

# The Cutting Edge

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

Volume 1 No. 12

Hornsby Woodworking Men's Shed

Winter 2017

## Bunnings' Sale of Drinks and Sausage Sandwiches

Early on the 18 March we were setting up for another fundraising event that, usually, meant around \$1,000 would be added to our funds. Any optimism quickly faded as the rain set in which set the scene for a pretty miserable day. The two marquees were designed more for shade than keeping the rain out. The carpark was pretty bare early in the day.



Above, David Tarran's golf club was used to push the rain off the sagging roof.



Surprisingly, business picked up from around 11.30am through to 2.00pm, the usual lunch time peak.



Cooking under very trying circumstances

This was reflected in the takings for the day, which the Treasurer reported as \$1,047 gross and, after taking out costs, a very credible nett of \$670.



# Member Profile: Jim Spence

## My Early Years

I was born in Edinburgh Scotland in 1940 and grew up in the village of Oxton which is located at the head of the Lauderdale Valley in the Lammermoor Hills in south-east Scotland, 38km south of Edinburgh. At that time Oxton had a population of 120 people and serviced a farming community of around 350. My father ran the village general store which sold groceries, hardware, kerosene and animal/poultry feed to the surrounding farms.

Oxton was not connected to the electricity grid until 1952 so I spent the evenings of my early life in the dim glow of a kerosene lamp. A candle was used to light the journey to bed.

My childhood was a happy one with my main memory being the ability to roam and play all over the countryside with virtually no restrictions on where I went. This was possible because under Scottish law you have freedom to roam virtually anywhere provided you do no damage to crops, livestock or property. Also, living in a rural community with a common culture and many social activities added to the enjoyment.

Because of the isolation, during World War II, I had no knowledge of the devastation wrought on some British towns and my only memories of that period are the Polish soldiers that were billeted in our house and the family sadness when the husband of one of my many cousins was killed in France in the battle for Caen. Due to its location, Oxton was blessed with cold winters with large falls of snow. The photo at right is of me as a one year old getting some fresh air on a typical winter day.

My hobbies as a child were all practical and by the age of 12 every penny saved went towards buying electronic kits (mainly radios) bought via the mail from London. My interest in building radios was heavily influenced by my father who was an avid amateur builder of all things electrical including a number of radio sets and a 24V lighting system powered by two windmills backed up by two JAP ex army generators all charging a big bank of batteries in a shed beside our house.

My schooling from ages 5 to 11 was at the two teacher village school, followed by three years at a Junior Secondary 18km away and three years at the County High school 36km away. I did well in maths, science, geography, history and woodwork/metalwork and was absolutely hopeless at English and French. As was the norm at that time, discipline at school was strict and was enforced by the liberal use of the tawse.

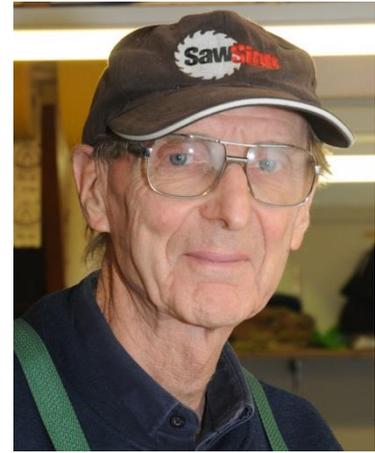
Following school, I was awarded a government scholarship to study Electrical Engineering at Heriot Watt University in Edinburgh and graduated with a BSc (Elec. Eng). While studying, I spent 3 months in the Metropolitan Vickers high power transformer factory in Manchester. The latter experience convinced me that a career in electronics would be more to my liking.

After university, I entered a two year graduate apprenticeship with GEC Telecommunications in Coventry in the English Midlands. The great attraction of this job was that I would be living rent free with ninety other graduate engineers in historic Coombe Abbey which is a very large mansion situated beside a lake just outside Coventry.

## Summary of My Professional Career

### GEC

After the apprenticeship I accepted a job in the GEC radio research laboratory where I successfully developed an improved design for a microwave waveguide magic T mixer. Then I moved to the radio



design laboratory with the task of designing the first (for GEC) transistor power amplifier in the 230Mhz VHF band.

While working on the VHF amplifier at GEC, I saw an advert for the same job in Sydney with AWA. I applied and, within four months, was a migrant on a ship to Sydney. Shortly after accepting the job with AWA and while still in Coventry I met and got engaged to my wife Ann who agreed to follow me to Australia as soon possible. In January 1965, Ann arrived in Sydney and we married one month later. Ann quickly obtained work as a teacher and we settled into the task of saving for a house and starting a family with two sons born in the late 1960s

## **AWA**

I arrived in Sydney in September 1964 and immediately started work at the AWA Ashfield factory as a Design Engineer designing a fully transistorised transmitter for VHF mobile radios and base stations. The resultant mobile radios and base stations were a success and AWA won contracts that led it to become the largest supplier of mobile radio systems in Australia. AWA employed radio engineers who were ahead of the best in the UK.

In 1967, I joined a security classified project working on the tracking radar for the Australian designed IKARA anti-submarine missile.

In 1975, I took up the position of Engineering Manager Land and Mobile Communication with the task of sorting out the multiple technical problems affecting a new range of mobile radio equipment that AWA had acquired after buying the mobile radio business of Hills Industries. Unfortunately Australia could not compete on price with imported products and we teamed with Hitachi in Japan who made our design under licence. At this stage I knew I was teaching Japanese engineers know-how that had taken 40 years for AWA to accumulate. The Japanese manufactured radios were a success but were the last mobile radio products sold by AWA.

In the late 1970s AWA Engineering Products Division at North Ryde made the strategic decision that systems (particularly military communications system) were the future and to this end appointed ex-military officers to senior roles throughout the division with the view to winning military systems contracts. This decision resulted in me being sent in 1979 to Palo Alto in California to work with Ford Aerospace on the initial design of a new tactical communication system for the Australian Army. After four months I returned to North Ryde to take up the new position of Manager Satellite Systems with the view to winning the contract for the supply of a system to manage and conduct tests on the first AUSSAT satellite that would provide regular telephone services to outback farms and remote communities. Design of the system required a good understanding of the satellite therefore before system design could start I spent 3 months in Los Angeles with Hughes Aerospace studying the satellite. AWA won the contract and successfully supplied and installed the system.

During my career with AWA, I worked on the design or was involved in a number of military projects that illustrate how successful Australian defence engineering can be, if adequately supported by the government. Following is an outline of some of the most successful projects:

### **©IKARA Anti-Submarine Missile**

In the late 1960s, I joined the IKARA anti-submarine system missile team that was working on the first pre-production units of the missile tracking radar system located in a secure AWA facility at North



IKARA Missile with Torpedo on Launcher

Ryde where my job was to design the radar test system. IKARA was designed in Australia for the RAN. It used a guided missile to carry a Mk44 torpedo to a point close to a sonar detected submarine where the torpedo was released to home in on the target. During its deployment from the 1960s to the 1990s, IKARA was considered to be one of the most effective anti-submarine weapon systems and was installed on all major RAN fighting ships plus ships in the navies of New Zealand, Brazil and Chile. A modified version of IKARA, carrying a torpedo plus other anti-submarine weapons was also adopted by the Royal Navy.

### ©CRH-11 HF Navy Receiver

In 1972, I was appointed Project Engineer, managing eight engineers with the task of designing a new 2 to 30 MHz HF receiver for the RAN that had to meet a US Military Specification (MIL-SPEC) that no US supplier had yet met. This job took three years and involved multiple prototypes and many months of radio performance, testing under a broad range of environmental conditions. I also made many visits to the USA to discuss various aspects of the MIL-SPEC with US experts who considered it to be just a design target unlike the RAN who considered it a mandatory requirement. The receiver known as the CRH-11, which is shown at right, went into production in 1975 and I consider it to be my finest design achievement. It is still in use on RAN ships and no naval HF receiver to date has bettered its performance.



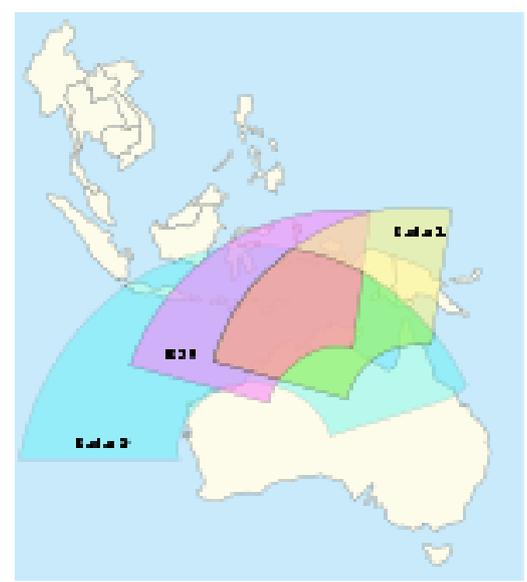
I was invited to give a talk in the Pentagon on the CRH-11 and its design principles and how it would operate in a classified US military data communication system. The talk was attended by a number of Admirals and senior naval officers. On my return trip to Australia, I was detained at LA airport on the accusation I was smuggling US military hardware out of the country. Frantic calls to my US contacts obtained my release.

In 1984 I was appointed Engineering Manager Defence and Transmission Division responsible for 180 engineers working on a large number of design and development projects in the defence and telecommunication fields. Some of the major Department of Defence (DOD) projects that AWA was involved in at that time were the Jindalee Operational Radar Network (JORN) situated near Alice Springs, a Magnetic Degaussing Range in Sydney harbour for the RAN and the Nulka missile decoy for the RAN and US Navy. Two of the most interesting and technically challenging of these projects are briefly described below.

### Jindalee Operational Radar Network

The Jindalee Operational Radar Network (JORN) is a state of the art [over-the-horizon radar](#) (OTHR) network developed in Australia for the RAAF that can monitor air and sea movements over an operating range of 1,000km to 3,000km. It works by using HF radio waves that bounce off the ionosphere allowing it to see movements well beyond the line of sight limit of conventional microwave radar. This is a very difficult technical challenge that took years of design and testing activity to develop an advanced signal processing system that allows JORN to produce reliable results. Although originally developed for defence purposes JORN has also been used to detect other boat movements to the north of Australia. The map at right shows the coverage of the system:

The JORN system has three radar stations located at Laverton (Western Australia), Alice Springs (Northern Territory) and Longreach (Queensland)



## Nulka Missile Decoy System

The Nulka missile decoy is another Australian designed system to defend ships from incoming missiles. At the time of my involvement Nulka had become a joint Australia United States project with AWA engaged in the early stages of the development of the system for production.

The Nulka is a hovering rocket that carries an electronic warfare package that makes the rocket look like a ship to an incoming missile. Once launched, Nulka can fly a pre-programmed flight path to entice sea skimming missiles away from the ship. Nulka is an aboriginal word meaning "be quick".

Nulka is the largest defence export in Australian history and is now installed on ships of the RAN, USN, US Coast Guard, RN and the RCN.



Nulka at Launch



Nulka Hovering away from Ship

In 1987, AWA suffered a major financial crisis, resulting in a major reorganization. The outcome for me was my appointment as Chief Engineering Manager of a new Communications Division in charge of around 300 engineers in five locations in Sydney responsibly for a very large range of communication products including the largest automated telephone handset production line in Australia. By the mid 1990s it became increasingly difficult for AWA to be competitive with imported products, resulting in a decision in 1995 to consolidate the Communications, Traffic Control and Avionics business units into one building at North Ryde where I took up the position of Manager Engineering Services. At this point it became obvious that AWA was in terminal decline and I volunteered to be included in any future redundancies. I left AWA in 1997 after thirty-three years' of interesting and challenging work

### *Australian Defence Industries (ADI)*

I joined a start-up organisation called Expense Reduction Analysts and persevered for 9 months saving companies money but for little personal reward. As a consequence, when I received an unsolicited offer of a 3 month contract to prepare procedures for the engineering department at Australian Defence Industries (ADI) at North Ryde I accepted immediately, not expecting that it would lead to a new career in Information Technology at ADI that would take me through to retirement. This included a promotion to Business Analyst Corporate IT at ADI Garden Island Dockyard.

### **Hobbies and Other Pastimes**

During my working period in the UK and early on in Australia, the task of keeping a number of dilapidated cars in working order took up a lot of my spare time as did renovating the kitchen and bathroom of our first house in Dundas. I also learned to sail and joined a bushwalking club and orienteering club during this period.

In the late 1970s I joined the Frisco Sailing Club on Iron Cove and regularly raced either solo or with one of my sons in club or inter-club events. By the mid-1980s, minor injuries plus work commitments forced me to give up sailing.

In 1990, I joined the Northern Sydney Astronomical Society (NSAS) and shortly thereafter was the committee member responsible for organising astronomy viewing nights at schools throughout the Sydney area and occasionally in the country. The most memorable viewing night was in Gundagai where the club setup telescopes in the showground and it felt like the whole town came to view the heavens. The town's folk really appreciated a club that was prepared to come 400km from Sydney to put on an entirely free event. During this period I was also the NSAS librarian.

During my working life, I had always had an interest in woodworking but never had much time to devote to its pursuit. Prior to joining the Shed my only significant woodworking project was building a large deck at our house in North Rocks. Before I retired, I knew that the The Hills Triton User Group (now the Hornsby Woodworking Men's Shed) existed and upon retirement in 2005 I immediately joined the Group, then at the old scout hall in Headen Park

Thornleigh. *Photos at right and below show Jim working at the Shed on recent projects.* From the beginning I was impressed by the friendly atmosphere and also by the philosophy of the Committee that did not impose rules on what type of woodwork members could undertake, provided they did it safely.

A year after joining, I accepted the position of Safety Officer on the Committee and continued in this role for seven years during which I wrote the safety procedures which now form part of the Shed's



Induction Process. This was followed by two years as Vice President. I now enjoy being part of the maintenance team it suits my engineering skills and interest. Above all I enjoy helping less experienced members and the company of fellow men and women members who share a common interest in working with wood.



as

Of the many woodworking projects I have worked on since joining the Shed, the most challenging was

making a chair selected from the advanced skills plans of Fine Woodworking magazine. The chair shown at right was a challenge to build due to the number of joints that have to be made on parts that meet at various angles. I chose to make all the joints using floating tenons which allowed me to cut mortises on both parts of the joints using a router and custom made jigs.



*Jim is well known for the design and sturdy construction of the children's digger, shown in the photo at left. He made several for sale. This picture was taken at a recent Bunning's BBQ and sale of our toys where it had a bargain price tag of \$100.*

Apart from woodworking, my other pastime is walking where I try to accomplish one long distance walk a year. Since turning seventy, I have trekked in Nepal, completed five long walks in the UK and a one week trek in Switzerland.

# The Committee; Planning For Our Future

President, Ian Raper, organised a meeting between HSC Councillor Robert Browne, the Federal Member for Berowra Julian Leeser MP and the Committee, to be held on 2 May 2017, at the Shed.

Julian was accompanied by Daniel Dummer, Constituent Liaison Officer, who took photos as Julian and Robert were given a tour of the Shed, including a demonstration of the new dust collection system in action. They met many of the members and spoke to them about their current Shed projects.



Julian then gave a short address to the members, telling them of his interest in the principles of Mens' Sheds and

the issues with Government funding.



He then posed for group photos.



This was followed by a meeting of the Committee with Robert and Julian on a number of topics.

- ❏ A brief history of the formation and development of the Shed from its humble beginnings as a small woodworking club in 2001 to a well-managed organisation that it is today of 164 combined male and female members.
- ❏ The (in our opinion, inappropriate) delegation of government funding to the Australian Men's Shed Association.
- ❏ A medium and long-term view of our Shed's accommodation, including the extension of the current lease term at Sefton Road that expires in 2021 and the prospect of eventually building our own workshop on Council land with enough space for a larger shed, parking and other facilities that will meet our needs for the foreseeable future.



**JULIAN LEESER MP**  
Federal Member for Berowra

PH 30/5

Mr Ian Raper  
President  
Hornsby Woodworking Men's Shed  
33A Sefton Rd  
Thornleigh NSW 2120

17 May 2017

Dear Ian,

Thank you for your letter providing further detail on Hornsby Woodworking Men's Shed's concerns about the imposition of GST on imports valued under \$1,000.

I appreciate the concerns you have raised and have brought them to the attention of the Minister for Revenue and Financial Services, the Hon Kelly O'Dwyer MP.

I will be in touch again as soon as I receive a response from the Minister.

In the meantime, once again I want to express my gratitude for your hospitality and my sincere appreciation for the Shed's work in the community. It impacts very many lives in a great variety of ways, and there is no doubt in my mind that this is driven by the strong management provided by you and your team.

Yours sincerely,

Julian Leeser MP

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Subsequently, Daniel provided the following feedback:

“Julian was also pleased to be appraised of HWMS’ prior affiliation with the Australian Men’s Shed Association and policy concerns regarding the GST and imported goods. He has made representations on behalf of HWMS to the Minister for Revenue and Financial Services, the Hon Kelly O’Dwyer MP. This was confirmed in a follow-up letter, at right. He also paid tribute to HWMS on the floor of the House of Representatives, see below.

### **Julian Leeser MP 10 May at 02:23pm**

“It was a privilege today, during National Volunteers Week, to talk in Parliament about the outstanding work of the Hornsby (Woodworking) Men's Shed and the strong community they are building.”

That was a summary of Julian’s speech to Federal Parliament, a little over a week after he visited the Shed. The full speech can be viewed on:

[www.facebook.com/JulianLeeserMP/videos/821859071299218/](http://www.facebook.com/JulianLeeserMP/videos/821859071299218/)

# Angela Johnson - Woodcarver Extraordinaire

Angela has been a member of the Shed for only a few months but has quickly demonstrated her skills at creating intricate shapes, many very small and precise, with very fine finishes. This is the result of several decades spent developing and honing her carving skills.

At the July Members' Meeting, Angela impressed all those present with her exhibition at "Show & Tell". The following photos are a showcase of her work.



# A Herd of Happy Hobby Horses

The Shed was approached by the Sydney Living Museums “a group of 12 museums, houses and gardens that will take you on a remarkable journey through time and place to experience a whole other life” to make a number of traditional children’s toy horses to be used by schoolchildren at the Museum.

Apart from the cutting out (Robert Evans assisted with that), they required a lot of time to detail and apply finishing coats of paint. Our thanks go to John Talbot for undertaking that onerous task, teaming up with his wife Sue.

The photos at right and below show John and the finished horses in the Shed, the day before they were delivered to SLM.



The horses were needed for the SLM event “Family Fair”, held at Rose Hill House & Farm on the weekend of 29 and 30 July. The horses were lined up outside the historic school house, ready to use and modern children seemed to know how to ride them.

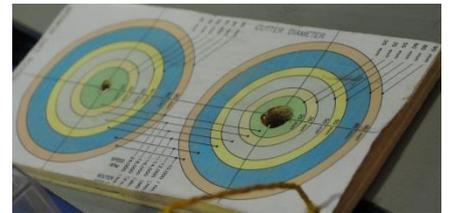


# A Demonstration of the Correct Use of Our Bench Mounted Triton Routers

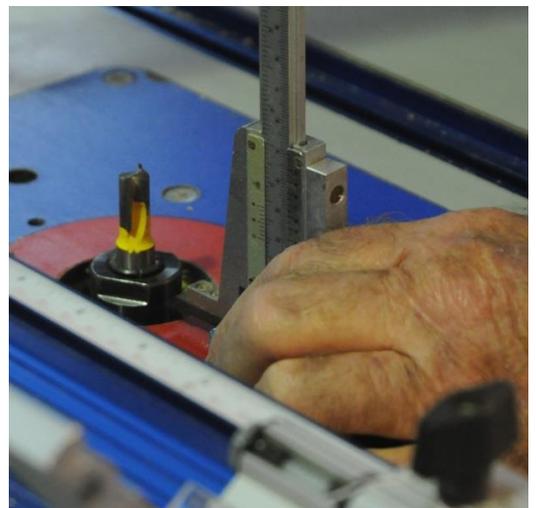
Tony Blair took the opportunity to demonstrate the proper use of our routers on 23 May, while the dust collection system was temporarily turned off.



Even for experienced users, some of the many features of these machines may be overlooked, such as the speed control that relates to the diameter of the cutter and



the micro winder that enables continuous fine depth adjustment, as opposed to the coarse adjustment via the rack and pinion height adjustment and table winder.



## SP00 - 4. Table Mounted Routers

A table mounted router is a woodworking machine in which a vertically orientated cutter (router-bit) protrudes from the machine table that can be spun at speeds typically between 3000 and 24,000 rpm. Router-bits with different profiles can be fitted to the router chuck to allow the machining of various profiles on the edge or face of a work-piece. A router table normally features a vertical fence, against which the work-piece can be guided to control the horizontal depth of cut. Router tables are used to increase the versatility of a hand-held router, as each method of use is particularly suited to specific applications. The Shed has two identical router tables one of which one is shown at right. Both of the Shed's router tables are fitted with Triton routers that have hand operated controls that allow for coarse and fine adjustment of the router bit height relative to the table surface. The chuck of Triton routers can be raised above the table surface which makes fitting and removal of router-bits relatively easy. The routers also have built in safety features that prevent the router from starting when the chuck is protruding above the table surface.

Instructions on the safe use of Router Tables are contained in **Safety Procedure SP06**



# Our May 2017 Bunnings BBQ, Raffle and Sale of Toys

We have developed a very good relationship with the Bunnings' Dural Activities Organiser, resulting in two fundraising BBQs per year. But the one organised for 21 May was a first; not only were we sizzling sausages but selling toys, promoting the Shed and holding a raffle. They put up three tables for us in a prime position at the front entrance to the store. These activities, of course, required more than the usual amount of volunteers. Our thanks go to all those members for their support.



The following pictures tell the story of a great day of members working together and relating to the public what a great time we have doing and learning woodwork. 🇺🇸



The results of a full day's work – the BBQ takings were \$1,088, the sale of toys and raffle achieved \$600 (including \$145 in card purchases; our first use of the PayPal card reader) resulting in \$1,400 Nett.

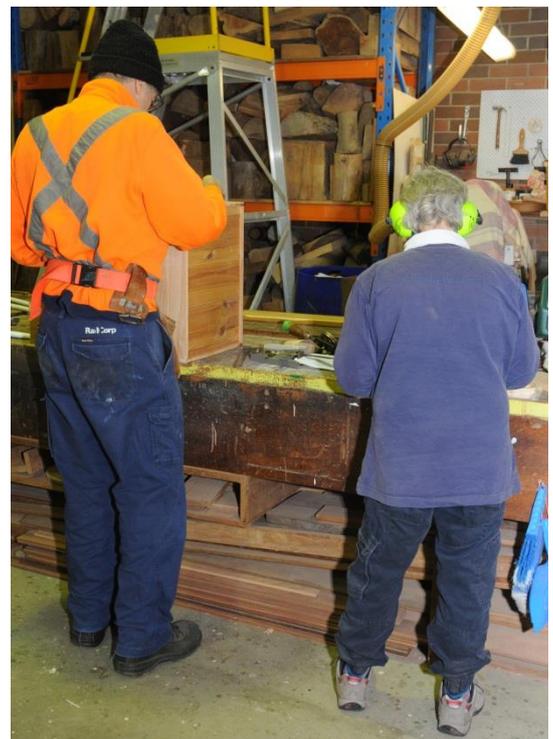
# Gosford Classic Car Museum Jaunt

**O**n 21 June, a visit was arranged by David Tarren. Eighteen members plus two partners were transported to Gosford in a number of members' cars. The car museum is one of the top five largest private collections in the world (over 450 collectable cars and motor cycles). Several hours were needed to explore the huge area before visiting the Mooney Mooney Club for lunch. My thanks go to Peter Whitten for the following photos:



# In and Around The Shed

A series of photos that capture those moments that make our Shed and its members so special.



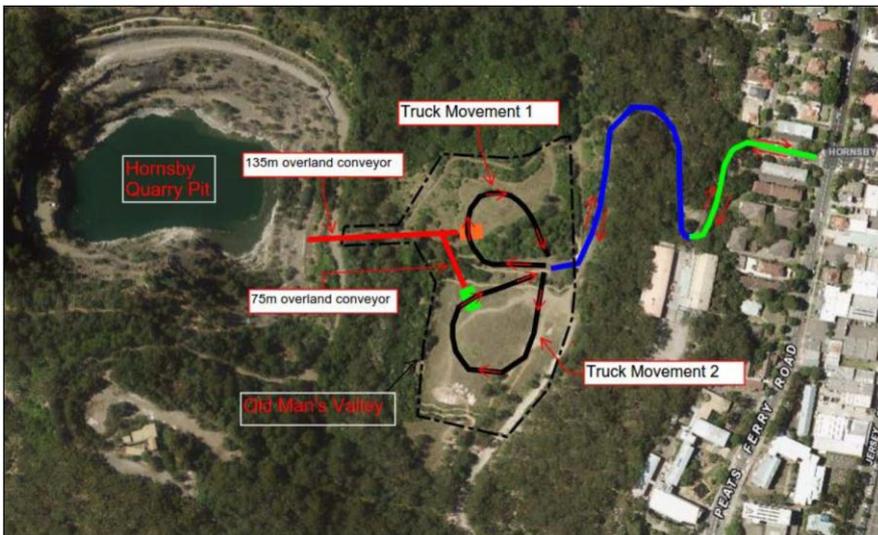
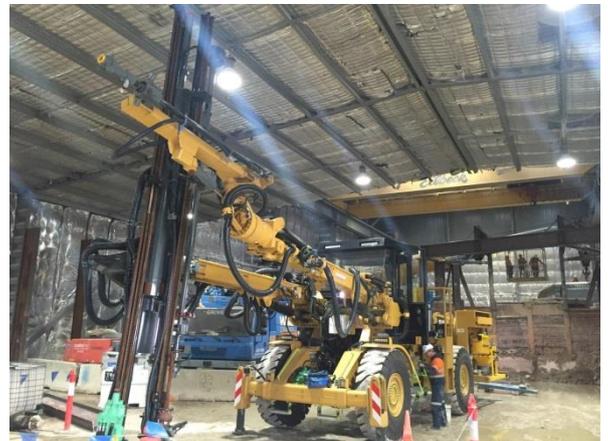
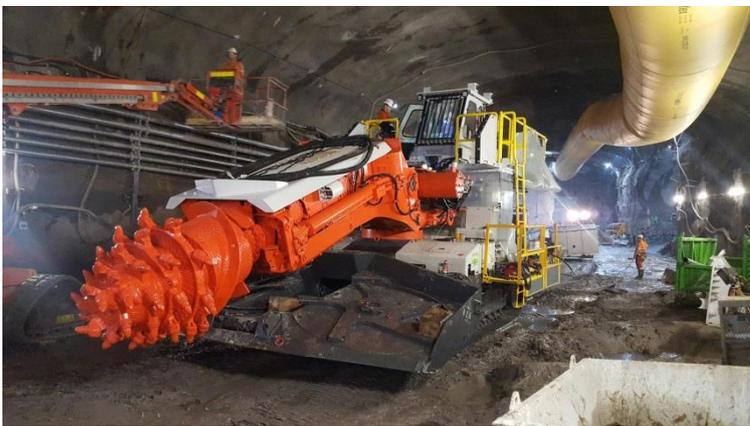
# NorthConnex Shed Presentation 7 April 2017

The presentation was made during the workshop lunch break. It was well received with the attending members giving some very positive feedback, in particular, the knowledge of the main presenter and the comprehensive information imparted.

Some sample screens follow (if you want the full presentation, just ask the Author):

NorthConnex will provide the vital link between Hills M2 Motorway and the M1 Pacific Motorway

- Two key components – Tunnel and M2 Integration Works
- It will be one of Australia’s longest and deepest road tunnels – and will be longer than the Eastern Distributor, M5 East and Cross City tunnels combined



# Woodworking Tips

## Quick Caps for Clamps



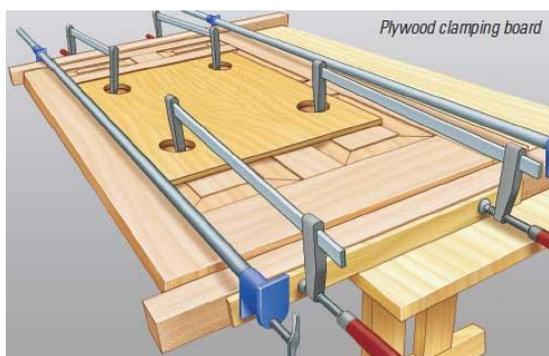
If the adjustable jaws of your G clamps don't have a protective cover on their heads, the caps of soft drinks or bottled water can fit quite well. They'll prevent the metal clamp head from marring the wood and they're actually quite durable for this application. Depending on your clamp size, they might even fit over the head with just friction pressure as with the clamp shown here. Or, if they're slightly oversized, a little silicone caulk or a drop of epoxy will help to hold them.

## Holding Down Smaller Nails



Short nails or tacks can be difficult to hold with your fingers in order to start with a hammer, so here's one solution to spare you a bruised thumb: Just fold a piece of masking tape or cardboard over on itself and push the nail through it. The flap will hold the nail upright for positioning and it can be reused.

## Clamp Extender



Recently I had to clamp a long project to glue it. The overall clamp length I needed was 74". I tried using long pipe clamps, but there was so much flex in the 3/4" pipe that the clamping pressure wasn't being exerted parallel to the pipes' axes. So, I fabricated the cheap and quick plywood aid, shown at left, with a few large holes for the clamp heads. It allowed me to use 24" bar clamps and keep the pressure square to the workpiece. It worked like a charm.

Source – Publically available woodworking Internet media

Author – Philip Hirshbein

Editor – Tom Gait