70

BOX PROJECTS

FOR THE

BEGINNER & INTERMEDIATE

WOOD WORKER

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Production
Daniel Grace

Editor
Samantha Fasanella

Design/layout
Daniel Grace
Samantha Fasanella

Photographer
Boxes - Modform Photographers
Daniel Grace

Names: Daniel Grace
Title: 70 Box Projects for the Beginner & Intermediate Wood Worker
Author: Daniel Grace
ISBN:
Contact: theboxman53@outlook.com

Safety

Woodworking is dangerous. Using hand tools and power tools improperly and ignoring safety procedures, can lead to permanent injury, or even death. Use all guards supplied by machine manufactures. If you are not confident in using any machines and hand tools STOP and find another way.

Written instructions

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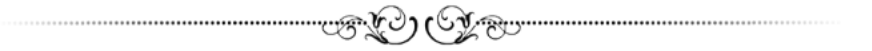


My name is Daniel Grace. I am a retired 68 year old cabinet maker, living in Melbourne, Australia. After being a cabinet maker for over 50 years, I have seen how the industry has changed.

Back in the day, there was a demand for hand-made furniture and all sorts of furniture timbers were available at a reasonable price. People would appreciate hand-made furniture and we didn't have to charge too much for cabbies to make a good income as the timber was reasonably cheap and wages were low. The average family could acquire a hand-made piece of furniture that would last a life time at a reasonable price.

PEOPLE APPRECIATE HAND-MADE FURNITURE

Nowadays, everything has changed. Furniture is mass-produced and comes in a box and you assemble it yourself. Only the well-off people can afford hand-made furniture as furniture timber has got to a price that hardly anyone can afford. Wages have risen as well. The prices that a cabinet maker has to quote for a hand-made cabinet is reflective of the price of the materials and wages and not many people can afford it.

There are very few cabinet shops that make hand-made furniture that are left now. Most make kitchen cabinets and shop fittings.

The machines that these new cabinet shops have are amazing. CNC router, saws that cut five sheets of M.D.F at a time, computer programs that design your kitchen and send cutting lists to the CNC machines and automatic edge banders. All the cabinet maker has to do is assemble the cabinets, and they come up perfect. The art of cabinet making is slowly fading away with the retirement of us older cabbies.

I was happy to find a lot of traditional furniture makers on the internet, but not everyone wants to make furniture. I am writing this book about box making, for the beginner and intermediate box maker.

After 50 years of cabinet making, I was over making kitchens and shop fittings (refer to 'My Woodworking Journey' in the next chapter). I was a bit burnt out from it all, so after I retired and had a long rest, I started to put together my home workshop in my two car garage. I found I still loved working with all sorts of different timbers but I knew I didn't want to make kitchens or shop fittings anymore. I was too old to lift big cabinets around.

I started making jewellery boxes a few years ago when cabinet work was scarce. They turned out great. After I retired, I renewed my passion for box making.

Although I am a cabinet maker, I regard myself as an intermediate box maker. There are a lot of craftsmen on the internet that make magnificent furniture and boxes with traditional tools and a lot of skill.

YOU'RE NEVER TOO OLD TO LEARN NEW SKILLS

In this book I will try to show you that box making isn't that difficult. I hope you will find these projects both within your skill level and aesthetically pleasing. I will pass on handy hints about each box to make it easier to create.

Please enjoy making some of the projects in this book and remember, they don't have to be perfect. Just have fun.

MY WOODWORKING JOURNEY

I was the youngest of five kids, two girls and three boys. Dad was a carpet cutter, mum stayed at home and held the family together. This was in the early 60s, around 1966.

I was 13 years old and a poor student at school and didn't like it at all. But I did like making things. We were poor, so if you wanted something, you either had to mow your neighbours lawn and do other odd jobs to get the cash or make it yourself.

This was the first time I had used any woodworking tools. I was going to make a skateboard! I found a piece of hardwood, about 2 feet by 8 inches, 3/4 thick. Perfect!

I MADE A SKATEBOARD DECK!

My mate had a store bought skateboard and I was so jealous! I had some old roller skates which I was going to use for the wheels. I traced my mate's skateboard deck onto the piece of hardwood and now I had to cut it out.

My mate's deck had curves in it and all I had was an old handsaw of my dads. Blunt as! I drew straight lines in between the ends of the curves, put the timber in the metal vice and started sawing. Up until then as a 13 year old, I had never worked up a sweat, but bloody hell, this is hard work! Anyway, between us, we had it done in about half an hour. A bit of sanding on the edges and it looked great. We cut the soles off the roller skates with the wheels on them and screwed them to the new deck. After a few hours, I had a skateboard. It worked great in a straight line, but would not turn.

That was my first project in wood working and I haven't stopped since.

Australia in the 60s, you had two different school systems. If you wanted to go to university or work in an office, you went to high school. If you wanted to have a trade or work with

your hands, you went to a technical school. My two older brothers went to a technical school, so I went there too.

It was a Catholic school, ran by the Christian brothers. All I can say about them is that they were **NOT** very Christian.

I hated school and the teachers and the only class I looked forward to was wood working, where I learnt the basics of how to use a hand plane, saw a straight line and how to construct a house frame. But after three years I left there, disillusioned with school.

I LOOKED FORWARD TO WOODWORKING CLASS

I was 15 years old, could barely read and write but wasn't bad a maths. I had no idea what I wanted to do. Back then, there were no guidance councillors, all you had were your mates. All mum and dad said was to try and get an apprenticeship. But what sort?

I did the entrance exam to be a linesman for the electricity company, but didn't make it. My mate got a trail apprenticeship as a cabinet maker. That sounded great and I decided to do that too, as I already liked woodwork.

I had no idea what hard work was like. I thought it would be like school where you had all the time in the world to finish your project... you know, have 20 minutes for morning tea, one hour for lunch, knock off at 3:30pm... I could do that! Boy, was I dreaming!

My first job was in a furniture factory. The boss promised me all sorts of things so I was excited to start. On the first day, they gave me some sandpaper and I came face to face with about 100 chairs.

Oh crap!

The chairs had their first coat of lacquer applied and now had to be sanded smooth, ready for another coat. I worked with another apprentice who was a second year.

I learnt a lot that first day. First, I learnt it was head down, ass up, you're here to work. So, work I did. By the time lunch came around, my back hurt, I had sanded my fingers raw and only got half an hour for lunch, not an hour. That afternoon was the same as the morning… hard work!

I went home that night battered and bruised with a lot to think about. The next day, I fronted work again and now I knew what to expect.

I HAD SANDED MY FINGERS RAW!

We had finished sanding the chairs and I was handed a broom for clean up duties for the rest of the day. The factory was big, about 100 workers, so cleaning up gave me the chance to look around. As a semi mass production company, I said to myself, "there must be better cabinet shops than this around". At the end of the day, I decided to quit but was too scared to tell the boss, so I didn't show up the next day. I told mum and dad and dad went around to talk to the boss and pick up my wages.

The average wage for a qualified cabinet maker in 1968 was about $70 per week. Dad picked up $10 for me, so $5 a day.

My mate, Frank, got an apprenticeship in a much better furniture factory where they made domestic and office furniture. It was about 6 miles from my home, so Frank's dad drove him every morning. If I managed to get a job there, I could tag along. So off I went to see the boss.

It was a family owned business, ran by the older son who was a nice guy, but a businessman nevertheless. I wanted a cabinet making apprenticeship, but they had none as they had already hired Frank and another first year apprentice. But he did have a wood machining apprenticeship available.

Looking back, I think he talked me into taking on the wood machining apprenticeship. He said that I would work in the cabinet shop as well. I was 15, so it didn't take much persuasion to get me to do what he wanted. I had an apprenticeship! Yaaa!

I still wanted to be a cabinet maker, so I enrolled in night school to do my trade course in cabinet making which was two nights a week. I also went to wood machining school one day a week. I loved the schooling aspect of both wood machining and cabinet making.

How is it that I was so bad at regular school but loved trade school? I'm just glad I had found my calling.

In my first year as an apprentice, I was not allowed to use any dangerous machines like shapers, cross-cut saw and other equipment. I spent half my time in the machine shop and the rest in the cabinet shop. It was still hard work, but I fitted it in quite well.

After about 6 months, they put me in charge of the timer yard. The firm had two factories, about 200 yards apart. The machine and cabinet shop were in the old building. It was double storied, with the machine shop on the bottom and the cabinet shop on the top floor. There was a small lift to get the components up to the cabinet shop and a large timber slide about 12 feet wide to get the furniture down to the loading bay. The second factory was the finishing factory, as well as a dispatch department. The timbers yard was on the side of that building.

I WAS IN CHARGE OF THE TIMBER YARD

My job in the mornings was to pick out the timber that they were going need for the next day. I learnt a lot about grading and how to work around imperfections in the timber. I used white chalk to show the machinists where to cut the timber to get the best out of it.

In the 60s there were a lot of great timbers around that you can't get now. For example, Australian Black Bean which looks a lot like Wenge. Most of the office furniture was made out of it, very dark and drab like most offices around that time.

The domestic furniture was mainly made of Teak or Australian Black Wood which is not black at all. You can see throughout the book that I have used it in a few of my boxes. I love working with Black Wood and you can still obtain it in limited quantities. Some of the other timbers we used that are hard to find now include, Silver Ash and Ramin, just to name a few.

They gave me an old first World War gun cart with the gun removed, of course, to wheel the timber up to the machine shop that was needed for the next day.

In between the two factories, there was a group of single fronted houses. I must have looked funny wheeling this cart full of timber up the footpath everyday. It was noisy, too as it had iron wheels. But back then, that's how it was done.

I think it was around that time in the 60s where everything was changing. A lot of old timers in the shop were about to retire, most of them had served in World War II or deemed essential workers as they fitted out war ships from this factory. Some of the old jigs for the ships were still kept in the old shed. They had some great stories to tell, but times were changing.

The machine shop had a lot of big old machines that were very dangerous. Most of the guards were missing and the old guys didn't care. I was crapping myself at some of the things we used to do, especially with the shaper and its big exposed cutters. It didn't help that Duncan, the head shaper operator, had only three fingers on one hand and four fingers on the other.

I CUT MY FINGER ON A BANDSAW

I only had one serious accident in my time there. I was using the band saw when I slipped and cut the tendon in my little finger. That was the only time I touched a spinning blade.

Over the next four years, I worked hard at machining and cabinet making. The furniture industry had changed mainly for the better, and a lot of the old guys retired. I missed the stories that they used to tell about the old days.

The firm had got in a lot of new machines, like automatic dovetail machines, 12 foot sliding table saws and wide belt sanders. The cabinet shop had changed too. The machine shop used to machine all the components for the furniture that had to be made the next day and each cabinet maker got to make each piece of furniture from start to finish. Now it

has changed. One guy would make the drawer boxes, another would make tops. The firm was becoming too much of a semi-mass production shop.

I was 19 years old and just finished my apprenticeship. At last I was qualified in both wood machining and cabinet making. Along the way, I was the apprentice of the year in my third year of trade school.

So, I quit!

I QUIT!

I didn't have another job to go to as I had itchy feet to travel. I went to Canada and the USA. I bought a car in Texas where I had friends and drove it up to Colorado to go skiing, and then over to California. Overall, I was away for six months. By the time I got home, I was almost out of money.

I got the local paper and there were plenty of jobs to choose from. The next day, I had a wood machining job with a firm that made solid hardwood furniture for hospitals. The timber was Victorian Ash, a great timber to work with. After about six months there, we were bought out by a larger furniture company. We moved up to the main factory, which was a mass production set-up. I lasted one week.

Again, I was out of a job, got the local paper and saw a cabinet making position for a small firm. "That'll do… if I get it". So, I got a job interview the next day.

I rocked up to the interview… I got the job! It paid a lot more money than the last one.

The firm was a small building company that had a compact cabinet shop that specialised in renovating pubs. The cabinet shop got to build the bars and the bottle shop fit-outs. There were just three of us there and we all got on well. Sometimes we had to renovate a bar top while the pub was still operating… Nothing like being told how to do your job by three drunks standing at the bar but what pissed me off the most is that sometimes they were right!

Great job and great people, but there was something big on the horizon.

WE'RE BUILDING A SIXTY FOOT YACHT!

By this time, it was around 1980. My eldest brother, Bill, decided he was going to build a yacht and my other brother, Peter, joined him. It was a steel hull, a ketch rig. It was big, about 60 foot long with a 17 foot beam. It was more of a motor sailor, a big cruising yacht with a Detroit 671 diesel motor and a 60 foot main mast. It took them about 18 months to finish the hull and then it was ready for fit-out. That's when they asked me to join the project.

'Catherine Grace' under full sail

Making the hatches

We launched the hull with just the engine connected and a basic fit-out. She floated very high in the water since we had no ballast in the keel yet. We had arranged for a yacht berth in the Maribyrnong River near the Port of Melbourne which is on the Yarra River. The Maribyrnong runs into the Yarra and then out into Port Phillip Bay.

The part of the Maribyrnong that we were berthed in was mainly for scallop fishing boats that went out into Port Phillip Bay everyday. At each end of the scallop boats, there were a few cruising yacht berths. This was by no means a fancy marina. It was for working

scallop boats and had a processing plant for the scallops right on the wharf. Some days, it was a bit on the nose when the wind blew the wrong way.

From there we started a huge fit-out. I worked on the joinery, Bill was a mechanic and welder and Peter was the plumber and electrician so between us, we just about had every base covered.

IT WAS A HUGE FIT-OUT

So much work to do, so little money. How it worked out was that two of us would work to earn money and one of us would work on the yacht full time. After a while, we would swap so each of us had a chance to work full time on the yacht and we would all work on it at the weekends.

Most of the exterior hatches and woodwork are made from solid Teak (timber was a lot cheaper then). We fitted out most of the interior walls with Western Red Cedar and Marinti. Of course being the 80s, the colour scheme for the kitchen was burnt orange and mustard yellow. Not very fashionable now.

On the other side of the river, there were some poor cruising yachts and on the river bank was a small boat yard. Everybody knew everyone and although poor, it was a tight knit community.

Catherine Grace - our pride and joy

Then one day, a new yacht turned up in the boat yard. It was a Admiral's Launch. I heard it was off the old battleship "Australia", built in 1911. It was long and skinny, 50 feet long with an approximately 10 foot beam. It belonged to a rich guys son and we all got jobs on the re-fit. I fitted it out in Honduras Mahogany which is a great timer to work with, with a mild mid-red colour. Working on this yacht gave everyone enough money to finish their own fit-outs.

WE SOLD THE YACHT!

I could on forever about yachting stories, but this is a box book. We had the yacht for about 10 years and went cruising down to Tasmania and the islands of Bass Strait and up to the each coast of Queensland. We found out that cruising cost a heap of money which we did not have. We then sold the yacht and all got enough money to buy a house each.

This was a great start to my new life without the yacht. We sold the yacht in Queensland and went our own way.

I went back to Melbourne as I wanted to buy an old house and renovate it. I found one which I could afford; a real dump. For the next couple of years, I was plastering, making new wardrobes in the bedrooms and then the kitchen cabinets were next.

I made the cabinets out of white melamine and fitted raised panel Tassie Oak doors. My mate had a cabinet shop where he made his own timber doors so he let me make my own doors there which really helped.

The renovation of the house took a couple of years and a heap of work.

That was in 1992. Over the next few years, I renovated two more houses with the same result; a lot of work and not much profit. During all this, I started working for my mate with the kitchen cabinet shop. I was making all the raised panel doors for him. It took me about four days to make a set of kitchen doors as he only had the basic shapers and sanders. The best timber to make doors with was Tassie Oak but we did make a lot of kitchens out of other timbers including, Blackwood and Rosewood, among others. The worst timber we used was a New Zealand timber called Remu. A great looking timber, a bit like Rosewood

but it warped like crazy. You could make a set of doors that were fine, come back the next day and half of them would be warped. If they wanted to move, they would. It was so frustrating.

I worked there on and off for the next six years or so before I decided I was going to work for myself. I was 45 by then.

As a sole trader, you can only make enough money that your two hands can make. Having to rent a factory, buy a sliding table saw, edge bander and all the other tools and equipment that you need is a big ask. I looked around for another cabinet maker to share the cost. I found a cabbie that I knew from a while back, a real nice guy. We were two different companies; he had his clients and I had mine. I bought a saw which was a second hand Altendorf F45, a top of the line, German made, 10 foot sliding table saw with a scribing blade and also a little hot air edge bander. We found a small factory to rent and we were away!

Now all I had to do was find some work. It didn't take too long because as soon as I put the word out that I was looking for cabinet work, by the end of the day I had a kitchen to make. It had raised panelled Tasmanian Oak doors with a Formica top. For the next few years, that was my working life. Kitchen after kitchen with a few pieces of furniture thrown in as well.

I WAS NEVER A BUSINESSMAN

I was never a businessman; I was always too cheap and would never charge for extras that the clients wanted. But I always made sure they were satisfied for the job. So I made a reasonable living by working about 50 hours a week. It was very hard to install cabinets by yourself. I had a friend who owned a small truck and would help me deliver the cabinets for a price. This helped a lot, just to get the cabinets into the house.

I was also putting an extension on my own house. I had been in this house, which only had two bedrooms, for three years now. I decided to extend with another bedroom, a second bathroom and a family room. I was very busy and was getting tired with making

kitchens. A friend of mine who worked for a shop fitting company said they had plenty of shops to fit-out, so I contacted the owner.

The shop fitting company was a medium sized business and had its own cabinet shop which employed about ten cabbies and apprentices. The owner was a nice guy who was happy to give me a go.

My first job was making some free standing units for an art print shop he was fitting out. They had curved tops and being in the centre of the shop, they were seen all the way around. So, **"no face fixing"**. I put the shelves together with biscuits and cleats on the inside to fix the backs on.

He gave me these as a test to see if I could do the job. I think I passed because the next job he gave me was a full shop fit-out. It was a shoe repair and key cutting kiosk that sat in the middle of the walkway in a large shopping centre.

All I had to do was build the joinery. He had a foreman to run the fit-out; plumbers, electricians and sprinkler fitters all had to do their thing. When the fit-outs started, it was all hands on deck. I was just part of a team. some of the other cabbies from his shop were there to help me install. No noise or dust was allowed during the day, so we had to install during the night.

By this time, I was 52 years old. I was a bit old to be shop fitting. Most of the other cabbies were much younger than me. Working at night was very tiring but it didn't happen a lot. Most of the time I would just have to make the joinery and the younger cabbies would pick it up and fit it while I started a new shop. It was great to have other cabbies to help me if I fell behind on the work.

The shops were all different; one would be a jeans shop, the next would be a shoe repair shop but the most challenging were the food court shops.

A food court shop is not big but it has a lot of different trades needed, like plumbers, electricians, refrigeration mechanics, sign fitters, sprinkler fitters and cabinet makers.

Because the shops were never square and as you are the cabinet maker, you had to fit your cabinets around all the fridges, cookers, bain-maries, which are being made off site.

You don't know when the plans call for a six foot bain-marie, that it is really six foot. Could be a bit bigger or smaller.

To make sure everything fits, I start off by going to the shop and covering the whole floor with 3mm M.D.F as a pattern. Then taking the sheets back to the factory and laying them out as they were in the shop.

I MEASURE EVERYTHING MYSELF

I then go to where they are building the fridges, bain-maries and cookers and anything else that has to be installed and measuring each one myself. It's the only way to be sure it all fits right. I learnt that the hard way. Nothing like taking cabinets back to my shop at 3am to cut them down and have them back on site at 8am.

Sometimes you would turn up at the site and there would be so many tradies and their tools that you literally couldn't fit in the shop. It's a very hard way to work.

Just when you think the shop will never get finished on time, somehow it always does. Although, you may have to come back when the shop is open to finish a couple of things.

I worked like this for about five years. I was 57 by then and a bit burnt out with cabinet making and was looking to slow down a bit. I had saved some money and still needed to finish the extension on my house. I had been too busy working to finish it. House prices in my area had risen in the last couple of years so the plan was to work less, finish the house and maybe sell and move to where I could buy a house that has a double garage in which I could use for a workshop. I was sick of paying rent on the factory.

I went to work the next day still thinking that I needed to change. I had had enough of shop fitting and cabinet making. It was not that I didn't enjoy the trade, it was that I had had enough of the pressure of trying to keep the clients happy.

I WAS CLOSING DOWN!

By this time, I was sharing the factory with a carpet firm. They kept all their rolls of carpet there and were happy to take over the rest of the factory. I had just finished a chicken take-a-way shop for the shop fitting firm I was working for.

Everything seemed to be lining up. It was a big decision to close, but I had enough. I didn't have another job to go to and I was 57 and didn't have enough money to retire, but I owned my own house with no mortgage.

I made a few phone calls. The last call I made was to the phone company to disconnect. All the stress of running a business seemed to just fade away. I was so happy!

Over the next few weeks, I tied up all the loose ends and sold all the machinery to a young cabbie who was just starting his own business. I even put him in touch with the shop fitting firm I was working for… so maybe he could take over from where I left off?

I was at home a couple of weeks later, working on my house extension, when I got a call from the business I used to buy my plywood and chipboard from. One of the older workers there was retiring and they had a part time position for a storeman and forklift driver three days a week.

I had an interview and got the job. I had been buying board off them for years so I knew them all. It was a small firm, only five people worked there. It was a great place to work and I had time to work on my house.

We sold all sorts of ply, M.D.F and chipboard sheets, a lot I had used as a cabbie, like timber veneered board. They kept all the popular species, including Tasmanian Oak, Blackwood, Jarrah and American Oak. If you wanted any other species, they could get it made for you.

The first thing I noticed when I started there was how it was so quiet as they didn't cut board there. They only sold full sheets. It was great; no dust extraction machines making noise all the time and no saws going either.

It was a great job and all the other cabbies come here to buy their board and ply. Sometimes it was so busy with other cabbies talking to you that you didn't have much time to do your work. It was like a club meeting and so much fun.

I was getting on with my house reno and I worked like this for the next couple of years until my house was finished. The house prices in my suburb were very high and I thought it was the right time to sell. It sold easily and I got a great price too. Melbourne is one of the most expensive cities to buy a house in the world. I moved in with my mate after the house sold while I searched around for a house on a corner with a big double garage. Luckily he had had a big garage himself to store my furniture while I was looking around. By moving out from the city to the middle suburbs, I might be able to find what I wanted.

After a few weeks of looking, the perfect house came on the market. It was a brick house and only needed to be renovated on the inside and the outside was in good condition and had a great double garage with skylights and power connected. The garage was 26 foot deep and 22 feet wide with room for a carport at the front. It was going to auction and my mate, Vin, whom I was staying with, suggested I make an offer before the auction. I did and got it at a reasonable price.

I BOUGHT A HOUSE!

Again, I was renovating a house but this time I hoped it would be my last. I was still working three days a week and working on the house the other days. I decided to install an ensuite bathroom off the master bedroom. I had made two bathrooms and a kitchen with timber laminate doors and panels with a stone top.

Although the house was on the smaller side, it still had three bedrooms, two bathrooms, kitchen, dining, lounge and laundry.

While I was renovating, I bought a brand new 6 foot sliding table saw with a 12 inch blade and a scribing saw for cutting pre-laminated board. It worked great! I already had all my hand power tools and a 10 inch band saw, 12 inch drop saw and a small dust extractor.

Now I had the start of my new workshop. My first job in the workshop was to make my own kitchen.

Over the next few years, I had finished the house and made some furniture in the workshop. I was getting close to retirement in a couple of months and I was going to retire.

The first couple of years after retirement went quick. I went on holidays overseas, played golf and generally just enjoyed life. I was still working in my workshop occasionally doing odd jobs for friends. My sister, who lived up in the country, asked me to make six kitchens for the units she owned. Luckily, I only had to make them and not fit them as I was not as young as what I used to be. It was a bit of a struggle to get them done, but they're all finished now.

After that, I had to make all the joinery for a gelato shop that a friend was opening. I didn't want to start up a cabinet shop again so I had some things to think about.

COVID!

As we all know, COVID changed the world. Here in Melbourne, Australia we had an outbreak in early 2020 and had one of the harshest lockdowns in the world. For about four months, the only time I left home was to get supplies. I stayed in contact with friends over the phone or on the net.

Living alone, I had a lot of time to think and realised that I loved being in my workshop making things. But I was definitely over making big things like kitchens and furniture. That's when I decided to make wooden boxes.

First, I had to fit out the workshop the way I wanted to. I started lining the sealing in 1/2 inch Birch ply and then I was going to buy a lot more machinery such as:

- 24 inch double drum sander
- 12 inch helical head jointer and thickness combo
- 6 inch upright, 48 inch belt sander
- plus a whole lot more as I needed them.

My timber stash

The lockdown has ended by now but we still have to wear masks and social distance, but there is a bit more normality now.

In Melbourne, we only have two timber yards that sell exotic timbers. I have tried them both, one was much better than the other as they had a great range of exotic timbers such as, Wenge, Padauk, American Maple, American Walnut and a lot of exotic Aussie timbers.

I had forgotten how expensive exotic timbers are. I had bought four different planks of timber, each about 6x1 inch and about 8 foot long:

- American Maple
- American Walnut
- African Padauk
- Australian Silky Oak

I didn't get much change out of $400AU but now I'm making boxes as a hobby, I didn't mind. I had already collected a lot of Aussie timbers along the way, so with the new accent timbers that I had bought, I had a good selection to choose from for the boxes.

I had some old box books at home. Most of the boxes in them are very hard to make. Although I am a cabinet maker, does not mean I am an expert box maker. There are some great box makers out there but I think I am at an intermediate level.

So I am writing this book for beginners and intermediate box makers. I have never done anything like this before. I am just a cabinet maker.

In retirement, I think I have found my passion and I will try and share it with you. Please enjoy this book and I hope you can learn a bit about the way I make boxes because I loved making them with all the different timbers.

Above all, have fun in the workshop and be proud of what you make because it is hand made with love.

WORKSHOP

My workshop is a two car, free standing, brick garage, measuring 20x24 feet approximately 480 square feet.

I have a very well equipped workshop, but most of the projects in this book can be made with a basic equipped workshop.

TIMBERS OF AUSTRALIA MAINLAND

JARRAH

Eucalyptus Marginaia

Jarrah forests are found in the southwest corner of Western Australia. As you see on the map, that part of Australia is very isolated from the rest of the country with oceans on both sides and desert on the other sides.

Jarrah was first logged back in 1840 by the British where they used it as a general purpose hardwood to build bridges. Today, it is used for furniture and cabinets and is readily available. It can have an appearance from light red to very dark red.

I have used Jarrah for many years, making kitchen cabinet doors, furniture and joinery. The richness of the colour and the durability of the timber make it one of my favourites.

Check out the boxes on pages, 89, 197.

BEECH

Gmelina Leichhardtii

Australia white beech grows in eastern Australia and is fast growing and it likes moderate to high rainfall. It has been logged for the last 120 years and not much is left now. It seems like a few timber yards still stock it, although it may also be an imported species.

It is used for pattern making and cabinet making. Personally, I have never used it until I started making boxes. It is an unusual timber to work with but that's what you're looking for in box making.

Check out the boxes on pages, 87, 175.

KARRI

Eucalyptus Diversicolor

Like Jarrah, Karri is found in the southwest corner of Western Australia. The Karri tree usually grows to a height of 200 feet but can reach up to 300 feet in some instances. It is the tallest tree in Western Australia. Some of the Karri trees are thought to be up to 300 years old.

Karri was first logged around the same time as Jarrah, around 1840. It was used for wagon spokes and general construction for the first 150 years.

Fire lookouts were established in the forest using the tallest Karri trees giving rangers a commanding view of the forest to spot any bush fires before they got out control. Like most of Australia, summer can get very hot and dry and we have some of the worst and deadliest wild fires. We always have to be alert for the first hint of fire. Fires are mainly started from lightning strikes and before satellite imaging, lookouts in Karri trees were our main way of spotting fires.

Nowadays, it is used for flooring and furniture. I haven't used much of it in the past but I have used it in some of the boxes and have been impressed with it's workability and it's great, pink mahogany colour.

Check out the boxes on pages, 183, 193.

SILKY OAK

Grevillea Robusta

Silky Oak grows to a height of about 100 feet and is found in the subtropical rain forests of southern Queensland and New South Wales. It was wildly used for making external windows as it is resistant to rot. Silky Oak is hard to get now as logging has been reduced but there

is still a bit around. It looks a lot like Leopard Wood with its spots and gives it a unique lustre.

Check out the boxes on pages, 185, 125.

SPOTTED GUM

Corymbia Maculata

Spotted Gum grows to a height of about 160 feet and is often planted in parks and along street sidings. It is not used in private gardens a lot because of its size.

Not often used in furniture either because of it's pale sapwood which is common in most logs. Although, it is being used as flooring and as an outside decking timber. It is very common across all the southern states of Australia. I have used Spotted Gum in some of my boxes but it is not my favourite timber. It is readily available at most timber yards and big box stores.

Check out the boxes on pages, 119.

QUEENSLAND MAPLE

Flindersia Brayleyana

Queensland Maple is endemic to north Queensland and can reach to a height of about 120 feet. It is a decorative timber used in the cabinet making industry and is most prized in a guitar building as a great tone wood. Not much is left now as much of the standing trees are in a world heritage area, like the Daintree Forest.

They have tried growing it as a plantation timber but it was not successful. I acquired some off an old cabbie and used it in some of my boxes.

Check out the boxes on pages, 161, 217.

Queensland Maple

AUSTRALIAN RED CEDAR

Toona Ciliata

Australian Red Cedar is in the mahogany family and grows to around 200 feet tall with a 10 foot girth. It is one of Australia's deciduous trees. It grows in the sub-tropical forests of New South Wales and Queensland. Australian Red Cedar is highly valued with its deep, rich, red colour and used extensively for furniture and wall panelling.

It was almost logged out of existence in the early 1900s. Almost all the large trees have gone and the timber is quite hard to find now but there is still a bit of it in far north Queensland.

In the 80s, I made a side board out of it with lead light upper doors. It was stunning to work with and I have made one of my favourite pieces of furniture with it.

Check out the boxes on pages, 137, 183.

BLACK BUTT

Eucalyptus Patens

I am using Black Butt in it's engineered form which means that it is cut into veneered strips and glued back together to form a new board of timber, 3/4 inch thick. It's very flat and stable. Good? Bad? I'm not sure.

Black Butt is found in the southwest corner of Western Australia and grows to a height of about 140 feet. The vernacular 'black butt' is a reference to the colour of the trunk after a fire has been through. It's one of the world's most non-flammable timber.

Again, it is in short supply but can still be available. It is very dense and is used for flooring and construction.

Check out the boxes on pages, 145, 157.

RIVER RED GUM

Eucalyptus Camaldulensis

River Red Gum grows to a height of about 60 feet and is found along the banks of rivers and on flood plains. In it's natural habitat, it is subjected to flooding when the rivers run.

When I was younger, we went camping along the Murray River which is on the border between Victoria and New South Wales. There are many River Red Gums along the banks of the river and in the middle of summer when the temperature can reach over 100°F. It was so inviting to pitch your tent under the canopy of a River Red Gum, but we knew better.

The limbs of the trees can fall without warning and they do regularly. At night when you are sleeping, you can hear the crack of the limbs breaking away from the trunks of the tree. Definitely pitch your tent in the open!

River Red Gum is wildly used for garden sleepers and fence posts. It is a gnarly timber but with its deep, red colour, it is a popular timber with wood turners.

Back in the day, the only timber we used to furniture was 'A' grade with no imperfections, so a timber like River Red Gum was never used. Times have changed now and it is trendy to have furniture with character, like splits filled with black resin.

I got a few old fence posts of River Red Gum off my mate who was installing a new fence. I also got some of the old fence palings made of lower grade Ash timber. You don't have to use new timber to make a great looking box.

Check out the boxes on pages, 163, 224.

River Red Gum

PINE

Pinus Radiata

General Pine is the most common plantation timber in Australia. It is used for house frame construction, building and just about every other project you can think of.

It is not an outdoor timber, as it rots easily in the weather. Pinus Radiata was introduced to Australia in the 1870s and is the dominate plantation timber across the country. You can see the plantations all up and down the east coast.

They have cut down native forests to plant Pine which effects the native animals. They plant them in rows and makes it easy for feral cats and foxes to see the movements of the native animals.

In my opinion, the forest industry should reinstate native forests instead of Pine. I don't think they have done it enough. As usual, economics plays a big part in the industry and we all need cheap timber for house frames and other things. If we could just have a balanced approach, it would go a long way to improving the forest industry.

Sorry, I've had a bit of a rant there. But back to the boxes. Pine is not normally used for decorative boxes as it is a soft wood with a yellowish appearance. If you search around, you can find some Pine that is as blond as American Maple. It is a good timber to start with in box making, cheap too, so it won't cost you much if you make a mistake and have to start again.

Check out the boxes on pages, 77, 115.

Pine

10 FACTS ABOUT AUSTRALIA

1. There are 25 million people in Australia, and 90% live near the coast.
2. 100 million sheep live here.
3. The largest Greek population, outside Athens, lives in Melbourne.
4. Australia is the only continent without an active volcano.
5. The Australian Alps receive more snow than Switzerland.
6. Australia has the longest fence in the world, spanning at 5,614 kilometres long. It was made to keep the dingoes out.
7. Australia has 21 of the worlds 25 most venomous snakes.
8. Australia is almost the same size as the continental USA.
9. The largest cattle station in Australia is larger than Israel.
10. There are 10,685 beaches in Australia.

THE TIMBERS OF TASMANIA

Tasmania is an island state that sits at the bottom of Australia. It is stunningly beautiful, with its world heritage parks and rugged coastline. It has its own unique animals, like the Tasmania Devil and the Eastern Quoll.

Tasmania has some of the most unique timbers in the world, from Huon Pine, the king of Australian timbers, Blackwood, Leatherwood and so many more. The Tasmanian government has stopped a lot of the logging of the old growth forests and limited exporting of their rare furniture timbers to the mainland. They are keeping their rare resources of unique timber for their own makers.

On a side note, Tasmania should be everyone's bucket list to visit.

TASMANIAN MYRTLE

Nothofagus Cunninghamii

Tasmania Myrtle is a native tree to Tasmania and Victoria. It grows in the temperate rain forests and up in the alpine regions. They grow to be over 100 feet in most areas.

It is a elegant cabinet timber, with a soft pink to reddish colour. The close grain makes it a great timber for highly polished floors.

Back in my apprenticeship days, we used Myrtle for the slides in Blackwood extension tables as it stays straight after machining. I have made a couple of sets of kitchen raised panel doors with it and was impressed with how straight the doors were, including the big pantry doors. It is a lot dearer than Tassie Oak to buy, but it is worth it.

Check out the boxes on pages, 99, 165.

TASMANIAN OAK

Eucalyptus Regnans

Tasmanian Oak is the common name for this timber, also known as Vic Ash, Mountain Ash and Alpine Ash. Tassie Oak is usually darker than Vic Ash because it grows in a more temperate climate, thus grows slower.

The Tassie Oak tree can be upwards of 200 feet tall with its straight trunk. It was logged extensively in the past, as one of Australia's more popular species to use for flooring and furniture. It is the go to hardwood timber for many Australians.

It is now a plantation timber as it grows straight and quick. The big box store sells it as its kiln-dried hardwood in all it's forms, from 2x1 to 12x2 inches and every other size in between. As a cabbie, I have used it for many years and is easy to work and polishes up to a nice, light lustre. I have made many kitchens with it. It's a light colour timber and when you contrast it which a dark granite top, you will have one of the best looking kitchens you can get. While being a plantation timber, it won't cost you too much either.

Check out the boxes on pages, 121, 211.

CELERYTOP PINE

Phyllocladus Aspleniifolius

Celerytop Pine is wide spread and is the most abundant conifer tree in Tasmania. It is considered a medium sized tree and is straight grained and dense with a golden brown colour. It's a highly prized timber for furniture makers. It is hard and strong with little shrinkage and very durable. Celerytop Pine is used for flooring, railway sleepers and is also used in the marine industry as sailing ship masts.

It machines well and looks great as I used it for the first time building some of the boxes.

Check out the boxes on pages, 91, 109.

HUON PINE

Lagarostrobos

Huon Pine is the king of Australian timbers. It is one of the oldest living organisms on Earth. Some Huon Pine living trees are over 2000 years old and grow to a height of about 65 feet.

It's only found in the southwest of Tasmania and is extremely slow growing, adding only about 1/16 of an inch to its girth every year.

With it's high oil content, it is waterproof and impervious to insects. When Tasmania was first settled, they discovered the properties of Huon Pine making it a great boat building timber. As it has a fine grain and honey colour, not only do boat builders love it, but furniture makers adore it also.

It was logged extensively in the early days, right up until the 1970s when the government took a survey of how many Huon Pine trees were left standing.

2000 YEAR OLD

LIVING HUON PINE TREE!

In the 70s, the Tasmania government was about to set up a hydro-electric scheme. Because of the dams that were being built for the hydro-scheme, the Huon Pine that was about to be flooded in the dam was cut down and tied into huge rafts and left to float as the water rose. These logs are still there today and the government only releases a little at a time for their own furniture makers.

Another source of Huon Pine are the stumps that the old loggers left and these are harvested too, as well as all the branches of the tree that have fallen.

There are only three sawmills in Tasmania licensed to process Huon Pine and it is estimated that there are only enough already felled timber to last about 40 more years for the furniture makers as the rest of the standing Huon Pine trees in the state are either in national parks or world heritage sites.

Years ago when I was down in Hobart, the capital of Tasmania, I had a chance to go aboard a traditional Tassie built yacht made of Huon Pine. The hull was in perfect condition and the deck was natural oiled Huon Pine. It was stunning with it's golden honey colour.

A lot of Huon Pine now is made for small pieces like cutting boards and nut dishes for tourists.

The main sawmill that has the license to process Huon Pine is in Strahan, on the west coast of Tassie. I have never been there but have heard it's an old fashioned saw mill with wide belts running the big, old saws from yester year. I hope to get there soon to experience it for myself as they run tours of the mill there.

The only piece of Huon Pine that I owned I acquired from an old cabbie I knew that allowed me to buy it off him. The first thing I noticed when I machined the Huon, was the smell. A sweet smell of the oil in the timber and the way it machined with it's close grain was like machining butter.

What an extraordinary timber. One of the best.

Check out the boxes on pages, 113, 117.

Huon Pine

LEATHERWOOD

Eucryphia Lucida

Leatherwood is widespread in the temperate forests of Tasmania. It is a renowned as a honey nectar tree and accounts for about 70% of all honey produced in Tasmania. The Leatherwood tree grows to a height of about 30 feet.

Leatherwood is fine grained, has good workability and polishes up nice. It's popular with furniture makers.

This is the first time I have used it and I only had a small piece, so I made a pencil box out of it. I found it brittle to work with as I had to glue up a couple of cracks in it and I wouldn't like to make furniture out of it.

Check out the boxes on pages, 171, 205.

SASSAFRAS BLACKHEART

Atherosperma

Sassafras Blackheart grows in the temperate rain forest of Tasmania, Victoria and New South Wales and grows to a height of about 80 feet.

The timber is used for wall panelling, musical instruments and speciality furniture.

The staining of the timber is caused by fungus which gives it a very distinctive appearance. I used it to make a couple of the smaller boxes and found it grey in appearance and the Blackheart gives it a great boost in the finish. I like it.

Check out the boxes on pages, 159, 189.

Sassafras Blackheart

BLACKWOOD

Acacia Melanoxylon

Australian Blackwood is not black at all. It's a golden brown colour, with chocolate growth rings. The word 'black' in Blackwood, might refer to the dark stains that are left on your hands by the tannin in the timber. I can adhere to that, having worked with Blackwood throughout my apprenticeship. My hands were stained every time I machined it. The only thing that would take off the stain was lemon juice and we always kept a bottle of it in the wash-up room.

USE LEMON JUICE!

Blackwood ranges from Tasmania, up the east coast of the mainland to Northern Queensland. I found the difference between Tassie Blackwood, which grows in a temperate climate so is a lot darker as it grows slower than Queensland Blackwood, which grows in a subtropical climate and tends to be a lot lighter.

As a cabbie, you have to be very careful to order the right sort of Blackwood and enough to finish the piece of furniture you are making. When I was making kitchen cabinet doors, I would go and pick my own Blackwood but you also had to order the veneered 3/4 inch M.D.F for the end panels of your kitchen. They all had to match up and it was a bit of a hassle because of all the variations of the Blackwood.

It is prized for its figured timber in the making of musical instruments, like guitars and ukuleles and also a substitute for Koa timber.

Check out the boxes on pages, 113, 129.

EXOTIC TIMBERS & VENEERS

VENEERS

In the later stages of my woodworking life, I worked for a firm that sold veneer and veneered M.D.F. I got to know the truck drivers that delivered the veneered M.D.F for us to re-sell. They used to bring me a lot of off-cuts of veneer that were not long enough to lay up on the M.D.F. All different timbers.

My boss had some old sample books of veneer that were out of date. I got them too. They were great as the sample sizes were just right for box making, 12x8 inches and some of the timbers in the veneers I had never heard of. It was a great pick up! I think I own enough veneer to last me long time.

Now that I have this veneer, I made a homemade veneer press out of 4x2s and a hydraulic car jack. It works great.

Veneer press

FINGER JOINTED & ENGINEERED TIMBER

Engineered timber is when they cut the timber into strips of veneer and glue them back together to form a board, which is 3/4 thick. Finger jointed is when they cut the timber into small pieces, then finger joint them into a long board, and glue them together to form a wide board. Both make the timber very stable as all the tension has been removed. The mills that make them use either plantation timber or smaller logs that would not be commercially viable.

Engineered Black Butt

Finger Jointed Beech

EXOTIC TIMBER

In Melbourne, there are only two timber yards that sell exotic timber. One yard only sells timber from the USA, like Walnut, Maple and Cherry. The other yard sells those types and a lot more from Asia, Africa and other places. I purchase from the latter, but they regularly change the species they have available. Sometimes that makes it difficult as you can't always get what you're after.

In this book, I have used a lot of exotic timbers which I will list below:

TIMBER	REGION
Wenge	Africa
Padauk	Africa
Zebrano	Africa
American Maple	USA
American Walnut	USA
Western Red Cedar	USA
Fijian Mahogany	Fiji
Fijian Kauri	Fiji
European Rosewood	Europe
European Oak	Europe
Teak	Burma
Sugar Pine	Australia

TOOLS & MACHINERY

Although I have a very well equipped workshop, I have tried to design the boxes in this book for the hobbyist that are just starting out on their woodworking journey and have only the basic equipment. Most of these can be made with this equipment.

I have listed the equipment below that you will need to get started with box making:

HAND TOOLS:

Squares, measuring tapes, hand planes, hammer and chisels and any other hand tools that you own will be handy. Investing in a new, sharp hand saw will go a long way in helping you enjoy your box making. Using a good glue also helps a lot.

CLAMPS:

As the saying goes, you can never have too many clamps, but when you are just starting out, you don't need to buy the top of the line clamps. The cheap ones will do the job just the same.

POWER TOOLS:

Again, you don't need to buy the top of the line power tools. Although, I wouldn't buy the cheap ones either. The standard, middle of the road power tools will work great and do the job.

These power tools will get you started:

1. battery drill/screw driver - get a magnetic bit holder and new screw driver bits
2. a finishing sander - do your research as there are quite a few on the market

3. a 4 inch belt sander - this is handy to have as you can clamp it upside down to your bench and use it as a flat belt sander
4. a small palm router - for moulding the edges on the boxes.
5. a corded drill - specifically for drilling larger holes

MACHINERY

MITER SAW:

A miter saw is one of the most important machines in your shop. It can break down large planks of timber into usable lengths, ready for your table saw and can also cut fine miters. There are a lot of saws out there. Do your homework, and find the right one for you. The right blade in the saw will be an advantage in your shop.

TABLE SAW:

The table saw is the heart of your shop, coming in all shapes and sizes, as well as a range of prices from cheap job saws, up through contractor saws to the up-market cabinet saws. If I was just starting out as a hobbyist, I would be looking to buy a second-hand contractors saw, as long as the blade can be tilted to 45 degrees and the rise and fall works well.

Again, you don't have to buy a real cheap one, a second-hand, middle of the road table saw would suit quite well. A lot of the time when buying a second-hand saw, they might have a cross cut jig that will come with the saw. Invest in a new blade.

In Australia, just about every cabinet maker uses a sliding table saw, so no jigs are required. When I had my own cabinet shop, I had a German made Altendorf F45 10 foot sliding table saw with a scribing blade, which is a small blade in front of the main blade that you would use when cutting melamine. It will score the underside of the sheet so when the main blade cut it would not leave chips in the bottom of the melamine.

It also had a 6 foot outrigger table for docking and an extendable fence so you can cross-cut up to 12 feet. The rip capacity was 48 inches.

I sold that saw when I retired and now I own a much smaller version of it. Still with all the bells and whistles, but only a 6 foot sliding table saw.

THICKNESSER AND JOINTER:

These machines are expensive. As a beginner at wood work, you have to make sure this hobby is for you before laying out a lot of money for these machines.

In the mean time, you can buy timber that is dressed all around or your local timber yard will be able to machine it for you.

Other machines that are handy, but not essential, are:

- Drill press
- Router table
- Spindle sander
- Wide belt sander
- Drum sander
- CNC router

SOMEWHERE TO WORK

It doesn't matter if you only have a shoebox to work in. Once you have made a box or two, you would have been bitten by the wood working bug. You will find over time that you will build up your skills and tools, and never look back.

PLEASE READ THE NEXT CHAPTER ABOUT SAFETY IN THE WORKSHOP

SAFETY IN THE WORKSHOP

I have been a cabbie for over 50 years and have had my fair share of accidents in the workshop. In all those years, I have only cut myself on a spinning blade once and that was in my second year of my apprenticeship. I cut the tendon in my little finger on a bandsaw.

Woodworking machines are not very forgiving if you do the wrong thing. Don't rush, think ahead, such as, having your push stick handy when using the table saw. I could give you all the safety tips in the world but it comes down to **YOU** being conscience of what you are doing and try to make it as safe as possible by using all the guards that are available on the machines. They are there to protect you from having accidents.

Making small pieces like boxes is a lot more dangerous compared to making big pieces of furniture, since the boxes you are machining have very small components which can sometimes be very hard to control. When in doubt and you are not confident,

STOP AND WALK AWAY

Think of another way to do the job, or do it with hand tools. The workshop doesn't have to be a place of scary machines. If you keep your wits about you and concentrate, you will find over time you will become more proficient with using the machines and become more confident in what you are doing.

The workshop can be a safe place if you keep it neat and tidy. Above all, have fun in your workshop! As a hobbyist, you can to pursue your passion as a woodworker, but you must do it in a safe way

MITERED SPLINED BOX WITH 4 ALTERNATE LIDS

How to make this mitered splined box:

DIM.	INCHES	MM
L -	11	280
W -	6	150
H -	2 3/8	60

1 - Prepare your stock. I like to use about 9/16 thick sides. If you only have 3/4 stock, well, that's fine.

2 - Cut sides to 2 3/8 width and over length.

2 at 2 3/8 x 12 and 2 at 2 3/8 x 7 over length.

3 - Bottom - I used 3/16 ply. Cut it out oversize, say 13 x 7, and you can re-cut it after you cut your miters.

4 - Groove all four sides to hold the bottom. Go up about 3/8 and make the groove about 3/16 deep. Check to make sure the bottom fits into the groove easily.

5 - Now, cut your miters:

2 at 11 inches sides

2 at 7 inches ends.

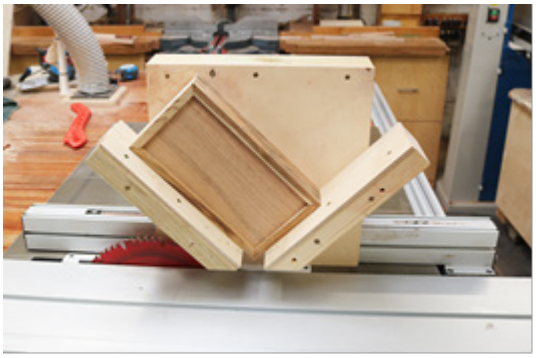
6 - Cut your bottom to size so it fits into the groove. But not too tight, as to stop the miters from pulling up tight.

7 - Ready to test with a dry run. I use the masking tape method and a box clamp. Check out the method on internet.

8 - Time to glue up. Take your time, use your small brush for the glue and check for square.

9 - After it has dried, take it out of the clamps and clean up.

10 - Now you need a spline jig. There are a lot on the internet you can make. This is mine:



My spline jig runs on top of the fence of the table saw. Easy to make, have a go.

11 - This box has two splines in each corner. Set up the spline jig and do a couple of test runs with off-cuts first.

12 - Cut your spline grooves.

13 - Now, cut your splines. They are very skinny, so be careful. Don't make them too loose or too tight.

14 -Glue in the splines and trim and sand when dry. That's it!

LID 1

DIM.

11 1/4 x 6 1/4 x 3/4

A drop-in lid rebated all the way around, about 1/4 inch deep. It's wide enough for the lid to sit snugly on the box.

You can either use a router or a table saw to do this. I routered a 45 degrees chamfer on the edges and made a good looking handle and that's all you need.

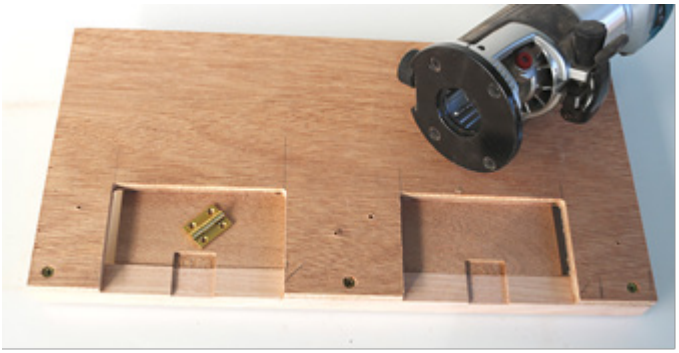
LID 2

DIM.

11 1/4 x 6 1/8 x 3/4

1 - The first of our hinge lids. A single piece of Silky Oak, with a 45 degree chamfer on the edges. It sits level on the back edge where the hinges are, and overhangs 1/8 on the other three sides.

2 - I use a double slot hinge jig for this. That way, the hinges are always the same distance from each other.



3 - I use one inch hinges and a trim router with a 1/8 cutter.

LID 3

Another hinge lid, this time it is a timber centre panel with a flush timber surround.

If I was making a door for a cabinet, I would not make it this way as timber moves, so the joins would open up. But in a small lid like this, it is fine.

1 - Prepare your stock. Cut your edge timbers to 1 1/4 x 3/4 and over length.

2 at 12 x 1 1/4 x 3/4

2 at 7 x 1 1/4 x 3/4 over length

2 - Now, this part is a bit tricky. You need to cut your centre panel to the finished size now.

The finished size of the lid is:

11 1/4 x 6 1/8 x 3/4

The maths are:

Total length of the lid is 11 1/4 - 2 1/2 = 8 3/4

Total width of the lid is 6 1/8 - 2 1/2 = 3 5/8

The 2 1/2 is made up of the width of the timber surrounds which are 1 1/4 each = 2 1/2

The centre panel is 8 3/4 x 3 5/8

3 - I use 3/16 ply as a feather that you are going to groove into the surrounds and centre panel.

4 -The trick here is to keep the grooves in the centre of the surrounds and the panel. You do this by keeping the same face up against the table saw fence when grooving. Put a pencil mark on them so you don't make a mistake.

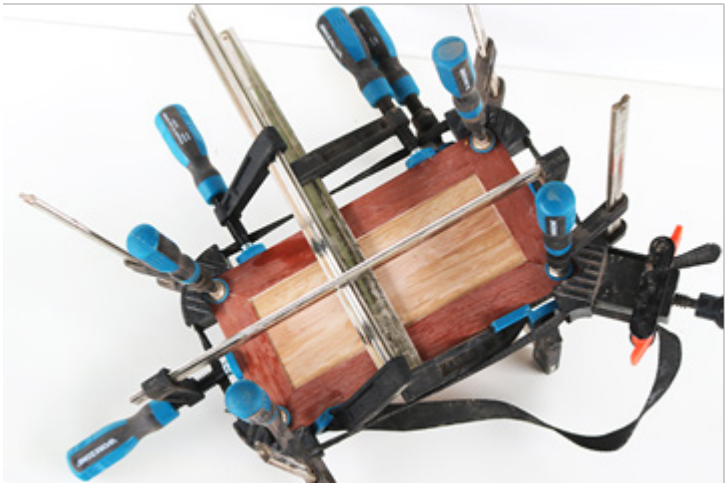
5 - Make the grooves about 1/2 deep in both the surrounds and the centre panel. Don't make the feathers too tight - make room for glue.

6 - Now, cut your feathers over length and over width, say about 13 x 1 1/2.

7 -Glue the feathers into the surrounds and let them dry. Make sure you clean the excess glue off them.

8 -Now re-cut the surrounds on the feathered side so they fit into the groove in the centre panel. Leave room for glue.

9 -Cut your miters now. This is where you have to be spot on. Take your time. There are two ways you can do this; first is to cut all your miters and glue them up as one lid:



Or you can glue one long edge and one small edge together and leave to dry. Then come back and cut and fit the other two edges so they don't move as much when you glue them. This is the safer way.

10 -After it has dried, sand up and router a 45 degree chamfer on all sides.

11 - Use the hinge jig to router them in. That's it!

LID 4

DIM.

11 1/4 x 6 1/8 x 3/4

The final lid is a recessed veneered 1/2 Birch ply centre panel with a 3/4 thick surround. You could use 1/2 inch solid timber for the centre panel as well.

1 -Prepare your stock. Cut your surrounds to 1 1/4 x 3/4 and over length, say:

2 at 13 x 1 1/4 x 3/4

2 at 7 x 1 1/4 x 3/4 over length

2 - Cut your 1/2 inch Birch ply centre panel oversize, say:

13 x 7

3 - Cut your veneer for the top and bottom of the lid. There are two ways that you can glue up a veneer lid. The first is in a vacuum bag. The second is a veneer press. I made one out of timber and a car jack… it works great!

4 - Now you need to cut a groove into the sides of the surrounds to fit the centre panel.

5 - You won't have much timber left on the sides of the surrounds after you cut the groove for the centre panel. Make it about 1/4 inch deep, so be careful.

6 - You can cut the 1/2 inch groove in the surrounds in multiple passes over the table saw; that's the safest way. Or you can use a 1/2 inch dado head.

7 - Now cut your miters to length:

2 at 11 1/4

2 at 6 1/8

8 - Fit your centre panel. Don't make it too tight so the miters don't come together. Dry fit.

9 - In this lid, you need to assemble it in one go. A box clamp to apply pressure to the miter joins.

10 - Bevel the outside edges with a 45 degrees router cutter.

11 - Use the hinge jig to locate the hinges and router them in. Sand up, and all done!

FIT-OUT

1 -Cut an oversize piece of 3/16 ply and glue padded material on with contact glue. Then cut to fit the inside of the box.

2 -Don't glue it in until after you've polished the box. I used three coats of sprayed lacquer on my boxes.

3 - I use soft wood for my trays as they are only 3/8 thick and 1 1/4 high. I glue and butt join them. You can miter them if you like. They are pinned together with either small brad nails or a pin air gun. The soft wood doesn't split as would a hard wood. Pre drill if you're using nails.

4 -Glue on small legs if you like.

DOUBLE HEIGHT CUT-OFF LID TEA CADDY BOX

DIM.	INCHES	MM
L -	11	280
W -	6	150
H -	5 1/2	140

1 -Prepare your stock. I use 9/16 thick sides, but you can use 3/4 if that's all you have.

Cut 2 at 12 x 5 1/2

Cut 2 at 7 x 5 1/2 and over length.

2 - Cut a 3/16 ply bottom at:

12 x 7 over size.

3 - Cut a top of 3/8 ply at:

12 x 7 over size.

I use 3/8 ply veneered in Walnut or solid timber if you like. Check out lid 4 for 'how to veneer'.

4 - This box is made the same way as a standard mitered spline box except it is double height and has a groove at the top to hold the veneer ply about 3/8 down from the top, and a groove at the bottom about 3/8 up to hold the 3/16 ply bottom.

5 -Cut your miters to size:

2 at 11 x 5 1/2 sides

2 at 6 x 5 1/2 ends.

6 - Cut your top and bottoms to fit into the grooves. Don't make them too tight and dry fit.

7 -Use the masking tape method to hold the miters together while gluing up. Let the ply top and bottom float with no glue. Use two box clamps to hold it together while the glue dries.

8 - After it dries, take our the clamps and clean up.

9 -Cut and glue splines in (see box 1).

10 - Cut of lid two inches down from top. Have your saw blade just high enough to cut through the sides, and then make four cuts around the box.

11 - Sand the saw blade marks off on a flat sand paper board. Check them out on the internet.

12 -Cut your butt hinges in with the double hinge jig. Make sure to line them up good. Another hinge you could use is a back mounted decorative hinge. They go on the back of the box, so no check outs. You could clamp the lid to the box so it will line up perfect. If you do use this method, use a piece of veneer as a spacer between them so they won't bind.

FIT-OUT

Inside the box, you have two smaller mitered splined boxes with drop-in lids. Same as box 1, only 1/2 inch thick.

Size of boxes:

3 3/4 x 3 3/4 x 3 with no lid.

1 -Make the drop-in lids out of 3/4 and let it overhang 1/8 all round and finish with a 45 degrees chamfer.

2 - Make a centre divided spacer tray to hold the boxes apart.

LARGE BOX WITH INTERNAL PIN LID AND TAB HANDLE

DIM.	INCHES	MM
L -	15 7/8	400
W -	10 ½	265
H -	4	400

This is a big box with an internal pin hinge lid and an integrated tab handle.

The box is a standard mitered spline box, except the sides are one inch thick and them chamfered to a shallow angle to give it a distinctive curved shape.

1 - Prepare your stock:

2 at 17 x 4 x 1 over length

2 at 12 x 4 x1 over length.

Bottom:

1 at 17 x 12 x 3/16 ply over size.

2 -Groove for bottom about 3/8 up on all four sides.

3 - Cut your miters to length.

2 at 15 7/8 x 2 sides

2 at 10 1/2 x 2 ends.

4 - Cut your bottom to suit, not too tight.

5 - Dry fit. If all good, use masking tape method and box clamps to glue up. Check for square.

6 - Cut four splines in each corner. Make them as deep as you can without cutting through to the inside of the box.

LID

After the box has dried, take out the clamps and now we are going to work on the lid as it is easier to fit when we still have square edges on top of the box.

1 - Prepare your stock:

1 at 17 x 12 1/2 x 3/4 over size.

2 - Make a jig to router out the handle. See photos:

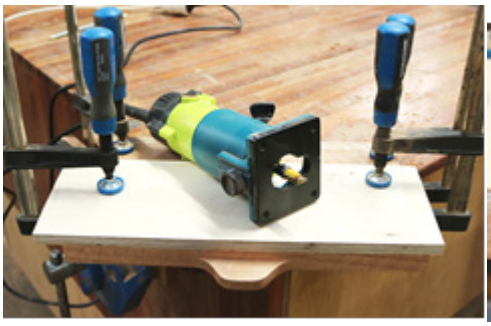
3 -Make the end of the tab handle overhang the straight by about 1 1/2 inches. I used 1/2 ply for the jig.

4 - Cut out the lid rough and clamp on the jig and trim with flush cutter.

5 - Now using the tab handle edge as a guide, fit the rest of the top to the inside of the box, leaving a small gap all the way around, between 1/16 and 1/8.

6 -Use a 1/2 inch rounded over cutter to router the lid and handle.

7 -Now router out the back of the tab handle, only down until it's about 7/16 thick. See photos:



8 -Here you can position the top to cut and router the front side of the box to hold the tab handle.

9 -The lid is going to be above the height of the box by about 1/8 so remember not to router it too deep. Take your time and do it in a few cuts.

10 - Back to the box. Router a small round to the inside of the top edge.

11 - Now we are going to cut the angles on the outside of the box.

There are two different angles; the first one comes down from the top and is at approximately 8 degrees and runs down about 3 inches. The second angle comes up from the bottom of the box at 15 degrees, about an inch up.

12 - When cutting the 8 degree angle from the top, leave about 9/16 around the top edge of the box. Take your time, try on an off-cut first and do it in multiple passes over the saw.

13 -When cutting the 15 degrees from the bottom, do the same.

14 -Sand all the saw marks off and shape it with the sander, like the photos above.

HINGING THE LID

15 - Cut two Pine packers for the lid to rest on. Remember it sits 1/8 above the sides of the box.

16 - Use spacers to position the lid. I used laminate samples for this. Then use calls to clamp the lid in position so it can't move. See photos:

Place the Pine packers across the box. If you put them the other way, you can't open the lid after it's hinged.

17 - Mark for the hinged pin. Come 1/2 inch from the back of the lid and in the centre. Mark with centre punch on each side. See photo for the bits you will need:

- 3/8 wood drill bit
- 3/8 plug cutter
- 1/8 drill bit
- Two 8 gague corse threaded wood screws, about 1 1/2 inch long.

18 - Drill a 3/8 hole in the spot you marked with the centre punch, just deep enough to hold a plug. Remember the top of the sides are only 9/16 thick.

19 -Drill 1/8 inch pilot hole into the lid.

20 -Now, screw in the screw. Just nip it up, take your time and use a bit of soap on the screw thread to help it along.

21 - Once you have done both sides, take off the clamps and packers and slowly open.

22 - Adjust the screws to get the right balance. Cut the plugs and glue in.

23 -Sand up the plugs and fit it out to your liking. That's it, finished!

DRAWER BOXES

Over my 50 years of cabinet making, I have made thousands of drawer boxes for kitchens and furniture. 90 percent have been your face fitted standard drawer box. Only about 10 percent have been dovetailed for fine furniture. As this book is for beginner and intermediate box makers, there will be no dovetails used.

NO DOVETAILS!

I make small drawer boxes almost the same way that I make large drawer boxes. I start by making a carcass to fit the drawers into. In larger drawer boxes, I would use metal drawer runners, but in small drawer boxes, there is no need.

I will go through this in three steps:

1. Making the carcass

2. Making and fitting the drawers

3. Attaching the drawer fronts and fitting the timber ends and top.

MAKING THE CARCASS

There are two different ways of making a drawer box carcass:

1. First is where the drawers rest on the bottom of the box (this is the easier way)

2. Where you have timber drawer runners, rebated into the sides of the carcass and also the sides of the drawers. I have used both ways in this book.

I will go through the first way of making the carcass.

Carcass size:

DIM. INCHES MM

L - 12 300

W - 6 1/8 155

H - 6 1/2 165

The carcass is made out of 1/2 Birch ply with shelves to hold each drawer. Glued and either nailed or screwed together, with a 1/2 Birch ply back.

1- Cut two ends out of 1/2 Birch ply at:

W - 5 5/8

H - 6 1/2

The width is 5 5/8 because we take off the 1/2 inch for the back measurement first.

2 -Cut the top and bottom and two centre shelves the same size which is:

4 at 5 5/8 x 11

MARKING OUT THE SHELVES

When the box is finished, we want all the drawer fronts to be the same height but you will find that all your drawers aren't the same height. The centre drawer will be a little bit larger.

3 -Stay with me here. The height of the drawer box is 6 1/2 so we want all three drawer fronts to be the same height when the box is finished.

6 1/2 ÷ 3 = 2 3/16 almost

Mark a line on the sides, 2 3/16 up from the bottom and 2 3/16 down from the top and they will be your centre of your shelves. See photo:

2 3/16 = 53mm

4 -Iron on veneer to the ply edges that face the front of the box.

5 - Now, assemble with glue and either nails or screws. Remember to keep the shelves in the centre of the lines.

6 -Cut a 1/2 inch Birch ply back which should be:

6 1/2 x 12 inches

And fix to the back of the carcass. That's it, the carcass is finished.

THE DRAWERS

I like using soft woods for my drawers as they are easier to nail and won't split the timber.

I know they wear more than hardwood, but this is a jewellery box. You can use hardwood if you like.

1 -Prepare your stock. I use 1/2 inch thick timber for the drawers so cut your stock oversize for now.

6 at 7 x 2 1/2 x 1/2 sides

6 at 12 x 2 1/2 x 1/2 fronts and backs oversize.

Now you need two sides and a front and back for each drawer. Put them in three separate stacks and mark them.

2 -Now cut each drawer to the right height with about 1/8 gap so it will slide easily. You will see that the centre drawer is bigger.

Now we work on the drawer bottom.

I use 3/16 ply with a padded material glued on top to finish it off. The groove you have to make into the drawer sides has to be wide enough to take the bottom with the material glued on.

3 -Cut:

3 at 13 x 7 x 3/16 which is well oversize and glue on the material with contact glue.

4 -Now, let's groove for the bottoms in the sides and the front. Start your groove about 5/16 from the bottom and go about 3/16 deep. You only have to groove your sides and the front.

5 -Re-cut the back of the drawer from the top of the groove to the top of the drawer so the bottom can slide in later.

6 - Cut your drawer sides to length which will be 3/8 less than the interior depth of the drawer carcass.

7 -Insert the two sides into the drawer hole and cut the front and back to length. Not too loose, not too tight… see what feels right.

8 -Assemble the drawers with glue and brads. If you have a small nail gun, you can use that, or a hammer and nails works just as well.

9 -Assemble the first drawer and check it in the hole. All good? Do the other two, and check for square.

That's the carcass finished and the drawers installed. Now, there is one decision you have to make; whether you want the timber ends extended up to the face of the drawers or the drawer fronts to cover the ends (as I have done in this drawer box). Either way is good.

10 -Prepare your stock for the sides and back.

2 at 9 x 6 1/2 x 3/4 over length

1 at 15 x 6 1/2 x 3/4 over length.

Cut and miter the timber back and glue onto the back of the carcass.

Miter your sides at one end only and cut square with the front of the box and glue up.

11 -Cut splines if you like.

12 - Drawer fronts, prepare your stock.

Cut:

1 at 15 x 7 x 3/4 oversize (that way you can get your drawer fronts out of one piece of timber and the grain will match up).

13 - Lay the box on its back and cut and fit your drawer fronts, leaving a gap in between for clearance.

14 -Now, you must stand the box upright when fitting the drawer fronts. You know when I told you to leave a 3/8 gap at the back of the drawer sides? There is a reason for that. Cut a 1/2 inch ply packer to sit at the back of the drawer. That makes the drawer stick out past the front by 1/8 of an inch.

15 - Now start at the bottom. I use a combination of wood glue and super glue to hold the drawer front while the glue dries.

This shows how I glue up the drawer fronts on the other drawer box, but it's just the same. I used laminate samples as packers to make the gaps. The super glue will hold it until you get a couple of clamps on it. Make sure it doesn't move and do the same on the other two drawers.

16 -Cut a top out of 3/4 stock. Make it flush with the drawer fronts and overhang it by 1/8 on the other three sides and glue on.

17 -When dry, trim with flush router cutter.

18 -Round over all edges, even the drawer ends, but not the long edges of the drawers.

19 -Make small handles and fit with glue.

20 -Make and fit small feet so the bottom drawer won't scrape on the surface.

21 -Sand it all up and finish as you like. I used three coats of sprayed lacquer.

22 -All finished, except for the drawer bottoms. Cut the bottoms to fit into the grooves and overhang to the back of the drawer. Don't make it too tight. I use little screws to hold the bottom on. That's it. All finished!

DRAWER BOX 2

The only difference between drawer box 1 and drawer box 2 is that drawer box 2 has rebated drawer runners and the sides are flush with the drawer fronts.

1 - Cut the carcass the same way as the first drawer box, but with no shelves.

2 -On the sides of the carcass, mark out where the drawer fronts sit. Remember, the drawer fronts are all the same height.

3 -Fit the drawers **in between** those marks, and that gives you the height of each drawer. Allow clearance on top and bottom.

4 -Cut an off-cut of the drawer sides and first groove for the bottom. Then mark where the rebate has to be in the drawer sides. I use 1/2 inch drawer runners and the rebated is about 3/16 deep into the sides. You will find that you will have to rebate towards the top of the drawers, otherwise it might be too close to the groove that holds the bottom of the drawer. See what you think.

5 -Transfer the marks where you are going to rebate the drawers onto the side of the carcass.

6 -I have a 1/2 inch dado head which I use for rebates, but multiple passes over the table saw will do the trick.

7 -Once you have rebated the sides and drawers sides, glue your draw runners into the sides.

8 -Assemble the carcass and drawers as like box 1.

9 -Now, you need to cut and fit your drawer fronts before you glue on the timber sides and back, as the sides come flush with the drawer fronts.

10 -Allow for a small gap at each end of the drawer front when attaching them to the drawer.

11 -Now, you can glue the back and sides like in box 1.

12 -The rest is the same as box 1.

BOX 1

If you are a beginner, start here.

The humble pine box; it can be the start of a wonderful world

of box making, by turning a piece of pine timber from the big box store, into an object that has so many uses. It can give so much enjoyment to the box maker and also the recipient.

Box 1 is just a simple mitered box, with a rebated, rounded over, drop-in lid. It is finished with three coats of sprayed lacquer.

See the 'How To' series.

TIMBER	DIM.	INCHES	MM
Pine	L -	8 1/4	206
	W -	4 3/4	120
	H -	2 5/8	65

BOX 2

After making box 1, let's start dressing it up by using different timbers as an accent.

In this box, I have used Jarrah, a deep-red timber that comes from Western Australia. by using splines in the corners, it not only looks great, but strengthens the miter joint as well. I have also installed a Jarrah insert that rises about 1/2 inch above the top of the box to give it a shadow line. Also, I have cut down the size of the lid to give the box a 'stepped' look. It's finished with three coats of sprayed lacquer.

See the 'How To' series.

TIMBER	DIM.	INCHES	MM
Pine	L -	8 1/4	206
Jarrah	W -	4 3/4	120
	H -	3 1/8	78

BOX 3

Let's continue from box 2. I have installed a Jarrah handle which is cut at 60 degrees at each end and then glued onto the lid.

I have added small legs that sit on the bottom of the box, approximately 1/2 an inch. I grooved out the bottom with a 1/2 inch dado head and then cut the ends of the legs at 45 degrees to give the box a totally different look.

See the 'How To' series.

TIMBER	DIM.	INCHES	MM
Pine	L -	8 1/4	206
Jarrah	W -	4 3/4	120
	H -	3 7/8	98

BOX 4

In box 4, I have added a hinged lid of solid pine overhanging all the way around, with rounded over edges and a white padded bottom and pine dividers that add another dimension to this box. It's finished with three coats of sprayed lacquer.

See the 'How To' series.

TIMBER	DIM.	INCHES	MM
Pine	L -	8 1/4	206
Jarrah	W -	4 3/4	120
	H -	2 5/8	68

BOX 5

Do you see the progression? How you only have to add small highlights to change the image of the box? In this box, I have added a hinged lid overlapping all the way around, even at the back, because it will keep the lid upright when open and doesn't let the lid fold all the way back. I have also installed a bevelled Jarrah surround.

I have given the box a fit-out with a white padded bottom and dividers to form different compartments. It's sprayed with three coats of sprayed lacquer.

See the 'How To' series.

TIMBER	DIM.	INCHES	MM
Pine	L -	8 1/4	206
Jarrah	W -	4 3/4	120
	H -	2 5/8	68

TIMBER	DIM.	INCHES	MM
EU Rosewood	L -	9 7/8	250
Australian Beech	W -	5 1/2	140

BOX 6

This is just your standard mitered splined box with a drop-in lid and a fitted out interior. It's just like box 3 in the beginner series, but it just pops with class because of the timbers and the thick angled lid.

The timber in this box is European Rosewood, a stunning timber with it's flashes of dark red. The lid is 2 inch thick Australian Beech, cut at 45 degrees all around and rebated to fit and with a Rosewood handle. Very easy to make and with the right timbers, it looks great.

HANDY HINTS:

1. When cutting the 45's on the saw, take a lot of small cuts. It's safer and won't stress the blade too much.

2. Remember, if you are not confident using the saw, find another way or use a smaller lid. Just adapt the boxes to your skill level - they will still look great.

TIMBER	DIM.	INCHES	MM
EU Rosewood	L -	16	400
Jarrah	W -	6 3/4	175
Celerytop Pine	H -	6 3/4	175

BOX 7

This is one of the bigger boxes. Looks complicated, but if you break it down, it's just a standard mitred splined box just double height. It has a bottom compartment and a drop-in top, fitted-out tray. I have rebated a 1/2 inch groove into the sides to fit the rail for the legs to be attached. The legs also have a 1/2 inch groove to fit the rail. Simple angled legs with EU Rosewood glued on the top and bottom.

I like to use very shallow angles on a lot of my lids. I think it gives them a slim line appearance. You can achieve this by either using a hand plane and sander (that's the safe way) or by making a jig for your table saw. Make sure the legs are clamped securely. Overall, it's a beautifully proportioned box.

BOX 8

Box 8 is one of the simplest and elegant boxes you can make. It is just two pieces of timber, hinged together with butt hinges with different size holes drilled into the bottom. There is a flat base at the bottom of the holes to fit a padded insert.

I have chosen two totally different timbers in appearance and thickness. The bottom timber is Tasmanian Celerytop Pine which is 2 inches thick and bevelled at 45 degrees. The top timber is African Wenge with a smaller 45 degree bevel, and at half the thickness (1 inch) of the bottom timber.

A very easy and stunning box.

TIMBER	DIM.	INCHES	MM
EU Rosewood	L -	12	300
Jarrah	W -	5 1/4	135
Celerytop Pine	H -	3	75

BOX 9

A stock standard mitered splined, fitted-out box with a one piece hinged angled lid. This is one of the easiest boxes to make and looks great. Just because the box is simple and easy to make, doesn't distract from it's overall good looking appearance.

The lid of the box is over hanged by about 1/8 on three sides and by 3/8 on the back where the hinges are. After the lid is hinged, when opened, the back of the lid rests up against the back side of the box to keep the lid upright. Only check the hinges into the side of the box only. Try it out on some off-cuts first and see what you think.

TIMBER	DIM.	INCHES	MM
Fijian Mahogany	L -	11	280
African Zeberano	W -	6 7/8	175
	H -	3 1/4	85

BOX 10

Our first drawer box - which is really two of the same box built with different timbers. Just like a bigger drawer box, I start off with a 1/2 inch Birch ply carcass glued and either nailed or screwed together to form the drawer box. The drawers are just a standard drawer, as seen in the 'How To' series.

I have separated the boxes with two large legs, set in the centre of the boxes to give it stability. On the lids, I have used finger jointed Oak just to show that you can use modern timber techniques that look just as good. You can get that timber at the big box store. I have used red resin at the back of the handles as a highlight.

TIMBER	DIM.	INCHES	MM
Bottom box - Cypress Pine	L -	12	300
Top box - Merbu	W -	6	150
Top - finger jointed EU Oak	H -	9	230
Legs - Merbu and Pine			

BOX 11

The first of our cut-off lid boxes with a lift out tray. I have left the bottom of the tray bare, just to show that you don't have to fit out every box the same way.

With it's curved centre division, it becomes a focal point when you open the box. I have used screw-on decorative hinges at the back as a highlight and the top of the box lid is veneered 1/4 inch Birch ply.

See the 'How To' series to assemble this box.

TIMBER	DIM.	INCHES	MM
Box - Tasmanian Myrtle	L -	11	280
Top - Blackheart Hickory Veneer	W -	6	150
Tray - Fijian Kauri	H -	5 1/2	140

BOX 12

Box 12 is not a box at all. It's a crossover between art and woodwork. As a jewellery box, it still works well.

The routed out centres of the leaves are a bit smaller as they rise so you can see some of the different timbers when it's closed. It look spectacular when it's open. I have used a single piece of 3/8 all thread rod with washers and spacers and a nut on the bottom and a nut on the top which fits into the small top timber cover.

With 8 different exotic timbers, anyone that loves natural look of timber will be enthralled by it's looks.

TIMBER (from bottom to top)	DIM.	INCHES	MM
Australian Blackwood	L -	12	300
Australian Kauri	W -	9	230
African Paduk	H -	8 1/2	215
African Wenge			
Australian Silky Oak			
Fijian Mahogany			
African Zebrano			
Australian Jarrah			

BOX 13

The pencil box with all the different coloured pencils. Set against the natural look of American Walnut and topped off with spiral rubbers. It is a very striking box. A bit tricky to make, but again, if you break it down into smaller pieces, it won't be that hard.

1. The box is a simple mitered splined box. I made the spines larger than usual, just for effect.

2. The ends of the pencils are inserted into drilled holes in a piece of Pine 1 1/2 thick that is glued into the bottom of the box.

3. Remember to allow enough room for the Pine that holds the pencils at the bottom of the box when groving for the bottom ply. Allow about 1 3/4 and that allows the Pine to be up 1/4 inch from the bottom of the box.

4. In the centre of the pencils, drill two holes, one each end, to hold a 3/4 dowel. Try to make them invisible. They have to be exactly the same length and the pencils.

5. Screw the bottom into the dowels, dress up the top of the box with spiral rubbers and then you have a great looking pencil box.

TIMBER	DIM.	INCHES	MM
American Walnut	L -	9 3/4	250
	W -	6	150
	H -	10	255 (to the top of the timber lid)

TIMBER	DIM.	INCHES	MM
Base - Blackwood	L -	23	585
Box - Australian Maple	W -	7 1/2	190
& Fijian Mahogany	H -	13 1/2	345
Gate frame - Birdseye Ash			
Caps - American Maple			
Handle, rails & centre support - Wenge			

BOX 14

Japanese gate box - where art meets box making again.

1. First make the centre box which is 1 1/2 high and the ends are cut at 22.5 degrees and butt jointed on the sides.

2. Cut the drop in lid and sand a curve on top.

3. Add the ends and sand to fit the top of the box. All the big joins on the gate will have a 1/4 dowel to join them.

4. I have used square pieces of Wenge for rails in the gate supports which means you have to cut square mortice holes, an easier way is to use round 3/8 dowel and paint them black.

5. The maple caps are just glued on. The top two are glued on so you can drill on your 1/4 dowel through them to hold your top pillars.

The rest you can see in the photo.

For all the boxes I have made for this book, every one I've asked thinks this one is one of the best.

There are six different timbers that go to make up this box; from the Blackwood base to the Birdseye Ash on the main support of the gate.

Take your time. Do things in order and have a crack at it. You might even surprise yourself.

BOX 15

This is the sister box of box 7. Where they differ, is that this one is made out of Celerytop Pine with Jarrah surrounds and also the cross-section legs which are glued underneath the rail for a totally different look.

Again, the lid overhangs by 1/8 on three sides and about 3/8 on the back, so after it is hinged, the lid will stay upright when opened. Make sure you only check the hinges into the side of the box. Try it on some off-cuts first. The trays only have butt jointed ends and divisions. You could miter them if you'd like - I have a 23 gauge headless pin air gun and with a bit of glue and pin gun, they go together good. But if you don't have a pin gun, use small brad nails and a hammer. They work just as well. Be sure to pre-drill with a pilot hole first.

The contrasting timbers in both boxes go to make elegant boxes indeed.

TIMBER	DIM.	INCHES	MM
Celerytop Pine	L -	13	330
Jarrah	W -	6 3/4	170
	H -	6 1/2	165

BOXES 16, 17, 18

Our first set of three bigger boxes. I have made one of them in the 'How To' series. With their unique, slight, angled shape and their internal pin lid, they are some of my favourite boxes.

Remember in the timber description of Huon Pine, I said I had enough to make two box lids. Well, this is them, in boxes 16 and 18, separated by the rich, red Jarrah lid of box 17.

See the 'How To' series to make this box.

BOX 16

Check out the lustre of the Huon Pine top with it's golden honey colour and it's streak of darker wood, through the centre of the lid, have made the box out of Blackwood, which is another Tassie timber. I wish I had a lot more Huon Pine to explore the possibilities of the different boxes I could make with it.

The interior fit-out I have used is Western Red Cedar. I mainly like using softwoods for the trays as it doesn't spilt when you nail it. The bigger in-built tab handles make the Huon Pine top flow out of the box. Overall, it's one of my best boxes.

In the 'How To' series, I have made one of these.

TIMBER	DIM.	INCHES	MM
Top - Huon Pine	L -	16	400
Box - Blackwood	W -	11	280
Tray - Western Red Cedar	H -	4	100
Tray insert - Redwood			

BOX 17

Who said Pine can't look great? The Pine I have found for this box has very straight grain; no knots or blemishes and a blonde colour with it's Jarrah splines, this box just pops!

The deep, rich, red colour of the Jarrah lid and the routed in Pine tab handle let into the front side of the box, give it's a great look against the Jarrah of the top.

It is fitted out with a padded white base and a Redwood tray. The centre block is fitted out also, to hold rings and small jewellery. I acquired the Redwood from an old house they were demolishing. It was well over 100 years old and they used the Redwood for all the skirting boards and architraves. Now it has found a new home as trays where people can appreciate it once again.

TIMBER	DIM.	INCHES	MM
Top - Jarrah	L -	16	400
Box - Pine	W -	11	280
Tray - Redwood	H -	4	100
Tray insert - Redwood			

BOX 18

As you can see on box 18, the slight angle of the sides of the box is only 8 degrees from the top and terminated, not in the centre, but 3/4 down from the top. The angle up from the bottom is more steep, at 15 degrees. When you sand the sides, it gives you a very distinctive shape.

The Birdseye Ash, with Jarrah splines, go to make up a great looking box. I have purposely not filled the Birdseye with either putty of black resin, as the Birdseye holes are part of it's character. With the Huon Pine top and the red fit-out interior, this box shines.

TIMBER	DIM.	INCHES	MM
Top - Huon Pine	L -	16	400
Box - Birdseye Ash	W -	11	280
Tray - Fijian Kauri	H -	4	100

BOX 19

The Aztec pyramid - you know sometimes when you get an idea for a box and you just start making it but you have no idea how it's going to evolve… well, this is one of them.

1. I started by gluing up three pieces of 1/2 Birch ply for each level with a 3/4 inch finger jointed Beech timber on top.

2. Then cut the four sides at 22.5 degrees on the three different levels to go to make up the pyramid.

3. The sides are clad in 1/2 inch Spotted Gum, but if I made it again, I would use 3/4 timber which would allow more space for the stairs.

4. The stairs are just one piece of about 5/16 Wenge, glued on top of each other and stepped back 3/16 inch on each other. Made in a long length and docked to suit.

5. The top two levels spin on one pin of 1/4 aluminium. Very easy.

6. Drill 2 1/4 inch holes into the levels and cut padded material to suit.

7. Top it off with a Paduk disc as a highlight.

And there you have it! Another box that is more art than box. Have a go!

TIMBER	DIM.	INCHES	MM
Tops - Beech	Bottom -	12x12x2 1/4	300x300x54
Sides - Spotted Gum	Middle -	8x8x2 1/4	203x203x54
Sides of stairs - US Maple	Top -	4x4x2 1/4	100x100x54
Stairs - Wenge			
Top disc - Paduk			

BOX 20

The first drawer box in the 'How To' series I go through how to build a three drawer box in detail. Well, this is the same except that the top two drawers have divisions in them to make a two drawer run and a three drawer run. The ends of the box float past to line up with the drawers which makes for a much cleaner look with small drawers.

After I glued the Wenge top to the plywood carcass, I routed it flush with the back and the sides.

In the back of the box I have used box joins for something different. If I had a proper jig, it would've been easier, but I managed.

The timbers seem to match quite well, with the pink of the Karri, the light brown of the Ash and the darkness of the Wenge. It looks good.

TIMBER	DIM.	INCHES	MM
Box - Plantation Ash	L -	12 ¾	320
Drawer fronts & feet - Karri	W -	6 3/4	165
Top & handles - Wenge	H -	8 1/2	215
Drawers - Western Red Cedar			

BOX 21

I called them Centennials because they stand up tall and by themselves. You can use them as a single or multiples or maybe a companion to a bigger box, all sorts of different situations.

They came about as I had some off-cuts of thicker timber while I was making the Aztec pyramid with the swing pin hinge and realised that I could use the swing pin hinge on top of the Centennials. I machined the timber to 2 1/2 inch square and cut the tops at 22.5 degrees, then came down two inches and cut the tops off square. drill a 2 inch hole and add a padded insert

Make sure you cut the tops at 22.5 degrees first as they will be too small to cut afterwards.

They look great at all different heights with rounded over sides.

TIMBER	DIM.	INCHES	MM
Teak	L -	2 1/2	64
Blackbutt	W -	2 1/2	64
Silky Oak	H -	8 1/2	215
Jarrah		5 ½	140

TIMBER	DIM.	INCHES	MM
Box - Tassie Oak	L -	12	300
Top - Celerytop Pine veneer	W -	7	175
	H -	3 3/4	95

BOX 22

A while ago when I had my cabinet shop, work was scarce. That's when I decided to make some jewellery boxes and this is one of them. It's made of Tassie Oak timber and Jarrah splines and I have installed small feet to lift if off the table.

It is fitted out with a black interior but there are two distinctive highlights of this box. The first is the lid which is only 1/2 inch thick and the centre panel is veneered Celerytop Pine and I have routed a marquetry strip around the edges. Refer to the 'How To' series to see how the lid is assembled.

The only difference is that I routed in the marquetry strip before I assembled the lid.

The other tricky part is the hinges. I have used cigar box hinges which are very hard to fit as the arm of the hinge has to be inserted into the side of the box right on the corner. If you want, give it a go but try it out on some off-cuts first.

BOX 23

Tassie Blackwood is one of my go to timbers for class and elegancy. What a lustre it has so I have made this box out of it with no other timbers added. It doesn't need it.

The box is a standard mitered spline box with a flush one piece rounded over lid. I have used an extenuated rounded over router cutter to give it a very tactile look. When using big router cutters, don't take too much timber out at a time. Do it in multiple cuts.

Also, I have used 3/8 barrel box hinges on this box. Very easy to fit. I just glued them in with a epoxy glue. Make sure to keep working the lid as the epoxy dried.

TIMBER	DIM.	INCHES	MM
Box - Blackwood	L -	11	280
Tray - Redwood	W -	6	150
	H -	3 1/2	90

TIMBER	DIM.	INCHES	MM
Box - Queensland Maple	L -	12 1/4	310
Top & drawers - Zebrano	W -	8	200
Legs - Tassie Oak	H -	9 1/4	235

BOX 24

An unusual looking drawer box. The first thing you notice is that the drawers are at 22.5 degrees so the bottom drawer is a lot deeper than the top drawer.

In the 'How To' series, I show in detail how to build a standard three drawer box. The only difference is that this one is on a 22.5 degree angle. Also in the photo, you will notice I have used different drawer runners set-up by routering them in into the side of the drawer. This is a lot harder see the second drawer box in the 'How To' series

Remember everything at the front has to have a 22.5 degree angle. The drawers and the top are out of Zebrano and the sides and back are Queensland Maple. With the skinny Tassie oak legs, it's set to impress.

BOX 25

This box's main purpose is to hold necklaces as you see with it's tall, skinny profile. I have given it a Centennial on each side to help with it's stability. The main box is made out of Hoop Pine with Yellow Stringy Bark as the top.

The door is made out of engineered Blackbutt with a Wenge clasp and 3/8 stainless steel rod that go to make up the hangers. Again, I have used 3/8 barrel hinges, glued in with epoxy. Remember to keep working the hinges as the glue dries. The Centennials are joined onto the box with Walnut and Pine spacers.

Overall, it's definitely different.

TIMBER	DIM.	INCHES	MM
Box - Hoop Pine	L -	12 1/4	310
Top - Yellow Stringy Bark	W -	4	100
Door - engineered Blackbutt	H -	15	380
Centennials - Wenge & Karri			

BOX 26

Remember when I said I had acquired a sample book of veneers? Well, this box is made out of two of them. In the 'How To' series, I show you how to make a recessed centre panel top as the one you see here. Also, the sides are made the same way, only smaller.

I have used 3/4 Jarrah as the timber frame and veneered 1/2 Birch ply as the inserts. The veneer on the top is Jarrah Burl and the veneer on the sides is Okmo which I have never heard of. It could be a man-made veneer. The interior is a standard fit-out but a good looking box nevertheless.

TIMBER	DIM.	INCHES	MM
Top - Jarrah Burl veneer	L -	11	280
Top frame - Jarrah	W -	6 1/2	165
Sides - Okmo veneer	H -	4 1/4	110
Tray - Redwood			

BOX 27

A different box altogether. A Japanese toolbox with it's sliding lid and chunky handle, the two Ash frames protect the sides from wear and tear. It's big enough to hold your hand tools; very practical and an easy one to make.

1. Machine your standard cut-off top box except bigger, with a groove for the bottom and a groove to fit your sliding lid. Cut down one of the smaller sides to the bottom of the groove then assemble the box.

2. Make your Ash frames around the box and add a handle.

3. Square up the miters, Fit your sliding lid and glue a stopper on.

That's it! Done!

The main box is out of EU Rosewood. The sap wood gives it a nice touch and the lid is Queensland Red Cedar.

TIMBER	DIM.	INCHES	MM
Box - EU Rosewood	L -	16	400
Handle - Blackwood	W -	8 1/2	215
Lid - Queensland Red Cedar	H -	5 1/4	132
Frames - Tassie Oak		(height is to the top of the box, without handle)	

BOX 28

This is a tea caddy box with two Maple internal boxes. The box itself is a standard cut-off lid design. Check out the 'How To' series to make this box.

What a striking timber American Walnut is, with it's fantastic grain structure and the internal American Maple boxes form an eye-catching combination.

The Wenge and Paduk drop-in lids are a pleasant surprise when you open the box. The top of the lid is American Red Gum veneer on 1/4 ply.

This is another variation for a use of a box.

TIMBER	DIM.	INCHES	MM
Box - Walnut	L -	11	280
Interior boxes - Maple	W -	6	150
Lids - Wenge & Paduk	H -	5 1/2	140
Top - American Red Gum veneer			

BOX 29

It doesn't look like it, but this is just your standard mitered, splined drop-in lid box. The box sides are 1 1/4 inch Birdseye Ash with double thickness splines and then I sanded the crap out of it until I got this very tactile rounded shape. You just want to keep rubbing your hands over it.

It's fitted out with a Paduk tray and a great looking curve cross handle. A smart looking box indeed.

TIMBER	DIM.	INCHES	MM
Birdseye Ash	L -	9 1/2	240
Paduk	W -	5 1/2	140
	H -	5 1/4	133

BOX 30

Box 30 differs from your standard mitered box in a few ways. The box sides are 1/2 inch Birch ply, veneered in a Scarlett Mahogany which is another veneer out of the sample book I got.

The frame around the top is Tiger Jarrah, the legs are Paduk and I have kept all the parts of the box in the same timber colours to enhance the look of the top which is engineered Blackbutt. I like it. It's very dense and stays flat.

It overhangs the box by 1/8 inch on three sides and a 5/16 inch on the back. The hinges are set into the back side of the box only so the lid will stay upright when opened. The interior is a standard fit-out. Great box, especially the legs.

TIMBER	DIM.	INCHES	MM
Box - Scarlett Mahogany veneer	L -	12	300
Legs - Paduk	W -	6	150
Frame - Tiger Jarrah	H -	4 1/4	108
Top - Blackbutt			

BOX 31

This is the first box with all box joins. They look great against the Ash. Another first for this box is the use of resin on the top. It's a very simple routed elliptical shape about 1/4 inch deep and filled with coloured resin.

The box is a standard double height box with an upper pull-out tray and glued in 3/8 barrel hinges with epoxy. Keep them working as the glue dries.

The top is a one piece over-hanging lid about 5/16 inch all the way around to keep the lid upright when opened.

TIMBER	DIM.	INCHES	MM
Box - Ash	L -	10	255
Top - Fijian Mahogany	W -	6 1/2	165
Tray - Fijian Kauri	H -	5 1/2	140

BOX 32

X marks the spot! I found the lightest and darkest timbers I could find, and this is the result. A stunning drawer box (see the 'How To' series).

Because you have an internal drawer carcass, the outside timbers are just glued on so you can make a shape like an 'X' on the top easily by gluing each piece on separately. That goes for the back and the sides too.

I have flush routed the top and rounded over all sides, even the ends of the drawers and have made them overlap the ends of the box. Alternatively, you can make it the other way around where the ends overlap the drawers. Either way, it's a great box.

TIMBER	DIM.	INCHES	MM
American Maple	L -	12 1/2	315
African Wenge	W -	7	180
Drawers - Pine	H -	8	203

BOX 33

Another different use for a box. This time I have made a coin box. To start with, it is a standard three drawer box (see the 'How To' series).

The top is 1 5/8 thick with a veneer centre panel. The other timber that surrounds the top is called Heava. I think it's an Asian timber and I got it from the big box store. The drawers are fitted out with a blue velvet material and a laser cut 1/8 plexiglass insert.

The handles are Australian 50c coins and the top coin display sets the coin box off quite well.

TIMBER	DIM.	INCHES	MM
Box - Blackwood	L -	14 ½	368
Top - Heava, veneer	W -	8	200
	H -	8	200

BOX 34

A unique double sliding lid jewellery box. I started off by making the base which is two pieces of 4x2 Red Gum cut at 45 degrees, about an inch down and glued together to form the base. I then cut two sides with long 45 degree miters and 45 degree groove to hold the sliding tops.

The hardest part was to cut out and fit the two 22.5 degrees angled mitered end panels. Try it out on some off-cuts first to get your angles right. Fit the top sliding lids and fit-out the interior to your liking. It's a bit complicated but take your time, build it up from the base and you will have a unique box to be proud of.

TIMBER	DIM.	INCHES	MM
Base - Red Gum	L -	17	432
Sides - engineered Birch	W -	7	180
Lid - Western Red Cedar	H -	6 1/2	165
Handles - Red Gum			

BOX 35

It's called the 'Village of the Dam'. Timber comes from nature, as does rock so why not join them together that is more art than box? The rock came out of a river and I wonder how many thousands of years of water running over it to smooth and round the edges as they are?

The river is about 1/4 inch deep and the hardest thing was sealing around the base of the rock before pouring the resin. The huts are small miter boxes. The distinctive lids make the scene of the village realistic.

TIMBER	DIM.	INCHES	MM
Base - engineered Blackbutt	L -	21 1/2	550
Huts - EU Rosewood	W -	9 1/2	240
Lids - Beech	H -	5 1/2	140

BOX 36

The Canester box is a series of diminishing boxes with the tallest centre box make out of Sassafras Blackheart to give it a focal point before the cascading outer boxes take your eye out to the small boxes at the ends.

As you might have noticed, I like using a lot of different timbers in my boxes, and this is no exception. Seven different timbers have been used.

In the middle three boxes, I have set the bottom up and is approximately 11/2 inches down from the top of each box so you can reach the bottom. The very small end boxes are fake.

The centre box is 4 inches square and each other box is set back about 5/16 all the way around. They are all glues together. Simple.

TIMBER	DIM.	INCHES	MM
From centre box out:	L -	24 ½	622
1 - Sassafras Blackheart	W -	4	100
2 - Western Red Cedar	H -	5	127
3 - Eu Oak			
4 - Celerytop Pine			
5 - Beech			
Tops - Tassie Oak			
Handles - Blackwood			

BOX 37

This is a standard mitered box with the corners cut off to form a traditional jewellery box shape. I didn't use any splines in this box as on the corners they would be too close together. The box was a bit tricky to assemble. I cut a 45 degree spacer on each corner then used a box clamp. Take you time.

A standard fit-out with a padded base on the inside, the lid has a moulding all round. Machine the mould in multiple passes as it is safer and comes up better.

TIMBER	DIM.	INCHES	MM
Sides - Teak	L -	11	280
Top - Queensland Fiddle Back Maple	W -	7	180
Dividers - Western Red Cedar	H -	4	100

BOX 38

My mate was installing a new fence and he gave me all the old fence posts which are Red Gum - a great pick up for me! I also took some of the old fence palings and this is the box I came up with.

I started off by making a 1/2 Birch ply tube then glued on the fence palings. I then trimmed it all out in Red Gum off the posts and added two drawers made out of the old palings and attached two slides for feet.

I tried to keep it on the rough side a bit by only lightly sanding the palings. I love it! Goes to show that you don't have to be perfect in all your box making.

TIMBER	DIM.	INCHES	MM
Ash fence palings	L -	15	380
Red Gum	W -	6	150
	H -	6	150
		(including feet)	

BOX 39

This is one of my older boxes I made when cabinet making work was scarce. I have mitered every edge on this box, even the top and then rounded them over. I have used the dreaded cigar box hinges again. Have a crack if you like, but hard to fit.

I have inlayed the top with a marquetry strip by making the top the same way as in the 'How To' series, but routering them in before assembling the top. I then cut the top off about 1 3/4 inches down. A double stack fit-out with the top handle of the tray that sits above the sides to form a distinguishing box.

TIMBER	DIM.	INCHES	MM
Tassie Myrtle	L -	12	300
Top - Silver Ash veneer	W -	6 1/2	160
Trays - Silver Ash & Jarrah	H -	6	150

BOX 40

There is a lot going on in this box with the angled drawer boxes.

1. I started off by cutting the top and bottom the shape I needed which is a centre with two 45 degree wings. I made the centre drawers a bit longer than the ones on the wings. I think it looks better.

2. I then made up three standard small drawer boxes out of 1/2 Birch ply and screwed them onto the top and bottom.

3. Fit the build-ups which are between the drawer fronts cut at 22.5 degrees between the centre boxes. The rest is like a standard drawer box. See the 'How To' series for more.

4. Fit and miter the outer skin. I used a Walnut wedge as a highlight in the back.

5. Fit and miter the top. Let it overhang at the back and sides.

6. Trim the top off with a flush cutter and round over all sides.

There you have it, quite a bit of work but not that difficult.

TIMBER	DIM.	INCHES	MM
American Walnut	L -	17 1/2*	445
American Maple	W -	4*	100
African Paduk	H -	5 1/2	140

*L back point to back point.

* W each wing.

BOX 41

A 22.5 angle symmetrical slimline three box and rock piece. The light brown colour in the rock blends into the rest of the piece and I have given it a coat of clear resin set into the base by about 3/8 of an inch. I routered the hole larger than the rock and filled it with red resin to hold it in place.

The three boxes are aligned at 22.5 degrees and are set back in line with each other. The Jarrah inlay in the drop-in lids matches the red resin that holds the rock.

An interesting box.

TIMBER	DIM.	INCHES	MM
Base - Fijian Kauri	L -	22	560
Box sides - Leatherwood	W -	9	230
Box tops - Cyprus Pine & Jarrah	H -	2 3/4	70

BOX 42

I have combined two ways of timber edging in this box. The lid surrounds are flushed with the centre insert. It was a bit tricky to accomplish as the centre insert is Honey Zebrano veneer on 1/2 Birch ply. If you press too hard on the sander, you can sand through the veneer very easily.

The sides are recessed Tuscan veneer on 1/2 Birch ply (see the 'How To' series). A bit taller than normal, this box has a presence about it with it's Honey Zebrano lid and white interior… it is just superb.

TIMBER	DIM.	INCHES	MM
Top - Honey Zebrano veneer	L -	12	300
Side inserts - Tuscan veneer	W -	7	180
Timber surrounds - Karri	H -	4 1/4	108
Trays - Western Red Cedar			

BOX 43

Another bigger box. As you can see in the photos, this box has cut-out sides to form legs. With the four splines in the corners, it gives the appearance of a sturdy and strong box. Combined with the blue resin inlay, which is about 1/4 inch deep, the lid had 3/8 barrel hinges glued in with epoxy. Remember to keep working the hinges are the glue dries.

An unusual box, with the blue resin, but the timber choices seem to match up well.

TIMBER	DIM.	INCHES	MM
Fiddle Back Myrtle	L -	13	330
Top - Beech	W -	9	230
	H -	4 1/2	115

TIMBER	DIM.	INCHES	MM
Drawer - Pine	L -	11 1/4	285
Handle - Wenge	W -	6 1/2	165
The rest - a heap of different timber	H -	5	125

BOX 44

One Sunday morning I was watching a woodworking show on the net and he was making woven cutting boards out of timber. Of course, I then rushed out to my workshop and starting making one.

I glued it up, but it had a couple of gaps in it. After I got it out of the clamps, I put it in the corner and it sat there for weeks.

I wanted to make a bigger one drawer box, so I made the 1/2 inch Birch ply carcass and a Pine drawer and now I had to cover it in timber. I swear it called out to me, "Use me, use me!" So I did.

I didn't have enough for the drawer fronts so I glued up a straight grained one and I didn't miter the joins as they wouldn't match up. Rounded over all the edges and there you had it. It was great fun to make.

BOX 45

An unusual looking box - a bit like a strange animal. I started off by making a Blackwood tube with oversized splines and a Jarrah skirt around the middle. I then made a set of extenuated X shaped legs.

Cutting the ends of the tube at 15 degrees to take the squareness off the tube, then gluing it in between the legs on edge. I cut some Pine at 45 degrees and drilled 11/2 inch holes. Add in Jarrah ends to the Pine and there you have it. I call him Harvey.

TIMBER	DIM.	INCHES	MM
Tube - Blackwood	L -	12	300
Legs - Fijian Kauri	W -	7	180
Tray - Pine	H -	8 1/4	208
Ends of tray - Jarrah			

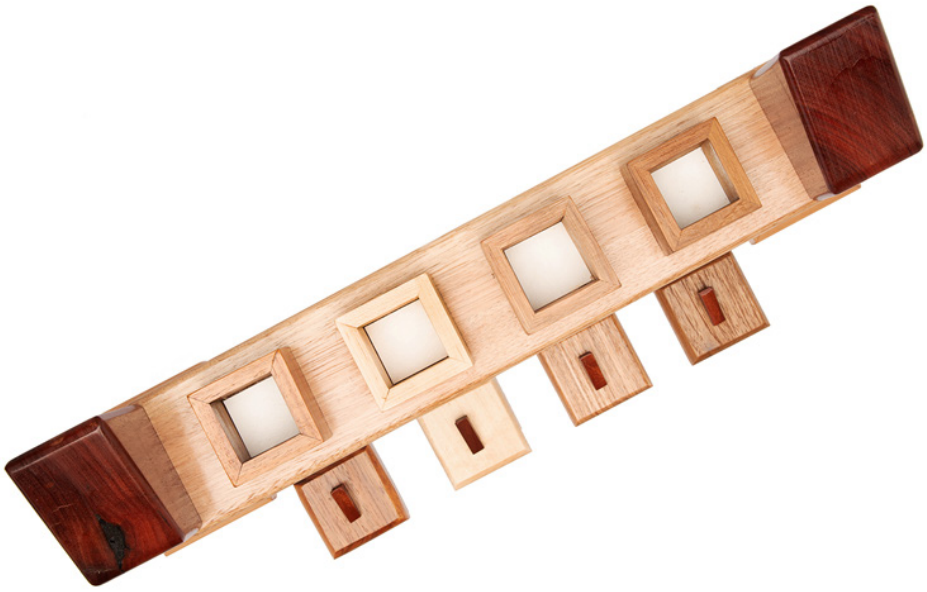
BOX 46

As a kid back in the 60s, a lot of your staples were home delivered, like milk, bread and soft drinks. They came in great, big, coloured vans. But there was one that all of us kids used to hang out for: the ice cream van.

Up on the shelf, there was an ice cream cone holder in which the ice cream man would put the cones so they wouldn't fall over.

This box takes me back to my childhood. Made of seven different timbers, the four little boxes remind me of different flavours and the handles are the cherries on top.

Good memories.



TIMBER	DIM.	INCHES	MM
Ends - Red Gum with Beech plinths	L -	19 1/4	490
Shelf - Tassie Oak	W -	3 1/4	80
Cones - Blackwood, American Maple, Blackbutt & Teak	H -	8 1/2	210

BOX 47

Here's one that will do your head in; everything is cut at 22.5 degrees. It's still your standard drawer stack, five drawers high with a Birch drawer carcass. All drawers are cut at 22.5.

The curve sides protrude past the back and the base has to be long enough to give the box stability.

The Fijian Kauri strip on the top lines up with the handles that lead your eye to the base that is of the same timber. The drawer are Karri. The sides are Blackwood and the back is Australian Red Cedar.

Hard to make, but well worth giving it a crack

TIMBER	DIM.	INCHES	MM
Base - Fijian Kauri	L base -	12 1/2	310
	L box -	6	150
Top - Jarrah w/ Fijian Kauri strip	W -	6	150
Sides - Blackwood	H -	16	410
Back - Australian Red Cedar			
Drawer fronts - Karri			
Drawers - Redwood			

BOX 48

A combination box featuring two drawers and a jewellery box lid with a resin in-lay. Start by making a standard two drawer box and extending all sides up past the top of the box by 2 1/2 inches.

The sides are thicker than usual at 11/16 and I have used 3/8 barrel hinges. Glued in with epoxy, remember to keep working them as the epoxy dries.

The resin in-lay is only 1/4 inch deep and I have used a yellow green colour resin.

Very cool.

TIMBER	DIM.	INCHES	MM
Sides - Silky Oak	L -	11	280
Top & drawer fronts - Teak	W -	6 1/2	165
Drawers - Pine	H -	8	200

BOX 49

From one of my bigger boxes to one of my smallest… it's a slide lid pencil box. An easy box to make and one you will use a lot.

A standard mitered box with no splines as the sides are only 3/8 thick. I replaced the bottom with the same timber as the top which is Sassafras Blackheart only 5/16 thick.

Groove your sides and ends to take that top and bottom then cut one end down to the bottom of the top groove. Square up the protruding miters and glue on a handle stop to suit.

TIMBER	DIM.	INCHES	MM
Box - Queensland Fiddleback Maple	L -	8 1/2	210
Top & bottom - Sassafras Blackheart	W -	3 1/4	82
Handle - Wenge	H -	2 3/4	70

BOX 50

I have used light coloured timbers in this box and Jarrah legs to make it pop.

This time, the sides and ends are 1/2 inch Birch ply, veneered in fine line Tassie Oak. A standard mitered box, but this time with no splines as I feel they would detract from the Jarrah legs. The top is a recessed centre panel of 1/2 inch Birch ply, veneered in swirl Rosa.

Another man-made veneer with a tall tray and black lined base… not a bad box at all.

TIMBER	DIM.	INCHES	MM
Box - slim-line Tassie Oak veneer	L -	11	280
Top panel - swirl Rosa veneer	W -	6	150
Edges - Tassie Oak	H (with legs)-	4 1/4	108
Legs - Jarrah			
Tray - Western Red Cedar			

BOX 51

The pyramids are an ancient structure with secret chambers and that's where I got my inspiration from.

This box has a secret chamber under the main pyramid with a swing pin hinge to reveal the chamber.

It must have taken thousands of people to make the pyramids and I can out do that.

The base timber is old Karri. It came from a running board of an old Melbourne tram in service for 50 years, so I estimate that over one million people have stepped on this piece of Karri.

That's why I left it as it is. Amazing.

TIMBER	DIM.	INCHES	MM
Base - old Karri	L -	8	205
Big pyramid - Blackwood 7 Heava	W -	5 1/8	130
Small pyramid - Heava	H -	7	178

BOX 52

This is one of my older boxes; a standard double height mitered splined box fitted out with a lift-out top try and a black interior.

The lid is hinged with cigar hinges and the top is veneered with Myrtle and a in-lay strip. The edges have a shallow angle on them which adds a great look to this box.

The timber is Fijian Mahogany. I made this box about six years ago and it has aged superbly to a rich orange colour.

It has stood the test of time.

TIMBER	DIM.	INCHES	MM
Box - Fijian Mahogany	L -	11	280
Top - Myrtle veneer	W -	6 1/2	165
Trays - Fijian Mahogany	H -	8	200

BOX 53

Another one of my older boxes. It has a presence about it with its double tray height and all edges being mitered and rounded over, even the top. It's very tactile. You just want to rub your hands over the rounded corners.

The top panel is a Burl veneer but I have forgotten which timber it is and the in-lay edge banding sets it off great. The top tray covers the hidden bottom section of the box and the cigar box hinges go to make it one of my favourite boxes.

TIMBER	DIM.	INCHES	MM
Box & trays - Jarrah	L -	12	300
Top panel - Burl veneer (?)	W -	6	150
	H -	6	150

BOX 54

If you have a special necklace for a loved one, this is the box for you. Designed to hold just one necklace.

I took inspiration from a curved rail bridge over a river I saw in Ireland on my travels. A tall slim-line structure to give the illusion of great height above the river. Is it art of box?

With an Ash base, blue resin river and a centre island, four slim-line pillars stand on Paduk plinths. A routered out undercarriage of Blackwood and an Ash deck hide a curved entrance to a padded tray

I enjoyed making this box immensely.

TIMBER	DIM.	INCHES	MM
Base - Ash & blue resin	L -	14 1/8	360
Plinths - Paduk	W -	7	178
Pillars - Walnut & Ash in-lay	H -	8 1/2	216
Under carriage - Blackwood			
Deck - Tassie Oak			

BOX 55

I wanted to make a box out of all blonde timbers and veneers and this is it; an interesting look with swirling, blonde, Banksia veneer.

A standard mitered box made with 1/2 inch Birch ply and veneered with Birdseye Maple. No splines. A blonde Pine surround covers the top edge of the box. The top has a Maple surround. Be very careful when sanding the top after you attach the Maple edges (see the 'How To' series) as you can sand through the veneer very easily. A Pine tray and a white padded bottom with small legs… great looking box indeed.

TIMBER	DIM.	INCHES	MM
Top - Banksia veneer w/ Maple	L -	11	280
surrounds	W -	6	150
Box - Birdseye Maple veneer	H -	3 1/2	88
Tray - Pine			

BOX 56

I only had a small piece of Tassie Leatherwood left so I made an upright pencil box with a curved Australian Red Cedar divider. I found the Leatherwood to be brittle and would crack easily. They make furniture out of it in Tassie but not my favourite timber but an interesting grain structure.

As a pencil box, it works.

TIMBER	DIM.	INCHES	MM
Box - Leatherwood	L -	4	100
Dividers - Australian Red Cedar	W -	4	100
	H -	5 1/2	140

BOX 57

The first box in this series. I have used finger jointed Beech for the box and lid. I just wanted to show that modern looking timber can have a great look about it and if all that's available from your big box store, go with it.

The stripes are horizontal and made from Blackwood and with a grey interior, sets it off quite well.

TIMBER	DIM.	INCHES	MM
Box - finger jointed Beech	L -	10	253
In-lay - Blackwood	W -	6	150
Tray - Redwood	H -	3	75

BOX 58

The second box in this series is still a standard mitered splined box with an internal pinned hinge lid (see the 'How To' series). This time it's made of Karri with vertical and horizontal stripes.

It brings the series of the three boxes together. The stripes are Pine with a white interior. It works well as a set as each of them pop.

TIMBER	DIM.	INCHES	MM
Box - Karri	L -	10	253
In-lay - Pine	W -	6	150
Tray - Redwood	H -	3	75

BOX 59

In this last box of the set of three, they all have the same shape and dimensions but made of different timbers and different in-lay patterns on the tops.

I wanted to show that boxes can stay the same but with different tweaks, it can change their looks.

This box is a standard mitered spline box with a pin hinged lid (see the 'How To' series) with two vertical Jarrah stripes, a red interior and small legs.

TIMBER	DIM.	INCHES	MM
Box - Tassie Oak	L -	10	253
In-lay - Jarrah	W -	6	150
Tray - Redwood	H -	3	75

BOX 60

To me, this box is all about the handle. It has a Japanese feel about it with its four pillars and a strip of Paduk sandwiched between two Blackwood pieces. The shape is very distinctive Japanese.

The height of the box is striking as well. I have ran the grain of the box vertical to accentuate the height and have left the thickness of the sides at 5/8 of a inch.

The two Jarrah feet and the Paduk lid go to make an interesting box for sure.

TIMBER	DIM.	INCHES	MM
Box - Tassie Oak	L -	6	150
Lid - Paduk	W -	4	100
Feet - Jarrah	H -	9 3/4	247

BOX 61

This is another box made out of blonde timbers but with striking veneered panels. The four mitered recessed panels go to form the box (see the 'How To' series).

The top of the box has also got a veneered flush mounted panel between American Maple surrounds. The interior is white padded material and a Pine tray.

Good-looking box all round.

TIMBER	DIM.	INCHES	MM
Box panels - washed Zerbrano veneer	L -	11	280
Box surrounds - Hoop Pine	W -	7	178
Top panel - watered Ash veneer	H -	4	100
Surrounds - American Maple			
Tray - Pine			

BOX 62

Tall rock, tall box. A necklace box with a companion rock with it's own shelf for draping chains over.

Set on a Karri base with red resin to implant the rock, I have installed a cut-off side of Jarrah to match the cut-off side of the rock. The hangers are 3/8 stainless steel and the handle of the door is a river pebble on Queensland Fiddleback Maple. Hinged with 3/8 barrel hinges, another match between natural elements.

TIMBER	DIM.	INCHES	MM
Base - Karri	L -	15	380
Box - Tassie Oak	W -	5	125
Door - Queensland Fiddleback Maple	H -	15	380
Top - Jarrah			

BOX 63

Another one of my older boxes. This time it's a keep safe box. The only time I have used piano hinge and a chain stay to hold up the lid.

It has an angled front panel and matching angle top edge. I used 1/2 inch Karri ply which I rebated in from the back. The box is made out of old Jarrah. I have found that the older the Jarrah, the darker it is. The lid was plain looking, so I cut a circle of Red Cedar to dress it up. It works well.

TIMBER	DIM.	INCHES	MM
Box - Jarrah	L -	12	300
Lid - Karri ply & Red Cedar	W -	10 1/2	166
	H -	3 1/4	83

BOX 64

I call it the 'Floating Box'. It's a slim line counter levered box. The Maple stripes of the base line up with the stripe on the floating box. An easy box to make.

I secured the box onto the angled support with glue and screws and cut plugs to cover them up.

Made of four different timbers… it's a bit of fun.

TIMBER	DIM.	INCHES	MM
Base & top - American Walnut	L -	11	280
Angle support - Red Gum	W -	5 1/2	140
Floating box - American Maple & Beech	H -	7 1/2	190

BOX 65

An unusual way of constructing a box. I just glued layer and layer of 1/2 Birch ply together and left the holes for the drawers to fit in, then covered the sides with 1/2 inch mitered Fijian Kauri. The Red Gum top was also mitered in. The drawer fronts are face mounted onto the box with horizontal stripe pulls for handles and small 3/4 legs.

Yeah, you could say it's different.

TIMBER	DIM.	INCHES	MM
Box - Fijian Kauri	L -	11	280
Top - Red Gum	W -	6 3/4	170
Drawers - Pine	H -	4 3/4	120

BOX 66

I found a beading router cutter in my router drawer and ran it in the centre of a piece of 3/4 Jarrah, then cut a 22.5 degree angle on the top and bottom. Mitered it into a small box, added a drop-in lid with 45 degree angled Silver Ash stripes on the corners and fitted it with a red interior.

A small elegant box that you might find in your powder room with potpourri or next to your bed to hold your rings.

Simple yet elegant.

TIMBER	DIM.	INCHES	MM
Jarrah	L -	5	125
In-lay -Silver Ash	W -	5	125
	H -	2	50

BOX 67

The Centennials make up their own box with a kidney shaped base and at three different heights, they rest there ready to keep safe your rings and jewellery.

Their swing lids reveal their compartments of white padded material. The contrasting timbers to go make it a box for all seasons.

TIMBER	DIM.	INCHES	MM
Base - Karri	L -	12	300
Cenntinals:	W -	6	150
1 - Fijian Mahogany	H -	5 1/2	140
2 - American Maple	H -	7 1/4	185
3 - Blackwood	H -	9	228


SWAN
ROCK
SWANS


SOUTH MELBOURNE
SYDNEY SWANS
PREMIERSHIPS VFL AFL
BROWNLOW MEDAL WINNERS
1909
1915
1933
2005
2012
1940 BERNIE MATTHEWS
1949 RON CLEGG
1955 FRED GOLDSMITH
1958 BOB SKILTON
1965 BOB SKILTON
1970 PETER BEDFORD
1977
1981
1988
1995
2003
2006
SWANS

BOX 68

A change of pace now. A box doesn't need to be made of timber to be functional. This is a painted M.D.F box in football colours of the Sydney Swans.

With an angled front and fitted out in the red and white colours, everybody will want one to support their team.

I know that no beginner box maker would have a laser to engrave the letters, but a hand painted box will come up just as well.

TIMBER	DIM.	INCHES	MM
Pigmented lacquer on M.D.F	L -	11	280
	W -	7	178
	H -	3 1/4	82


MIGHTY
Cats
CATS


GEELONG F. C.
PREMIERSHIPS VFL AFL
1925 1963
1931 2007
1937 2009
1951 2011
1952
BROWNLOW MEDAL WINNERS
1924 EDWARD GREEVES JR.
1951 BERNIE SMITH
1962 ALISTAIR LORD
1969 PAUL COUCH
2007 JIMMY BARTEL
2009 GARY ABLETT JR.
CATS

BOX 69

The mighty Geelong Cats is my team in the AFL which is Australian Rules Football. Another one like the previous Swans box, but I wanted to point out that it's not paint, but coloured sprayed lacquer. That's how you get the very smooth finish.

I laser engraved the clubs achievements into the back of the lid to give the interior a footy look.

TIMBER	DIM.	INCHES	MM
Pigmented lacquer on M.D.F	L -	11	280
	W -	7	178
	H -	3 1/4	82


Joan

BOX 70

The last box in this epic journey. A white sprayed lacquer box with a message for the receiver.

A young friend of mine wanted to make a box for his mum so we made it together. I am always willing to help someone enjoy the process of making a box. Making a box with your own hands is so rewarding and you will remember it all your life.

TIMBER	DIM.	INCHES	MM
Pigmented lacquer on M.D.F	L -	11	280
	W -	7	178
	H -	3 1/4	82

NOTES

METRIC CONVERSION CHART

INCHES	CM	MM	INCHES	CM	MM
1/8	0.3	3	13	33	330
1/4	0.6	6	14	35.6	356
3/8	1	10	15	38.1	381
1/2	1.3	13	16	40.6	406
5/8	1.6	16	17	43.2	432
3/4	1.9	19	18	45.7	457
7/8	2.2	22	19	48.3	483
1	2.5	25	20	50.8	508
1 1/4	3.2	32	21	53.3	533
1 1/2	3.8	38	22	55.9	559
2	5.1	51	23	58.4	584
3	7.6	76	24	61	610
4	10.2	102	25	63.5	635
5	12.7	127	26	66	660
6	15.2	152	27	68.6	686
7	17.8	178	28	71.7	717
8	20.3	203	29	73.7	737
9	22.9	229	30	76.2	762
10	25.4	254	31	78.7	787
11	27.9	279	32	81.3	813
12	30.5	305	33	83.8	838