If you had the opportunity to read my article in previous issue on "How To Use Manmade Boards" and especially, the section on melamine chip boards, the present article is now a matter of putting theory into practice. My previous advice to have your board supplier cut and edge all the pieces can be utilised in the project. What I intend to convey is that if we keep it simple, one does not need a lot of drawing experience, woodworking skills nor a lot of machines and tools.

I am a firm believer in making drawings and cut lists on even the smallest of projects. You don't need SketchUp or CAD drawings, in worse case even free-hand sketches will do the job. Drawings to some scale naturally work better e.g., 1:20. The place to start, I usually find, is with a plan view of the locale, especially if the unit is going to fit tightly between walls. Obviously, you will take measurements of the room first. Draw the room inside the walls showing the door, window(s) etc. Continue to draw a plan view of the proposed unit. Next make elevation view drawings of the unit as it would appear looking at it face on. Keep functionality in mind i.e., what is the unit intended for. I also do end views where necessary. You can see what Steve's unit looked like (Drawing 1). Easy, isn't it? Always work on outside dimensions of modules. That is a firm rule. If the unit goes right to the ceiling allow at least some 150mm between the top of the cupboards and the ceiling. This gap is preferably closed with a fascia.

The next step, after you are entirely satisfied with the concept, is to make an elementary drawing of each module. In the case where a work top is involved, add it to the detail drawings. You may like it differently, but I prefer to split cupboards (modules) vertically with a top in between. This is for two reasons; it keeps the modules smaller and most often the lower cabinets are deeper (wall to front) than the upper ones.

You will notice that only outside dimensions are shown. Details such as shelf support holes and rebates for backings are not detailed but should not be forgotten during construction. We will come to the cut list shortly but bear in mind that a lot of information not shown in the drawings will be clarified in it. It is a good idea to give each element of each module a symbol, such as A, B, etc. On the cut list the elements can also be given descriptions e.g., "Outside panel" etc.

Having finished the drawings for all the modules and given symbols to the elements, a cut list can be drawn up. Before doing the cut list you have to decide on the kind of melamine (chip board) i.e., the appearance. Visit a board supplier (that can also cut and edge) and have them show you examples. Also ask about the various edgings that they can offer.

Because your project will look entirely different, a step-by-step approach how Steve's study was constructed may be confusing. Instead, a study of the points below will clarify the process.

ASSEMBLY OF CABINETS

- Forget about dove tail joints, spline joints, and all other traditional joints. Also, mechanical joints made by the professionals are out of the question. Because all joints are simply butt joints with a 16mm edge abutting squarely with the face of another piece you can use so called 'biscuits'. This is an excellent jointing method for manmade boards. After all, I am told that the biscuit cutter was invented by Lamello for this purpose.
- Screws may be utilised with great success but will show on open faces. If there is no other way out, screwheads can be countersunk and filled with wood filler of appropriate colour. Pocket hole screws, popularised by Kreg, are also good, but requires the Kreg system. It may, however, not look good on drawers because the pockets show (see tip regarding screws).
- What about skirtings behind the unit? Provided these are not higher than 100mm you merely have to make cut-outs on the rear of the side panels (usually done during installation). If skirtings are higher than 100mm then you have to design cabinets with the bottoms at least high enough to clear the skirting.



Drawing 1





Drawers in cabinet



Drawer fronts being installed



Installation of cabinet



Installation of floor cabinets

ASSEMBLY OF CABINETS *contd.*

- Shelf support holes must be drilled before assembly. To use the index (see tip below) clamp it flush to the front/rear edge of the panel to be drilled. The series of holes will be 25mm from the panel edge. The index may be set at the 'bottom' of the panel. Push a 5mm dia. drill bit into a hole until it wants to protrude the other side. Now mark with masking tape a depth of 8mm above the index. Determine at what position you want the lowest shelf and proceed to drill holes (up to the 8mm mark) Unclamp and move the index along at the end of the run by using the first hole of the index to coincide with last hole drilled in the panel. In this manner the 600mm odd length can be extended.
- In the case of very narrow cabinets with drawers, such as our example, it is prudent to fix the drawer runners before assembly (to avoid working in a cramped space after assembly).
- Talking about drawer runners. How do one space them? This my method for ball bearing runners:
 - Use the drawer fronts, starting at the bottom of the cabinet and mark the height on the front edge on the cabinet. Leave a gap of 2mm in-between the next front, and so on .
 - Make a 'spacer' by cutting scrap board to the height of the top mark and the cabinet bottom, about as wide as the cabinet depth. Do a similar spacer to the second highest mark and so on.
 - Clamp the highest jig to the cabinet inside resting it at the bottom. Disassemble the runner and rest it (cabinet part) on top and exactly flush with the cabinet front. Screw it on with 6 x 16mm screws. Do the next lower runner down and third. The lowest runner comes flush with the bottom.
 - Repeat on the other side.
 - The drawer element of the runner is screwed flush with the drawer bottom and front edge.
- Drawer bottoms and 3mm backings are nailed down with 25mm nails. Backings of 16mm thick board are screwed down with 6 x 40mm screws (see tip). Always check for squareness
- Drawers should be marked underneath 1 to 4 from top to bottom. Push in bottom drawer and clamp the drawer front in position to the front of the drawer. (I prefer to fit handles beforehand, but some people do it afterwards). Put 8 x 30mm screws into predrilled holes in the front panel of the drawer from inside the drawer into the front. Use 2mm thick shims between front no. 4 and front no. 3. Clamp and screw, etc.
- Pocket holes (35mm diameter) on doors can be drilled some 80mm from top and bottom and 4mm from the edge of hole to the edge of the door. Some board suppliers will do it for you.
- Hinges (full overlay) can be screwed in place in the potholes of the doors with 6 x 16mm screws.
- Slip the mounting plates onto hinges and position halfway between the adjustment limits. Hold the door next to the cabinet with hinges inside and door flush with cabinet bottom and door pushed in. Screw mounting plates on with 8 x 16mm screws. Remove doors during installation.

TOP TIP!

To join two panels butting square with each other with screws, use Pozi or square drive screws of 6mm x 40mm. The 6 indicates the head size and not the shank (don't ask me why). By predrilling the face panel 8mm from the edge with as many holes as you deem sufficient, screws can be driven into the edge of the adjoining piece without predrilling. Thicker screws will split the edge if not predrilled.

To make your own drilling index nail two or three strips of chipboard of 50mm wide and say 600mm long exactly on top of each other. Three strips give more support to the drill bit and holes do not wear out rapidly. Draw a centre line down the length, i.e., 25mm from each side. Drill a series of through holes on a drill press 5mm diameter, spaced 32mm apart, down this line.

INSTALLATION

Installation is neither easy nor difficult. Bear the following in mind and things will be easier.

- Installations must always be level. Don't compromise on this issue or the end result will be awful. This means that floor cabinets may have to be wedged or packed underneath with thin pieces (e.g., 3mm MDF).
- In the process of levelling the floor cabinets one must also see to it that the tops of all these are equally high. Some iterative work may be necessary.
- Use G-clamps (or others) to clamp adjoining side panels perfectly flush in front. Screw them together with 8 x 30mm screws. In our example there are only two floor cabinets to join. Further to our example, the drawer cabinet must be positioned at the rear left corner.
- Fix floor cabinets to the wall(s) with plastic angle brackets and 6 x 65mm plastic wall anchors. These are fixed at the top back of a cabinet. It is not necessary to fix to the floor. Usually the floor cabinets are sealed to the floor with clear silicon when the job is finished, and this also keeps it in place.
- If the unit is not going to be 'built in' then only levelling is required.
- The top can be screwed down from below with 8 x 30mm screws going through the tops of the floor cabinets. In our project, cleats of melamine strips 60mm wide were screw-anchored to the walls to support the top.
- In a wall-to-wall situation one usually makes the table tops a slight bit too long and cut it to size on site.
- The upper cabinets can be positioned and screwed down from below (8 x 60mm screws). The side-by-side panels are also clamped and screwed together just like the floor cabinets. One can also fix these to the wall with plastic brackets and wall anchors working above the cabinets. Remember to attach the brackets on top of the upper cabinets (at the rear) with 8 x 16mm screws before putting them into position. Drill into the wall utilising the gap between the ceiling and cabinet top (some 150mm) to do the drilling and screwing.
- When all cabinets and the work top are in position and fixed the wall fillers can be fitted. (See tip). After a strip has been made it can be slowly tapped into place taking care not to go beyond flush with cabinet. The practice is to shoot F30 nails with a nail gun from the cabinet inside through to the strip. Panel pins will also do.
- What was said about the filler strips also applies to a fascia between the upper cabinets and the ceiling.
- Most often small gaps show between fillers and wall/ceiling. These can be filled with (usually) white acrylic. The tubes that require a pump are recommended. Use a damp cloth to tidy up at these fillings. Sometimes a coloured acrylic works better, and a limited variety can be bought, e.g., beech, pine, etc.
- The last job before cleaning up is to put the shelves in place (use 5mm shelf supports), push in the drawers and fit the doors.



How to make fillers strips. The strip should be a bit wider than the widest gap between the cabinet and wall and exactly the length of the part to be filled. Take measurements every 150 to 200mm from cabinet side to wall and jot down. Next transfer these measurements to the back of the filler strip. Connect the markings with a clear line. The waste can be sawn off very carefully with a jig saw following the line. By sawing from the back of the strip it avoids saw break-outs in the front. If, on testing, the strip is a bit tight here and there, one can carefully rasp at these spots.



For the dimensions and cutting list of this project, email editorial@homehandyman.co.za

As South Africans become more conscious of green and sustainable living, hydroponic farming is gaining popularity because of its many benefits.

The five best plants to grow in a hydroponic system are lettuce, spinach, strawberries, bell peppers, and herbs.

Start your own **HYDROPONIC GARDEN**

>> Gary Wiid

Not only is hydroponic farming the healthier option, but it also uses fewer resources and produces higher yields. But what is hydroponic gardening? It is a way of growing plants without soil where the crops grow directly in nutrient-rich water. It allows producers to provide food anywhere in the world, at any season of the year, and to net higher output with fewer resources, and it requires less space than conventional farming.

This method has a futuristic quality about it, but you might be surprised to learn the practice stretches back centuries. Some theorise that around 600 BC, the Hanging Gardens of Babylon were established with hydroponic methods. Historians can conclude with more certainty that the Aztecs used a style of hydroponic farming in the 10th and 11th centuries when they began to farm on Lake Tenochtitlan.

Today, hydroponic cultivation has given rise to some of the world's best cannabis. The increasing popularity of cannabis cultivation has massively contributed to advancements in hydroponic systems and nutrient formulation, and it continues to help write the modern history of hydroponics. But what more is there to know about this age-old technique embraced by farmers worldwide?

Hydroponics is a loosely defined term; there are many different unique systems that can be classified as hydroponics. The common denominator all hydroponic systems share is that they are soilless systems that provide three main ingredients: nutrients, oxygen, and water.

Deep water culture (DWC) is the most basic of all hydroponic systems. This system is good for beginners as it is



DIYers can make their own hydroponic gardens from PVC pipe

very cost effective and easy to run. The idea is simple. Plants are put in separate containers and each is placed in a grow tray that is suspended in water. Alternatively, companies such as Pioneer Plastics have created ready-to-use kits.

In the DWC setup, the water tank has an air pump to keep the water oxygenated, and nutrients are then added to the water to feed the plant via the roots. The roots can stay submerged and still receive oxygen thanks to oxygenating air pumps.

HYDROPONIC GROWING MEDIUMS

The list of growing mediums that can be used for hydroponics is virtually endless, but we'll review three of the most common. These mediums vary in their ability to allow oxygen in and retain water, and they can be used in different ways to support and contain the plants. As you practice hydroponics, you'll discover what medium best suits your system and your plants.

Rockwool

Rockwool is made of thin rock fibres that were created by heating rocks to extremely high temperatures and then spinning them into small threads. Rockwool has been a long time favourite for hydroponic growing because of its ability to breathe and retain moisture.

When using rockwool, it needs to be soaked in a pH solution before being used. To do this, prepare a pH solution that has a reading of 5.5, then soak the rockwool in the solution for 8–12 hours. Once you have soaked the rockwool, check the pH level of the solution – if it is between 5.5 and 6.0, the rockwool is ready for use.

Clay pellets

A common reusable medium, clay pellets are heavy enough to support your plants but light enough to work with easily. Clay pellets wick up moisture towards the roots while their size allows for enough oxygen to flow through.

Coconut fibre

Similar to rockwool but sustainable, coconut fibres once were a waste product that are now being used as a grow medium for hydroponics. They allow in more oxygen and retain more moisture than rockwool, making them a very popular hydroponic medium. Furthermore, coconut fibres have plant-stimulating hormones that help protect roots from infection and disease.

Tips



Hydroponics is not limited to mass production in agriculture. Anyone can build a hydroponic system to provide fresh vegetables. All you need is fresh water, good root support for your plants, light, the right nutrients or 'plant food', and of course, an easy-to-assemble Hydroponics Home Kit. Here are six hot tips for starting your hydroponic system for growing vegetables this summer.

Know the elements of hydroponics

Different hydroponic systems have distinct components but practically all systems will have a nutrient tank, a pump to distribute water and keep it fresh, and places to keep the plants and growing medium. You will get a complete set of instructions if you buy a Hydroponic Home Kit from Pioneer Plastics, so all you need to do is read them before venturing on to construct them.

Understand the growing medium

The growing medium is an indispensable element of the hydroponic system. It is a soil replacement but does not store nutrition. The main purpose of the growing medium is to provide the roots with ventilation and acts as an anchor that supports the weight of the plant.

Establish a watering plan

The watering plan relies on various factors, so you want to tailor it according to your specifications. You should set the watering plan by plant type, size, the type of growing media, and the position of the plant.

Add nutrients to the water

In conventional gardens, soil gives the plants nutrients to grow. When gardening with hydroponics, you can completely control the nutrients supplied to the root system as well as the pH level. A benefit of growing hydroponically is that the roots can easily access nutrients without having to search for them. Complete control of the pH level also allows for maximum nutrient uptake by the plant. The energy saved by bringing the nutrients directly to the roots and keeping a stable pH level results in bigger and stronger plants.

The most notable difference between growing in soil and hydroponically is that soil on its own has nutrients and microorganisms that benefit the plant. When you are feeding a plant in soil, you are supplementing the nutrients

while also feeding the microorganisms. If you do not feed a plant in soil, it will still grow but will not reach its full potential.

With hydroponics, you are responsible for providing all the nutrients the plant needs to survive. If you neglect nutrients the plant needs, it will die. Consequently, quality nutrients are essential when growing with hydroponics as there is no room for error.

Light

Plants cannot survive without light and the most reliable source of light is the sun. Be sure you put your hydroponics system in a position with a healthy amount of sunlight. You will need to recognise the plant species before you decide on the positioning.

The best plants to start growing

The five best plants to grow in a hydroponic system are lettuce, spinach, strawberries, bell peppers, and herbs. Producers have observed that these plants take to hydroponics like a duck to water. They are long-lasting, fast-growing and do not require a lot of work to get started.

Now that you know a little bit more about growing your vegetables in a hydroponic system, I hope you will join the growing community of hydroponic home-producers.

For more information, visit www.pioneerplastics.co.za



If you are looking for an easy beginner builder project – you should try this leaning ladder shelf.

Tools and materials

- 2 x 120 x 180cm pine boards
- 6 x 6.5 x 9.2cm pine boards
- 19mm plywood cut into the following measurements:
 - 12 x 60cm
 - 18 x 60cm
 - 23 x 60cm
 - 30 x 60cm
 - 35 x 60cm
- 19mm trim for the front of each shelf
- I used a mitre saw for all the cuts on this project
- Level
- Wood glue
- Nail gun
- Nails
- Wood stain

Step-by-step guide

Step 1: Cut your plywood to size which will be used for the wooden shelves. We had some extra plywood laying around that we cut ourselves, but you could buy a half sheet from the hardware store and have them cut it for you if you need.

Step 2: Cut the pieces that will be the trim on the shelves. One piece along the back and two on the sides. I just placed it on the plywood, marked the end with a pencil and then made the cut. I cut mine so that the back piece went across the whole length (60cm) and then the side pieces started in front of that.

Step 3: Glue the back piece only to the plywood.

Step 4: Cut your 19 x 89 mm timber on the bottom at a 10° angle.

Step 5: Once your shelves have their back pieces glued down and are dry – it's time to attach them. We used a nail gun and put two nails on both sides for each shelf. This is a two person job so make sure you

HOW TO BUILD A LADDER SHELF

>> Bre Bertolini

Leaning ladder shelves are one of the hottest design accessories at the moment. I've had my eye on these types of shelves for a while now but they usually cost between R2000-R3000 or more. So I figured I'd just make my own and it really was super easy! So if you want to make your own DIY leaning ladder shelf you totally can!

have help! I tried doing it by myself first using glue to hold them in place until we nailed them but it was a huge fail. So just ask for help

Also make sure you use a level so your shelves are straight. Have one person hold the shelf and the other person use the nail gun.

Step 6: Place the side trim pieces on the shelf where they're going to go. Grab a pencil and make a mark (that will be at a slight angle) and then make your cut. Then glue them down.

This is where you would glue on your trim pieces as well. I ended up staining my shelf first to see if I liked the way it looked but the plywood layers were still peeking through so we glued the trim on right over the plywood only on the front of each shelf and then stained it the same colour.

Step 7: Stain and wax! I used a red chestnut colour which isn't usually my norm (I'm more of a dark walnut or special walnut kind of person) but the vintage sideboard I got to use for our vanity had a little hint of red to it and this was the closest match I could find.

Once dry – you're ready to use your ladder shelf!

I'm so glad I decided to DIY this wooden ladder bookshelf and not pay for one, it was super fun to make and gave me the perfect spot for some additional storage and pretty decor.



The wood set out for the project



A mitre saw was the main power tool used for this project



Cut your plywood to size which will be used for the wooden shelves



Set the angle to 10°



And cut the bottoms of the legs at an angle



Once your shelves have their back pieces glued down and are dry – it's time to attach them



If you're looking for an easy beginner builder project – you should totally try this DIY leaning ladder shelf!



Once all your pieces are glued down your leaning shelf should look like this



A close-up of the shelves



All shelves secured and ready for finishing



Here's a side view so you can see where the nail holes are. Small and not very noticeable and those two little nails on each side are all you need



A close-up of the trim I added on the front of each shelf on my new leaning ladder shelf



A leaning ladder shelf can be used to store a host of bits and pieces

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SHAKER FLIGHT OF SHELVES



NOTE: For a high res version of the dimensions and measurements of this project, email editorial@homehandyman.co.za

Make a contemporary take on a Shaker shelf.

Tools

- Jigsaw fitted with 2.7mm pitch tooth wood blade
- Electric drill
- Electric hand sander
- Tenon or back saw
- Wood rasp
- Dowelling bit 8 mm
- Selection of wood drills
- Selection of wood clamps
- Luggage clamp, ratchet.
- Sliding steel bevel
- Set square
- 12 and 19mm chisels
- Rubber mallet
- Small hammer
- Marking pencil
- Safety glasses, dust mask, ear protectors

Materials

- A cutting list and layout is shown in the drawing (Figure 1)
- 1 m of 8mm grooved dowelling
- 80 and 120 grit sandpaper
- Scrap MDF and 3mm hardboard
- Wood stain and wood finish

>> Geoff Hollingdale & Lynton Dennill

The design of the piece was originally manufactured around 1830 by the Hancock Shakers as a storage rack for storing household goods and items. The design has been interpreted by contemporary designers into shelving systems in a variety of materials. The simple elegance of the piece is a hallmark of Shaker workmanship. In this project no screws have been used, all pieces being dowelled together, as was in the original.

The project is a simple yet challenging example for the woodworker and requires a minimum of hand and powered tools.

Like other articles published of Shaker origin designs in The Home Handyman, even if you have access to a saw table, rotary saw, a router, the idea is to use basic power and hand tools, working in much the same way as the original craftsmen.

A key tool requirement in this project is to have a reasonable selection of clamps; in woodworking you can never have enough! All the timber used can be pre-cut to size from standard 20mm laminated pine shelving and 32mm pine PAR. (see cutting layout and cutting list; Figures 1 & 2). You will be using pine PAR (Planned All Round) and sizes vary depending on where the timber is purchased.

Step-by-step guide

Start by marking out all the pieces. The angles for the 15 degree cuts can be set on a bevel protractor with a simple plastic school protractor; we used an angle divider and a sliding bevel. (Fig. 3A and 3B).

Use a jigsaw to cut the shelf support pieces. If you feel confident enough, you can do this freehand, if not use a scrap straight piece of wood to act as a guide. Clamp the scrap piece to the work piece and the bench. Check the offset from the edge of the jigsaw guide plate to the cutting edge of the blade.

On our jigsaw it was 31mm. You need to set this offset from the line marked on the work piece to the guide piece. (Fig. 4A and 4B) Keep the jigsaw guide plate square to and firmly in contact with the guide piece. Keep your fingers away from the blade and don't forget the safety glasses and ear protection while you're cutting!

Cut the vertical supports to length. Round off the ends by using a suitable object to draw a curve. We used a 'Brummer' wood filler pot. (Fig. 5) Cut around the marked curve with the jigsaw. Finish off the rounding with a wood rasp.

Check, using a scrap piece of the vertical support (50 x 32mm) timber that the width of the half tenon marked matches the width of the timber. Re-mark if needed.

Start cutting the half - tenons in the foot pieces. Use a tenon or back saw for this job. Make use of a simple bench stop made up of scrap MDF to hold the timber firmly while cutting.

Carefully cut down to the depth required. Use a 19mm (3/4 in.) chisel to trim out the waste. (Fig. 6A and 6B). Remember that ease of cutting and safety of cutting depends on sharp tools. Keep chisels used at a high performance by recognised sharpening techniques. Complete the half tenon on the remaining pieces.

Test fit pairs of the foot pieces together around the vertical support to check for fit and shape alignment. (Fig. 7) Ease out the tenon with the chisel if needed. Mark-up the 'best fits' of pairs of foot supports by pencilling a clear mark on each pair.

Clamp the pairs together and check the alignment of the pencil markings for the foot profile. Correct to bring into alignment if needed. Use the tenon saw to cut the vertical profiles marked on the foot piece. Work slowly and carefully. Keep the saw vertical to the workpiece. Remove the clamps and use the jigsaw to cut the sloping profile to the vertical cuts.

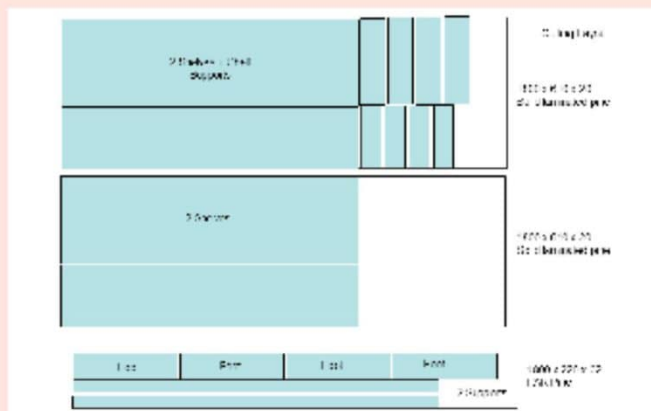


Figure 1

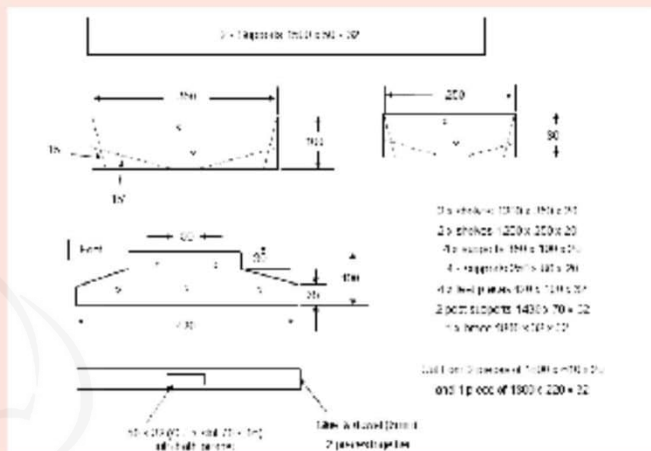


Figure 2



Figure 3A



Figure 3B

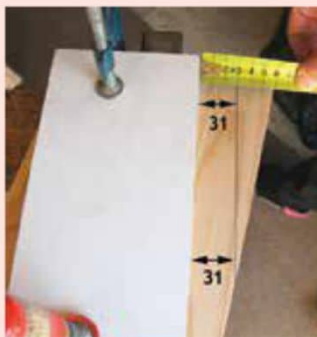


Figure 4A



Figure 4B



Figure 5



Figure 6A



Figure 6B



Figure 7

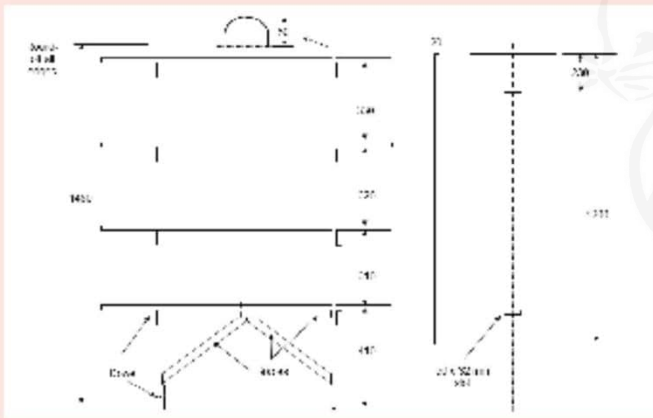


Figure 8

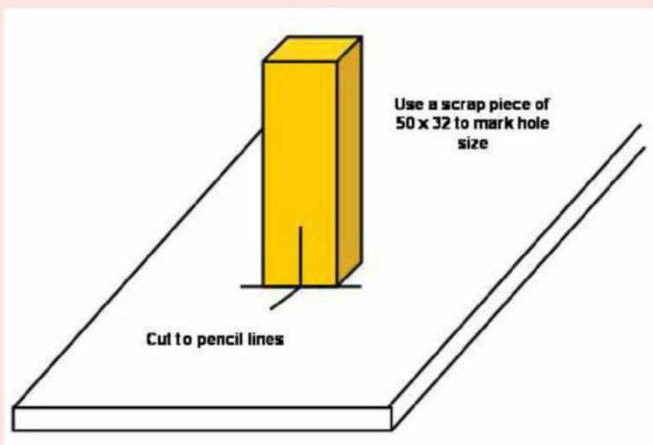


Figure 9

Now we can move on to cutting the holes in the shelves. Mark-up the position on the shelves where the holes are to be cut. (Fig. 8). 230mm from the edge centred on the shelf. The figure also shows the spacing between shelves.

Use a 'squared-up' scrap piece of the vertical supports and pencil mark the outline of the hole to be cut. (Fig. 9) Drill a 10mm hole in the centre of the hole cut-out and four 3mm holes at each corner of the marked cut-out. Clamp the shelf to the work bench and use the jigsaw to cut from the centre to each corner. Turn the jigsaw to cut progressive arcs until enough space is created to trim to the marked lines. (Fig. 10.)

You can ease out the sides of the cut-out using a chisel and a wood rasp. (Fig. 11). Test fit the piece of scrap vertical support to see if it slides easily, (but not too loosely) through the cut-out. Repeat the process on the other end of the shelf and the other three shelves.

Good. We've now reached the point where we do some tedious labour – sanding! Make sure you're using a dust mask, safety glasses and ear protectors. Start with an 80-grit paper and with whatever type of hand sander you're using remember to sand with the grain. Check the state of the paper at frequent intervals to see if it's torn or clogged. Change to a new sheet when this happens. Finish with a 120-grit paper. 'Break' all sharp edges by sanding at 45 degrees to the edge.

Don't rush the sanding. Take a break, stop, brew-up a coffee or tea and think about your Karma!

The next step is to prepare drilling templates for the shelf supports. We cut these out of 3mm white faced hardboard using the shelf support profiles as the guide to cut the templates. (Fig. 12) A 5mm drill was used to mark and drill pilot holes through each support. Use a piece of scrap wood under the piece being drilled to avoid breakout.

The foot pieces can also be assembled to the vertical supports at this stage. Apply a thin layer of glue to the insides of each matching pair, don't over glue. Position the vertical support between each pair. Lightly clamp the pieces together. Make sure when you clamp any of the work pieces you use a small scrap of ply or MDF on either side of the clamp jaws to avoid marking the work pieces. Clean-up any excess glue squeezed out.

Tap the vertical support flush with the base of the support pieces. Tighten the clamps. (Fig. 13) Drill a 5mm pilot hole through the dowel securing points. Run an 8mm drill through each hole. Cut lengths of about 75mm of 8mm dowelling. We used grooved dowelling available in 1m lengths at hardware stores.

Prepare each piece of dowelling by sanding a blunt point on one end. Lightly glue each dowel before inserting.

Drive the dowelling through the full width of the foot piece until at least 5mm protrudes on each side. Set aside the vertical support and foot piece to allow the glue to harden. The dowel ends can be trimmed by first trimming the excess with a hand saw then carefully using a chisel to cut flush to the surface. A light sanding then finishes the process. Note when cutting – off the dowels with the saw you should use a piece of sandpaper (grit side to the work piece) to avoid saw marks on the wood. (Fig. 14). Keep your fingers clear of the saw blade!

You can decide at this stage whether to do some of the staining work prior to assembly or wait until everything is assembled. We opted to do partial staining of some of the work. Stain colour used is a matter of personal choice; we liked Novadye 'Oregon'. It seemed to be in keeping with the colours used by the Shakers.

If you do decide to stain at this stage prepare by wearing rubber household gloves. Use a small square of cotton rag (old T-shirts are good for this) and fold into a small square pad. Soak the pad with stain – don't get splashes on the work piece and rub the stain with the grain. You'll have to go over the piece several times to get the stain to 'take' and give an even, non-streaky finish. It's tedious work but do it slowly and carefully.

You can do most of the cut pieces, particularly the shelves but be careful not to get stain on the face or sections of the pieces which will be glued together. Masking tape helps to avoid getting stain on, for example, the vertical supports where the shelf supports are fitted. Fig. 15 shows finished stained pieces ready for assembly.

Start assembly by marking and drilling each of the side supports. Remember that the bigger 350mm wide supports are mounted towards the bottom of the vertical supports. Don't start with the top shelf!

Mark and check on the vertical supports the top position at which each shelf support will be mounted. Use a right-angle square to set the shelf supports square with the vertical supports.

Clamp the shelf support in position such that the body of the electric drill is not going to foul the clamp. Drill a 5 mm pilot hole. Temporarily locate the work with another 5mm drill while you re-position the clamp, again check squareness, clamp in place and drill the second 5mm hole.

Mark the support with a piece of masking tape and its position on the vertical support (gluing side) with a "1" or "A" so that you can match its position when dowelling and gluing. Repeat the process with the remaining supports. This is important so that you don't end up with the wrong shelf support and shelf.



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14



Figure 15



Figure 16



Figure 17



Figure 18A



Figure 18B

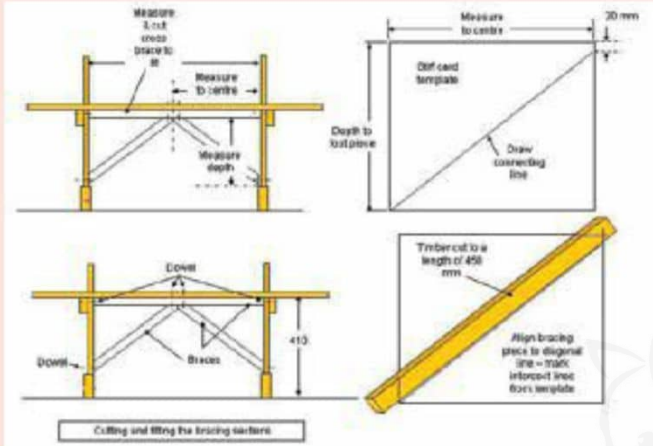


Figure 19A



Figure 19B



Figure 20



Figure 21

Cut a number of pieces of grooved 8mm dowelling to about 65mm length. Use sandpaper to taper one end. Begin gluing and dowelling only with the lowest pair of supports. Glue the inside of the support only where it contacts the vertical support. Position the support in place using a 5mm drill to locate one of the holes. Lightly clamp the support to the vertical support. Carefully align the support square to the vertical support. Check with a right-angle square. Tightly clamp the support in position. Check that the clamp is not going to foul the positioning of the electric drill. Drill an 8mm hole through one of the 5mm hole positions. (Fig. 17)

Lightly glue a piece of dowelling and tap it through the work pieces until the dowelling protrudes about 5 mm clear.

Remove the locating drill and drill an 8mm second hole. Again dowel. Clamp the pieces together. Remove any excess glue that has squeezed-out with a damp cloth. Repeat the process with the other lowest support piece.

Take one of the 350mm wide shelves and carefully ease it over both vertical supports. Hand tap it down the supports until it meets and sits on the two lowest shelf supports. Now you're ready to mount the next pair of shelf supports up from the bottom.

When the supports are mounted, tap the second 350mm wide shelf into position. Repeat with the next set of 250mm wide shelf supports. Fit one of the 250mm shelves. Finally fit the final pair of 250mm supports. There is no need at this stage to fit the top 250mm shelf.

Dress all of the dowels, cutting and trimming them flush with the shelf and vertical supports. We're now ready to fit the cross bracing at the base of the unit. Start with the horizontal bracing. With the bottom shelf sitting on the shelf supports, carefully measure the length to each inside vertical support. Mark this length onto a piece of 32 x 32mm material. Mark the cutting lines around each side. Cut the material to length with the ends square.

Dry check its fit to between the vertical supports. This piece is fitted using hidden dowels. Carefully mark the centre of both ends. Mark the position of the horizontal bracing on the inside of each vertical support.

Tap the lowest shelf up to give working space for the electric drill. Using the 8mm dowelling drill, drill holes about 20mm deep on both inner sides of the vertical supports and in the ends of the horizontal bracing piece. (Fig. 18)

Lightly glue and tap 35mm long dowels about half the length into the bracing piece. Lightly glue the ends of the bracing piece and the protruding dowel ends and fit the horizontal brace into position.

Clamp the vertical supports to the bracing piece. We used a ratchet type luggage strap. Small pieces of aluminium

formed into a right-angle are used to protect the corners avoiding clamping marks on the wood. Ratchet-up until the horizontal brace is firmly clamped to the vertical supports. Wipe off any excess glue using a damp cloth.

The next step is to fit the cross braces. The detail of the cross bracing is shown in Fig. 19A. Getting the cross braces cut and fitted is best done by making up a template from stiff white A3 card. Fig. 19B shows the card in use.

Carefully mark-up and trim two pieces of 450mm (32 x 32mm) to size. Note that one piece is the mirror image of the other. Dry fit to ensure that the pieces fit and meet in the centre as show in the diagram and in this view. (Fig. 20). Pencil mark where the ends which meet the vertical supports are centred.

Glue-up the ends of the two cross pieces and fit into position. Again, we used a ratcheted luggage strap to pull the pieces tight and into position and check fit and alignment. (Fig. 21)

Drill 8mm doweling holes into the top side of the horizontal brace offset to where the cross braces meet. do not drill all the way through. About half the depth into the cross brace is sufficient. Lightly glue and tap two 8mm dowel lengths into position. Re-tighten the strap if needed.

We're now on the home stretch. Cut and trim all the dowel ends, everywhere they have been used, flush with timber surfaces. Lightly sand over to finish. Place the assembly on the floor on two long pieces of timber or old mats.

Finish staining all surfaces. Use a small brush to get inside awkward corners. Turn over the assembly to finish both sides. We used Woodoc 10, two coats to seal and finish the project. Remember to use a brush designed for applying sealant without getting 'runs' and 'dribbles'.

Enjoy the journey!

For a high res version of the dimensions and measurements of this project, email editorial@homehandyman.co.za



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Entrance halls are not only for grand Hollywood mansions, they offer us a beautiful space to express and introduce the unique identity of our home, as we welcome guests.



WHAT CAN AN ENTRANCE HALL DO FOR YOU?

To combine the modern style with classical elements, use a classic pattern in the tiles, modern expressionist artwork, and a mirrored wall.

Aside from the opportunity for a functional space to store everyday items, in the wake of the COVID-19 pandemic, entrance halls have gained importance as a space to safely sanitise before interacting with our families.

Local interior creator and behavioural specialist, Kim Williams, is especially interested in the interaction between our environments and our behaviour. She is a fan of entrance halls as they serve to create both interest and functionality in a somewhat underestimated space.

According to Williams, every great space begins by having a solid understanding of how people operate in that environment and how design can help them get more from their space.

After the pandemic, we saw a global shift back towards entertaining guests in our home spaces. Having a space to welcome guests creates a sense of excitement about discovering the rest of a home, and a feeling of welcoming warmth.

As the footprints of our homes became smaller, the demand for functional space has begun to come at a premium. Nowadays, the entrance space of a typical apartment is usually small and tends to serve more as a transitional space into open plan living areas. Meaning that we need to create a functional entrance space within an open plan interior. Many entrance halls use a combination of flooring in open spaces to create a sense of definition between entrance areas and living spaces, without having to corner the space off. Interestingly, easy clean materials, such as patterned tiles are also a great way to add dimension to space.



In the wake of the COVID-19 pandemic, entrance halls have gained importance as a space to safely sanitise before interacting with our families



The goal in this recently designed space was to have a designated space for coats, and a hand-me-down family piano

When designing your entrance hall, Williams recommends considering the following:

Function

Functionality is not only about what you add into a space, but more about how well the space fulfils your needs. Also, the personality of your family is extremely important; remember that everyone's behaviour and needs in their space are different, therefore design must be developed around your unique requirements.

Form

The overall style of the house should guide your design choices. There may also be elements that you cannot change, such as walls, windows, and natural light, or you may want to highlight an antique front door.

Flow

As our spaces get smaller, it is more important than ever that we think about how we create flow with our design choices, how we work with natural light, or how we move the eye with the placement of elements and use of colour. Pieces of art and furniture are more than objects in a home, they add to the flow, overall look, and impression you want to experience in the home.

The integration between the old and the new is by far Williams's forte. Using items that you already treasure creates an emotional connection with your space, gives sentimental significance, and safeguards your design from being too trend orientated.

In a home in Claremont that Williams recently worked on, these elements all needed to come together to produce a balanced aesthetic within a space of only 10m². The goal was a space that would seamlessly incorporate the modern and the classic, have a designated space for coats, and a hand-me-down family piano in need of refurbishing now welcomes visitors with a sense of gloss laid-back luxury.

Modern vs. Classical elements

To combine the modern style with classical elements, Kim used a classic pattern in the tiles, modern expressionist artwork, and a mirrored wall. The artwork is a great way to depict a story visually and brings warmth and intrigue to the entry, as well as providing a focal point.

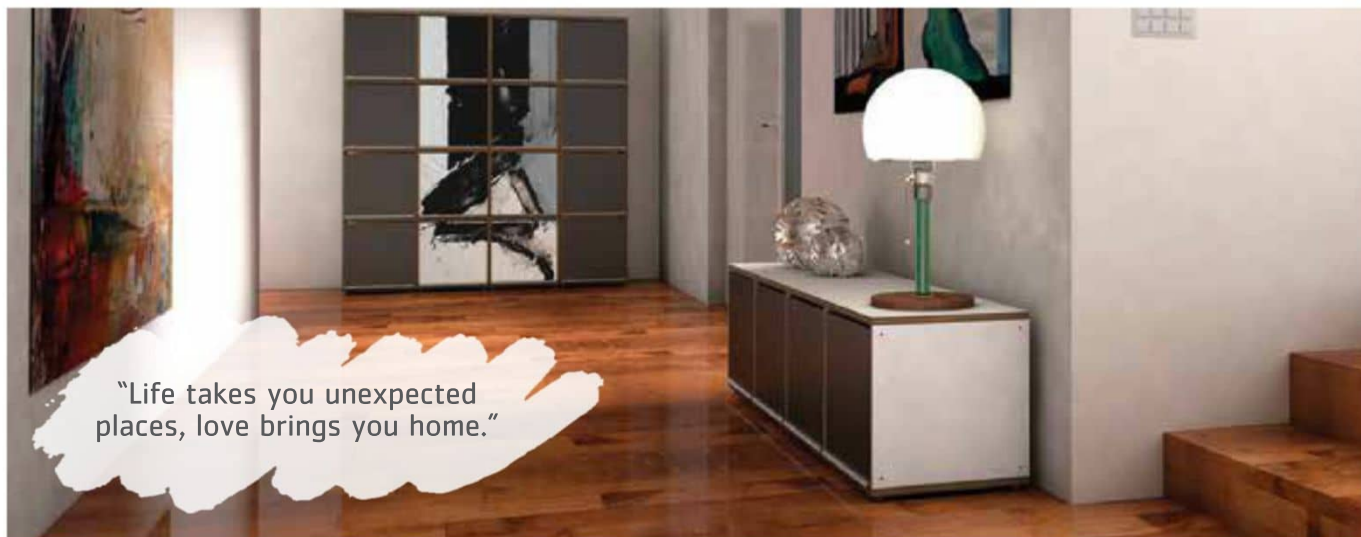
The coat hooks mimic some of the artistic elements of the house and are small disks made of oak that hang on the mirrored wall. The wall itself reflects light giving the illusion of space and brightness. Beneath the coat hooks, a velvet ottoman creates a sense of depth and adds a touch of luxury. A custom crystal chandelier lends that old-world charm and offsets the modernity of the space.

Consider security for entrance halls

The homeowner also needed to consider security as she was a single mother. Kim created a beautiful gold screen, in collaboration with Trelidor, that runs along the side of the staircase. At night, the stairwell can be securely locked, keeping the family safely upstairs. By using custom design in the place of a more traditional banister, Williams created dimension, interest, and art in the space whilst still satisfying the functional need for security.

Entrance halls have made their grand return to the design scene and are a great way to sweep guests off their feet, introduce our home's unique style, and organise our everyday essential items. They offer us a special place to warmly greet and be greeted by our guests.

In a world where we are more socially distanced every day, the significance of a space that facilitates acknowledging one another, promotes sanitisation, and communicates who we are is invaluable.



BRIGHT IDEAS

Readers share their time-saving, space-saving or innovative ideas

Easily move a heavy weight



I always struggled to move the outside garden umbrella around due to its weight. So I came up with this nifty DIY idea, to build a box 'trolley' with wheels, and put the umbrella on the trolley.

I used some cut-off pieces of plywood I had laying around and joined the pieces together in a box shape with screws and brackets. I attached four 'roller' wheels to each corner and finished/painted the box with Gripseal black. Job done and now I easily just push my umbrella trolley to where I want it!

Jennifer Zamudio, by email

How to remove a rusted screw

WINNER



During a modification to an old plant rack, I had to remove the shelves, screwed to wooden supports. Staying at the seaside, some of the screws were rusted to a point where it was difficult to insert the square drive bit into the screw's head for a positive grip (Photo 1).



After some cleaning of the square holes, the bit could be inserted partially to get a grip on the screws, but at that point, I got stuck. Due to rust on the shanks, unscrewing the screws with a cordless screwdriver, or even by hand, appeared to be impossible as the bit was slipping out of the screws' heads, clearly because of not enough pressure exerted on the bit.



So... now I had two problems to deal with – firstly lack of sufficient pressure to keep the square bit inside the head of the screw and secondly, lack of turning power.

After some thinking, I decided to mount the square bit in a piece of hardwood by drilling a suitable hole, leaving sufficient space for a spanner to fit on the hex body of the bit. (Photo 2)



I then used a large G-clamp to force the square tip of the bit into the head of the screw (Photo 3).

A shifting spanner was then used to slowly rotate the bit anti-clockwise (Photo 4), while at the same time, slowly releasing the clamp to maintain pressure on the bit. This plan resulted in the screws being unscrewed with minimum effort.

Eben Smit, Klein Brakrivier



WIN!

A Tork Craft 24-piece router bit set

The Tork Craft router bit 1/2" Shank Set, for hard and soft wood, provides smooth cutting of timbers. The 24-piece set of tungsten carbide tipped router bits come complete in a convenient, secure aluminum carry case.

Send your bright ideas to:

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Please include your name, physical address and a contact number (office hours). You may also include a photograph (300kb) of your bright idea (where applicable).

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Congratulations to Eben Smit who wins a Tork Craft powerful 900W Biscuit joiner from Vermont Sales.



This issue we will be showing the kids how to make their own bird feeder from the garden.



Hang the bird feeder from a suitable tree

Make a plastic bottle bird feeder

Learn how to make a bird feeder with a plastic bottle – it's a great way to reuse plastic and make it into something better, so let's get started!

Materials

- A plastic bottle
- Two sticks, dowels, or pencils
- Scissors
- Length of twine or rope
- A pin
- A funnel
- Bird seed

Step-by-step guide

Step 1: Make two holes at the bottom of the bottle for drainage, starting the hole with a pin and then making the hole bigger with scissors.

Step 2: Then poke two holes towards the neck of the bottle starting with the pin and widening with scissors, and then feed the twine through the holes and tie a knot.

Step 3: Poke two holes across from each other towards the bottom of the bottle for the first perch, making the hole just smaller than the stick. Then make two more holes slightly above the other perch but 90 degrees across from each other

so when you put the sticks in it makes a cross.

Step 4: Next cut out a hole about 4 cm above each perch so the birds can eat the seeds. Make sure that the hole isn't too big so the seeds don't fall out.

Step 5: Take your funnel and place it on top of the bottle, then take your bag of bird seed and funnel it in the bottle. You might have to cover up the eating holes with your fingers so the seeds stay in the bottle.

Step 6: Finally, take your bird feeder and hang it up on a tree, it might take the birds a couple days to get used to it. Ensure to refill it with seed every day or so for your regular visitors.

1



Gather all your supplies

2



Make two holes at the bottom of the bottle for drainage

3



Start the hole with a pin and then make it bigger with scissors

4



Poke two holes towards the neck of the bottle

5



Feed the twine through the holes and tie a knot

6



Poke two holes across from each other towards the bottom of the bottle for the first perch

7



Then make two more holes slightly above the other perch

8



Next cut out a hole about 4cm above the each perch

9



These will be the feeding holes

10



Pour seed in using a funnel

ASK OUR EXPERTS

Our panel of experts answer your questions on DIY problems

Changing the way a door swings

WINNER

We have a slightly older house, and the previous owner wasted space and practicality when installing certain door frames. The doors swing the wrong way, thereby wasting space inside certain spaces. How can we change the swing direction of the door, besides the obvious of cutting the door frame out and installing in a new one in the correct orientation?

Baphethuxolo Khosa, by email

Ed replies: It will take a bit of work and some power tools, but it can be done without installing a new door frame. Changing the way a door swings might take a carpenter about an hour to do. But you can do it yourself if your carpentry skills are up to snuff.

Here's how: Remove the existing door, hinges, and strike plate from the doorjamb. Router or chisel new hinge and strike plate recesses on the opposite jamb. Repair the old hinge locations with wood putty or filler, then prime and paint the jamb. Rehang the door. Relocate the doorstop bumper that prevents the door from hitting the wall. Patch and paint the old hole.

If you're changing the door so it swings into a different room, you can remove the entire doorjamb and turn it around: Remove the

hinge pins and take off the door, leaving hardware in place. Pry off the casing. If you can save it, great, but it often breaks so be prepared to buy new casing. Pry off the doorjamb, or use a reciprocating saw and metal-cutting blade to cut the nails holding the doorjamb in place. Reverse the doorjamb and reinstall it.

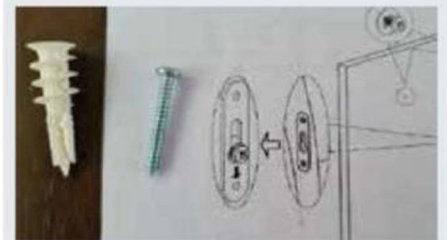


How to attach heavy mirror to plaster and brick wall

I have bought two mirrors; 12.5kg and 25kg. They came with plastic dry wall anchors (see picture) but I am affixing them to the inside of the outer wall to my flat. The wall will be plaster and brick. What type of anchor do I need? I assume rawl plugs will be insufficient for this purpose. The screws to go into the supplied plastic anchors on which the picture will hang are #8 1-1/4 inch.

David Smith, by email

Ed replies: Plastic plugs will be okay but you need to go deep enough to achieve a stable fixing. Use 60mm long screws and drive the bricks into the blocks behind the plaster layer, before you screw the screw in. Your choice of screw gauge (e.g. 4, 4.5, 5) will be dictated by what will fit in the bracket.



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Please note: Queries will only be answered in the magazine. Winners' prizes may take up to six weeks for delivery and are sent by the prize sponsor. Prizes are not exchangeable.



Our winning query comes from Baphethuxolo Khosa who wins a subscription to *The Home Handyman* for a year.

Kitchen wall units too low

I would very much appreciate your advice. I had a new kitchen recently installed, and now not happy with the distance between the work top and the wall units. It is 44cm (42 from pelmets) and it feels rather uncomfortable. I was promised 50cm but it was by verbal discussion, and they did not check with me before fitting so low. I understand that it should be possible to adjust vertically but the problem is that I have a row of cabinets with pelmets and cornices. Would it be possible to move the whole row of cabinets upwards using the adjustment mechanism without having to remove the pelmets and cornices? How much would the mechanism allow to lift it by? Is it worth the trouble? The wall unit's height is not comfortable for me but maybe I am missing on any advantages (other than reaching the top shelf)? Any opinion will be greatly appreciated.

Steven Sutcliffe, by email

Ed replies: Hi Steven, unfortunately, even if the adjusters were at their highest setting, adjusting them downwards would only gain

you 1-2cm. You could always remove the pelmets altogether, otherwise you will have to dis-assemble and refit higher.



Primer/undercoat not drying on internal door

I wanted to paint my interior front door. Sanded it down and then used a primer/undercoat in one. The quality was awful and more than 24 hours later it's still tacky and sticky. I don't know what to do next. Any ideas?

Theresa Jones, Brakpan

Ed replies: It would appear that the humidity in the air is causing an issue with the paint curing. Install a dehumidifier, close all doors and windows in that room and you should find over the next 24 hours that your door will dry out.

Exterior woodstain on interior wood?

I was planning on staining the banister on our stairs this weekend, but have realised that I've gone and bought an exterior woodstain.

Is there a reason (finish, fumes etc) that I can't use this stain on the banister?

Mark Gordon, by email

Ed replies: There is no reason why you should not use an exterior varnish on interior wood. If the wood is new you could use a water-based varnish but this will raise the grain leaving a rough surface. If you are re-varnishing it is probably better to use a solvent-based product.





ROUTING 101

The woodworking machine that had garnered the most accolades is the router (photo 1). Phrases such as: most useful, most flexible, most powerful and most functional abound in woodworking articles and online woodworking forums.

>> Denis Lock

These praises for the router are well deserved. It is the tool that has had the greatest impact on both professional and DIY woodworking. If I were only allowed to have one electric tool in my workshop it would be, without doubt, a router. Using the appropriate technique (or combination of techniques – I identify six techniques) and choice of router bit (or bits – and there are hundreds to choose from) a large number of woodworking operations can be effectively and accurately performed. These include trimming dead straight and dead square edges (photo 2) on boards prior to edge-to-edge gluing; cutting exact-width dados (photo 3), rebates and grooves; forming piston-fit mortice and tenon joints; creating advanced joints such as dovetail, finger (photo 4) and splined-mitre; accurately reproducing curved project components (photo 5) such as chair arms, shaped legs and cut-outs such as hand grips (photo 6); applying decorative mouldings to the edges of table tops and the like; and cutting perfect circular and elliptical shapes.

I challenge the students on my Fundamentals of hand-held routing course by asking them when did the first electric router appear on the market? The most common answers are the 1950s, the 1960s or the 1970s. They are surprised when I tell them that the Kelly Machine Tool Company (based in the state of New York) introduced a hand-held electric router to the marketplace in 1905.

Fixed-base versus plunge routers

Stanley took over Kelly and for many years the Stanley router shown in photo 7 was the first choice of woodworkers. This style router has become known as a fixed-base router. Have a careful look at photo 7 the motor body a male thread machined on it and the inside of the base had a corresponding female thread. The motor was wound in or out of the base and then locked at the desired bit depth. Later models had a threaded ring at the top of the base and others used a rack and pinion mechanism. They were all essentially the same – the depth was set and the motor locked in position relative to the base prior to making a cut. The major disadvantage of this design was that to make blind cuts (such as a mortice) you had to set the depth and then drop (tilt) a machine with a spinning bit into the workpiece.

In 1949 engineers, whose forbears were Swiss immigrants skilled in clockmaking, working in South East Germany developed the plunge-base router. The innovation was a pair of retractable spring-loaded columns connecting the motor assembly to the base. An early model is shown in photo 8. The plunge ability allowed a cut to be started with the bit retracted and the machine placed firmly on the workpiece. The spinning bit could then be plunged



into the workpiece to a preset depth. This is a safer operation for blind cuts than that described earlier for a fixed-base router. The plunge router was widely accepted in Europe and the UK. The Americans stuck to their fixed-base routers. In the early 1950s safety laws promulgated in the UK and Europe banned the sale of fixed-base routers. South Africa followed suit and implemented the same safety regulations. These regulations are still in force. The reason for this ban is that the switch (see photo 7) was on the motor body (sometimes turned out of sight) and that one hand had to be removed from the machine's handle, leaving only one hand holding the machine, to switch it on and off. Laminate trimmers, which are generally fixed-base routers, are exempt from this regulation. They are one-handed machines so one hand is always free to switch on and off.

Sometime in the 1980s or 1990s the American manufacturers bowed to customer pressure and introduced plunge routers by adding a plunge base to the existing fixed base models. These combo kits consist of a single motor and two bases: one fixed base and one plunge base. They are still outlawed because when configured in fixed-base mode the switch position problem remains. I am aware of one exception – the Bosch GMF 1600 CE (photo 9). This product has a special low-voltage interface between the motor, which is where the power cord is attached, and the two bases. This allows the on/off switch to be built into the right-hand handle of each base. This makes it a legal machine in South Africa, UK and Europe. It is marketed in these countries.

Router sizes

The size of a router is determined by two factors. The first is the power of the motor (typically in the range 500W to 2500W). The second is the size of the collet (chuck). Unlike a drill chuck that can accept bits with varying shank diameters a router collet can only accept bits of a single size. Collet sizes fall into two categories. These are Imperial ($\frac{1}{4}$ inch and $\frac{1}{2}$ inch diameter) and metric (6mm, 8mm and 12mm diameter). Although South Africa is metricated the router bits available in this country generally have Imperial shanks: $\frac{1}{4}$ inch and $\frac{1}{2}$ inch. We thus normally use Imperial collets. Several



A modern plunge router



Dadoes



The four pieces of kiaat glued together to make this 3100 mm x 900 mm tabletop were edge trimmed, prior to gluing, with a hand-held router and straight edge

Edge trimming



Finger joints

5



Curved components

6



Hand hold

7



Stanley fixed-base router

8



Early plunge router

manufacturers ship machines to South Africa with both Imperial and metric collets: unless you happen to have the odd metric sized bit ignore the metric collets.

Router models slot into three broad categories. The first is the laminate trimmer (called a palm router by some). This is a single-handed, fixed-base, ¼ inch collet machine with a power rating of around 500W. It was initially designed, as its name implies, to trim plastic laminates applied to items like counter tops. Today it finds much broader use in general woodworking. Many users swear by this light-weight, one-handed machine for tasks with low stock removal such as cutting small round overs and chamfers. The second category is what I call mid-range routers. These are ¼ inch collet machines generally in the power range 800W to 1400W. Within this category there are two groups: those aimed at DIY use and those at industrial use. My advice to DIY users is to buy at the top of the range. You are going to make a lot of use of this machine. I have had a number of lady students and they have all managed very well with a router this size. Then there are the big beasts: routers with ½ inch collets, power as high as 2400W and capable of driving bits as large as 90mm diameter. They can be used hand-held but their real home is permanently mounted under a router table. Photo 10 shows a router from each of the three categories.

Router speeds

Routers spin very fast. Many users get the fright of their lives when they switch a router on for the first time. The no-load speed varies from model to model and is generally in the range 18 000rpm to 30 000rpm. Light duty routers have a higher no-load speed to compensate for their lower power. My first router, bought some 55 years ago, was a single-speed machine and had a start-up kick like a mule. Most modern routers have electronics that deliver speed control, adjustment of the tool's power and soft start. The automatic power adjustment adapts to the cutting load and maintains speed without the risk of overload. Soft start allows the router to take a few seconds to reach the selected speed. This eliminates the disconcerting start-up jolt.

I run my hand-held router at full speed most of the time. I do not reduce the speed when cutting dense woods. I take lighter cuts. I only reduce the speed when using bits above 25mm in diameter and when routing plastic and aluminium. Photo 11 gives a list of recommended speeds for varying bit diameters when routing wood.

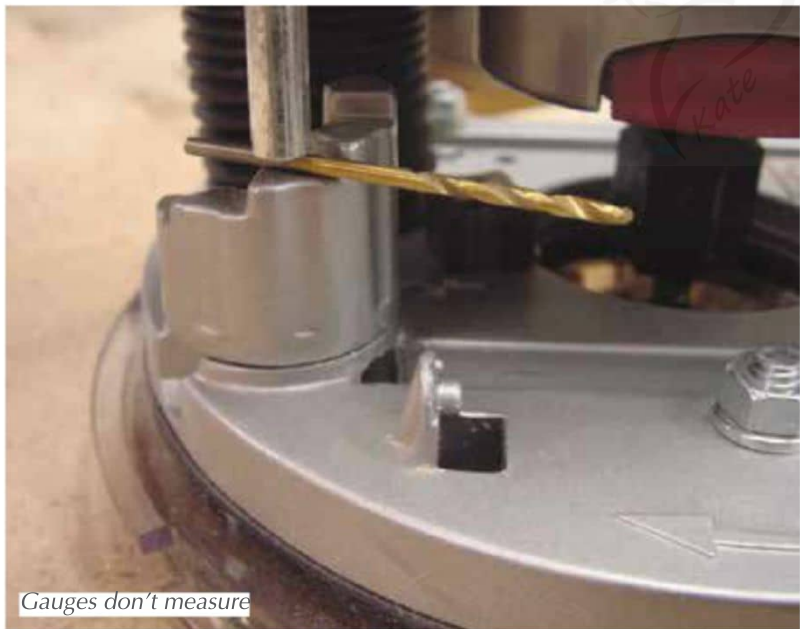
Depth setting

Before starting a cut with a plunge router it is necessary to preset the depth of cut. Five components are involved in this operation. The first component is the depth turret, a click-stop circular object attached to the router base (see A on photo 12). The name comes from the vague resemblance to the turrets on a mediaeval castle. It has either three adjustable height stops or eight fixed height stops at 3mm increments. I prefer the latter design. The second component is the depth rod attached to the router body (see B on photo 12). This rod sometimes has a micro-adjust threaded rod inside it. This allows the length of the rod to be changed by small amounts. Thirdly the depth rod locking knob (see C on photo 12). Then there is the depth pointer attached to the depth rod (see D on photo 12). Finally, there is a depth scale (see E on photo 12), attached to the router body. Other than the hairline cursor depth pointer on the high-end Festool routers I find the pointers on other routers a joke. They all allow a parallax error of about 0,5mm. Multiply this by two, start reading and end reading, and you can

be a millimetre out! My advice to my students is to ignore the pointer and depth scale and use a gauge block to set the depth. In my next article I will show you how you can ignore the pointer and the scale and set the cut depth to a tenth of a millimetre.

How many routers and of what size should I buy? Routers with a ¼ inch collet are generally used for hand-held work and those with ½ inch collets are mounted in a router table. These are not absolutes. I have done a lot of hand-held routing with a ½ inch router and done a lot of work with a table mounted ¼ inch router. I suggest you start with a medium sized ¼ inch router. Use it as a hand-held router and really get to understand its use. Somewhere along the line you will realise that a hand-held router is not a panacea. Now is the time to build or buy a bench top router table and use your router in two ways. You will probably become tired of mounting and removing a router from a router table. Now is the time to invest in a second router. Make it a ½ inch model and leave it permanently mounted in your router table. A ½ inch router opens up the world of lock-mitre joints, raised panels and cope-and-stick frames. Make sure you buy a router with speed adjustment. You can't spin these large bits at 22 000rpm. If you are doing a lot of fine inlay work or making a lot of small novelties or toys you might want to buy a third router – a laminate trimmer router.

At the beginning of this article, I stated that I identify six routing techniques. In subsequent articles I will expound on these techniques and show you how to fully exploit the potential of this wonderful machine.





ABOUT DENIS:

Denis Lock runs a woodworking school and shop. As a result of the COVID-19 pandemic he is now offering online courses. He can be contacted at denis@tacazze.co.za or 082-267-5948. Visit his website at www.routingwithdenis.co.za



Combo router



Three sizes

11

Router bit speeds

Bit diameter	Maximum speed
25 mm	24 000 rpm
32 mm	18 000 rpm
50 mm	16 000 rpm
75 mm	12 000 rpm

Router bit speeds



Depth setting components

WOODWORKER'S CORNER

Sharing techniques, ideas and a love of wood

Cold weather wood care for woodworkers

With winter approaching, how does cold weather impact on woodworkers and woodturners? Firstly, glue-ups and finishes require additional drying time. Most glue and finish manufacturers recommend that the glue, finish, air, and surfaces all be above 10°C. So, if you're not able to maintain that temperature in the workshop for the duration of the application and drying, consider bringing the project into the heated house (preferably a well-ventilated area) for those operations.

With cold weather comes dry weather (unless you happen to live in the Cape). In the winter, your project wood will experience its most shrunken state. When the big thaw comes, that wood will start to expand with the increased



moisture. Account for this in your projects by leaving extra expansion space in frame-and-panel assemblies, tabletops, and drawer reveals.

If you use a heater to heat up your workshop while you are in it, the area will alternate between cold and warm, so watch out for condensation on your tools.

6 Great tips that will make you love sanding (or at least hate it less)

There are a lot of things to love about building your own projects, but there's one part of the process that nobody likes... "Sanding is tedious, and it makes one heck of a mess. But sanding is also a necessary part of building wood projects," says Greg de Villiers, brand manager for Vermont Sales. "We may not be able to make it less tedious, but we can make it a lot easier by helping you minimise the mess, using the correct equipment and tools it will also be safer on one's health." Here are six great ideas that will help you keep sanding dust under control.

Maximise your sander's collecting capability

One of the best ways to minimise the sanding mess is to capture the dust right

at your sander. Sanders all come with some sort of built-in dust collection. On inexpensive models, it may just be a plastic canister that needs emptied on occasion. Both Festool and Tork Craft have all the answers to this. Both can supply all your sanding materials, plus offer you a huge range of sanding machine options. Possibly your best investment would be a Festool auto dust collector again there is a huge selection of options here including entry level models. That can be used on all your power tools, that automatically catch all dust and wood cuttings.

Higher-end sanders often have a canister with a built-in filter, or they use a cloth bag that lets air through while still stopping dust. Over time the filter or fabric becomes clogged with dust. To

keep them operating effectively, blow out the filter or fabric occasionally with compressed air after you empty the dust. You'll be surprised by how much trapped dust comes out, and you'll get a good boost in dust collection efficiency.

If you don't have an air compressor, stick the port end of the canister into a shop or home vacuum hose, turn on the vacuum, and then tap the canister repeatedly. A compressor is another good clever buy and there is a good selection from the GAV and AirCraft brands.

An extraction hose and adapter kit for a shop vac or your own portable vac unit

An even better solution is to connect your shop vacuum hose to your sander

in place of the dust canister. But most vac hoses are bulky, and they rarely fit well on the sander's port. A great option is to get a hose and adapter kit, like this one from rockler.com. It comes with a smaller-diameter hose and several flexible tips, so you're almost sure to be able to fit one to your sander.

Festool also have a range of hoses and connectors, if you have one of their sanding units and their dust vac your problem is solved as it comes with all the accessories and automatically sucks the dust when you activate your sander.

You will also be able to attach the hose and vac to other tools, such as a circular saw, to minimise the mess they make, too. All Festool universal hose vacuum attachments for sanding dust management and their power tools fit all their vacs.

Power up your vac automatically

Connecting your sander to a shop vacuum works great as long as you remember to turn the vacuum on. To make sure you never forget, invest in a pickup a tool activated outlet. It automatically turns on your shop vac anytime your sander is operating. A random-orbit sander is connected to a tool-actuated outlet for automatic dust collection.

Just plug your sander into one socket, and your vacuum into the other. Then leave the vacuum power switch on. Every time

you turn on your sander, the vacuum will turn on automatically. When you shut the sander off, the vacuum will run for a few seconds to pull in the dust, and then shut down. All Festool vacs have this built into every model.

Make a benchtop dust pickup

Sometimes, you need to sand by hand, or you may have a power sander that doesn't have dust collection built in. For those times, make yourself this handy dust pickup. Just clamp it in place on your work surface – or hold it in place with bench dogs if your work centre has them – and then connect your vacuum hose. As you work, dust will get sucked in to keep it under control.

You can build this dust pickup from a few scrap pieces of lumber, a piece of hardboard or plywood, and a Kreg® Pocket-Hole Jig. Just follow the simple steps in their free downloadable project plan. A DIY portable dust pickup can also be clamped to a workbench and attached to a shop or home vac or a portable Festool vac for dust collection unit.

Clear the air with a DIY air filter

No matter how hard you work to keep sanding dust under control, you'll have dust floating around in your workspace. You can help clear

the air by building a simple DIY air filter. It's made with an inexpensive box fan, and it has a furnace filter that's held in place behind the fan with a simple wood frame. One can also add casters to make it easy to move around. You can build yourself an affordable air filter including the fan and filter. It goes together easily using a Kreg® Pocket-Hole Jig and their free downloadable project plan.

You can make your air filter work even harder for you by using a simple light timer. When you're done working, just plug the fan into the timer and set it to shut off in an hour or two, so it can catch the dust that would settle after you walk away.

For the free Kreg plans go to www.vermontsales.co.za, click the link to the Kreg brand and then to buildsomething.com for the free plans.



The Woodcrafters' Association of Durban update

For woodworkers and woodcrafters in the province of KwaZulu-Natal, take note of the corrected meeting details for the Woodcrafters' Association of Durban:

When: Every 2nd and 3rd Monday of the month

Time: 5:30 for 6pm

Where: Reformed Church, 1 Voortrekker Street, Pinetown

Contact: Speak to the chairman Fred Donnelly on 082-320-2901 or 031-767-3784. Email: fremar@telkomsa.net



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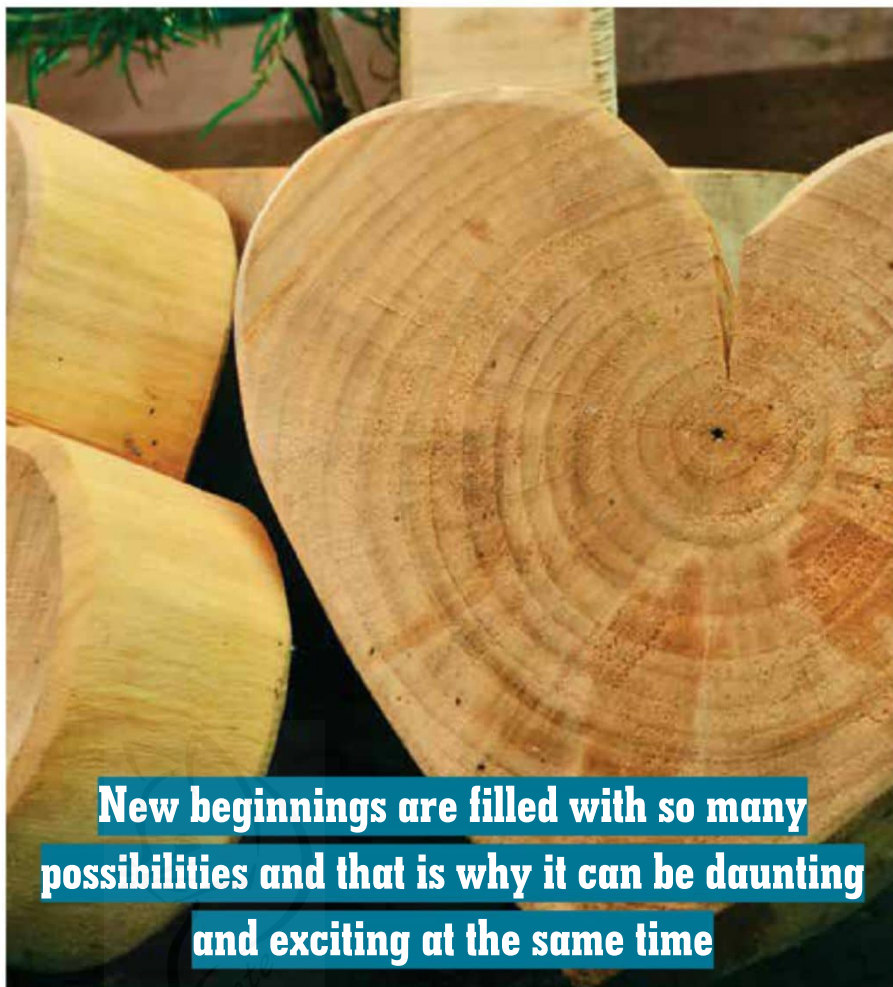
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New beginnings

About Annalien:



Annalien started her career at the *SABC* on *50/50* before moving to Germany after she met her husband. Later, they returned to South Africa and she took on various freelance projects, eventually getting hooked on DIY. Annalien was part of the team on *The Home Channel's Get It Done!* series.



New beginnings are filled with so many possibilities and that is why it can be daunting and exciting at the same time

Each year starts with new beginnings, i.e., going to school for the first time, a new job or moving into a brand-new house, or a student moving into his or her 'digs' on campus.

Stepping into this territory of the unknown, the only thing that grounds you is your toolbox. There you find your tools which you know and trust. Because one thing is for sure with new beginnings... you are going to have to DIY, whether it is putting up a rail for curtains, fixing a leaking tap or building shelves.

I can still remember the deep sadness when my son moved out of the house and feeling that emptiness of his room in my soul. But it was soon replaced by,

"Mom, I need a shelf for my books", and, "How do I hang these pictures on that wall?". Just like that I was again part of his life. Planning, building, laughing and drilling holes in walls together. That was not just a new beginning for him but also for me, and my trusty toolbox was there to assist in the process.

On Facebook I recently noticed photos being posted by my friends of their kids moving into their new living areas, either at high school or university, and true as Bob, there is always a photo included of a proud parent next to their handy work i.e., shelves or desk or both.

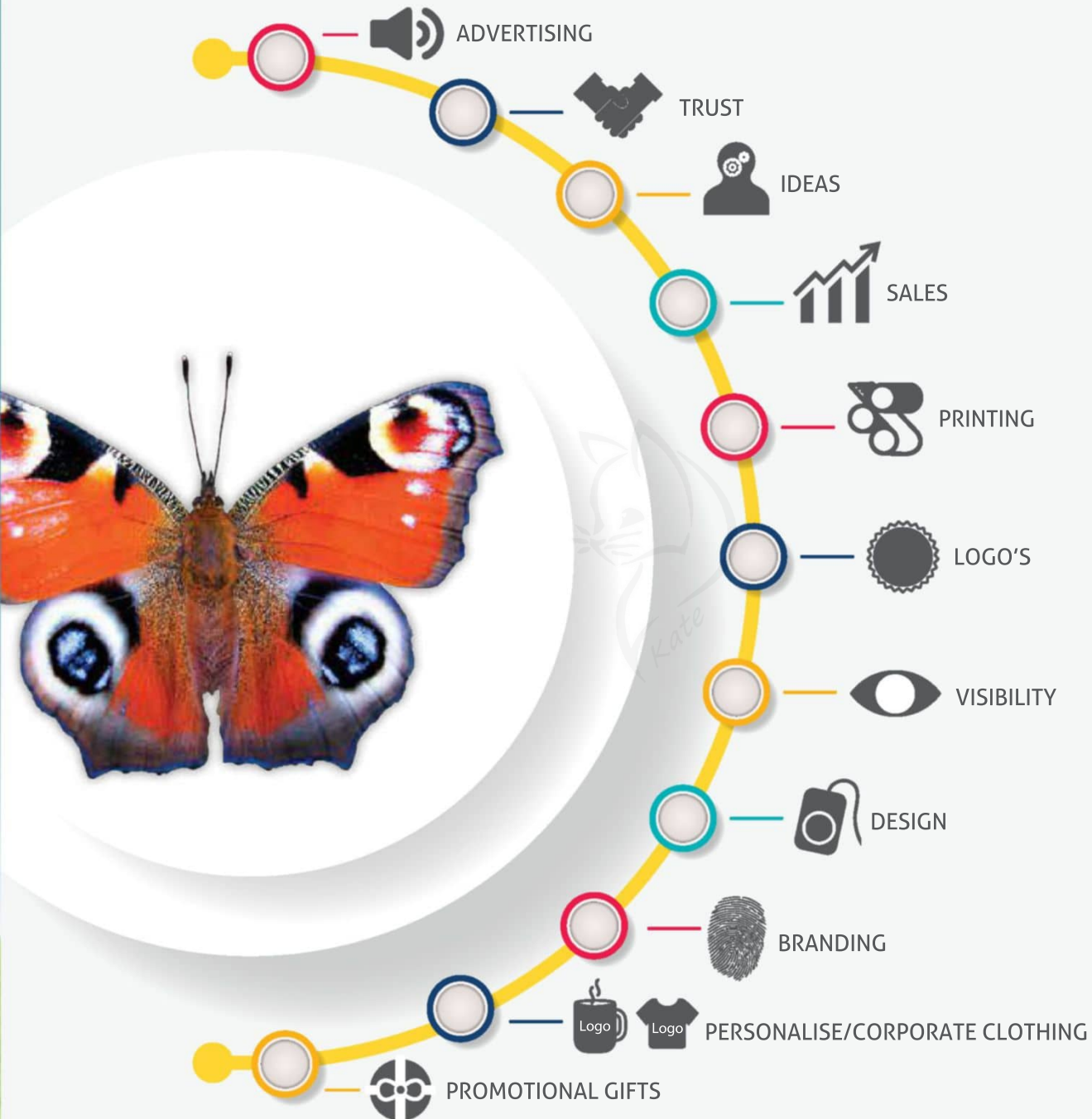
It is my belief that during a time where you are emotionally challenged, feeling sad, having anxiety and even excited for

>> Annalien Grensemann

the future, your ability to craft and create something brings you back to the basics. Working with your hands and creating something from flat pieces of wood, breathing in the aroma of the wood you are working with and then shaping and sanding it to a lovely and functional piece of furniture. This gives you a sense of satisfaction and some perspective on your situation, as if your brain was just as busy figuring out new paths in dealing with all your emotions. Then it is time for my favourite part when I need to decide if I want to varnish, oil, or paint the piece. The decision on how to make it fit in or accentuate a room is all completely in your hands and that is fantastic. The structure and functionality is there and now you can throw in your personality and pizzazz with this final choice.

After you have finished and you stand back looking at your work, you can proudly see that this new beginning is off to an excellent start.

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