

100TH ISSUE SPECIAL EDITION

THE **Shed**

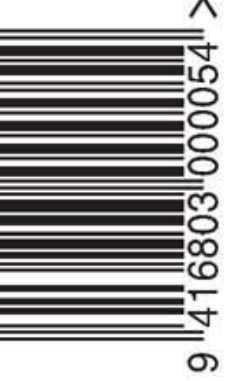
WHERE DREAMS ARE MADE REAL

JANUARY-FEBRUARY 2022
ISSUE 100
THE-SHED.NZ

100

**CELEBRATING 100 ISSUES
WITH 100 SHEDDIES**

NZ \$15.95 INCL. GST
AUS \$16.95 INCL. GST



IN THIS ISSUE

BUILD A DINGHY - PART 2
FINAL ASSEMBLY
AND PAINTING

SCHOOL TO SHED
PASSIONATE KNIFEMAKER
MEANS BUSINESS

FOLLOW UP TO A SHED CLASSIC
HOLIDAYING WITH A
HOMEMADE CAMPER



It's time. Bring life back to your deck.

Finish your deck in a day with Cabot's Aquadeck®.
It doesn't take long to bring life back to your deck with Cabot's.



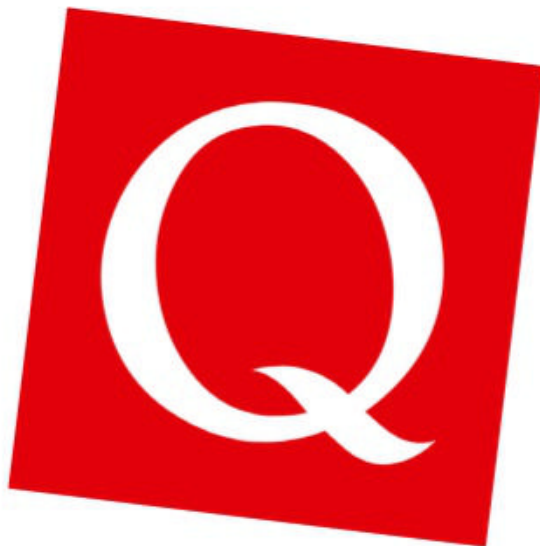
Need a hand?

Scan now to message Cabot's Project Assistant, we'll get you started.

Cabot's®

© Cabot's and Aquadeck are registered trade marks. ™ Deck Hand is a trade mark.

A LOVE FOR MAGAZINES



If you are the type of reader who actually reads these editorials in magazines, it shows just how much you are truly connected to this publication. Most folk never bother reading these columns from editors as they are just keen to get stuck into the articles. I have noticed myself that I only read them if I am reading a magazine that I really enjoy, and, like most editors, I often wonder if anyone reads them. Maybe we should bury a prize somewhere in the copy to figure out if we are just rambling on to ourselves — which we often do anyway, he he.

There is always a ‘new’ on the scene that many claim will be the death of the incumbent dominant medium. Movies would kill radio, television would kill the movies, and the internet would finish off television and print media. None of that actually happened; what happens when ‘new’ comes along is the current market leader adapts.

The Shed magazine, for example, has many digital and internet options for readers and advertisers. These are additions to and extensions of our printed offering. We have adapted to this digital age and are much more than simply a print publication.

So, to reach 100 *The Shed* issues in our planet’s current media maelstrom is something to really celebrate, and we are doing just that this issue. It’s not a milestone we can let pass without celebration but we have tried not to overdo it while still rejoicing in the occasion. It’s time to give some column inches to those who created the magazine and to all those who helped it become the popular read that it is today.

We hope you enjoy learning about all the folk whom we have featured in the various

articles throughout this issue, who create and have created the magazine, and you find it of real interest.

For myself, I can still recall when I discovered a love of magazines. I couldn’t believe how, when I read each article, it felt like it was written by the same person even though it wasn’t, and how it really connected with me. I was a Kiwi living in London in the ’80s during a truly golden age for contemporary music. I picked up a copy of *Q* magazine ([https://en.wikipedia.org/wiki/Q_\(magazine\)](https://en.wikipedia.org/wiki/Q_(magazine))) and my love of magazines began. Love at first read!

We know here at *The Shed* that we have many very, very loyal readers and subscribers so I am hoping this magazine consistently has the same effect on you as *Q* had on me.

Whilst we are celebrating those who created and continue to create this title, our biggest thank you must go out to you, our readers. We do our best to continue to deliver a magazine that we hope gives you that same sense of excitement as when you picked it up for the very first time.

We have just had hundreds of entrants for our Reader Survey and we are paying a lot of attention to what we are doing wrong and what we are doing right with the magazine, and will be implementing some changes for the second century of publication.

A huge thank you for helping us get to 100 issues.

Have a wonderful summer break, and be careful out there. 📱

Greg Vincent

Publishing Editor

THE **Shed** WHERE DREAMS ARE MADE REAL

the-shed.nz

ISSN 1177-0457

EDITOR

Greg Vincent, editor@theshedmag.co.nz

SUBEDITORS

Karen Alexander, Richard Adams-Blackburn

TECHNICAL EDITOR

Jude Woodside

PROOFREADER

Sarah Beresford

DESIGN

Day Barnes

ADVERTISING SALES

Dean Payne, dean.payn@parkside.co.nz

ADVERTISING COORDINATOR

Kealy Mathews

CONTRIBUTORS

Writers and photographers: Murray Grimwood, Jude Woodside, Enrico Miglino, Bryan Livingston, Bob Hulme, Jason Burgess, Ritchie Wilson, Nigel Young, Helen Frances, Tracey Grant, Mark Beckett, Gail Varga, Mark Seek, Coen Smit, Rod Kane, Ian Parkes, Hugh McCarroll, Nathalie Brown, Juliet Nicholas, Rob Tucker, Ray Cleaver, Alex van Dijk, Cory Scott, Brian High

SUBSCRIPTIONS

ONLINE magstore.nz

EMAIL subscriptions@magstore.nz

PHONE 0800 727 574

POST Magstore, PO Box 46,020, Herne Bay, Auckland 1147

parkside media.

EMAIL contact@parkside.co.nz

PUBLISHER

Greg Vincent, greg.vincent@parkside.co.nz

BUSINESS DIRECTOR

Michael White, michael.white@parkside.co.nz

GENERAL MANAGER

Simon Holloway, simon.holloway@parkside.co.nz

WORKFLOW MANAGER

Emily Khov

PRINTING AND DISTRIBUTION

Ovato

PHONE: 09 928 4200

NOTICE TO ADVERTISERS

Parkside Media uses due care and diligence in the preparation of this magazine but is not responsible or liable for any mistakes, misprints, omissions, or typographical errors. Parkside Media prints advertisements provided to the publisher but gives no warranty and makes no representation to the truth, accuracy, or sufficiency of any description, photograph, or statement. Parkside Media accepts no liability for any loss which may be suffered by any person who relies either wholly or in part upon any description, photograph, or statement contained herein. Parkside Media reserves the right to refuse any advertisement for any reason. The views expressed in this magazine are not necessarily those of Parkside Media, the publisher, or the editor. All material published, gathered, or created for *The Shed* magazine is copyright of Parkside Media Limited. All rights reserved in all media. No part of this magazine may be reproduced in any form without the express written permission of the publisher.

the-shed.nz |   theshedmag | Subscribe  MAGSTORE.NZ

DISCLAIMER

No responsibility is accepted by Parkside Media for the accuracy of the instructions or information in *The Shed* magazine. The information or instructions are provided as a general guideline only. No warranty expressed or implied is given regarding the results or effects of applying the information or instructions and any person relying upon them does so entirely at their own risk. The articles are provided in good faith and based, where appropriate, on the best technical knowledge available at the time. Guards and safety protections are sometimes shown removed for clarity of illustration when a photograph is taken. Using tools or products improperly is dangerous, so always follow the manufacturer’s safety instructions.



ON THE COVER

It's celebration time

We mark 100 issues by showcasing 100 of our favourite sheddies from the past 17 years

14



56

Build a trailer camper, Part 2

A follow-up to one of our most popular articles



6

How it all began

Shed founder Jude Woodside talks about the early years



32

Meet the team

Time to hear about the talent that makes your magazine



106

Scott Gregan — knifemaker

A teenager's hobby turns into a business



78

Mastering the lathe, Part 8

How to turn out a handy pair of stair gauges



86

Build your own dinghy

Part 2: Time to construct, glass, paint, and complete our nesting dinghy



102

Off the grid

Murray builds a unique cycle and bookshelf



134 Fun fairground organ
Made almost entirely of wood



66 My shed
The home workshop of Stan (the builder) Scott



114

The Shed shrink

In these stressful times, it's good to look back



116

Hi-tech camper van mods

We install a fourth onboard computer



126

The Geraldine Vintage Car & Machinery Museum

A machine-lover's paradise

EVERY ISSUE

- 1 Editorial
- 4 Letters to the editor
- 52 Subscribe to The Shed
- 54 New products for sheddies
- 148 Menzshed listings — find your nearest Menzshed
- 150 Back o' The Shed — Jude remembers those early magazines





IT IS GREAT TO PUT OLD COMPUTERS BACK TO WORK

LETTER OF THE MONTH

Dear Sir,

I'm writing regarding the article "To server or not to server", part 3. First of all, let me say that I think it is great to be reusing older computing equipment. I, too, love the challenge of getting it working on something useful. I recently dug up an old Dell laptop of similar age and power as Nigel's Toshiba. I have been working in the IT industry for 35-odd years, so I have seen lots of tech come and go — a big pile of it is in boxes in my shed.

However, using it can be a difficult question as Nigel says. It runs the risk that the solution is overcomplicated, overpriced, and difficult to maintain — plus it is old, so it will be less reliable over time and require constant fettling.

I wonder if Nigel is right heading in this direction. I suggest that the \$1400 might have been better spent on the following set-up: Synology NAS D220+, two 6TB Seagate Ironwolf NAS specific hard disks, and an uninterruptible power supply (UPS). I added 8GB of RAM to my NAS but I haven't needed it yet.

The UPS is to protect the NAS from power outages. The NAS monitors the UPS and will shut down safely when battery levels are low in the event of an

extended power outage. The UPS protects against power spikes.

The NAS specific hard disks are important. They are designed to run 24/7 with high usage. They are faster than standard disks.

I selected this specific Synology NAS for a number of reasons but mostly because it is one machine that can be used for many, many tasks. It takes two disks, which can mirror each other for resilience. Two disks is enough for me, but you can get NAS devices which take four or six disks. When one disk fails — and they do! — you just take it out and put a new one in. I've had to do this twice over the years.

I'm glad I don't have to worry about backups. You need to test backups by restoring occasionally. Sometimes you realise that you weren't backing up a folder you thought you were, or you add a new application and its data is not backed up. I do take backups to a 3TB external disk plugged into the NAS but I've never needed it. I think that only satisfies the old-school worry in me.

It runs Docker. This is an amazing way to get access to a huge variety of virtual machines (computers) that do all sorts of things. There are multiple Linux builds — you can try them all if you like. I run two applications 24/7 this way — my weather station software and my network management software. This way, I don't have to leave a computer on.

It comes with numerous media applications for managing photos, videos, and music. Also, you might be able to download and use your favourite as there is a library of applications. There is even

a useful security application that runs a variety of freely available cameras.

There — another way to skin the cat!
Mark Enfield

Hi Mark,

Thanks for your insights into an alternative configuration for my backup system. As you may have guessed from the series, nothing went quite according to plan. As one with your degree of experience in the IT industry, I'm sure there are no surprises there. I ran your letter past Lance Hastie of Com Technology and his response was:

"Yes, he's 100 per cent correct. What is missing is the iterations of requirements before settling on the current version you have and why you picked it. Myself, I use the Synology DiskStation. It's great. It's also unable to achieve some of your specific requirements."

"Should I have pushed you toward the DiskStation? Probably. It would restrict you in many ways but help you in others. He's spot on with it being another way to skin a cat."

Lance Hastie
Com Technology

I mentioned in the final article that if you gave five different engineers the same problem they'd come back with 10 different solutions, and I think both your solution and Lance's reflect this. I appreciate your taking the time to write in and I hope it adds to the mix for other readers to consider as they make their decisions around a home server and backup.
Nigel Young

STUDENTS MAKE THEIR OWN UKULELES

Dear Sir,

Good to read your article on the [cigar box guitars], "Outside the Box" (*The Shed* November–December 2021, issue 99), and learn a little of the maker, Don Buckley.

I am a high school technology teacher. We make a box ukulele with Year 9 students (13 years old).

Attached is a short YouTube clip, showing how it is made. <https://www.youtube.com/watch?v=WwT5VPhEZXM>

This simple instrument was developed in collaboration with Brian Nelson, also a teacher and musician. He is playing the ukulele for the music to the video clip.

There have been about 80 or 90 per year completed over the last 10 years, in three schools I have taught in.

The ukuleles are normally fairly well finished and most of them play. We fit them with simple nylon strings, but some students upgrade them to good ukulele strings.

The tuners are very simple and do slip a little, but it keeps the cost low. Some students also upgrade the tuners.

There are a lot of skills to be learnt in the process and a lot of fun is had.

Students do seem to take great pride in taking them home.

Russell Maxwell

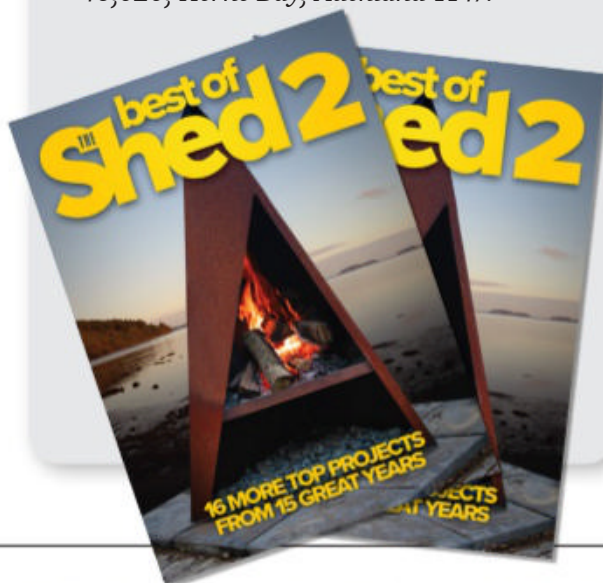
Technology teacher, Nelson



LETTER OF THE MONTH PRIZE

Every issue, our Letter of the Month winner will receive a copy of *Best of The Shed 2*. More top projects from 15 great years of *The Shed* magazine

Letters should be emailed to editor@theshedmag.co.nz, or posted to Editor, *The Shed*, PO Box 46,020, Herne Bay, Auckland 1147.



PAINTING TIPS FROM THE RESENE EXPERTS

The warmer months are a great time to get all those exterior painting projects finished.

To help you make your painting projects easier, we've asked the Resene experts to share some of their top tips:

Keep your home cool

Dark finishes, such as black wood stains and paints, are very popular for exterior walls and fences, but they can absorb a huge amount of heat from the sun. If you're planning on a dark colour for your exterior project, consider using a Resene CoolColour paint or stain, designed with special pigment technology to reflect more heat than a normal paint. It will help to keep the paint and surface cooler so they can keep looking good.

Add the additive

When the sun turns up the heat, your paint can start to dry quickly. To help slow it down, add Resene Hot Weather Additive. This will slow down the dry time and give you more time to get a quality finish.

Follow the sun

Avoid working in direct sunlight wherever you can. Instead follow the sun around the building. Not only is this easier to paint, but it will help keep you cooler too. If you can, start early and then have a break over the hottest part of the day.

Clear is not the answer

While it can be tempting to want to finish exterior timber in clear finishes, it's not worth the hassle. Because clear finishes have no pigmentation, the UV light goes straight through them to the timber beneath and will start to erode it. Eventually your clear finish will flake off leaving you with a lot of prep work before you can recoat it. Instead opt for a Resene Woodsman stain colour close to your original colour – that way you'll get a natural look combined with protecting the surface.

Did you know?

If you need help with your painting or wallpaper project Resene has free expert advice available – visit your local Resene ColorShop, use the free Ask a Tech Expert service online, resene.co.nz/techexpert, or call 0800 RESENE (737 363).

The Sheddies



the paint the professionals use

your paint and colour experts



The first two issues of The Shed: Terry Neale on the cover of the second issue

IN THE BEGINNING

IT IS SO PLEASING TO ME THAT *THE SHED* HAS REACHED THIS 100-ISSUE MILESTONE

By Jude Woodside Photographs: The Shed archive

In the beginning, I was inspired by other venerable publications like *Popular Mechanics* and *Fine Woodworking* that had lasted the distance. I had a vision to create a magazine that would link all the various tinkerers and artisans labouring in their sheds all over the country.

Jim Hopkins' book *Blokes and Sheds* had made an impact and reinforced in me the belief that there was a

substantial potential readership for the magazine. Not everyone shared my enthusiasm. I got a terse one-line rejection from a major magazine distributor saying, "We don't see any market for this title." Fortunately, their competitor had a different opinion.

At the time I couldn't find anything similar to what I had in mind for *The Shed*. Instructables.com and YouTube were just starting but their initial

offerings were very simple. I wanted to create a magazine that would appeal to sheddies who had some experience; it wasn't going to be a beginner's guide. We assumed that people had some tools and some knowledge and we wanted to show what others were doing with those tools and knowledge. There were plenty of magazine articles showing how to make an MDF coffee table but I wanted more than that.



Greg Kershaw, who introduced our welding articles



Terry Snow, editor of The Shed from 2005 to 2015

Time to give it a go

I had had the idea for *The Shed* in my head for some years and wanted to have a go at publishing on my own behalf. I had been working in magazines and newspapers for nearly 10 years by then and had managed several magazines of various sizes and markets. As so many ventures begin, we got a loan on the house and leased space in Symonds Street in Central Auckland, not too far from our home, and set up an office.

"I wanted to create a magazine that would appeal to sheddies who had some experience"

I was always sure that I wanted to do an article on building a trailer for our first article.

Partly because it epitomised the spirit I was trying to capture — the sheddie who gets on and makes one because he can. There was a time in my youth when nearly all 6' x 4' trailers were homemade.

I also realised the project would involve welding and I had a feeling that this was a skill that many others were keen to acquire, as was I. MIG welding rigs were becoming cheaper and more readily available. The new inverter models were more portable too.

We sought out someone who could demonstrate welding for us and we were directed to Greg Kershaw who was setting up a welding school in West Auckland. Greg agreed to participate on the condition that Terry Snow, the editor, and I first learn how to do it from him. So Terry and I donned overalls and spent several nights being taught by Greg how to set the voltage and feed speed and how to lay down welds. As a hobby Terry's first love was music and he was an accomplished pianist, so I was a bit surprised that he was far better at welding than me. He had much better hand-eye coordination. Welding went on to be an important feature in the magazine for more than 10 years. ►



Terry Snow proving to be the better welder





Shooting the trailer build.
From left: Gerald Shacklock,
photographer, Tony Cullen,
builder, and Terry Snow,
taking notes

A great first cover

We had found someone to do an article on MIG welding and all that remained was to find someone to build a trailer. We were put on to Tony Cullen of Cullen Equipment Specialists, a specialist in making and repairing trailers, and he graciously offered to build us a typical 6 x 4 trailer. That guaranteed that the front cover shot would be a spectacular shot of welding.

Of course, I didn't know at the time that the best way to get those spectacular shots of welding was to turn the gas down so you made a lot of sparks but not a very good weld. It did make a spectacular cover though. I still own that trailer and it's as solid today as the day it was made.

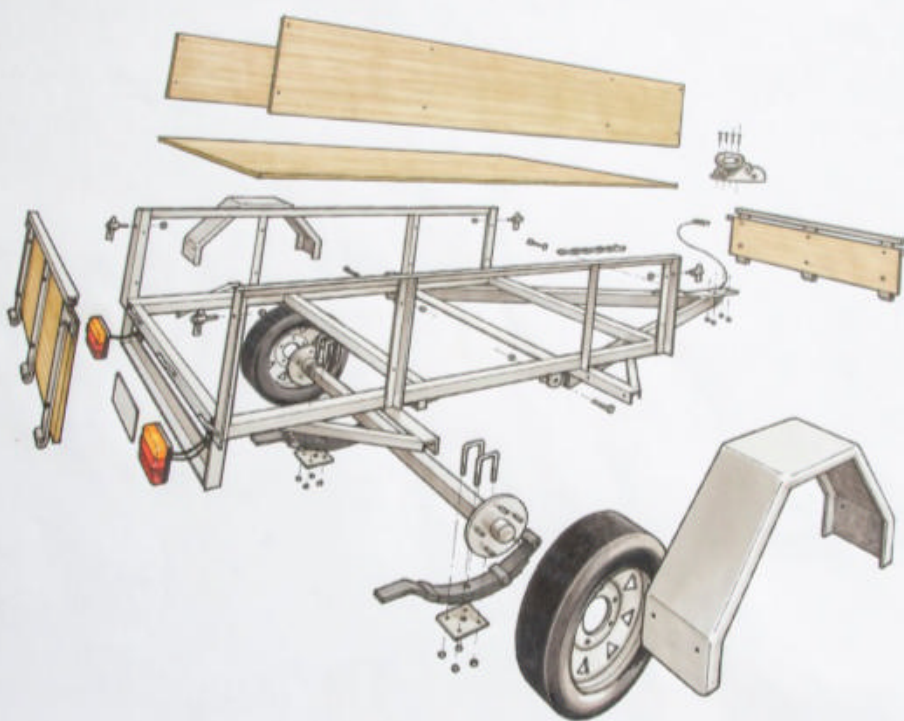
Meanwhile Terry and I were working with a designer to come up with the layout and look of the first edition. Alice Bell developed the "look" of the first mag and set the tone for what was to follow.

Alice was an accomplished magazine designer with an impressive portfolio. Magazine design is an artform that most of us don't notice, but designers

"Partly because it epitomised the spirit I was trying to capture — the sheddie who gets on and makes one because he can"

are essential to making any magazine a visual experience and often only those of us in the industry really appreciate their work. At *The Shed* we were lucky to work with some of the best designers in the industry and they were responsible for the success of the magazine almost as much as the actual content. Their job is to make the material compelling, to make you reach for it on the shelf where dozens of other titles are competing for your attention.

Alice also gave us a contact for another story in the first issue. One



The original exploded diagram for the trailer
hand-drawn and coloured by Philip Heath.
Nowadays this would be all done on CAD



The finished trailer. Still as good as new

of her neighbours was Peter Scott, a cabinet maker who was semi-retired. I wanted to have a variety of materials and trades in the mag and Peter offered to make a traditional dining chair. Having had a go at chairmaking, I knew this was no beginner's project.

I begin to write articles

I employed a journalist to cover the story and I went along to take the pictures. Peter was a fountain of knowledge but unfortunately it was too much for the journalist, who felt a bit out of her depth. I realised that I understood what Peter was doing so I ended up writing the article instead. That gave me the confidence to continue to write articles. I have found that it is better to have an appreciation for the subject to be able to get to grips with explaining how

"I couldn't match that; my own hand drawing skills were not that good but I did still remember my technical drawing from high school"

things are done. Just knowing the jargon helps, but having had a go at a few things, whether you succeeded or not, is even more useful — at least you know the pitfalls.

Terry Snow was a very accomplished editor and a former journalist at the *Auckland Star*. He had been editor of *The Listener* and had edited the *NZ Herald Book of the Century*. He was on the Press Council, the Advertising Standards Board, and the board of

Creative New Zealand. He went on to be founding chairman of the NZ War Graves Trust. Needless to say, I was very pleased to have someone with his depth of experience on board. And more than once his wise counsel prevented disaster, not to mention his judicious editing of my scribbling. He also had an extensive press network and, through that, we were able to make contacts and find collaborators throughout the country.

Terry found several stories for the first issue but we were still short according to my reckoning, so I decided to do a project too. Something that wouldn't be too challenging. I had been wanting to make a couple of wooden planter boxes so I roped in my cousin's wife Kim Kerrigan, whom I knew to be a talented photographer, to record me doing it in my tiny shed.

I wanted good exploded plans

I was keen that we would carry plans for almost everything we did. Other mags that I looked to, such as *Fine Woodworking* from America, made an art of their exploded drawings which were often hand coloured. I couldn't match that; my own hand drawing skills were not that good but I did still remember my technical drawing from high school.

I had a professional draughting board that I would draw the plans and isometric drawings on. I would then ink them and carefully photocopy and shrink them to size so we could scan them onto a digital medium. The first few issues were indeed made that way. I could do the simpler stuff but the exploded drawing of the trailer was beyond me. ►



Robin Overall and his pizza oven



I don't remember exactly how, but about this time, in the serendipitous way such things happen, we met Philip Heath. Philip is an industrial designer with a passion for Richard Pearse's aeronautical engine. He was also a superb draughtsman. He did the drawings for the trailer and the hand-coloured exploded diagram that accompanied it. I still have the originals and they are works of art. We employed Philip whenever I knew my skills were not up the task from then on. I soon managed to master some online drawing apps and later I taught myself CAD to make the drawings for the magazine.

My idea was that the magazine would be 50/50 engineering and woodworking so in the second issue we got in touch with the extraordinarily

talented Terry Neale. Terry is very well known in Auckland as a cabinet maker who can make to order and reproduce pieces. What isn't so well known is that Terry was self-taught, via the same magazines that I had been reading. So, when I approached him, he was very enthusiastic and came up with a project there and then. We spent a few days following his work and did a few more projects with Terry later too.

The first issue is a hit

The first issue had flown off the shelves and I had regretted that we didn't print more — I believe they are now a collector's item. The second one featuring woodworking was not such a rapid seller and about then I realised that the magazine that I thought would be about wood working with a bit of engineering was the other way around and engineering was Kiwi sheddies' real passion. From then on, whenever we featured sparks and hot metal, we had great sales.

By the third issue, Dec 2005 (at the time we were monthly), I wanted to feature something I saw a friend of mine build — a backyard pizza oven. Again, our luck held and cometh the hour, cometh the man, and we met Robin Overall. Something of a polymath, he is a potter and technical teacher who became a regular and dependable contributor providing some

of our most popular projects, but the first and greatest of which was the pizza oven. The design wasn't new; Robin sourced it from an old book about 300-year-old bread ovens in Montreal. He knew bricklaying and kiln building so the techniques for building the oven were familiar to him. But he was also an illustrator and able to provide detailed drawings and diagrams of the process too.

The third issue of *The Shed* featuring the pizza oven was one of the most

“Again, our luck held and cometh the hour, cometh the man, and we met Robin Overall”

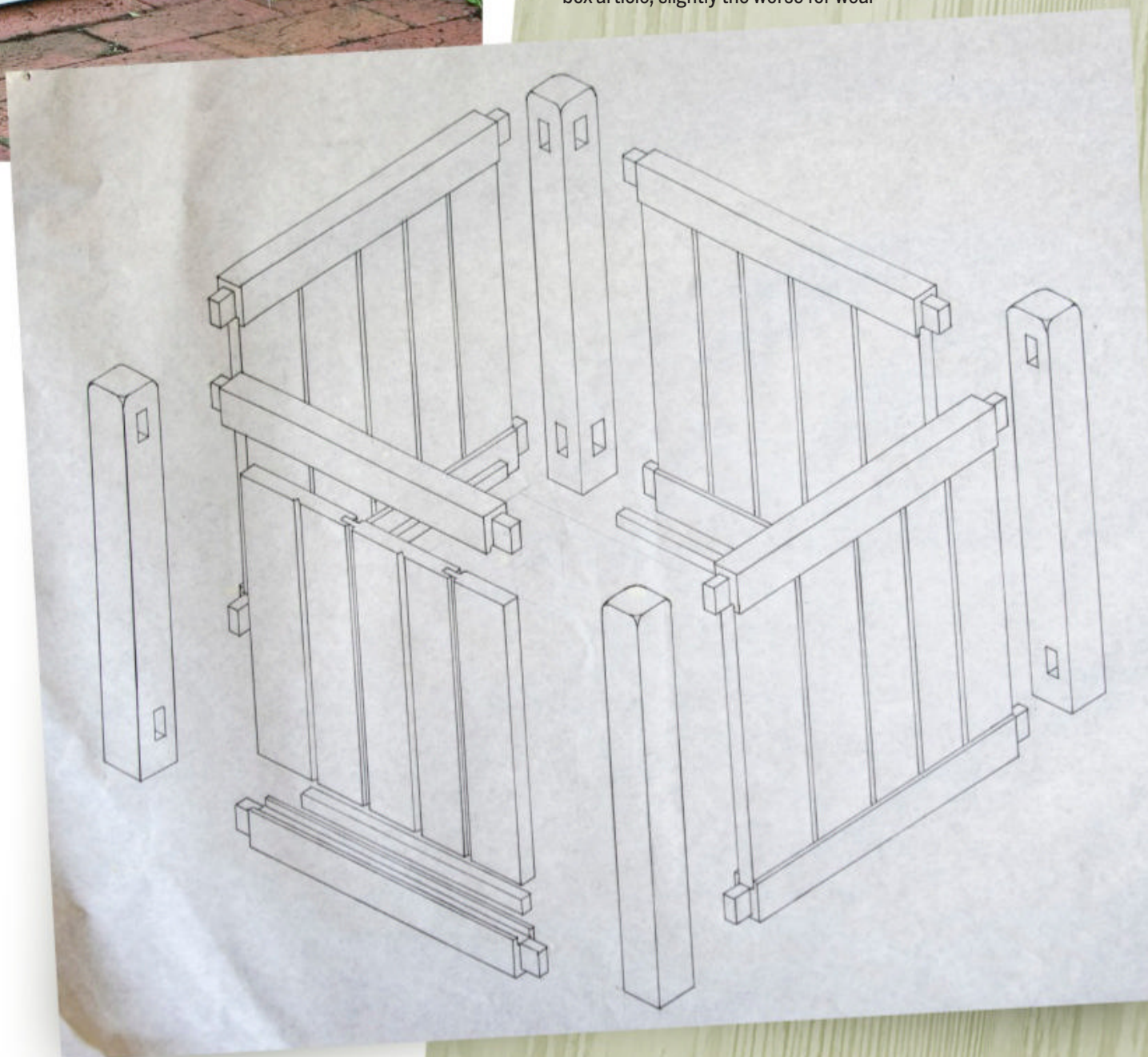
successful magazines I have ever produced. Not only did it sell out, but we also sold out all the back issues over the course of a year. It was soon apparent that the driving force for its success was women buying it for “him-indoors” to make for them over summer. That one issue spawned an industry creating modular versions and copies, and was a shock to the suppliers of the bricks and other parts, creating unprecedented demand. It was so popular that two years later we were forced to repeat it with a slightly modified design, but with the same outcome — we sold out.



The finished planter box

New people, new tools, new trends

Working on *The Shed* was always interesting; each day was something new. New and interesting people to meet, new ideas, new tools. We have followed several trends in tools, from the development of battery powered tools, from nickel metal hydride (NiMH) to Lithium-ion. The growth of the inverter welder, the development of the impact driver, the rise of the microprocessor, and there will be many more to come. We tried to make sense of it all and explain as clearly as we could how things worked. We tried hard not to patronise nor to assume too much. I was very pleased to get several letters from experienced engineers and tradesmen not just congratulating us on an article but one or two even admitting we had explained something they ►



The original drawings for the planter box article, slightly the worse for wear

didn't know themselves. I was especially proud of our penetration into high schools and even prisons. It became a campaign of ours to promote trade training to make the trades sexy again and give due recognition to the trade skills as being on par with any other tertiary qualification.

"I loved the experience of creating and running The Shed magazine and it constituted my longest period of continuous employment"

My time to move on

I loved the experience of creating and running *The Shed* magazine and it constituted my longest period of continuous employment. Unfortunately, ill health that had plagued me for the first few years of the magazine returned and, in 2017, I decided reluctantly to give up the magazine. Parkside Media, with whom we had had



Peter Scot making the Rimu dining chair for the first issue

cordial relations for some time, were able to step up and take the burden off me and I passed the baton on to them. They have continued the commitment to quality reporting and clear and lucid articles and the magazine continues to be a credit to them.

I wish I could thank everyone who contributed in some way to the success of the magazine, and they are legion, but I have only a limited space. I should mention Terry Snow and Sarah Beresford — truly excellent editors; my partner Penny Carroll for her

forbearance; and it would be remiss of me not to mention the indefatigable Fiona MacNeil who answered the phones and did so much of the subscription administration. If any of you had called *The Shed* in those early years it was her unfailingly positive voice you heard.

I would also like to thank all our contributors, Toast Ltd — our long-serving layout artists, the salespeople who made it possible and you, the reader, without whom all this would have been in vain. 📧



The very talented Terry Neale with the work in progress



Compact, reliable, great value



Quick to set up. Easy to run.
Ideal for light industrial work.

Discover what the NEW BOC RAPTOR range of quality MIG/MAG, Multi-process, TIG, plasma cutter and MMA machines can do for you. They're small-in-size but big on amperage. BOC RAPTORs deliver world-class power and performance at a price that you'll appreciate.

Visit your local BOC store or BOC distributor today to find out more.

Call BOC on 0800 111 333 or visit www.boc.co.nz



BOC
A Member of The Linde Group



Meet our New Compact Welding Range.

The Superstars

IN 100 ISSUES OF *THE SHED*, PUBLISHED OVER 16 YEARS, WE HAVE SHONE THE LIGHT ON SOME INCREDIBLE AND INSPIRATIONAL SHEDDIES — TOO MANY TO MAKE CHOOSING OUTSTANDING ONES AN EASY TASK. HOWEVER, NEVER ONES TO SHIRK A CHALLENGE, WE HAVE PULLED OUT 100 OF OUR FAVOURITES.

By Ian Parkes Photographs: The Shed archive



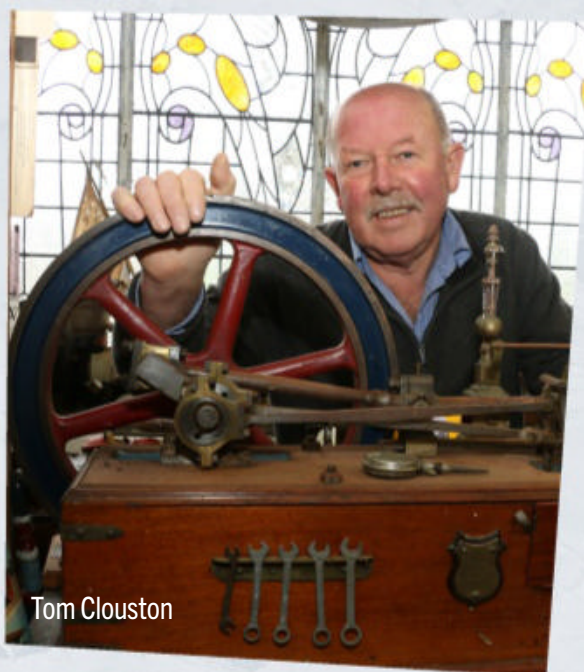
Pauline Bern

PRECIOUS METTLE February 2006

Self-taught jeweller and former rockhound Pauline Bern was specialising in combining shells with gold and silver to create necklaces, rings, and earrings, alloying her own gold using an acetylene/air torch. Pauline said that New Zealand's jewellery scene was much stronger than that overseas.

TREASURE TROVE October 2016

Tom Clouston inherited his father's shed, which featured in *Blokes 'n' Sheds*, plus a collection of vintage car projects and a museum haul of memorabilia. Former hot rodder Tom added another three sheds and installed automotive machinery that he taught himself to use to restore a 1906 Darracq and a 1905 Holsman Model 5, a true horseless carriage.



Tom Clouston



Owen White

DOWNSIZING April 2010

Owen White had 43 vintage engines, mostly restored from rusty bits, but downsizing to a retirement home in Pakuranga meant selling them off. It also meant downsizing his hobby, so he began making model engines instead. Having made his own windmill generators, Owen also made model windmills and a 1.5m-tall model of the Castlepoint lighthouse where, after an earthquake, he once used an envelope to help scoop into a chamber pot mercury that had spilled from the light's bearing bath.



Don and Steve Subritzky

PLANE CRAZY April 2011

Air New Zealand engineer Don Subritzky had a couple of jets in his shed — a twin-boom de Havilland Vampire and a 1951 Gloster Meteor — plus most of three Hawker Hind biplanes, the world's only Vickers Vincent, and a rare Airspeed Oxford, a once-common trainer whose wooden body rarely survived. There were several more piles of parts and a couple of helicopters. Don and son Steve, "custodians of history", always had something to work on as they tracked down and made parts for their aviation jigsaws.

PUZZLING IT OUT December 2005

While with his GP dad on his rounds, young Richard Feltham had checked out a lot of sheds, including one belonging to a radio repairer. With the smell of flux still in his nostrils, Richard put his love of electronics to work in his big New Plymouth garage, programming a CNC router to make ‘proper’ wooden puzzles. A laser engraver did even finer work, cutting plastics and wood up to 10mm thick.



Richard Feltham

SHED HOSPITALITY May 2021

For 40 years, Tony Woods’ garage in Albany, Victoria, has been more than a shed; it’s an institution. On Bathurst race days, a collection of FJ Holdens and stock cars gives way to TVs, a deep fryer, and a fridge catering for up to 50 mates.



Tony Woods



Mark Lander

PAPER SAVIOUR December 2007

Artist Mark Lander is best known for making the ‘Little Critter’, which makes paper pulp from cotton rags or plant fibres. The commercial Hollander machine weighs half a tonne and costs a fortune. Mark’s robust baby version is ideal for hobbyists and Third World schools starved of paper. At the time, Mark had made more than 200 of these from aluminium plate, with rollers cast from dog-food tins and plastic pipe.



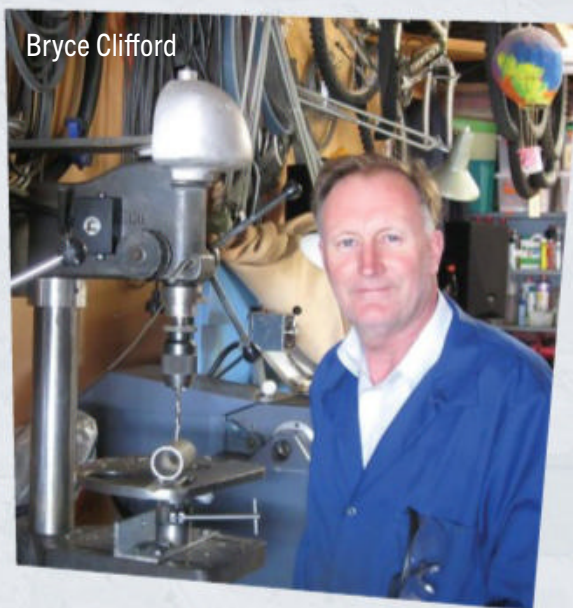
Russell Cooper

COOPER GOES BARREL RACING September 2019

The horsepower in this form of barrel racing comes from a 110cc go-kart kit. When your name is Russell Cooper, the body just has to be a barrel. Russell cut down and remade a French oak wine cask, which also supplied material for the bumpers, engine cover, and wing. The leather upholstery was saved from Russell’s Hamilton furniture repair and upholstery business.

TANNER DRILL PRESS SAVED October 2014

Bryce Clifford bought a cheap new drill press thinking an old Tanner press could be made into a key-slotting machine, but the robust Tanner convinced him to reverse that plan. He fitted a new motor but the top plate was too heavy to move or rotate. He installed a Vazey table on a custom rotating mount on the top plate and a hydraulic jack to both top plate and table.



Bryce Clifford

ANTIQUE EXPERT October 2011

Whanganui antique and clock restorer and collector Alan Geary was still going strong at 95. Having replaced missing inlay and banding in a Hepplewhite table and made a new lid for a silver tankard, he was restoring a 350-year-old James Brindle carriage clock. Alan advised people to start with a course to learn basic skills, then “... whatever you decide to do, build a library of books on the subject”.

GLOBMAN February 2009

Southland’s Ray ‘Globman’ Murray — nicknamed for his fascination with globular star clusters — built his own ‘globobservatory’ for his Meade LX200 10-inch telescope. It became the model for others he designed and built for friends. Ray also made high-quality accessories and adapters from bean can and Marmite jar lids — prototypes he marketed as RaysAstroStuff. ▶



Ray Murray



Alan Geary

ENGINEERING PRECISION IN WOOD *May 2021*

Former fitter and turner Rex McCaffrey designed and built his own wooden pendulum clock. He worked out all the gear calculations and cut them and the critical escapement tooth profile on a treadle-powered fretsaw, a triumph for this engineer and artisan.

Rex McCaffrey



THE ESSENCE OF SHED *October 2005*

Peter Northway described the jolting realisation that paying off a lathe and mill had denied the family a holiday. He sold the machines and bought a caravan. Peter later got into woodturning, but the sawdust affected his health so he went back to metalwork, buying much more affordable machinery. He made models but actually spent a lot more time making tools to make the models — and what's wrong with that?



Peter Northway



Phil Kindberg

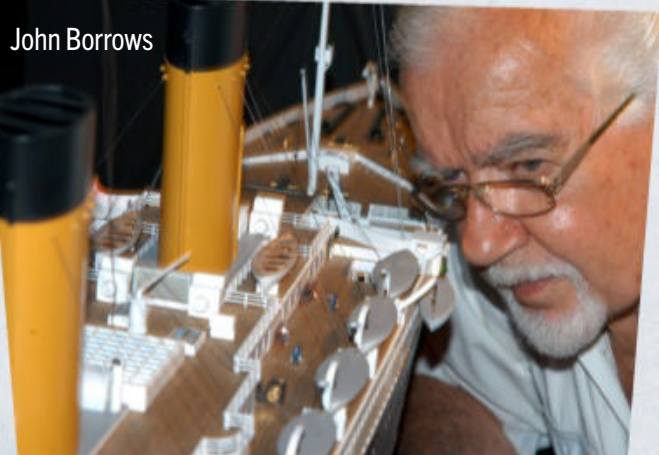
ESCAPE TO THE CHEESE FACTORY *September 2017*

Phil Kindberg left the Auckland rat race and moved into a 100-year-old, 600-square-metre Riverdale dairy factory, making a new home for himself and five Studebakers, a motorbike, and a Mazda, plus 40 bikes from a mate's motorcycle collection. Yet there was still space for a '50s-themed diner for various club visits.

SHED ZEPPELIN *Feb 2008*

Credited 'SmartDrive' inventor John Borrows said he had made stuff and the tools to make it with all his life. His Auckland garage featured 125:1 (big!) models of Titanic — he injection moulded many parts for it — and Hindenburg, and a 12:1 steam locomotive, as well as several home-made clocks and a Fokker triplane.

John Borrows



RUSSELL'S RADIALS *November 2020*

On a whim, Russell Sutton of Pirongia designed and built two radial engines. The nine-cylinder uses four-valve Honda XR600 barrels and heads with longer liners for the long stroke crank. The 14-cylinder uses offset Yamaha XV warrior top ends plus a turbocharger and intercooler.

"They are all out of my own head. I'd never had a close look at a radial engine," said Russell.

Russell Sutton



CLOCKING ON *April 2008*

Christchurch mechanic, aircraft engineer, and instrument technician Ken England moved north to set up the campground in Ohope. In retirement Ken got into clock repairing, fitting an extra motor to a lathe to avoid having to change belts and applying similar speed controller mods to his watchmaker's lathe. Learning clock tech as he went, Ken would also do woodwork repairs, although he got a cabinetmaker to make new long clock cases.



Ken England

INTEREST SPARKED *August 2014*

Auckland's Bruce Anderson had restored more than 30 classic motorbikes. On a classic rally 25 years earlier, he had bought a 1902 Oleo Magneto spark plug from a car wrecker. That sparked his interest in weird and wonderful plugs. Bruce had about 500 of them, including a plug with its own coil for a Model T Ford, an 1898 Rex plug with a mica insulator, and a 1907 De Dion Bouton plug in its own turned case.



Bruce Anderson



Keith Steel

QUARTER-ACRE SHED February 2014

Keith and Christine Steel were touring by motorhome when they found their 1022-square-metre 'shed' — a former rabbit fur farm — in Hawera. It was ideal for Keith's Cadillacs. The current project was rebuilding a 1918 Cadillac Town Landaulet from a trailer of bits. It involved 11 attempts at casting new heads and a whole new rear end from a picture projected full size on a wall.



Darryl Frost

LOOKING AHEAD December 2005

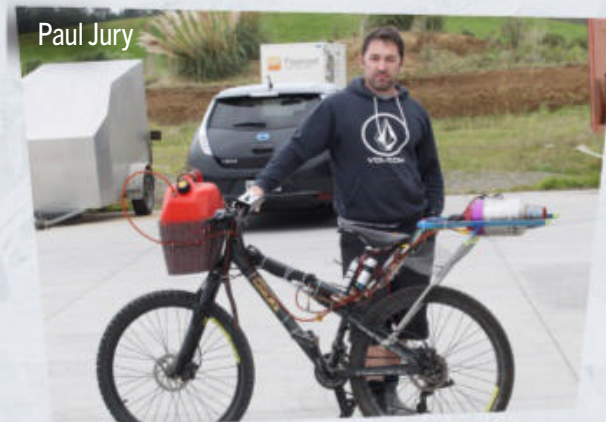
The irrepressible Bruce Simpson made a hovercraft with leaf blowers, a lathe using a drill press motor, and a dragster powered by a pulse jet engine — effective, but Bruce said the noise was beyond the pain threshold. He also built a flying wing camera platform, beating NASA to the punch. At the time, *The Economist* predicted camera drones could be a multibillion industry by 2020. Bruce was developing his pulse jet-engined version for offshore search and rescue.



Bruce Simpson

JET SETTER July 2017

Paul Jury liked fast bikes but his real thrills came from fitting a jet engine to a pushbike. He fitted a dainty wicker shopping basket to the front, then filled it with the large jerrycan needed to fuel the hungry and piercingly loud micro jet engine in the welded frame on the rear. He had cranked it up to 120kph but reckoned it could do 150. He was in the process of building a handheld carrier for it so he could snowboard uphill as fast as down.



Paul Jury

PLAYING WITH FIRE June 2006

Nelson sculptor Darryl Frost had seven sheds on his Nelson property for welding, forging, glass-blowing, and pottery, and he worked hard and fast — except when using the traditional sloping tunnel-shaped anagama, or Japanese wood-fired kiln, which took two days to load, five days to fire, and a week to cool down. The sculpture fences that stood at Nelson Airport until its upgrade a few years ago were Darryl's work.



Clyde Lambourn

SOLAR CHEF Feb 2009

In the past, Wellington's Clyde Lambourn worked on supertankers and made gas burners for North Sea oil. Having made a wooden telescope and a harp, he started making solar cookers — polystyrene-insulated and foil-lined boxes with a double-glazed lid. Each cooker is mounted on a Lazy Susan to track the sun. It will reach 130°C and cook a chicken in two hours in summer. ►



Trevor Nixon

MR FIXIT November 2005

Wellington's Trevor Nixon credited being left-handed for his willingness to modify tools. In a tightly packed shed featuring an injection moulder made from a twin-tub washing machine, Trevor repaired things for other people. While in the Cook Islands, he had made an electric piano and cast a photographic enlarger frame from old pistons in a home-made forge.

SEVEN HEAVEN February 2016

Ian Williams started planning the resurrection of his Austin Seven special race car straight after a nasty oil spill induced a roll-over crash. Joss Campbell made the new aluminium body while Ian did the mechanical work, including making new parts for other Seven owners. Ian, who also owned a rare road-going Austin Nippy, was keen to share the bang for buck thrills of racing the hugely historic Sevens, in order to build up the class.



Ian Williams



STAR ATTRACTION June 2015

Jim Baird bought a 650-square-metre 1920s-era garage in Patea and moved in. One car and one truck eventually turned into a collection of 24 cars. A 1917 Buick roadster with a rebuilt New Zealand-made body, remade by Terry Price, was nearing completion. Jim renamed the garage 'Star Garage' — the name it started life with — and opened his collection to the public.



SALUT! February 2016

Among the working model engines John Stichbury had made in his Blenheim shed was a scale model of a record-attempting hydroplane powered by his own jet engine.

Inspired by the family's Clayton and Shuttleworth traction engine, John got into engineering, applying his skills at the Jackson Estate winery — the winery's 1992 sauvignon blanc was acclaimed the best in the world. John was one of four winemakers credited with the screw-cap wine bottle.



SURGICAL PRECISION March 2019

The woodworking craftsmanship displayed in Patrick Meffan's Victorian villa restoration augurs well for the patients under the knife of this Nelson surgeon. Patrick didn't have a shed, making each room his workshop as he renovated it. The staircase to a new second floor is a masterpiece, featuring two bull-nosed steps, a U-bend in the handrail, and a matching steam-bent finger rail on the wall.

FUN FOR ALL AGES June 2006

New Zealand Railways fitter and turner, and draughtsman Gordon Shand turned to woodwork in his retirement. He sold his high-quality wooden toys — traction engines, trucks, and trains — at the local Waikane craft market. Gordon banned MDF from his shed, which looked overstuffed but in fact was organised and efficient, like Gordon.



SOUTHERNMOST SHED April 2016

The hum of old machinery blended with birdsong and crashing waves at 'Waddsy's shed' on Stewart Island. Allan Wadds went south for a couple of years when wife Lee became the school principal, but the shed and the lifestyle soon anchored the couple. Many islanders donated tools and equipment to toolmaker Allan, who bought a lathe and was happy to fix anything.

MR LANCIA December 2015

Well known for raising the profile of these wonderful cars — a byword for quality, handling, and innovation — South Auckland's Wim Le Roy arrived from Holland in 2000 with several project Lancia Fulvias, including four of the rare Zagato-bodied models. Wim and son Onno, who restored a Lancia Beta Montecarlo, established the Lancia Register New Zealand for the growing band of fans.



HOT HOLDEN Dec 2010

What looked like a Holden Statesman parked in the garden was not actually out of place. Under the hood the Holden was hot — it was the hot plate of a mobile barbecue. In the back, Riverton apprentice motor mechanic Scott Edwards had fabricated shelves for tools and bottle storage and a custom swing arm that enabled the hot rod barbecue to be towed backwards on its own wheels.



BOOT IT! January 2020

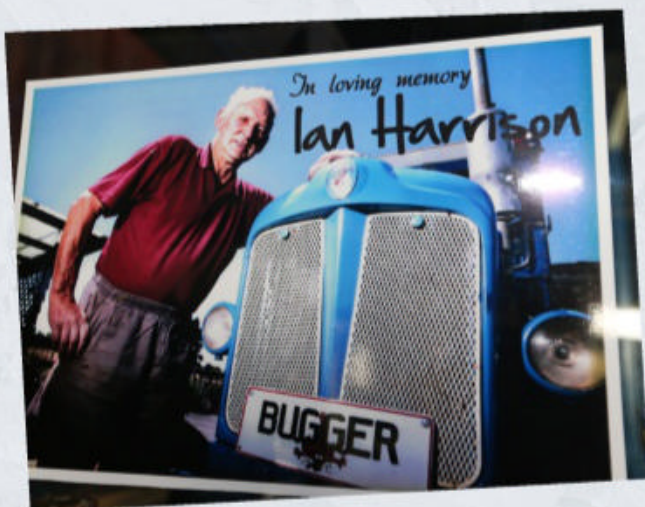
Albert Gordge — 1973 national stock car champion — challenged his brain to pop another engine in the boot of a 1972 Morris 1300. He mounted the subframe of another Morrie in the rear to bolt the second straight in and put a new fuel tank in the back seat. Figuring out the linkage for the back-to-back gearboxes took ages but it worked, and it was road legal.



Albert Gordge

TREASURED TRACTORS December 2016

Ian Harrison's 50 years of collecting farm and household machinery began with his fascination for a 1908 Warwick stationary engine his family bought to power the farm milking plant. Ian moved on to rescuing tractors, the oldest a 1918 Case dragged upside down from a swamp and the rarest a 1935 Silver King. Ian helped set up the Taranaki Pioneer Village.



ANCIENT SKILLS April 2006

Oamaru spoon carver Heather Jennings had a host of gorgeous hand tools, including a hand-powered pole lathe she had made for less than \$50. Heather liked to use under-appreciated close-grained fruit wood — radially cut to prevent splitting — to make spoons, ladles, and oil drizzlers.



Heather Jennings

GIANT AMONG MODEL MAKERS April 2015

In a 2m x 5m Palmerston North shed, Bruce Geange created Lilliputian models of tractors, trains, and steam machines in Meccano, metal, and wood, adding to an impressive collection of Hornby toys. Bruce said he loved working models and his three-inch scale Burrell traction engine was exquisite. He was only the second Kiwi to win the international Meccano Golden Spanner Award.



Bruce Geange



Norman and Murray Wymer



Dave Pauling

GUITAR GENES November 2018

"Every guitar I make comes with a history," said Blenheim school principal Dave Pauling.

Dave had turned recycled dry and stable local woods into more than 25 guitars and basses, repurposing window frames and water tower supports. Eight years in, he learned an ancestor, Louis Panormo, made Spanish guitars in London and Louis' father was a noted Sicilian violin maker.



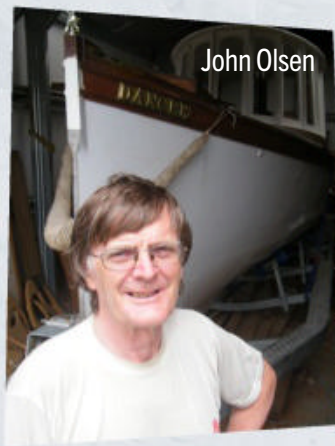
Roger Moroney

CONFESSIONS OF A SHEDDIE October 2008

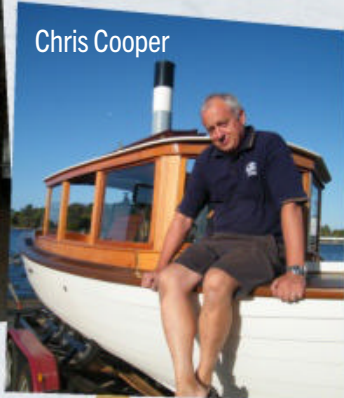
"My shed is a shambles," Roger Moroney admitted. "Every three or four months I hammer in more nails to hang things from. I sort the detritus into 'big nails', 'small nails', 'nuts and bolts', and 'not sure'. My shed is not disorganised and untidy; I am. I have all the tools I need and can lay my hands on about 65 per cent of them at any given time. It is my playground."

PLOUGH SHARED August 2016

Onion farmers Norman and son Murray Wymer of Glenbrook preferred their old 'little Fergie' tractors to computerised new ones. In their downtime they restored tractors, ploughs, and bulldozers. Norman competed internationally in ploughing. The pair had won innovation awards for mods to their machinery. ▶



John Olsen



Chris Cooper

ONE-MAN HISTORY MACHINE January 2018

Born in Oamaru in 1934, Alastair Allen kept all his toys, beginning a lifelong mission to preserve items from local lives. Alastair's collection was boosted when, in the '50s, he bought a poultry farm stuffed with obsolete farming gear. His omniferous collecting filled several sheds, which became well-organised displays when he retired in 2001. Alastair also contributed massively to Oamaru's spell-binding Whitestone City displays.



Alastair Allen

TOOT TOOT! July 2020

Chris Cooper of Hamilton and John Olsen of Cambridge have amassed a library of skills, each building steam-powered launches. In 1990 Chris found the stripped and half rotten remains of a 1911 steam-powered navy pinnace. He rebuilt the hull and built a triple expansion engine to create Devonport. John's 17-year project, Dancer, is a strip-plank and epoxy original powered by a simple expansion engine.



Bruce West



Clive Skinner

LIGHTING SPIDER October 2016

Clive Skinner wanted light but had a low, cluttered ceiling, complicated by an up-and-over garage door. He mounted a basketball hoop to a central ring, and a PVC track around the wall, linked by three telescopic poles free to move around the ring. This meant lights suspended from the poles could be positioned virtually anywhere in the garage.

HOMEUILT SPITFIRE November 2005

Auckland real estate agent Bruce West built a wooden Spitfire in his Auckland beachfront home. His father and uncles flew for the Allies in WWII. Bruce used Englishman Clive Du Cros's plans, commissioned from the designers of the Mosquito, for a 60 per cent lighter wooden Spitfire. It flew with just a Jag V12 engine. Modified for an Allison engine found locally, Bruce's Spitfire would be much faster.

THE BIKE SHED October 2013

Steve Gallichan's dad said Steve could have the dismantled Honda SL90 if he could put it back together. He was nine, and never looked back. Steve's 4126-square-metre shed near Egmont village housed a collection of 80 dirt bikes from the '60s to the '80s, including pristine Maicos from 1975–1985, a 1962 Greeves, an ATK, a CZ, a Bultaco, and Japanese bikes, mostly fully restored.

MINIS TO THE MAX December 2011

Alan Sutton was convinced Minis could do anything, and had created Mini-morphed versions of a trike, a sort of aeroplane, a Brooklands Mini powered by a Holden V6, and a mini ute powered by a Suzuki Hayabusa engine. Taking the Mini to the Macks was his Mini Mack truck, complete with sleeper cab, sitting on a Mazda Titan chassis using a longer Ford Trader steering column.



Alan Sutton



Lindsay Murray

ARTISAN WOODWORKER January 2008

Artisan Oamaru woodworker Lindsay Murray made good use of the many ingenious hand tools he had collected over 30 years, reserving power tools for breaking down baulks of timber. He said he rarely used sandpaper because it removed tool marks. Murray utilised the 'holdfasts' of his German woodworking bench when making gates, cupboards, doors, and boats, including coracles. He was in the process of setting up a forge. ►



Steve Gallichan



RELIABLE BY DESIGN

Garador has looked after Kiwis for more than 50 years and we believe that every Kiwi deserves a Reliable Garage Door. So if you need a dependable garage door to keep your prized possessions in prime condition, visit Garador

VISIT garador.co.nz OR CALL 0800 GARADOR (427 236)

HIGHER PURPOSE BIRDHOUSES *September 2017*

Megan Collings made birdhouses at the Redcliffs Community Shed and donated the proceeds of a batch of them to Nepal earthquake survivors. Her dad taught her woodworking and was mightily jealous of the tools on offer in the shed. Every birdhouse was different but most featured a copper roofline capping to keep water out. Megan and her brothers made woodworking personal when they made a coffin for their mother, who was dying of cancer.



Megan Collings

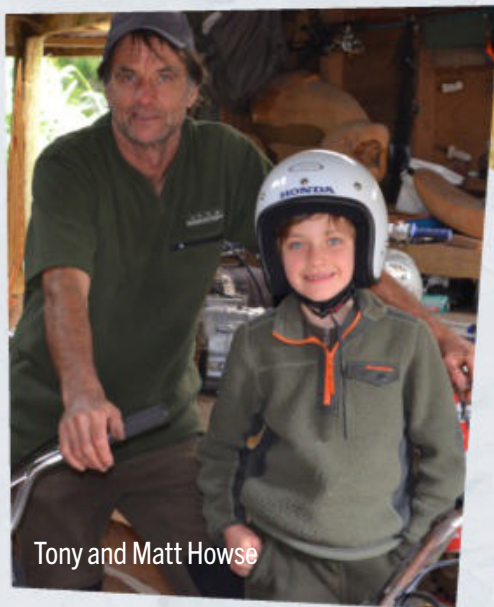
SHEDED BLISS *October 2016*

New Plymouth couple Ian and Doreen Hooper enjoyed a symbiotic woodworking shed relationship, Ian turning out rounded shapes on his two lathes that Doreen cut with a scroll saw to make intarsia figures — shallow jointed 3D sculptures featuring the wood's grain and colour. Ian also made beautiful wooden pens. Their only wish: a bigger shed.



Ian and Doreen Hooper

Brent Bevan



Tony and Matt Howse

RIDING THE SPIDER *June 2016*

Taranaki dairy farmer Dave Hunger's spider bike, with its walking rear end, used Dutch physicist Theo Jansen's near-miraculous 11-point linkage converting circular motion into a stepping machine. Using just videos of American Ron Schroer's design and Jansen's formula, Dave somehow extracted enough to recreate the 70 walking components in ply and drill 140 holes exactly right. In-line skate wheels completed the feet.



Dave Hunger

THE SHED GIVES BACK *February 2010*

Brent Bevan's high, wide, and handsome 10m x 7m shed came from some rescued steel trusses welded back together by a friend. The floor was laid by another mate and the cladding applied with the help of a neighbour. Brent quickly filled it and the mezzanine with projects. The first to emerge fully restored was a derelict 1951 Land Rover given to him 15 years earlier by the army to clear the way for a military vehicle display.

BORN AND BRED SHEDDIES *March 2021*

Tony Howse and son Matt carve swamp kauri in their Whangamata shed and art gallery and at their Bullswool Farm Park near Paeroa. There, Tony has built a wooden pirate ship, a digger, a bulldozer, and an air rifle shooting range for visitors. Matt also helps his father restore Honda Enduro bikes, which Tony took to after an Achilles tendon injury slowed him down — briefly.



Gordon Turner

KNITTING FOR BLOKES *April 2013*

Aircraft technician and trainer Gordon Turner made medieval helmets and armour in his Hunua shed to learn the skills involved. He had yet to rivet a full chain-mail suit — just knitting a vest of butted links had taken six months. Gordon also made pedal-powered aircraft for his children and was in the process of making a complete ME 109 cockpit as a flight simulator.



Bruce Fergus

FINDING HIDDEN MEANING *February 2017*

Former Dunedin business studies lecturer and bluegrass musician Bruce Fergus turned his hobby as an artist in wood into a retirement career. Experimenting with bark and tapa and techniques like burning, dremelling, and staining led him to collaborate with other artists in other media. Bruce aimed to sell locally and overseas, learning the trick of making his pieces light and able to be dismantled for transport without losing value.

TANKS FOR THE MEMORIES

August 2006

Evan Birchfield's large, 140-metre shed in Ross, used mostly for mining gear, was also home to two tanks. Wife Jane bought Evan the ex-Australian army Centurion tank as a birthday present; he'd always wanted one. He got her a modern Chieftain tank for her birthday. Evan said the tanks were used for demos — a bit of light car crushing — and trips to the local pub up the riverbed behind his property.



Evan Birchfield

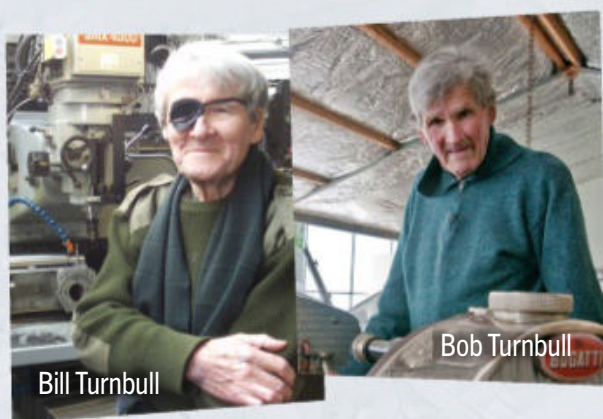


Dean Johnston

CONE CLONE

May 2018

Dean Johnston, a Kiwi audiophile in London, found a set of Focal Audio drive units — 15-inch woofers, mid ranges, and tweeters — on eBay, persuading him to clone some Focal Utopia cabinets. Tricky, as each speaker box is curved and angled to the listener. Dean mocked up some trial cabinets first to fine-tune the set-up. Locals at the launch in his converted garage studio were blown away by their new neighbourhood nightclub.



Bill Turnbull

Bob Turnbull

THE BUGATTI BROTHERS

May 2021

The 'Bugatti brothers', twins Bill and Bob Turnbull, were both engineers. Bill designed JCB hydraulics in England and Bob invented Hamilton Jet's iconic reverse thruster. Both of them spent their lifetime restoring their own Bugatti, yet neither saw his car finished.



Burt Munro

SHRINE TO SPEED

December 2016

E Hayes and Sons in Invercargill has become much more than a hardware store, having expanded to a 6200-square-metre emporium displaying 56 motorcycles, memorabilia, and of course the 1920 Scout Burt Munro fettled over 57 years into the 'the world's fastest Indian'. The grandfather of fourth generation owner, Neville, sponsored Burt's racing and, after suffering a stroke, Burt offered him his bikes and gear.



Andrew Hornblow

MAY 2019

Fostering a love of tech

Few people have inspired more future sheddies than technology teacher Andrew Hornblow, mentoring kids in the Bright Sparks technology competition and the government's Curious Minds programme, and running the University of Shed in a garage in hometown Opunake. Andrew's projects have included designing the ultra low-cost sensors and recording kits already monitoring blue penguins, bats, predators, streams, groundwater, and moisture and temperature in buildings.

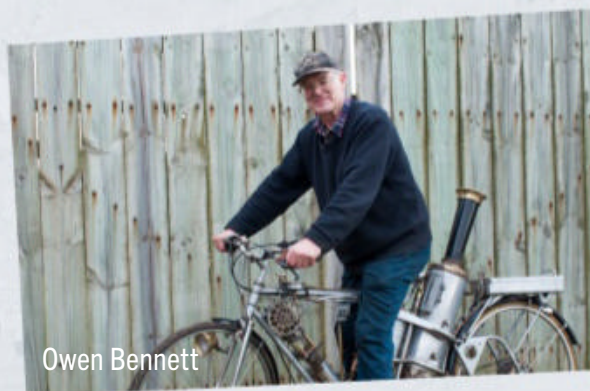


Eldon Peters

SOCK DRAWER SYMPHONY

March 2020

What's the difference between a pipe organ and a chest of drawers? To Eldon Peters of New Plymouth, nothing. Typewriter keys on the top 10 drawer knobs indicate notes played by pushing the drawers in and out. Eldon worked out how to cut the slots on the rear-mounted pipes to the correct thousands of an inch — then it got complicated. The result is an ode to joy.



Owen Bennett

PLENTY OF PUFF IN BLUFF

February 2017

Marine engineer Owen Bennett said he loved steam. His rural Bluff property was home to the remains of several traction engines rescued from rivers, basements, and backblocks, waiting to join the Aveling and Porter traction fully restored with the help of others in the Invercargill Steam Club. Owen distracted himself by building a steam engine-powered bicycle and restoring pneumatic-powered pianolas. ►



Jonathan Chaston

THE ART OF PIPE SMOKING

May 2019

Many people are satisfied with just making stuff but retired businessman Jonathan Chaston said his motivation is to make people smile. His fantasy pipe sculptures, often cast in aluminium, bronze, brass, and steel with copper detailing, using the lost wax method, delight the eye if not the lungs. Jonathan started out restoring two Auburn Boattail Speedsters — never again! — then finessing model cars, replacing the plastic parts, before unleashing his creative urge on steampunk pipes.



Bob Hayes

AN ENGINEER'S ENGINEER

July 2020

The grandson of Raurimu spiral designer Robert Holmes, New Zealand Road Services apprentice Bob Hayes eventually became an auto transmission specialist. In retirement, Bob restored a 1934 Tickford Austin 18 that was imported for the proposed 1935 visit of the Prince of Wales. It had a Hayes patented CVT gearbox, which Bob was uniquely qualified to restore. Bob also made many parts for a 1909 Renault, a project that led to overseas commissions and invitations to rallies.



Tony Woodroffe

TOOT TOOT!

June 2015

Papakura's Tony Woodroffe was inspired by *The Wind in the Willows* to build a Model T-style pedal car, in which he cycled from Bluff to Cape Reinga for Forest and Bird. He had built 43 bikes and trikes over the years, and covered thousands of kilometres in the Rose Pedal, a trike with a polystyrene/ply body and custom suspension. Tony also had a 'Lambogreeni' and Mr Toad, a working amphi-car

MECHANICAL HEART

June 2016

Bruce Watt's workshop has the usual lathe, mill, and drill press but also a planer he used to make other tools such as a cutter grinder and a surface grinder so precise it could take a quarter of a thou off something. Projects included a five-inch gauge steam train, a ham radio, and a model Atkinson differential engine.



Bruce Watt



David Etchells

MOLTEN SYNERGY

May 2021

A partnership with glassmaker Fran Anderton exposed David Etchells to a cornucopia of new tools, such as the blowpipe, punty, bench, marver, paddles, and various shears, and gave Fran access to a source of wonderful bespoke tools. David said he split his time between making the tools in his Otaki shed and Whanganui, where he works as Fran's assistant, putting the tools to use and learning the art of glass-blowing.

IF LOOKS COULD KILL

February 2016

Firefighter Paul Davison's replica military weapons, such as Browning .50 calibre machine guns, bazookas, and anti-tank rifles, have been displayed at South Island air shows, complete with compressed-air bang makers. The displays led to commissions for Paul, who was making an M20 armoured car based on Mitsubishi Delica chassis.



Paul Davison



REINVENTING WAKA

November 2019

The distinctive long and tall prow and stern carvings — taihu and taurapa — on waka act like airborne keels, slowing the rolling momentum. Quentin Roake wrote his master's thesis on the topic. Armed with accurate measurements, he was building three double-skinned glass hulls of 7.5m to 12m to be completed with wooden fittings, and a sailing version, as a model for community projects.



Harry Nordberg

NEW-LIFE BOAT August 2016

After his Hamilton furniture business folded, Harry Nordberg loaded the design of an 18-foot Biscayne runabout into a 3D programme to CNC cut the frames, ensuring pin sharp accuracy. He then spent hundreds of hours fairing each of the three cold-moulded layers. That build led to a commission for another vintage power boat, Baby Thunder, which won best new craft at the 2016 Lake Rotoiti classic boat show.

TRACTOR PASSION April 2012

Taranaki farmer Bruce Alexander and his dad, George, got fed up with cutting a boxthorn hedge by hand and invented ever-larger hedge cutters, finally adapting a 17-tonne Valentine tank powered by a six-cylinder AEC motor with another to power a 5.4m blade. The business funded Bruce's 60-plus years of collecting and restoring more than 100 tractors of all stripes, as well as military vehicles, many now on display in the Tawhiti Museum.



Bruce Alexander



Gary Were

HUNTER HOME FROM THE HILL April 2015

Urewera hunter and search and rescue veteran Gary Were built a home away from home at home in Stratford, converting his storage room into his favourite bush hut, complete with bunks, ply walls, and windows onto the view from the actual hut. The replica even had a roll-away wine trolley, as today's hunters have a bit of class.



Glenys and Pat Robson

WILDLIFE WELCOME April 2007

Pat Robson, who founded Birdlands sanctuary on Banks Peninsula, described setting up a shed near Murwillumbah, and his frequent encounters with local Australian insects, lizards, and snakes. Hardwood studs and dwangs deter insects but Pat and wife Glenys added more to fill in the open back and front while pining for soft light pine. This was Pat's largest shed yet and he filled it with more tools.

CLOCKING ON April 2015

Brian Wiffin started making strainer moulds for his grandfather's concrete business, eventually building up his own engineering business. The self-taught engineer joined others in the Palmerston North Model Engineering Club to cast and build their own Jacobs gear hobbing machines. Brian put his to use in retirement in Matamata making magnificent brass skeleton clocks.



Brian Wiffin

PUTTING IT ALL TOGETHER November 2017

Ian Chamberlain's double garage in Whanganui had two levels. Upstairs was his shed, containing all his tools except his drill press and a bench, which were downstairs with the cars he had restored. Among those was a 1907 REO and a half-size model, as well as a 64-note organ, drum, and xylophone combo he had made from scratch. Ian was constantly busy doing work for others, who donated items in return. He was also an indispensable member of the Waimarie paddle steamer maintenance crew.



Ian Chamberlain



Ron Panckhurst

EXHIBIT A March 2019

After making a gem cutter, a lathe, and an x-ray machine at age 14, and keeping University of Canterbury technology humming, Ron Panckhurst began making thoughtful science exhibits for local and overseas shows. A US customer said he was twice as good as, and one-tenth the cost of, local suppliers. Out of the shed, Ron said he kept busy by making wine, whisky, lavender oil and music on piano and organ. ►



MAKING HISTORY March 2021

Ted Egan has been patiently filling the Thames Museum with models of the town's historic buildings, using tools he has made or modified over a lifetime. Ted also designed working models of the Kopu swing bridge, the Cape Brett lighthouse, and a merry-go-round for his granddaughters.



RUNAWAY HOBBY December 2015

Wheelwright Ken Mackland described himself as the oldest exhibit in a working museum — a rural property littered with sheds. He started out repairing carts, then moved on to repairing their wooden wheels, too. He said he was kept busy working for museums, making new hubs from stable eucalyptus. Apparently dished wheels are stronger than straight-spoked wheels, which twist under cornering loads.



SHARING THE LOVE August 2010

Robin Foote moved the family's clutter to a new home under their Auckland house so he could devote the garage to his projects: a 1935 Hudson De Luxe 8, a 1956 Wolseley 6/90, and a 1930 BSA Sloper 500, plus a 1927 BSA 770cc V-twin that he sat on aged six in Palmerston North. Acquired from another family member but with many parts missing, this 'oily rag' restoration took priority.

DOES THE LOCOMOTIVE September 2018

"It's one thing to make a model; another to make it work," said Blenheim's model steam train maker Win Holdaway. Win's trains included an 1870s Baldwin Standard T, a BR Standard Class 9F, and a Burrell Special Scenic traction engine — one of the best in the world. A former joiner, Win made 85 patterns for the Burrell. He had recently decided to outsource the casting.



MODEL WORKER December 2016

Carpenter and boat skipper Alan Gray set up his Cromwell shed with a 5.8m bench to make wooden 'toys'. He designed his highly detailed macrocarpa and hardwood models as collectors' pieces but also created a range of simpler pine vehicles for kids.



HOME COMFORTS November 2019

Tim Patrick's cottage in Beckenham in a bend of the Heathcote River came with a long shed housing a large electric motor and overhead shaft that ran belt-driven woodworking machines — long gone. Tim, a former NZBC transmitter, hospital equipment tech, and TV antenna business owner turned the shed into a hobby electronics workshop that's now his legacy. RIP Tim.



IRON CONSTITUTION February 2017

Whanganui farrier Kevin Schimanski had been playing polo for 42 years and was the oldest player in the country. He also collected tools and machinery — from blacksmith's tongs and solid soldering irons to bushman's saws, all in excellent condition. Kevin's collection of stationary engines filled three sheds and was spilling across the lawn. ▶

Fresh, clean rain water with Marley Twist®



The innovative Marley Twist® allows you to capture free rainwater simply by tapping into your existing downpipe system.

Easy to use, Marley Twist® can be installed in under 15 minutes onto Marley RP80® downpipe. Simply follow the stick on installation template included in the pack. Twist® can capture approximately 300 litres of water per hour* and can be connected to any small tank or barrel with standard hose fittings. Twist is ideal for gardening, topping up water features or pools, or for emergency supply.



Colour choice



White



Ironsand®



Grey Friars®



Black



Copper



Titanium

STRATUS®
DESIGN SERIES

*Constant moderate rainfall

TWIST®

MARLEY®
by **aliaxis**



Chris Gordon

ENGINE ENGINEER March 2018

Former champion race-team manager Chris Gordon would have liked to be around at the dawn of bike racing. He mated two ZXR250 motors to create a 500cc V8 race bike in a custom frame, but liability issues meant it never raced. So Chris made a 1920s-style board track racer, adding his own design head and exposed valve system to a JAP crankcase.

WORLD BUILDING January 2021

Inspired by the famous 1924 Queen Mary's Dolls' House, retired engineer Peter Brocklehurst and wife Lynda were furnishing their third dolls' house. In an appropriately tiny Christchurch shed, Peter makes 1/12-scale furniture using 1mm thick wood and veneers modelled on his full-sized pieces, while Lynda makes the soft furnishings, right down to a pair of tiny pink slippers.



Peter and Lynda Brocklehurst



Gilbert Bailey

OBSOLETE IRON MOTORS January 2021

When not on a global assignment, marine engineer Gilbert Bailey presides over an Aladdin's cave of memorabilia and old car and motorbike projects, including his twin Triumph-engined land speed record motorbike. It took *The Shed* 14 pages to skim over Obsolete Iron Motors, which Gilbert and partner Sharon created in an old Pleasant Point garage Gilbert knew in his youth.



Gavin Bath

DIY ELECTRIC LONGBOARD November 2019

CNC machine reps at a Chicago tech show gave Kiwi Gavin Bath an aluminium longboard deck to photograph in use in New Zealand. Gavin went electric, googling CAD files, a motor kit, and controller. He built the battery pack, the 3D-printed chassis, and the bamboo case but a DIY spot welder proved too ambitious.



Daniel Strekier

ORGANIC BIKE BUILD May 2019

Others have built wooden bikes but none like this, inspired by old midget car racing tyres. There was hardly a straight piece of wood anywhere. Even the fat mudguards curved in three directions. The look and the handling were as engaging and entertaining as the bespoke Howick wooden furniture maker, Daniel Strekier, himself.

COLLECTING BY THE TONNE May 2018

Mike Coil had to buy a building in Eltham and open a museum to house his collection. Exhibits include a WWII carbon arc searchlight, a submarine engine, birthing stirrups, an operating table, more than 250 chainsaws, a pre-1905 water-cooled motorbike engine, a pith helmet, and a police baton used in the 1931 riots. Eltham had New Zealand's first tar-sealed road, and Mike had a piece of that, too!



Mike Coil



Chris Pennell

TURNING HIS HAND TO ANYTHING December 2015

DSIR technician Chris Pennell invented a distasteful grass to keep birds away from airports. His spare time was spent cutting clock faces or picture frames into wooden stumps or fence posts on a lathe he had made from a boat winch, a car jack, a bike brake, a pair of ski bindings, and a bandsaw he made from a wheel balancer. He had also set up a mobile workshop to become a travelling exhibit.



Graham Hawtree

TURN ON, TUNE IN ... May 2018

Old radios often turned up at night on Graham and Val Hawtree's Whanganui doorstep — it was their best chance of being nursed back to life. Graham exercised his electronics and woodworking skills in restoring cabinets, with a fine eye for preserving patina. Both licensed ham operators, Graham and Val had 750 radios on display and another 2000 in their collection — mostly valve sets, some incredibly rare.

PALLET MAN August 2015

Taranaki's 'Pallet Man', Murray Lehndorf, was going to pull down his shed until a friend said it could be rescued. He had already made tables and seats out of pallets and decided to line the interior of the shed with pallets. Murray has a spinal condition so mates did the ceiling.

"We reckon we pulled out 6300 nails," he said. Then he thought, 'Why not put in a bar?' — and he became the host of the Pallet Palace.

THAT'LL DO NICELY July 2020

Bill Stephenson's granddaughter needed a log splitter for the farm. Bill's solution will outlive all of them — built using 150 x 50 x 5mm RHS. The splitting wedge whacks logs up to 500mm in diameter with 37 tonnes of irresistible pressure. The custom trailer carries the 16hp motor, pump, and an 80-litre oil tank, which provides passive cooling for a long day in the field.



Bill Stephenson



Murray Lehndorf



Barry Reade

RYDON SPECIALS December 2016

Joiner Barry Reade of Inglewood found his niche converting ride-on mowers to model jeeps, trucks, and utes. His latest Rydon Special was a military-style desert truck made from a Boens mower. It featured VW front guards, with the rear made from John Deere and Husqvarna mower bits. Barry said cheap mowers were getting harder to find as people wanted them for lawnmower racing.



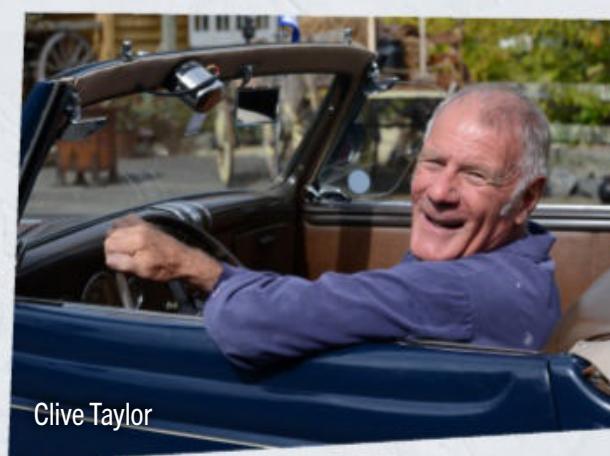
Noel Sim

AUSTIN-TACIOUS July 2017

Noel Sim had to build a 100-square-metre barn to house his growing collection of old cars, and immediately filled it to the brim. The newest of the 10 cars was a 1937 Morris Eight sports but his favourites were the Austin 7s, which he rated the best small cars ever built. Noel restored all except one, which was bought in good condition, and had also built a paddle steamer, a banjo, caravans, and campers.

PLAN TO SUCCEED June 2011

Fitter and turner and machine tool designer Peter Neal drew plans for anything he made, making everything reproducible and scalable, whether it be wagon wheels, a chess set, Windsor chairs, gates, or a rocking horse. Although the Christchurch earthquake wrecked his shed, his first priority was repiling, reroofing, recladding, and relining his house, then relaying the sewerage pipes and levelling the 150m driveway.



Clive Taylor

TAYLOR MADE June 2016

Clive Taylor's successful 40 years as a trucking contractor helped him build a collection of vintage Fords housed in his Kapiti Coast yard. The collection was fast transforming into the Taylorville private museum, popular with car clubs and as a wedding venue. Star attractions: a '34 Ford pickup, a '55 Fairlane Crown Victoria and matching caravan, a '36 cabrio, and a '32 coupe. ►



Peter Neal

THE BIKE DUDE October 2015

'The Bike Dude', Gary Sarten, remembering fun times on bikes as a kid, was fixing bikes free for second and third generation Taranaki locals to give them the same freedom he had felt. His sheds were crammed with bike bits, some put aside for him at the local dump. Gary said some new bikes were "absolute crap", made from steel like tinfoil, but he got a buzz out of seeing a bike he had fixed flying by.



Gary Sarten

ON A WING AND A PRAYER May 2017

Retired Christchurch surgeon Ted Perry got into model aeroplanes 15 years earlier after a lifetime of other enthusiasms: motorcycling, skiing, golfing, fishing, and being president of the national tree crop association. Believing that building to others' plans was cheating, Ted designed his own. Few of his creations died of old age, though — Ted admitted to a lot of crashes. He had come to prefer slower planes, making them out of poplar or paulownia — heavier than balsa but stronger so it could be cut finer.



Ted Perry

ANOTHER WORLD July 17

After eight years restoring cars Michael Wolfe spent 20 years creating a 1:76 scale 1960s Yorkshire village under his Bell Block house, based on Hornby 00-scale model railways. In another room was a Swiss mountain village using 1:87 scale Märklin overhead line-powered trains. The villages were packed with detail: a cow paddock with tiny cowpats, a car accident in the street, even Dr Who's Tardis parked in a field.



Michael Wolfe

ISLE OF SHEDMAN January 2019

Great Barrier Island's self-sufficiency turns everyone into a sheddie. Artie's speciality: fixing pumps and generators and restoring old motorbikes, especially Nortons. His pride and joy was the Manx Norton that Len Perry rode to ninth in the Isle of Man TT in 1951. Artie acquired the frame in 1967 and finally got the motor this century. He raced in Pukekohe's classic motorcycle festival for 40 years.



Artie Laven



Bryce Barnett

AUTOMOTIVE SCULPTURE February 2017

Bryce Barnett had two sheds, one for American cars and one for those from the rest of the world. The best of Bruce's array was a 1937 Cord Beverly, restored in Nelson. The collection also included a DB9, an Aero Morgan, a P5 and a P6 Rover, a Stag, personal favourite Austins, the yellow Beetle that transported Rachel Hunter to fame, a 1939 and a 1956 Buick, a 1932 Chrysler Roadster, a Cadillac DeVille, and Sir James Wattie's 1954 Roller.

GIANT AMONG MODEL MAKERS April 2015

In a 2m x 5m Palmerston North shed, Bruce Geange created Lilliputian models of tractors, trains, and steam machines in Meccano, metal, and wood, adding to an impressive collection of Hornby toys. Bruce said he loved working models and his three-inch scale Burrell traction engine was exquisite. He was only the second Kiwi to win the international Meccano Golden Spanner Award. 🏆



Bruce Geange

FOLDAWAY



NZ'S FASTEST SCAFFOLD

Introducing the Foldaway, NZs fastest and most convenient mobile scaffold. Perfect for tradies, home DIYers and anyone who needs a fast, easy and efficient height access solution. Versatile enough for both indoor and outdoor use, the foldaway can be stored and transported with ease. Made from lightweight aluminium for easy manoeuvrability and rated for up to 225kg.

A range of accessories can be added to your Foldaway purchase to ensure this scaffold is site compliant (for professional work sites). Once you've used the Foldaway, it's simple to disassemble and fold away for easy storing. This may suggest where we got the name from, the Foldaway is compact, easy to store, and can be tucked away until needed for your next project.



COMPLIES TO
AS/NZS 1576

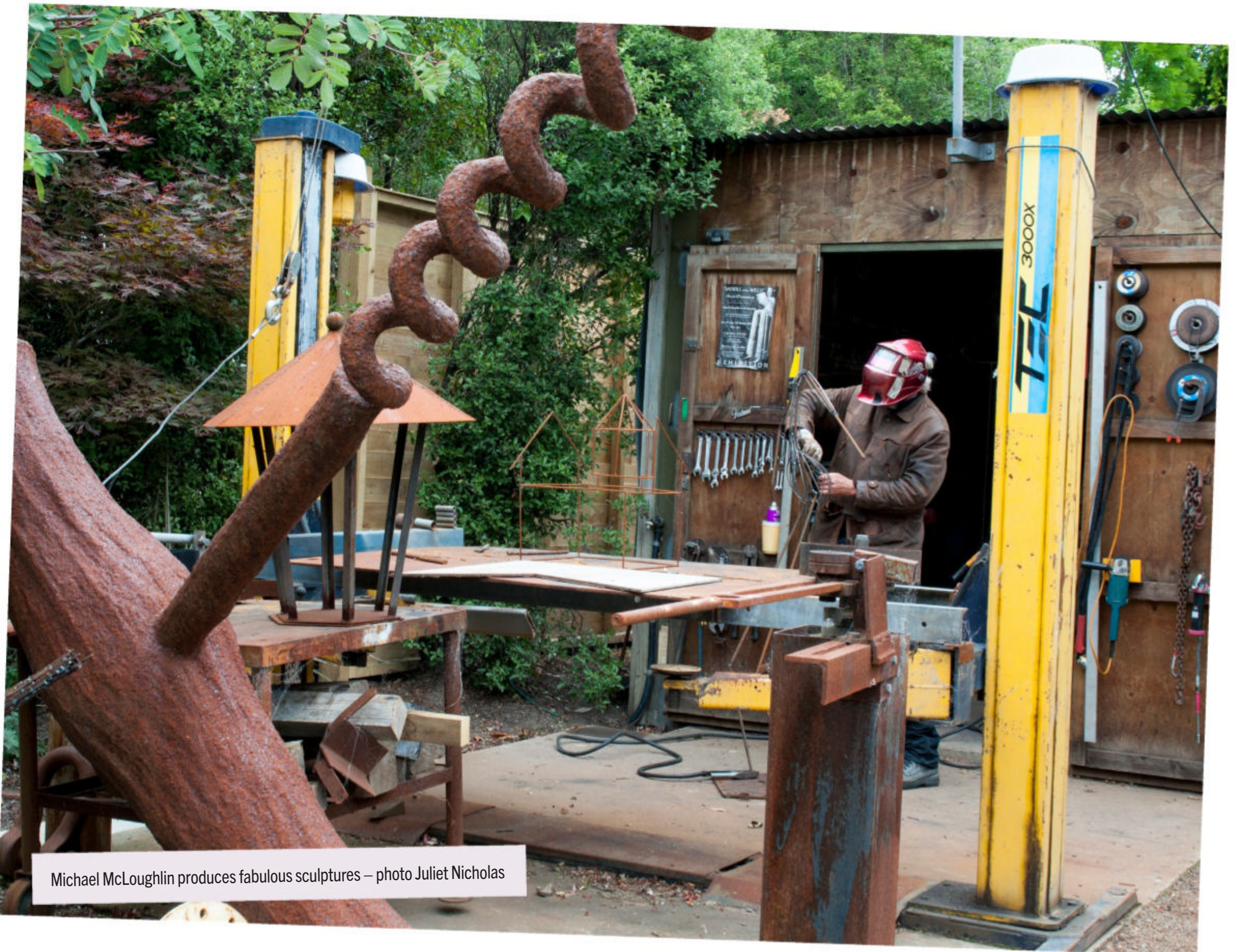


LOAD
RATING

PHONE 0800 394 222

sales@easyaccess.co.nz www.easyaccess.co.nz





Michael McLoughlin produces fabulous sculptures — photo Juliet Nicholas

IT TAKES A TEAM

IT'S NOT WHAT YOU LOOK AT BUT WHAT YOU SEE — *THE SHED* WRITERS AND PHOTOGRAPHERS FIND INSPIRATION ALL AROUND THEM IN THE PASSION AND CREATIVITY OF THE SHEDDIES THEY MEET

By The Shed team



A Brian High favourite photoshoot for *The Shed* — Rod and Sue McLean *The Shed 90*



Hugh McCarroll
WRITER

I started very young

I was into DIY before it was a thing. I admired people who could make stuff, do stuff, and fix things. As a little boy I wanted to help any tradesman who came to the house to do jobs.

My uncle Gordon was my first mentor. He was a motor mechanic, and I remember helping him when he was repairing a car-door locking mechanism that had been damaged by thieves. He also did beautiful woodwork. However, I remember mostly his laconic humour and endless patience. He taught me to drive, too.

Another mentor was my friend Pete's father, Neville. I learnt a lot helping him and Pete build a lounge extension to their house when I was a teenager. He was a teacher at Petone Tech, and also had endless patience.

Mum found her skills

My mother, Nance, was a milliner who could make beautiful hats and headdresses out of almost anything. I remember making wire frames for some of her creations. She was raised to be 'a lady' and only discovered her artisan skills in middle life. Some of her creations are still being used by the Wellington Operatic Society and other theatre groups in Wellington — more than 30 years after she died. At intermediate school, I felt right at home with woodwork and metalwork, and I was quite good at both. In woodwork I discovered technical drawing, and also loved that. I started my working life on a drawing board — the major downside with CAD is not being able to lean on the board!



“Of all the people I dealt with over the years, I enjoyed the company of trades staff and practical people the most”

I got an engineering degree from the University of Canterbury and went into the aviation industry, initially as a graduate engineer, but spent most of my career in management, which I did not really enjoy. Of all the people I dealt with over the years, I enjoyed the company of trades staff and practical people the most.

My retirement dream was to be a hands-on engineer again, and I've never been happier than since I retired 15 years ago. I've got my engineering workshop, my woodwork shop, my CAD system, and my 3D printer. I still like making stuff and fixing stuff.

I join *The Shed* team

In 2011, I built a personal scaffold and sent an article about it to Terry Snow — then editor of *The Shed* magazine. It became the issue 37 cover story. I have lost count of the number of articles I've written since then, but as long as they are being accepted I'll keep writing them. I've just finished making a jigsaw puzzle table for my daughter — it's got drawers so a half-finished puzzle can be stored away and completed later. I'll write something about that project.

At present I'm enjoying *The Repair Shop*, a British TV programme that showcases the skills of a group of craftspeople who repair family heirlooms. It shows the delights of bookbinding, clock repairing, gilding, joinery, leather working, and many other artisan skills. I wish they'd go a bit slower and explain some of the processes to a level that would encourage viewers to try it themselves.

Some of the trades have been overtaken by technology — there's not much call for typesetters and coopers, for example — and many are threatened by today's throwaway culture, but it would be a tragedy if the old artisanal abilities died.

Nowadays, there are skills that didn't exist even a few decades ago, and artisans need to keep up with computer-driven lathes, milling machines, laser cutters, and the other smart machines. I'm learning to implement an Arduino board into a project at the moment, and it's good fun, but sometimes I wish I had a mentor to talk to.

Everybody needs a mentor. ►

Brian High
PHOTOGRAPHER

“I just like meeting interesting people and seeing what they do”



Mark Beckett
WRITER

Congratulations to *The Shed* for its 100th issue

I first became aware of *The Shed*'s existence when my mother-in-law was ill and we were sitting at her bedside. The local shop had issue 1, which I purchased. The range and style of the articles were what set this apart from other forms of DIY, and from then on I was hooked.

I've always been interested in metalwork but one teacher got me interested in electronics, so when I left school I joined the NZ Post Office as an electronics technician. In those days, we tended to fabricate many of the parts we needed, so metalworking, fabricating, and a bit of design work got honed.

Being a practical bunch of people, we also tinkered with and repaired our own cars — all before YouTube, the internet, cell phones, or anything that resembled a personal computer.

My first article

Fast forward quite a few years and I'd started playing with Picaxe microcontrollers, so when the opportunity to build a simple robot using off-the-shelf parts and minimal soldering came along, I pitched the idea to the publisher, Jude, got my daughter involved, and the rest is history. ("Halobot", *The Shed* Aug–Sept 2010.)

Over the years I've produced 50 articles, and hopefully they have been useful to someone. My goal was to make them simple enough that someone with limited skills could tackle them and have a working project.

One day I had a message from Jude: "Have you heard about these Arduino controllers?"

I had been playing with Picaxe and dabbling with Visual Basic so, before

checking them out, I'd ordered a few from one of the advertisers. When they arrived I had an "Oh s..." moment when I found they used C++ as the programming language. So, a bit of forced education saw a whole new interest in programming, along with proof that you can teach an old dog new tricks.

The 'new trick' allowed quite a few Arduino-based articles to be written, and, through "FutureinTech" (Feb–Mar 2013), we've introduced numerous

“In those days, we tended to fabricate a lot of the parts we needed, so metalworking, fabricating, and a bit of design work got honed”

school pupils to the world of Arduino. It's important that we pass on skills to anyone interested in learning, so I'm grateful to Jude and that message.

Good comments

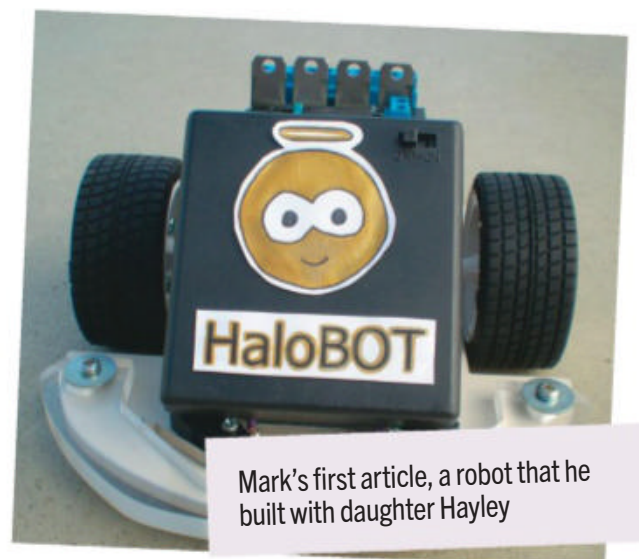
When I first started providing words for the articles, the 'provided' and the 'published' versions had significant differences, but over the years they

have become nearly the same. I'm fairly sure the people in the office haven't gotten lazy, so it seems *The Shed* has helped with my writing skills.

A couple of people have commented that they read my articles and enjoy them. They appreciate that they are easy to follow and do not overcomplicate the process. That's down to the magazine style, with a good balance of pictures and formatting to break up a whole jumble of words.

I've had a break from articles for a few issues to concentrate on some other projects closer to home, but there are a few short bits coming soon.

Thanks to Jude, Greg, and everyone involved in producing *The Shed* magazine, and thanks for allowing me to be a small part of that world. ▶



Mark's first article, a robot that he built with daughter Hayley



Helen Frances
WRITER

I can't claim any sheddie skills

Writing for *The Shed* continues to be a real pleasure for reasons that are not to do with any practical skills of my own — although I did once make a table out of a wine barrel under the strict and somewhat exasperated tutelage of a gung-ho sheddie

who made rustic furniture out of driftwood.

I prefer working with words and images, admiring the ideas, designs, and capabilities of people who make their dreams real, without having to measure, cut accurately, and put it all together.

Sheddies are, without exception, fantastic interviewees, and I have interviewed a good many since 2006, when I first started writing for the magazine.

Memorable experiences, such as getting down and dusty with a house insulated with hay bales, took me to Wrights Winery in Gisborne; sliding down a metal slide, made by Bill Martel, at Trade Me helped with the writing, but so does the enthusiasm of every sheddie for his or her particular passion. I am, I hope, a channel for some of this energy and expertise.

GARAGE ORGANIZERS



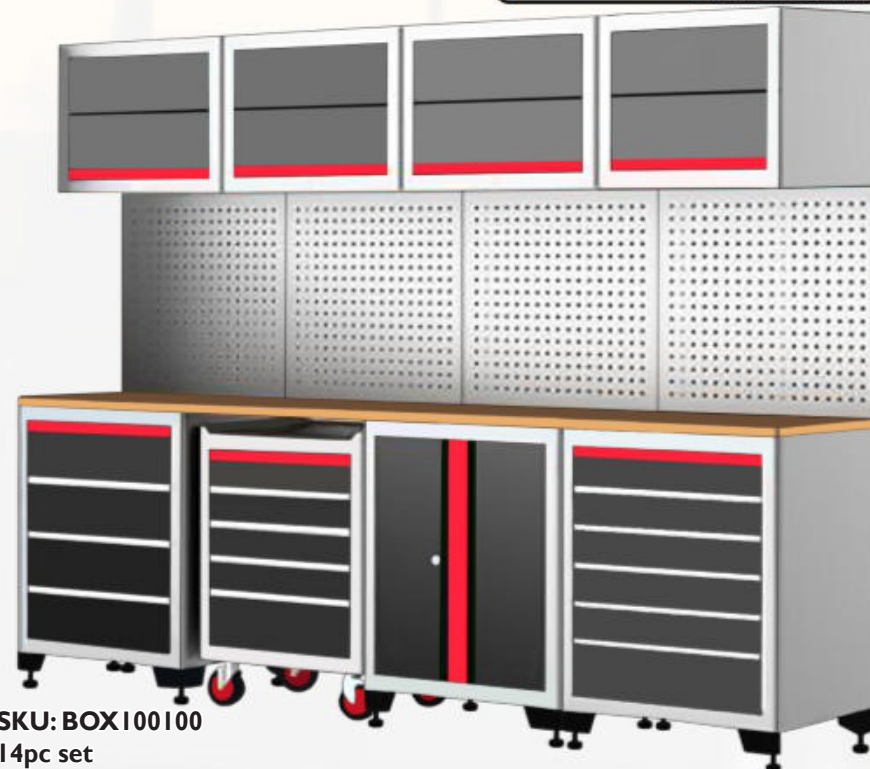
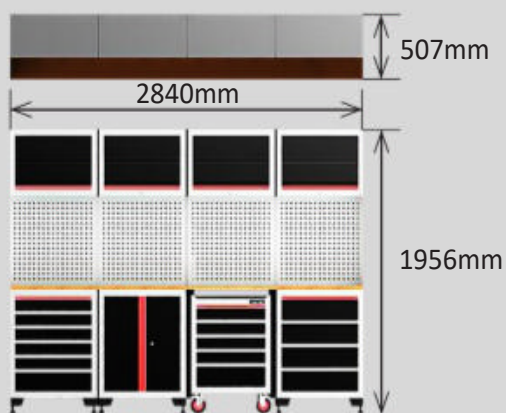
14pc Garage Organization Set

- The Tanner Garage Organizer is designed to suit the modern garage.
- Easy and fast installation through simple assembly and stack.
- Ergonomic design makes working more efficient and convenient.
- Includes a roller tool chest, complete with quality tooling.
- Special lift up lids for the overhead lockers makes access easy.
- All metal components are powder coated for durability.
- All storage components have individual central locking systems.
- Perforated metal panels for hanging those common tools.
- Lots of storage space for those bulky items such as power tools.
- Fitted with 2 x power outlets with USB charging points.

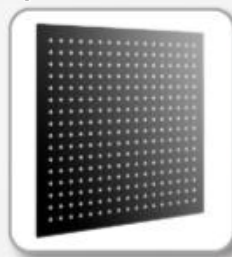
Contents

- 1 x 4 drawer cabinet
- 1 x 6 drawer cabinet
- 1 x 2 door cabinet
- 1 x 5 drawer rollout cabinet
- 4 x 1 door wall cabinets
- 2 x rubber wood boards
- 4 x back panels (13 hooks)
- 2 x power outlets

Dimensions



SKU: BOX100100
14pc set



Perforated panel

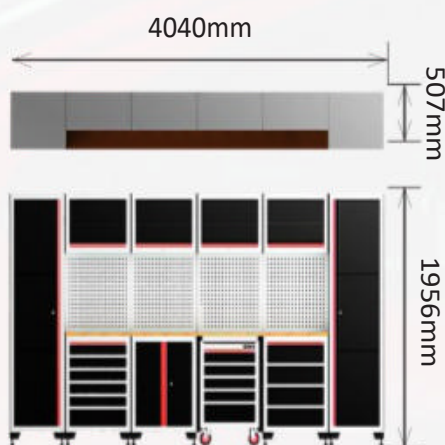
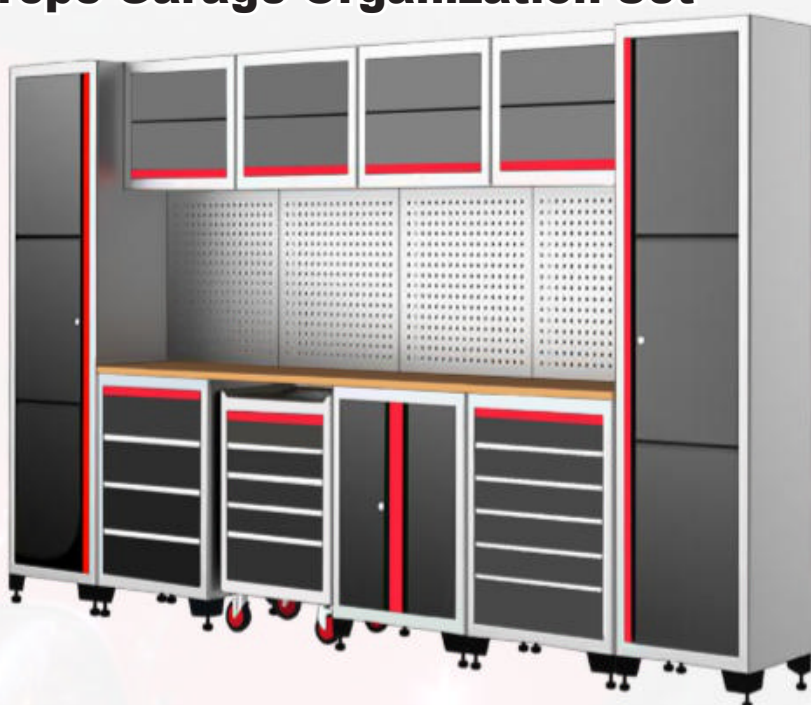


2 x power outlets



Wood table top

16pc Garage Organization Set



SKU: BOX100110

Optional Accessory

Standing Cabinet

- Central locking system
- Stainless steel hinges
- Gas struts
- Closet rod for hanging clothes
- Dented panels for rigidity
- 600 x 507 x 1956mm
- 4 x adjustable feet
- 4 x shelves
- Sold individually

SKU: BOX100120
Standing Cabinet



- All the components of the 14pc set, bookended with 2 x Standing Cabinets

Storage Components

Rollout Cabinet
Comes with 137pc tool set



- 4 Drawer Cabinet
- 710 x 507 x 820mm
 - Steel ball bearing slides
 - 40kg drawer capacity
 - 4 x adjustable feet
 - 4 x rubber mats



- 6 Drawer Cabinet
- 710 x 507 x 820mm
 - Steel ball bearing slides
 - 40kg drawer capacity
 - 4 x adjustable feet
 - 6 x rubber mats



- 5 Drawer Rollout Cabinet
- 666 x 458 x 748mm
 - Steel ball bearing slides
 - 4 x caster wheels
 - 5 x rubber mats



- 2 Door Cabinet
- 710 x 507 x 820mm
 - Stainless steel hinges
 - 1 x shelf
 - 4 x adjustable feet



- 1 Door Wall Cabinet
- 710 x 330 x 457mm
 - 1 x shelf
 - 2 x gas struts



CHEVPAC MACHINERY (NZ) LTD

Showroom:

30 Salesyard Rd, Otahuhu
Auckland, New Zealand.

Website:

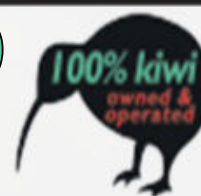
www.chevpac.co.nz

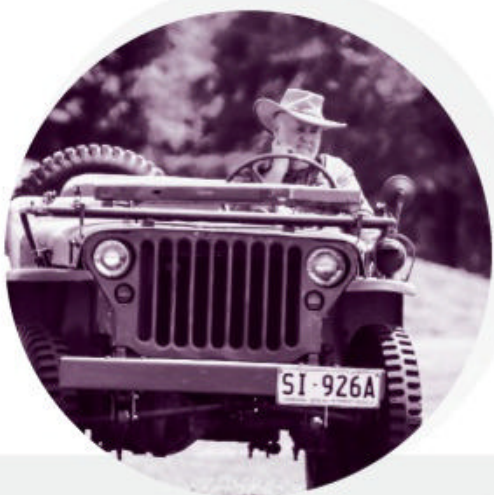
Email:

sales@chevpac.co.nz

Free Phone:

0800 100 549 or 0508 243 872





Coen Smit
WRITER

What is it that makes me a sheddie?

When Greg asked me to write something for the 100th issue of this great magazine, I was initially flummoxed about how to provide something suitably profound for the occasion. Fortunately, it soon became apparent what my working hypothesis ought to be: what is it that makes me a sheddie?

“Once embarked on a project, I tend to become completely absorbed in the process as I refine my approach”

Primarily, I assume, it is related to genetics. My paternal grandfather, a veterinary doctor by trade, loved building model boats, one of which is still in my possession. My father, an industrial design engineer, made things all his life — initially out of necessity, as a survivor of World War II, and subsequently as a financially challenged immigrant to Australia. Happily, later in life, he was able to do it just for the sheer pleasure of making things.

My mother was also possessed of a creative streak; she was always making one thing or another to brighten our home and lives. She was especially fond of making things that could be passed down the generations.

My turn to make stuff

Over the years I've tried to follow in their footsteps, undertaking projects such as beds, bookcases, chests, and tables. I prefer to build than to buy —

A Brian High favourite shoot for *The Shed*,
Temporo Motor Body Builder of Oamaru



because doing so brings me more satisfaction than mere acquisition. Once embarked on a project, I tend to become completely absorbed in the process as I refine my approach, solve problems that arise, and evaluate the inevitable compromises that I must make in construction, such as the use of materials, and the like.

I grew up being taught to value our belongings and to 'make do'. I bring this philosophy to my sheddie endeavours.

I gain satisfaction from repurposing and recycling materials, and

I prefer rooting through my timber and steel hoard for the next project as opposed to wandering down to the shops and simply buying what I need to start from scratch! Repurposed materials impart an inherent integrity and history, which cannot be matched by the new, even if they now serve a completely different purpose.

Avoiding the consumer windmill

I'm convinced we live in a world of planned obsolescence, where the sole aim is to make us consume as much as possible and trap us in a continuous cycle of buy and replace. Whenever possible, I want to take a tilt at the 'consumer windmill' and make things that will outlive me — hopefully to be appreciated by my descendants — whether the objects are utilitarian, aesthetic, or a combination of both.

There is something special about



Birth Tapestry created by Coen's mother
to celebrate his daughter's birth

objects that have been hand created. Their uniqueness sets them apart, leaving a presence of the craftsman's hand and thoughts although he may have long departed. It's a feeling you just don't get from objects churned out en masse, and it is yet another aspect of the sheddie lifestyle that sustains me.

Creatively, I enjoy bringing different metals and wood together in my projects. The juxtaposition of two such different materials in, for example, a box, chest, or coffee table, brings to mind the industrial furniture of the mid 20th century. Copper or brass offsets the gentler shape of the surrounding timber and draws the eye gently to the individual nature of the object even though its function may be quite utilitarian.

These, then, are the various influences that have shaped me into the sheddie I am.



A Tracey Grant favourite shoot for *The Shed*, Cowper Trucks, issue 90

Tracey Grant PHOTOGRAPHER

I get so much joy from capturing the skills of my subjects

Photographing for *The Shed* has been a heart-warming project; I get so much joy from capturing the skills of my subjects and their connection to their work.

Sheds were part of our life on ‘Tullochgorum’, the farm in Turakina built in the late 1800s by my Scottish ancestor, Alexander Grant. My practical skills learnt from my father, Ewen, led me at 25 to purchase an early 1900s villa to restore. The love of photography was also instilled at a young age by my father, who had many amazing talents.



Carmen Simmonds – photo Tracey Grant



Fran Anderton with David Etchells – photo Tracey Grant

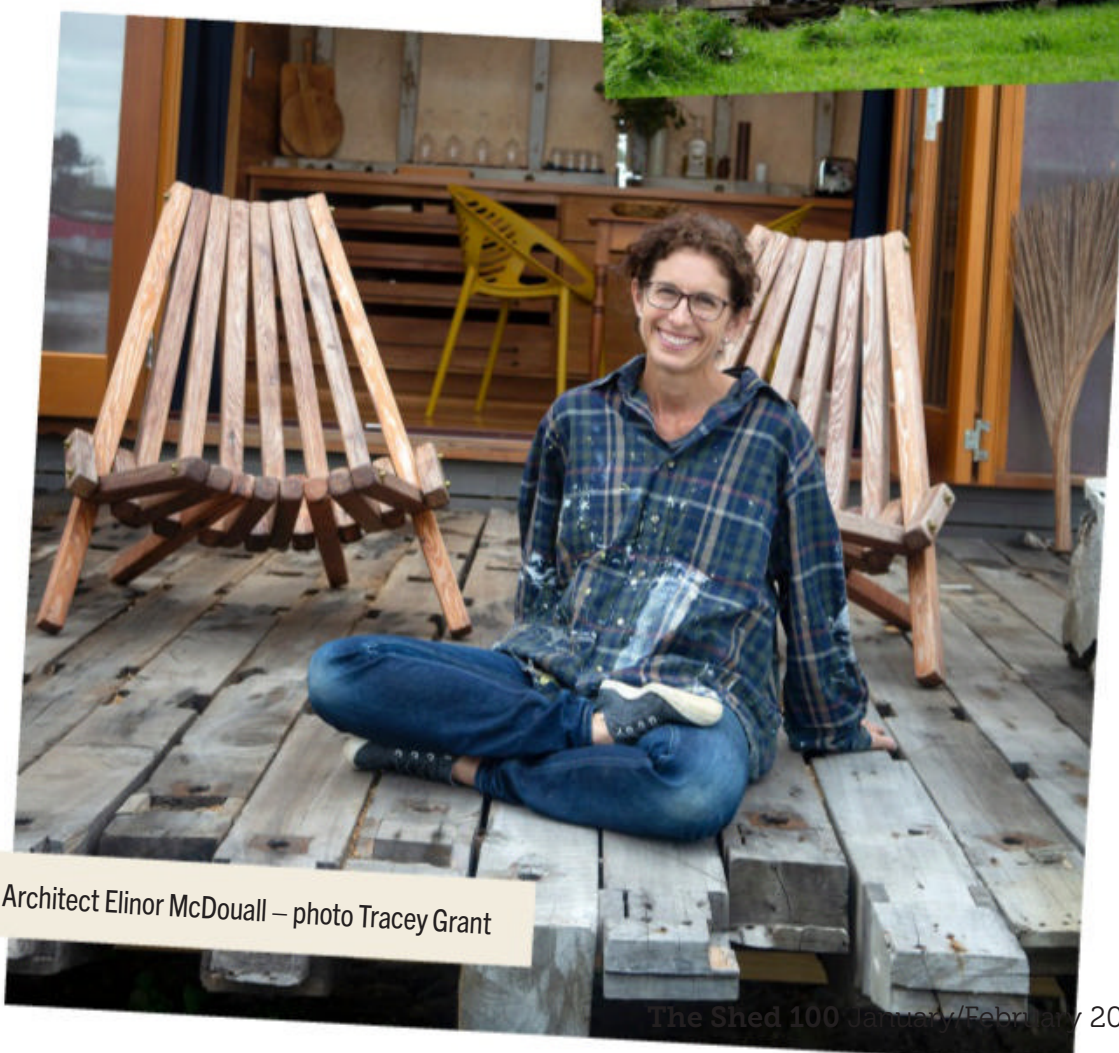
“Choose a job you love, and you will never have to work a day in your life”

My favourite times when photographing for *The Shed* are capturing those moments when the creator gets lost in what they are creating — that childlike joy. These assignments make me reflect on Confucius’ quote: “Choose a job you love, and you will never have to work a day in your life.”

As I move into a career in nursing, my photography will evolve into more passionate creative projects. ►



Ewen Grant at Tullochgorum – photo Tracey Grant



Architect Elinor McDouall – photo Tracey Grant



Jason Burgess
WRITER

The Shed and I

As a photographer and writer, you could say I have made a career out of nosing around in other people's backyards. I have always been drawn to folk who make things, no matter how outlandish.

“Every shed I visit is like a grounding for me; it restores my sanity”

I've travelled to historic centres of significance to see the art and science of bygone makers and to lesser known workshops in the deserts of Southern California, where men on a personal quest have built all kinds of weird and wonderful structures celebrating

everything from dinosaurs and Christ to temples that connect with intergalactic frequencies.

Every shed I visit is like a grounding for me; it restores my sanity knowing that there are sheddies who would much rather be tinkering, creating, or inventing than sitting around being hypnotised by talking heads on TV. I reckon sheddies are driven by innate curiosity and ancient impulses; the primal urge for tactile activities and a predilection for practical entertainment. Without necessarily knowing it, sheddies are engaged with the world on a deeper plane — no matter how remote their shed or varied their success.

Things that are important to us

From the point of view of a self-confessed hoarder, the other great thing about sheds is that they often become repositories for and galleries of the things that are important to us, the ephemera that have affected or inspired us in some way. These artefacts, tools, and materials provide connections to a tangible history. Even

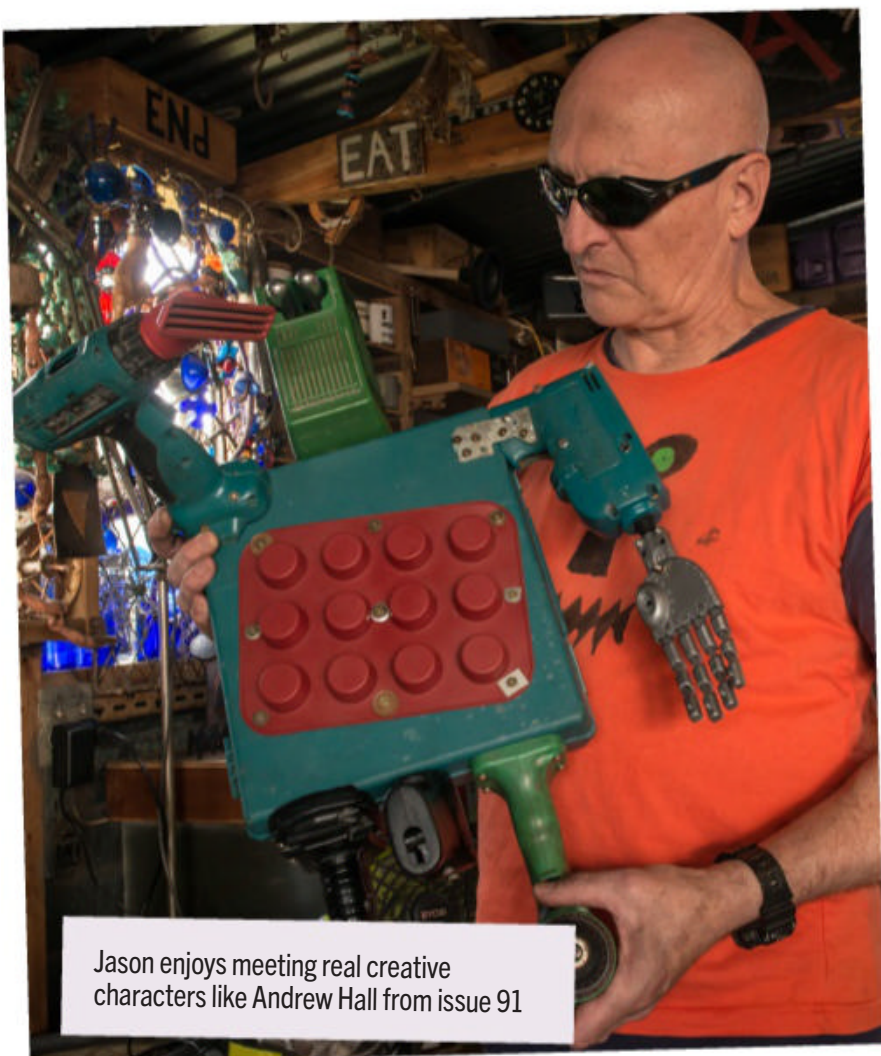
if they are not being upcycled or repurposed, they are at least being preserved for another generation to enjoy.

It is a privilege to be introduced to someone via their private passion — in some cases, obsession — for doing, making, and/or collecting. Some of the most fearless and interesting characters I have met are those who have a shed/workshop/studio — a place to try their hand at something.

For me personally, doing is an important outlet, a de-stressor that usually gets me into 'the zone' — where, without pressure, the best ideas grow.

Having a place to go to do is fundamental to leading a purposeful life. Already, a shed is becoming something of a luxury in the main centres and I sometimes wonder how society will look in the future, with so many high-density city dwellers who have no such place to go. I guess this is when collectives such as the Menzshed will really come into their own.

Long live *The Shed*, and all power to sheddies. ▶



Jason enjoys meeting real creative characters like Andrew Hall from issue 91



A Brian High favourite shoot for *The Shed*, the Pleasant Point Railway Museum from issue 92

DRYDEN

WOODOIL THE NATURAL CHOICE
FOR YOUR TIMBER



[DRYDEN.CO.NZ](http://dryden.co.nz)



Bob Hulme
WRITER

Thrilled to be part of the journey

It must have been in the first year of publication that I became aware that *The Shed* magazine existed. My first thought was that it could be a good place to advertise Prescott Engineering — my business at the time. I phoned to find out about rates. As soon as I had put the phone down — it seemed — Jude Woodside appeared at the door. His mission was not only to secure advertising orders, but to find people who would write articles about their particular speciality. Now, I'm not one to let an opportunity slip by, so before too long we had agreed on an exchange of advertising space for article writing.

A mammoth task

Jude had taken on the mammoth task of establishing a new magazine, but he was truly enthusiastic and had the determination to make it a success.

My writing skills were pretty basic — some say they still are! Terry Snow, the editor at that time, offered snippets of advice and helpful guidance that were invaluable. Now, because of the chance meeting with Jude, I thoroughly enjoy writing and even seek out interesting topics to write about. Enthusiasm really is contagious.

“Jude has every right to be proud of his achievement”

One hundred issues on, this magazine is unrivalled in its field. Jude has every right to be proud of his achievement. With the sale of the magazine to Parkside Media, and Greg Vincent as the editor, its future is in good hands. ▶

Bob Hulme was initially a *Shed* advertiser before he joined our editorial team



Bob thought *The Shed* would be a perfect place to advertise his engineering business



Chris Slane
CARTOONIST

Blokes, jokes, and sheds

As a New Zealand freelance editorial cartoonist (*New Zealand Listener*, *The Shed*, *Farmers Weekly*) I have contributed a regular cartoon to *The Shed* since the first issue was published in 2005. My book *Blokes, Jokes & Sheds* compiled many cartoons published in the magazine.

My favourite *Shed* cartoon is one with the car painter painting flames on his car while using as reference a car he has actually set on fire. It reminds me of hot rod art and I can absolutely relate to the need to get reference right.

I have worked in a variety of sheds and industrial workshops over the years when I have ventured into 3D work. They are such creative and multipurpose spaces.

I have sculpted clay caricature models and moulded rubber puppets of politicians, painted characters for TV series, and worked on characters for commercials, such as the Toilet Duck and the Germy-Jims that hang under the toilet rim.

WET&FORGET®

100% KIWI MADE, TRIED AND TESTED

"WORK
SMARTER,
NOT
HARDER!"



21
STORES



www.wetandforget.co.nz



A Murray-built brazier using discarded material



Murray Grimwood heats his off-grid home by using solar energy



Murray Grimwood by Rachel Leatham

Murray Grimwood

WRITER

Off the grid and often at sea

I was born the son of a maker; Dad built cars, built his house, invented and built machinery. Things were made rather than bought; fixed rather than discarded. Dad also taught me how to think laterally and logically — the best gift I ever received.

My heroes are Shackleton (leadership); Malthus, Soddy, and Hubbert, and their successors (original thinking); Donella Meadows (systems thinking); and Ben Carlin (best all-round adventurer, engineer, thinker, and pragmatist — if you read no other book, read his *Half-Safe* ¹. It knocks almost everything else into a cocked hat).

I work to live, rather than live to work. Night shifts in factories supported adventures; projects; our first house. In a Queensland pub 40 years ago, I sat down next to an Aussie Sheila. I was shickered; she wasn't wearing her glasses. Two children and one grandchild later ...

Meet MacGyver

We do a lot of sailing ²; between us we have travelled thousands of trans-ocean miles covering most of — make that all of — the planet ³. I can conjure up memories of Jennie, spray-lashed, helming hard on the wind south of Hawaii, and me thinking: 'I picked that one right'. Sailing is great training for self-sufficiency; there is nobody but you, nothing but what you have with you — indeed, on one delivery trip they took to calling me 'MacGyver'; I can think of no better praise. At home, I race a classic Paper Tiger catamaran — they're a great combination of speed, fun, and ease of maintenance.

“Stop thinking and you're dead, I reckon”

Energy — its efficient use, its production, its history, and its future — has been a lifetime study. Structures come a natural second. There's an old Arab proverb: 'Because I have been a'thirst, I have dug a well, that others may drink'. Thus, I've built two passive solar houses, recumbent bikes, all sorts of stuff, some of which has worked, some of which has not. If I've built something that has not, I just go: “Ah well, someone had to find out!” — and go on to the next thing.

My passion

The lateral thinking, the logical thinking, and the energy angle have led to years of studying *The Limits to Growth*; nowadays, I belong to a think tank that has those limits as its prime focus. The more I study, the more I fear for our offspring, and theirs. This ScienceDirect article is a well-written precis ⁴ and, if you've got some time, this is the best video version ⁵.

In light of that, we don't go around wailing, “We're all doomed”; what we do is teach future-useful skills. Jennie teaches the production, preserving, and storage of food; textile skills; and more. I demonstrate ways to use existing stuff to do different stuff — lateral thinking by any other name. With my writing ⁶, I try to translate university-speak into plain English.

On the bucket list? Building things that give me — or others — pleasure; nurturing friendships; having fun; and thinking — always thinking. Stop thinking and you're dead, I reckon.

REFERENCES

- 1- bit.ly/3C17NyI
- 2- bit.ly/3FkHnyS
- 3- bit.ly/3DFozeS
- 4- youtu.be/9oVTHKzC7TM
- 5- bit.ly/3FjtHn0



Ken Macklan, one of the last wheelwrights in New Zealand



Pounamu carver Dave Goodin creates exquisite pieces



Dave Brown moulds metal to create replica Jaguars



Juliet Nicholas
PHOTOGRAPHER

They all strike a chord

It has been a wonderful journey down memory lane to go through old stories from *The Shed*, but immensely difficult to select only a handful — they all strike a chord in some way.

“All these craftspeople have a profound passion and a deep knowledge of their materials”

The fascinating craftspeople range from Ken Macklan, one of the last wheelwrights in New Zealand (Dec 2015), to blacksmith Les Schenkel, another practitioner of an age-old craft, who has been forging steel all his life (Sept–Oct 2017); from Dave Brown, who moulds metal to create replica Jaguar cars that are exported all over the world (Aug–Sept 2016), to the passionate enthusiasts at the Blenheim Riverside Rail Society, who transformed the rusty remains of an old locomotive into a fully functioning locomotive called Donald (May 2019).



Blenheim Riverside Rail Society pictured with Donald, their restored locomotive

Welder, artist, carver

Michael McLoughlin is a fitter-welder who produces fabulous sculptures, combining his trade skills with a quirky and fertile imagination (May–June 2017) and Phil Newberry recycles glass into objects of great beauty and usefulness (Dec 2016–Jan 2017).

Bruce Derrett recycles, reuses, and repurposes old tools into objects of great beauty (July–August 2017), while

master pounamu carver Dave Goodin shares his knowledge by teaching workshops (Oct–Nov 2016).

Whether working professionally or as a hobby, all these craftspeople have a profound passion and a deep knowledge of their materials — recycled or raw — which they transform into items of great beauty or usefulness, or both!

They are all heroes, with great stories to tell. ►



Rod Kane
WRITER

When the project goes buttock shaped

A man tries to do the decent thing and replace the kitchen after only 40 years. There was nothing wrong with the old one, I protested, but apparently nobody else does concrete tubs anymore or fetches water from the well. I went out to get some hardware for the job, including staples for the ply subfloor on which to lay the timber flooring. I never quite made it. A friend rang

“This is not much fun in your own home, but when it’s at someone else’s home it becomes a bit of an embarrassment”

wanting a small favour done, so I called in, did that, and, feeling a few internal grumblings, I asked to use her loo.



Rod built a new letterbox just the same as his old one. Lockdown will do that to ya

Weird things happen

As you get a bit older, weird things happen; the hydraulic pump slows down and you can get a sudden rush of low to no blood pressure and faint on the toilet.

They tell me this happens a lot to older folk, and it did to me. I hit the ceramic tiles with such force, in a state of total oblivion, that my skull chipped a bit of tile off and embedded it in my skull just before peeling back a big plate of hairy/bald skin, over 150mm long.

Modern plumbing is all exposed chrome — hard metal fittings — and it’s amazing how an unconscious falling head can ferret out where it all is and then bounce off every single component.

This is not much fun in your own home, but when it’s at someone else’s home it becomes a bit of an embarrassment. People don’t have you around for a cup of tea and a blood/body cleaning-up session, complete with sirens and ambos and neighbours staring out windows. A biscuit is far more civilised.

I did fancy myself as a bit of a Rambo or Bruce Willis action hero, though, with a skull harder than ceramic tiles, but I know the unkind will say it merely shows I’m as dense as two short planks.

Rod’s guide to A&E

I digress. For those unfamiliar with how A&E works, here are some lesser known, handy tips:

When you enter a hospital, you will find two rows of coat hooks by the front door. The upper row is for your dignity and the lower row for your modesty. Leave them there, and on the inside pick up a parcel of humility and a large bag of red-faced shame and embarrassment.

A&E is a helluva busy place but when you are wheeled in you are a bit oblivious to it all, and you just lie there while they prepare your repatriation or your departure. After they have performed their amazing magic on you, and wheel you into the observation section, you settle down for the night. Night-time comes with its own set of operating rules:



Rod Kane safe and secure in his workshop

1. Dinner will be a sandwich and, while that may not be exciting, you will be so hungry after 24 hours of nothing that even the latex gloves and hand wash on the wall are starting to look tasty. You will devour it without removing it from the plastic container first. I had a relay of orderlies going backwards and forwards to the sandwich fridge, and each one tasted like pheasant under glass on pate de foie gras even though they were just powdered egg.
2. They will turn the light off in your cubicle but the light in the ward just outside your cubicle will glow correspondingly brighter — all night.
3. At night, all orderlies must push a trolley to go anywhere. One wheel will be locked solid, two will have collapsed bearings, and the fourth will have supermarket castor wobbles. There will be a tray dedicated to just touching packed champagne flutes and loose marbles.
4. Sleep will be near impossible but when you have finally surrendered to blissful pain relief you will be

woken up to see if you are still alive. Dead people can look like sleeping people — and I know a lot of people exactly like that who work in the capital — however, if you are found not to be alive you will be whisked down to the undertaking section, where they have a lower priority on well-being and they don't do sandwiches.

5. You need to be discharged in the morning before the orifice inspection team arrives and the bowel movement brigade and the unthinkable indecent treatment matron turn up.

A happy ending?

As it turned out, they did a fabulous job and now I have all the staples I need temporarily stored in my scalp — and they are stainless steel at that! On the downside, my head now looks like a stitched baseball or perhaps a track for Thomas the Tank Engine. Sadly, some have argued that it is actually an improvement.

Cheers, and happy shedding. ►



This huge Lancaster Bomber build was a bucket list project for Rod



Nigel Young
WRITER

A passion for affordable housing

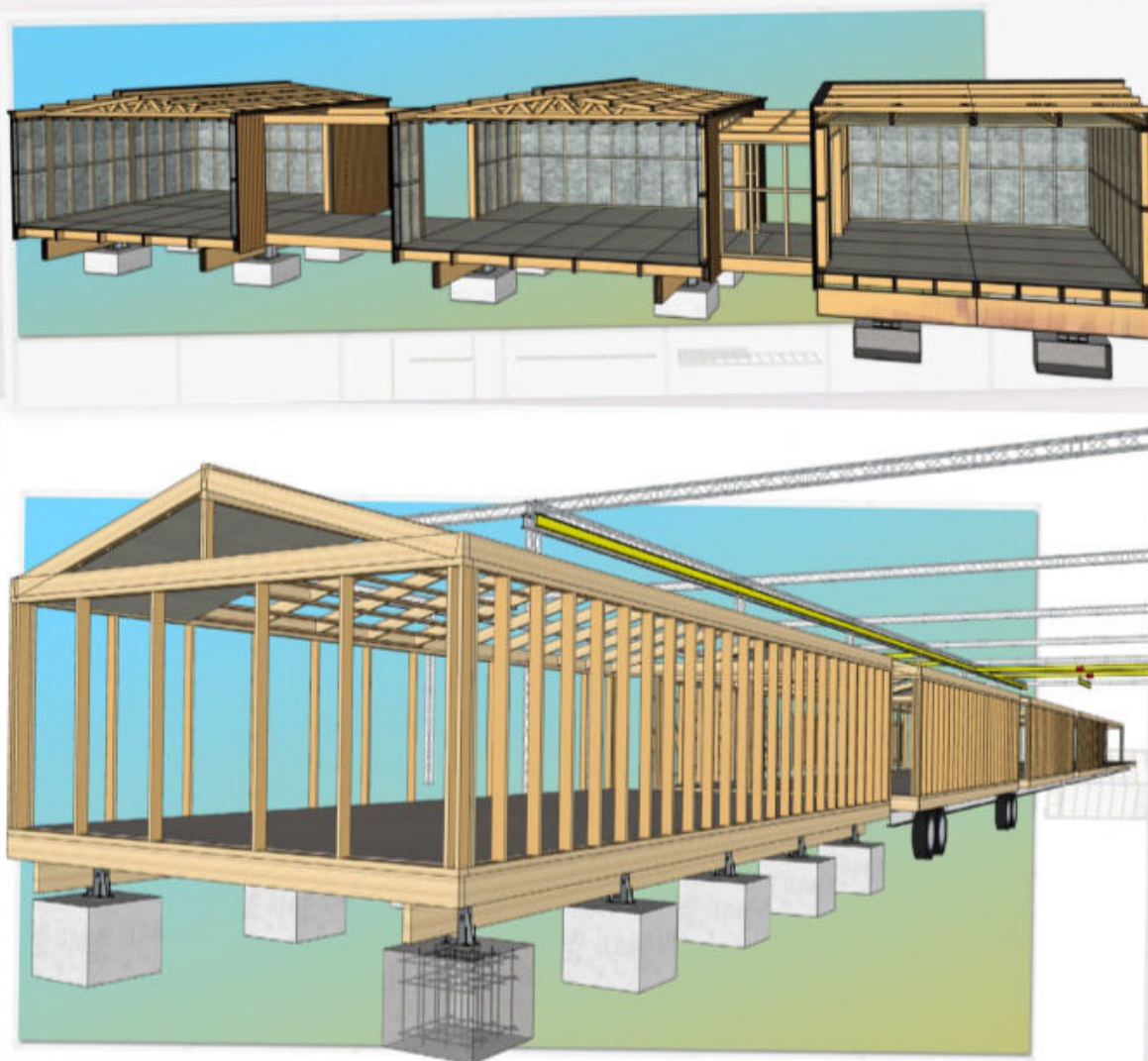
I have a background in art and architecture. The art includes graphic design, photography, and writing, while the architecture includes design, draughting, and site work.

“I’m hoping that will include more time in my own shed”

My passion is affordable housing, and the implied social consequences of not addressing it. To that end, I’ve been researching prefabrication and modular construction, particularly with regard to health, well-being, and remediation. A show home is due to begin construction in February next year.

I enjoy writing and sketching ideas, and recently had an exhibition of my photography. I’m due to retire in the middle of next year; from what I understand, that is when things start to get busy. I’m hoping that will include more time in my own shed.

Nigel has a background in architecture and has been researching prefabrication and modular construction





A *Shed* project that never made it into print — a home basketball court

cut the paragraph about motorcycle designer John Britten's polyurethaned front door and sent it back. My payment was soon in my account and I was now classified — for taxation purposes — as a journalist.

The articles that stick in my mind are the ones that never got to print. For instance, when my son was in his early teens, he wanted an area of concrete to practise basketball on. My suggestion was that we would do it together, and I would photograph his efforts and write a story on the project. I took pictures of him digging, banging in stakes, and screeding concrete. Unfortunately, my cheap compact camera died, the photographs were lost, and that was that.

When it came time to hoist the pole, hoop, regulation backboard, and supporting steelwork — which I had MIG welded at school — Sebastian and four of his friends from nearby houses, exact contemporaries, took charge. I greatly regret that I don't have a picture of the lads pushing the heavy structure onto its mounting, like the US marines lifting the Stars and Stripes on Iwo Jima or Egyptian labourers erecting a stela on the banks of the Nile. Sometimes, when they visit, Sebastian and his boys still use the hoop.

With most of the stories I've written, the subjects have agreed to be interviewed and photographed just to help me out. I do want to say how grateful I am.

Thanks to you all.



Ritchie's first major article for *The Shed* was on the motorcycles of Chris Gordon, issue 77



Ritchie Wilson
WRITER

Ritchie remembers

I was an avid reader of US publications such as *Popular Mechanics*, *WoodenBoat*, and *The Family Handyman*, and of British woodworking magazines. I was also familiar with the idea of shed culture from Australian author Mark Thomson's *Blokes and Sheds* (1995) and Jim Hopkins' acclaimed New Zealand version, which had lovely monochrome photos by Julie Riley.

So I was very interested when, in October 2005, Jude Woodside introduced *The Shed* magazine. I didn't buy the first issue when it came out — although I see I now have two — but I did fairly regularly fork out \$9 or so to

“Terry replied that the magazine had been sent a copy, so that evening, in front of the TV, I wrote a review”

buy issues over the next couple of years. 'Jim Hopkins' *Back o' the Shed* column soon started to occupy the back page.

I wasn't a writer — I taught high school chemistry — but I emailed editor Terry Snow with a proposal to write a review of an excellent new book I had borrowed from the local library. It was on a subject I had long been interested in: paint. Terry replied that the magazine had been sent a copy, so that evening, in front of the TV, I wrote a review. I liked the book so much that the piece really wrote itself. I sent it off to Terry and waited for his reaction — which didn't come.

Ah well.

That darned spam folder

Sometime later I happened to look in my spam folder and there was a message — about three weeks old — from Terry saying that the review looked OK but could I shorten it. I

Rob Tucker
PHOTOGRAPHER

Going behind closed doors

Wow — 100 issues of *The Shed*. Doesn't seem that long since my old mate Ray Cleaver asked if I was interested in taking photos for *The Shed* mag. Ray and I had some amazing experiences meeting blokes in their sheds — a great excuse to see behind the scenes of these talented Kiwis.

These are some of my favourite images. ►

Jim Baird was a retired Vietnam digger who settled in an old garage in the main street of Patea and proceeded to fill the space with old cars, including this one, which had more than 200,000 shells stuck to its body. Jim was restoring a 1917 Doctor's Buick, but sadly he died before he finished it



“Ray and I had some amazing experiences meeting blokes in their sheds”



Jack Marsden-Mayer sculpts animal heads from driftwood gathered from the Whanganui River



I had to go back many times to see everything produced by talented model maker Nigel Ogle, the founder and builder of Tawhiti Museum in Hawera. These are the clay feet that greet visitors to Nigel's studio



One of the Butler brothers of Inglewood in their workshop — a true down-to-earth shed. The brothers made their living by converting Bren gun carriers into boxthorn hedge cutting machines that terrified South Taranaki children for years. All the machinery in their workshop was powered by water-wheel-generated electricity

One of my all-time favourites is Dave Hunger, the mad inventor of Stratford, who made items such as a replica of Henry Ford's first tractor just from paper plans. Dave made a medieval-style sling from whole trees; it could fire a four-litre water canister about half a mile. He also made this wooden walking contraption, which caused a stir when he launched it on the New Plymouth Coastal Walkway. These ladies stopped in their tracks as the wooden machine rumbled past





A favourite article of Nathalie Brown was a visit to the shed of coppice craftsman Bill Blair



Nathalie Brown
WRITER

Oamaru is the place for me

As a freelance writer I've written scores of features and profiles on artists, authors, booksellers, tradespeople, priests, musicians, entrepreneurs, and cooks, among others.

My portfolio includes book reviews and features on history, travel, heritage, architecture, interior design, home making, gardening, and religion, both here in Aotearoa New Zealand and in Australia.

I've also written several books — *Capturing Mountains*: the life and art of Austen Deans; *Fleur*: the life and times of pioneering restaurateur Fleur Sullivan; *Dot*: Queen of Riverstone Castle — I was the ghost writer for the latter two; *More than Water: the Lake*

Hood story; *Mitchells of Parkside and Rosedale* — a family history; and local social histories.

A varied writing life

The life of a freelance writer is financially precarious but varied and full of opportunities to spend time in the homes, gardens, offices, and workshops of people one would never otherwise meet.

While I am certainly no do-it-yourselfer, I am fascinated to see how other people work on useful and beautiful objects. As a result, I have written stories for more than a tenth of *The Shed's* 100 issues.

I don't have to move far from my home in Oamaru to find a good story.

The Shed has given me the opportunity to talk with artisans and enthusiasts in widely varying areas. I've written about Rod Tempero's replica classic sports car sheds two-minutes drive south of Oamaru and Mike Lilian's willow weaving shed at Kakanui, about 15 minutes south of the town. Kakanui spawns creativity. That's where I found Lindsay Murray, boatbuilder and maker of all manner of Viking domestic artefacts. It's the home of Bill Blair, a coppice craftsman who works out of a disused

red railway shed on the shore of the Oamaru Harbour.

Peter Brockelhurst and his wife — my cousin Lynda — of Springston on the edge of Christchurch make exquisite doll's house furniture and furnishings, while Judy Waterson wallops red-hot metal as a blacksmith in Duntroon, half an hour up the Waitaki Valley from my hometown.

Great sheddie stories

The volunteers at the country's steam and rail societies are a dedicated lot. They're usually retired folk who spend a weekday and a day on the weekend restoring and running old steam and diesel locos and carriages. I've written about the Oamaru and Pleasant Point crews.

“It's good to know that people can retreat to their sheds in these pandemic times to work on things that satisfy them”

Colin Harvey is no slouch, either. He restores mostly Allis Chalmers caterpillars and tractors and other farm machinery, much of which was first in use in the 1930s. Colin was featured on the cover of issue 88 of *The Shed*.

The sheds of Bruce Watt and the late Alistair Allen were remarkable for different reasons: Bruce's for the care and precision he brings to everything; and Alistair's for the phantasmagorical assortment of farm and rural work and domestic items he had collected over some 75 years.

Rod and Sue McLean built a shed in their backyard so that Rod could stroll over and go to work on his beautiful domestic woollen mill. He weaves tartans, tweed, plaids, and any number of other patterns in natural wools, and Sue then fabricates them into fashion clothing and accessories.

It's good to know that people can retreat to their sheds in these pandemic times to work on things that satisfy them. I'm so looking forward to telling the stories of more sheddies as the magazine moves into its second century.



Enrico Miglino
WRITER

Proud to be part of the team

My first article in *The Shed* appeared in the November–December 2017 issue; the plan was a series of articles on 3D printing technology. What started as a short series has become a long-term collaboration with the magazine.

I am happy to join in celebrating issue 100, and to be writing a few words about myself because — and I am proud of this — it means I am considered part of the crew.

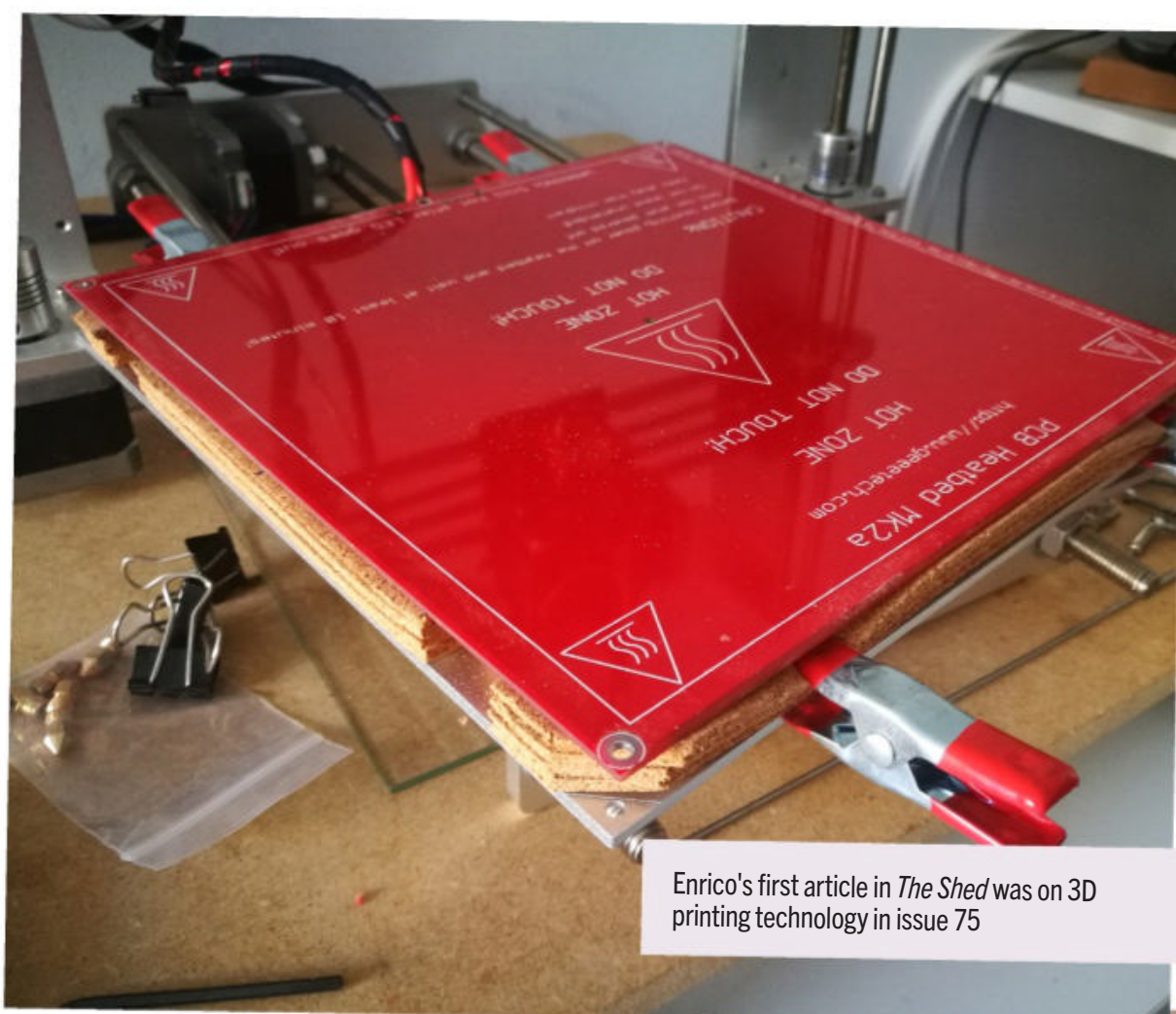
Writing articles for *The Shed* has been love at first sight; I have been a technical writer for decades, and I have to admit that this magazine is the best I have worked for. The topics I have covered have ranged from 3D printing to laser-cutting techniques, microcontroller projects for kids, vintage upcycling, and smart-home customisation.

“I am happy to join in celebrating issue 100”

I work as a consultant in IT and software development, but I also love teaching technology. I love the world of electronics, microcontrollers, and embedded Linux. The best word I can use to define myself is a ‘maker’; I develop STEM (acronym of science, technology, electronics, mathematics) projects for real-world applications. Based on the projects I make, I teach workshops with ingegno.be and element14.com and write articles, mainly for *The Shed*.

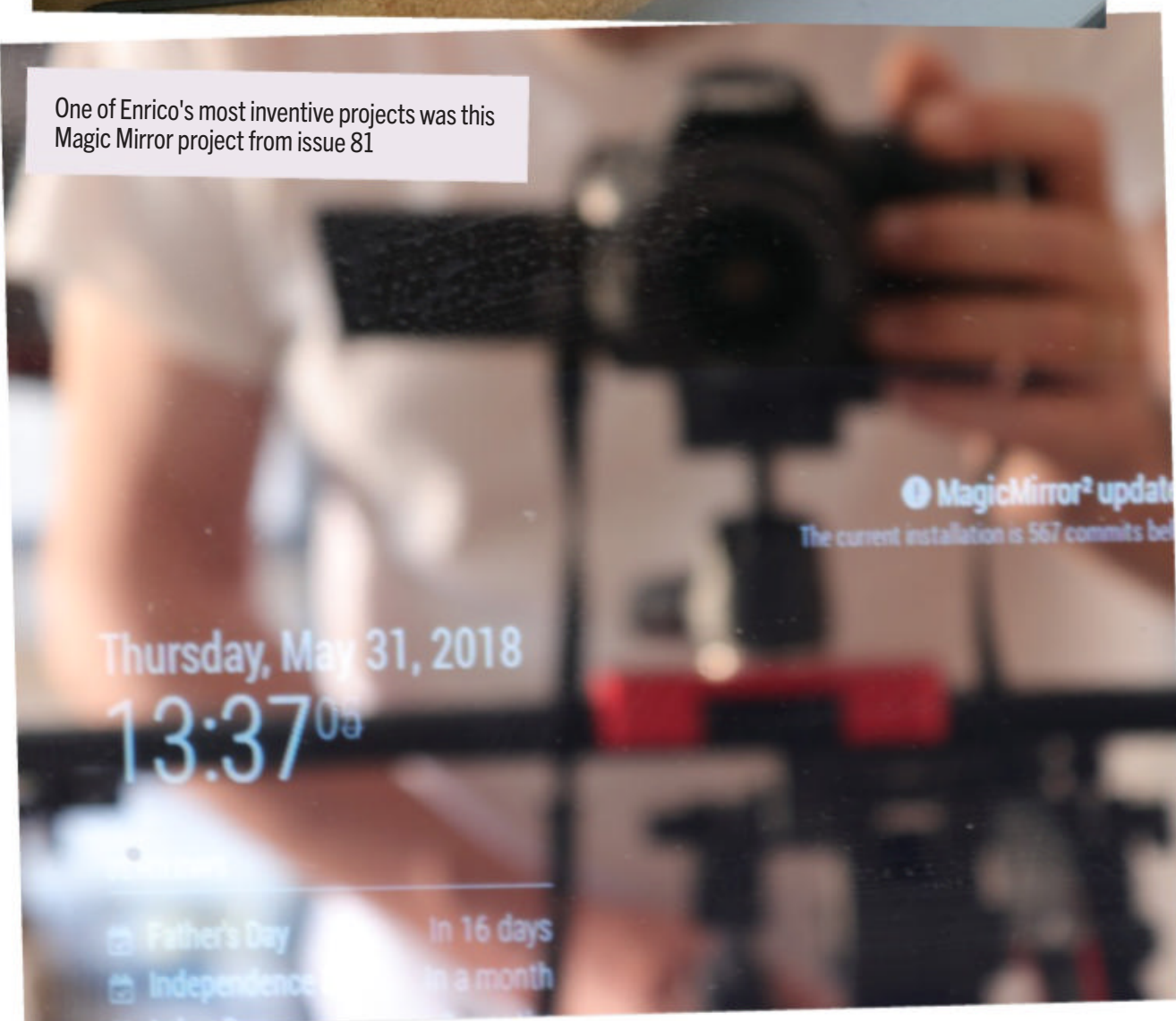
A love of other arts, too

In line with family tradition, I have been taking photos and producing



Enrico's first article in *The Shed* was on 3D printing technology in issue 75

One of Enrico's most inventive projects was this Magic Mirror project from issue 81

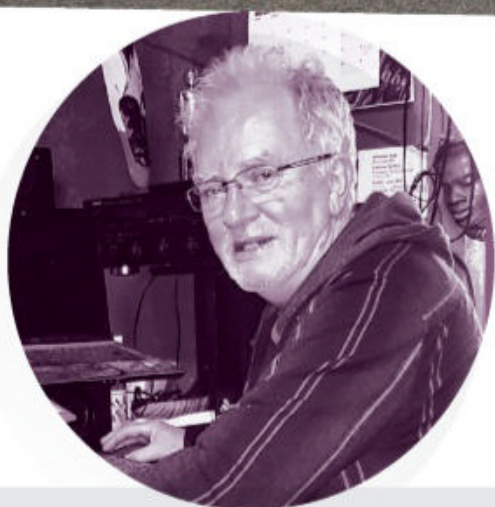


short videos for decades. Taking advantage of that knowledge, I document my projects with images, short documentaries, and ‘making of’ videos to better explain the text of the articles. The musical component of the videos is played, whenever possible, with my Fender electric guitar and some software post processing.

I recently bought a camper van (April 2021) to travel across Europe

and work remotely. To enable this, I am upgrading the living cell of the vehicle with some electronic modules for security and networking. The story of the project is being told in real time on *The Shed* in the series “Enrico on the road” — the title was the inspiration of the editor, Greg Vincent. The third episode is published in this issue — by the way, it was written as I crossed France from Spain on my way to Belgium. ▶

Ray, pictured on the right, visiting inventor Dave Hunger and reviewing his latest 'bike'. The only place to try it was outside Dave's farm on the road — and look what happened!



Ray Cleaver
WRITER

I have a lot of great memories

Writing for *The Shed* magazine is a pleasure. I teamed up with photographer Rob Tucker to contribute stories in 2006, and it's been a lot of fun. Rob and I go back to our cadet reporter and photographer days on the *Taranaki Herald*, where we started as

“I recall one of them starting up a Bren gun carrier V8 side-valve engine with a crank handle”

callow youths in 1965.

These stories have meant meeting many fascinating characters, and a few of these have stood out:

Bruce Alexander of South Taranaki was a tractor-mad character who, in 1960, bought three Valentine tanks from World War II with his father. The pair used them with massive 16-foot blades to

cut boxthorn hedges in Taranaki. Bruce has a huge tractor collection.

Similar standouts were the Butler brothers from Inglewood who, with their father, bought World War II Bren gun carriers in a bulk lot and turned them into boxthorn hedge cutters and sweeps. These guys were tough. I recall one of them starting up a Bren gun carrier V8 side-valve engine with a crank handle — and he was in his mid 80s! Some of these machines are still running.

So many great sheddies

Another interesting character was Joe Parkes, a big ex-Glaswegian blacksmith with an anvil dating back to the mid 1800s. He'd been blacksmithing for 56 years. Not only could he make big iron gates but he also made delicate little metal flowers.

Dairy farmer and inventor Dave Hunger made, among many other things, a giant trebuchet that could hurl couches across his paddocks. The throwing arm was a 13m lawsoniana trunk, and the working bits were old tractor parts. It cost Dave \$300 to make.

A fascinating job was covering the restoration of a 1944 Catalina flying boat in New Plymouth. The full restoration was amazing and we even got a flight over the city.

Then there were three blacksmiths/farriers in Whanganui — a father and

two sons. They forged a beautiful smithy hammer from a bulldozer hydraulic ram in front of us, then made a horseshoe with it, and finally shod a horse.

And don't get me started on the retired architect who made a kauri chest of drawers into a working pipe organ that played notes when the drawers were opened and shut.

The old crafts are still alive.

Tidy and not so tidy sheds

Some sheddies keep their sheds immaculate — not even a drop of oil on the floor — and others have mess all over the place, but what comes out of both types of sheds is often pretty amazing.

I've also covered a wide range of sheddie restorations — from people restoring vintage cars from piles of rusty panels to a guy restoring a huge traction engine. One retired mechanic had a front-engined Morris 1100 and, just for fun, he put a second engine in the rear of the car and synced them.

Some sheds are huge. One in Hawera, owned by a retired panel beater, covered a quarter of an acre; other guys do all their work in a small garage.

Overall, it's been an amazing experience to meet all these characters, inventors, and hard-working sheddies. It's been a great 15 years. 📖

ONE-STOP SHOP

SES Direct has a winning formula when it comes to getting the job done

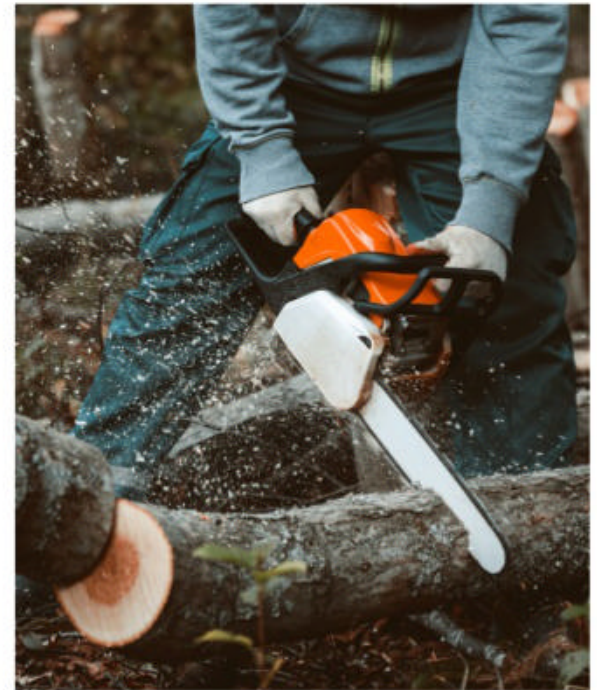
The number 8 wire mindset has long been part of our national identity and there was a time when the average Kiwi thought nothing of reaching for the right tools, finding the parts, and having a go at fixing something themselves. These days, it's an increasingly common scenario for us to go out and buy something new to replace it instead.

"Fixing and repairing things yourself has become a diminishing activity, associated with an older generation,"

says Alex McCallum, owner of equipment and parts supplier SES Direct. "But that's all changing with the younger generation who are very aware of the environmental impact of throwing things away. They're keen to repair things, but find they don't have the knowledge and skills."

The company has expanded the focus of the e-commerce business so they not only supply a massive range of parts at a keen price point, but also develop an interactive relationship with customers to help them get the job done. "Unlike other e-commerce businesses that treat their customers purely on a transactional basis, we prefer to build relationships with customers rather than computers by offering advice on the right parts for the job and backing it up with tips on how to do it. We're a one-stop shop."

The dedicated and growing team of seven at SES Direct help achieve this customer relationship through a mix of live chat, emails and of course the forever ringing phones! This enables our very knowledgeable parts gurus to



take the confusion out of identifying and ordering the correct parts for the job.

"We have a huge range of over 7000 spare parts and accessories in stock, with access to hundreds of thousands more. With over tens of thousands of returning website users, it's a privilege to be able to pass on knowledge and encourage a can-do mindset for all generations."

For more info, visit sesdirect.co.nz



NZ's No1 In Outpower Equipment Parts. Over 7000 parts in stock with thousands more at our fingertips

Products we cover:

- **Small Engines**
- **Generators**
- **Lawnmowers**
- **Water Pumps**
- **Chainsaws**
- **Pressure washers**
- **Trimmers & Brushcutters**
- **Log splitters**

Freight Policy:

Combined Shipping Nationwide \$6.50 Urban & \$9.95 Rural Delivery

**sesdirect.co.nz
0800 296 586**

**49 Leet Street Invercargill
sales@sesdirect.co.nz**





SUBSCRIBE & SAVE

NEVER MISS AN ISSUE

FREE DELIVERY TO YOUR HOME
SAVE UP TO \$50



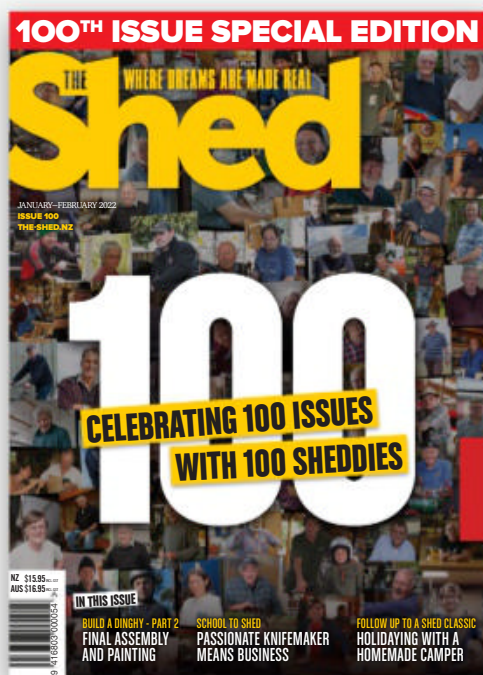
SUBSCRIBE TODAY



MAGSTORE.NZ

SUBSCRIBE TO

THE WHERE DREAMS ARE MADE REAL Shed



ONE YEAR
\$69

SAVE 22%

DIGITAL
SUBSCRIPTIONS
AVAILABLE FROM
\$29



TWO YEARS
\$129

SAVE 32%

TO SUBSCRIBE
WWW.MAGSTORE.NZ OR 0800 727 574

- 1) New Zealand delivery addresses only.
2) Offer available on subscriptions purchased through MagStore only.
3) Offer available on *The Shed* magazine print subscriptions only. 4) Savings apply to RRP.
5) Offer is not available in conjunction with any other offer. 6) See MagStore.nz for full terms and conditions.

PHONE 0800 727 574 OR VISIT WWW.MAGSTORE.NZ



The right stuff

Get the right gear for the job with Hi-Q Components' range of Tecnodin industrial handles, levers, knobs, hand wheels, crank handles, hinges, and anti-vibration mounts. This quality range from Europe offers a comprehensive selection of knobs, including round, oval, tapered to star, and sculptured versions. Female threaded types are available with moulded, treated steel, or brass insert metric threads, while the male threaded knobs have treated steel and stainless-steel metric threaded studs. Some styles are cast in aluminium, and all knobs are manufactured in durable duroplast or thermoplastic. Tecnodin has more than 75 years of experience in the design and manufacturing of operating elements for all kinds of industrial machines, and brings this expertise to its entire range.



Contact Hi-Q Components for more information, on 09 4153333, or email sales@hiq.co.nz.

It's a gas

Use industrial gas for your shed projects? Chances are you're paying ongoing cylinder rental fees whether you're using the gas or not.

Eziswap Gas works differently. It operates a 'cylinder swap' system. Customers initially buy a full cylinder of their required gas or gas mix, use the gas, then swap the empty cylinder for a full one, paying only for the gas used. This way, customers avoid paying any ongoing cylinder rental fees.

Worried about the initial cost? You can buy a cylinder of your choice from the Eziswap Gas website (eziswapgas.co.nz) and check out with Afterpay. Using Afterpay, you can spread the cost over eight weeks (conditions apply).

With more than 57 swap centres nationwide, Eziswap Gas is a better way to purchase industrial gas. It's also New Zealand's only 100 per cent Kiwi-owned, nationwide industrial gas provider. Win-win!



Next-level welders

Start the new year on the right foot with a BOC Raptor. The range of quality MIG/MAG, multi-process, TIG, plasma cutting, and MMA machines will take you to the next level, without costing the earth. The compact and lightweight BOC Raptors are versatile and functional — perfect for both the workshop and on site. They also deliver on that all-important amperage and come with a two-year replacement warranty. Quick to set up and easy to run, they're made for tradies and DIYers alike. Backed by BOC's technical know-how, the Raptors also fully meet Australian and New Zealand standards.

Give yourself an Xmas present and check out the BOC Raptor range at voc.co.nz.



Convert-a-Ball

This bolt-on Convert-a-Ball pintle hitch and ball mount combo is ideal for heavy-duty towing, retaining the ability to tow with a standard coupling. It includes three interchangeable, stainless-steel hitch balls with towing capacities from 3500lb to 10,000 lb, and a pintle sleeve adapter (GTW 25,000 lb). The polyurethane interior acts as a shock absorber. The double-engagement, rust-resistant locking system converts quickly from pintle to standard ball mount — no tools needed. Convert-a-Ball is made in America.

Call 0800 698 227 for where to buy, or more information.



Up and away

You'll be on the job in minutes with the Foldaway mobile scaffold. Made in New Zealand, the Foldaway is the ideal solution to accessing jobs without any hassles. Ideal for both indoor and outdoor use, the versatile scaffold is fast and simple to use, with easy access to the hatch platform and built-in rungs, making for maximum efficiency. Transporting and storage is a cinch with the Foldaway, which is rated for 225kg. A unique channel-locking platform ensures minimal bracing is needed, speeding up assembly, which can be done by one person. Ideal for both tradies and DIYers, this mobile scaffold will transform the way you tackle those hard-to reach jobs.

See easyaccess.co.nz/products/foldaway-scaffold for more info.

Rain, rain, come again

We're heading back into dry summer conditions, when having access to extra water without any extra significant cost becomes a huge plus for households. Now is the time to invest in harnessing nature's bounty by making the most of the free rainwater that collects on your roof, with a Marley Twist rainwater diverter. The Twist is easily installed and connects your downpipe to a small tank, giving you free water for gardening, cleaning, topping up aquariums, ponds, or pools, or as an emergency supply. The compact diverter is capable of filling a 300l tank in under an hour.

The Marley Twist is certified for use with potable water and can easily be installed on existing or new PVC downpipes. Made from unplasticised PVC (uPVC), it comes with a 15-year guarantee if installed as part of a properly maintained Marley spouting and downpipe system. It is also suitable for troughs and outbuildings.

The Marley Twist's RRP is \$79.95; check out marley.co.nz for more information.





Camper with "30 Second" Oztent, set up at Goat Island Campground

CAMPER TRAILER BUILD ... EIGHT YEARS ON

PART 2



EIGHT YEARS AGO, *THE SHED* PUBLISHED AN ARTICLE ABOUT BUILDING A CAMPER TRAILER. POSTED ON THE WEBSITE A COUPLE OF YEARS AGO, THAT ARTICLE IS NOW CONSISTENTLY THE MOST POPULAR POST ON OUR *THE SHED* WEBSITE. SO AS WE LOOK BACK OVER 100 ISSUES, WE ASKED THE WRITER FOR A FOLLOW-UP

By Alex van Dijk Photographs: Alex van Dijk



Upcycled mixed materials sculpture



Mixed material furniture



and set up the camper, and the next 25 to light the fridge!

That wasn't the only problem; being an absorption fridge, at best the beer would only ever be coldish, never ice cold. On top of that, when the fridge did go, it would emit a constant gas smell into the bedroom, despite plenty of ventilation openings on the side and underneath the kitchen compartment. This was always unnerving, especially when we slept at night — I've lost count of the times my wife asked me, "Are you sure that fridge is safe?" ►

"As an engineer, project manager, and general maker junkie, I have built many things over the years"

Cold beer

As anyone who has left early on a Saturday morning and driven all day long to finally arrive on a hot afternoon at their magical holiday destination can attest, there is nothing like cracking open an ice-cold beer to kick-start the evening. With that understanding in mind, you can imagine our frustration that, when we went to start our gas fridge, it would often struggle to light. In fact, it used to take us only five minutes to unhook

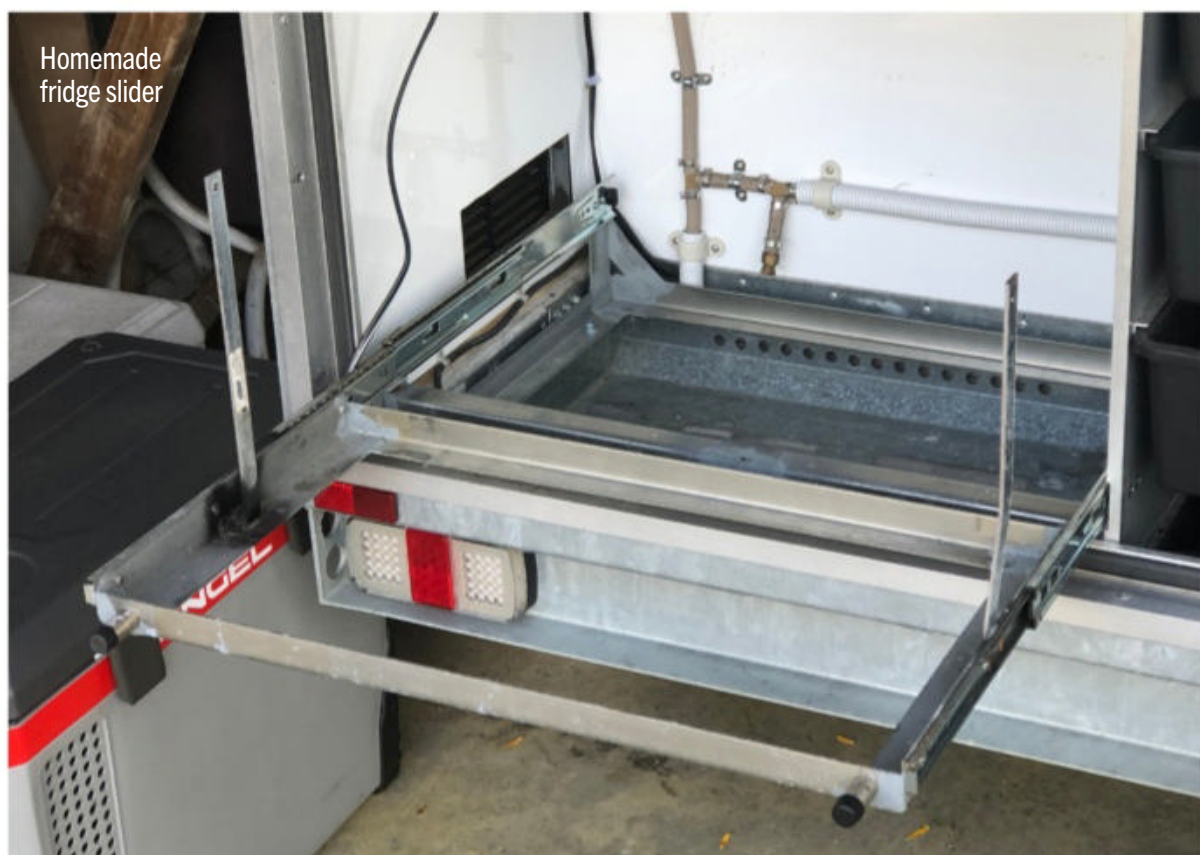


Galley showing 12v solar-powered fridge

Eight years ago, I realised my dream of building a camper trailer from scratch for our family of four. Since then, we have spent in excess of 240 amazing, adventure-filled nights in our nano house on wheels.

As an engineer, project manager, and general maker junkie, I have built many things over the years, from a seagull outboard race boat to creative furniture pieces and lamps using recycled materials and old car parts — and everything in between! However, no project has given us as much ongoing satisfaction as our camper trailer (*The Shed* — April–May 2014).

Here's a review of how we have used our camper, what we loved, hated, and what we have changed over the years from my original build. I hope this provides some valuable ideas and inspiration for your own camping maker projects.



Homemade fridge slider

Very few regrets

Of the very few design regrets I had about the camper, there is no doubt the gas fridge was the biggest one, but therein lies our best improvement so far: a new, 12V solar fridge!

Our Engel chest fridge was purchased from Burnsco on special for \$1000, and what a find it was. The choice was easy, as the Engel was the only 12V fridge I could find that would fit into the existing space — granted, that was after taking off its plastic handles and lifting the gas hob. We’ve probably had this fridge for five years now and it hasn’t missed a beat. It is super grunty and will cool to full freezing if you turn it up. It’s simply a very efficient compressor fridge that can run on 12 or 240 volts.

“The slider system had to be specially constructed as no off-the-shelf unit would fit”

Later, after the Engel had proved itself, I decided to make a pull-out slider drawer to give us better access to that wedge of Brie that had found its way under the wine bottles and last night’s leftover salad.

The slider system had to be specially constructed as no off-the-shelf unit



Roof-mounted 150v solar panel

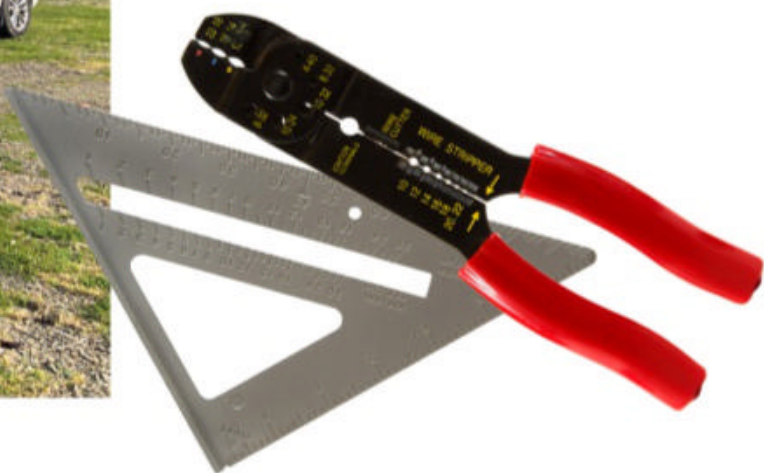


Solar charge controller with all important USB sockets



Maraehako Campground, East Cape

would fit, and it was actually quite a fiddly, complicated process. The fridge slider was welded together using Duragal Angle and some heavy-duty drawer runners from Mitre 10. Nevertheless, the added convenience was well worth it in the end, and we even found ourselves with an additional bench space to prepare food.





CTEK
maintaining charge
in the garage

The addition of solar

Solar charging was not foreseen in the original camper design because the cooking and refrigeration were both powered by gas, and we only required a 12V power supply for the LED lighting, sink water pump, and cell-phone charging.

Even then, our daily energy use turned out to be so low that we found we could last almost three weeks on a single battery charge. Most of our getaways were shorter than this, so we only needed to charge when we returned home. However, this original battery, which was a 105Ah Flooded Deep Cycle battery, lasted only three years before it failed to hold charge. We were careful never to over-cycle the battery more than the allowable 50 percent, but I admit there were a couple of 'accidental' discharges to zero, which

no doubt contributed to the shortened battery life. Plus, we only had a cheap single-stage battery charger back then.

"We value the freedom and convenience that come with not having to plug in wherever we camp"

Who needs mains power?

With the addition of the 12V fridge, I knew that a similar battery to the original would not have lasted for much more than one day of camping. A mains power connection for our camper was never an option, because we value the freedom and convenience that come with not having to plug in wherever we camp. Plus, the best



campsites don't have power anyway! Therefore, I decided to upgrade to a roof-mounted solar charging system instead. I did some research and figured out that we would be able to make our energy needs balance by investing in a single 150W solar panel, a solar controller, and a bigger 140Ah AGM battery — this was the largest capacity battery I could find that would fit in a standard battery box.

I was able to purchase the panel and controller from Burnsco as a package deal, and the battery from a local auto electrician. I also invested in a good-quality seven-stage CTEK charger for when the camper was parked at home in the garage — I didn't want to have any more discharge accidents and ruin another battery.

With just six terminals, the solar controller was super easy to connect into the existing system. I connected one pair to the battery, one pair to the solar panel, and one pair to the switch panel, and then it was just a matter of programming in the battery type and the system would look after itself.

Upon reflection, this solar system has honestly been brilliant. It is super-simple and reliable, and is the perfect size for our camper and to accommodate our energy demands. We keep the fridge running 24/7 and, even so, we never run out of charge, no matter the weather. Oh — as long as we don't camp under a big, shady tree. ►



Ruakaka Holiday Park, overlooking the Whangarei Heads

Tents and awnings

We have employed several tent and awning solutions over the years depending on how we were using the camper.

Initially, we had an Oztent RV3 (see title photo) for the kids to sleep in, the awning of which would attach to the sail track on the camper, giving us an annex to shelter from the sun or rain. Oztents have an internal aluminium folding frame that allows them to be erected in a matter of seconds — a feature that has earned them the nickname ‘30-second tent’. As you can probably imagine, this tent was favoured by the kids especially, as it was their job to set it up every time. We also loved the awning solution provided by the Oztent.

However, as the kids grew older, they became keener to erect the tent further away from the camper — and us. This, and the fact that my wife and I often used the camper for short getaways with just two of us, meant that an awning-only solution was desired.



Our most recent addition — a wind out awning



Our ute tent — the perfect solution for our East Cape road trip



Enjoying the new awning at the Blue Lake Holiday Park, Rotorua

A wind-out version

We initially bought a simple canvas awning that could be attached to the sail track and supported with four poles and guy ropes. This awning did the job but it was a hassle to erect and was a bit of a sea of poles and ropes. So, last year we invested in a Fiamma wind-out awning, which was an awesome solution as it was super simple and easy to erect. I mounted it on the roof with small galvanised

“As you can probably imagine, this tent was favoured by the kids especially, as it was their job to set it up every time”

gusset brackets so that it was high enough to stand under once erected.

Another cool tent solution we have discovered for the kids, which is better suited for road tripping, is our ute tent. Purchased online from Australia, it is basically a sock that is placed over the back of a ute with its tailgate down, allowing up to two people to sleep in it. It opens like a tent and comes with bungees to secure it to the wheel arches and roof racks. This tent solution was amazing, as it eliminated the hassle of having to set up a tent for only a single night’s stay in each location when we road-tripped around East Cape. ►



A magical evening on the East Cape

Ride height

While we still thoroughly enjoy using our camper in New Zealand, I have a bucket list dream of shipping this camper to Australia and travelling all around the red continent — although not necessarily all in one go, as we may travel one leg at a time depending on when we can get away. It would be our mobile bach of sorts.

In preparation for this possible expedition, I decided I needed to increase the ride height of the camper, not that we were intending to do any serious four-wheel driving — it's not that type of camper — but I knew that Australia's terrain would certainly require a slightly higher clearance.

This was a relatively simple modification, as the axle was originally mounted over the leaf springs, so I simply bolted it underneath instead and altered the tow hitch accordingly. Even



From a daughter's perspective



Daughters Tanika and Anouk

Well, of all the things Dad has built for our family over the years, nothing has brought us more joy than that little camper trailer.

While initially resenting the fact that our parents could camp in such luxury while my sister and I were forced to live like peasants in our tent, we eventually warmed up to the idea after realising just how much of an impact the project would have on our lives.

We couldn't be more grateful for the amount of camping experiences we have been able to share as a family thanks to the convenience of the camper trailer — and, in all seriousness, our nights in the Oztent were actually not too bad at all. Of course, it helped that the tent only took us a mere two minutes to completely set up and peg in, leaving us with plenty of time to sit and laugh at our neighbours who had been unravelling their family-sized tent since we arrived, and were still trying to

figure out which pole was supposed to go where. I'm kidding; we sometimes offered to help them out — not that it made much of a difference.

With all of that being said, don't think that I have gone eight years without stealing the camper trailer for myself for a while. No, I made it my home for a good chunk of last year's summer, and pretended I was living my van-life dream. I put my own duvet and pillows, many pillows, on the bed and my candles and books on the shelves — no, I wasn't on a mission to burn down the trailer; the candles were purely for decorative purposes. I even put photos all over the walls and strung fairy lights on the roof, because — well, why not?

The trailer, my guitar, the company of our dog, and, of course, lots of food in the kitchen were all I needed that summer. Long story short, I continued to live in the camper trailer until I was literally kicked out of it.

To this day, my sister and I still often find ourselves hurriedly packing a bag on a Friday after school, having been told five minutes earlier that we were going camping for the weekend. This often leaves me wondering just how many families are lucky enough to be able to steal away for a much-needed break from life at the drop of a hat.

It is for this reason that I am so proud of my dad for what he has created, and how it has impacted our family. My youth has been filled with countless unforgettable adventures, ensuring that no matter where my life leads me, I will always come back for our family getaways.

Anouk van Dijk

for New Zealand’s conditions, we find the new ride height easier, especially when we camp on sloping ground.

The little things

Sometimes it’s the smallest things that can really make big improvements to the usability and enjoyment of a project — like that vitally important mounted beer bottle opener for example: an absolute must-have.

I also installed rubbish, crockery, and cutlery drawers made from plastic boxes running on aluminium tracks — minimal weight is always a

“Even Covid Level 3 and 4 lockdowns haven’t prevented us from enjoying our camper”

consideration for a tiny camper — as well as a separate push switch for the water pump. The latter was a much-needed improvement as we had previously ruined three water pumps due to the kids or visitors forgetting to shut off the tap — with built-in micro switch — properly, leaving the pump to run with no flow.

The last improvement, but definitely not the least, was more USB ports — vital, especially for power-hungry teenagers and their friends.

Been there, done that

The beauty of our camper is that it is so light and easy to tow, and super quick to set up upon arrival — so it’s never a chore to just up and go. We have always made an effort to get away as often as possible, even if it is just a weekend away at Mount Maunganui to support our daughters at a beach volleyball tournament. My wife and I still work full time, though, so our longest getaways are always over Christmas and New Year. ►



Important Improvements aren’t always large



The camper remains hooked on for one-night road trip stops

So, where have we all been in our camper? Well, so far we've travelled and camped around most of the North Island. For me, one of the most memorable experiences was our road trip around East Cape, and then back via Lake Waikaremoana and Te Urewera National Park, staying for only one night at many remote campsites. Those are the best, I reckon; no power and very few other campers, if any.

Most of the time we didn't even bother unhooking the car — the kids would just slide on the ute tent and sleep in the ute tray, and the next morning we would be packed up in five minutes and off to the next destination.

Our favourite spot

Every year, over New Year, we take the camper and our boat to our favourite beachfront campground in Oakura, where we stay for 10 days with friends or family. We often extend our holiday for another week, moving somewhere that we have never been to, as we love exploring new places.

The camper is not certified self-contained — the new rules require a toilet installation that can be used when the bed is set up, which is not possible for our camper — so we can't freedom camp in many locations, but that's fine as there are so many wonderful campgrounds and DOC camps in New Zealand.



Camping at home by the pond during Level 4 lockdown



For longer stays, the gazabo and boat come along too

Whangaruru under an Australian bushfire haze



By now, we've got the camp set-up down to a fine art — not that there's much to it, thanks to the convenience of our camper — so no matter where we go, we're always set up and sipping wine within a few minutes of arriving.

Even Covid Level 3 and 4 lockdowns haven't prevented us from enjoying our camper. We have simply created our own magic spot by the pond at the bottom of our property. Waking up to the sound of ducks and frogs and even paddleboarding from the jetty have been some unforgettable lockdown adventures.

So, cheers

Here's to many more years of enjoyable getaways and fun experiences with the family. Let's hope Covid doesn't interrupt our Christmas holidays this year but, even if it does, I guess that just means more time in the shed. 📁



28TH NATIONAL

Reeco

KUMEU CLASSIC CAR & Hot Rod FESTIVAL

2022



FREE
PUBLIC
PARKING

14-16 JANUARY

FRI: 1.00pm - 7.00PM
SAT: 7.00am - 6.00PM
SUN: 8.00am - 1.00PM

ENTRY
\$20 PER ADULT
KIDS UNDER 12
FREE

KUMEU SHOWGROUNDS
WEST
AUCKLAND

GREAT
FAMILY
EVENT

**LIVE
ENTERTAINMENT**

**MOTO X
SPECTACULAR**

WITH GUESTS
LEVI SHERWOOD,
NICK FRANKLIN
& JED MILDON

Plus
DRIVE-IN MOVIE
FRIDAY NIGHT
& LIVE BANDS
ON THE
MAIN STAGE

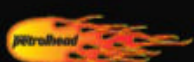
INDOOR & OUTDOOR CAR DISPLAYS
TRADE & PROMOTIONAL STANDS
SWAP SITES ~ RETRO CARAVANS
FOOD HALL ~ OUTDOOR ENTERTAINMENT
KIDS' ENTERTAINMENT

Reeco
It starts with the parts



RODDER

**UTO
MAGIC**



CLASSIC COVER

Milwaukee

**BATTERY
TOWN**



**NATIONAL BBQ
CHAMPIONSHIP**

**WIN AN
AMERICAN CAR!**

THE WESTPAC
RESCUE HELICOPTER
TEAM WILL BE SELLING
RAFFLE TICKETS AS A
FUNDRAISER, WITH AN
AMERICAN CAR AS A PRIZE.

FOR MORE INFORMATION GO TO
www.kumeuhotrodfestival.co.nz



Stan at home in his shed. Upstairs is a guest accommodation and to the left the new add-on with vintage doors built for his new '28 Model A rod

HANGING OUT WITH STAN

WITH THE PACIFIC OCEAN ROLLING TO SHORE JUST ACROSS THE ROAD FROM HIS SHED AT WAINUI BEACH, AVID SURFER AND PASSIONATE SHEDDIE STAN (THE BUILDER) SCOTT IS NEVER TOO FAR FROM HIS TWO FAVOURITE PLACES

By Jason Burgess Photographs: Cory Scott

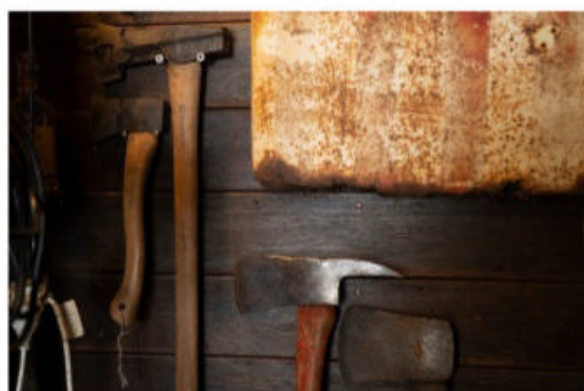
As far as careers in the building trades go, Stan's has been out of the box, driven largely by his insatiable curiosity and his never-say-never attitude. Building, he says, has taken him places he never dreamed of

going. Stan is a familiar face to many Kiwis. He has built and presented on a raft of TV renovation shows and is the current brand ambassador for Mitre 10. He's even managed a few how-to articles for us in the early days of *The Shed*.

When he's not busy planning, building, filming and fronting Mitre 10's web-based DIY series or giving in-store presentations across the country, Stan is at home juggling his own building jobs with personal



Among the old-school storage drawers and file stack is a green aluminium tool cabinet sourced from the decommissioned HMNZS Wellington



A collection of hand axes including an 80-year-old fireman's axe from the old Gisborne sand barge (centre-bottom)

projects and family life. While he has enough work-bench ideas to keep him busy in the shed well into the next decade, he can always find a little extra time to help others get their heads around the tricks of the building trade. And if he's not in the briny at the end of the work day, then he has most likely thrown open his shed door for a few quiet with mates to the accompaniment of some old-school blues on the sound system.

The people's poet crib resto

At the time of writing he is just back from a trip to Kaka Point in the Catlins, where he has been restoring

"Open his shed door for a few quiet with mates to the accompaniment of some old-school blues on the sound system"

the home of the late Hone Tuwhare, 'the people's poet'.

Stan is a founding member of The Hone Tuwhare Charitable Trust, which was set up by Hone's son Rob — one of Stan's former workmates and a longtime friend — to restore the 1950s crib for use as a creative residency. The objective being to preserve the crib's original minimalist character.

It has been re-piled; the joists strengthened, insulation installed, double-glazing fitted and now awaits its final lick of paint.

The project has stretched out over eight years and has not been without its challenges — funding being just one of them. A neighbour's goat head-butted and cracked the old ranch slider, and a bucking horse kicked in a

wall of cladding. It has been a labour of love for Stan, a gift to an art form that has nourished him since he was a teenager, when the poet Sam Hunt came to read at his high school. "I could really relate to him — a guy on stage in gumboots and cool clothes. He made literature jump out at me. It is through Sam that I got into New Zealand poetry. As an apprentice, I copped a lot of stick for that!" ►



Locomotive pressure gauges. "I collected a lot of railway memorabilia for a cafe called Cafe Loco that I built in the old railway station at Ohakune"

Automotive Action

His grandfather was a can-do guy

Stan grew up in Pakuranga in Auckland on the banks of the Tamaki estuary, building huts and boats in the mangroves, where everything was a great adventure.

“When I was eight, a mate and I sneaked off to Rangitoto in his dad’s dinghy with an old outboard. We were armed with a packet of cream crackers and two tins of sardines.”

At school Stan was “pretty good” at woodworking and interested in photography, but he did not know what to do for a career.

“At school, Stan was ‘pretty good’ at woodworking”

“Everyone in our family was touched by photography because my grandfather designed and built his own camera, a ‘Photo Finish,’ he says. “He also built his own house, even though he wasn’t a trained builder. He taught himself music as well, then went on to play his violin for live audiences in the silent movie houses. If he wanted to try something, he just did it.” That go-for-it attitude remains an inspiration to Stan. ►



Stan reinstating the oak roof ribs on the Model A



Vintage skate boards, builders yard signage and the guts of the BSA B31 350CC

The restoration of a 1928 Model A is Stan’s current shed project. “I have a real connection with Model As as my dad has owned a number of them. I bought mine off two old guys, the Shaw brothers, who are legendary among car enthusiasts in Auckland. I was doing some work for them, fixing up their sheds, and they reluctantly sold it to me on the promise that I keep it to stock when I restored it. I stripped it down myself and have bolted it back together. But I got Chris Piaggi from C&R Automotive to do all the wiring and engine install. I kept the original engine. I started restoring the timber roof and trim but it was riddled with borer. I commissioned a guy in Christchurch to do all the interior woodwork. He did a fantastic job in oak, which saved me in time alone trying to source timber for the job.”

Before he bought the car, Stan had his heart set on a 1932 Model A Roadster hot rod. The original flathead V8. “1932 was the first year of the flathead, so they are really expensive now. Instead I have Chris Piaggi working on a ’28 rod for me. And I have just built an extension to the shed for that.” He admits he may have to make another addition soon as he has also got his eye on a 1950s flathead V8 kauri speedboat.



The Model A awaiting fenders and running boards. Stan's old-school board collection on the roof and hanging from the rafters. To the left the Coventry Eagle



The '28 Model A Shine Runner pick-up Rocket Racer made from a Chevy rocket cover. "I made it cooler turning it into a Ford!" The deck and sides were built from old fencing timber, and the brass details are fashioned from vintage car parts



"Standing back at the end of the day, looking at something you have achieved, is a good feeling"

Stan also has a thing for motorcycles. His current steed is a Harley but he recently installed two classics that bookend the shed walls. One is an early 1930s Coventry Eagle and the other a BSA B31 350cc. "I had to get these bikes off the floor in case I started working on them! I need to finish the Model A restore first. The bikes might be a retirement project."

Through his involvement with the local Surf City Rod and Custom Club, he has picked up a fresh vehicular fetish, making Rocker Cover Racers. These are homemade miniature cars built from repurposed parts and raced on downhill tracks. "I love the shed-art aspect of these things. I try to upcycle as much as I can in everything I do, and building these racers means I can use things that might otherwise be heading for the skip." His '28 Model A Shine Runner pick-up built from a Chevy rocker cover, old fencing timber and some car parts, won him the Best-Looking Rocker Racer prize.



"Jesus was a carpenter." A 200-year-old French antique overlooking Stan the builder at work



The BSA B31 front end. On the wall an *Easy Rider* poster; the film that launched a lifetime of two-wheel adventures

A goth approach to a project

“The first proper thing I built was a coffin-shaped coffee table. I was a bit of a goth at school, into The Cramps, The Cure and The Damned, so I guess the music influenced that project,” he says. “One of my first after-school jobs was working in a factory making wooden nail boxes. Now I collect them!” At 15 he was offered a building apprenticeship through a school initiative. He jumped at it and was hooked. “Every day I was learning something new. No two days were the same. I was employed by a guy who was a villa restoration specialist. Working on old homes is a better way to learn because often you are dealing with unforeseen issues and very few straight lines.

“In my first week, I started with digging footings, and by the end of it I was learning about brickwork. I couldn’t believe it. I thought, ‘this is

“I was employed by a guy who was a villa restoration specialist. Working on old homes is a better way to learn because often you are dealing with unforeseen issues”



Speed Demon sign: “Hand-painted on old tin and bought in Timaru from the Rock and Hop show”

meant to be’. Standing back at the end of the day, looking at something you have achieved, is a good feeling.”

Building all around the world

Since then, Stan has built everything from multi-million-dollar homes on the cliffs at Takapuna in Auckland to decks for the Ruatoria City Rugby Club, playgrounds in Westport and houses in Sri Lanka and Cambodia for Habitat for Humanity. “The first house I was involved with in Sri Lanka was for a family living in a rubbish tip. Building a house for someone who has never lived in a house before is a good wake-up — incredibly humbling. It is a privilege to be able to use my skills to benefit someone else’s life.” Back home, community projects remain close to his heart. “You really get to feel the heartbeat of a town when you work with the locals,” he says. ►



The guitar: built from a gramophone box, with a resonator and neck from two old guitars, all sourced from the tip



Stan in his front yard, Wainui Beach



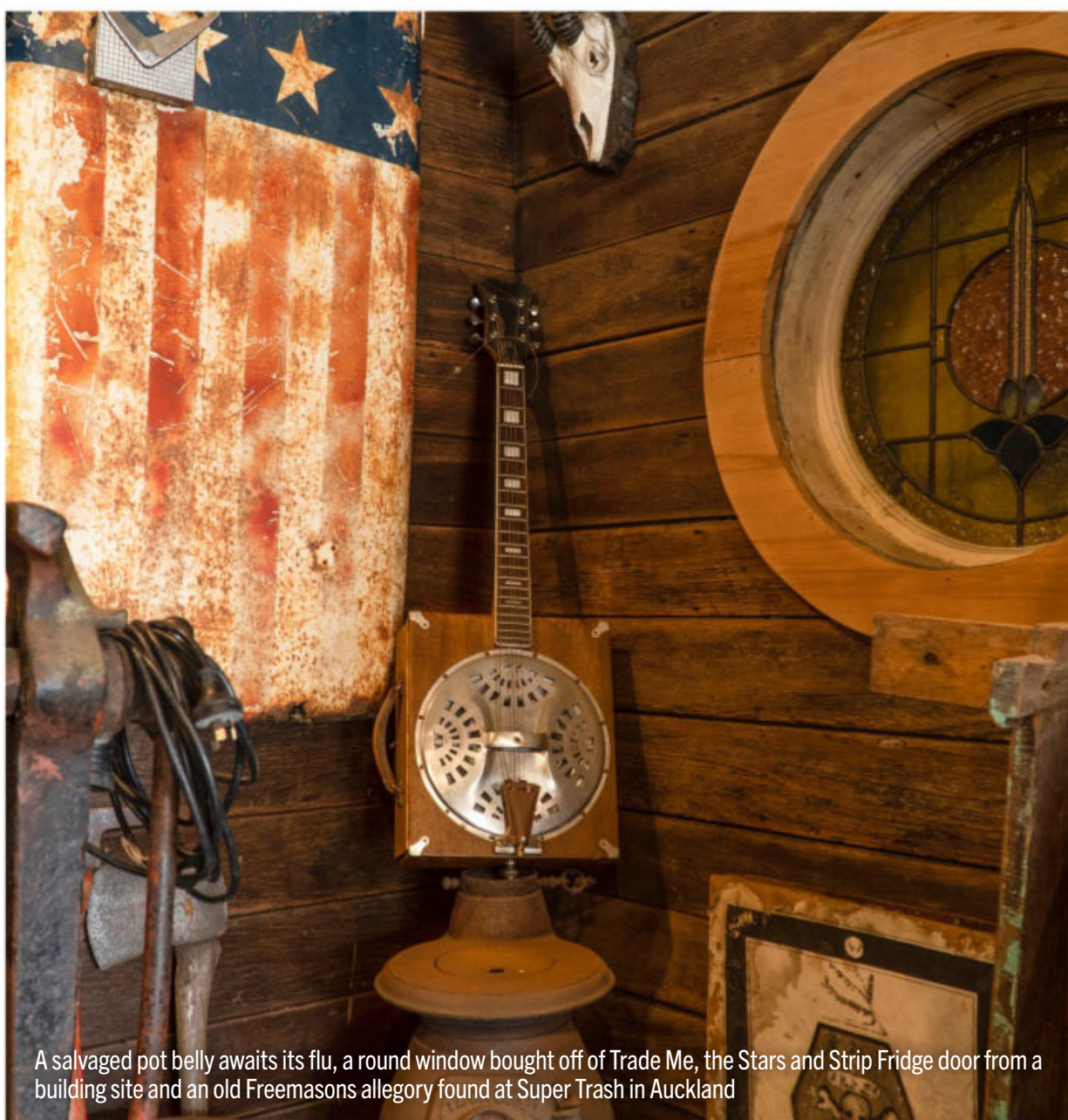
"Death Racer", Stan's take-no-prisoners rocket cover racer

A new career in TV

After an initial 18-year stint of building, Stan was looking for a change of direction. One day he decided to ring Touchdown Productions, which was producing television building shows. He was put in contact with the TV builder, the late Cocksy and did some work with him, and from there made inroads into the world of on-set construction while keeping up his building practice between shows.

Since then he has presented *DIY Rescue*, *Trade Wars*, *The Fence* and *The Kitchen Job* with John Palino. He's been the on-screen builder on makeover shows such as *Changing Rooms*, *Hot Property*, *Treasure Island*, *Island Wars*, *Ground Force*, *Mucking In*, and *The Resort*.

On *Celebrity Treasure Island*, he spent three months on the Yasawas building sets, shooting underwater footage and basically living like a castaway himself. "That was a dream job. I couldn't believe I was getting paid to do it." ►



A salvaged pot belly awaits its flu, a round window bought off of Trade Me, the Stars and Strip Fridge door from a building site and an old Freemasons allegory found at Super Trash in Auckland



Vintage surf boards hang from the rafters including the white Levenes Paint Company kitset board

Surfing



Living on the East Coast there is always somewhere to surf, no matter what the wind is doing



Better late than never. Stan is a goofy-footer on the board and did not learn to surf until well into his twenties. “I started on the waves in West Auckland. Someone said to me if you can ride Piha and Karekare, you can surf anywhere.” Now living near Gisborne, he says, “I don’t have to worry about the wind direction any more, because there is always somewhere to surf: reefs, points, beach breaks and the island.”

At present his two go-to boards are by Tommy Dalton: A Jet — a short, wide, swallow tail — and a Puddle Jumper, which he says are both perfect for Gizzy conditions. He has plans to make his own board one day and has talked with local operator Red Leaf Surfboards about learning the craft. “Red Leaf are really into experimenting with wood boards.

I have some redwood stored away that could be perfect for the job.”

Stan has embraced surfing history too. As well as his 11-strong quiver of boards for riding, he has assembled a collection of 25 vintage sticks — including rarities such as a 1940s hollow board and a Levene paint company kitset board based on a Tom Blake design that featured in a 1930s *Popular Mechanics* magazine. Stan’s interest in surf doesn’t end in the whitewater. As well as an assortment of homemade 1940s wooden flutter boards — “Kiwi backyard ingenuity” — he has also collected vintage skateboards from the early ’70s. One day he says he would like to donate his collection to a suitable museum.



A selection of homemade flutterboards from the 1940’s — “Kiwi backyard ingenuity”



A selection of surf sticks for any condition

Mitre 10

“One day someone from TVNZ called me up to see if I would audition for an ad. I was re-piling my house at the time so I went along in my work boots, covered in mud and cobwebs. After three auditions, I got the job for what I thought was going to be a one-off ad; that turned into *Mitre 10 Easy As*.” It’s a series that gets more than 2M views a month online.

One of the many highpoints of Stan’s job for the Mitre 10 on-demand channel was working with the *Amazing Spaces* presenter George Clarke on the *Tiny House* series.

As well as building a tiny house with Clarke, Stan drew up an itinerary around the south of the South Island to introduce the Brit to some genuine DIYers and the spirit of number-eight wire ingenuity. That roadie was shot in four parts and is called *What Makes Us*. “We had a great time working together and have remained good mates since.”

Lockdown projects for kids

As most Mitre 10 filming is done in Auckland, Stan decided to improvise in his shed over lockdown. “We filmed

a series of how-to videos for kids. We built a see-saw bike ramp, a go-cart, dog bed, footstool, swing and compost bin. For Halloween, it was how to carve a pumpkin.” As we go to print, he is preparing a tongue-in-cheek Christmas shoot, like last year’s *How to Build a Pavlova*.

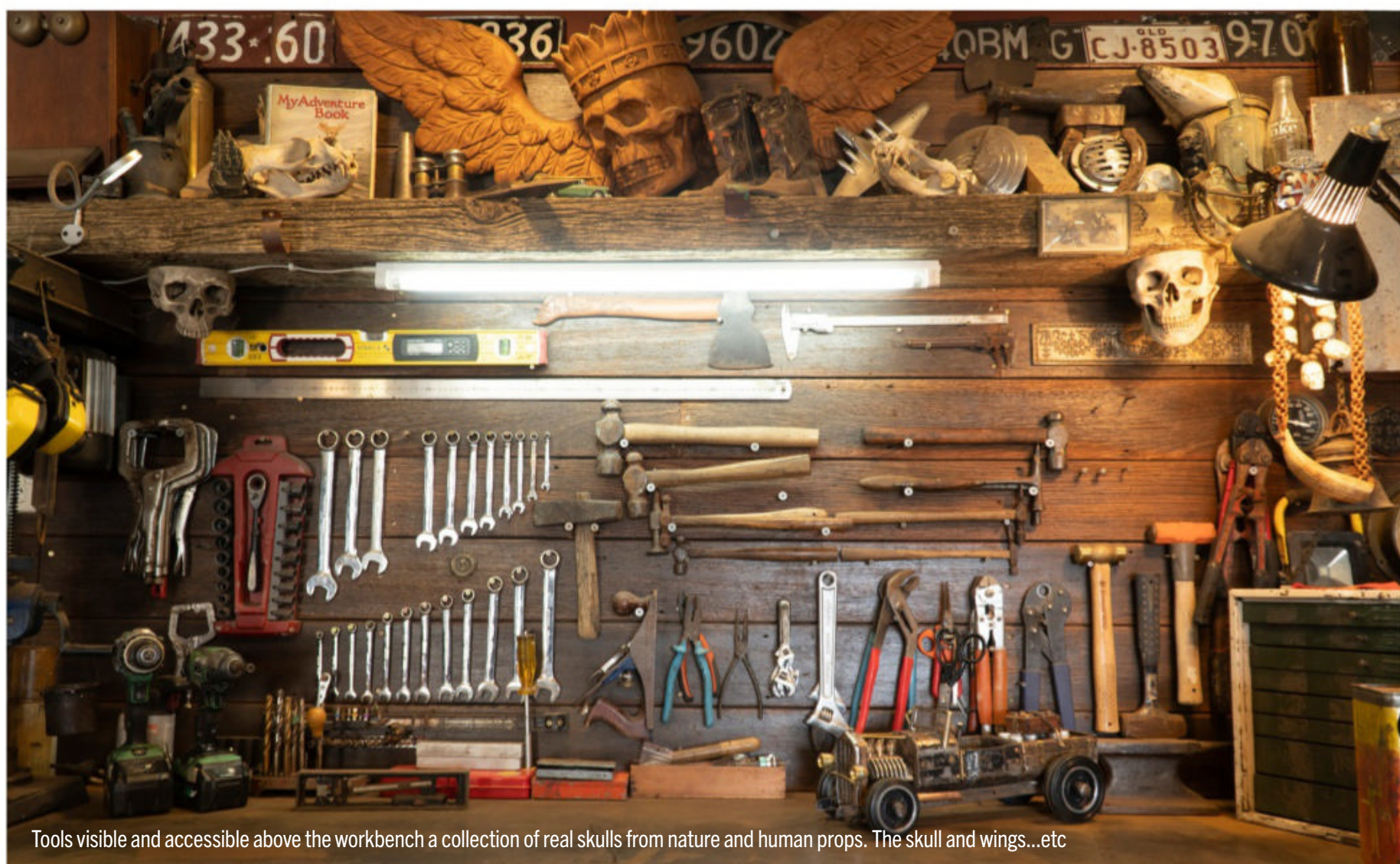
“That was a dream job. I couldn’t believe I was getting paid to do it”

The real rewards for Stan are in the community projects and the feedback he gets from viewers and participants at his in-store workshops. “Lately I have seen a shift with more females wanting to learn DIY. Where guys with no practical background are embarrassed to ask, the ladies are straight in there. There is no ego with women, and they make great trades people.

“I worked with 17 women in Sri Lanka and none of them had picked up a hammer before that. But there was a real willingness to learn the trades, and we did a great job.” ▶



A brass plate from an old NZ Rail locomotive



Tools visible and accessible above the workbench a collection of real skulls from nature and human props. The skull and wings...etc

Stan's shed tips



At work on his home built workbench. A 30mm box steel stop and hardwood ply cabinetry on castors to go where the work is being done. His favourite anvil to the left and the blacksmith's vice that he found in a field on the right

"Ideally," he says, "you need a couple of sheds. One for sawdust and making, the other for hanging out and keeping all your cool stuff." Stan's board and batten coastal workshop is a nice combo of both.

When planning a shed layout, Stan says the first thing he does is locate where the workbench should go. He made his from 30mm box steel (so he can grind and weld on it) with hardwood ply cabinetry set on castors for extra functionality.

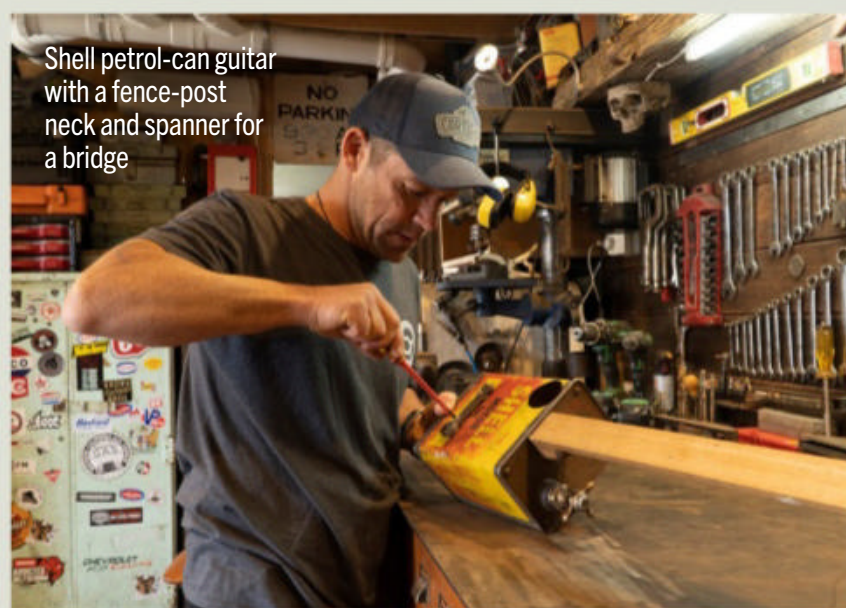
The decorative NZ Railways brass plates are a nod to his grandfather who worked in the NZR workshops. "Getting the bench at the right height for you is critical, as is good lighting above the bench. I make tools easy to access. Some people like them locked away — I prefer to see them. I collect and use a lot of old tools. They were built to last, be maintained and not thrown out. I like to keep them alive."

A sanding or grinding device of some kind is an essential tool in any shed. Stan got a mate to weld a disc plate onto the armature of an industrial sewing machine motor, which works well. He reckons any motor with a chuck can be used to improvise, like a drill in a vice. His anvil is one of the most-used pieces of kit in the shed. "It is good to have something that you can really wack hard against and straighten things out on. Anvils though are prized possessions, people are sentimental about them and are reluctant to give them up." His Radius Master 48 liner is another go-to tool. A good stereo is a must too, and a decent fridge goes without saying. His is a 1950s vintage that purrs superbly.

Comfort in the shed is important to Stan. Before he moved into his, he re-clad, re-wired, insulated and installed a wooden floor over the concrete base (it's kinder to the legs if

you spend a long time standing). As the shed doubles as his 'hang-out space' he also fitted a heat pump (he swapped it for a bench seat) and has furnished it with items he found from trawling tips, skips and charity shops. A hall runner and cow-skin mat were both hauled from various inorganic collections, and the 1980s Technics stereo was obtained from a hospice shop.

His blacksmith's vice was found in a field and a vintage fridge door painted with the Stars and Stripes was saved from a skip on a building site. The old lounge furniture is complemented by a circular glass coffee table that he repurposed from a tractor wheel extension and a set of pot belly legs. And while the surf mags come and go, you will always find well-thumbed back copies of *The Shed* lingering on his shelves. "*The Shed* and *Hot Rod* are the only two magazines I keep around," he says. "They don't date and are a great reference. They feel like helpful mates."



Shell petrol-can guitar with a fence-post neck and spanner for a bridge

Shed philosophy

Stan sees sheds as elemental places. “We are time-poor these days so time in the shed, away from the busyness of life, is really important. It doesn’t matter how big or small it is, it’s a mental health space. A place to go to pull things apart, see how they work, teach yourself new skills. You forget whatever else is going on, you get lost in your shed.”

He says that “sharing knowledge and unbiased advice” is vital. He is seeing a rising tide of people across the country who are looking to work with their hands, to get back to basics. “I think society is on the cusp. I have noticed a push-back against the instant gratification and throwaway culture.

“After lockdown, people want to learn old skills, to know how to survive, be self-reliant and robust.”

While Stan has been called the

The Captain America rocker racer: ‘He’s as serious as a heart attack about rocker racing!’



*“After lockdown,
people want to learn
old skills, be self-reliant
and robust.”*

“embodiment of the can-do attitude”, he freely admits to asking for advice from others when his projects head out into uncharted waters. “If you don’t ask, the answer is always no.”

NB. Keep an eye on *The Shed* website for a video of our visit to Stan’s shed. 📺



Taking some time to himself in his ‘hang space’



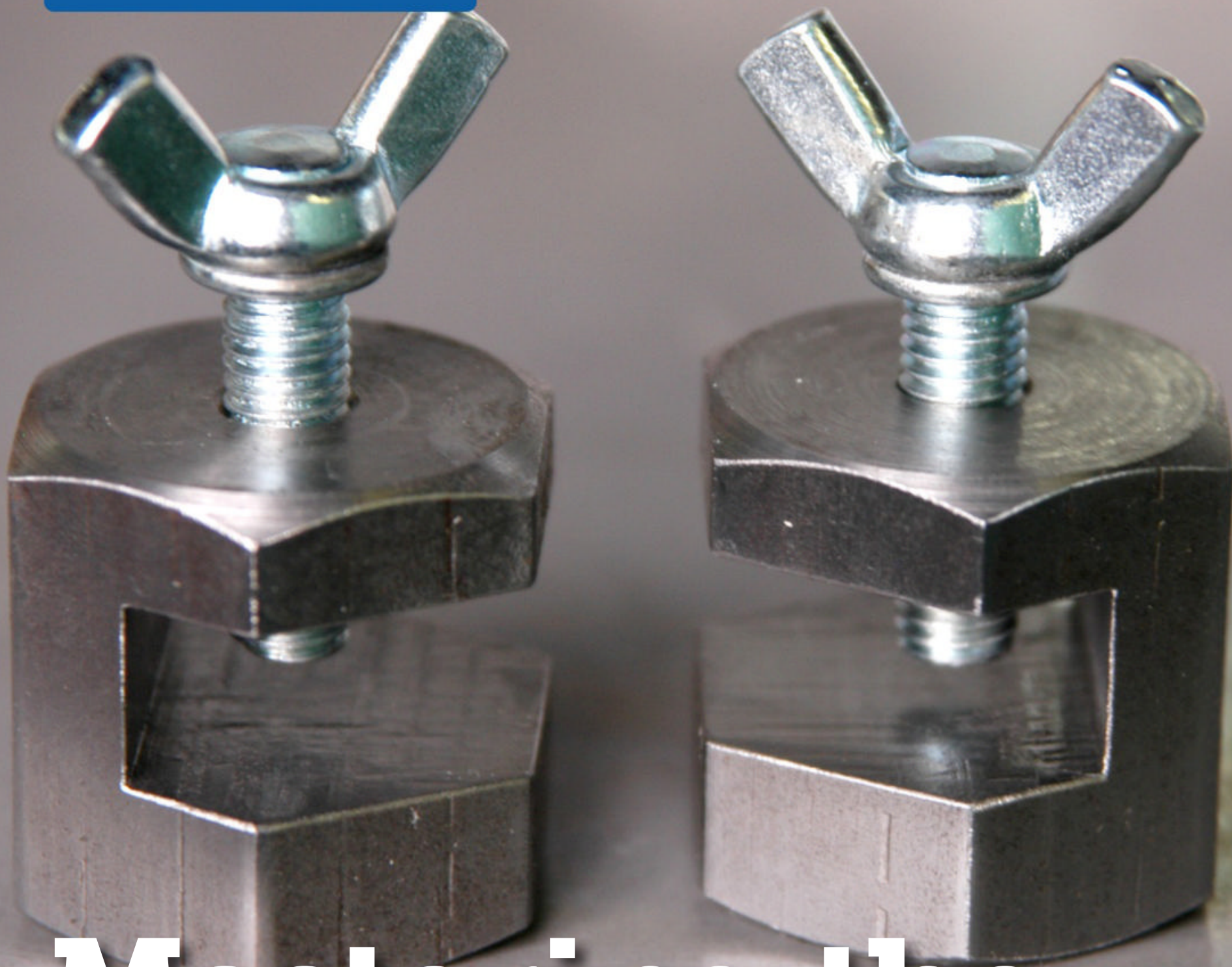
Let's help turn those to-dos into ta-das.

From the first nail to the final coat, we've got all the handy advice and video guides to make your next project, easy as. Visit [youtube.com/mitre10nz](https://www.youtube.com/mitre10nz)



MITRE 10

WITH YOU ALL THE WAY



Mastering the lathe — part 8

TURN OUT A HANDY PAIR OF STAIR GAUGES

By Bob Hulme

Photographs: Gerald Shacklock

In this series instalment, we will mix the wood and metal codes by using our metal-working lathe to make stair gauges used by chippies when building a staircase.

As I understand it, these gauges are fixed to your rafter square to ensure uniform layout for angle cuts on the stair stringers or on rafters — great for repetitive situations. I can see them being handy as edge guides when clamped to a portable saw base, too. This is not so much a

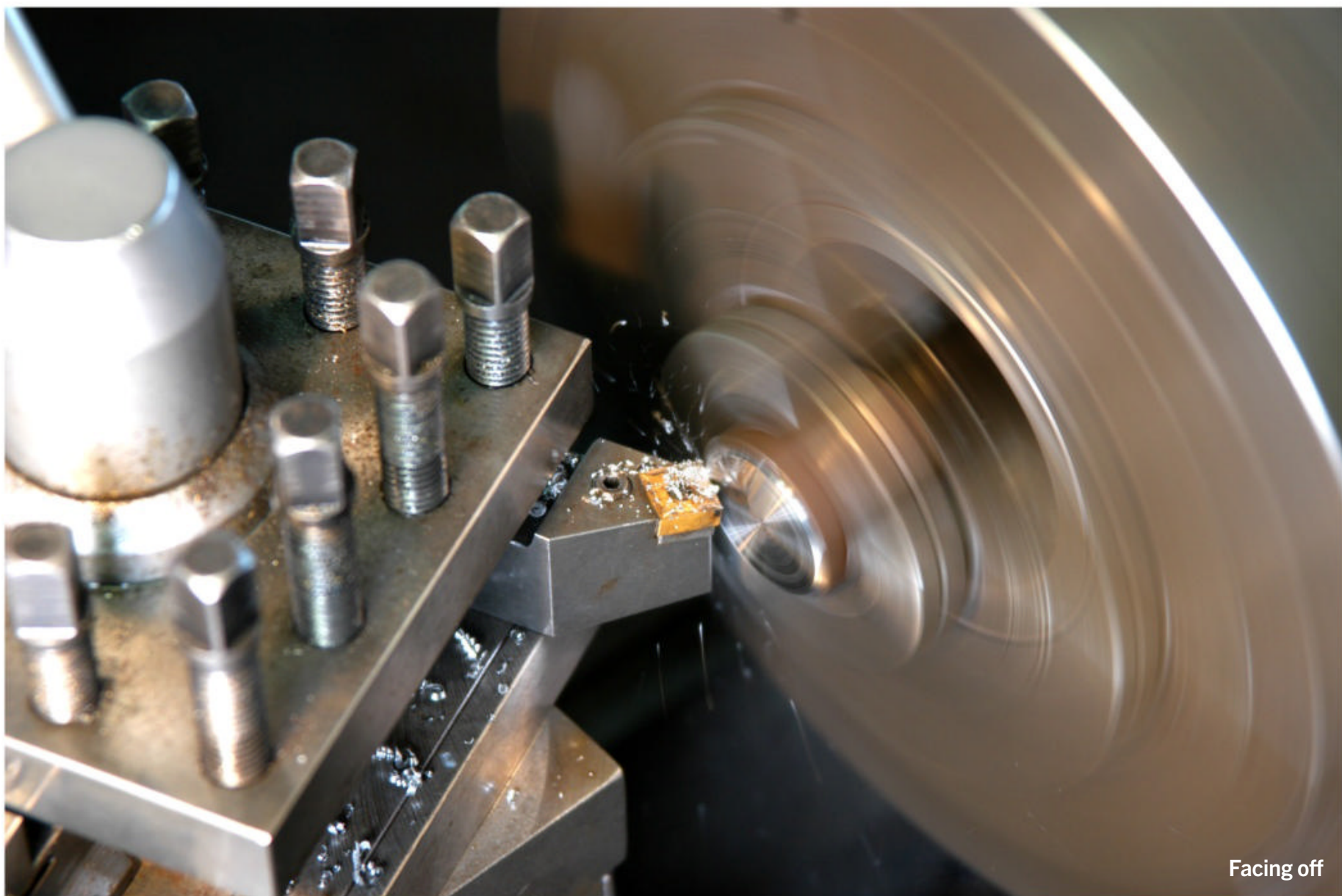
clash of codes as a tribute to the vast majority of sheddies who can turn their hand to a broad range of skills that include carpentry, cabinetmaking, metalworking, and electronics. Even at Prescott Engineering we enjoy coming up with solutions to clients' problems that involve the use of a variety of materials and disciplines.

Pairs

Stair gauges are used in pairs, so make sure that you have enough material to

make two and allow for parting off.

Personally, I would buy at least half a metre of material so that my stock grows with each project and then when I want to do a spur of the moment job I can usually find something suitable to make it from. I have chosen to make stair gauges from steel, but they are often made from brass. Both steel and brass are readily available in hexagon bar which is what we need, but the strange thing is that available sizes are still mostly imperial, not metric. For our stair gauges



Facing off

I decided on steel and a size of 1¼-inch A/F (‘across flat’, the distance from one face to the opposite), the equivalent of around 31mm, to keep the cost low. As with all projects, it is important to plan the sequence before starting.

Hexagonal bar

Put the hexagonal bar into the three-jaw chuck with approx 45mm protruding. This is to allow enough space to get the parting off tool in between the 32mm length of the stair gauge body and the chuck jaws. Firstly, face the end of the bar to give a flat surface, then chamfer the end. You can use a square tungsten carbide-insert cutting tool for both facing and chamfering, as shown, set around so that the chamfer is approximately 30 degrees to the face. Wind the tool in until the cut just becomes continuous. This will give the appearance that will seem ‘just right’.

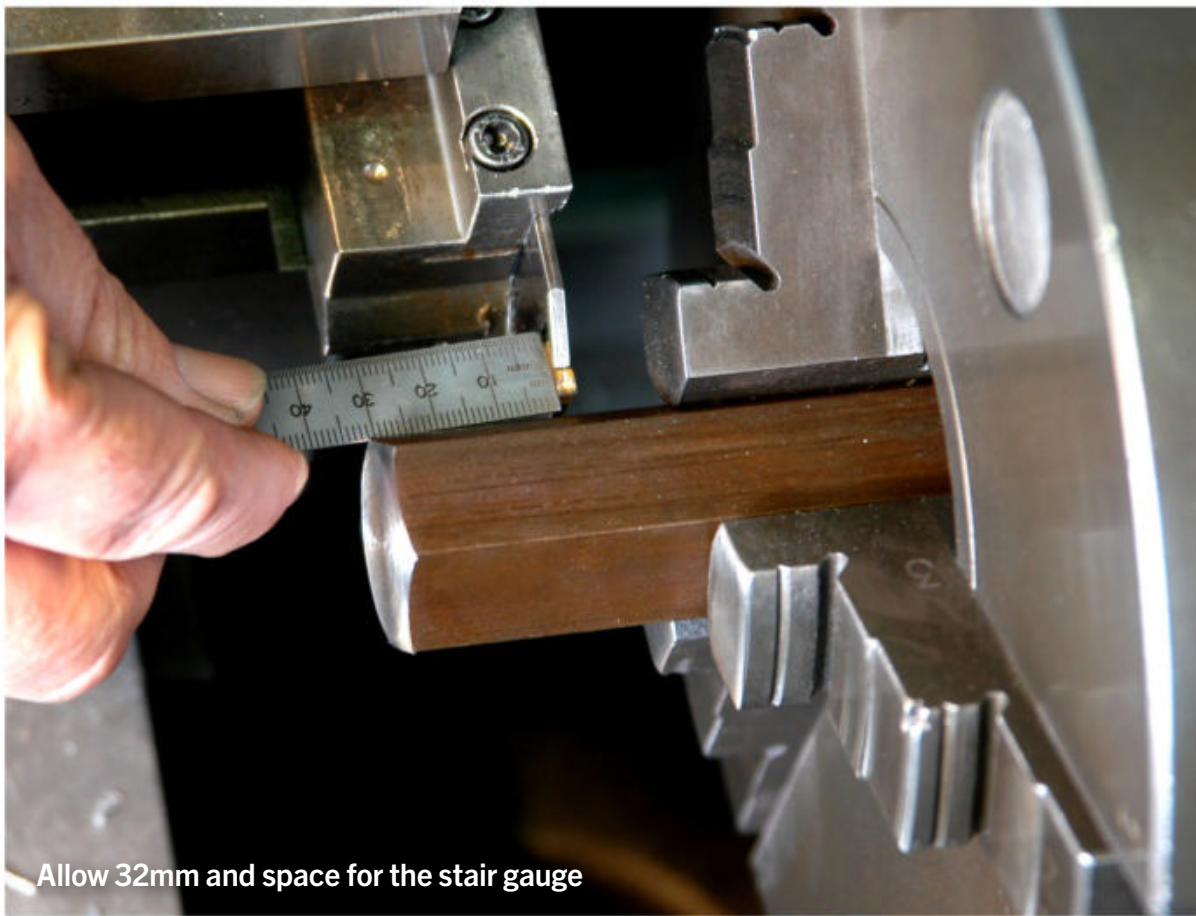
Next, set up the parting-off tool, making sure that its cutting edge is on spindle centre height. The tool marks that show from facing the end of the bar will conveniently indicate this for

“I can see them being handy as edge guides when clamped to a portable saw base, too”

you. Then position the parting tool to cut the bar approx 0.5mm longer than the 3mm length of the stair gauge body so that you can face the parted end later to be sure of a good surface finish. I used a parting off tool with a tungsten-carbide insert and those are a dream to use, but tend to be pricey for the home workshop. Alternatively, you can use a high speed steel (HSS) parting-off blade. Initially the purchase



Hexagonal bar faced off



Allow 32mm and space for the stair gauge



Cutter holder



Cutters (from top), with threaded shank ground flat for grub screw, slot drill (two flutes), and end mill (three flutes)

cost will be much the same for either type, but HSS blades will last a very long time.

Parting off

The trick with parting off is not being too timid. There is no need to slow the spindle RPM and you must feed the parting tool into the work at a steady rate, applying firm pressure. Problems are likely to occur if the feed is too slow or not continuous.

When parting off the hexagonal bar, there is an exception. Take the feed a little more gently at first while the cut is just on the tips of the hexagon. This is an 'interrupted cut' and the impact of each corner of the hexagon hitting the parting tool could chip its edge. However once a full, uninterrupted cut is evident (you will hear a difference), wind the parting tool in more quickly and more firmly. It is difficult to put this into words, but once you have done a few practice part-offs, you will begin to understand. The alternative is to take the bar out of the lathe, put it into the vise, and cut off the 32mm-long stair gauge body with a hacksaw.

A lot more physical work and a lot less cost. This can be a good alternative if your lathe is of light construction and not rigid enough to handle parting off. Once you have parted off/sawn off the piece destined to become the stair gauge body, put it into the three-jaw chuck the other way around so that you can face and chamfer the end in the same way as the first end.

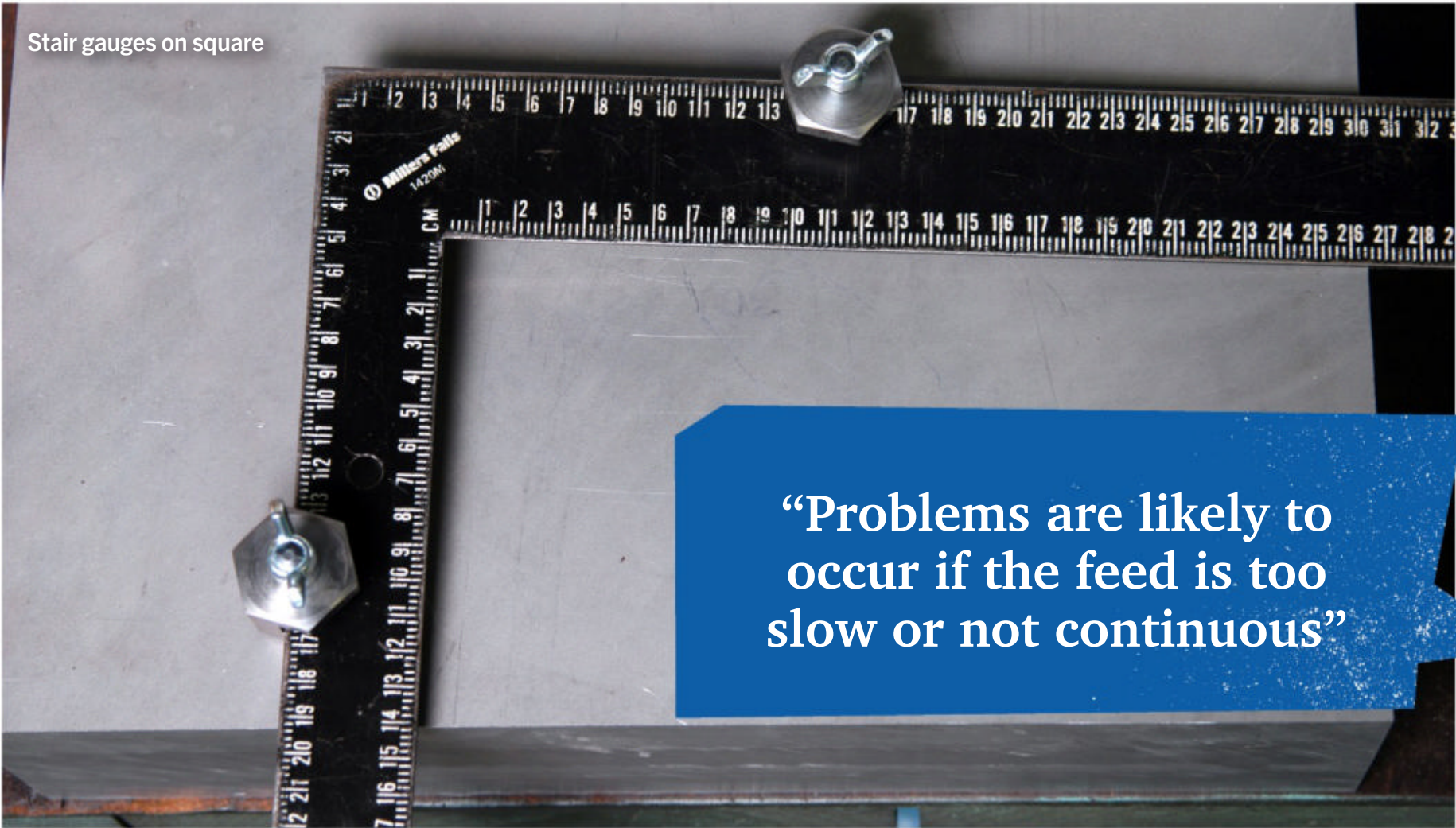
Slot

Before drilling and tapping the hole for the clamping screw, you should cut the slot. This is because if you make the hole first, swarf can catch in the edge of this and the milling cutter will be upset as it goes past while you are cutting the slot. The surface finish in the slot would not be as good as it could be.

If you have a milling machine or a mill/drill machine, cutting the slot will not be much trouble. As this article is about using a lathe, we shall tackle the slot-cutting in the lathe itself. Clamp the stair gauge body in the tool post and mount a milling cutter in the lathe chuck. Do not put the milling cutter directly into your three-jaw chuck. This will damage the chuck. Instead make a holder. This can be made from mild steel that you may have sitting around (quite likely if you agree with my earlier comment about buying more material than you need for each project).

The slot is 12mm wide, so use a 12mm-diameter cutter. The bar you use for the cutter-holder should be at least 20mm in diameter so there is enough wall thickness for a tapped grub-screw hole to retain the cutter. The milling cutter for this job can be either a slot drill or an end mill. The difference is that a slot drill has two flutes while an end mill has four flutes. They both cut on their sides but only the slot drill can plunge cut like a drill. There are also unimills which have three flutes. Milling cutter shanks can also be different to suit various cutter holding equipment. The best type for this homemade holder is a plain shank with a flat so that the grub screw will hold it securely. If you have an old cutter with a threaded shank, you could simply grind a flat on the shank to do the job.

“As with all projects, it is important to plan the sequence before starting”



Stair gauges on square

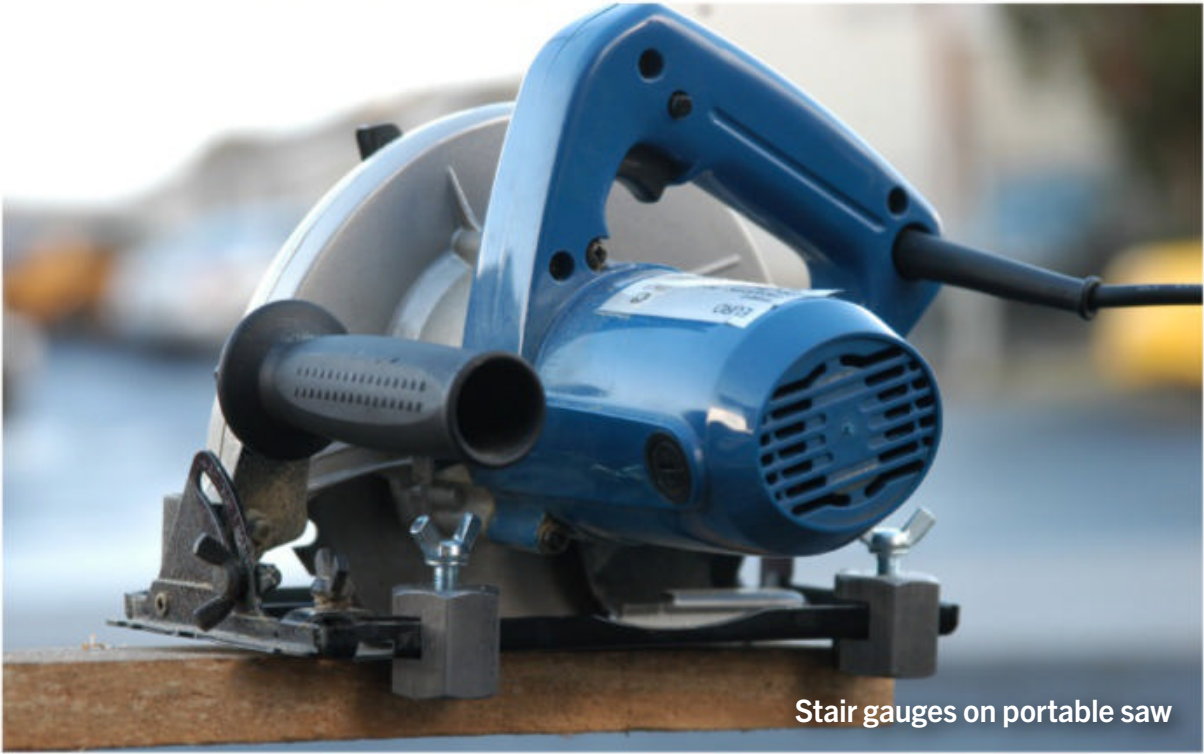
“Problems are likely to occur if the feed is too slow or not continuous”

Cutting slot

To cut the slot, hold the stair-gauge body in the tool post with it packed up so that the centre of the slot is at the spindle centre height. With the milling cutter mounted in the homemade holder, which is in turn held in the three-jaw chuck, we are ready to go.

Set the compound slide dial to zero and tighten its locking screw. Set the spindle running at the calculated RPM (see panel) and gradually move the saddle to bring the stair gauge body towards the end of the milling cutter until it just touches. Lock the saddle in place and wind the cross slide to bring across the tool post with the stair gauge body in it until it is clear of the milling cutter. Unlock the compound slide and wind it 2mm towards the headstock. This will be the depth of the cut.

Lock the compound slide again and use the cross slide to take the first cut across the stair gauge body. Repeat this process until the full 24mm depth of the slot is reached. It may be possible to take cuts deeper than 2mm each pass, but that will depend on the rigidity of your particular lathe. ►



Stair gauges on portable saw

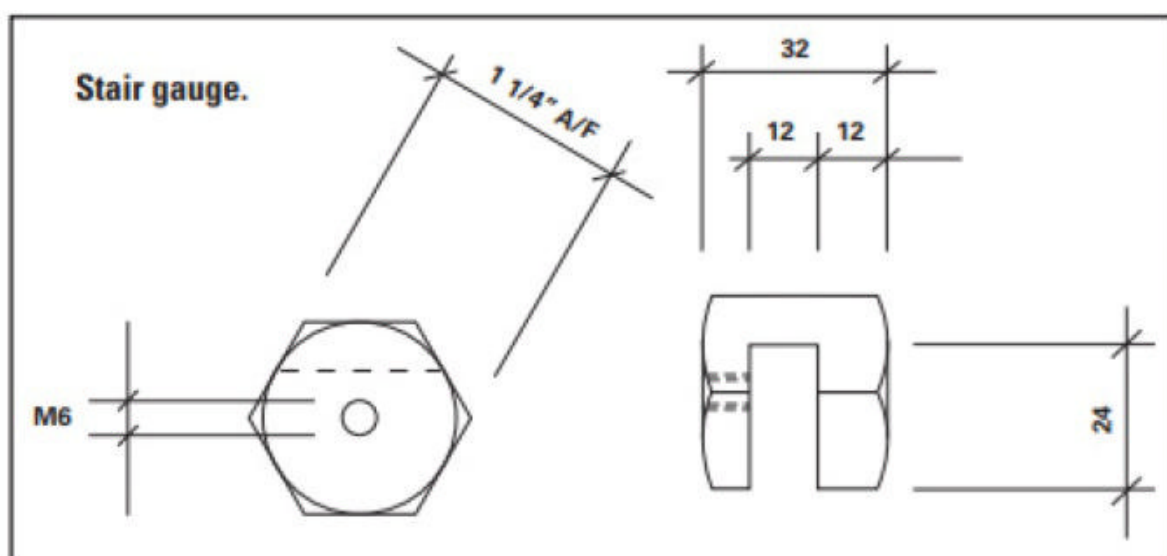
RPM Calculations

Here are the calculations for facing the end, chamfering, and parting off. To calculate the circumference use the outer diameter of the hexagon bar (just measure it across the points)

$$\begin{aligned} \text{RPM} &= \frac{\text{Cutting Speed (meters/min)}}{\text{Circumference of job (meters)}} \\ &= \frac{60}{3.142 \times 0.036} \\ &= 530 \text{ RPM} \end{aligned}$$

Calculation for milling slot

$$\begin{aligned} \text{RPM} &= \frac{\text{Cutting Speed (meters/min)}}{\text{Circumference of cutter (meters)}} \\ &= \frac{40}{3.142 \times 0.012} \\ &= 1060 \text{ RPM} \end{aligned}$$



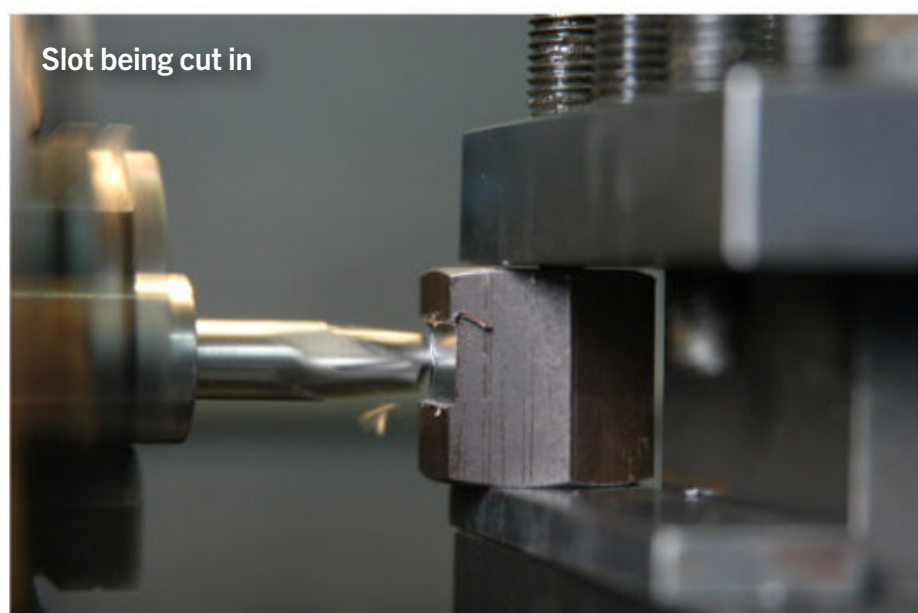
to help the tap start into the hole as well as to ensure that the thread is just under-flush with the surface when finished. You can also hold the M8 tap in the tailstock drill chuck to tap the hole and this keeps it square to the end of the stair gauge. The clamping screw is a standard wing screw (M8x25mm) available from most fastening suppliers.

The sizes used in this project are suggestions only. You can alter them to suit your own purpose. For example, the slot width was selected so that it would suit the base plate on my portable saw. Design your own stair gauge to meet your needs and above all have fun with your lathe. 📐

Clamping screw hole

All that remains to be done now is to drill and tap the clamping screw hole. Hold the stair gauge body in

the three-jaw lathe chuck with the thin end facing out. First centre drill, then drill and countersink the hole. Just a small countersink is enough



Slot being cut in



High-speed steel cutting tool (top) and tungsten carbide-tipped cutting tool



Bob Hulme using three-jaw chuck

“If you have an old cutter with a threaded shank, you could simply grind a flat on the shank to do the job”

The three-jaw chuck

The three-jaw chuck on your lathe spindle can be a real asset as long as it continues to run reasonably true. How you use it will determine how long it stays in good condition. Here are some tips on good practice:

1. Avoid holding short items in the jaws. Always try to have enough material so that you can hold your item for at least three-quarters the length of the chuck jaw
2. Only tighten the chuck as much as is needed. Overtightening will strain the jaws and scroll.
3. When holding hardened items such as a milling cutter, either make a separate holder or wrap the cutter with aluminium from a drink can to protect the jaws from being damaged.

AUCKLAND *Harley-Davidson* FASTPARTS

CHECK FITMENT DETAILS FOR
EVERY HARLEY-DAVIDSON &
OUR STOCK OF PARTS ONLINE



100'S OF DIAGRAMS AT THE
CLICK OF A BUTTON
FASTPARTS.NZ





SHED ULTIMATE HIRE

Aaron Clark is on a mission to make life easier for Kiwis

The 31-year-old business owner and serial house restorer relishes a challenge and likes nothing better than taking on a job he knows nothing about, then working towards gaining the knowledge and perfecting the skills needed to make a success of it.

His latest venture was sparked by a shed full of tools he acquired in the process of doing up 15 rentals over the past 10 years. “I bought the equipment to do jobs like fitting new kitchens and bathrooms, gibbing, tiling, you name it...”

He ended up owning one of everything he needed to get the job done, which got him thinking about all the sheds up and down the country

packed with quality tools and equipment that a lot of the time just sit collecting dust. He knew from his own experience that often hire companies didn’t have exactly what you wanted for a job, or were miles away, or too expensive.

“I decided to launch the Ultimate Hire website to offer an easy solution — connecting people with gear that they can hire, to people who need it to get a job done. Too often projects are stifled by lack of knowledge, equipment, or budget. The lender may even offer some wisdom during the pick-up process.”

He started building the site at the beginning of 2021, giving himself a crash course in website design. “I didn’t

know anything about it and watched about 400 hours of stuff online.” Now the Ultimate Hire site is up and running, and he has recruited a team to help with sales and marketing.

The potential of Aaron’s Ultimate Hire concept has expanded way beyond tools and equipment, to encompass pretty much anything that people in a certain area may want for a period of time.

“You can book a holiday on Airbnb, but it ends there,” says Aaron. “But now you can jump onto Ultimate Hire, fill up your cart with paddle boards, kayaks, or bikes available for hire in the area and grab them when you get there. You’ve got your holiday sorted all in one go.”

Currently the site has over 300 listings and is undergoing a major upgrade. Aaron is constantly getting feedback on useful ways the site can connect people and communities.

“Being a business owner I’m aware that all businesses need part-time workers at various times, and we think there’s heaps

of opportunities on the site for short-term employment listings. Also lots of people need odd jobs around the house done, or things like lawn-mowing and gardening. People can post profiles and job opportunities so they can connect easily.”

Aaron says setting up Ultimate Hire has presented a huge learning curve for him, but that is something he finds exciting.

“There’s nothing better than seeing what you can do. I started out helping my parents with house renovations and learnt as I went. At first you make mistakes and things aren’t 100 percent perfect but then you get the skills. It’s a great buzz seeing what you can achieve.

“I’ve put in a crazy amount of work setting up the site. We had to do things like build our own calendar system because there was no app or plug-in that would suit the site.”

While it’s a great community lending platform, a lot of work has been done for the site to work for hire companies as well. With a calendar and your stock all within the platform, you have

“I decided to launch the website to offer an easy solution — connecting people with gear they can hire, to people who need it to get a job done”

access to an affordable and accurate inventory management system.

Lending your stuff might sound risky, but a lot of thought and investment has gone into the platform, with all scenarios considered and solutions in place. The FAQs are all available on the website to check out.

“We have a five-year plan for Ultimate Hire and I think it’s a great way to



connect people, get a job done, or gear you want. I see it as the equivalent of a popular auction website, but you get your stuff back.”

There’s been a lot of challenges in setting up Ultimate Hire, but that’s fine with Aaron. “I get a real boost from achieving things.”



For more info check out:
ultimatehire.co.nz

Help your community get the job done.

Hire your tools, share your knowledge.



Signup Today!
ultimatehire.co.nz/signup





Relief after cutting the boat in half and finding that she really did nest perfectly

BUILDING 'PUNGA'

PART 2

AS EVERY CRAFTSPERSON KNOWS, THE FIRST TIME YOU MAKE SOMETHING IS THE EXPERIENCE THAT WILL LIKELY INFORM AND EXCITE YOU TO MAKE THE SECOND ONE

By Gail Varga

Photographs: Gail Varga and Dean Jones

I call my little Spindrift 10 nesting dinghy my first boatbuilding project in anticipation of the time and reasons that will present themselves in the future for building another boat. It was a great learning experience, and this is the story of Punga's creation.

What's a Spindrift 10?

To describe a Spindrift 10 for building purposes: it is a stitch and glue plywood dinghy, a single-chine design — i.e. only four panels make up the hull — with a forward flotation chamber in the bow and two aft flotation chambers on each side.

Twin mating bulkheads in the middle are where the boat comes apart for storage 'nested', and a removable thwart (seat) goes over the top of them when assembled.

I made the sailing version, meaning all sorts of added complications and extra parts to make: the mast,

"This was a good moment to pride myself on the fact I had not made any problematically large mistakes yet"

boom, sail and rig, a rudder and tiller assembly, a centreboard — all removable, separate items; the mast step and mast collar (king plank); and a centreboard trunk that carries the centreboard — all integral to the actual boat.

I also invented something that is partly a seat extension, but mostly a removable plug for the centreboard trunk because I was aware that this hole in the hull might allow water to come into the boat when we were travelling at speed without the centreboard — i.e. motoring.



Is this design right for me?

With paper plans in hand, I still found Punga difficult to imagine in three dimensions, so I mapped it out on the floor of the shed, sat inside it, and imagined taking up the tiller in an effort to convince myself that this style of dinghy would be real and it would be the right boat.

Fanciful imaginings did not last long after the materials arrived in the workshop — I set to work, absorbed in concentration, and didn't look back.

The method of construction for a nesting dinghy requires you to build a complete, one-part dinghy with the two mating bulkheads in the middle and then simply saw the boat in half between the bulkheads. So the first thing to do was to scarf the plywood sheets into lengths that would allow the long hull sections to be cut from single pieces. Of the four plywood sheets, one needed to be cut in half and each half added to the end of ►

two of the other sheets, meaning I was planing down four sheets.

“I made the sailing version, meaning all sorts of added complications and extra parts to make”

A lot of planing

I laid them on top of one another with the 8cm length of the scarf between each edge, screwed them together and to the workbench, and began hours of arduous planing with a tiny plane.

Here was the first instance of wishing I had an extra tool! When they were cleanly finished, I turned two over and laid them on top of their counterparts, epoxied the joining surfaces, and screwed all the way through a good plank of wood on top of them, the four layers of ply



Four sheets of plywood are planed down together in a long, even slope to enable joining them together without losing strength or flexibility

themselves, and into the workbench, standing on the plank — on the bench — to maximise even pressure. The result was great: a nice clean join and even flex.

Next was the lofting: drawing out the components from plans that were printed on A3 sheets. This was basically just a lot of careful

measuring, but the curved shapes of many parts required small pins to be placed at known points on the ply, and then a long flexible ruler — in my case, a piece of old curtain track — bent around them to make clean shapes. Concentrated hours with a jigsaw later, and she looked satisfyingly like a flat-pack dinghy kit.



The two pairs of hull panels are glassed on top of one another for perfect symmetry in the final boat

First bit of glassing

Making careful work at all these early stages laid the foundation for later success. Using fibreglass tape, I glassed the first 20cm of the chines together at the bow, taking care to be sure that these two butterfly-wing shapes were exactly the same by creating them one on top of the other — with sheet plastic in between. Even if the shape of the boat went horribly wonky somehow, I reasoned that symmetry might save her.

I then began the first of the work with her timber parts, shaping the breasthook and quarter knees, and laminating the timber reinforcements onto the transom, feeling a sense of extravagance in making lovely shapes to the wood. I love working with wood, and actually there was not as much carpentry as I would have liked with this design. I used temporary screws for the lamination, as I did for most parts throughout the build. Clamps were handier sometimes, or used in conjunction with screws, but putting in and removing temporary screws is no problem when working with epoxy as holes can be easily filled.

“Some of the most exciting and nerve-wracking parts of the build came in quick succession now”

Perfect alignment required

The two nesting bulkheads were to be installed together in exactly the alignment that they would find again each time the dinghy was assembled when launched, so it was important to make them mate perfectly. Normally, nesting dinghies have aligned holes in these bulkheads to put a bolt and wingnut through, but I had been given fittings for this purpose that would be permanently fixed into the bulkheads — a friend made these; respect! — so now was the time to position them ►

Working with epoxy



Sandable epoxy filler for fairing all the imperfections out is in white here, and three further coats of clear epoxy were applied with a roller over the top

Epoxy and fibreglass are fantastic, but I would think carefully before starting another project that relies so heavily upon them.

PROS: Fibreglass and epoxy are extremely strong, so a boat can be reinforced easily by adding more layers.

Gaps of a considerable size (5mm) can be filled with thickened epoxy and sanded down and nobody would ever know they existed!

CONS: Clean-up is hard. Acetone can be used to clean up after epoxy has cured. I gave up on this and used white vinegar when the epoxy was still uncured. If it was too cured, I simply threw it away.

Working with epoxy creates a lot of waste — tubs, stirrers, brushes, rollers, excess epoxy, etc.

Time sensitive: your life revolves around curing times.

TIPS: Buy pump dispensers for your two-part epoxy and hardener: mixing in a measuring jug gets old very fast.

Epoxy will not adhere to sheet plastic, so to prevent your work sticking to your workbench, tools, e.g. clamps, or elsewhere, it is essential to give yourself a layer of sheet plastic in between. I covered the whole workbench in sheet plastic.

Always mix epoxy in small quantities; otherwise it cures too fast. You can extend its working time by spreading it out with a spatula on your sheet plastic and scraping it up to use it from there.

Double glove your hands. You can reuse the inner pair, and being able to take off the outside sticky pair without de-gloving can be very handy.

There are different epoxy thickeners on the market, designed for specific uses. It is not worth trying to make one do another's job. To build Punga, I used three types: one for filleting the seams — this one is hard but 'flows' slightly; one for general filling and gluing — a very hard material when cured; and a third for fairing — light and able to be sanded to create a nice finish.



Engineered by my friend Eric, these are the fittings that join the two parts of the nesting dinghy together and they are installed permanently in the bulkheads

“My boat suddenly became two that could fit comfortably inside one another”

and leave the two bulkheads bolted together as one piece to install into the boat as one.

To keep the bulkheads far enough apart to pass the saw between them

later I spread out a dozen small pads of cardboard between the mating faces.

Some of the most exciting and nerve-wracking parts of the build came in quick succession now.

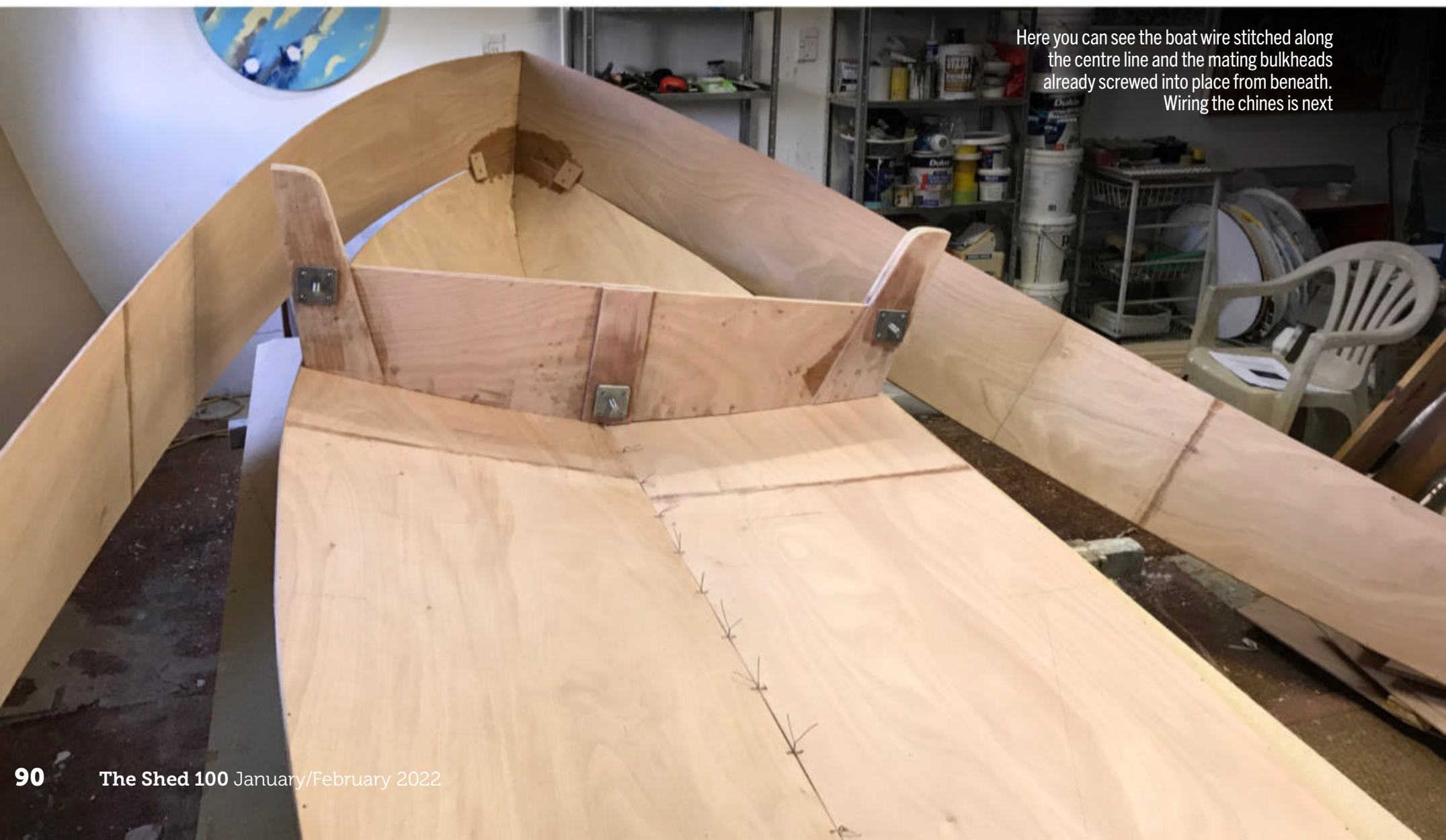
Small holes were drilled about 6mm from the edge of the hull segments while they lay aligned on top of one another, placed about 10cm apart. Now I began the ‘stitching’ part of the build by wiring together the centreline of

the boat. Cable ties had seemed like a better way to go because of their adjustability, but, in practice, even the smallest cable ties required me to drill holes that were impractically big, so wire it was.

A nervous moment

Opening out the boat felt positively dangerous, as though the weight of the flapping butterfly wings would tear out the wire and everything would collapse, but it was surprisingly easy. I rigged a horizontal bar from the ceiling to hold the wings and keep everything ‘open’ as I worked from the bow aft, wiring the chines, leaving the wire a little loose to allow for future adjustments.

I screwed the paired bulkheads into place through the hull with temporary screws, and that pulled the hull into a better shape immediately. The main work of shaping the hull was already done at this point. Wiring in the transom was relatively easy; likewise the forward bulkhead. The breasthook was then forced into the bow and screwed, and presto: Punga looked exactly like the most marvellous boat I could possibly have hoped for.



Here you can see the boat wire stitched along the centre line and the mating bulkheads already screwed into place from beneath. Wiring the chines is next



Here the laminated gunwales are temporarily screwed and clamped in place prior to permanently installing them with epoxy

This was a good moment to pride myself on the fact I had not made any problematically large mistakes yet — but an unrealistic moment to imagine I nearly had a finished boat, even though she looked close to being one.

Installing the gunwales

Before I epoxy filleted the seams permanently, the boat needed to assume her final and fixed shape, meaning that the gunwales had to be installed. This was the only part of the build that I could not have done alone.

Three long strips of timber, only 7mm thick, were to be laminated along the top edge of the boat, but attached simultaneously. Both sides were ‘dry fitted’, working the wood aft from the bow, flexing in three directions at once: down from the bow, in at the bottom, and around the curve of the hull. Clamps and temporary screws abounded.

After standing away from the boat in good, even light to check — and then adjust — so everything looked even and symmetrical, it was time to remove one side of the three-layer gunwales, cover all the surfaces to be laminated in epoxy, then reassemble it.

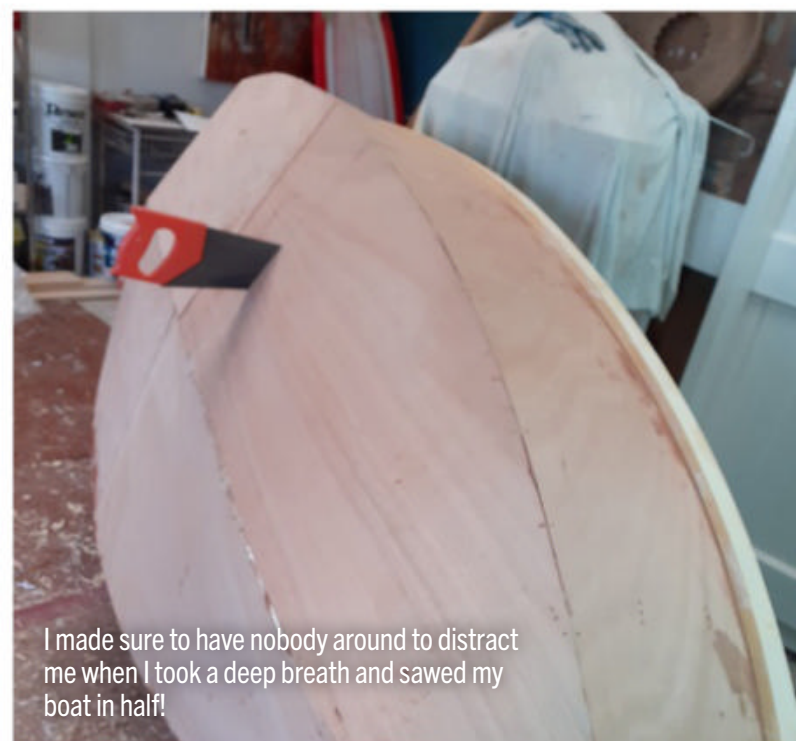
It was important to ensure it was fully cured before the clamps were removed for work on the other side, because the forces involved could have caused delamination disasters.

With everything just right, I could put short lengths of thickened epoxy fillet between the wire ‘stitches’ along all the seams. When this was cured, the wires were removed and a tidy continuous fillet was made on top. This was then reinforced with fibreglass tape. I put many layers of tape where the nesting bulkheads meet the hull, especially near the gunwales, because this is where the boat flexes when she is being sailed.

Gulp; time to saw the boat in half

Next, the most counter-intuitive part: sawing the boat in half! This was slightly more difficult for me because of the steel bolt fittings in the bulkheads being fixed, so I had to saw around them awkwardly, and the cardboard pieces I had used as spacers between the bulkheads did jam the saw a little. However, I otherwise had everything just right; the saw blade neatly guided itself between the bulkheads and my boat suddenly became two that could fit comfortably inside one another.

Having two smaller boats to work on meant it was easier to move them, turn them, and lift them on and off the workbench as I began the long haul of the internal construction and the finishing. First came the flotation chambers. The forward chamber has a foredeck over it, which hosts the



I made sure to have nobody around to distract me when I took a deep breath and sawed my boat in half!

“The forces involved could have caused delamination disasters”

king plank: a reinforcement for the mast collar, which will hold the mast vertical over the mast step — which is fitted below it on the hull.

Both this and the two aft chambers had small batons glued against the hull for the tops of the chambers to lie on, but otherwise, everything was dry fitted and disassembled — including the insertion of the ports — because the interior of the chambers must be sealed and painted before they can be permanently closed. ►

In between drying tasks

I had already been working on some of the separate parts during the epoxy curing times for the main work. In these in-between times, I laminated plywood pieces to construct the mast step and the mast plug — which keys the bottom of the mast into the step.

I fitted the main thwart, and the aft thwart with the rests for it to sit on. The rudder and rudder cheeks were laminated, and the pivot holes were drilled out larger than needed so that I could create epoxy bushings. The tiller was cut and fitted to the rudder cheeks, and the last of the timber was ripped into 20 X 20mm lengths for the centreboard, each piece turned 90 per cent and then relaminated together to prevent warping.

Positioning the mast

Back to the interior of the boat, it was tricky to position the mast step

“Epoxy is not UV resistant so, however nice and varnish-like it may look when finished, it must be painted over”

correctly because the mast needed to be exactly perpendicular to the waterline, but the boat certainly wasn't floating on the workbench.

I made a workaround using the details from the plans of where the waterline should eventually be: I laid a hefty, unbending plank from bow to stern and used blocks to raise the stern until my spirit level told me the plank was parallel to the waterline. I was then in a position to use one piece of the aluminium mast through the mast collar to locate the step below.

Inside, I constructed the centreboard trunk, located it vertically against the forward nesting bulkhead, and made the second most counter-intuitive act of the project: I cut a large hole in the bottom of the hull to take the centreboard.

Once this was made, it was possible to start work with scraps and leftovers of timber and ply to make the centreboard trunk plug / seat extension, which I carefully fashioned so that, when fitted, it would not only fit snugly and fill the entire trunk, but would retain a nice smooth shape underneath the hull.

The hard yards

All parts of the dinghy must be sealed with three coats of epoxy — applied mainly with a roller — for waterproofing. Epoxy is not UV resistant so, however nice and varnish-like it may look when ►

Materials list:

- 4 sheets of 8ft X 4ft marine ply
- Timber used was yellow cedar, for lightness and strength.
- These were the recommended amounts for the gunwales, breasthook, and quarter knees, thwarts and rests, and transom reinforcement:
 - 14m of 20mm X 40mm
 - 3m of 20mm X 45mm
 - 1m of 25mm X 50mm
 - 3m of 20mm X 140mm
 - 2m of 20mm X 240mm
- With careful use, I was able to get the tiller and centreboard for the sailing version out of this as well, but I needed another 2.5m length of 63mm X 35mm spruce for the boom.
- One small spool of stainless steel wire for tying the hull components together
- 10 litres of slow-cure epoxy resin and its requisite hardener
- 40m of 200g/m² fibreglass tape and 6m of 200g/m² sheet
- 2.5m keel strip, brass, stainless steel, or UHMW polyethylene
- A pair of 2m oars, oarlocks, and oarlock sockets
- Various screws, which must be marine grade (from a chandlery) or brass



- Marine quality two-part paints: 1 litre of grey primer, 5-litre kit of barrier undercoat (sand-able), and 4 litres of topcoat — 2l would be enough if you used a colour with better coverage than my yellow. You also need the appropriate thinners to go with each paint.

Further materials required for the sailing/ motoring version:

- 7m of 4oz Dacron sailcloth (150cm wide), UV thread, three short batons,



- and eyelets for each corner and the reefing points, 5m zip
- Three 'half' lengths of aluminium tubing (2.5m each) to fit inside one another for the mast, 1.5mm wall, and the largest should be at least 50mm diameter
- Lines, blocks, cleats, rudder fittings, and other small hardware
- Outboard pad for the inside and outside of the transom



**A New Zealand
owned and operated
company specializing in
refractory, ceramic fibre
insulation, technical
ceramic and wood fired
oven solutions.**



Wood Fired Oven Kits

Our wood fired oven kits are a great choice for any outdoor space. Included in the kit are all the high quality, industrial grade materials needed for any premium wood fired oven all in one, handy, ready to build kit.

Scan the QR code to visit our website and view our products to purchase online.

**THERMAL
SOLUTION** 

5/13 Highbrook Drive, East Tamaki, Auckland 2013, New Zealand
sales@thermalnz.co.nz
(09) 820 2240 | (021) 915 519
thermalnz.co.nz

Use discount
code **SHED100**
to receive a 10%
discount when
purchasing online.



Promotional offer is valid from 13th December 2021 to 12th February 2022 for one purchase per customer only and does not apply to freight.
By using this promotional code you agree and accept to be bound by Thermal SolutionNZ standard terms of trade (available on our website).
Thermal SolutionNZ has the right to cancel or change any promotion at any time without notice and in its sole discretion.



Fibreglass cloth sheets have been fitted over the whole hull surface and the mating side of the bulkheads and then carefully epoxied to make it smooth and strong

finished, it must be painted over. First up were the interiors of the flotation chambers. Without the need for cosmetic beauty, I settled for two coats of grey primer over the epoxy and then glued the chambers permanently closed.

What followed was the most time-consuming and least enjoyable part of the build; it involved a lot of epoxy and even more sanding! I turned the boat over and glassed the entire outside of the boat, including the mating sides of the nesting bulkheads. Air bubbles are to be avoided at all cost, and that meant rounding the corners a little so that the cloth would adhere nicely.

I used four sheets of fibreglass, one down each side of each half of the boat, with a generous overlap along the boat's midline. This makes the hull strong and hard, but it also adds weight to the boat so I was very careful not to overload the glass with resin.

More epoxying

The inside and outside of the boat were faired with a thickened epoxy that could be sanded. This was mostly work inside the boat, around all the taped seams and finicky shapes, and reaching inside the boat to work was uncomfortable. Outside, I could use a long squeegee to spread it out easily over lovely flat surfaces.

After the sanding, the keel was fitted and glued in place. I covered the inside and outside of the hull with three more coats of seal. I dry-fitted the keel strip, drilling out the holes bigger than needed, then filling them with epoxy and redrilling them to be certain to prevent water ingress.

At this point the hull and other components needed to be ready for painting simultaneously, in order that the work could be done economically paint wise and timewise, so I did all the finishing work on the external components and gave them their three coats of epoxy.

The first coat of primer made the boat look suddenly stylish — but only from a distance: the even colour showed up all the defects and suggested the need for a lot more

finishing work. I set to with more fairing compound — filled, faired, and sanded, sanded, sanded. I then applied two thick coats of sand-able undercoat and sanded, sanded, sanded some more until I reached a close boundary between 'sanity will not let me do any more sanding', and 'she looks just about right'.

Dust never sleeps

Before starting on the topcoat, I had a major clean-up in the shed to minimise dust. I say 'minimise' because any effort to eliminate dust in this shed would be a thankless task, but my

efforts made a tremendous difference: dust is your enemy when it comes to the topcoat.

Valuing my work, I used the best two-part paints I could lay my hands on and put as much care and energy into the job as I could muster. The yellow topcoat I chose was exciting, but flawed practically: yellow does not cover very well. After expecting to give the boat two coats, I ended up giving her five — which adds to her durability, I told myself.

I am experienced with many kinds of painting, but the rolling and tipping method of application was a learning curve. I ended up painting in the small hours of the morning to avoid the heat of the day disturbing the paint, using small mohair rollers to apply a thicker coat (rolling) and then, with a feather-light hand, immediately brushing out the tiny ►

"My boat suddenly became two that could fit comfortably inside one another"



All the separate parts of the boat that I have been working on in-between times had to be all triple epoxied and ready for painting at the same time as the boat itself



“Epoxy is not UV resistant so, however nice and varnish-like it may look when finished, it must be painted over”.

Five coats of yellow were required on the outside to give good coverage, but the blue on the inside went on beautifully and easily by comparison, and only required two coats

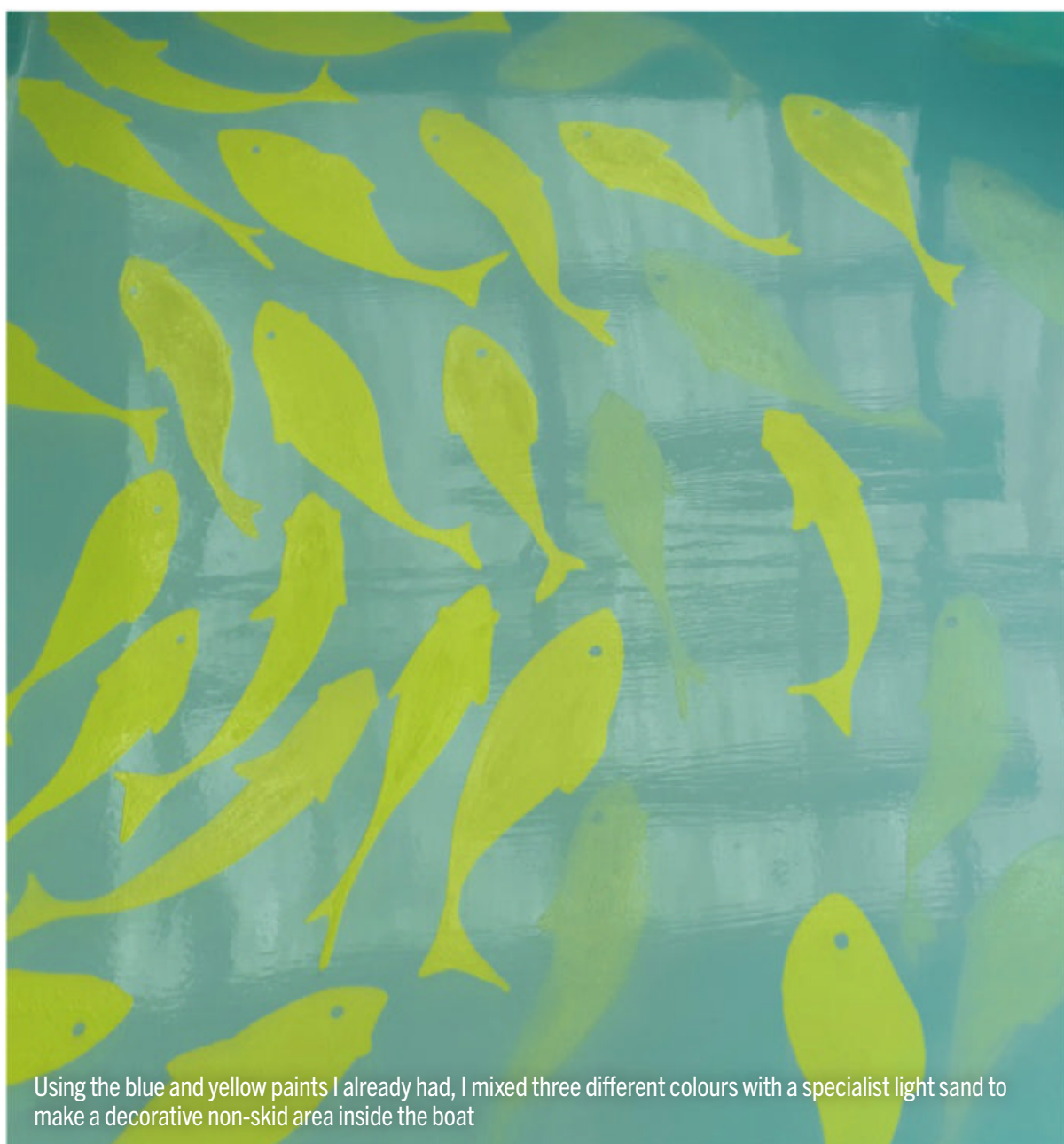
bubbles and unevenness (tipping) with a good quality, soft, two-inch brush. I tell myself that the result is admirable given the limitations of my workspace; it did look pretty good.

Punga comes alive

Turning the dinghy over, with rolling and tipping experience under my belt, I tackled the complex forms of the interior in blue, which covered easily and beautifully with two coats. As with the epoxy, overcoating and drying times ruled my life during painting time.

As a final touch, using different ratio mixtures of the two paints that I had, I mixed three greenish shades to paint on the non-skid fish that I had designed for inside the boat to save us from slips. My boat was starting to come alive!

With all the painting complete, I installed the ports with sealant and then had to find a solution to a problem that had been bothering me for some time: the gunwale fendering. Somehow, despite finding lots of rubber extrusion suppliers, I could not



Using the blue and yellow paints I already had, I mixed three different colours with a specialist light sand to make a decorative non-skid area inside the boat

find anything that would fit the size of my gunwale and come neatly around the bow. So, in for a penny, in for a pound: I made my own using closed cell foam, but even then I struggled

to find heavy, wear-resistant canvas. The result is tidy and effective, but I consider the whole thing to be sacrificial and it may need to be replaced every couple of years. ►

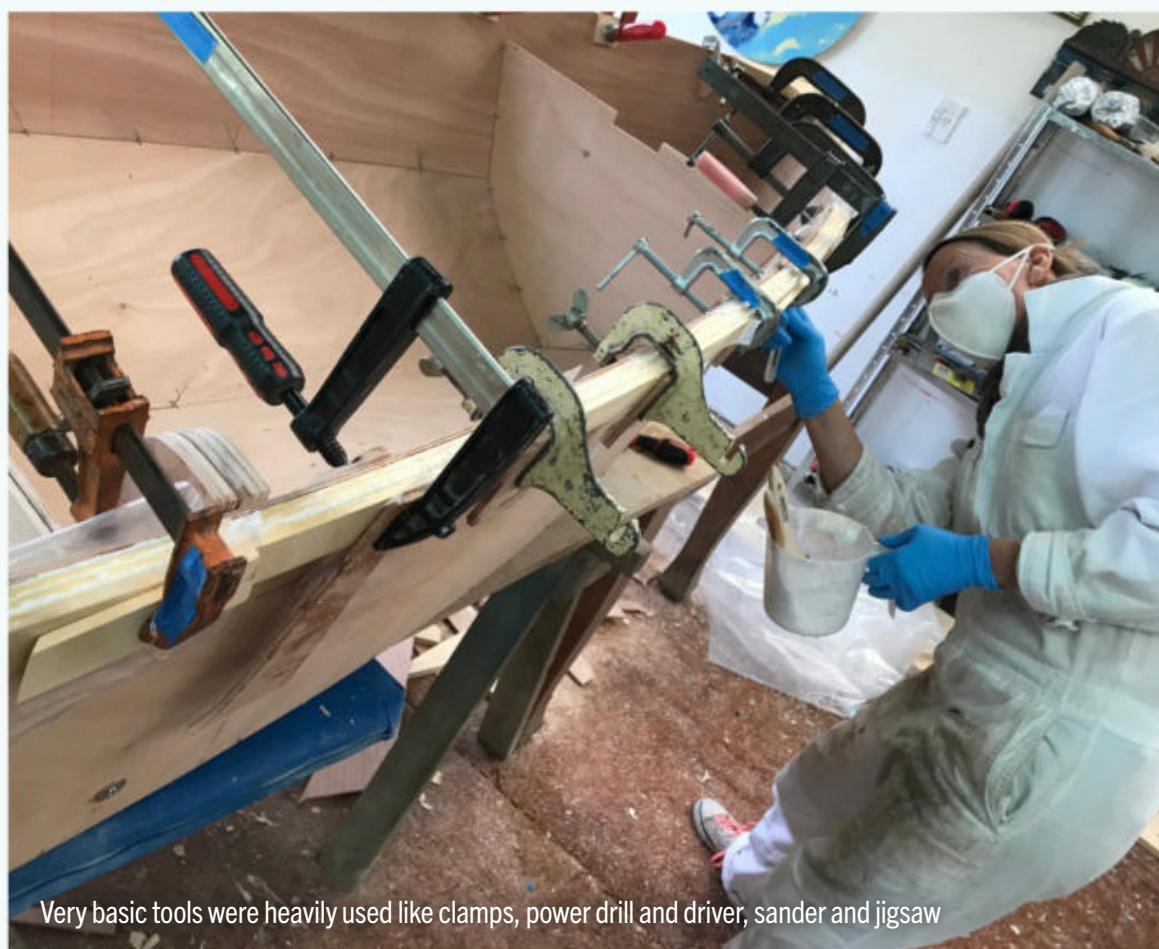
Tools, Tools, Tools

Building a stitch and glue plywood dinghy requires very basic tools. These are what I used, roughly in order of how much they were used:

- Two sawhorses and a cheap 8ft X 4ft sheet for a workbench. A third sawhorse to extend the workbench is very handy for the early stages when cutting the larger sheets.
- Palm sander, with vacuum extraction
- Sandpaper galore for the sander, 80–300grit — I used mostly 80–120. Likewise, many sheets for hand use, same grit, and a sanding block
- Cordless driver
- Temporary screws
- Sheet plastic
- Cordless drill, various bits, including countersink bit and hole saws
- Tape measure and carpenter's square
- Jigsaw
- Lots of clamps, large and small
- Plane
- Various screwdrivers
- Wire cutters
- Pliers
- Hand (rip cut) saw
- Hammer
- Chisels
- Rasps — curved, round, and flat in cross-section

FOR THE EPOXY AND PAINT WORK I FURTHER USED:

- Mixing tubs — different types: measuring, round, rectangular, shallow, deep — and stirrers



Very basic tools were heavily used like clamps, power drill and driver, sander and jigsaw

- Scrapers, filleting spatulas, a window squeegee
- 1-inch, 1½-inch, and 2-inch disposable brushes, rollers, trays, one good 2-inch brush for 'tipping'

PROTECTIVE GEAR:

- Reasonably fitting work gloves — for wire handling, etc. — and at least one box (50 pairs) of latex medical gloves for epoxy and paint work
- Masks for dust and fumes — buy a proper mask that has interchangeable filters; it costs more

but is much more comfortable to wear and much more effective.

- Overalls and work shoes
- Ear defenders are a must. During the cutting out and the sanding periods, there are days and days that will be spent just using power tools.

TOOLS I WISH I HAD:

- Table saw for ripping timber
- Larger plane for the scarfing
- More clamps for the gunwales

The custom gunwale fendering that I created for Punga was reinforced with some scraps of leather at the bow and on the aft corners





Nearly ready to leave the workshop, Punga has been named, but still has holes in her transom where the gudgeons will be attached to hold the rudder

Finishing and launching

To launch Punga I just had to put the small hardware on it: oarlock sockets, lifting points, and the rudder gudgeons on the transom. There is no willy-nilly screwing fittings into a dinghy; each hole must be sealed with epoxy. Much care was taken at this point, to prevent future rot.

With the boat in the water, all the hardest work was done and only the rig remained. The three mast sections fitted rather too snugly, so I invented a tool to polish out the inside of two of them using valve grinding paste with a drill. This and a generous spray of silicon lubricant got them assembling and coming apart nicely. I screwed a cheek-block at the top of the mast for the halyard, the gooseneck below, and other small hardware, shaped the boom, and added the requisite hardware there.

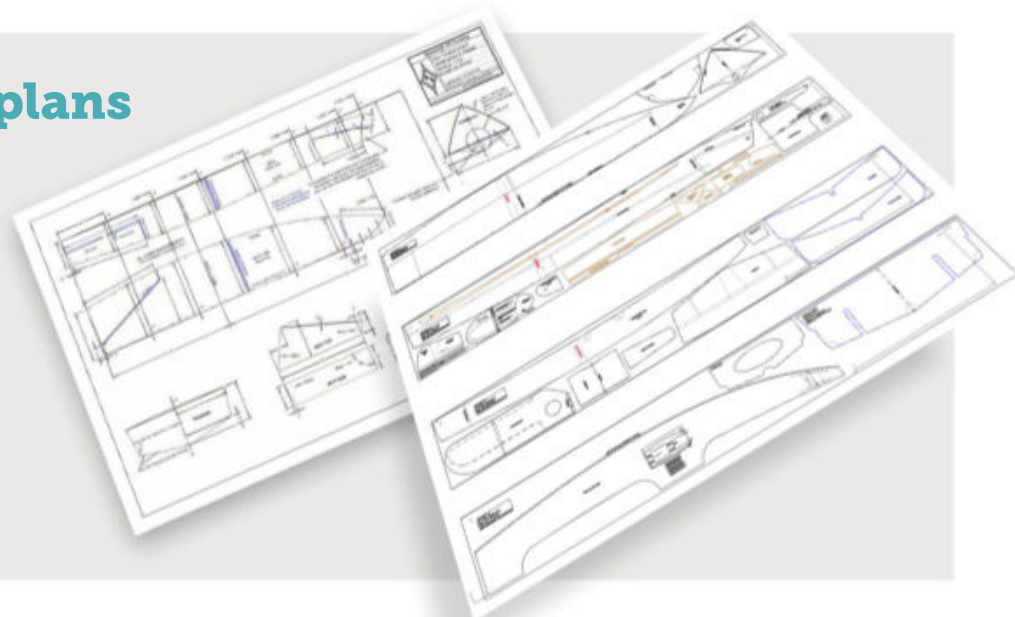
It felt like an unfamiliar surprise to be down to the clean, seated work at the sewing machine: sail, sail bag, storage bags for the rudder assembly and centreboard, and other sundry items. They all flowed out with such speed and ease that it was all over before I had time to think.

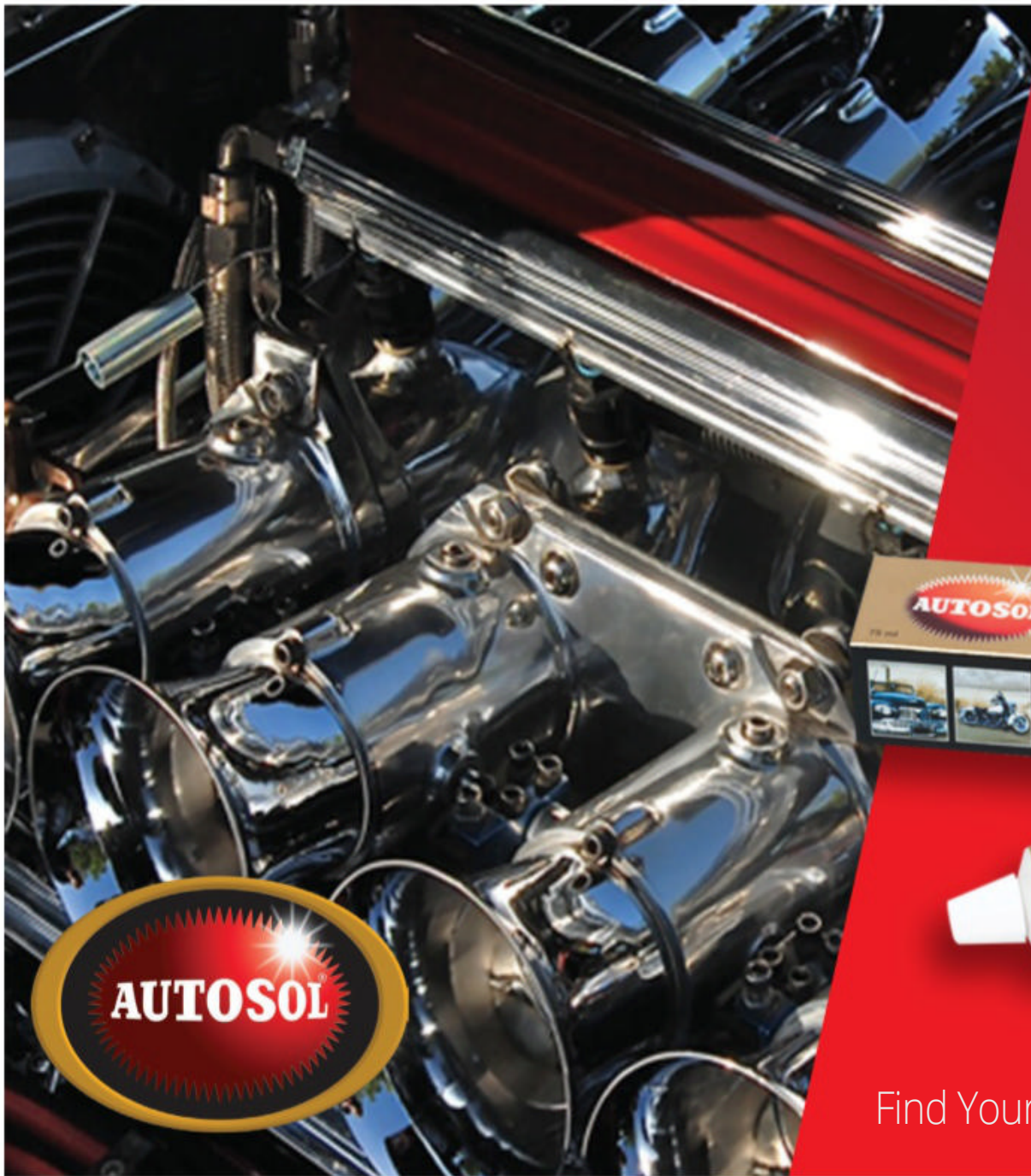
Looking at my finished pride and joy — my taxi, shopping cart, dive platform, plaything, and companion — the question remained: was the fun just ending, or just beginning? 📁



Here is Punga enjoying herself, coming home under a good breeze with a reef in her sail

Dinghy plans





A Brilliant Shine Every Time.
Clean, Polish and Protect.




Find Your Local Stockist at www.hobeca.co.nz



N4400

N3800

Hammer®

N3800 / N4400 Bandsaws
Premium European bandsaws for
the discerning woodworker.

With a focus on precision and long-term reliability, Hammer bandsaws feature as standard cast-iron fly-wheels, tilting cast-iron machining tables, a cast-iron rip fence system running on a steel guiding bar and guides above and below the table.

Made in Austria by woodworking leaders Felder Group

Made in Austria 

0800 522 577 | www.jacks.co.nz





ROAD TO SUSTAINABILITY

Expol's commitment to sustainability through manufacturing and recycling means its products are kinder to the planet while also giving Kiwis warmer, dryer, more energy efficient homes

We all are familiar with polystyrene — whether from unpacking your new television snugly housed in protective casing, or because you're a tradie using products for drainage, insulation, or a multitude of other purposes. What perhaps we're not so familiar with is the strides towards sustainability that have been made in recycling this product in New Zealand over the past few years. Leading the drive is Expol, the country's largest polystyrene manufacturer, who has seven plants devoted to producing and recycling throughout New Zealand. "Expol has been very serious about promoting sustainability for a number of years and perhaps one of the most important conversations we need to have is educating people about the fact polystyrene is 100 percent recyclable," says the company's sustainability manager, Cameron Brooks. "Another challenge is making people aware of the easy options they have for recycling it."

Expol has introduced a free household polystyrene recycling programme at

hardware stores, including selected Mitre 10 and ITM branches, to make it convenient for households to recycle their polystyrene. Consumers can drop off up to two rubbish bags of clean polystyrene at a time, as long as it is free of dirt, food waste or residue, stickers or tape.

Expol currently recycles 400 tons of polystyrene a year at its seven plants, and takes responsibility not only for recycling the products it manufactures but also for polystyrene that comes into New Zealand in packaging, medical supplies, etc.

"It's a perfect closed loop system," says Cameron. "We take the polystyrene that was destined for landfill, break it down, and use it to make new eco-friendly Expol products."

The company also provides recycling options for building sites and commercial operations to ensure that as much polystyrene is diverted from landfill as possible.

About 75 percent of the products (by volume) made by Expol use recycled

material, with targets for this to increase in the coming years. All Expol insulation products are 100 percent recyclable.

Some of their most eco-friendly products include:

- Expol Green Beans – a 100 percent recycled product used for bean bag fill.
- Expol Styrodrain — a 100 percent recycled product used for draining and protection in retaining walls.
- Expol QuickDrain — the perfect no-scoria drainage solution made with recycled polystyrene aggregate to provide drainage in soggy backyards.
- Expol Tuff Pods — a concrete floor system.
- Expol Thermaslab S Grade — an insulation product which can be used in retaining walls, skillion roofs, concrete floors, walls, and cladding.

Cameron says the company is constantly thinking of ways it can remanufacture product as part of its ongoing commitment to sustainability and takes pride in its zero waste manufacturing process.

"We know there are lots of ways to be clever in how we recycle and manufacture polystyrene. We have new green products in development as we expand into new areas of business at Expol. The ways you can use polystyrene are endless and we're committed to sustainability."

Check out the Expol Earth resource centre at expolearth.co.nz where you can learn more about the sustainable practices at Expol and the company's commitment to the environment. 🌱

Expol at a glance

- 100% New Zealand owned with all products made in New Zealand.
- New Zealand's largest polystyrene manufacturer, with seven manufacturing and recycling plants nationwide.
- At the forefront of polystyrene design and development with products tested by institutions such as BRANZ and OPUS to ensure quality and reliability.
- Sold nationwide through New Zealand's largest building suppliers.

Garage Door Insulation DIY Kit.



Polystyrene panels can be recycled.

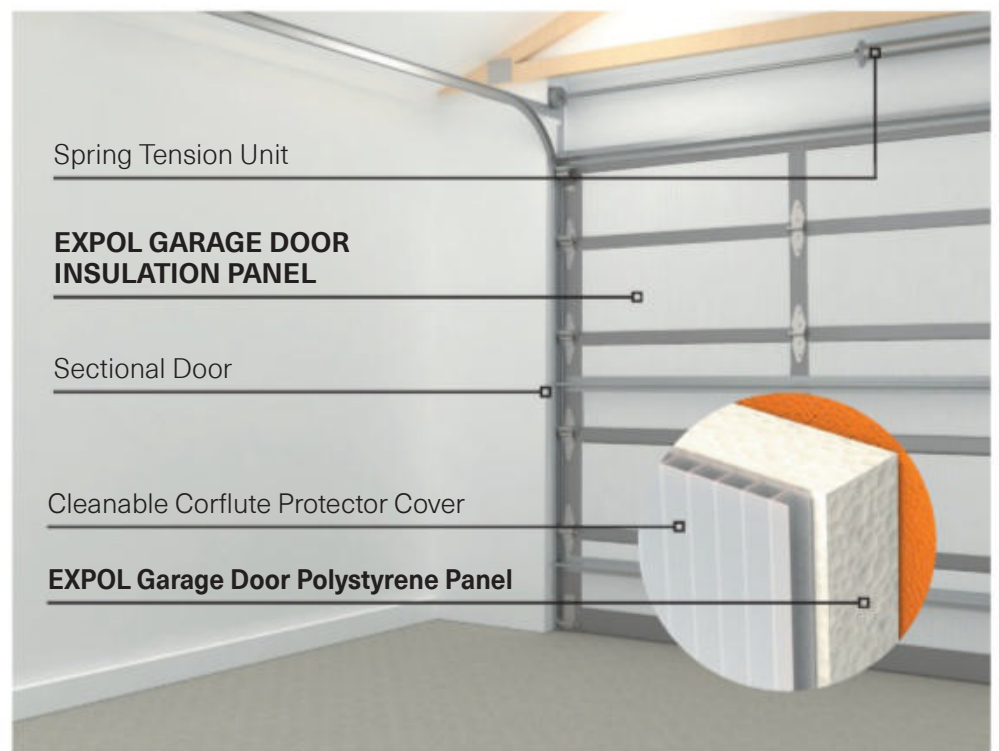


The **EXPOL** Garage Door Insulation DIY Kit is for sectional garage doors and is designed to keep the garage warmer in winter and cooler in summer.

As energy costs continue to rise, the last thing you want is warm air leaking out of your home from the garage. Our DIY Garage Door Insulation kit is a simple and cost effective way to improve the insulation value of your garage.

Once installed, you will benefit from a warmer, dryer and quieter garage space all while improving the appearance of your garage door. This product is so easy to install and you will be amazed at the results.

- Warm in winter / cool in summer.
- Creates a warmer, more usable garage space over winter.
- Reduces noise.
- Enhances the appearance of your garage door.
- Easy to clean surfaces.
- Adds value to your home.
- **EXPOL** garage door polystyrene panels can be recycled.



It's as easy as 1-2-3.



Available at your local hardware store.



Learn about our recycling initiatives



Sustainability
E: sustainability@expolearth.co.nz

Website
www.expolearth.co.nz



12/2021



The boys recumbent racing: No 1 son punting it past No 2 son (riding my favourite vehicle)



The ideas man, albeit a little more sedentary at 83

SOMETHING BORROWED, SOMETHING BLUE

VISION, INGENUITY, CREATIVITY — IT SEEMS IT'S ALL IN THE GENES

By Murray Grimwood

Photographs: Murray Grimwood

It came from a lunchtime-coffee discussion. I was noting the thrust I could put into my recumbent bicycle pedals, and the potential that had for wrecking my knees. Dad noted that at top-dead and bottom-dead centres, all our thrust is attempting to bend our bike frames; only halfway down a pedal stroke are we cyclists fully leveraged.

A moment's pause, then, "What if we started with a right-angle pull?"

Quickly he sketched a crankshaft, end on, with a big end — or a pedal — at top dead, and added a two-part linkage to one side, with a fixed pivot furthest away from the crank.

Push down in the middle of the linkage, and the big-end point will be

"Quickly he sketched a crankshaft, end on, with a big end — or a pedal — at top dead"

pulled at 90 degrees; perfect. Push down further and the pushed point and the big end travel down together. Result? Power for more than 180

degrees of rotation! All that had to be organised was that the two linkages, stretched tight, could sweep up past the 8 o'clock position — meaning the start position would be with the linkages 'bent'.

Time to prove the theory

Full-scale mock-ups — aluminium strap linkages pivoting on a plywood backing sheet — evolved over the next week or two. A motor was contemplated.

As proof of the concept Dad decided to build a recumbent bike, powered that way. We rode the first iteration in 1990, and I still have that frame. The second version had swing-arm suspension of both wheels using bungee wraps; if you

wanted stronger springing, you just added a wrap or two.

Peddalling it was the strangest sensation: you started the 'next' stroke before you had finished the 'last'. Never had I pushed both pedals at once but it's funny how you get used to a thing; whenever riding that bike, that motion seems perfectly normal.

Plenty of use

I rode it many miles, usually commuting over a serious hill — a nearly 400-metre climb. The boys took it recumbent-racing. Dad took it to cycleways, occasionally to events. He built a front fairing for it — which told you he'd been born well before WWII — and mounted a saddlebag behind the seat. Once we had three recumbents in a street procession simultaneously; my short-wheelbase two-wheeler, the kids on their tadpole (two-front-wheel) trike, and Dad on his creation.

I even tried it at a velodrome event. Interestingly, it could out-sprint anything from a standing start but long term your leg muscles complained. Too much time on the power stroke and not enough on the recovery was our diagnosis. So I did the sprints and



Recumbent riders are an eclectic bunch — here I line up (third from left) for a sprint

“But as a piece of lateral-thinking: priceless”

slow races on the beast, but swapped to the recumbent trike for the Enduro event.

Pistons, of course, don't need muscle recovery, but — and it was offered to Lotus once, due diligently — no engine manufacturer was interested. There are some similar configurations patented, but nothing I can find that has been developed fully. No doubt burn rates and combustion chambers would have had to be redesigned — who knows?

The spherical-chambered rotary motor

For some years, I've had the thing stored — one of those 'get around to' projects that never make the top of the priority list. It sat a couple of metres away from another of Dad's lateral-thinking legacies: the spherical-chambered rotary motor.

I cannot remember a time when I didn't know what that motor was, or how it worked: a spherical chamber with two shafts entering at one point. One was solid, and went all the way across the chamber. The other was a tube over the solid one, and went only halfway.

Attached to these were disc-shaped pistons. Fire a compressed charge between them, don't allow one to go backwards, and the other must go forwards. The closing pairs were exhaust stroking, or compressing. The



The bowstring mechanism; pull is from the left, static pivot is at the top



I'll keep the patina — but it's worth getting back to working condition

“Very quickly, my lack of a nail gun showed up as an impediment to assembling such a format, and procrastination set in”

The split spherical chamber (top), linkage mechanism (left), and pistons (lower right) of the rotary motor. Not bad thinking for 1949

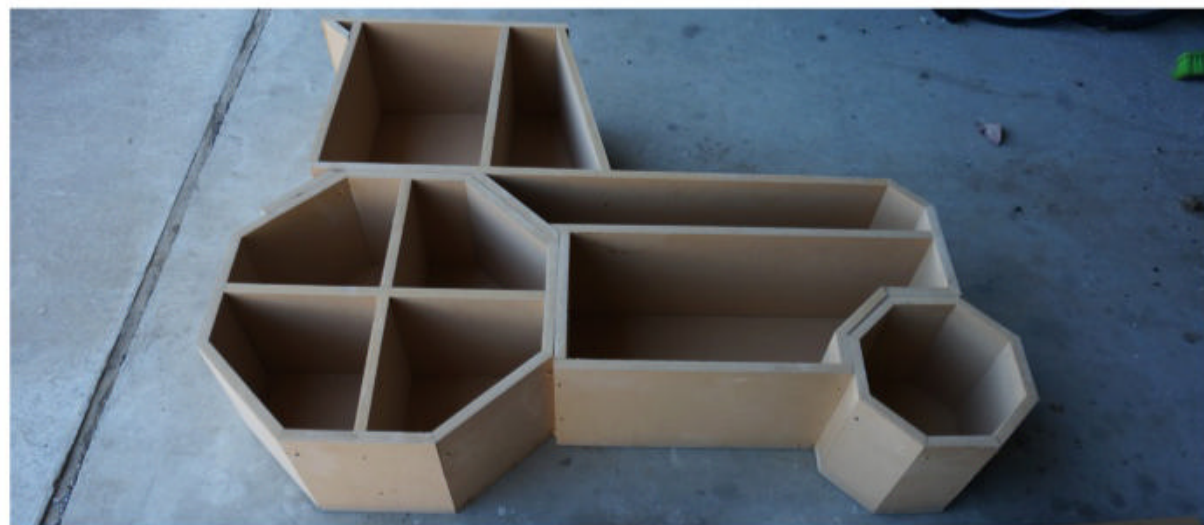


It's good to have mates

Pending-birthday pressure saw me asking a nail gun-owning friend for a hand. We collaborated in his workshop; he did the assembly and I supplied conversation and lunch. That's how it works hereabouts, and it cuts both ways, to the benefit of us all. We couldn't help smiling as it emerged from the drawing. I'd envisaged just assembling the shelves, then tacking on a hardboard or plywood back. My friend suggested just using the drawing board MDF as the backing, straight. It certainly made location easy.

A final coffee and I headed home, searching New Holland — the youngster took his first ride in one when only a few months old — for the appropriate colour scheme.

There are quite a few kids' bookcase ideas out there; one I particularly liked was a biplane: two wall-hung shelves with a Sopwith Camel cowl and prop facing you — very cute. I hope the wee fellow gets as much fun out of this as I have; it's so much more satisfying to create something than to buy mass-produced stuff. 🛩️



opening pairs were inlet stroking, or firing. The backstopping was done with planetary linkages; all the pistons could do was chase each other around and around. A spark plug and an exhaust pipe in the casing, and there it went — lightweight, almost no reciprocating mass. You have to smile; he was 24 when he thought it up, in 1949.

The rotary engine

The Achilles' heel was gas leakage around the D-shaped rings — something Mazda would later spend millions of hours and dollars sorting with its rotary — but as a piece of lateral thinking: priceless.

The other day I got to thinking of the bike, sitting in the back of the shed. I pulled it out, and figured it was worth putting back into working condition — while keeping all the patina that tells so much story. I'll give it cables, a chain, and a quick going-over — maybe take it for a nostalgic ride or two. If nothing else, it's a nice wee monument to lateral thinking.

Meanwhile...

My other recent project was not so original but a lot of fun.

My better half and I had concocted a deal: I'd build our grandchild a

bookcase; she would stock it. She did her bit; mine took a little longer.

Perusing the net, I came across an idea — something being offered for sale in the US. Out to the workshop I went and sketched what I remembered, to a scale that suited the books she had collected. The sketch was on a piece of MDF, and I stripped up another sheet for shelves. Very quickly, my lack of a nail gun showed up as an impediment to assembling such a format, and procrastination set in.



PRECISION MADE SPANNERS

GEDORE
TOOLS FOR LIFE



Available Exclusively
from **TradeZone**
New Zealand

www.tradezone.co.nz

 **eziswap gas**
Industrial Gases



100% New Zealand owned and operated

Don't pay cylinder rental fees again...ever!

Join New Zealand's only 100% kiwi owned, nationwide industrial gas swap system by purchasing an Eziswap Gas cylinder and stop paying cylinder rental fees.

Go to the Eziswap Gas website and find out more now.

afterpay 

Shop now. Pay later with Afterpay.

0800 394 7927

eziswapgas.co.nz



Scott Gegan outside the Brookdale Knives workshop — the dark-painted part of the building on the left



LESSON ONE: THERE WAS NEVER A GOOD KNIFE MADE OF BAD STEEL

PASSION AND PERSEVERANCE TURN TEENAGER'S HOBBY INTO A BUSINESS

By Ritchie Wilson

Photographs: Brian High



it on an oilstone. A handle was fashioned from a scrap of hardwood and it was done. The final result was a credit to Scott's perseverance and was very well received. It worked reasonably well, too, but, because the mild steel wasn't very hard, it didn't hold its edge very well — it became blunt quite quickly in use.

“Scott decided to make the knife from a piece of mild steel he had found, not realising how unsuitable it was”

Time for knife-makers' school

There are plenty of knife-making sites on the internet, and from these Scott became familiar with professional knife makers in New Zealand who offered classes in knife making.

This research resulted in him attending a five-day knife-making course hosted by Wellington knife maker, Shea Stackhouse. He stayed with his Aunt Amanda, who would drop him off at Shea's blacksmith shop

every morning and pick him up at the end of the day.

Scott says that this experience was invaluable because it exposed him to all aspects of knife making, from forging the blank using a power hammer to shape the hot metal to hardening the blade using heating and cooling. He found the demonstrations of how to carry out tasks safely as useful as the skills he was taught.

A knife maker's workshop is called for

Back home, Scott set to and built a shed by framing a wall to close in the open front of one of the farm's implement bays, installing insulation, lining the interior with polyurethaned plywood, and having electric power installed. He built benches and started to buy specialist knife-making gear such as linishers and polishers. Scott's mother says he has two hobbies: making knives and buying knife-making gear. By this time Scott was a boarder at Christ's College in Christchurch, so knife making was restricted to holidays.

Scott attended another knife-making course at Ripi Knives in Clyde, Central Otago, run by leading knife maker, John Worthington. It changed his approach to knife making. John roughs out a knife's shape in special high-carbon stainless steel using a powerful metal-cutting bandsaw. He then uses various belt grinders — as linishers are known as in the trade — to get the

Imagine that you are 12 years old and have decided, who knows why, to make a knife to give as a gift.

You have seen your grandfather making wooden toys in his workshop and have used his bandsaw, drill press, and hand tools. There are tools and a workbench in a shed on your family's farm. Now, how do you go about it? This is exactly the position Scott Gregan was in four years ago.

Scott decided to make the knife from a piece of mild steel he had found, not realising how unsuitable it was. He traced a knife profile onto the steel and then drilled multiple small holes along the line with a drill press to obtain the rough shape. He refined this using an angle grinder. He produced a cutting edge using various files and sharpened



The G clamp collection. These are used to hold the blade while it is being cut roughly to shape with an angle grinder

final shape, thinning the sides towards the cutting edge. This knife-making technique is known as ‘stock removal’.

John then hardens the blade by controlled heating and quenching. The steel is able to be hardened because of its carbon content. The hardening is followed by tempering by deep cooling. Everything is done in-house.

A business is born

Scott’s aim now was to produce knives of a professional fit and finish that could be readily marketed. He targeted the high-end domestic buyer, who was passionate about cooking and would be willing to buy an expensive knife because of its beauty, functionality, and durability.

He has looked into selling to staff in commercial kitchens and concluded that the demands of the job mean that knives are not well looked after, so have a shortish life. He thinks that the workers, who buy their own equipment, usually prefer to buy cheap knives and replace them often. ►



“From his first attempt to the professional product he is now making — a steep learning curve”

Hammer ins and the knife-making community

Twice Scott has hosted a ‘hammer in’ at his shed. This is a gathering of folk who are interested in blacksmithing. They aren’t only social get-togethers, but are an opportunity to share knowledge and exchange information about suppliers, materials, and gear. A major source of knife-making requisites in this part of the world is Australian firm Gameco Artisan Supplies. Scott bought his Shopmaster belt grinders — made in Australia by 84 Engineering — from Gameco. He also buys supplies from the UK and the USA.



Wall-mounted belt grinder



Blacksmithing hammers

Making Brookdale knives step by step

Sandvik 12C27 high-carbon stainless steel sheets are cut into strips with an angle grinder. The shape of the knife is traced onto the steel using a pattern, and the angle grinder is used to cut the metal roughly to shape. The wall-mounted belt grinders are used to give the knife its final profile. The grinders are then used to narrow the sides towards the cutting edge.

At this stage the unfinished knives are sent off to Ripi Knives to be hardened by heating and quenching, and tempered by cooling to -80°C.

The heat-treated knives are ground to their final profile followed by polishing, first on a wheel and then by hand using 600-grit

emery cloth. The edge is sharpened using three Japanese synthetic water stones of increasingly fine abrasiveness.

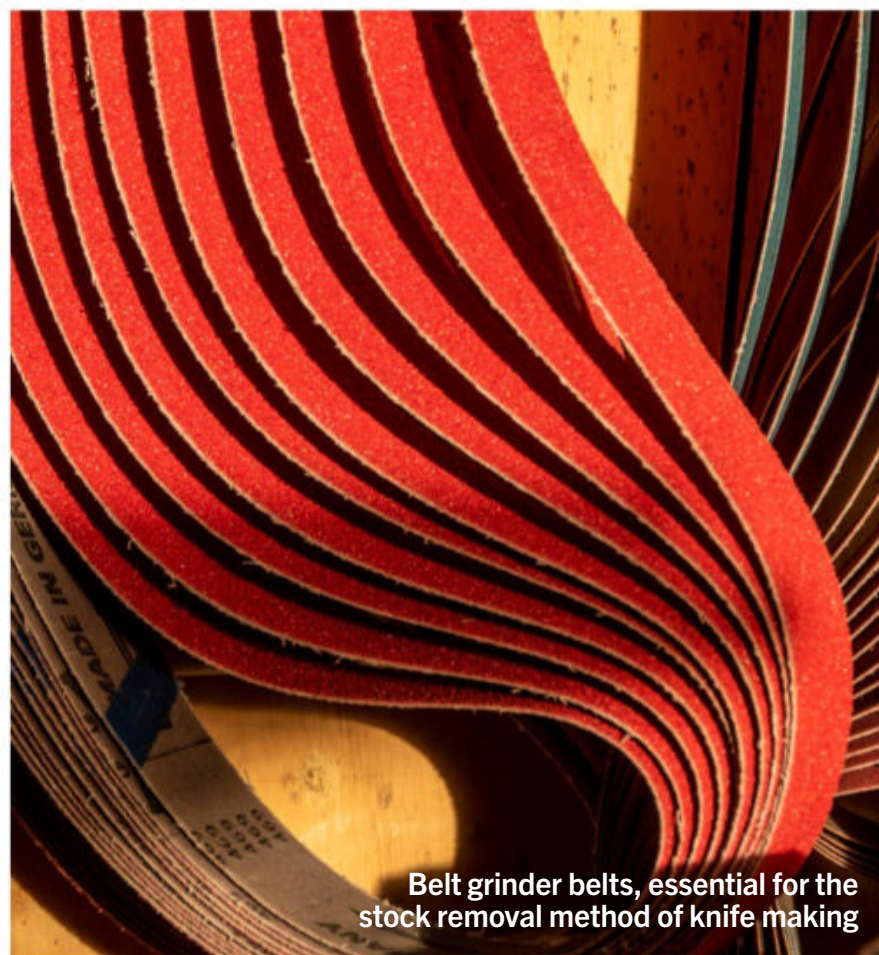
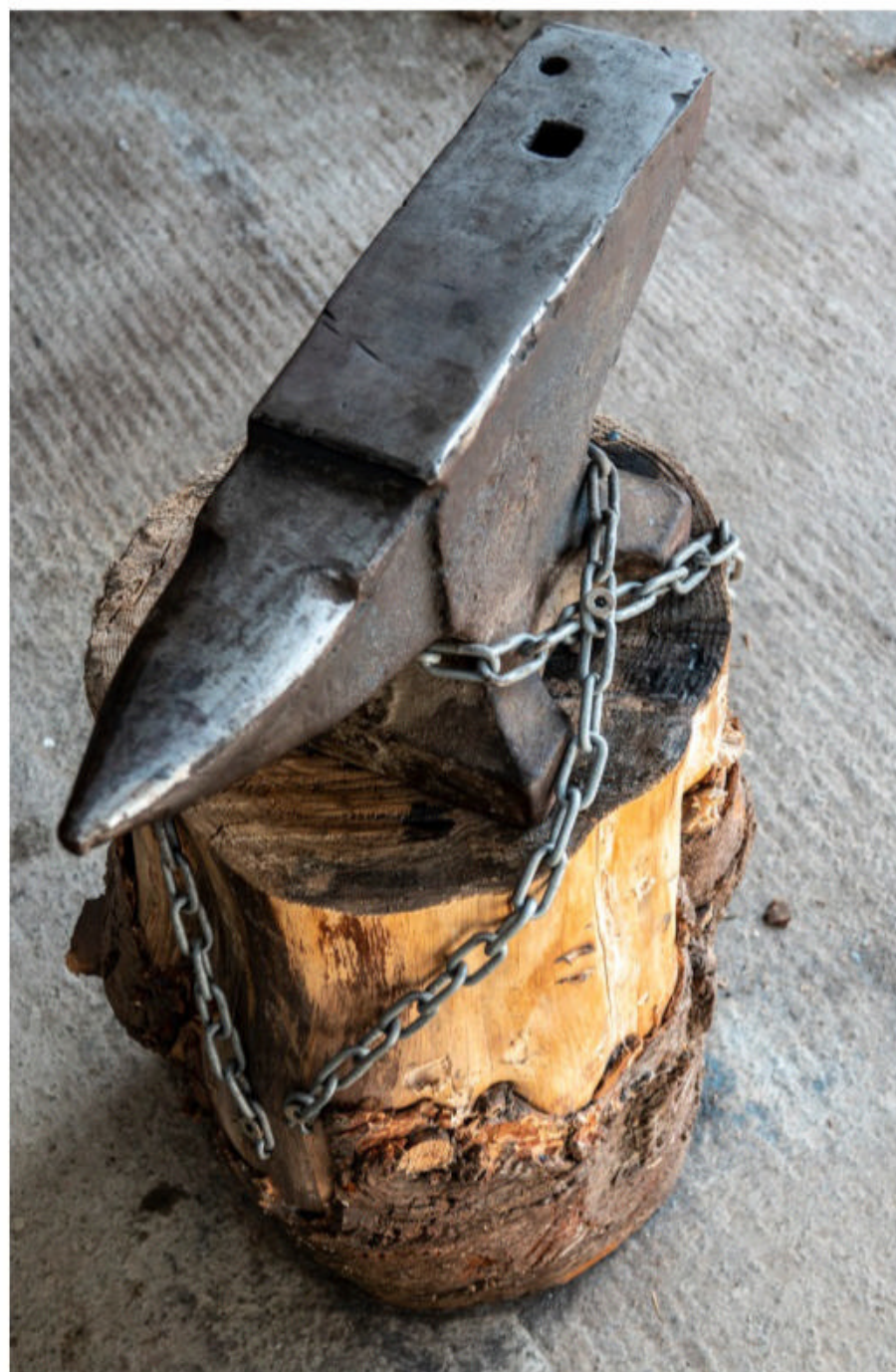
The Brookdale Knives logo is then etched on the blade using an electrolysis process. The handles of Scott's knives are formed from stabilised wood, which is wood that has been saturated with acrylic resin giving a durable and, yes, stable material that has the feel of wood. The stabilised wood is cut to shape on a bandsaw and then riveted onto the knife's tang. The final shape of the handle is formed by hand sanding. The knives are sold in custom cases, sourced from the US, with the Brookdale Knives logo embroidered on the fabric.



“Scott’s mother says he has two hobbies: making knives and buying knife-making gear”



Scott at work in his purpose-built workshop, made by enclosing a farm shed's open bay



Belt grinder belts, essential for the stock removal method of knife making

The family anvil

Scott doesn't use forging to shape his knives. He does, however, have a forge, which he uses for occasional blacksmithing. He likes the drama of hot metal being shaped on an anvil using a big hammer. He didn't buy the anvil; it belonged to his great-grandfather, who used it for making horse shoes when he first arrived at Brookdale Farm.



Scott with anvil,
hammer and hot metal

The majority of Scott's sales are made through social media and his Brookdale Knives website. Brookdale is the name of the family farm. Scott also supplies knives to Shopology — a shop in Christchurch's fashionable Riverside Market.

A hobby, but not a career

Scott is well set up to produce a quality product in his airy and well-equipped workshop. He treats knife making as a holiday job at present, and expects to

continue to do it as a hobby, but not as a career. His web page is very well put together — he took the photographs himself and set up the page using Squarespace software — but that doesn't appeal as a job, either.

Marketing? Professional golf? Engineering? He hasn't decided.

Scott sees his four years of knife making as a journey, from his first attempt to the professional product he is now making — a steep learning curve. 📖



Knife maker Scott Gregan

Etching the Logo

Scott uses a Gelandangan Metal Marker Mk3 to etch his logo on the blade of his knives. This uses an electrochemical reaction to reproduce a cut-out in an adhesive vinyl mask on the metal of the finished blade. The metal marker consists of a low-voltage power supply. The positive lead is attached to the blade while the negative has a felt pad that is saturated with a solution of ferric chloride. With the current flowing, the solution is wiped over the mask. The metal atoms exposed to the solution give up electrons to form charged ions, which are soluble and so leave the metal. The surface of the metal under the cut-out is roughened as a consequence, forming the permanent logo.





HERE'S WHAT YOU MAY NOT KNOW ABOUT PARA RUBBER
BEST RANGE | BEST ADVICE | BEST DEALS
Shop with us and Save Heaps!

AVAILABLE IN-STORE AND ON-LINE



FOAM CUT TO SIZE



FOAM MATTRESSES



MATS & MATTING



FOAM OVERLAYS & TOPPERS



RUBBER SHEETING & STRIPS



CARPETS



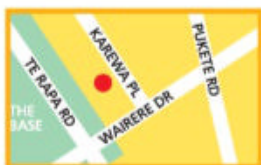
RUBBER & FOAM EXTRUSIONS



SWIMMING POOLS



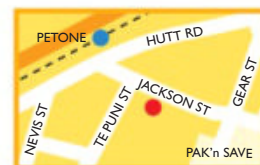
TAURANGA
339 Cameron Rd
Tauranga
07 578 2971



HAMILTON
5 Karewa Place
(opp The Base)
Hamilton
07 849 0537



PALMERSTON NORTH
400 Ferguson St
Palmerston North
06 952 1224



WELLINGTON
46 Jackson St
Petone
04 891 1056

NORTON **EXPERT**
SAINT-GOBAIN

**10 DAY CLEAN
REMOVAL**



Transforming
surfaces
...and beyond

Precision Green Masking Tape

- Premium quality masking tape for use on drywall, brickwork, glass, aluminium & steel
- Suitable for both water & oil based paints

NZ: 0800 74 24 24
sales.nz@saint-gobain.com



Follow us on social media
Norton Pacific

MULLETS, CHROME BUMPERS, AND VCRs

OUR SHED SHRINK
QUESTIONS WHETHER
DIY REALLY IS IN
OUR DNA

By Mark Seek
www.seekandthrive.com

Sometimes I find myself watching reruns of films to reminisce and forget that life beyond the mailbox in 2021 can be a bit mad, to say the least; to relive a time when mullets were all the rage, cars had chrome bumpers, and in most houses across New Zealand a VCR was mounted on top of the telly.

The original *Lethal Weapon* series is one of my favourites. I recall a scene where Riggs — Mel Gibson sporting a magnificent mullet — overenthusiastic as always, decides to disarm a bomb on the front seat of an abandoned car.

His sidekick, Murtaugh (Danny Glover), would prefer to wait for the bomb squad. Murtaugh's instinct to stay alive is very apparent, with retirement so close, yet is now in jeopardy because of his reckless partner. Riggs' testosterone levels are pinging. He is not waiting for backup, and, with much bravado, cuts the wrong wire, triggering the timepiece attached to the explosive package.

"Why did he cut the bloody red wire!" I shout at the screen.



"While my family slept on, unaware that I was in trouble and my favourite flannel shirt was being ripped off my body like a strippergram"

To avoid being blown to smithereens, the only option for the duo is to run.

Wait for backup

How many times have I been told: "Mark, wait for backup."

Over the years my enthusiasm, combined with a lack of patience, has created many eye-watering moments. My wife, bless her cotton socks, is blissfully unaware of most of these. It's not until I am up to my eyeballs in trouble that I'll admit it. By then — it is too late.

I could have avoided many pride-denting moments. Like the time I decided to put my old Triumph on the centre stand wearing wet jandals and ceremoniously dropping it — all in slow motion! With me and the bike both wedged up against the wall, I reluctantly had to call for the assistance of my wife.



There was the time I thought filling my Harley in the driveway with a jerry can in the dark was a clever idea, resulting in fuel spilling all over a warm motor — luckily, it didn't burst into flames. Then there was the 3am incident, when I got my sleeve caught in the belt drive of my ageing compressor — while my family slept on, unaware that I was in trouble and my favourite flannel shirt was being ripped off my body like a strippergram.

You can laugh all you want; I don't blame you.

Many ways to hurt myself

OK, I admit I have been a 'cut the red wire' type of guy, especially in my early 20s. Bruises, singed eyebrows, numerous cuts, broken bones, concussions, and trips to A&E — all because I wanted to give things a go!

With age, it certainly takes longer to heal. I vividly remember the time my GP took me aside and told me he thought I had run out of creative ways to hurt myself. He's a good bugger; definitely made a few house calls over the years. We even considered naming one of our kids after him.

Recently, while I was taking some time away from work — and, no, I was not sporting any injuries at the time — I decided I would check out the goings on at the local Menzshed in Lincoln, Selwyn.

I was gobsmacked at the facilities catering for the blokes with a trade

background or, like me, the guy who just wants to try a new hobby. The friendly bunch in Lincoln have a buddy to show you the ropes if you are not familiar with the tools and machinery. The nominated bloke would teach you how to use said equipment. I was impressed with one chap who was showing me how the engineering lathe worked — his patience, enthusiasm, and encouragement led me to decide I would give it a try.

The woodwork room was calmer

You see, I never felt comfortable around engineering workshops, especially at high school. It was intimidating and noisy, and it didn't help that the metalwork teacher at the time was a grumpy old bugger. I much preferred the ambience of the woodwork room, where things were much calmer and the chance of explosive devices being manufactured by boys in shorts reduced.

Talking to blokes, I have become increasingly aware that some have never felt comfortable with power tools and DIY is not in their DNA — despite what the TV ads would suggest — that is, until they are called upon to build the grandkids' wooden digger or doll's house. It is at this point we need help — and not just Mr Google or Mr YouTube. We need to stand next

to a bloke in a pair of oily overalls with a friendly disposition who says, "This is how it's done, mate. Go on, have a go; I will keep an eye on you."

Head to the shed

Lockdowns, so it seems, have become more commonplace. So, having a healthy distraction in one's shed results in less stress worrying about the things in our world we have little or no control over. Switching off the TV, heading out into your shed, or a designated space, and familiarising yourself with words such as repair, fix, build, rebuild, modify, tweak, recycle, upcycle, adapt, and fettle means giving yourself permission to keep your sanity intact and stay motivated. Remember the phrase "Keep calm".

Let those in the engine room there in Wellington, or wherever they are, do what we pay them to do, so that we, in the cheap seats, can burn the midnight oil in the garage, basement, shed, or wherever there is enough room, and wait for backup.

Oh — and a little advice: keep the first aid tin chocka full with plasters, bandages, and a few packets of Panadol just in case; it could be a long wait. 📺

"Murtaugh's instinct to stay alive is very apparent, with retirement so close"



IMPROVING YOUR MOTOR HOME'S TECHNOLOGY

PART 3

The adventure continues — as Enrico installs a fourth onboard computer

By Enrico Miglino

Photographs: Enrico Miglino



The front panel mounted on the dashboard showing the dashcam stream

“It can work with both the internal Wi-Fi network and the smartphone mobile data access point”

In this third article of my camper van technological adventure, we will see the fourth onboard computer I installed: another Raspberry Pi 4B, covering a key role in the design of my smart van.

I will show how I implemented the driver's front panel, which is an independent module that can be connected to the camper van network or installed as a stand-alone device. The driver's front panel will collect information on the trip and manage the dash camera as well as

the rear camera — which I showed in the previous article (*The Shed 99*).

The components

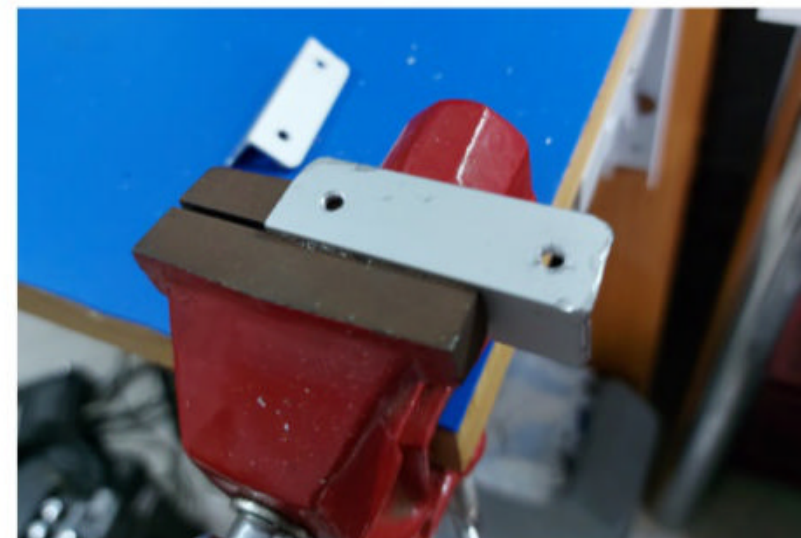
As discussed in the previous article, the three Raspberry Pi 4Bs installed inside the living area of the camper van — the router/control panel, the Wi-Fi access point, and the rear camera module — are powered by the service battery through the 300W inverter.

In most cases, these devices are needed when working inside, with the vehicle parked. However, the front panel is almost exclusively used while driving. For this reason, I had to adopt a different powering system for it. I designed the panel so it can work with both the internal Wi-Fi network and the smartphone mobile data access point.

To achieve this feature I set up the Raspberry Pi power supply with a PiJuice board. In order to have more power and also to be able to keep the panel powered for some hours when the camper van is parked, I used a 12000mAh rechargeable battery — compatible with the PiJuice board — instead of the less powerful standard one. ▶



To affix the seven-inch touchscreen monitor to the box, I screwed a couple of L-shaped aluminium brackets to the sides of the box and to the plastic screen supports. This makes it possible to change the screen orientation to the most comfortable position while driving while leaving the radio panel accessible when the display is set horizontally



Interesting features

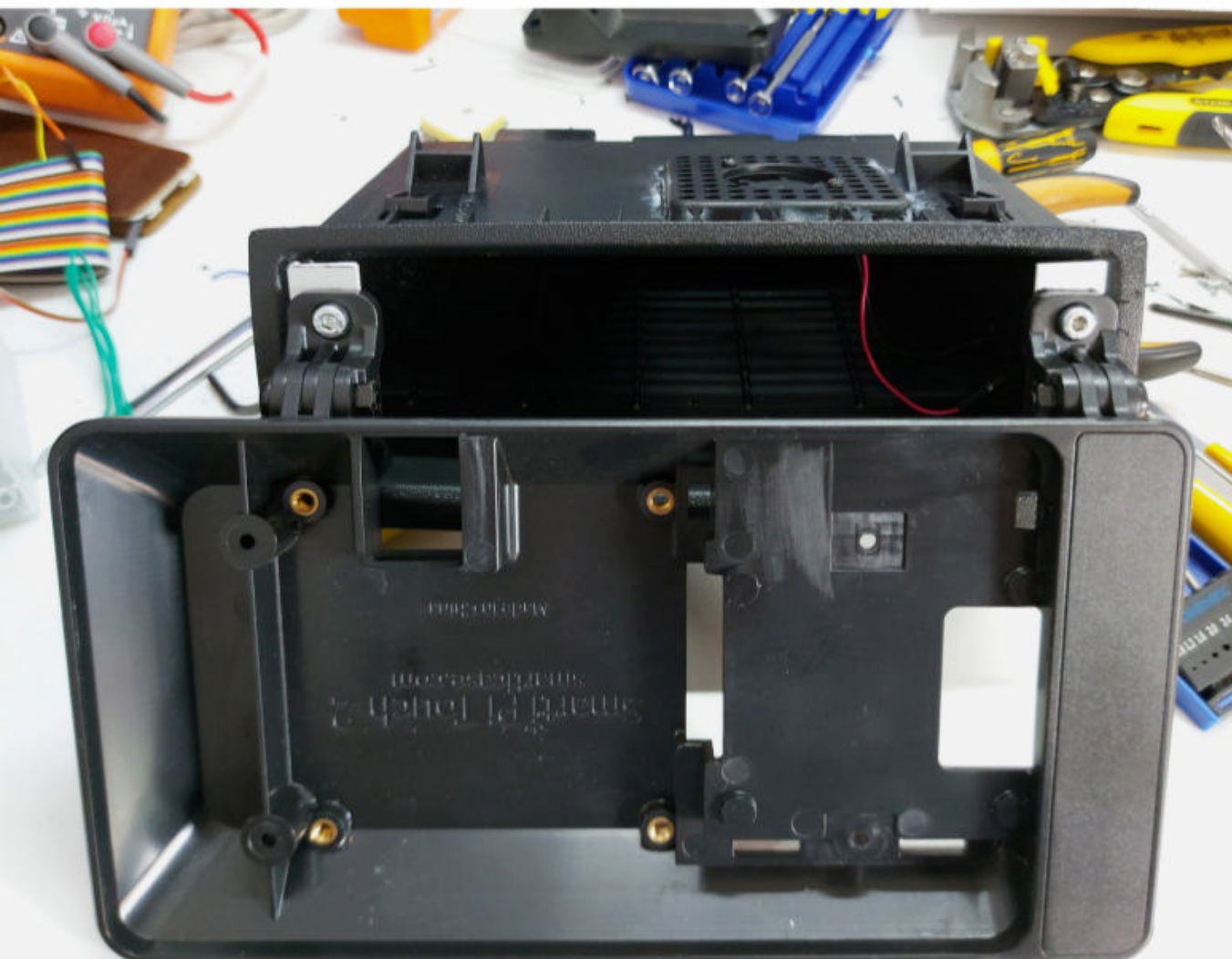
The PiJuice board has some interesting features engineered for just these kinds of applications; the Raspberry Pi gets the power from the board while a small application installed on the system makes it possible for it to shut down automatically in low battery conditions.

One of the limitations of all versions of the Raspberry Pi boards is the non-availability of a ‘power on’ button. This means that, after executing a shutdown command from the terminal, the only available option to power the Raspberry Pi is to unplug and replug the power supply. However, on the PiJuice board, there is a small jumper to which I soldered a temporary push button to power on the Raspberry Pi after it has been shut down by the application or automatically by the low battery trigger. It is important to remember that executing the power-off procedure, thus interrupting the power supply, can seriously damage the MicroSD card. The board, which operates as a UPS (uninterruptible power supply) device, can also be recharged with a USB connector that I plug into one of the sockets available on the vehicle dashboard to charge the battery while driving.



To affix the seven-inch touchscreen monitor to the box, I screwed a couple of L-shaped aluminium brackets to the sides of the box and to the plastic screen supports. This makes it possible to change the screen orientation to the most comfortable position while driving while leaving the radio panel accessible when the display is set horizontally

“When the Raspberry Pi is connected to the internal network from the same device, it is possible to control the rear camera as well”



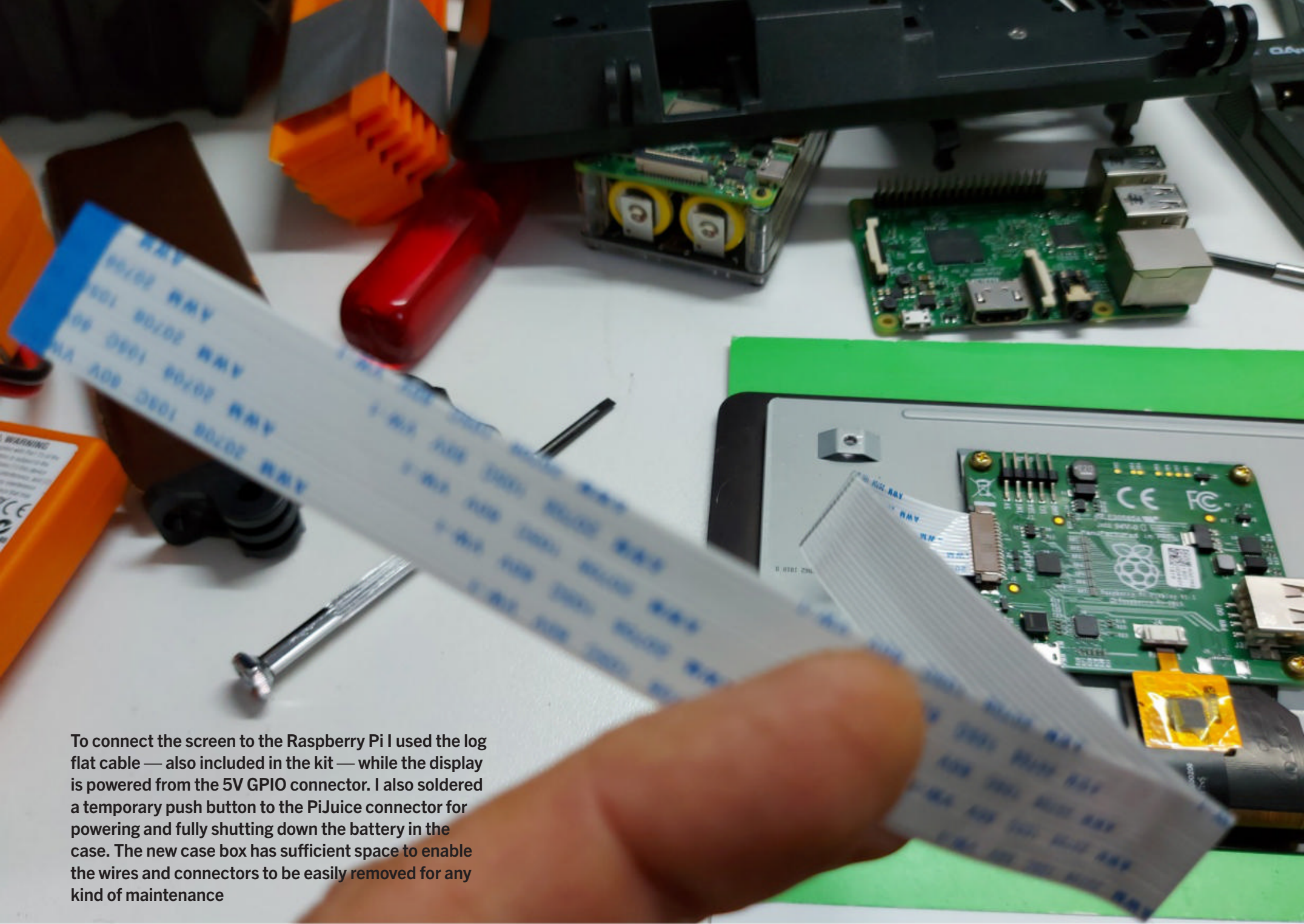
The case kit mounted on the modified supports; with this modified assembly, the Raspberry Pi and the other stuff does not fit inside the kit — that is used only for the screen

Camera options

Using one of the four USB ports available on the Raspberry Pi, I connected a wide-angle webcam that will be used as the front camera. When the Raspberry Pi is connected to the internal network from the same device, it is possible to control the rear camera as well.

Basically, the dashcam and the rear camera have similar features to some advanced commercial devices; in this case, I included some add-ons that make the driver front panel useful and more efficient.

The Raspberry Pi is equipped with a 64GB MicroSD card, with about 50GB available to store videos. The camera automatically activates when the Raspberry Pi is powered on but it starts recording only when some movement is detected inside the field of view. This makes it possible to optimise the storage space on the card; alternatively, more media can be stored using an external SSD storage.



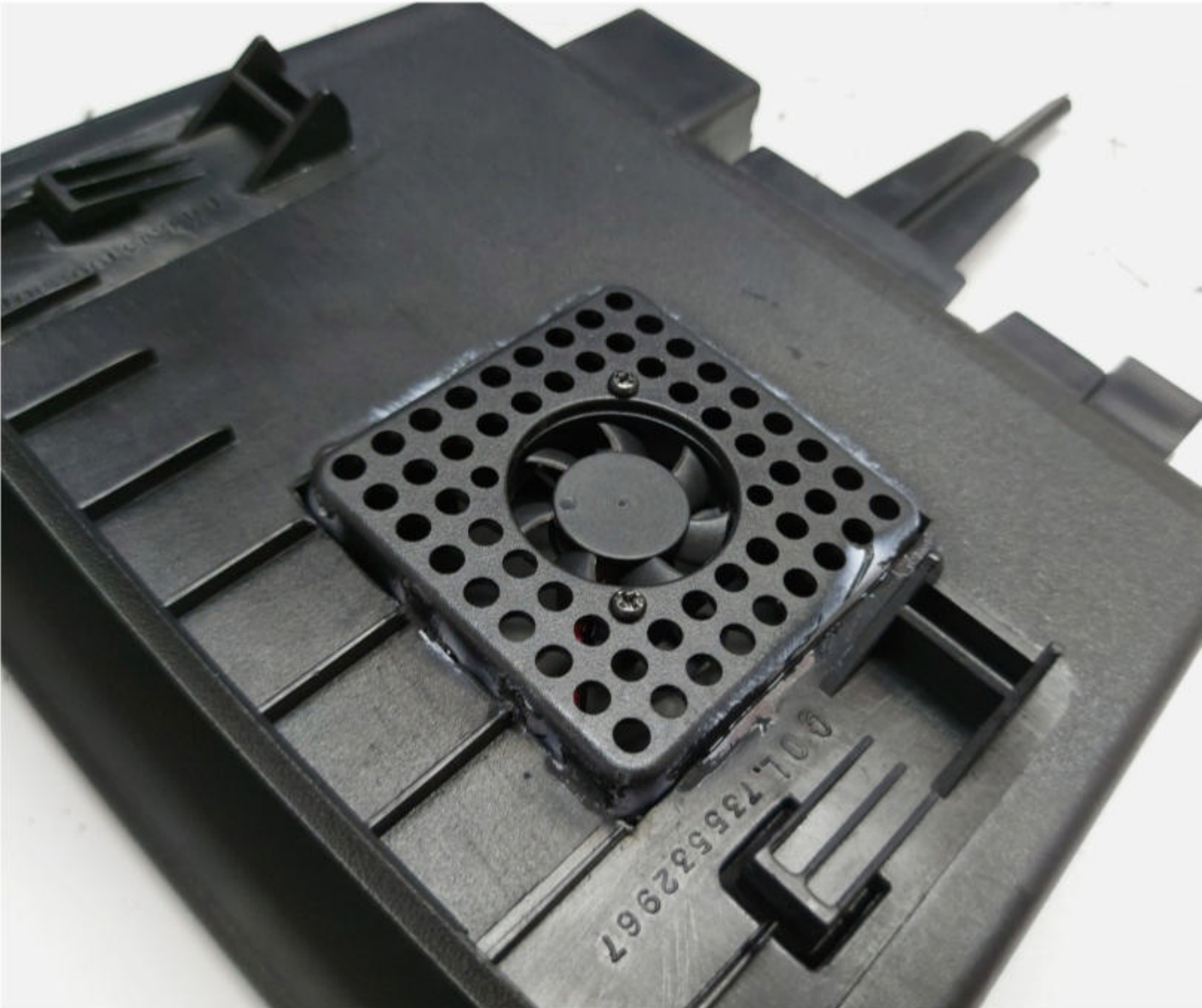
To connect the screen to the Raspberry Pi I used the log flat cable — also included in the kit — while the display is powered from the 5V GPIO connector. I also soldered a temporary push button to the PiJuice connector for powering and fully shutting down the battery in the case. The new case box has sufficient space to enable the wires and connectors to be easily removed for any kind of maintenance

The videos are saved in files not longer than five minutes while the older ones are periodically deleted; in this way, a series of videos documenting the history of the recent hours of travel is always present on the MicroSD card. The most important component of the device set-up is the seven-inch touchscreen that gives access to all the front panel features through an easy-to-use interface. ▶

To make this assembly I used another Raspberry Pi case kit — the same as I used to install the main control panel and router. The kit comes with several options, and I modified some parts so it could be used with the front panel.

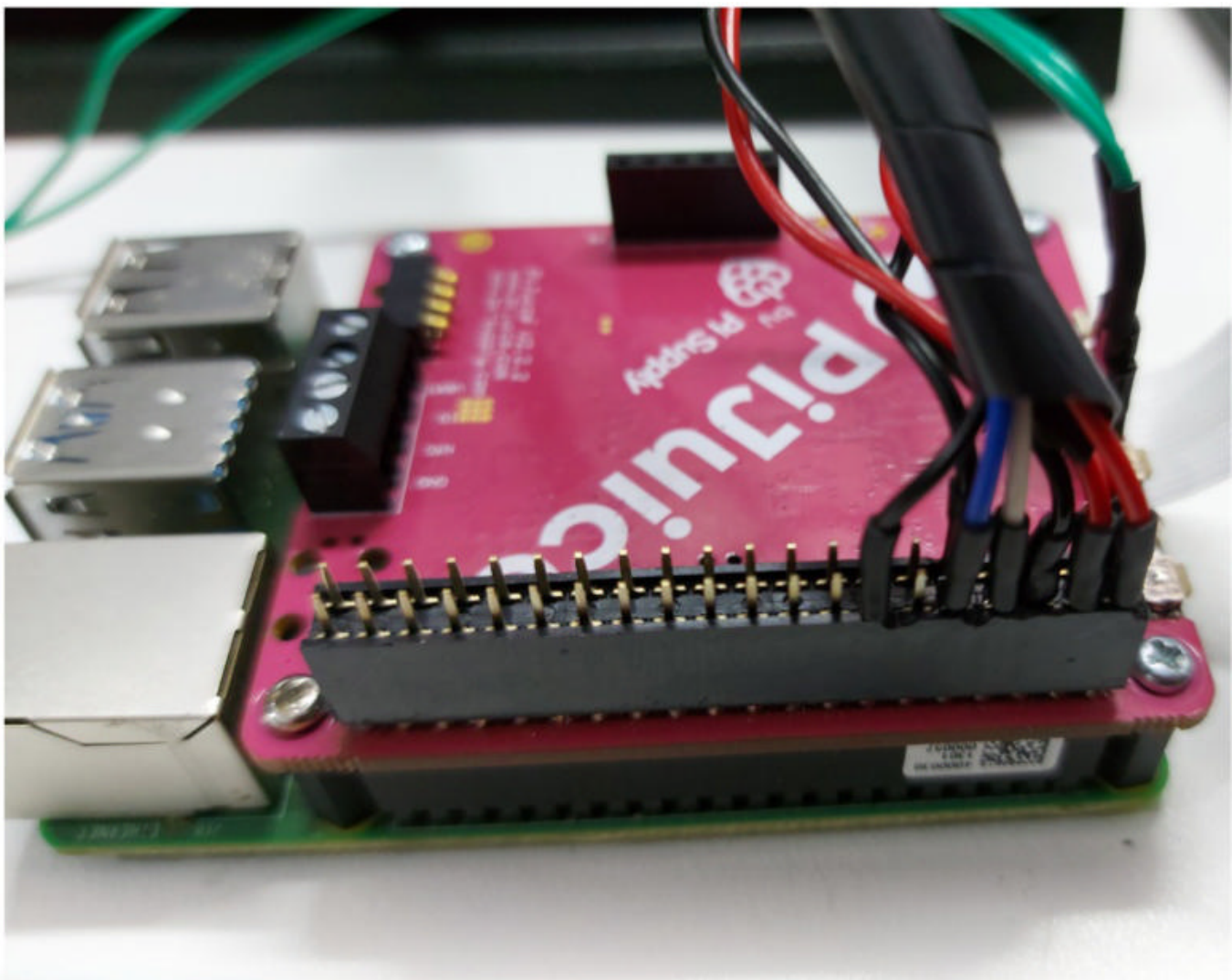


I cut the fan grid and glued it with cyanoacrylate on top of a squared hole. It was not a difficult operation as the plastic material can be worked easily



Right: Close-up of the GPIO connector mounted on top of the PiJuice UPS board; it connects to the serial GPS and powers the GPS board, the touchscreen, and the cooler fan

Below: The UPS (uninterruptible power supply) I used is based on the PiJuice board for the Raspberry Pi and fits perfectly in the available space thanks to its low profile. Instead of the 8000mAh battery usually available with the board, I used a 12000mAh rechargeable battery — compatible with the PiJuice and capable of powering the whole front panel for more than four hours when fully charged



I abandoned my first attempt to keep the front panel powered when the motor is powered off — using a Taida Cent Raspberry Pi 18650 UPS, available on amazon.com — because the battery pack was too big to fit in the dashboard box I used. It costs almost half as much as the PiJuice board and can be a good alternative, depending on the available space

Online source

I am publishing the sources and materials relating to the projects of this series of articles on the GitHub repository:

github.com/alicemirror/JanTheVan

For more details on the projects, you can follow the Patreon site:

patreon.com/janthevan

To better control the temperature of the Raspberry Pi, I included the cooling fan from the original case, as described below.

The last important component is a serial GPS module that will be used to track the vehicle. This is an independent GPS tracker, used to show the position of the camper van on a map as well as to add positioning data to the dashcam videos.

Assembling the front panel

As previously mentioned, the assembly solutions I adopted in all these projects are tailored to fit in my camper van — a 2020 Fiat Ducato 2.3. You can, of course, consider them as ideas or suggestions that can be modified and adapted to a different vehicle.

The car radio is in the centre of the dashboard; it is the standard model without the display and the navigator —

these were sold as an option by the dealer for about €800 (\$1300). The free space on top of the radio has been covered with a plastic box of the same size. If I decide to upgrade the radio in the future, removing both the old radio and the box will allow enough space to fit the upgraded version, including touchscreen, navigator, and other features.

By leaving the car radio in place, and making some easy changes to the plastic box, I got the perfect container for the new device. This solution could be applied to a wide number of vehicles, as the size and connector of car radios have been standardised for a long time and it is probable that your vehicle has a space of the same size and characteristics.

Installing the touchscreen

For the Raspberry Pi seven-inch touchscreen, I used the same case as I had already used for the router/control panel installed in the living area of the camper van, applying a few changes to the original structure.

Apart from the touchscreen, the other components are installed inside the plastic box. I added a couple of L-shaped aluminium supports to it, to which to screw the display part of the case.

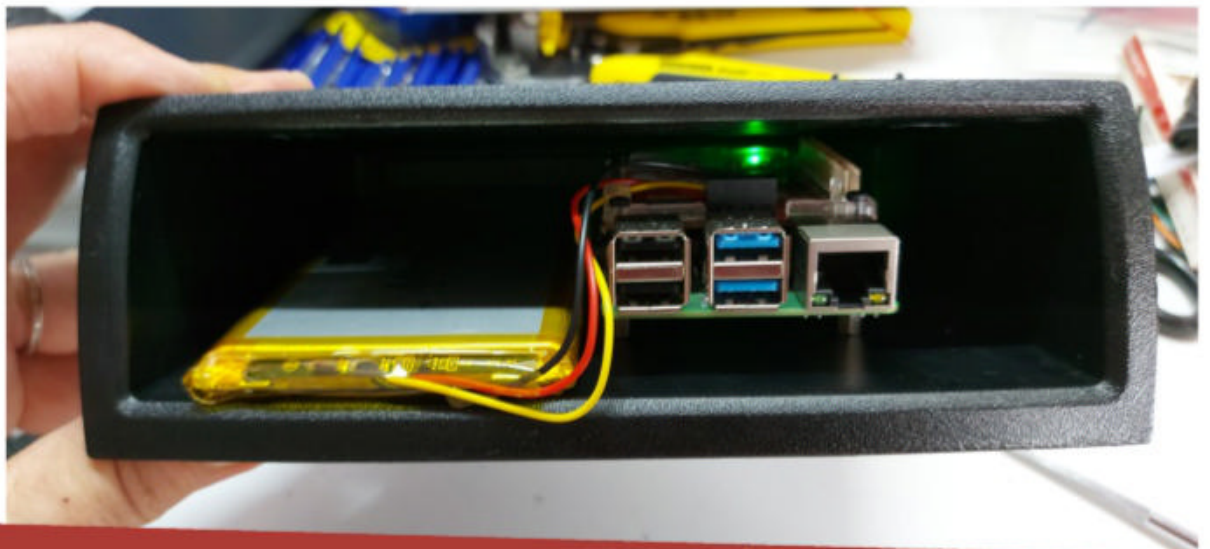
After the final assembly, the touchscreen can be oriented and the car radio — partially covered by the display — remains accessible for changing the display orientation.

The case is designed to include the Raspberry Pi 4B on the back, closed by a cooling fan. Using a long flat cable, I managed to connect the display to the Raspberry Pi inside the box, while I rewired the display power cables to power it directly from the Raspberry Pi GPIO 5 VCC and GND pins.

I cut the cooling fan from the case and glued it to the top side of the plastic box, just on top of the Raspberry Pi board screwed inside. The fan is powered by the GPIO connector. ▶



Already present on the dashboard of the van, this box just covers the top part of the radio; the extra space can be used if the radio is replaced by the touchscreen navigator, which is twice the size. I have made some changes to the box in order to install the Raspberry Pi 4B, the battery UPS, and the seven-inch touchscreen as well as a serial GPS and a cooling fan

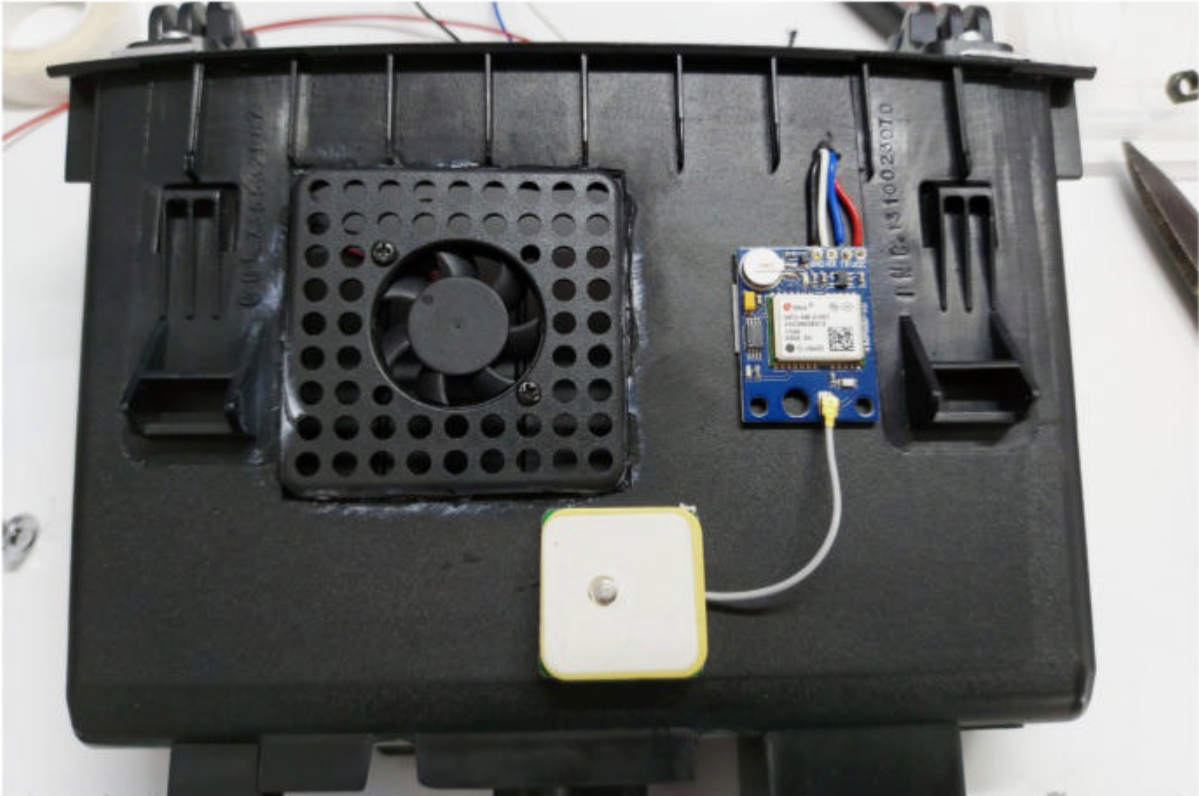
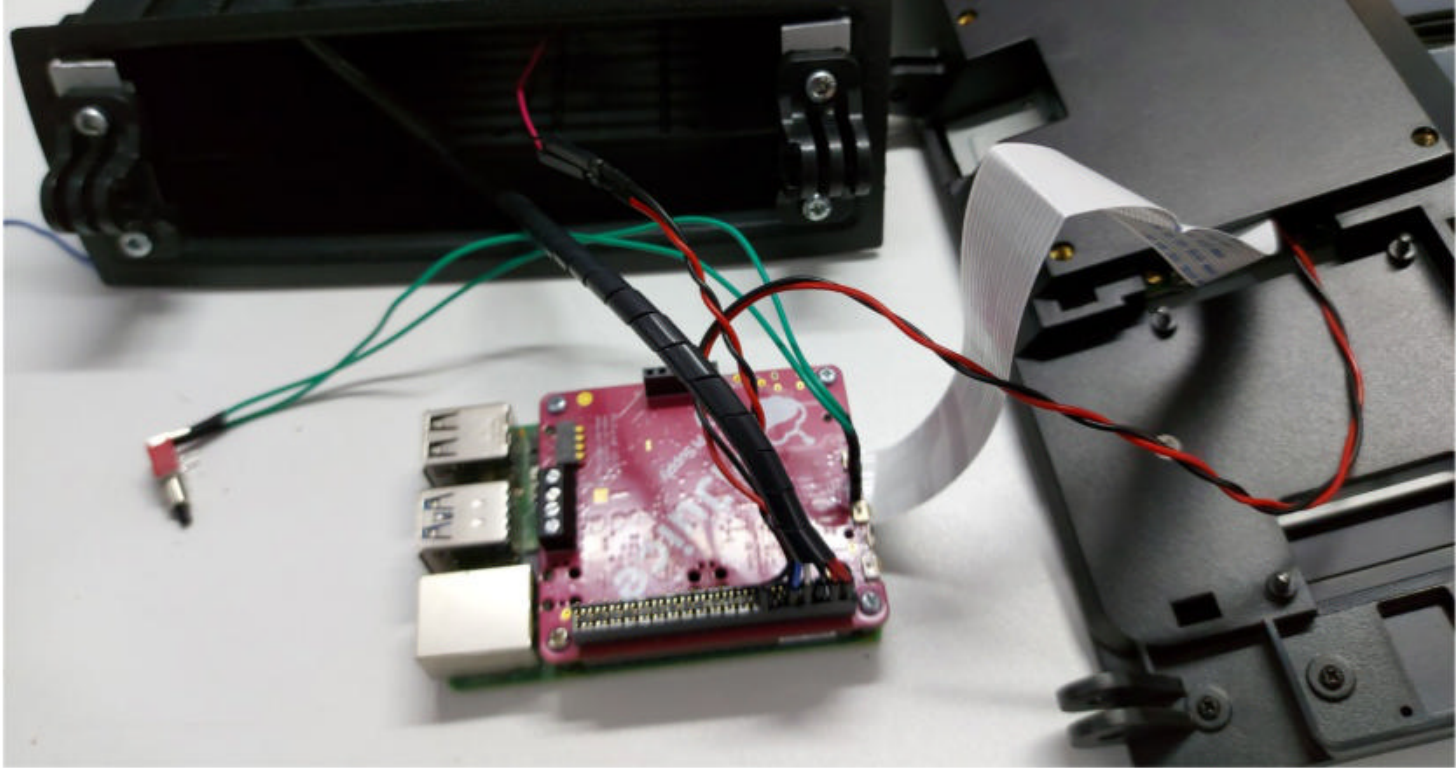


“By leaving the car radio in place, and making some easy changes to the plastic box, I got the perfect container for the new device”

The van front panel hoisted on the top empty space of the vehicle radio; depending on the space available, the front panel should be arranged inside the front dashboard in a position easily seen by the driver



To connect the screen to the Raspberry Pi I used the log flat cable — also included in the kit — while the display is powered from the 5V GPIO connector. I also soldered a temporary push button to the PiJuice connector for powering and fully shutting down the battery in the case. The new case box has sufficient space to enable the wires and connectors to be easily removed for any kind of maintenance



The top view of the container box, showing the cooling fan grid and the serial u-blox GPS board with its antenna; when the box is inserted in the van dashboard, there is plenty of space available inside and the GPS antenna is in the optimal position to link to satellites very fast



Lab test of the front panel fully assembled — the normal view of the desktop as shown in the first image is upside-down; the correct orientation is achieved by software and depends on how the device is positioned inside the van. The second image shows the full test of the device, including a USB wide-angle webcam for the dashcam function

Finishing touches

The last add-on is the GPS serial module, wired to the Raspberry Pi GPIO and fixed, together with the GPS antenna, on the top face of the plastic box. When installing a GPS receiver inside a vehicle, always take into account that the GPS antenna should be exposed as much as possible to be able to link to the positioning satellites. In this case, the position achieves a very good result as there are only plastic surfaces and the driver front screen between the GPS antenna and the sky.

A GPS installed inside a metallic structure will track your position very slowly and at a lower accuracy. 📶



Here's a video showing Enrico on the road with his hi-tech camper van

Material costs (US\$)

The components of the driver front panel as described above have a cost of about \$250

Raspberry Pi 4B: \$70

7-inch LCD touchscreen for Raspberry Pi: \$74

Raspberry Pi control panel case mount: \$30

GPS serial module: \$10

Full HD wide-angle USB webcam: \$25

PiJuice board: \$25

12000mAh battery: \$20

NORTON
SAINT-GOBAIN
clipper®

DUST-LESS



See it in Action



Norton Clipper CM35

TILE, STONE & MASONRY SAW

- Easy transportation and storage
- Wide 500 x 540mm conveyor cart

* 350mm Blade sold separate

NZ: 0800 74 24 24
sales.nz@saint-gobain.com



Follow us on social media
Norton Pacific

Transforming
surfaces
...and beyond



BUY • SELL • TRADE

TOOL BARN

The Home Of Preloved Tools

NEW & USED TOOLS



\$950
Jet Spindle
Moulder



\$275
Smootharc
Welder



\$449
Hafco 10-Ton
Press



\$529
Tanner Dowel
Borer



\$CALL
Chisels - various
prices



\$195
Redex
Dispenser



\$2500
Cea Spot
Welder

Gift Vouchers
available

45 Jellicoe Rd, Panmure, Auckland
Phone: (09) 570 8064 Email: toolbarn@xtra.co.nz Website: toolbarn.co.nz

CELEBRATING WITH A HOME BREW



Anticipate a summer of open national borders and unrestricted get-togethers by preparing to treat your guests to your own home brews

*By Bryan Livingston
Photographs: Robyn Livingston*

Is your birthday coming up and you are having friends over to celebrate? Maybe you are getting married, or one of the kids is? Making your own beer for your function can be great fun, and it's always wonderful getting nice comments from your surprised guests when they hear that you made the beer. However, there are a few things you need to consider to ensure the results are the best for your function.

The style

What are you going to serve? You need to think more from your guests' perspective

than your own. For example, if you love craft beer but your guests are more Lion, Tui, or Corona drinkers then they probably won't enjoy your favourite crafted home brew. You may need a couple of brews to cater for those who enjoy craft beer and those who have a more delicate taste. Lagers and pale ales are probably safer choices than double IPAs!

Sour beers have become popular in recent years, but again these will only appeal to a few. It's probably best to stay more mainstream unless your guests all enjoy the sour style of beers.

Some hoppiness?

Following on from style is hoppiness. Most home brewers enjoy hops, and their beers tend to get hoppier over time. We all tend to start with basic kits, then we add extra hops, then we start crafting our own recipes, then we start cloning our favourite craft beers — sounds familiar, doesn't it?

“Be a responsible host and make beers that people can enjoy a few of”

Some hop varieties can be polarising. I personally don't enjoy English Fuggle, as I find it too grassy, yet I enjoy English Golding, which I find less harsh. Similarly with New Zealand hops. I love Riwaka and Nelson Sauvin, with that strong grapefruit and resinous taste, but I have some customers who can't stand these two hops. Try to choose hops that are middle of the road, or at least have different brews that can cover a wider range of hop tastes.

Alcohol content

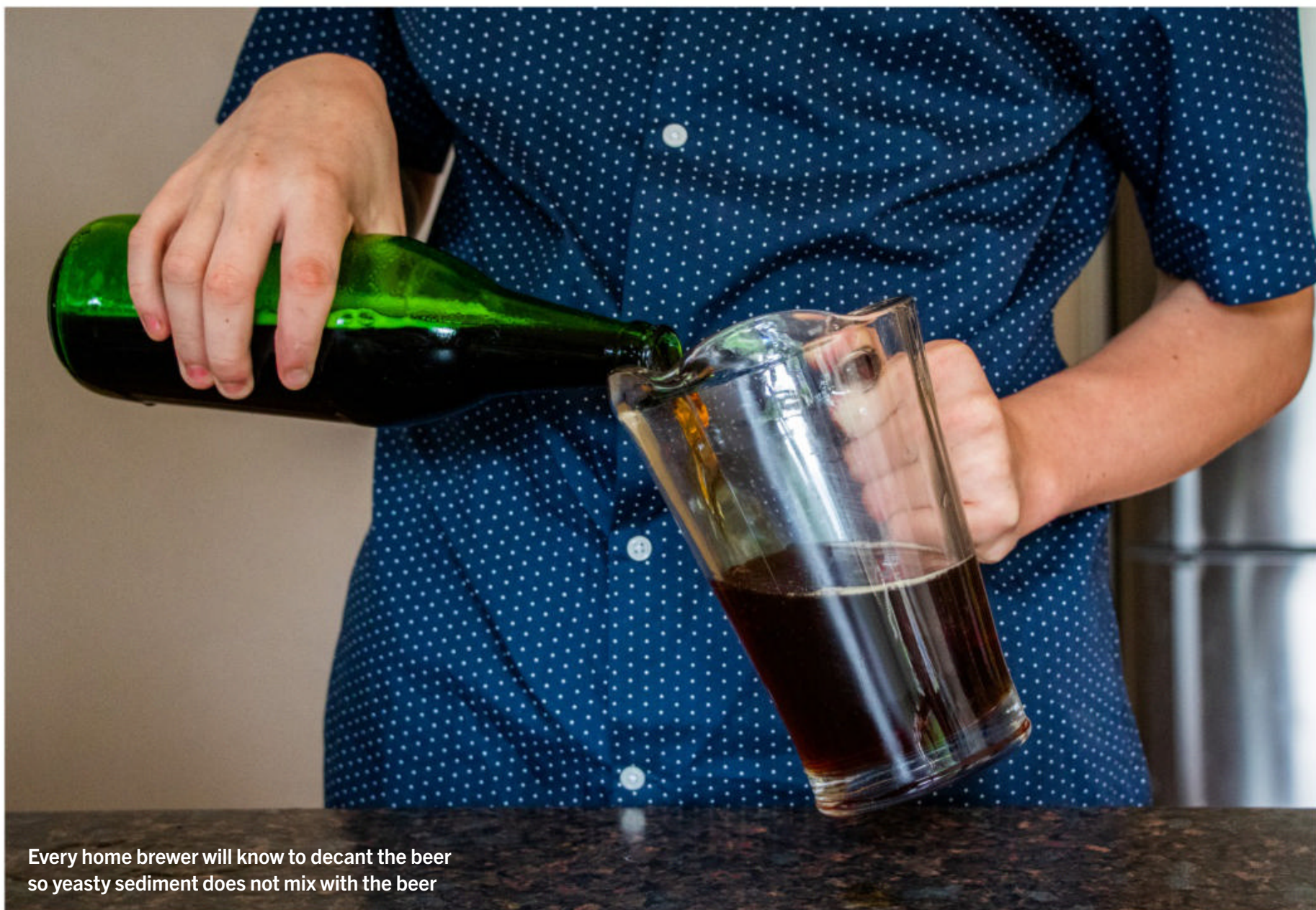
If your function is lasting several hours, then you want to serve more sessionable beers rather than bigger 6 to 8 per cent IPAs. It's never a good look if, in the first hour, people are falling off their chairs and Grandma is dancing on the table!

Be a responsible host, and make beers that people can enjoy a few of rather than having to sit on single beer for fear of getting too drunk.

You could also make a non-alcoholic ginger beer to serve alongside your home-brewed beer. That way, you are catering for not only your beer drinking friends but also non-drinkers and designated drivers.

Timing the brew

Once you have decided what you are going to make, then work backwards from



Every home brewer will know to decant the beer so yeasty sediment does not mix with the beer

the function date to work out your timings for making these brews. Some beers, such as Hazy beers and IPAs, are best drunk fresh. Darker beers drink better once they have aged as they become smoother and less harsh. It would pay to brew the dark beer first to give it time to mature, and brew the fresh beers last.

Allow for problems. What happens if one of the beers doesn't turn out as well as you wanted. Do you have a backup beer that you can substitute for a beer that doesn't taste as good as you planned?

Volume

How much beer are you going to need? This obviously depends on how many guests you have invited and how much each of them is likely to consume. Allowing for more than you need isn't a big issue, as I'm sure you would enjoy drinking it in the weeks after your function.

Serving your brew

Bottle-conditioned home-brewed beer always has sediment in the bottom of the bottle, and home brewers know to decant the beer to a jug before serving so that the yeasty sediment doesn't mix with the beer.

However, someone who has never brewed is likely to fill individual glasses,

and that tipping and the straightening of the bottle will mix up the sediment and the beer will taste muddy and cloudy. When this happens, people won't enjoy your beer.

You could consider kegging your beer, as then there is no sediment. If you are bottling your beer, make sure you have lots of jugs so people can learn how to decant the beer from the bottle before serving.

Liquor laws

In New Zealand we are able to brew beer, wine, and spirits at home for our own consumption without having to pay excise duty. However, if you are selling or distributing your home-made alcohol then you need to comply with New Zealand laws and you may need to pay excise duty. More information is available at www.customs.govt.nz/business/excise/what-is-excise/.

Summer barbecues, family and friends get-togethers, and celebrations are a key part of our lives — when not in Covid lockdowns. So, enjoy the summer and enjoy your crafted home-brew beers with your friends. Often, you'll be surprised just how good home brew tastes, and your guests will be amazed that you craft such good-quality beers. 🍷

Brewers Coop Vacation IPA (23-litre recipe)

MALT

- 5kg NZ Pale Malt,
- 300g NZ Munich Malt
- 300g Carapils

HOPS

- 15g NZ Cascade/Taiheke (60 min)
- 20g NZ Cascade/Taiheke (30 min)
- 20g NZ Cascade/Taiheke and 20g Nelson Sauvin (10 min)
- 25g NZ Cascade/Taiheke and 25g Nelson Sauvin (Dry Hop on 4th day for 4 days)

YEAST

- Bry 97 or Safale 05

MASH AT 65°C FOR 60 MIN

- 60-min boil with hop additions as above
- Est OG 1.051
- Est FG 1.011
- Est ABV 5.4%

Extract version: Replace the NZ Pale Malt with two 1.7kg cans of Black Rock Light and use steeping grains and hop additions as per all-grain recipe.



Just one of the seven separate buildings housing the club's very extensive collections; this the wheeled tractor shed

GERALDINE TRACTOR AND AUTOMOBILE MUSEUM

A MACHINE-LOVER'S PARADISE — WITH SEVEN BUILDINGS CHOCKA WITH MACHINES OF EVERY KIND, YOU MIGHT NEVER LEAVE

By Ritchie Wilson

Photographs: Brian High and Ritchie Wilson

Geraldine is a small town in South Canterbury that describes itself as “The Gateway to the Southern Lakes” — Lakes Tekapo, Pukaki, and Ohau. It is on a popular tourist route between Christchurch and Queenstown, and is promoted as a good place to break a journey, have a meal, or visit a museum.

The Geraldine Vintage Car and Machinery Museum is run by the Geraldine Vintage Car and Machinery Club, which was established in 1967 after a display, organised by the Geraldine Young Farmers Club the previous year at nearby Woodbury, had shown how many vintage and interesting machines were in the district.

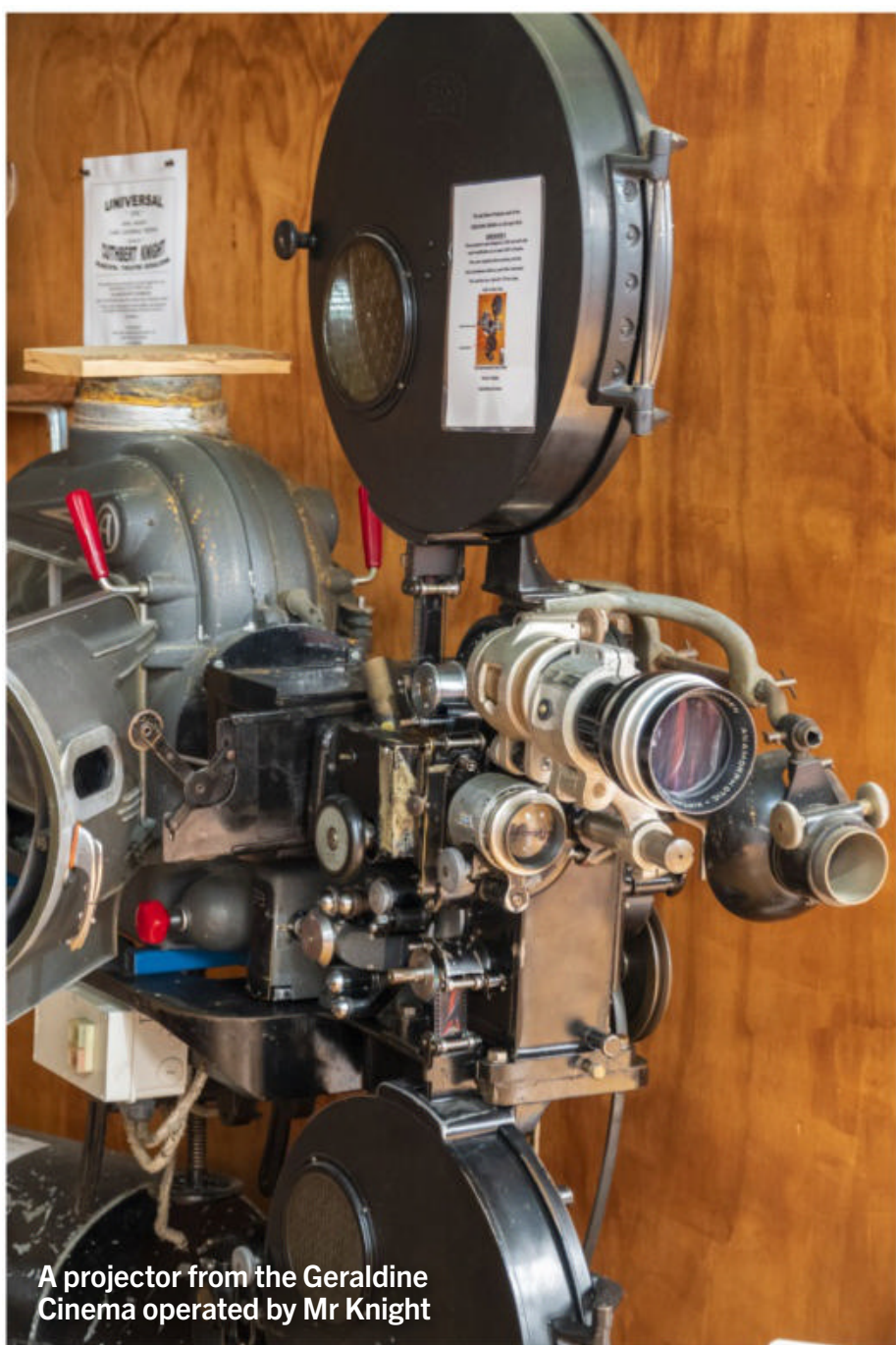
In 1969 local businessman Jack Morrison bought a coal and timber yard in Geraldine's Talbot Street. He erected a building at the front of the site to house his collection of 20 Morris cars, his father having been the district's Morris agent. He then offered the machinery club the use of the rest of the property.

Disasters aplenty

In 1979, just five years after it opened to the public, the Car Museum and several of the vehicles were destroyed by fire. Jack Morrison then very generously gifted the whole site to the Vintage Car and Machinery Club.

With the assistance of the town, the club built the present car display building, opened in 1981, on the foundations of the old. The concrete floor of the original building, discoloured by the fire, forms the floor of the new one. The club bought adjoining properties in 1983 and 2010.

A new, very large building was built in 1995 to house the numerous wheeled farm tractors. Fate again intervened in 2006, when a massive dumping of snow caused the building's roof to collapse. Interestingly, none of the rugged tractors was damaged. The club's insurance paid for the present impressive Tractor Shed to be built. A mezzanine floor to house smaller exhibits was added in 2015. All told, there are seven separate buildings, 101 tractors, 56 automobiles, push bikes,



A projector from the Geraldine Cinema operated by Mr Knight



Part of one of the lines of wheeled tractors — mostly owned by the club



The best of British

“He erected a building at the front of the site to house his collection of 20 Morris cars”

stationary engines, binders, ploughs, motorcycles, threshing machines, one aircraft, and a multitude of other items.

Christchurch had more speedway

I was given a tour of the museum by Alastair Sabiston, who has been chair of the Geraldine Vintage Car and Machinery Club for the past two years. Alastair’s background is in motorcycling. He used to ride

350cc Jawa two-strokes in speedway racing. Speedways are short oval racetracks,

usually with a surface of dirt or cinders.

Alastair lived in Dunedin in those days and was sponsored by the local BMC dealer, Austin Motors. Austin established a motorcycle division to sell N-Zeta ‘torpedo’ motor scooters — Cezeta scooters that were assembled in Auckland — and offered management of the division to Alastair. Eventually, he moved to Christchurch because it had more speedway meetings. There he

established his own motorcycle repair business, which became involved in manufacturing motorcycle sidecars.

One of the first things Alastair showed me in the museum was an N-Zeta model 501 scooter similar to one that his twin sister, Fiona, had bought new in the early 1960s.

Home-built bike

Then there was a motocross bike named ‘El-Sab’, which Alastair had built himself. The frame tubes had been shaped on a tube bender, which he had made especially for the job. The motor is a 500cc unit from a British Triumph Tiger 100 motorcycle. An English



Display of domestic life in early Geraldine



A rare tractor, made by the Austin Motor Company Limited in France

Lord Austin's tractor

During WWI the Austin Motor Company imported and sold several makes of farm tractor. At the end of the war Herbert Austin, the company's managing director, instituted a one-model policy based on the expensive Austin 20 — probably because at that time, as with electric cars today, most cars were bought by rich people.

The Austin tractor was powered by the '20s engine, modified to run on paraffin as well as petrol; it had a tank for each. It was a copy of the Fordson Model F, where the motor, gearbox, and differential formed the chassis. All Austin tractors of the period had steel wheels.

The Austin didn't have the reliability of the Fordson, and was more expensive, but it was a useful machine nevertheless. The museum's green 1936 example was used by The Canterbury Roller Flour Mills to shunt railway wagons up and down the flour mill's siding in Ashburton.

Austin had established a tractor assembly factory in France in 1919 to take advantage of French protective tariffs and that was where this example was made. The factory was taken over by the occupying German forces during WWII and several of the managers were killed. After the war Austin became part of the British Motor Corporation, which produced some small tractors powered by a diesel version of the A-Series engine used in the BMC Mini.

carrier bicycle — one of those ones with a small front wheel and a big wicker basket — sat adjacent to the scooter. I was interested because I have a Raleigh 'Low Gravity' carrier bike myself.

Next was the Tractor Shed. The museum advertises itself as having one of the finest collections in the southern hemisphere and it is the Tractor Shed that principally justifies this claim. Four very long rows of gleaming machines of many different makes; tractor nirvana. The display puts even Feilding's Coach House Museum's John Deere collection — part of a very impressive transport-related complex — in the shade. The oldest tractor displayed, and probably the oldest working tractor in the country, is a 1913 Wallis.

“All told, there are seven separate buildings”

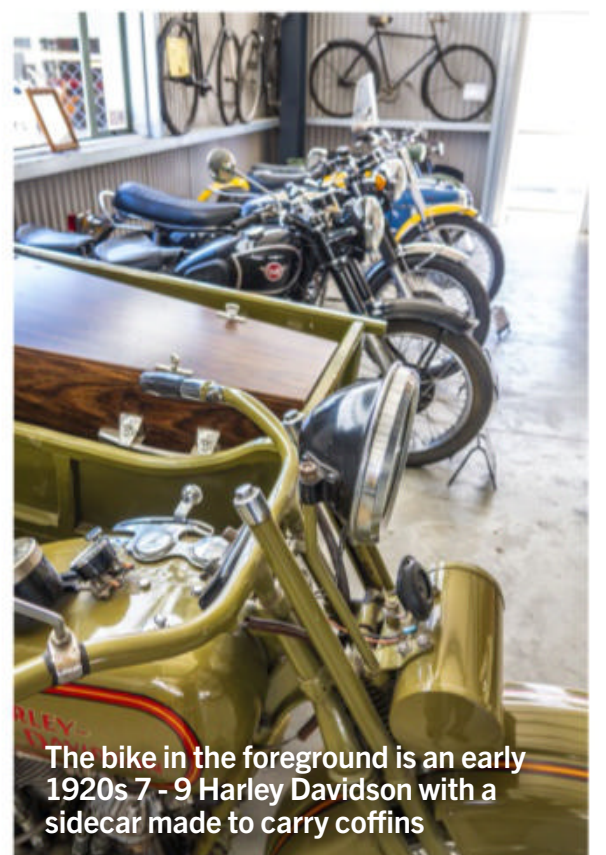
Chassis-less tractor

I had heard of Herbert Austin's attempt at copying the innovative chassis-less Fordson tractor in the 1920s and it had crossed my mind that the museum might have one. And there, at the very entrance of the shed, it was — a green 1936 example.

There is a mezzanine floor on one



500cc El-Sab motocross bike built by Alastair Sabiston



The bike in the foreground is an early 1920s 7 - 9 Harley Davidson with a sidecar made to carry coffins



One of many farming machines in the museum, this a threshing machine



The stationary engine shed. The club is currently restoring new additions to the display

side of the Tractor Shed with a variety of collections on display. Included are projection equipment from a local cinema, a collection of farming hand tools — such as a most desirable Record skew-blade rebate plane — and a facsimile of the Morrison family’s grocery store, complete with

many packaged items that would have been common in the first half of the last century.

Great farm machines

A similar reproduction store is a feature of another of Geraldine’s museums, a reflection of the Morrisons’

130-year presence in the town.

Out back is a large relocated shed, which houses giant agricultural machines and crawler tractors. The Hart-Parr crawler has ‘New Zealand Special’ cast in high relief lettering on its radiator. Alastair pointed out that in Australia it would have been ‘Australian Special’, in South Africa ‘South Africa Special’, and so on. Otherwise the machines would have been identical — it was merely a very clever marketing ploy.

The largely unrestored threshing machines, as big as buses, are relics of the years, just gone from living memory, when coal-powered traction engines would haul them on their large iron wheels from farm to farm, with cookhouse, mill-whare, and coal wagon pulled along behind in a train. The threshing machines were driven by wide flat-belts from the traction engine. Wheat sheafs would be fed in one end, wheat and straw would exit from the opposite end; long, hot, dusty days, often under the threat of a deterioration in the weather. In the past, the club has used the power take-off of a tractor to run a threshing



British family cars of the sixties and seventies



Ray Bennett’s 1914 Dennis fire engine previously owned by the Geraldine Brigade

“Four very long rows of gleaming machines of many different makes; tractor nirvana”



Geraldine has a number of museums to visit. This is the Geraldine Museum in the old Town Board Office

Alastair said it was identical to one he worked on in his first job.

The car display

The last part of the museum we visited was the car display area, the replacement for Jack Morrison's fire damaged building. Just inside the front door is a 1913 Bullnose Morris that had been very badly damaged in the 1979 fire. The sooty wreck was salvaged and restored by Jack Morrison's nephew, Peter Morrison. The cars have mostly been loaned by their owners and are consistently beautiful and interesting. The 1929 Austin Seven is the same model as Alastair's first car and the 1948 E-series Morris 8 is the same as his second.

machine in live demonstrations.

I had arrived too late to meet the Tuesday crew, club members who work at the museum on Tuesday mornings. They maintain the exhibits and restore new acquisitions. They use the club's well-equipped workshop and are currently mostly working on stationary engines — one of the sheds is full of them. The large, newly arrived centre lathe was particularly interesting.



Geraldine Vintage Car and Machinery Club Chair Alastair Sabiston next to a 1929 Austin Seven — the exact model which was Alastair's first car.

“They use the club's well-equipped workshop and are currently mostly working on stationary engines”



The club's well-equipped workshop where the Tuesday crew work



Desirable 1937 Chevrolet sedan



Ford Model T van gifted to the club by Brian Le Lievre



Two outstanding exhibits: the 1929 Simmonds Spartan biplane and the 1931 MG F1 Magna - veteran of the 1938 Australian Grand Prix

“There wasn’t a vehicle present I wouldn’t have been happy to take home”

There wasn’t a vehicle present I wouldn’t have been happy to take home, but the one that appealed most was the 1931 MG F1 Magna open sports. Painted in a very nice pale blue with large bright-red wire wheels, it is powered by a 1271cc six-cylinder OHC engine derived from the Wolseley Hornet unit. It also has a distinguished competition history, having competed in the 1938 Australian Grand Prix held at the Mount Panorama Circuit near Bathurst, NSW.

Life-sized cloth figures in period dress, made by a club member, are a feature of the displays.

Driving this Ford is hard work

Alastair pointed out the freshly restored Ford Model T van, which he drove in the town’s last annual parade. Driving a Model T at low speed for any length of time is hard work. The two-speed transmission has to be kept in low gear, which requires constant heavy pressure on the ‘transmission’ foot pedal.

Model Ts have three foot pedals: brake, reverse, and transmission — the accelerator is on the steering column. Pulling the handbrake half on puts the transmission into neutral. It takes a bit of getting used to. In an emergency, the brake and reverse pedals can be depressed simultaneously for a rapid stop. Alistair says that he will drive

something else in the next parade.

There are numerous interesting pieces of automobile history displayed, and a large biplane is suspended from the building’s roof. It is a 1929 Simmonds Spartan two-seater, registration ZK-ABZ, powered by a 4.5L Cirrus II in-line four cylinder engine. The aircraft was flown by Timaru-based New Zealand Airways Ltd, among others. ►

Crank Up Day

In non-Covid times, on the first Saturday in November almost every engine — stationary, motorcycle, car, tractor, truck, and marine — in the museum is started up and run.

Folk who have lent vehicles to the museum come in and get them going. The largest engine running, which produces 830hp, is from the *Rangatira*, which sailed between Timaru and the Chatham Islands before being scrapped. Peter Morrison told me he fires up the club’s barbecue to feed the club members who persuade the 101 tractors — mostly owned by the club — into life.

Enthusiasts have been known to travel from as far away as Auckland to experience the day. The restrictions instituted as part of the response to the Covid-19 pandemic mean that this year’s Crank Up Day has been postponed until early in 2022.



The large biplane. It has the New Zealand Airways logo on its tail fin



A 1926 International truck with a meticulously crafted camper on its deck, designed and built by a very famous New Zealander

The star of the show

The most publicised vehicle is a 1926 International truck that has had a wooden camper body fitted. It is like the one in a photograph of Henry Ford, Thomas Edison, and Harvey Firestone camping in the American wilderness in the early 1920s. The three men are sitting in deckchairs beside a similar camper, based on a large Lincoln chassis. The museum's camper was built by famous motorcycle designer, John Britten, whose family has a connection to the Morrisons. John built the elaborate camper body as a young man to holiday on the South Island's West Coast and it is a reminder of his design ability and attention to detail.

The oval leadlight windows in the rear wall are a typical Britten feature, a precursor of the huge leadlight cupola he built in his Fendalton home and of the products of his early glass-lampshade business. The camper was



recently displayed at the New Zealand Motor Caravan Association's 2021 AGM in Oamaru. It will be started up on the museum's Crank Up Day, along with all the other motors.

If you are taking the opportunity to travel the scenic highways of the South Island while they are empty of international tourists, I can recommend the Geraldine Vintage Car and Machinery Museum as a destination with something to interest almost everyone.

You won't be disappointed. 📷



N-Zeta Scooters — the Czech/New Zealand Hybrid

Four thousand of the distinctive torpeda-shaped 175cc two-stroke motorcycles were assembled in South Auckland by JNZ Manufacturing Ltd between 1960 and 1964.

The company, run by well-known motorcyclist Laurie Summers, also put together Jawa motorcycles. The N-Zeta scooters were based on the Czechoslovakian Cezeta scooter, but 25 per cent of the machines had to be of New Zealand origin to escape import restrictions. The tyres, paint, batteries, and wiring were locally made, the handlebars and exhaust were produced by NZ Steel and Tube, and the chrome plating was done by an Otahuhu company. The sheet metal pressings that formed the body, sourced from the Jawa factory, were welded together by VW Motors, the local Volkswagen assembly company, which was also in Otahuhu.

Two models of the N-Zeta were built in New Zealand: the 501 and 502. Both were powered by electric-start Jawa engines and had only detail differences. The scooters' unique Dan Dare space-age appearance makes them highly collectible today.

“The museum's camper was built by famous motorcycle designer, John Britten”



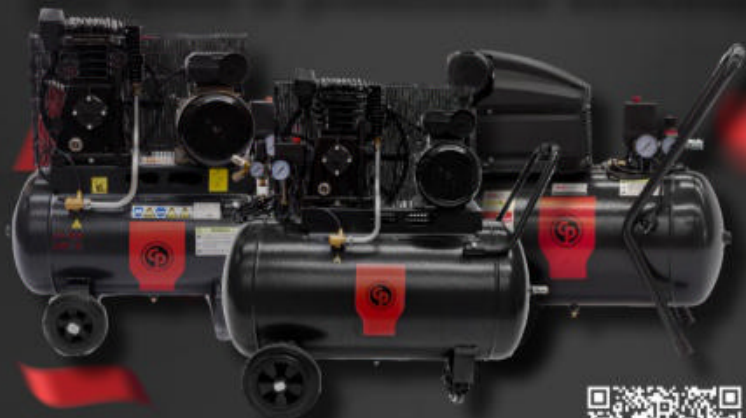
Tractor nirvana

120 YEARS
PASSION FOR
PERFORMANCE



**Chicago
Pneumatic**

**We've got you covered with our broad
range of compressors and air tools for
your home or professional workshop.**



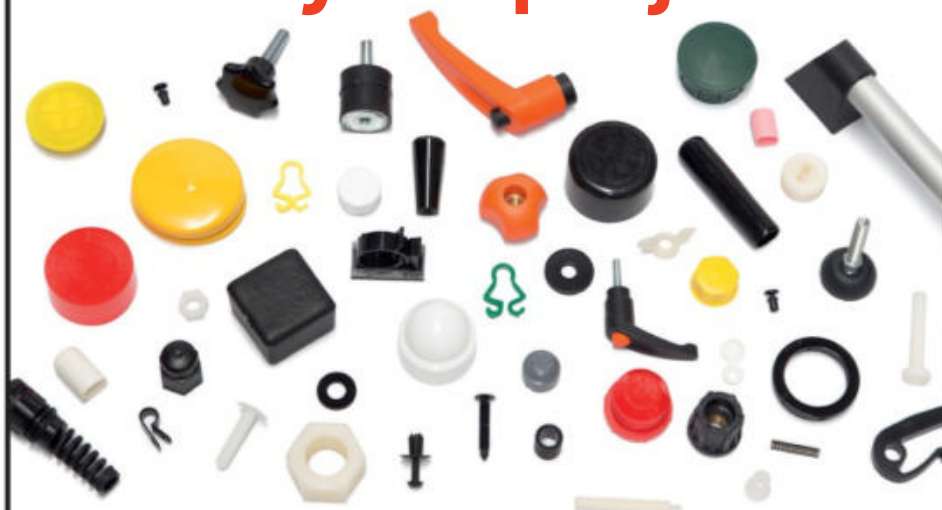
**Celebrate 120 Years of CP by scanning the
QR code to unlock your special discount!**



AshAir
Compressed Air & Vacuum

Phone: 0800 274 247
Shop Online: www.ashair.co.nz/online-shop
Anywhere. Anytime. 24/7 Support.

**The right component
for your project**



Plastic fixings, fastenings & hardware
Plastic protection caps & plugs
Electronic components & enclosures
Industrial operating elements
Toggle clamps

9000 component lines, 7.5 million items in stock

www.hiq.co.nz

Hi-Q Electronics Limited
sales@hiq.co.nz
0800 800 293

Hi-Q
components

WAGENER *Fairburn*

TRADITIONAL STYLE SLOW COMBUSTION WOODRANGE

- **COOKING**
- **BAKING**
- **HEATING**
- **HOT WATER**

- Solid Steel Construction
- Deep Brick Lined Firebox
- Large Cooktop Surface
- Full size oven
- Legs, Drawer Base and Inbuilt models
- Optional Lion Wetbacks
- Efficient Long Burn
- Optional Hotplate Covers



Handcrafted
NEW ZEALAND MADE
WAGENER

Home of the Wagener Fairburn, Sparky CA & RU, Leon,
Butler Multi & CookTop Wagener Stove.

5 Allen Bell Drive, Kaitia **(09) 408 2469**
wagenerstoves.co.nz

Tungsten Carbide Blade

**Paint
Scrapers**

*for every
tough
scrape
you're in*



50mm
General



14mm
Corner



6/10mm
Radius

0800 LINBIDE
5 4 6 2 4 3

linbide.com

LINBIDE



All the fun of the fair

THE NOSTALGIA-INDUCING MELODIES OF A FAIRGROUND ORGAN ECHO THROUGH THE HILLS OF REIKORANGI

By Helen Frances Photographs: Tracey Grant

On his property in Reikorangi, David Dilks wheels the fairground organ he made out of his shed into the garden and commands it to strike up a tune. There's something nostalgic about the jolly, roundabout sound of the melody. Even if you can't

see them, the music evokes images of brightly painted carousels and children astride highly coloured horses going round and round, up and down.

The 320-pipe fairground organ that David made from scratch is visually and acoustically impressive. The array of

beautifully crafted pipes, different shapes and sizes, the accordion-playing monkey, and the drums make quite the show. It's hard to resist jiggling — but then David and wife Joy, both ballroom dancers, kick up their heels and show their form. Music is a big part of their life.

Captured by the sound

David's interest in building a fairground organ began 40 years ago when he and his family were living in the USA.

"I was biking up the Potomac River in Washington DC with my kids and I heard this music coming through the trees — we tracked it down and found an old disused fairground called Glen Echo Park. Now, it's been restored but one thing that was working then was a huge carousel and they had a Wurlitzer 165 organ playing. We visited quite often because I was quite taken with the sound of it and decided then I'd like to build one like that."

David had to wait 35 years before making one as he was working in the air force at the time and not living in a suitable place for sheddie activities. But he and his workshop have been stable, in one place, for the past 23 years and

he began building the organ three years ago, initially working on a much smaller version.

"We visited quite often because I was quite taken with the sound of it and decided then I'd like to build one like that"

A bigger one?

David trained and worked in the air force as an electronics engineer, also doing an engineering degree through the University of Canterbury. When he left the air force he joined a computer company as a junior manager, retiring after five years. These skills have enabled him to

build the electronics side of the fairground organ.

David had bought a book on how to build the organ but found it disappointingly light on useful information. It was for building an organ a third of the size of the one he wanted to make so he shelved the book and worked out how to make it himself.

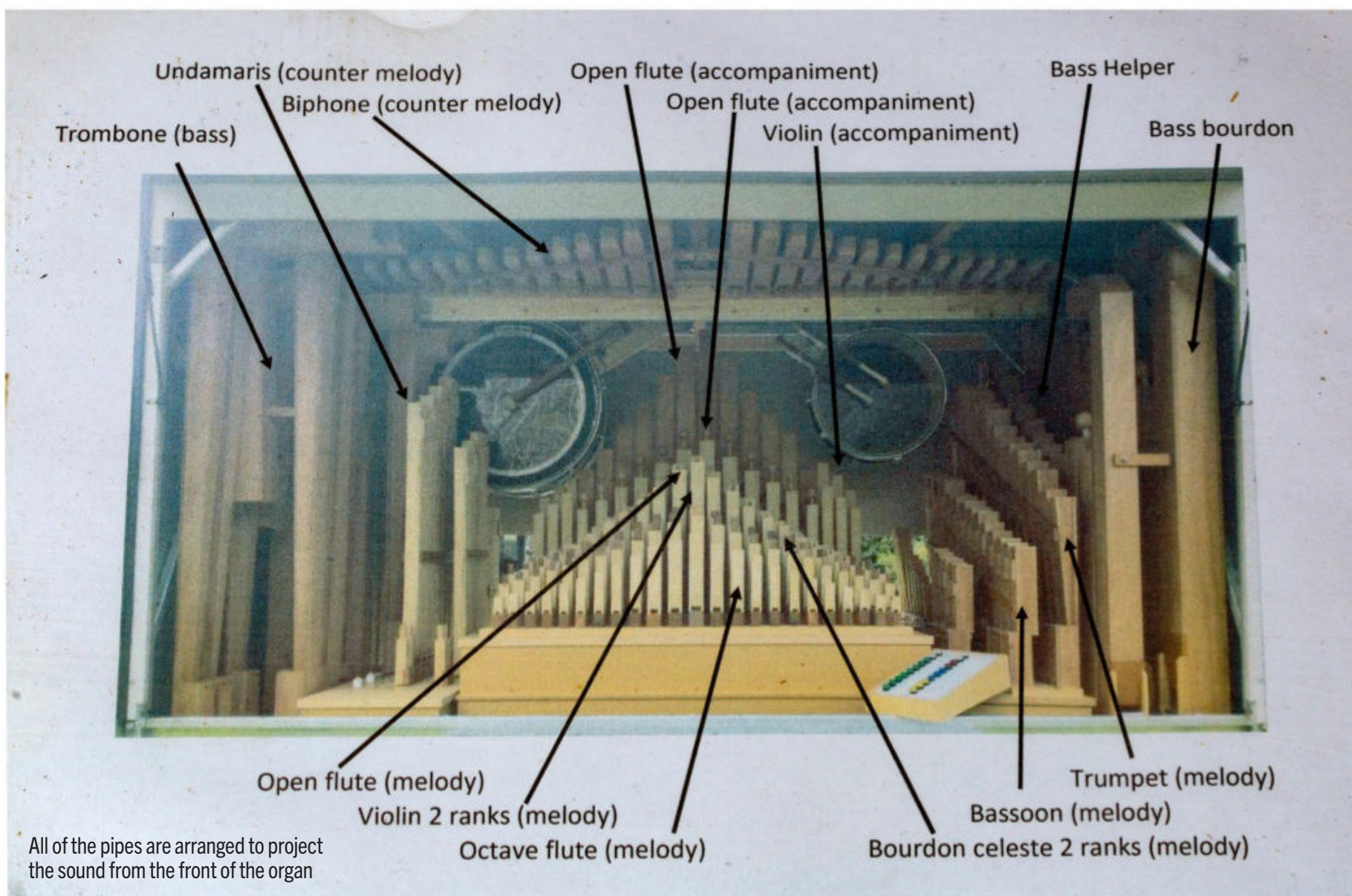
Composition of the organ

David's fairground organ is basically organised in groups called ranks or registers of pipes that play the same tone, perhaps over two octaves, and are connected into eight wind chests.

There are basically four music sections — the melody, which plays the main tune; a counter melody, which often plays another tune that works with the melody; the accompaniment, which keeps the rhythm going; and the bass. ►



The carousel from which inspiration for the project came in 1982



The seven ranks or registers of melody sit down the centre of the organ, and the accompaniment sits right at the back behind the melody. The bass registers sit at each end, and the counter melody is on one side and across the ceiling.

The registers are all controlled separately, and it is having different registers coming in and going out that gives the characteristic sound of the fairground music.

The register display lights up to show which parts are playing, each controlled automatically by the music. David bought the components that control the individual pipes as standard electronic modules and built the register control system himself.

“Back in the old days they used to have cardboard rolls with punched holes and they told which pipes to open and shut. Today we use a Midi file, which is exactly the same as a punched roll. It is the set of instructions which says, ‘OK, pipe C4 open now and close now — very fast’.”

David says that building the hardware and getting all the pipes to work was really just half of the work.





A typical Dutch street organ, about same size as David's



David blows into a long slender flue pipe. Long pipes generate more harmonics and a deeper sound

"I'd freeze the video and get my calipers out and measure the dimensions of the pipe"

"You've got to have everything just right, and I didn't. But eventually I worked out how to get the sound out of the pipes."

David had a chart with the different dimensions for the various pipes but only for a limited number of around 14 pipes and he wanted 23 to 30. He had to extrapolate, doing a lot of experimenting and messing around, trying to get them to work.

"Some parts I didn't have anything for. I would watch a YouTube video on the computer, then I'd freeze the video and get my calipers out and measure the dimensions of the pipe off the screen. That's how I got my pipe dimensions. Needless to say, I ended up with a lot of firewood." ►

The other half is arranging the music to get the characteristic fairground sound. At the time of interview he was just starting to do this.

Up until now he has bought the arrangements, based on the Dutch street organs, from a professional fairground organ arranger in Holland.

"Now I've got most of the shed stuff

done, I need to learn music arranging so I can produce my own tunes."

Building the pipes

David spent a good month or two building the first organ pipes to achieve the right sound. He has kept his prototype pipe made from MDF.

The pipes are all made of Accoya — an acetylated pine, treated overseas — which is, David says, a very stable wood, available in New Zealand in 8x2-inch, four metre long planks.

“The good thing about it is, although it’s very expensive, it’s nice wood. There’s no knots or anything like that. You can just run it through the saw bench and you don’t even have to sand it. It cuts and machines beautifully. People back in the old days just used whatever they could find because there wasn’t a lot of the right sort of wood available. But you need something that’s stable temperature wise and moisture wise so that, if it gets wet and hot, it’s not going to go out of tune.”

“The pipes are all made of Accoya — an acetylated pine, treated overseas”

Some tricky cutting

As the lengths of Accoya wood are very heavy, it was a real challenge to cut the planks into thin 4mm to 6mm strips to make the organ pipes.

“I had to cut them up on the saw. Of course, when you’ve got it all hanging out at the far end, you need somebody to help you hold it, and that person has to hold it exactly straight; otherwise the cut goes off at the wrong angle. After cutting up a dozen planks into 4mm strips, Joy became quite an expert at holding them.”

“Along with the gluing and the wiring,” his wife Joy adds.

David demonstrates blowing through pipes of various shapes and sizes that he also takes to talks he gives on the making of the organ.

The shape of the pipe determines the difference in sound. A short fat pipe produces something like a pure flute tone. A long, slender pipe generates more harmonics and produces a deeper sound.

“A harmonic break or frame made of brass keeps the harmonics in check; otherwise it just squeaks.” ►

David’s shed and other projects



David built their own country church scaled down (80 percent) from a local church



Inside the church (studio)
Joy paints and makes music



In his workshop David does farm as well as hobby work. To do this he has a wood lathe and an old metal lathe, a big drill press, a sander, an old Sears saw bench that he has had for about 30 years, soldering and electronics gear, and software he works on at a separate desk area. He puts his software and electronics skills to practical use on the farm, programming the traffic lights and camera rigged at the entrance to the long twisting driveway and stationing various sensors and alarms around the farm.

"The farm gate is far away so if somebody comes in the gate without us knowing it's a bit of a problem, really. As they come up the drive, the sensors let us know they're here."

The workshop is on the ground floor of a large sleepout that used to be a weekend retreat for people to stay. But David and Joy eventually decided it was too much work so the family use it when they come to stay. A builder built the basics and David finished it off.

David also built the little 'church', which serves as a painting and music studio for Joy who is an artist and plays the accordian.

"I just like the look of the old-style country churches. So I went down and measured up the local church and made a scale model," David explains.

The church is standard construction with ply on the inside and outside. It is insulated and acoustically sound.

Maintaining their cattle farm is quite a commitment. However, David finds time to teach tai chi twice weekly in the Waikanae Memorial Hall and run a quarterly tea dance. He and Joy also go ballroom and sequence dancing twice a week in non-Covid times.



The brass reed and tuning wire for trumpet, trombone, and bassoon pipes

David had to manually tune all of the 320 pipes using a guitar tuner — and he says, modestly, “I can hear when a pipe is out of tune.”

To make some of the bigger pipes he uses high-grade furniture ply, which doesn’t have any voids in it. This is because the Accoya is only 50mm wide, and some of the bigger pipes require wood wider than 50mm.

David demonstrates a bass pipe — a flue pipe, which is tuned by a wooden plug. Pulling the plug out lowers the note. The flue pipes range in size from the longest bass pipe, of 1.5m long, to the shortest flute pipe, of 70 mm long. Each pipe is made from seven or eight separate pieces.

“First I cut four long pieces for the front, back, and sides; the front and back are cut slightly oversize so they can be sanded back later. Then I accurately cut the internal bits from hardwood; the block, base, and tuning plug, plus some spacers for construction.”

David glues the base and block onto the back of the pipe, then, using the spacers, glues the two sides on to the back. He can then remove the spacers and glue the front on.

“It’s maybe nine thousandths of an inch between the cap and the block, and that makes the air shoot up the pipe very fast”

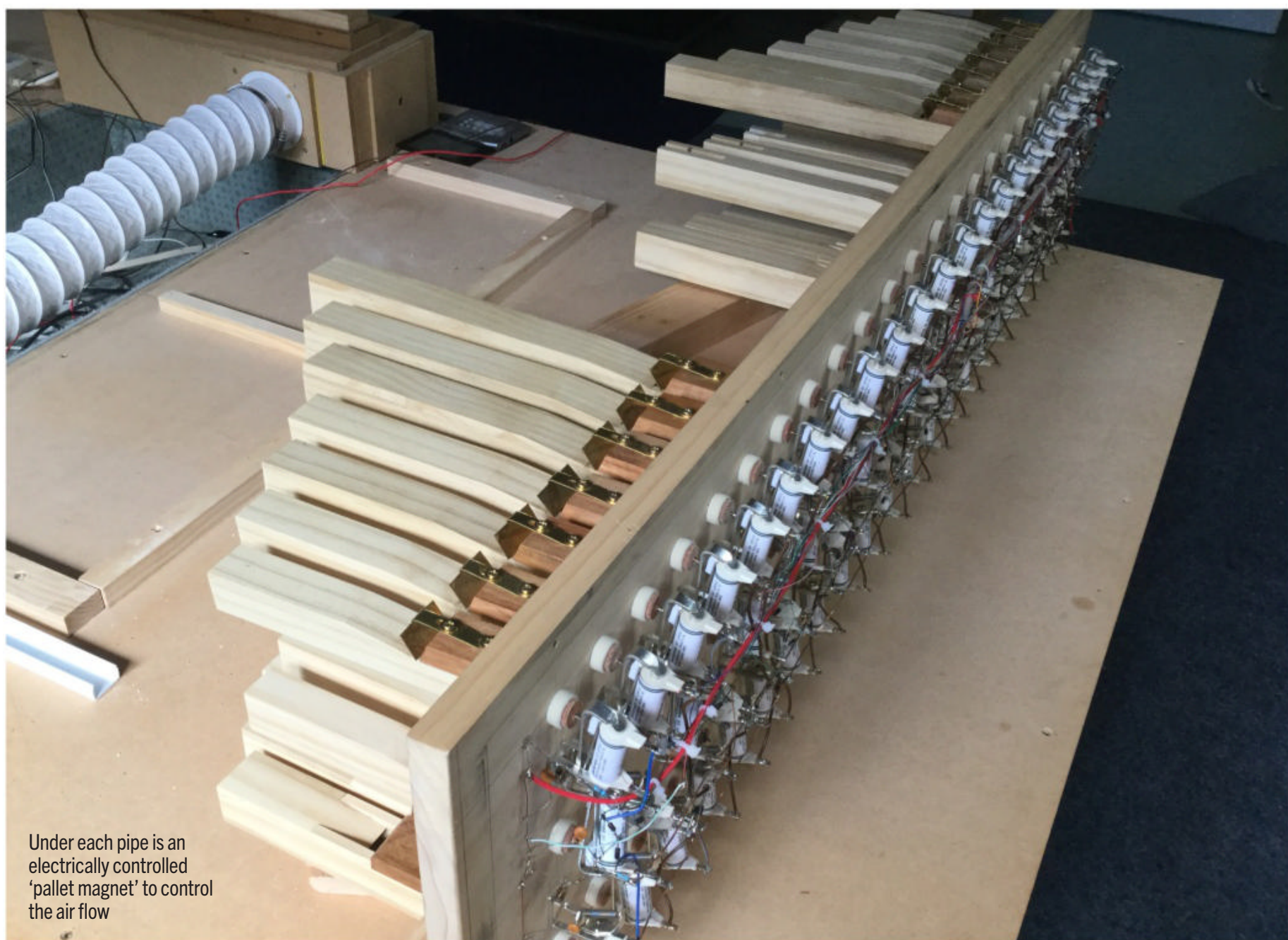
Two types of pipes

The pipes are all wooden and rectangular in shape, and there are two kinds: flue pipes and reed pipes. A reed pipe has a brass reed inside the base that vibrates as the air passes through. In a flue pipe, shaped like a chimney flue, the air vibrates on the sharp edge of the pipe.

“When you are building a whole lot of similar parts you try and get into mass production mode, but I averaged one and a half pipes a day which is why I took three years, because it was a spare time hobby.”



The wind chest is drilled ready for the pipes to be inserted



Under each pipe is an electrically controlled 'pallet magnet' to control the air flow

Precise measurements

Before doing this David has already bevelled the bottom edge of the front to form the sharp edge; for larger pipes, he uses a separate block of hardwood on which he has formed the bevel.

The block is gently filed to achieve the correct flue (air gap) thickness. At this point the pipe is coated inside with hot hide glue to prevent any leaks. Finally, the air gap is checked again, the cap is glued across the block and bass, and the foot (brass tube) is glued into the base.

“The gap is very small, and that’s got to be measured in thousands of an inch with a feeler gauge. It’s maybe nine thousandths of an inch between the cap and the block, and that makes the air shoot up the pipe very fast. It hits on the sharp edge of the upper lip, which gives the sound.”

David blows, and it makes a pleasantly mellow, highish sound.

At the bottom of the pipes is a brass pipe, which fits into the wind chest.



Bassoon pipes line up in front of the trumpets

The reed pipe

A reed pipe relies on the reed vibrating and it doesn’t have a flue. The reed is inside the pipe base. An example is a tapered trumpet pipe, which David blows — and it does indeed sound like a trumpet. Reed pipes work entirely differently from flue pipes. The central parts are the tongue and the shallot. When the air is blown into the pipe it

first hits a metal tongue resting against the opening in the side of the shallot, keeping a little distance from it and fixed to it at its upper ending.

Some of the pipes have been mitred because they are too big to fit inside the trailer, so David bends them in stages.

“You can’t just do one big bend, or it doesn’t work. I actually built the whole pipe and then cut it.” ►

Another flue pipe David blows makes a higher note — it is pipe C4, which makes a middle C sound. He compares it with another pipe, C3 — the same length, but with a stop at the end. The C3 is a stopped pipe that plays an octave lower and sounds quite like a horn.

Trombone challenge

David says the hardest job was making the trombone parts. The trombone is a reed pipe and the resonator is tapered, up to two and a half metres long.

“Imagine cutting that piece of wood two and a half metres long all in one piece. Trying to glue it up and getting it on the exact angle was probably the most difficult thing. Then, having done that, I had to cut it and bend it so it would fit in the organ. It just about drove me nuts because we would not end up with a right angle. I had a couple of goes and thought about it very carefully before I made any cuts.

“As well as having to work out the cut angle on the tapered pipe, when I flipped the end over to get the right angle, I then had to join the shorter width to the longer width and vice versa, so we ended up with a few leaks.”

Wind chests

The wind chest is a large, long, square, wooden box underneath the pipes, which are arrayed along the top. In David’s organ, the eight wind chests are around a metre and a bit long, two to three rows of pipes wide, and full of air.

Once he had the arrangement of pipes and wind chests sorted, he worked out how the pipes were going to fit on the wind chests. Then he had to work out how the air was going to get to each wind chest. He overcame that particular challenge by bringing a second-hand spa pool blower on board, which he adapted to a pressure regulator. The blower, located deep down in the bottom of the organ, provides air to the wind chests and pipes at just the right pressure: seven inches of water. You need low air



Accurate drilling required a good solid drill press

The blower, in the bottom of the organ, provides air to the wind chests and pipes at just the right pressure

pressure but lots of volume.

“You drill holes in the top of the wind chest and the pipes just fit in the holes. Underneath each pipe, there’s an electro-mechanical pallet valve that just opens and shuts to let the air in. So, when it opens the pipe plays. The Midi stream tells the pallet valves when to open and close.”

Prep work

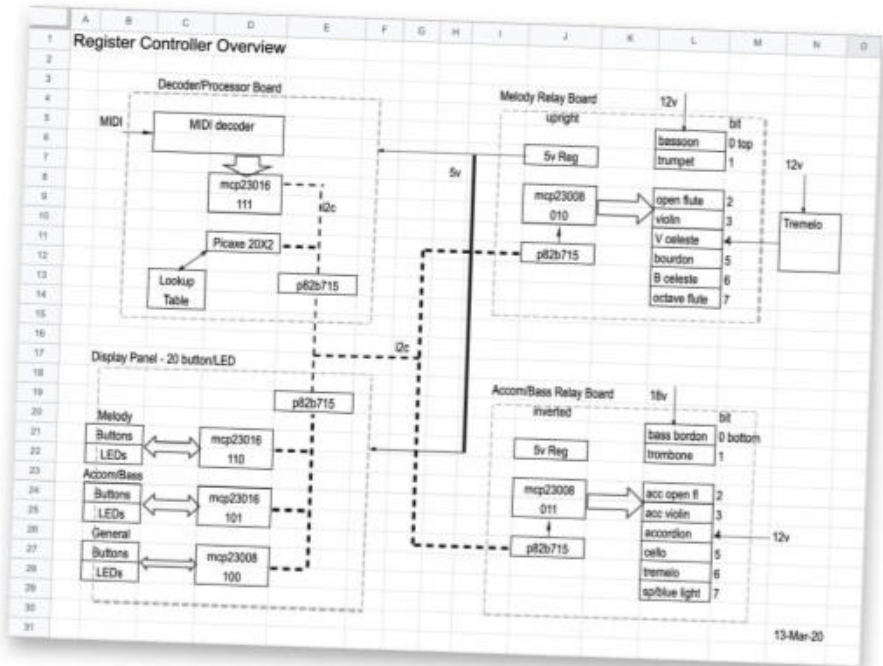
David had to work out how he was going to arrange the wind chests inside the organ, so he made the pipes first then built a very rudimentary wind chest with about 30 pipes that could play a simple tune. Having got the rudimentary wind chest working, he realised the finished organ was going to be much bigger than he had initially thought so mounting it on a trailer was the best solution.

David decided to have two bass wind chests, one at each end of the trailer.

“The big bass stop pipes are called bourdons, which are stopped flue pipes, with a set of trombones and cellos at the other end.” ►



Trumpet pipes being assembled and tuned



Above: David's own design of the register controller, which uses a Picaxe microprocessor to monitor the register changes in the Midi music and switch the various registers in and out

Below: One of the many pipe 'scales' derived from internet searches and trial and error

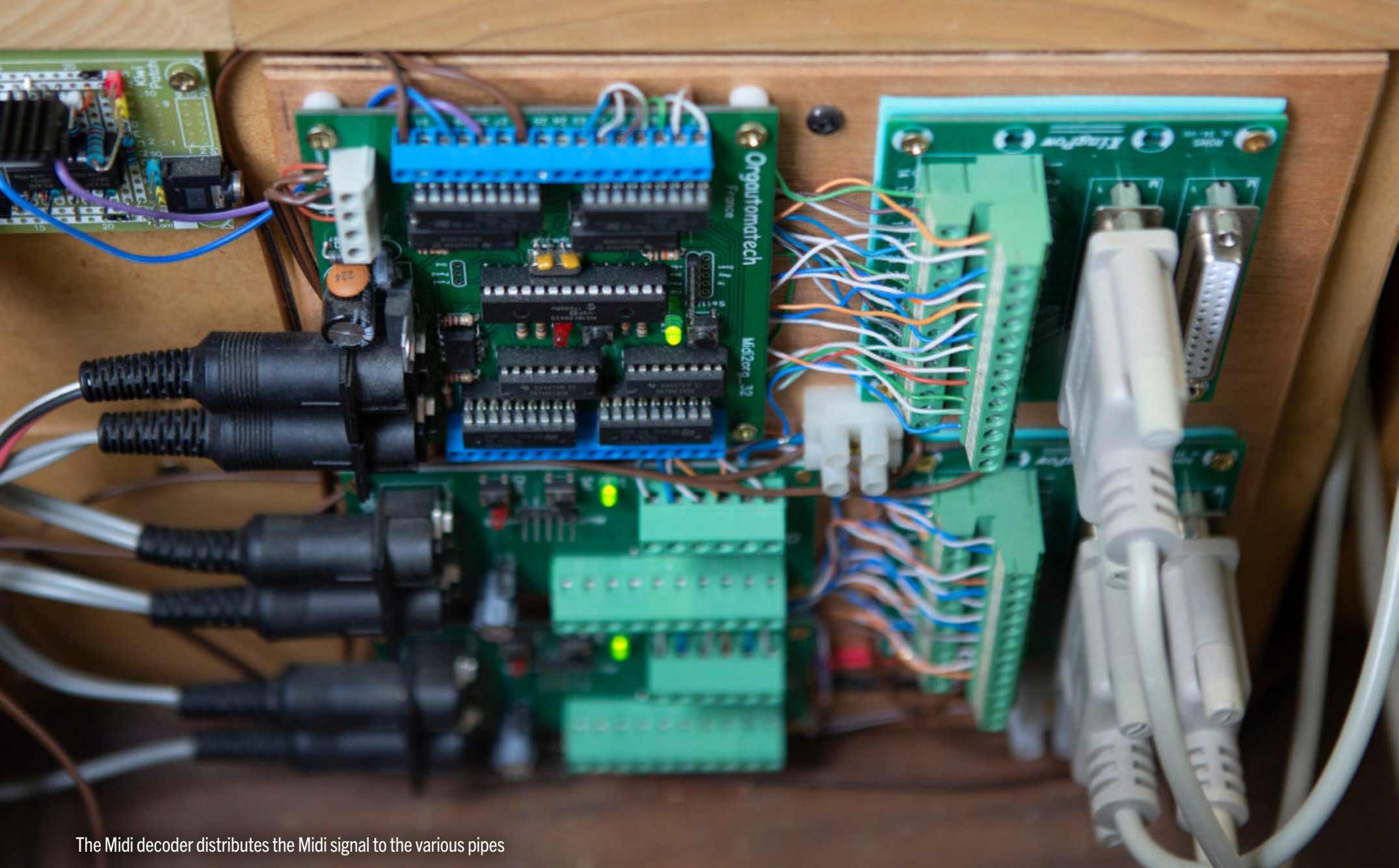
Bass Trombones Calculated from Richard and Bruce													
	Resonator	Shallot	Boot	Boot -	Reed	Spk Len/	Total	Top Shallot	dia	Tongue			
	Old Len	New Len	Actual length	length	Shallot	Spk Len	Shall Len	W/D	Foot tub	W/Th			
G1	2700	2700	134	200	66	121	0.90	2900	100	19/25	16/1.0		
G#1	2550	2550	125	200	75	112	0.90	2750	98	19/25	16/0.9		
A1	2415	2415	122	200	78	102	0.84	2615	97	19/25	16/0.9		
A#1	2230	2230	115	180	65	95	0.83	2410	95	19/25	16/0.9		
B1	2135	2135	109	180	71	89	0.82	2315	94	19/25	15/0.9		
C2	1990	1990	105	180	75	85	0.81	2170	93	19/25	15/0.8		
C#2	1875	1875	102	180	78	81	0.79	2055	92	19/25	15/0.8		
D2	1745	1790	100	160	60	78	0.78	1950	90	16/19	14/0.8		
D#2	1700	1680	98	160	62	75	0.77	1840	88	16/19	14/0.8		
E2	1600	1580	1505	96	160	64	0.74	1740	82	16/19	13/0.8		
F2	1500	1500	1420	93	160	67	0.73	1660	78	16/19	13/0.8		
F#2*	1360	1360	1340	90	150	60	0.73	1510	76	16/19	13/0.8		
G2		1250	1250	90	150	60	0.72	1400	73	12/19	13/0.8		
G#2*		1150	1180	90	150	60	0.71	1300	72	12/19	12/0.5		
A2		1050	1120	90	150	60	0.70	1200	71	10/15	12/0.5		
A#2		970	1050	90	150	60	0.69	1120	70	10/15	12/0.5		
B2		900	1000	90	150	60	0.68	1050	70	10/15	12/0.5		

* not in Carl Frei 72-key scale



The reed and bass pipes were gradually moved from the test bed to the trailer





The Midi decoder distributes the Midi signal to the various pipes

Next to them sit the reed pipes — trumpets and bassoons — on a separate wind chest. The counter melody is on a separate wind chest; this is called *Unda Maris*, whereby the pipes, slightly detuned, play in pairs, giving a very rich sound.

Each wind chest might contain several registers. For instance, the reed wind chest contains all the trumpet pipes and all the bassoon pipes so there are two registers on that wind chest. The melody has two wind chests, and over all there are seven melody registers. There are two violin, two bourdon, two open flute registers, and the glockenspiel — yet to be built. The counter melody has two registers: *Unda Maris* and biphone, each on its own chest.

The electronic control

A small micro-computer, which David built, controls the registers.

In the older, mechanical version of the fairground organ, the tune was made via a punched roll with holes. For example, a few rows of holes would effectively say, “Turn on the violin register now”, and that produced a particular sound. When the violin register was told to turn off, the

“David designed and made the microprocessor control system that controls the different registers, switching them in and out, and also the monkey, who will eventually talk”

trumpet register may have been told to turn on, making another kind of sound.

“A Midi file does exactly the same. It is a stream of commands controlling each note and each register.”

David designed and made the microprocessor control system that controls the different registers, switching them in and out, and also the monkey, who will eventually talk. The register control system is hidden deep inside the system and is not visible.

The music arranger in Holland adapts the Midi file to suit David’s organ.

“He has about 200-300 hundred tunes. I go to him and say, ‘I’ve got my organ here; I’d like this particular tune. He needs to rearrange how he’s got the layout of the tune. Imagine

the paper roll again; I might have my trumpet control on hole number three, whereas other people have got it on hole number eight. So I tell him my standard — it’s Carl Frei 72 key. There’s a standard layout for a Carl Frei 72 key, so I’ve used that slightly modified. Whenever I ask for a tune he goes to that standard, which he knows is correct, and just modifies the tune slightly to fit.” ►



The display panel lights up to show which registers are playing

David thinks there could be half a dozen such organs in New Zealand, but he doesn't know of any home-made ones as big as his. Those he knows of are imported from England or the US.

Ian Chamberlain, featured in *The Shed* November–December 2017, Issue 75, made one mounted on a vintage truck and the two sheddies know each other.

“He has about two or three hundred tunes. I go to him and say, ‘I’ve got my organ here; I’d like this particular tune’”

The drums and Midi player

David bought the drums and cut them down in size to fit in the trailer. The bass drum is driven by an air bellows controlled by a solenoid. The bellows are normally inflated and collapse under the force of a strong spring to play the note. The snare drum sticks are driven directly by two solenoids.

At present David has a temporary Midi player, which sends the Midi stream to the organ. The stream is distributed by several Midi decoders out to the individual pipes, drums, and register control. This Midi player will be replaced by a remote control version, which will enable the organ to be controlled from a distance.

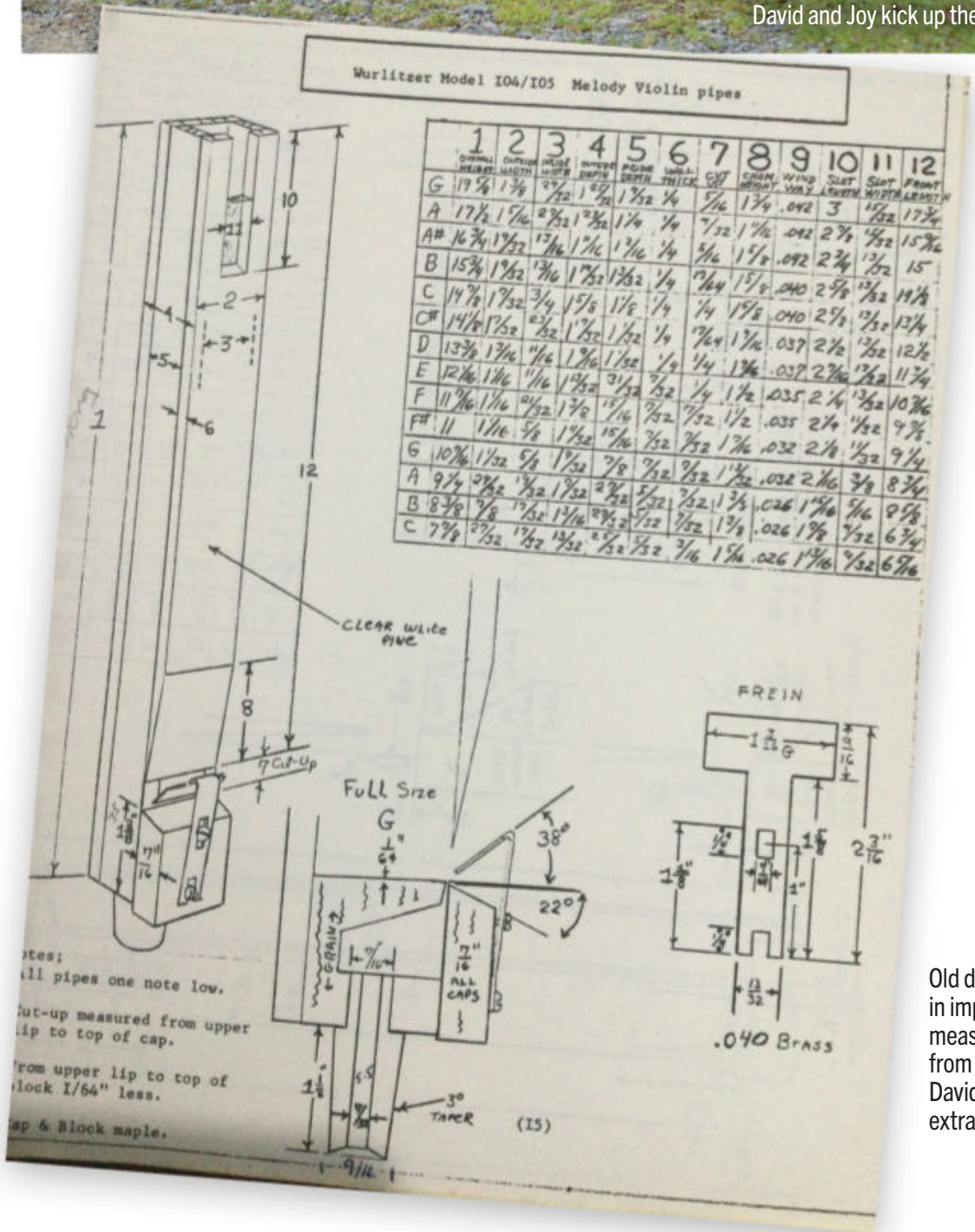
A unique aspect to this organ is that it is practically 100 per cent wood apart from a few metal components. David will soon be adding a glockenspiel, which will take about three months to build.

“Then it will be finished, but it is fully operational now without the glock.”

During winter and lockdown, David had done very little with the organ apart from playing it at home and developing more tunes to build up the repertoire. But with the warmer weather he and Joy will be taking it out to parks and beaches. A church fair is also on the horizon. 📅



David and Joy kick up their heels



Old drawings, in imperial measurements, from which David had to extrapolate



**Affordable 3D
CAD/CAM Software**

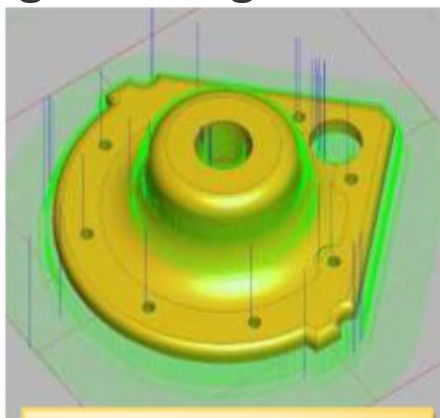
New release

Alibre Workshop CAD/CAM

**Combine Alibre Atom3D CAD with
MeshCAM Pro for easy to use CAD
and 2.5 & 3 Axis CAM machining.**

**The fastest way to get milling on the
market today.**

**Easy to learn
Free on-line training
Simulate your cuts
CAD and CAM for a
very compelling price
From \$634.00 + GST
Already have Alibre; call us.**



For 15-day free trial available

bayCAD
services ltd

enquiries@baycad.biz
https://www.baycad.biz
NZ 0274847464
AU 61 274847464

**Ezi Rider
ELECTRIC
Foldup Bikes**

**Ezirider
\$1695**

BEST PRICE IN NZ!

Specially designed for NZ market

- Easy step-thru frame • Rugged, NZ approved • 300 watt • Aircraft alloy frame
- Weight 25kg • 36V • LED front/rear lights
- Range approx 50/70km



**STEALTH BOMBER
WILD BEAST
90KPH (OFF ROAD!)**



**CHARGES
ITSELF**

**NEW
Ezirider Vantage
\$1995**

**www.ezirider.nz
Contact Peter 027 493 7025**



COASTAL MACHINERY LIMITED

**We are New Zealand owned and operated.
We buy and sell new and used woodworking
and engineering machinery.**

\$599^{INC}

SHRINKER/STRETCHER,
1.2MM MILD STEEL
CAPACITY

\$695^{INC}

S100 LINISHER,
1220X100MM
BELT 1 PHASE

\$395^{INC}

SWAGE & JENNY, .7MM
MILD STEEL CAPACITY,
6 SETS ROLLS

\$1.199^{INC}

BOX & PAN FOLDER,
1220X1.5MM

**www.coastalmachinery.co.nz
Phone 027 442 4915**

**KING
SPRINGS**

KONI

**Super
Pro**
Polyurethane
Bushings

H&R

KYB
World Class Shocks & Struts



Our product and experience make us your first choice for performance suspension systems. We supply everything from OEM spec replacement parts to race car suspension with custom built systems our specialty.

STOCKS

www.georgestock.co.nz
email: parts@georgestock.co.nz

AUCKLAND
8 Te Apunga Pl, Mt Wellington
Phone (09) 270 7222
0800 STOCKS
(0800 786 257)

CHRISTCHURCH
15C Byron St, Sydenham
Phone (03) 366 2500
0800 6STOCKS
(0800 678 625)

FIND YOUR LOCAL **MENZSHED**



Visit www.menzshed.nz
or email: secretary@menzshed.nz

AUCKLAND

AUCKLAND CENTRAL COMMUNITY SHED

Nikki 027 375 9662
aucklandcentralshed@gmail.com

MENS SHED AUCKLAND EAST

Terry Moore 021 0829 0970
mensshedaucklandeast@gmail.com

DEVONPORT CLAY STORE COMMUNITY WORKSHOP

Tom Murray 09 445 8786
tomandlily@xtra.co.nz

HIBISCUS MENS SHED TRUST

Maurice Browning 021 799414
hibiscusshed@outlook.com

HOWICK COMMUNITY MENZSHED INC

Andrew Harvey 021 808 815
secretary@howickmenzshed.nz

MANUREWA BOOMER BUSINESS

Anita Curlett 09 269 4080 or 021 507 361
anita.curlett@mbct.org.nz

MASSEY COMMUNITY MEN'S SHED

Andrew Wilson 027 516 6415
masseyshednz@gmail.com

MEN'S SHED NORTH SHORE

Larry Klassen 09 442 2145 or 021 311 036
admin@mensshednorthshore.org.nz

WAIHEKE COMMUNITY SHED

John Meeuwsen 021 2424925
john.meeuwsen39@gmail.com

WAIUKU AND DISTRICT COMMUNITY WORKSHOP

Derek Robbins 021 677 474
dekernz@gmail.com

BAY OF PLENTY

MENZSHED KATIKATI

Ron Boggiss 07 549 0500 or 027 495 2136
rboggiss@kinect.co.nz

KAWERAU COMMUNITY MENZ SHED

Peter Tebbutt 07 323 7144
hama@xtra.co.nz

MOUNT MAUNGANUI COMMUNITY MENZSHED

Keith Dickson 07 574 1309 or 021 170 2394
k.m.dickson@kinect.co.nz

ROTORUA COMMUNITY MENZ SHED TRUST

Peter Green 07 347 8393
rotoruamenzshed@xtra.co.nz

THE TE PUKE COMMUNITY MENZ SHED

Brett Williams 021 517 294
menzshed.tepuke@gmail.com

TE PUNA AUAHA LYTTTELTON

Paul Dietsche 027 536 7546
tepunaauaha@gmail.com

WHAKATANE MENZ SHED

Gil Clark 027 901 4212
menzshedwhk@gmail.com

CANTERBURY

AKAROA COMMUNITY MEN'S SHED

Howard Wilson 027 407 9559 or 03 304 7480
h.wilson@xtra.co.nz

AMBERLEY MENZ SHED INC

John Black 027 315 1707
blackjohnr1946@gmail.com

ASHBURTON MEN'S SHED

Stewart Dunlop 03 3083910 or 022 133 7817
ash.menzshed@outlook.com

BISHOPDALE MENZ SHED

Richard Rendle 03 359 7275
rendle@xtra.co.nz

CHEVIOT COMMUNITY MENZ SHED TRUST

Bruce Nicol 0274 555 163
bruce@nicol.net.nz

MENZSHED DARFIELD/MALVERN INC

Tony Zwart 03 318 7370 or 021 223 1648
zwarta@xtra.co.nz

FERRYMEAD BUSMENZ SHED

Ken Watson 03 355 7366
ChChBusMuseum@gmail.com

HALSWELL MEN'S SHED

Roger Spicer 027 229 1928
roger.s@xtra.co.nz

MENZ SHED OF KAIAPOI

William Titulaer 027 337 2323
williamtitulaer@yahoo.com.au

KAIKOURA COMMUNITY SHED

Peter Fey 021 078 1578
vicki@kaikoura.link

MEN'S SHED OF LINCOLN SOCIETY

Myles Rea 03 3252 632
secretary.lincolnmensshed@gmail.com

LINWOOD MEN'S SHED

Shane Hollis 03 981 5594 or 022 062 0744
shane.linwoodresource@accd.org.nz

MCIVER'S OXFORD COMMUNITY MEN'S SHED

Ray Charles 0224087755
oxfordcommunitymensshed@gmail.com

NEW BRIGHTON MENZ SHED

Ray Hall 03 388 7277 or 027 895 2488
secretary.nbmenzshed@gmail.com

PEGASUS/WOODEND MENZSHED

John Burns 021 347 805
menzshedpegasuswoodend@gmail.com

RANGIORA MENZ SHED

Steve Mackay 027 9090 240
Ashley Street, Rangiora

REDCLIFFS COMMUNITY SHED

Cameron Holdaway 03 384 4055
redcliffscommunityshed@gmail.com

ROLLESTON MEN'S SHED

Geoff Densem 03 344 0194 or 027 479 2159
rollestonshed@gmail.com

ROWLEY COMMUNITY MEN'S SHED

Sven Christensen
vikings.burnettchristensen@gmail.com

ST ALBANS MENS SHED

Barbara Roper 03 352 4860 or 027 693 1278
rpb@papanui.school.nz

TIMARU MENZ SHED

Adrian Hall 021 162 6203
timarushed@gmail.com

GISBORNE

TAIRAWHITI MENZSHED

James Aramoana 022 4650 396
tairawhitimenzshed@gmail.com

HAWKE'S BAY

MENZSHED HASTINGS TRUST

Chris Ingle 020 4125 9565
secretary@menzshedhastings.co.nz

MENZSHED NAPIER TRUST

Mike Richardson 06 843 6977
mmrichardson@nowmail.co.nz

MENZSHED WAIROA CHARITABLE TRUST

Larry Grooby 021 838 6626
menzshedwairoa@hotmail.com

CENTRAL HAWKES BAY MENZSHED

Bill Lucas 027 927 7777
billandsheila@xtra.co.nz

MANAWATU/WHANGANUI

MENZSHED DANNEVIRKE INC

Dennis Wakely 06 374 8474
wakes@actrix.co.nz

EKETAHUNA MENZ SHED

Terry Carew 021 145 947
newmancarew@outlook.com

FEILDING MENZSHED

Jeff Wakelin 06 323 9642
secretary.feilding@gmail.com

MENZSHED FOXTON

Dale Vanderhoof 027 259 6592
menzshed.foxton@gmail.com

LEVIN MENZ SHED

Robin Benton 06 367 3517
levinshed@gmail.com

MENZSHED MANAWATU

David Chappel 06 357 4045 or 027 451 4572
happle@inspire.net.nz

PAHIATUA MENZ SHED

Vince Charlesworth 022 033 9010
yoda36@xtra.co.nz

TAUMARUNUI & DISTRICTS COMMUNITY MENZSHED TRUST

Graeme Croy 07 8955191 or 027 2442513
taumarunuished@gmail.com

MENS SHED WANGANUI INC

Ivan Stick 027 229 0994
rustic@ispire.net.nz

MARLBOROUGH

BLenheim MENZ SHED

Trevor Dennis 021 984 883
trevor.dennis@xtra.co.nz

HAVELOCK MENZ SHED

Ian Cameron 03 574 2558
ianc.cameron@xtra.co.nz

PICTON MEN'S COMMUNITY SHED

Kerry Eagar 03 573 8007 or 03 573 6608
eagark.s@clear.net.nz

NORTHLAND

DARGAVILLE MENZ SHED

Paul Witten 09 974 7685 or 0274 593 098
pdub351@gmail.com

MENZSHED KAITAIA INC

John Richardson 09 408 0042
cadfael@xtra.co.nz

KERIKERI MEN'S SHED

Wade Rowsell 09 407 8263
kkmensshed@outlook.co.nz

MENZSHED WAIPU INC

Gordon Walker 027 493 4030
menzshedwaipu@gmail.com

WHANGAREI COMMUNITY MEN'S SHED

Jeff Griggs 09 435 1759
chairman@mensshed.co.nz

OTAGO

ALEXANDRA MEN'S SHED

Brian Taylor waring@slingshot.co.nz
alexandramensshed@gmail.com

ARROWTOWN MENZSHED INC

Russel Heckler 03 442 0204
hecklerdenise@hotmail.com

NORTH DUNEDIN SHED SOCIETY INC

Gerard Kenny 022 053 2152
northdunedinshedsoc@gmail.com

OAMARU MENZ SHED

John Walker 027 445 5265
jjms@actrix.co.nz

TAIERI BLOKE'S SHED

Nick Wilson 03 742 1206
jean.nickwilson@gmail.com

SOUTHLAND

MENZSHED INVERCARGILL

Peter Bailey
peteolly@xtra.co.nz

MATAURA MENZSHED

Mike Whale 027 299 7218
orcas@xtra.co.nz

RIVERTON

bickr_e@yahoo.co.nz

TASMAN

MENZSHED - NELSON INC

Phil Chapman 027 261 8278
nelson.menzshed@gmail.com

TAPAWERA MEN'S SHED INC

John Wilmshurst 03 522 4616
menzshedtapawera@gmail.com

MENS SHED WAIMEA

Alan Kissell 027 282 0185
mens.shed.waimea@gmail.com

NELSON WHAKATU MENZSHED

Chris GLADSTONE 027243369
menzshed.nelson@gmail.com

MOTUEKA MENZSHED

Gail Riddell 0274 777 033
secretarymotmenzshed@gmail.com

TARANAKI

MENZSHED HAWERA

Geoff Coubrough 022 625 4451
menzshedhawera@gmail.com

NEW PLYMOUTH MENZSHED

Phil Taylor 021 237 168
newplymouthmenzshed@gmail.com

WAITARA MENZSHED

Bruce Lobban 027 772 6918
lob.bg100@gmail.com

WAIKATO

CAMBRIDGE COMMUNITY MENZSHED

David Callaghan 07 823 9170
callagain@xtra.co.nz

HAMILTON COMMUNITY MEN'S SHED

Brett Rossiter 07 855 6774
secretary@hamiltonshed.com

MENZSHED HUNTLY

Jim Coleman 027 292 3729
menzshedhuntly@gmail.com

MATAMATA COMMUNITY MEN'S SHED

Peter Jenkins 07 888 6307
matamatamensshed6@gmail.com

MORRINSVILLE COMMUNITY MENZSHED INC

Roger Clist 021 532 203
sam.rog@xtra.co.nz

OTOROHANGA MENZSHED

Darcy Lupton 07 8737 350 or 021 3322 05
edluptonoto@gmail.com

PAEROA COMMUNITY MENZ SHED

Stan Ellice 027 4400712
pmenzshed@gmail.com; lyndaellice@gmail.com

PAUANUI COMMUNITY MENZ SHED

Bill Witt 021 935705
wrwitt@outlook.co.nz

SOUTH WAIKATO MENZSHED

027 4110 403
swmenzshedinc@gmail.com

TAUPO COMMUNITY MEN'S SHED

07 377 4850
menzshed.taupo@gmail.com

TE AWAMUTU COMMUNITY MENS SHED

Clive Partington 021 942 844
taupomenzshed@gmail.com

THAMES COMMUNITY MENZ SHED

Simon Marr 022 322 1916
thamesmenzshed@gmail.com

WHANGAMATA COMMUNITY MENZSHED

Dave Ryan 027 496 5406
wgmtamenzshed@gmail.com

WHITIANGA COMMUNITY MENZ SHED TRUST

Kevin Robinson 021 336864 or 07 8660919
kevie.lyn@gmail.com

WELLINGTON

MENZSHED CARTERTON

Stephen Timperley 027 488 7155
cartertonshed@gmail.com

CITY MENZSHED WELLINGTON

Don McKenzie 027 448 0611
don@sandon.co.nz

EASTBOURNE & BAYS MENZ SHED

Barrie Littlefair 020 4123 4511
barrielittlefair@gmail.com

FEATHERSTON MENZ SHED

Gary Thomas 027 450 0660
featherstonmenzshed@hotmail.com

GREYTOWN MENZ SHED

Bob Chambers 029 200 7317
daneja@gmail.com

PORIRUA MENZSHED

Alastair Woodfield 021 630 245
poriruamenzshed@gmail.com

HENLEY MENS SHED INC

John Bush 027 499 9430
henleymenzshed@xtra.co.nz

MENZSHED KAPITI INC

Alan Muxlow 027 611 4841
menzshed.kapiti@gmail.com

MARTINBOROUGH MENS SHED

Mike Woolley 027 295 3051
mwoolley@xtra.co.nz

MEN'S SHED NAENAE

Archie Kerr 04 569 7069
menzshednaenae@gmail.com

OTAKI MENZSHED

Tony King 022 406 9439
otakimenzshed@outlook.com

PLIMMERTON COMMUNITY SHED

Mike Gould
mjgould@tauatapu.net.nz

MENZSHED TAWA

Gary Beecroft 022 589 8581
Gary.beecroft@xtra.co.nz

UPPER HUTT MENZSHED

Phil Kidd 04 528 9897 or 027 239 4828
prcmk@xtra.co.nz

WEST COAST

WESTLAND INDUSTRIAL HERITAGE PARK INC

Rob Daniel 03 755 7193 or 022 173 5598
rob.daniel@slingshot.co.nz

WESTPORT MENZ SHED

Joanne Howard 03 7897055
westportmenzshed@gmail.com

FOR ANY ADDITIONS OR UPDATES EMAIL
EDITOR@THE-SHED.CO.NZ





LOOKING BACK

“I wanted to make a magazine that would connect people and impart skills”

By Jude Woodside

As this is the centennial edition it has caused me to reminisce about my time with *The Shed*.

I wanted to make a magazine that would connect people and impart skills. It taught me a thing or two. I learnt CAD to do the diagrams and plans. It improved my photography skills and allowed me to write, which I still enjoy.

Primarily, it allowed me to do the things I most enjoy and get paid for it. More practically, it taught me welding — or, perhaps, 10 years of shooting Greg Holster welding taught me how to weld.

Along the way I learnt the hard way about red eye and how dangerous too much exposure to welding flash can be. We spent a day shooting TIG welding. Greg was well protected with a helmet and leather welding jacket. I could see what he was doing with around six filters on the lens but what I didn't consider was the effect of the radiation on me. I had a very nice dose of sunburn that proceeded to peel over the next week. From then on, I always wore sunscreen and covered up as much as possible whenever I shot welding.

Safety first

Safety was something we were always getting hammered on; we did our best to show things done the correct way, and welding without protection is a big no-no. There are very good reasons, particularly when you see the skin cancers on old welders' hands and throats, where they weren't protected.

More importantly, publishing *The Shed* gave me a huge respect for the diversity of talent I encountered both directly and through the work of others. The genius and humour of people like Dave Hunger

“Along the way I learnt the hard way about red eye and how dangerous too much exposure to welding flash can be”



Dave Hunger's "Spider Bike"

in Taranaki and his reproduction of the Spider Bike — a penny farthing type of wooden bike with 'legs' at the back that was derived from the beautiful strandbeests of Dutch artist Theo Jansen. Or the exquisite art of Gordon Pembridge, carving wafer-thin turnings and creating astonishing works. We covered so many talented creative people.

If the best way to learn something is to teach it, then the second-best way is to write about it as if you knew it. I learnt about microprocessors from Arduino and Raspberry Pi, although I'm still no expert. I got in touch with Mark Beckett to see if he could unravel them for me. He did. Similarly, we were fortunate to meet Vik Olliver, one of the early developers of 3D printing. He built a 3D printer from the ground up for us. ▶

THE GEAR TO GET YOU THERE.



BULL BARS &
PROTECTION



ROOF
RACKS



CANOPIES &
UTE LIDS



SUSPENSION
UPGRADES



CAMPING
GEAR



DRIVING
LIGHTS



TOWING



DRAWERS &
STORAGE



4X4 ACCESSORIES



Gordon Pembridge's extraordinary art



Vik Olliver's 3D printer

"All this has contributed to my own appreciation of what's possible"

Tools now to make anything

All this has contributed to my own appreciation of what's possible. It has stretched my own horizons, too; I now have all the tools I need to make nearly anything. It's only limited by my imagination and ... err, my talent or lack thereof.

From the start I fought the tendency to describe the mag as a DIY magazine. That term has certain pejorative connotations that I wanted to dispel. The people we presented were makers of things that were in no way amateur, other than in the strictest sense of the word — in that they often didn't do it for a living. I preferred the term artisan, and I still think that is the best description.

The Shed has been responsible for the popularity of a certain style of pizza oven, and the increasing interest in knife making. With the magazine in most of the high schools in the country, I hope that at some time in the future some genius engineer emerges who learnt his passion from the magazine. It has certainly expanded my horizons as to what's possible, and I hope it has done the same for others.

Have a great Christmas and happy New Year to you all. 📺

EVAPO-RUST®

SUPER SAFE RUST REMOVER



Non-toxic

Powerful

Non-scrubbing

Reusable

NEW

**BEFORE
EVAPO-RUST®**

**AFTER
EVAPO-RUST®**



GET THE JOB
DONE WITH

less
mess

UPGRADED

**NO STRING
LESS RUN ON**

FORMULA

IF IT'S SELLEYS IT WORKS®

