

THE CUTTING EDGE



A periodic magazine that celebrates the activities of the Shed and its members

Volume 1 No. 22

Autumn/Winter 2020

Member Profile ~ *Joe Fletcher*

I was born in 1928 at Cootamundra in the Riverina district of New South Wales where my parents were publicans in the small township of Bethungra. While I was still a child, the family moved to Cowra and became the publicans of the Australia Hotel. I attended school there until we moved to Sydney.



During our time in Cowra, Charles Kingsford Smith, and others, were aerial circus barnstorming and, much to my delight, for the considerable sum of 6 shillings, my father got me a flight on the Southern Cross aircraft with Kingsford Smith as pilot.



It was in Cowra that I suffered an accident with caustic soda (a common household item in those days) and was partially blinded in the left eye.

Cars were not common then, so the hotel had horse stalls and a groom for the convenience of the local rural people. Due to the economic effects of the 1930's depression, the family sold out when I was aged six to leave Cowra and move to Sydney.

My woodworking experience started the hard way. Dad bought me a fret work saw when I was eight or nine years of age and, when our school geography studied the rivers and towns of Australia and we had to draw the map of Australia to fill them in, I cut out a template of Australia from 3 ply and allowed others in my class to use it. This was not appreciated by my teacher, so I was sent to the headmaster to be 'chastised'. So much for initiative. Marbles were very popular at the time so, using a small timber board, I cut out five arches to allow the marbles through with a betting number over each arch and invited other marble owners to test their skill. The result was that I ended up owning most of the marbles in the school. Once again, I was sent to the headmaster for further corrective treatment. The result of this is that I have been seriously opposed to gambling my whole life.

Because of the difficult economic times, the family became fairly mobile which resulted in me attending several primary schools, until dad got permanent work at Bunnerong Power Station.

We moved into a cottage at Matraville on the day war started; 3rd September 1939. I was sent to a junior commercial school and subjected to a teacher who practised excessive caning, which resulted in me stuttering to the extreme. More enlightened advice at the school arranged for me to attend speech therapy sessions to cure this situation. Then, at age 14, I transferred to a junior technical school where I was assessed. This led to me entering a pre-apprentice course run by Sydney Technical College. There, I was introduced to engineering lathes and machinery. All our practice items assisted the WW2 war effort. In the following two years I did all the theory of two trades, electrical fitting and fitting turning and machining. This qualified me to become an indentured apprentice with the Sydney County Council in March 1945. I was paid 1 pound 7 shillings and 4 pence for a 44 hour week. The award for the 40 hour week was implemented later that year. My apprenticeship experience was quite wide ranging e.g. turbines, boilers, rigging loft, operating staff and efficiency staff. Then I was introduced to the drawing office where I gained a position as a detail draftsman, after completing my apprenticeship.

There I was, 21 a draftsman, with regular hours and a reasonable wage so, what does a young man do? My interests were; bushwalking, the ecology with several walking clubs, church fellowship and minimal interest in study for further qualifications.

I had always wanted to go to sea, so I studied and sat for the A part of the 2nd Marine Engineer Certificate, I passed then did nothing more about it until a few years later, when I met my future wife Myra. We courted in the normal way for about 12 months, then we came to an agreement that I should go to sea to gain the B, practical part, of the Marine Engineering Certificate. So I boarded the S.S. Changte in 1957 as 5th engineer.

This ship, along with her sister ship Taiping, sailed between the east coast of Australia via the Torres Straits to Borneo, the Philippines, Hong Kong to Japan and return. The round trip was about ten weeks and so reliable that we knew where we would be a year ahead. The period at sea gave me life-time experience and maturity and was my first experience of foreign cultures, laws and habits. With the exception of the officers, all the crew were Asian, mostly Chinese, speaking several different languages.

One of my experiences is told in our July Cutting Edge newsletter entitled “The Lesson of the Lifeboat”.



I came ashore and married Myra in 1958. I obtained a position as a contract design draftsman, working at the Kurnell oil refinery on design and construction. Then, in 1959, we departed to the U.K. for a period of 2 years. During our stay in England I worked for the international construction company, John Brown on several international projects – Russia, Africa and Persia (Iran). Most of these projects were terminated in the ‘cold war’ period. In London, we lived just off Lavender Hill, Battersea (or Clapham Junction). From there, we went on tours to Europe, weekend drives in the country from the south, to far into the north, Scotland. We both worked in London and spent a lot of our weekends walking the streets of old London. As it was only 15 years after the second world war there was still a lot of bomb damage, especially in the East End area. We walked through bombed-out narrow streets with low brick walls, looking into open

cellars. Quite an experience. We hired a narrow boat on the Thames and spent several days travelling up the river, passing Eton School and watching the students rowing, then on past Windsor Castle to Henley and north. The river locks were delightful, they all had a pub next to them.

We went skiing in Austria at Hoch Soden, in February 1961, where I witnessed a snow avalanche, which resulted in the deaths of two women. I watched rescuers unsuccessfully search for the victims with long rods. About two hours later, a helicopter arrived with a sniffer dog, which found the two bodies, within minutes. After our week of skiing, we went on to Venice where we hired a car and drove to Italy and the South of France. Whilst walking on the Boulevarde on the Cote de Azure, we inhaled the aroma of some eucalyptus trees which invoked such strong feelings for home that we decided it was time to return to Australia.

The choice was via the USA or overland via India. We chose the latter so, in September 1961, we set out from St Pancras Railway Station London on a 70 day trip with Indiaman Tours across Europe to Turkey, then via Iran, Iraq, Baluchistan and Pakistan, roughly following the route of Alexander the Great, then into India and Bombay. During the trip we visited the exotic places and buildings that are now so well known. We also saw the Blue Mosque and the San Sofia Mosque in Istanbul. We were supposed to go to Jerusalem in the Holy Land, but the war around Syria forced us to change plans and go via the Black Sea, past Mt Ararat (where we camped one night at the foothills) and on to the Caspian Sea. We



then went south from the Caspian Sea, visited Teheran, Isfahan and camped in the ruins of Persepolis.



We went to Zahedan, to the western end of the railway line, built by the British Raj, to inhibit the Russians from getting a warm water port on the Indian Ocean. On to Quetta and Lahore and across the border into India near Amritsar. We visited the Golden Palace of the Sikhs on one of their holy days, then down through India, the Taj Mahal the Ajanta Caves and on to Bombay (now Mumbai). We boarded the Stratheden at Bombay and sailed home to Australia in December 1961.

We settled into our home at North Turramurra in 1962 and it was in these years that I became interested in practical woodworking and started making items of furniture, e.g. a couple of bedside tables, a long low table for our four children to play on and other items of use for the house.

Prior to joining the Government Architect's Branch in 1964, I worked for several engineering

companies on design and construct, one of which was John Thompson. It was just after the Cuban Crisis and the price of sugar had risen worldwide so we were contracted to build boilers for sugar mills on the east coast of Australia and in the Philippines. We missed out on the contract for Hawaii because the Japanese took payment in sugar.

The picture at left was taken of Joe at work in the late 1980's



Until my retirement from the Government Architect's, my work was principally engineering services for hospitals, mostly focused on air conditioning for controlled medical environments – operating theatres etc. This work was rather unique because we used 100% outside air to inhibit contamination.

After retirement I came to realise that there was not too much for me to do, unless I got involved with bowls, or similar sports. I decided to get in touch with Hornsby Council and they referred me to Les Sandford of the Hornsby Woodworking Men's Shed in April 2010, about six months before the Shed relocated to its present site in Sefton Road.

The following years gave me great enjoyment, and socialisation. It also gave Myra and myself rest and respite from each other for a couple of days a week and allowed us to pursue our individual interests. Myra was still involved in part-time work and, by joining the Shed, it gave me new male companionship and the experience of toy making and further skills in woodworking such as using the lathes to turn wood.

The Shed should be proud of its ability to encourage men and women of all ages to join together to talk and laugh while learning new skills which makes them think thus keeping the little grey cells working.

Joe is a regular sight at the Shed, as these pictures attest:





The Final Voyage Of The Ruby Princess – A Personal Perspective

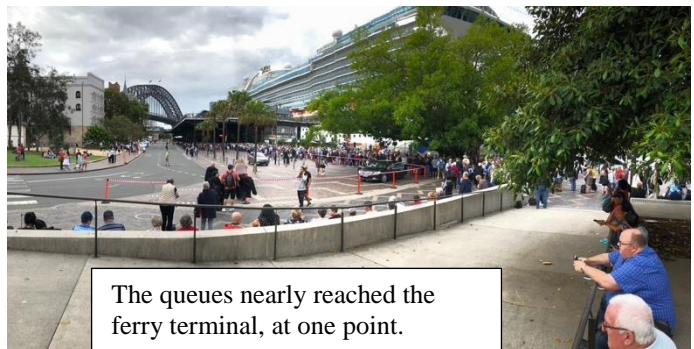
By Philip Hirshbein

It was around noon on 8 March 2020 that we arrived at Circular Quay to board the Princess cruise for our round trip to New Zealand. The COVID situation had developed to an extent that made us nervous about the risks of taking such a cruise, but we had paid a lot of money (over \$7,000) and it was too late to cancel. We received a series of text messages advising that our boarding had been delayed because disembarkation of the previous passengers was still in progress. Then, later, Ruby Princess had yet to be given approval by NSW Public Health for guests to embark. We were told that we could check in but not board and to go and buy lunch. Then, a few hours later, dinner – both of which they would pay for. After receiving the text message below, we finally boarded at 7.00 pm. The original departure time was 6.45 pm.



We were armed with Glen 20 sprays to ensure that our cabin was well sanitised. After that we relaxed and started to enjoy our large cabin, the balcony and the ship's amenities, while avoiding full lifts and other crowded venues. This was our fifth Princess cruise and, we have to say, it was rated the best. With so many cruise days accumulated we were entitled to certain privileges such as priority boarding, a private dining room and lots of spending money. The staff were great and the guests were very friendly. This was a medallion ship – we were issued with a small round device (see photo at right) to wear that identified us when we approached the restaurant, it unlocked our cabin door when we were close, allowed us to pay for drinks and access Wi-Fi. You could use it remotely to order things like drinks then it allowed them to track your location.

Normally, while on a cruise, you could remain blissfully unaware of what is happening in the rest of the world but on the fourth day, it caught up with us.

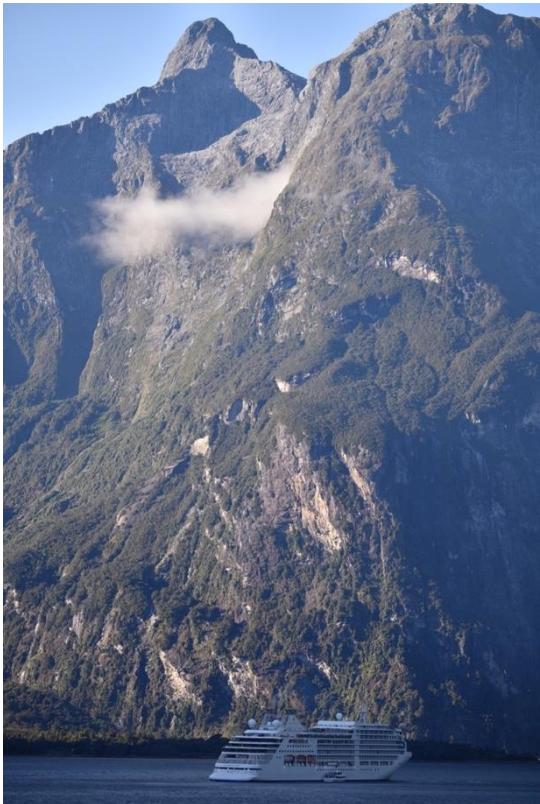


The queues nearly reached the ferry terminal, at one point.

"Ruby Princess has been given clearance to commence embarkation. As the outside terminal area is now congested and to help us facilitate the embarkation process, we ask guests who have checked in to leave and enjoy the surrounding area for dinner as Customs and Security will take time and patience to board all guests. Guests can return and be onboard by 9 pm. Revised sail time is now 10 pm. We thank you again for your patience and understanding"



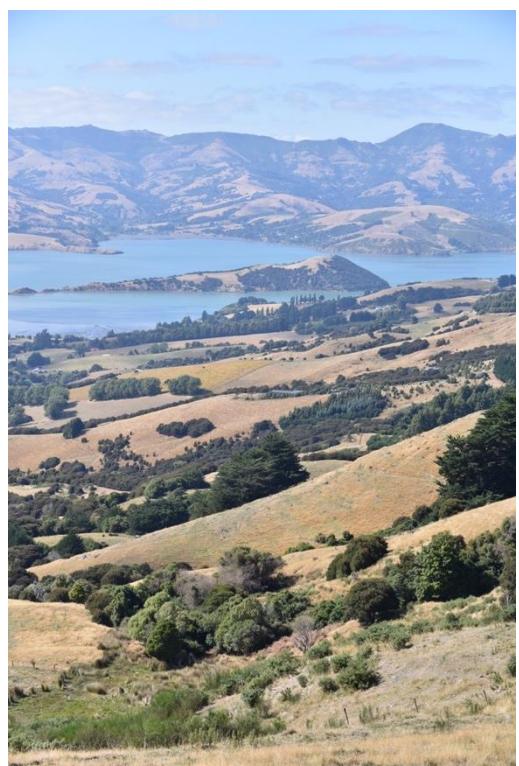
But, before that, we had a scenic cruise of the fiords followed, the next day, by an enjoyable tour of Dunedin and the Otago Peninsular where I'm always impressed by the quantity of logs awaiting export.



Then, back to reality. That evening, 12 March, we received the first of many announcements related to the increasing global devastation wreaked by COVID-19. *"Princess Cruises will pause operations for 60 days..... the World Health Organisation has now officially classified the COVID-19 outbreak as a global pandemic."*

But we were in New Zealand, the weather was perfect, shipboard life was most enjoyable. We avoided crowded venues and made the most of the ship's many delightful amenities, including movies on deck, complete with hot snacks from the nearby food bars. We enjoyed our suite and the endless variety of scenes from the balcony.

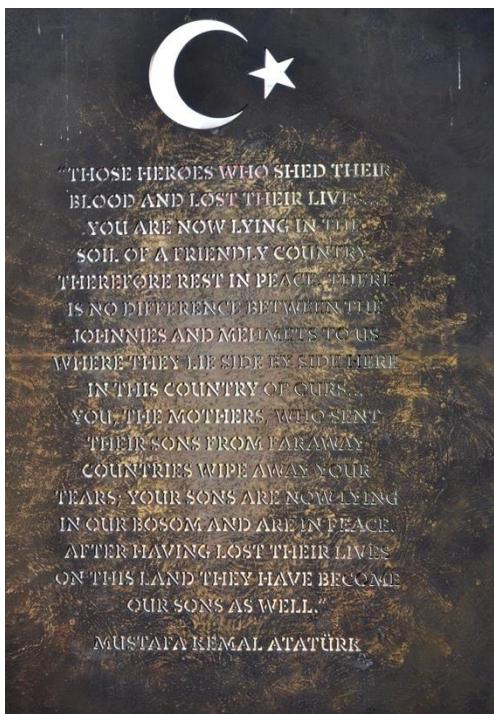
Next stop was Akaroa (13 March) and a tour of the area, ending at the Giant's House with its magnificent gardens, statues and mosaics. See picture below, right. This small town has a French flavour and is a showcase of the magnificent rolling hills that personify New Zealand. See the photo at right. The picture below is the tender returning to the ship, anchored in Akaroa's picturesque harbour.





Early the next day, 14 March, we were moored off Wellington, where we had an interesting tour of the city. A prime attraction for us is the cable car going from the centre of Town to the Botanic Gardens.

Sights of Wellington:



This Wellington city building is a timber construction, designed to simulate stone. Very impressive!

By 7.00 am the next morning we were moored off Kaiwharawhara, a commercial port, judging by the familiar stacks of logs, outside Napier. We were blessed with another beautiful day with scenery to match. This town was rebuilt in the art deco style after being demolished by an earthquake in 1931. The locals welcome visitors by dressing for the period and driving cars to match.



We were farewelled by a Trad jazz band playing at the docks.



That evening, 15 March, everything changed. A number of documents were delivered to our cabin. Extracts follow:

From: Australian Government Department of Health

Title: Information for international travellers

Symptoms of COVID-19Isolation guidance ...All travellers must isolate for a period of 14 days after they have entered Australia. What do I do if I am sick right now? Let a member of the ship's crew know now.



From: Australian Government Department of Health

Title: Isolation guidance

All people who arrive in Australia from Midnight 15 March, 2020are required to self-isolate for 14 days. you must stay at home and don't go to public places Only people who usually live with you should be in the home. Do not see visitors. Ask others who are not in isolation to get food and necessities for you.

From: Australian Border Force

Title: Restrictions on Entry to Australia Relating to COVID-19 for Cruise Ships

On 15 March 2020, the Australian Government announced a full restriction on arrivals of any cruise ship that has left a foreign port. With the exception of round trip cruises, such as ours, currently in progress and returning to Australia. The same day, the Prime Minister also announced that international cruise ship operations will cease and that cruise operators have been asked to return all passengers back to their home port.

Cruise Passengers entering Australia

.....all travellers entering Australia from 16 March 2020 must undertake a precautionary self-isolation period for up to 14 days upon entry to Australia (including Australian citizens and permanent residents).

The next communication, dated 17 March, was from Princess Cruises. *Due to the global spread of COVID-19, Princess Cruises is voluntarily pausing global operations of our 18 cruise ships for two months. ..we have made the very difficult decision to cancel your cruise and to expedite your return home. The voyage will now conclude in Sydney on 19 March. Weoffer our sincere apologies. The safety, health and well-being of our guests and crew is always our top priority.*

Compensation – as 2 days of your 13-day voyage have been cancelled and 3 ports lost (Tauranga, Auckland and Bay of Islands), you can choose one of the following options:

1. 50% of your fare as a future cruise credit + 25% bonus future cruise credit.
2. 25% refund of cruise fare + 25% future cruise credit.

(On 21 April, following our return, we received the following letter from Jan Swartz, President Princess Cruises:

Dear Guest, on behalf of all of us at Princess Cruises, I would like to express my deep sadness over the terrible impact the coronavirus has had across the globe, including many of our loyal and valued guests and crew members on Ruby Princess. Our heart goes out to all of you, in particular those guests who were subsequently confirmed to have coronavirus

Care and counselling services (details of Princess' confidential services were provided).

Refunds of your cruise fare We wish to clarify with this letter that we are providing a full 100% refund of the cruise fare you paid, in recognition of the effect COVID-19 has had on the community, which has continued with greater consequences than anyone imagined.

Ongoing investigations

Princess welcomes the establishment by the NSW Government of a Special Commission of Enquiry to investigate events surrounding Ruby Princess..... We are fully co-operating with the Inquiry and look forward to setting the record straight.)

So, after Napier, we turned towards Sydney, taking the most direct route; between the North and South Islands. The weather continued fine so we enjoyed shipboard life, both in our cabin and on deck. There was a festive atmosphere on board for the last day at sea. In the Atrium, there was entertainment, followed by a parade of the kitchen and cabin crew. As always, disembarkation was efficiently planned. We went to the appointed place to await our number being called and were given an emotional farewell.



Re-Opening The Shed June 2020

There were a number of discussions, led by Kevin Wallace in June 2020 about the safest way to re-open the Shed by the end of June. It was eventually decided that 15 members would be the maximum, allowing for the distancing rules, including 2 Supervisors. Kevin remains the contact to control the bookings for each meeting. The rules of entry were provided for each workshop session, based on the current NSW COVID-19 guidelines, see below.

The first step was a thorough clean of the Shed. See pictures on next page.

We have a full Shed on Saturday, September 19.

A few things to note to ensure that the Shed continues to operate smoothly. **Please note NEW points in RED:**

ALL members and visitors must sign into the Shed regardless of the time spent in the Shed. If there is an outbreak or a member becomes infected with COVID-19 we need to know who has been in the Shed.

The evolving situation in Sydney isn't over yet, so masks are highly recommended in situations where it is difficult to maintain social distancing, such as the Shed.

1. Could everyone ensure that the machines are cleaned down and the floor thoroughly swept or vacuumed?
2. Please ensure that the dust extraction unit is emptied.
3. Please take note: COVID-19 excluded locations from NSW Health.

Areas and suburbs with increased testing

With a growing number of cases, if you live in or have visited the following local government areas (LGAs) or suburbs in the past two weeks, get tested even if you have mild COVID-19 symptoms such as a runny nose or scratchy throat.

Campbelltown LGA

Canterbury Bankstown LGA

Eastern part of City of Sydney LGA (includes Sydney, Surry Hills, Darlinghurst, Woolloomooloo, Potts Point, Rushcutters Bay, Elizabeth Bay, Centennial Park)

Fairfield LGA

Guildford (suburb)

Hornsby Shire LGA

The Hills LGA

Liverpool LGA

Merrylands (suburb)

Parramatta LGA

Woollahra LGA

Please notify your Supervisor if you have attended a venue or location listed on the NSW Health website.

If you are only going to stay for the morning in the Shed could you please indicate this when you book your spot in the Shed. This will allow for an "afternoon" shift. So more members can enjoy Shed activities.

We have to limit the number of members to 15 at any one time. With the resurgence of the COVID-19 in Melbourne, the increasing infected numbers in Sydney's south-west we need to stay vigilant.

If you have booked a spot and you can't make it or I've got you down on the wrong day, could you please contact me, by email or mobile phone ASAP.

Please keep the timber stacks are neat and tidy.

For Saturday, September 19 with a 09.00hrs start with a 15.00hrs close we have:

List of 15 members

Procedures for opening the Shed.

1) The roster of Members; 3 Supervisors, 12 members (15 people total).

2) Hygiene Procedure

- a. Members to sanitise their hands when entering and leaving the Shed.
- b. Members to sign in and out (as usual). Preferably use your own pen.
- c. **Rules of Entry.** Only **rostered** Members to enter the shed.

No Member is permitted to enter the workshop if:

- i). They have the symptoms of a cold or flu or are suffering from a runny nose or a dry or sore throat or unexplained fatigue; or
- ii). If they have been tested for COVID-19 in the previous two weeks and are awaiting results, or
- iii). If they have tested positive for COVID-19 in the previous four weeks.

3) Members must accept the directions of the Rostered Supervisor and or CovidSafe Warden including any direction to wear a face mask or leave the Workshop.

4) All members who have been "rostered on" will be asked to sign the attendance book, which is a declaration that they have complied with and accepted the Rules of Entry listed above and below.

5) Supervisors will clean down the sink area and meal table with a sanitiser product or hot water and detergent.

6) Members' need to practise safe distancing (1.5 metres) during the morning tea break and at lunchtime; and when moving around the Shed where possible.

7) It is the Members' personal responsibility to sanitise their hands while working when they feel the need.

8) Members need to bring:

- a. Lunch (microwave will not be in use),
- b. Own cup/mug. Tea and coffee and boiling water will be provided.
- c. Personal hand sanitiser.
- d. Surgical masks are highly recommended in situations where it is difficult to maintain social distancing, such as the Shed.

Regards

Kevin Wallace



To date, life at the Shed has almost returned to normal. Distancing is difficult as people move between benches and machines and wearing masks can be trying. The Toymakers are trying to catch up for lost time so that our charities are not disappointed at the November hand-over.



Request For Dolls' Houses

I received the following request late last year, after the Shed had closed. The Committee discussed it early this year and considered it a worthwhile cause to support but the Shed close-down delayed its start.

"Hi Philip,

Thank you for speaking with me on the phone earlier. I am the Assistant Principal of Itinerant Hearing Support services in the Hornsby-Dural region of the Department of Education NSW. I supervise a team of 6 specialist teachers of the deaf/hearing impaired children. We provide auditory support, speech therapy, social integration and language support for deaf students who are enrolled at public schools in our area.



Sensory activities are a big part of what we do- especially with children who are younger than 7 years of age and for children with additional disabilities like physical or intellectual disabilities. I tried looking for timber dollhouses like these in op shops etc but no one seems to have them. Someone suggested the Hornsby Men's shed and that's how I found you. The dimensions are about 600 or 700 wide and 500 to 600 high. The windows need not be heart shaped or oval- simple square or rectangle windows will work well too.

Please let me know if the Hornsby Men's Shed has someone with the expertise to make something like these. If the price of timber is not too expensive then maybe a couple of these could be made- that way more than one staff member can plan a lesson using these.

Kind Regards,

Meenu Singh

Assistant Principal - Hearing

Hornsby-Dural Itinerant Hearing Support Network Base School - Epping Public School

Kevin Wallace took on the job. He had some suitable timber in his home workshop – see picture above of the work in progress. The first version, on the right, looked good but Kevin realised that the children would soon pick up a flaw and say “how do you get upstairs?” So he built an external staircase that was removable to facilitate packing it into a car.



The day came for Meenu and a colleague to come and pick it up, on 15 September. They were extremely happy with it, as you can see from the photos.



Sept. 2020



Thank you!
Hornsby Men's Shed
This beautiful resource
will help several
deaf students over many
years to come!
Kind regards
Hearing Support-Hornsby-Dural Team
Epping Public School

Around the Shed

Pictures of the interesting things that we recently did in the Shed.



SANDING WOODTURNING PROJECTS WITH A LUBRICANT

BY [AMERICAN ASSOCIATION OF WOODTURNERS](#) • OCT 15, 2019



This article, “Sanding with a Lubricant,” by Mike Peace, is from the pages of American Woodturner and is brought to you by the [American Association of Woodturners \(AAW\)](#) in partnership with Woodworker’s Journal.

You would not wet-shave without soap, would you? And yet, many woodturners are perfectly willing to sand without lubrication. Sanding with a lubricant, or wet-sanding, has been around a while, but many woodturners still have not tried it, despite its advantages. In this article, you’ll learn why you should use wet-sanding techniques for some of your woodturning, and how to wet-sand properly. We’ll also discuss different sanding lubricants—and how to make your own.

Why Wet-sand?

Probably the most significant advantage is that wet-sanding all but eliminates sanding dust. The dust mixes with the lubricant to form a slurry that keeps the dust trapped and out of the air so you do not have to breathe it.

Breathing fine dust is a major long-term health hazard we woodturners want to avoid. Avoiding fine dust is especially critical when sanding rosewoods, many other exotics, and woods known to be irritants or sensitizers that set us up for respiratory problems down the road. We avoid breathing the most dangerous very fine dust particles with a combination of approaches like a dust collection system, air filtration units, dust masks, and powered respirators. Adding wet-sanding to our arsenal can be a major benefit to our lungs.

Another benefit is that the fine dust and lubricant creates a slurry that fills the pores of the wood to provide a smoother surface. If that lubricant is one that hardens, as discussed below, it can help seal the surface. The lubricant also helps keep the abrasive from loading up, or clogging, allowing the abrasive to cut better and thus sand faster.

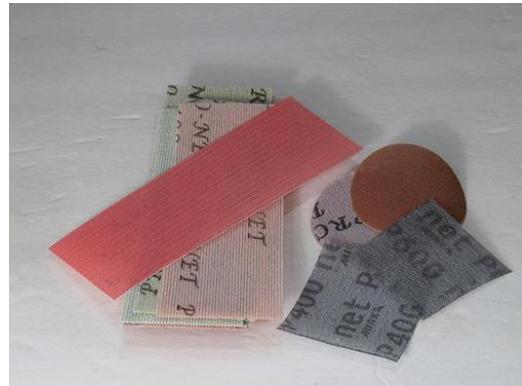
In addition, the heat caused by conventional sanding can cause heat checks, those small cracks in the wood that go deep and are almost impossible to sand out. Using a lubricant reduces heat from friction in two ways. Because the lubricated abrasive cuts better, one does not have to sand as long and a lubricant also helps keep the surface cooler.

Finally, almost any liquid applied to a wooden surface can help reveal scratches. This is especially true when you focus a concentrated light on the surface at a raking angle. Shining the light at about a 45-degree angle to the wetted surface reveals the highs and lows and shadows of tool marks and scratches.



Tools of the Trade

Open-mesh abrasives like Abranet or Wonder Weave work great for wet-sanding. They don't clog as quickly as cloth- or paper-backed abrasives, and they are easy to clean out and reuse.



I use the term abrasive and not sandpaper because typically the backing of sanding products we use for our turnings is not actually paper. Paper backing on common sandpaper just does not hold up for very long when wet. The backing used for many of the abrasives favoured by woodturners is typically cloth. Alternatively, the backing for sanding disks may be Mylar®, which provides a very flat and long-lasting support for the abrasive. Then there are open-mesh products like Mirka Abranet and Wonder Weave. These open-mesh abrasives contain aluminium oxide grain resin-bonded to a durable and long-lasting fabric. The open mesh contains thousands of small holes, which allow you to easily wash out the slurry from wet-sanding. Open-mesh abrasives perform well when sanding wet, or green, wood. They simply will not clog like other abrasives.

Common Sanding Lubricants

Sanding with water as a lubricant works especially well on green-wood turnings like this once-turned, very thin bowl.

The most common sanding lubricant is water. Water can be especially useful when sanding green wood that already contains water and thus is not likely to readily absorb an oil. I especially like using water when sanding very thin, once-turned bowls from green wood. Using water as your lubricant allows you to use any final finish you want after the wood is dry.

Some turners prefer to use a solvent like citrus degreaser or mineral spirits. Mineral spirits will not interfere with any finish after it dries but is more toxic than other choices. One of my favourite lubricants for wet-sanding dry wood is a sanding paste you can easily mix yourself from mineral oil and beeswax. (Mineral oil is known as paraffin oil overseas.) It traps the dust well without the use of a solvent. It is compatible with almost any drying oil finish such as tung oil, Danish oil or Antique Oil.



Wet-sanding with Antique Oil helps fill the pores of open-grained woods like mahogany for a smooth surface. Other turners like to use their final oil finish as a sanding lubricant. The friction heat generated using the final finish as the lubricant helps cure the oil slurry mix that is forced down into the pores of the wood.

I primarily use Antique Oil as a finish and it works well over an oil or oil/wax lubricant. If you use non-oil finishes like lacquer or wipe-on polyurethane, you may want to do a test to ensure they are compatible or wipe off the piece with a solvent like mineral spirits before applying the finish. Another option is to apply a coat of shellac, which sticks to just about anything and is compatible with any finish.

DIY Sanding Paste Recipe

Melted beeswax and mineral oil make a fine sanding paste that will help keep sanding dust down and create a very smooth surface.

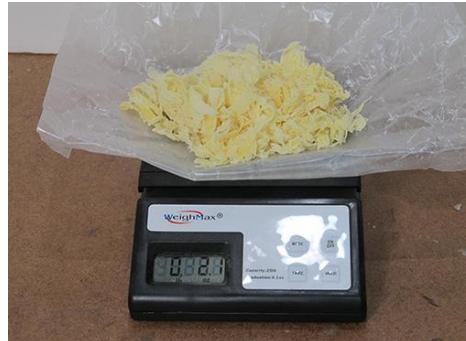


Here is recipe for making an inexpensive and effective sanding paste from mineral oil and beeswax. Mineral oil is a liquid by-product of refining crude oil to make petroleum products. It is a common ingredient in baby lotions, cold creams, ointments, and cosmetics. It is colourless, odourless, and tasteless. Baby oil is just mineral oil with some perfume added, and it can be used, too.

Use a scale to weigh the beeswax for the right proportion.

I use a 1:4 ratio of beeswax to mineral oil by weight. To make 10 oz (283 g) of sanding paste, melt 2 oz (57 g) of beeswax in an old crock-pot.

Wax melts faster with a larger surface area, so it is best to grate or shave the beeswax or chop it into smaller pieces if it is in block form. If you don't have a crock-pot to spare, an alternative is a double boiler, easily made by placing a smaller pot on top of a larger one so it is heated by steam. Or place a smaller pot or can inside a larger pot, resting it on something to create a layer of water between the larger pot and the container holding the wax. Beeswax has a relatively low melting point—about 63°C—so keep the heat on low and stir occasionally.



An old, dedicated crock-pot makes a good container for heating and mixing, but any makeshift double boiler will also do.



For safety, never leave the mixture unattended while heating. Flash point is a descriptor used to distinguish between flammable fuels, for beeswax it is relatively high 204.4°C so it is a combustible but not flammable liquid. Even though you are unlikely to start it burning, discolouration occurs if you heat the beeswax above 85°C.

Since mineral oil has a lower density than beeswax, it actually takes 281 ml of mineral oil to weigh 227 g for this 1:4 ratio. Therefore, you can either weigh the portion of mineral oil you need or, more conveniently, just pour in 281 ml. It doesn't matter if the oil is mixed in before or after the wax is melted. A wooden paint stirrer works well

for this or use a wooden spatula from the kitchen that needs a renewed coat of utility finish! Stir occasionally until the mixture is fully blended.

When the wax is completely melted and mixed with the mineral oil, carefully pour into an appropriate container.



I find a re-purposed plastic butter tub or similar container with a lid works well. You can also use lidded plastic containers from a discount store, short wide-mouth canning jars from a craft store, or round lidded metal containers available online. If you find the paste is too soft, you can simply re-melt it and add more beeswax. If it feels too hard, soften it up by adding more mineral oil. Because mineral oil does not dry out like most drying oils, your sanding paste should maintain its consistency with a very long shelf life.

DIY Abrasive Paste Recipe

The secret ingredient in this abrasive paste recipe is diatomaceous earth, commonly sold as a mechanical insecticide.

Credit goes to woodturner Daniel Vilarino for the following abrasive paste recipe, which calls for one part beeswax, one part diatomaceous earth, and four parts mineral oil by weight. Diatomaceous earth is a naturally occurring, soft sedimentary rock containing fossilized microalgae, which crumbles easily into a fine white to off-white powder that is a very fine abrasive.



Follow the process described in the DIY Sanding Paste section for making the sanding paste. The only difference here is that you will add a quantity of diatomaceous earth equal to the amount of beeswax. Weigh all the proportions for this 1:1:4 recipe or use the liquid measurement of 9.5 oz instead of weighing out 8 oz of the mineral oil. Because we use mineral oil instead of the harsh solvents found in some commercial abrasive pastes, the final product is "greener" without any harsh odours.

The final consistency of the abrasive paste is similar to that of heavy cream.



After thoroughly mixing in the diatomaceous earth, remove the mixture from the heat and continue to stir it with a spurtle or paint stick. Because the abrasive needs to stay suspended in the mixture until it cools, keep stirring while the mixture cools and hardens to a soft paste consistency. Be patient, as this may take up to twenty minutes. Then you can spoon it into containers for use. Unlike the wooden spoon you may have used for stirring the sanding paste, do not plan to return to the kitchen any utensils used in making the abrasive paste.

This abrasive paste provides a soft, smooth surface similar to that obtained by using a buffering system. This should not be surprising, since Tripoli buffering compound is also made from diatomaceous earth. The surprise is that diatomaceous earth is readily available at your home development stores as a mechanical insecticide. While it is food safe for humans, exercise caution so as not to breathe the abrasive powder while pouring or stirring it.

How to Wet-sand

Clean sanding disks on a power sander by running them against a sanding belt cleaning stick.



Apply the lubricant liberally to the surface of the wood and sand as normal. You can use a non-woven abrasive pad like Scotch-Brite™, a paper towel or paper shop rag. Do not let the surface get too dry. Apply more lubricant to the abrasive, as necessary, to keep the surface coated as the slurry develops. Between grit changes, wipe the surface of the wood to remove the slurry from the coarser abrasive before using a finer-grit.

If you are using water as the lubricant, you can easily clean the abrasive by washing it in warm water. If using a solvent lubricant, soaking the abrasive in the lubricant should help clean the abrasive. You can clean a sanding disk by holding a sanding belt cleaner stick against the spinning disk on your power sander.

Using an Abrasive Paste

To achieve a very fine finish after sanding to 320 or 400 grit, consider using an abrasive paste. Apply a liberal paper towel with the lathe off. Use it as you would any other abrasive by keeping it moving. The

abrasive continues to cut as the grit breaks down into smaller silica particles in use, leaving a silky smooth surface. The last step after your final abrasive, whether wet-sanding or using an abrasive paste, is to use a few drops of lubricant to thoroughly clean up the surface with a clean paper towel.

Abrasive pastes are available commercially, but you can make your own easily and inexpensively. Using the abrasive paste recipe offered here is roughly equivalent to taking your last sanding grit and tripling it. For example, if you finish-sand to 320 grit, using an abrasive paste as described in the DIY Abrasive Paste Recipe section can give you a surface similar to finishing with 1,000 grit or even finer. It will provide a finish similar to using the familiar Tripoli compound on a buffering wheel.

So if you have not yet tried wet-sanding, try it. I think you will like the results, especially when finishing with a sanding paste that you can easily make yourself.

Mike Peace is active in three woodturning chapters in the Atlanta area. He is a frequent demonstrator and regularly uploads woodturning educational videos to his YouTube channel, [Mike Peace Woodturning](#). For more, visit [mikepeacewoodturning.com](#).

TABLE SAW 101

WOODWORKER'S JOURNAL

Woodworking expert Sandor Nagyszalancy turns to the table saw to give you the nitty-gritty info you need to know about this workshop mainstay.

If there is a single piece of machinery I couldn't do without in my workshop, it's table saw. It's the first machine I bought when I set up my first shop nearly four decades ago: an old used Craftsman saw I bought for \$50. From day one, I used that saw for all the basic cuts I needed for my first cabinetry projects and custom furniture commissions.

Even though it wasn't the best saw in the world — it had a weak motor and a puny 8" blade that was difficult to tilt — that vintage saw did yeoman's duty, ripping and crosscutting boards (i.e., cutting them both with and across the grain), cutting mitres, bevels, grooves and dadoes. As I took on more complex projects, I discovered just how versatile a table saw could be. Using both store-bought and shop-made jigs, I expanded my saw's repertoire to include cutting tenons and box joints, raising panels and more.

Just What Can a Table Saw Do?

A standard mitre gauge fitted in a table saw's mitre slot is just right for cutting mitred corners on mouldings used for small picture and mirror frames.



the



This versatile machine is capable of such a wide variety of cuts, it's no wonder that a table saw is the centrepiece of most modern shops.

Using nothing more than the basic equipment that comes as standard, you can perform all the basic cuts needed for an endless number of traditional woodworking tasks and home improvement projects:

Using the mitre gauge, you can cut 45° corners for picture and mirror frames and small boxes, cases and drawers. The rip fence is used to cut stock to width, panels to size or to recut boards, thickness wise, to make your own veneers or split stock to book-match the grain for decorative panels. Working with the saw's blade tilted, you can take compound cuts for frames, chests or planters with angled sides. Fit the saw with a dado blade and you can cut all manner of grooves, dadoes and rebates, perfect for simple cabinet joinery, say to build a bookcase or display shelf.

By employing a variety of jigs and fixtures, a table saw can perform a vast array of tasks including:

Cutting large sheet goods to size. Sliding tables, crosscut sleds and long extension tables can all be used for safely sawing full-sized sheets of plywood and large panels to final size when building cabinets and furniture.

Cutting tenons on frame members using for mortise-and-tenon joinery is done with a dedicated jig that firmly supports the stock it slides past the saw blade.

Sawing tenons for mortise-and-tenon joinery. Tenons are cut by passing frame members vertically past the saw blade using a sliding jig.

A box joint jig and a dado blade mounted on the table saw are all that are needed for

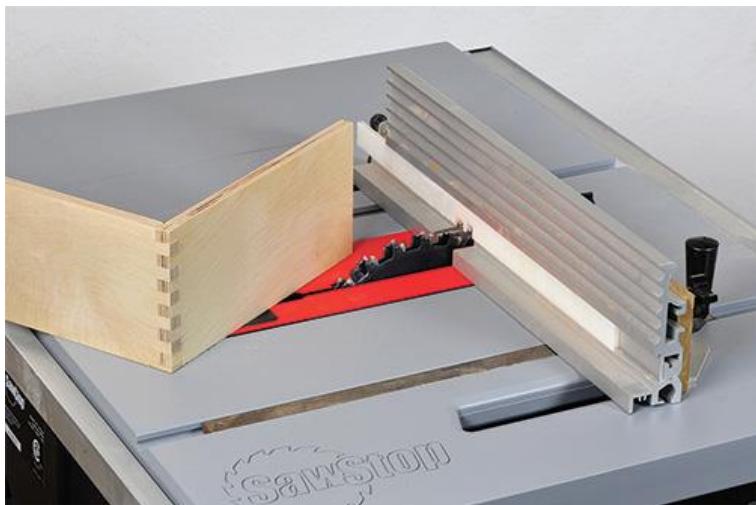


as
a

creating interlocking joints, which are great for building drawers, boxes and more.

– *Cutting box joints.* Milled with a dado blade and special jig, box joints are a series of alternating fingers and notches that interlock to form the corners of boxes, drawers, blanket chests, etc.

Tapering. A tapering jig is used to cut tapered furniture legs and other parts that have to be wider at one end than the other. Bevel-cut tapered staves can be used to build projects with angled sides, like stands and planter boxes.



Panel raising. By running the edges of a panel vertically past a slightly tilted blade, you can raise them (where the edge is thinner than the middle) for classic looking classic-looking raised panel doors. Smaller panels can be cut using the standard rip fence as a guide; larger panels require a jig.

Using a special fence jig, stock is run at an angle over the top of the blade, thus cutting an arc-shaped hollow cove in a series of shallow passes.



Cutting coves and mouldings. Using a special fence jig that guides the stock at an angle over the top of the saw blade, you can cut hollow shapes for mouldings and trim. (Look online for additional information, including a video, on how to make cove cuts).

Shaping stock. Fitting a table saw with a moulding head — a special blade with interchangeable cutters — allows you to cut many of the same profiles that you'd normally create with a shaper or router: beads, ogees, flutes, etc.

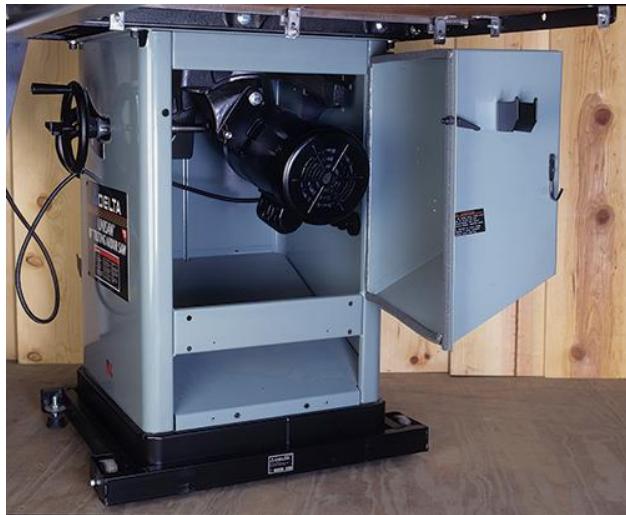
Choosing a Table Saw

All table saws have a motor that powers an arbour-mounted saw blade with controls that allow you to raise and/or tilt the blade above a table that supports the workpiece. Beyond that similarity, there are several different types of table saws to choose from, including cabinet, contractor, portable and benchtop. The

particular type, make and model saw you choose will depend on various factors, including the saw's overall size and capacity, how powerful it is, how portable it is, its features and, of course, how well it fits your tool budget. Particular models are better suited to some woodworkers' needs more than others. For example, it doesn't matter if your saw is super light and portable if it doesn't have the power to handle the heavy stock you need to cut and, conversely, a powerful saw doesn't help you if it's too big and heavy to move around your shop that must serve double duty as your garage. A quick rundown on the four most common types of table saws will help you decide which one is best for you:

Cabinet Saw

All of a cabinet saw's heavy-duty components — motor, belts and pulleys, saw arbour and trunnions (that allow the arbour to tilt) — are housed inside a sheet metal base that also supports the saw table.



The first choice of professional woodworkers and serious DIYers, the "cabinet" in a cabinet table saw refers to the boxy sheet-metal base that totally encloses the saw's inner workings. These saws feature heavy-duty trunnions and saw arbours designed to keep their 10" or 12" saw blades (depending on the model) running rock solid even during the most punishing cutting situations. Power is supplied by a two, three or five horsepower induction motor (single or three-phase) controlled by a magnetic motor starter switch. Most models feature a large extension table to the right of a heavy cast-iron saw table and long rails (fences) that allow them to cut panels up to 52" wide.

Don't want to spend big bucks on a top-shelf cabinet saw? Some saws, including JET's ProShop series, are hybrid models that incorporate some features of cabinet saws into more compact and affordable contractor style machines with partially enclosed bases.

Contractor Saw

The traditional choice of professional contractors and home workshops, the contractor saw includes about three-quarters of the features of a cabinet saw in a lighter and more affordable package. You can spot this saw by its open-legged sheet metal stand with motor and bracket hanging off the back. Most models feature a 10" blade, sturdy cast-iron or cast aluminium table and an extension table and fence rails long enough for rip cuts 24 to 30 inches wide. Most saws sport induction motors in the one and a half to two and a half horsepower range: ample enough to power a saw blade through wet construction timber, thick sheet goods and hardwood stock.

Portable Jobsite and Benchtop Saws

Most modern jobsite portable table saws, including this model made by SawStop, come with a built-in stand that quickly converts into a convenient wheeled cart.

Although lighter and more compact than other saws, portable jobsite and benchtop table saws are impressively powerful and fully-featured. Most models use a standard 10" saw blade and have the same depth-of-cut capacity (3-1/8" at 90°) as full-sized saws. To get a portable's weight down, heavy steel and iron parts are replaced by aluminium alloy castings and/or



moulded plastic. Weighty induction motors are replaced by the same kinds of universal motors used in portable power tools. Although noisier and not as powerful as induction motors, universal motors can handle most light and medium-duty cutting jobs. Some portables have built-in folding stands with wheels that make them very easy to move around and stow when not in use. Benchtop models have short bases and must be mounted on a worktable or stand before they're ready to run.

Selecting Blades

General-purpose carbide-tipped saw blades (rear of picture) are great for everyday use, but for specialized tasks, choose special blades: (left to right) crosscut, rip and melamine/plywood.

Although just about any saw blade will cut wood, you'll get better long-term performance with a good carbide-tooth combination or "general-purpose" blade, such as the Forrest Woodworker II. As their name implies, these blades can tackle most of the everyday cuts taken on a table saw. But for the best, cleanest, cuts, choose a saw blade that's specifically designed for the kind of cut you're making.



Crosscut blades, such as Freud's D1080X Diablo, employ a high number of teeth (60 to 80 on a 10" blade) with an alternating-top-bevel (ATB) tooth grind to produce square or mitre-cut ends that look as though they were sanded smooth. In contrast, ripping blades have far fewer teeth: typically, 24 to 30 on a 10" saw blade. Each rip tooth has a flat grind and a high hook angle, allowing it to slice through wood fibres along the length of a board. Thin-kerf blades (combo, crosscut or rip) require less motor power to run and generate less sawdust, to boot.



Dado blades are used to cut grooves, dadoes and other joinery. The width of cut is determined by the number of chipper blades and shims set between a pair of outer saw blades.

For super-clean cuts in materials such as plywood, melamine, plastics and nonferrous metals, choose a saw blade specially designed for cutting that material.

Cutting wide grooves, dadoes and rebates for joinery, such as box joints, calls for a dado blade. A stacking dado set sandwiches individual chipper blades between a pair of outer saw blades. You change the width of the groove/dado by using more or fewer chipper blades, with shims between them.

Table Saw Safety

First of all, never adjust a table saw or check a saw blade without first unplugging the saw. Using safe table saw operating practices (see the "Making the Cut" section of this article for more), push sticks and featherboards can help avoid unfortunate accidents — as can the following safety devices specifically designed for your saw:

A table saw's blade guard, riving knife and anti-kickback pawls all serve to protect the user from harm during cutting.

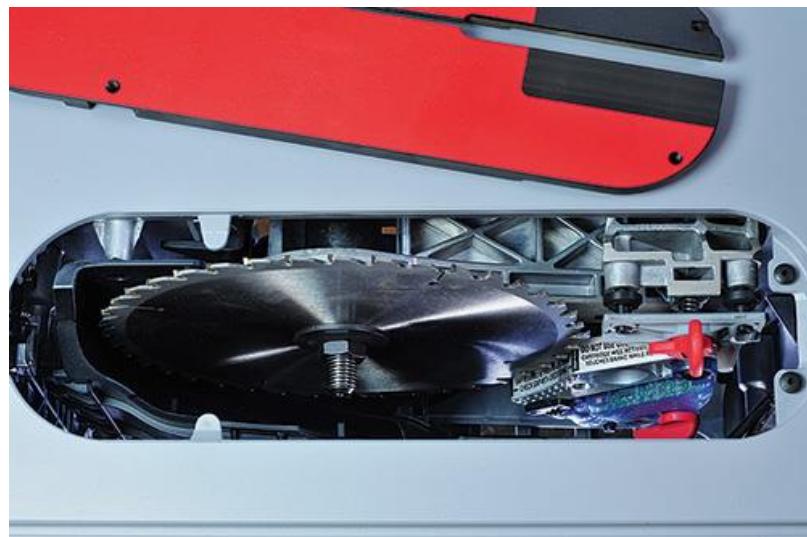
Blade guard. Most stock blade guards have a hinged, clear plastic hood that surrounds the saw blade, allowing stock to be fed while preventing fingers from straying into the blade. The guard also deflects sawdust and small cut-offs that would otherwise be thrown up toward the operator. Unfortunately, stock blade guards can be fussy set up and must be removed for operations such as dadoing, box joint cutting, etc. It's best to employ shop-made guards during these special operations or fit the saw with an over-arm-style guard: a clear box-like guard suspended above the saw blade.



to

Riving knives and anti-kickback pawls. Whether built into the blade guard or mounted separately, a riving knife is a thin steel vein set right behind the blade. It's designed to keep the saw kerf from closing up and binding the blade as stock exits the cut, thus preventing the saw motor from stalling and the work from being hurled back at the user. Usually mounted on either side of a blade guard's splitter, anti-kickback pawls are spring-loaded fingers with serrated points that scrape along the top of the work as it's fed through the cut. They are "one-way" devices that further prevent stock from kicking back.

SawStop. One of the most significant developments in table saw safety is the safety system incorporated into all SawStop brand table saws. The blade on the saw is charged with a small electrical signal. If the user's skin accidentally contacts the blade, the change to the electrical signal activates the saw's safety system: An aluminium brake springs into the spinning blade, stopping its rotation in less than five milliseconds. The blade's angular momentum drives it down beneath the saw table, removing the risk of subsequent contact, and power to the motor is shut off.



Dust Collection. Using a dust collection system with a table saw is an important part of protecting yourself from respiratory-related ailments. That's especially important because most table saws emit a lot of dust. Fortunately, most saws these days feature a dust port, which makes hooking the machine up to a portable or central dust collector a simple matter.

Prepare a Successful Cut

When adjusting a table saw blade for a square cut, author uses a flashlight to shine light on the gap between a handheld speed square and the saw blade.

Before you take your first cut, it's important to make sure that your table saw is clean, in good condition and properly adjusted. (You can find hints on how to make this happen in my table saw tune-up article, posted online). A poorly set up and/or maintained saw not only bound to be less accurate, but it also can be downright dangerous to use. For example, stock being



the

is

ripped using an improperly aligned rip fence may kick back suddenly and cause injury. Also make sure your saw blade is sharp and running smoothly, without vibration or obvious wobbling.

Basic saw prep. Prior to any cut, check the angle and height the saw blade. Once you've mounted and secured the best type of blade for the job at hand, install a throatplate that, ideally, has the narrowest opening that still allows the blade spin freely. For regular 90° cuts, raise the saw blade up to near full height and check the blade's squareness with an accurate try square, placing the edge of the try square flat against the body of the blade. It helps to put a flashlight behind the square as you sight to see if there's any light showing between the square and blade. If there is, adjust the angle using the table saw's bevel (tilt) adjuster (reset the tilt stop if necessary).



Saw blade height. For safety's sake, always adjust the height of a table saw blade so that the saw teeth only protrude about 1/4" above the thickness of the stock being ripped or crosscut.

For bevel cuts, tilt the saw blade to the desired angle and check it with a protractor, angle block or sliding bevel. After adjustments, it's very important to reset the height of the saw blade so that only about 1/4" of the blade protrudes above the thickness of the stock you intend to cut.

From there on, saw preparation depends on the kind of cut you intend to make. When ripping stock, set the distance between the face of the rip fence and edges of a saw blade tooth closest to the fence to the desired width of cut (your fence should already be adjusted so that it's parallel to the saw blade). If your fence has a built-in cursor and scale, make sure that it reads accurately with the blade you're using; double-check with a rule if there's any doubt. Lock the fence and you're ready to rip.

The author uses a sliding bevel gauge that's been set to the desired mitre angle to adjust angle of the head of a mitre gauge relative the saw blade.

To prepare for crosscutting, set the angle of your mitre gauge relative to the blade. As when checking blade squareness or tilt, use try square or protractor/bevel gauge to check the setting (your saw table's mitre slots should already be set parallel to the saw blade). Now is a good time to set the mitre gauge's built-in stop(s), so you can repeat oft-used angle settings (90°, 45°, etc.) more quickly in the future.



Tilt Right or Left?

Traditionally, table saws tilted their blades to the right, in the direction of the rip fence, as was viewed most practical for right-handed users. A few long-standing models, including the Powermatic model 66, tilt their blades to the left, which helps prevent stock from binding and kicking back during bevel cuts. Taking mitre cuts with the blade tilted left is also advantageous, as marked cut lines are on top where you can see them.



Making the Cut

When cutting small or narrow workpieces, a push stick to feed the stock forward and a featherboard to help it bear against the rip fence. Regardless of the kind of cut you're making, make sure that the stock and your hand and fingers are clear of the blade before switching the saw on. When making rip cut, make sure that one edge of the stock been planed or jointed so that it's perfectly straight. With that edge against the rip fence, start the saw, then use a push stick to feed the work into the spinning blade. Feed an even speed rate while keeping the work firm contact with the fence. If your stock is narrow, it's best to use a featherboard to keep the work pressed against the fence and down on the saw table. Whenever possible, stand to the side of the stock and blade rather than directly behind it. That way, if the workpiece is kicked back, it won't strike you. When ripping dense hardwoods or "problem" boards (wood with knots, twisting grain, etc.), the motor/blade may bog down as you cut. In this case, try easing off on your feed speed. If the work starts smoking or binds on the blade, it's best to turn the saw off immediately, remove the board, then repeat the cut or switch to a different piece of timber.



use

a
has

at

in

Cutting sheet material. Small and medium-sized pieces of plywood and other sheet goods are easy to cut, even on compact jobsite table saws, using the saw's standard rip fence.

Large panels and sheet goods can also be ripped using the rip fence as a guide. If you cut a really big piece, make sure it's well supported at both ends of the cut with infeed and outfeed tables or supports. You can also crosscut large panels as long as the work isn't too long or the side that rides against the fence isn't too narrow.



When using the mitre gauge, make sure that the end of long workpieces won't hang up on the rip fence before you begin. Unless your stock is hard to handle, you can use hand pressure to keep the work firmly planted against the face of the gauge (a piece of peel-and-stick sandpaper applied to the face helps keep the work steady during cutting). When you're ready, slide the mitre gauge and work slowly and evenly through the cut, making sure to keep both hands well clear of the blade. After the cut is complete, it's safest to turn the saw off before removing the workpiece and cut-off scrap: never reach over a spinning saw blade! For long, large, or extra short workpieces, either clamp the work to the gauge's head or use a table saw crosscutting sled or specialized jig.

Author – Philip Hirshbein

Editor – Tom Gait