

The Drift

Quarterly newsletter of The Australian
Blacksmiths Association (Victoria) Inc.
Reg. # A0022819F

Edition 101
MAY 2016

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- Please note -

NEW POSTAL ADDRESS

Australian Blacksmiths Association (Victoria.) Inc.

P.O. Box 885,

Macleod West, 3085.

Note for your calendar

Annual General Meeting

11:00am 24 July, 2016.

Tree Visit



Selandra Community Group from Cranbourne at the Tree.

A group from the Selandra Community Place in Cranbourne organised a coach trip to the Tree site in Strathewan recently.

One member of the group recounts the experience of their visit to the area devastated in the 2009 bushfires and tells of the resilient community's recovery efforts over the last seven years.



Bushfire Memorial Circle, located near the Tree site in regenerated bushland at Strathewan.

The stones forming the circles have poignant messages from survivors engraved into them.

The visitors' first stop was to view the many, many mosaic letterboxes that residents of the area have created after those terrible fires.

They arrived at the Strathewan site and were really amazed at the size and structure of the Tree.

A member of the Australian Blacksmiths Association (Vic.) Inc. was available to answer questions about the building of the Tree and how blacksmiths from around the world had contributed to the project.

The Tree has been made from stainless steel, copper and other

non-ferrous materials, to prevent rusting during the ensuing years. It even has some glass leaves.

Looking carefully revealed forged creatures in the Tree's canopy.

They next visited the Bushfire Memorial Circle and spent some sobering time reading the before and after messages and writings contained within this site.

This was really a most insightful period of the visit and the group remembered those lost and those deeply affected by this tragedy.

During lunch discussions many

started to realize the trauma and lingering dreadfulness that must have overcome this community, yet the community has reached forward to help to build a brighter future for those who stayed behind, in particular children.

Somewhat chastened, the group moved on to St. Andrews for lunch at the pub.

Afterwards, the visitors walked over the road to view the large memorial mosaic seat, another work of art by the local community.



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LIBRARIAN
Phil Pyros

The Drift 102 August 2016
Deadline 01 JULY 2016

PRESIDENT
Vacant

GENERAL COMMITTEE
Steve Nicoll
Paul Cockayne

EVENT COORDINATOR
Dan Brady

VICE PRESIDENT
Phil Pyros

Tony Sdroc
Dan Brady

DORIS COORDINATOR
Alice Garrett

Barn Roster

REGULAR WORK DAYS - R

Regular work days are fortnightly on Sundays 10:00am - 4.30pm. The Committee will open The Barn at other mutually convenient times; please contact the Secretary.

DORIS DAYS - D

Doris days are every second Saturday 10:00am - 4:30pm. The male membership is respectfully requested NOT to attend Doris days unless invited, as these days are for the female membership.

COMMITTEE MEETINGS - C

The committee meets every six weeks at The Barn on regular work days at 11:00am. Members are welcome to attend and, if invited, may participate.

DATE	SAT 07 MAY	SUN 08 MAY	SAT 21 MAY	SUN 22 MAY	SAT 04 JUN	SUN 05 JUN	SAT 18 JUN	SUN 19 JUN	SAT 02 JUL	SUN 03 JUL	SAT 16 JUL	SUN 17 JUL	SUN 24 JUL
EVENT	D	R	D	R C	D	R	D	R	D	R C	D	R	AGM
Forge master AM	Alice	Steve	Alice	Alice	Alice	Dan	Alice	Tony	Alice	Steve	Alice	Gav	No
Forge master PM	-	Phil	-	Gav	-	Paul	-	Phil	-	Phil	-	Alice	forging

ALTERNATE SUNDAYS

The Barn is open on alternate Sundays for the use of experienced members.

Purposes & Objectives of the ABA (Vic.) Inc.

To promote, preserve and develop the craftsmanship, design aspects and techniques of all the various disciplines of blacksmithing to the highest standard possible.

To provide a means of communication between mature people with an interest in the craft of blacksmithing, for the exchange of ideas, experience, techniques and information for their mutual benefit, by the publication of a regular newsletter.

To encourage a greater

awareness of and interest in the application of the skills of blacksmithing among architects, interior designers, art/craft groups, and the general public and to provide links between blacksmiths and potential customers by means of exhibitions, demonstrations and publications.

To promote, and actively provide opportunities for training in all the various aspects of blacksmithing by means of demonstrations, displays, lectures, and special

tuition sessions.

To act as the representative body of the interests of Australian blacksmiths, locally, nationally and internationally.

To undertake community service, providing always that these services are within the comfortable limits of the time, talents and costs that the Association and individual members can afford.

To encourage communication and goodwill among blacksmiths everywhere.

Advertising

Commercial advertising, deemed by the Committee to be of interest to members, may be published in The Drift. Contact the Treasurer to book in and organise payment.

Advertising rates are
\$60.00 Quarter page
\$120.00 Half page
\$240.00 Full page
Colour Add \$75.00

Members are invited to place classified advertisements free of charge. Contact the Editor to book in and for details required to publish the advertisement.



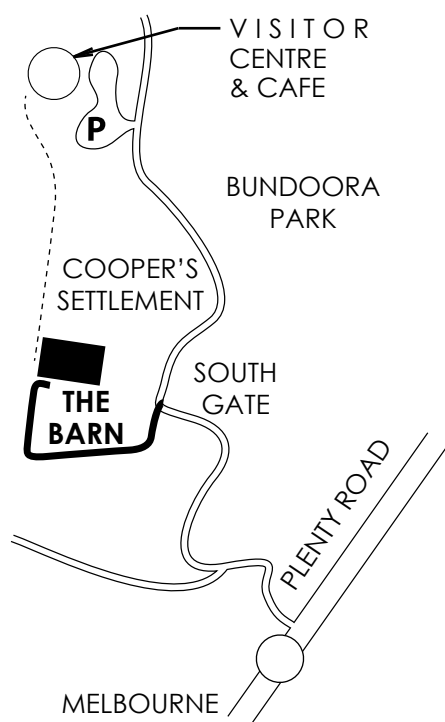
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Barn Location

The Barn is part of The Cooper's Settlement, Bundoora Park, Plenty Road, Bundoora.

Melways reference Map 19, F4



Barn Policy

Members can enjoy use of ABA Vic. (Inc.) equipment at The Barn.

- Forge fees are \$5.00 for a half day and \$10.00 for a full day.
- Forge availability is on a first-in first-served basis.
- You will need to clean out the hearth and start the fire.
- Due to coke supply issues keep your fire to a size which suits the stock you are working.
- **Ask the forgemaster if you are unsure or need advice.**
- If you plan to forge in the afternoon, arrive in time to pick a forge to use. Members who arrived early and started their fire are not always receptive

to late arrivals asking to share.

- Members who wish to use the power hammers must either be trade-qualified and experienced in the operation of this sort of machinery or have successfully completed the ABA Vic. (Inc.) power hammer course.
- When you finish, let the fire go out, clean up your work area and replace tools in their storage locations.
- Always clean up spilt coke.
- Report damaged equipment.

Library Policy

Members can enjoy access to the ABA (Vic.) Inc. library of books and magazines. The library is open from 12:00pm until 1:30pm on regular workdays.

- Borrowing members must have completed the self-paced learning exercises and attended the three regular workdays immediately prior to the borrowing date.
- Up to 4 books may be borrowed at any one time.
- Books must be signed for, including the borrower's name and contact details.
- Books are due for return by two calendar weeks of the borrowing date.
- If another member has reserved the titles, this member has priority for borrowing the books next.
- If unreserved, the loan may be extended for another two weeks, provided the books are returned to The Barn after the initial two weeks and the member signs for the extension period.
- Returning books late will result in the member being prohibited from further

borrowing for a period of one calendar month.

- Magazines are not available for borrowing.
- If you know of a title that may be of interest to the membership, please contact the librarian so a purchase can be considered.

Drift Articles

Articles for The Drift are always welcome and may be emailed preferably in Word. In the text file, place the words "Image of..." and the image file name. Do NOT place images in the text file.

Unaltered high-resolution digital images, preferably in colour straight from the camera or phone are preferred and of a maximum single file size of 5MB.

Hand-written articles and hardcopy photos may also be submitted via the ABA (Vic.) Inc. PO Box; don't let a lack of computerskills get in the way. If you want your photos back though, please include a stamped, self-addressed envelope.

Legals

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Editorial

Jim Deering

At the extraordinary general meeting, on 13 Dec. 2015 in the Cooper's Plains Chapel, I broke one of the "rules" and volunteered to edit The Drift for the coming year. Not being inundated with objections, a burst of spontaneous applause followed and here I am, preparing my first editorial for The Drift.

Did I feel tangible relief someone - anyone - stepped up to this role, filled for ten editions by Doug Tarrant?

In a word, yes.

Given the role of The Drift editor has often fallen to the same people, perhaps someone who hasn't previously served ABA (Vic.) Inc. in the position might administer a new slant on things. Now, I am NOT saying it will be better. Different, yes, but better is for the membership to judge.

First and foremost recognition and thanks to Doug for his efforts as editor over the last couple of years.

To those who immediately volunteered to assist by offering training on the production software, sub-editing and proof-reading, providing an extra set of hands when needed and doing some of the leg work, I have to say thank you in advance. As much as I was rather taken aback at the reception to my offer to edit The Drift, I was more surprised at how quickly these people came forward to help. I hasten to add that these offers will be taken up.

Some members have approached me more recently regarding images and articles. I urge all members to seize the opportunity to send articles in and have them published in The Drift. Details on how to do this are provided in each upcoming edition of The Drift and can be found on page four.

Now, I shan't dwell on this but to

note the following. Despite some considering it shouldn't happen, we are not in Utopia and it is human nature to differ. Some accept that, some scream about it from the rooftops; some will be happy about it and some won't.

However, and by way of reading out the riot act, I shall make this plain. Articles for The Drift airing grievances, pushing personal agendas or beating other members over the head are not going to be published whilst I am editor. Enough is enough.

There are capable office bearers, with an interested and engaged committee at the helm of ABA (Vic.) Inc. charged, under an Act of Parliament, with the responsibility to govern ABA (Vic.) Inc. according to the rules within its constitution. Help them to help you, and ABA (Vic.) Inc., by contributing positively. Sort out your differences like adults and in your own time.

Some new ideas on the future direction of ABA (Vic.) Inc. are being considered and whilst it may be a change, a fresh look at the future in light of the past is well worthwhile.

Not least in these future plans are the proposed new workshop and training strategies. It has been asked for recently and doubtless will be again, but if you have skills in the area of building design, engineering, project management, crowd funding, publicity, legal matters, training and getting things done, please seize the initiative and offer your help to ABA (Vic.) Inc. The most important part here is help, regardless of skills; they just make effort more effective.

Given the committee is meeting more often now, as its workload has increased with the new ambitions, it may be easier for you to help, perhaps on a sub-committee and lending a hand. If being active in the background is your preference, have a quiet word in a committee member's ear. We all have different approaches; that will prove our strength, if we work together.

As for The Drift, you will have noticed a few changes. My intention is to present member-contributed articles at every opportunity. Where there is a void I'll make an endeavour to fill it, however I can. I'd prefer that to be by incorporating **YOUR** articles, **not** mine. This edition has a mixture of stories from different people and it is to be hoped we can fill the usual 20 pages to the brim and then some each edition. The overflow may be utilized in future editions; so if you contribute an article and it isn't in the next edition, expect it in the following one. At times I'll draw articles from other blacksmithing groups, as I consider goings-on outside ABA (Vic.) Inc. of interest to members. Looking at interstate and international activities will help broaden horizons and foster relationships.

The last bit is the first and only time you'll read this in my editorials. It follows on from what I said at the EGM.

If no articles are forthcoming The Drift will revert to a four page flier. The readership – which is YOU – will miss out on how-tos, recent member projects, tales of activities from gatherings where blacksmithing has been carried out, learning about your fellow members and other interesting things.

If that suits you, do nothing. If it doesn't, you know the solution.

So, here we go. Welcome to the next century of The Drift.



Vice-president's Report

Phil Pyros

Well, Easter has just whizzed by and here we are with Edition 101 of The Drift, thanks to our new editor, Jim Deering. It may look a bit unfamiliar right now, but as with most things new, we soon accept it if it's to our benefit and looks good, as I think you'll agree this does.

Continuing and updating a few items mentioned in the previous edition of The Drift I'll start with our ongoing effort to obtain Donor Gift Recipient (DGR) status from the Australian Tax Office.

It appears, after trawling through numerous ATO rules and regulations, visiting several Federal government websites and a couple of phone calls to Canberra, that we are in good shape to qualify when our application is received.

The not-so-good-news is that it will still take quite a while to receive written notification because the application will need Ministerial approval from two ministers before sending it to the ATO which will send it to us.

As the saying goes, 'The wheels grind exceedingly slowly!'

We have yet to get an unconditional response in writing from Council regarding construction of the new 'Barn' but are persisting in our efforts and expect a positive result fairly soon.

On a brighter note, Steve and I paid a visit to **Masters D.I.Y. store in Chifley Drive, Preston**, and after a discussion with General Manager Max, were able to secure a donation of materials to build the new coke store behind The Barn.

If you are looking for hardware, try to support this store as it is helping us out! Mention being a member so they know the favour is being rewarded.

We expect to take delivery sometime in April when they

order in new stock, so we'll need volunteers with "weak minds and strong backs" in the near future. Please form an orderly queue outside The Barn on the next workday to sign up, thanks.

Rachel from Park Management suggested that ABA (Vic.) Inc. and various other craft organizations based in the Park, might get a coordinated group together to put on a craft day with demonstrations possibly once or twice a year.

The committee think this is quite a good idea and also gives us the opportunity for fund-raising with items for sale. We will check to see if it's feasible and if so let you know in the next edition of The Drift.

You've probably noticed our **new postal address** which is

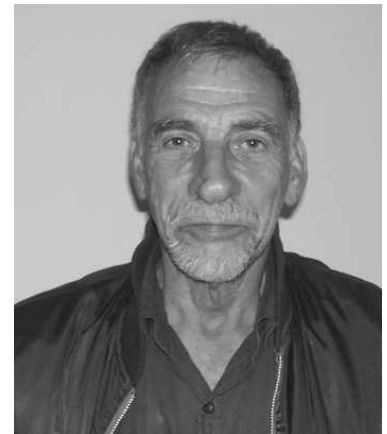
**P. O. Box 885,
Macleod West, 3085.**

This change has been made mainly because more members can access it on their way in from Bundoora, Diamond Creek, Greensborough, Eltham, etc. to The Barn.

All mail sent to the old address at Heidelberg will be re-routed to the new one for two or three months, after which it will be returned to sender.

Members please spread the word.

Also, some of the committee now have new phone numbers, which are noted in the contact details section. Please update your records as required.



Lastly but by no means leastly, I must apologize to Tony and Steve for not thanking them for the great job they did at the break-up BBQ in the last edition of The Drift.

So thanks guys, you did us proud!

Best regards,
Phil.

Librarian's Report

Phil Pyros

We have received an anonymous donation to the library.

Titled "How to Teach Yourself Blacksmithing with Clay", and written by Don A. Meador.

This turned out to be quite a useful little book, despite obvious limitations, especially for readers with not much forging experience or equipment, as an introduction to basic technique.

Update on Phil

The news arrived just before The Drift 101 went to print that Phil had a very nasty fall, resulting in a broken pelvis, in early April.

The committee and general membership wish him well in the recovery period and hope to see him back at The Barn very soon.

Moral of the story; don't use a scaffold as a pogo stick!



Secretary's Report

Gavin Brown

Welcome members to a new era of The Drift. I got to see a sneak preview of this edition of The Drift and I must say I was impressed with the content. Jim has set the standard high and has clearly put a lot of effort into this edition. Keep up the good work Jim. And members make sure we do our bit by sending Jim enough to have a magazine we can show off to the rest of the blacksmithing community.

I'd also like to again thank Doug Tarrant for his enormous efforts with The Drift to date. You have done the Association proud, especially given the lack of member involvement.

You may or may not be aware that The Drift not only goes to our membership, but we also share it with blacksmithing associations interstate and overseas. A copy is also kept on file at the State Library for many people to view. So, when you think about it, our magazine is actually a pretty big deal. I don't say this to scare off potential article authors but to impress upon you all that we should be making this magazine a big thing that puts ABA (Vic.) Inc. on the blacksmithing map.

To business... In the last edition of The Drift it was mentioned Nick Hackett had taken a short break as president. It is with regret that I note he has since stepped down as president altogether. The reasons for this are his to share if he wants to. Nick has said he will still be a member of the Association and will assist where he can. I'd like to thank Nick for his work as president for the last few years and as a role model to me and other blacksmiths at The Barn.

Membership continues to grow slowly. Since the last financial year though, our numbers have decreased. This is mainly due to people not renewing their membership. New members continue to turn up and practice, which is great to see, and I hope some will consider trying their hand at the tool making course.

At the time of preparing this article I can't give you an exact membership number, as my membership list is not currently up to date.

I have received a few emails about Issue 100 of The Drift not arriving in the mail. We believe this was a stuff-up by Australia Post. However, if you did not receive The Drift and have not emailed me then please do so I can make sure you are on the members list. Issue 100 will be online on our web page when this edition of The Drift hits the letterboxes – or at least it should if I keep my act together.

As a committee it was decided that if members do not renew membership within 3 months of the new financial year The Drift will not be sent to them. We discovered that we have been sending out quite a few copies of the Drift to members who are still to pay up for the financial year – and the year's almost done! It cost quite a lot to print and post The Drift and we found it to be a huge waste of money which could be better spent.

We are also looking at whether or not you would like The Drift e-mailed to you. This may mean your fees are reduced. Please email me via thesec@abavic.org.au if you like this idea.

Bundoora Park has approved us building a coke storage box attached to The Barn. There will be a working bee to build the store. Stay tuned for dates. For those interested in the design or who would like to help out at the



working bee please see Steve, Phil or Tony.

In my last Secretary's article I said we were hopefully half way through a tool making course. Well, unfortunately that didn't go ahead. The good news though is that this means if you are interested in the course there is still time to get your self-paced learning signed off and attend the course. While dates are yet to be confirmed we are looking at July-August. Please email me if you are interested and I will send you the dates once confirmed. The course runs for 4 consecutive Saturdays.

For those members who would like to view committee meeting minutes please email me and I will send them to you. As a paid financial member you are entitled to a copy of the minutes. You are also welcome to attend committee meetings. If there are any issues you would like raised at a committee meeting please email thesec@abavic.org.au

This year's Annual General Meeting will be held on Sunday July 24th 2016. As usual it will held at the Chapel at Bundoora Park. If you have any business you would like to discuss at the meeting please let me know as soon as possible so that I can add it to the agenda.

Regards,
Gavin Brown.



Welcome to New Members

As it has been some time since the new members welcome message has made an appearance in The Drift, ABA (Vic.) Inc. would like to welcome the following new members. Please make yourselves known when at The Barn.

Dan Bolitho of Northcote
Jacquie Campbell of Hurstbridge
Evelyn Carey of Cowes
Alex Carey of Cowes
Dara Carey-Quilty of Cowes
Felicity Carr of Research
Oliver Carrel of Collingwood
Blair Carter of Mentone
Brittany Chapman of Footscray
James Collas of Bundoora
Adrian Craine of Whittlesea
Claire English of Footscray
Nathan Gallagher of Northcote
Daniel Garrity of Macleod
Abe Garrity of Macleod
Kate Gorrington-Smith of Northcote

David Graham of Anglesea
Taylor Gundry of Bundoora
Mani Hardinge of Bendigo
Dale Kavanagh of Highett
Colin Kavanagh of Highett
Christopher Lee of South Melbourne
Coconut Lu of Bentleigh East
Jason Lunghusen of North Melbourne
Caroline McQueen of South Melbourne
Mathew Melia-Geary of Belgrave South
Ricki Middlemiss of Collingwood
Jessica Morrison of Point Lonsdale

Hugh Pfitz-Armstrong of Greensborough
Julian Prasad of Eltham
Garry Proudlock of Metung
Justin Purser of Eltham
Zoe Richards of Footscray
Ray Sanderson of Broadford
Deagan Sanderson of Broadford
Rowena Silk of Warranwood
Phill Smith of Queanbeyan
Denni Sulzberger of Launceston
Guido Vazzoler of Murchison
Gionni Vazzoler of Murchison
Jonathan Weissberg of Fawkner
Tahnee Woolford of Brunswick
Aaron Zurzolo of Doncaster

Event Notices

The following events includes forging-related activities which may be of interest to members.

As ABA (Vic.) Inc. cannot accept responsibility for errors in, or cancellations relating to, the information provided here regarding events arranged by other organizations, members planning to attend any of these events are strongly advised to contact those organizing the activities to confirm dates, addresses, times and what equipment to bring.

When sufficient notice is available, details of additional events will be published in The Drift's Event Notices section. Otherwise, information will be posted on-line or sent out via the Association's e-Newsletter. Information on additional events can also be obtained from the ABA (Vic.) Inc. Event Coordinator.

TRAINING - BEGINNERS TOOL-MAKING

The next Beginners Toolmaking Course will start Saturday 30th April and run through Sunday 1st May, resuming Saturday 14th May and concluding on Sunday 15th May.

We currently have 2 members registered and there's room for another four.

So, if you've completed, or are close to completing, your self-paced exercises, why not sign up?

LOCAL EVENTS

Bundoora Park

Bundoora Park are holding a Kids Day on Sunday 15th May and would like members present for demos.

If you can make it to this event, please let me know.

Emerald Library

A demo has been proposed for the Emerald Library's 10th birthday in July.

No dates have been confirmed at the time of writing, but the possibility has been raised of a mid-week demo for anyone who can get away from work for a day.

Dan Brady



53rd Echuca Steam Rally

A couple of newer members have expressed their interest in demonstrating at Echuca, which, if we get the numbers, we will chase up.

The dates for this are the 11th and 12th of June, which is the Queen's Birthday long weekend.

Usually we camp out over night and have a meal on the Saturday night.

Their website is <http://www.echucasteamrally.com.au/>

Anyone interested can email events@abvic.org.au for more details.



Making Do With What You've Got

Doug Tarrant



Horn section from an anvil of approximately 140kg constructed by adding railway line.



An ultra heavy duty welded plate anvil. Might need those sharp edges rounded off...

if you like and let your imagination run riot.

The upper images show an anvil made from the remnant of a broken anvil which was probably around the 140kg mark, judging by the size of the horn. Three bits of railway line attached here and there and I bet it would suffice for most jobs. It was at a clearing sale up past Benalla.

The lower images show an anvil made from scratch. I didn't

Just back from Lost Trades and ringing in my ears is the age-old question;

Where can I get an anvil?

Simple. Keep your eyes open and never let a chance go by.

To rub salt into the wound, I suggested to enquirers they should have bid on the beautiful Kolswa I was graciously allowed to put on display. The owner was the only bidder and got it for a song.

The other option is to widen your outlook; think outside the square

measure it but it would be 1,200mm long, about 900mm high and 250mm across the face. If you have access to a twenty ton overhead crane, hard steel as used in quarry plant, the facilities to cut 38mm plate into perfect shapes and the ability to weld it all together then this might be an option. This one is at the workshop of a quarry operation west of Melbourne.

Lastly, you don't need an anvil to get started; anything will do.



Note the railway line welded flange upward to make a usable new face, a close match to the remnant face.



Bending forks could be made to fit the holes in the flanks of this anvil. Don't walk into the horn though...

Granted some things won't last long or have a lovely hard, flat surface, but what the heck! Just get hammering.

Gee, if you want to improve your hammer skills until an anvil or ASO (anvil shaped object) turns up, just get a wooden stump and practice, practice, practice on that.

Cheers,
Doug Tarrant.

FOR SALE

HEAT TREATMENT QUENCH OIL

HIGH FLASH POINT OIL SUITABLE FOR HEAT TREATMENT

THE NEXT BEST THING TO THE REAL THING: AVAILABLE NOW AT THE BARN

50c
per litre
BYO container



The AUSTRALIAN BLACKSMITHS ASSOCIATION (VIC.) INC. would like to acknowledge the continued support of BOC GASES in supplying our workshop oxygen and acetylene gases.
Visit BOC GASES at www.boc.com.au



Annual General Meeting

24 July, 2016 at 11:00am

Gavin Brown

It's that time of year again, when we scrub the dirt off our faces, wash the coke dust out of our hair, look for our best shirt (that's the one without the burn holes) and meet up for our Annual General Meeting. Yes, it the time where we get to meet the people who make this Association what it is and those members who can't always make it to The Barn regularly.

To keep our incorporated association status we are required to hold an AGM around the end of each financial year.

As an incorporated association we gain benefits like cheaper fees and cheaper insurance. We also get to rent the area we have and most importantly the members, or owners, of the Association get to decide why we do what we do.

So why should I go to the AGM I hear you ask?

Well, firstly – and the best reason in my opinion – is to catch up with members you would otherwise not have a chance to see. We have a great gourmet BBQ afterward and have a few drinks.

Of course the other important reasons for the AGM are to find out what we have been doing this year, vote in a new committee and talk about things we would like to achieve in the coming year.

We present awards to members who have done some significant things for our club and also this year, we are going to present certificates to all the life members that they can hang up at home for all to see.

As I mentioned, one of the important jobs we need to do at the AGM is to vote for a new committee – or vote back in the current mob. The committee, for those who are not aware, run the Association throughout the year.

They meet regularly at The Barn and discuss issues which pop up,

new ideas on making the club better, as well as the week by week running of the Association. The committee makes decisions about running the club, including how we use our money and other important things.

The committee is usually made up of dedicated members who can commit some of their time into making ABA (Vic.) Inc. what it is. Committee members are meant to represent all the members at the club so should be current and active.

The roles within the committee are; President, Secretary and Treasurer. Each of these roles has a specific job in the Association.

Then there are general committee member spots which are also required to be filled. Roles for these members are decided by the committee.

As a member of the committee you would be required to attend regular meetings and help out with things for the Association. To be a committee member you must me a financial (paid up) member and you must also be recommended by another member. Members at the AGM will get to vote for their new committee.

If you are interested in being part of the committee please fill out the nominations form which came with The Drift and send them to the **new postal address** which is **P.O. 885 Macleod West, 3085**, prior to the AGM.

Please fill out the position you

would like to hold as well.

There are also proxy nomination forms included with The Drift. A proxy is a person who attends the AGM for you if you can't make it. It gives that person the right to vote on your behalf on any matters that arise and need a member vote for. That includes voting for members of the committee.

If you are unable to make it to the AGM – and it had better be for a good reason – then ask someone you like if they can vote for you. You will need to fill out the proxy form and that person will have to bring it with them.

The AGM will be held on the 24th of July 2016 at the Chapel in the Bundoora Heritage Park (That's the little white building down next to The Barn). The meeting will start at 11:00am and goes for around an hour.

After that, hang around for a cool beverage, hot BBQ and good company – this is free and is included as part of your yearly fees.

As usual there will be no forging on that day so there's no need to bring any tools.

I hope to see you all there and look forward to catching up with some of those members I only get to see occasionally, as well as the ones I see at The Barn all the time – but this time without the coke dust moustache.

Regards
Gav.



Backyard Blacksmithing

Alice Garrett

This issue's article is about Corinne Lomon, or Corri as most people know her, who hails from London. She has a history in silversmithing, jewellery and blacksmithing. During her degree in jewellery and silversmithing, Corri began forging her own silversmithing tools. Her final piece at the end of school was a contentious issue... It was a forged bed! Needless to say Corri went looking for a blacksmith's apprenticeship. Eighty letters later she got one at Tasso Forge, in Hammersmith, U.K. For the last sixteen years Corri has been teaching design tech at Reservoir High School.



Corri in the forge.

HOW LONG HAVE YOU BEEN BLACKSMITHING FOR?

Twenty-three years on and off. That's when I started my degree in London.

DID YOU BUY OR MAKE YOUR FORGE?

It was given to me. It's a Buffalo

forge that wasn't working. I've had to fix a few things to get it running properly and still need to rig up a flue through the roof at some stage.

ARE THERE ANY ISSUES WITH FORGING IN YOUR AREA?

No, I guess I'm lucky with my neighbours. I've had no complaints so far and there have been times where I have been working 'till 2:00am completing work for an exhibition!

WHAT'S THE BEST THING ABOUT HOME FORGING?

It's close for one thing. Any ideas I have can be worked on straight away, when they're fresh in my mind.

HOW LONG DID IT TAKE YOU TO SET UP YOUR FORGE?

I'm still setting it up! It's a constant work in progress.

ARE THERE ANY TOOLS YOU'D STILL LIKE TO ADD TO YOUR WORKSHOP?

Yes, there is a long list of tools I would love to add to my workshop.

Swage block, power hammer, a permanent brick forge with an electric blower, etc., etc.



A couple of items from some of Corri's exhibition work.

Spring Hammers - The Basics

Jim Deering

In the now startlingly distant past I spent quite a lot of time and effort restoring spring hammers. As these machines can be found in a number of members' workshops, and on the wish lists of many others, I would like to offer some information on spring hammers.

In order to keep this article from getting bogged in little details it has deliberately been kept to a fairly broad brush approach. There is, of course, a lot more information out there. Fellow members and some on-line communities may be of assistance.

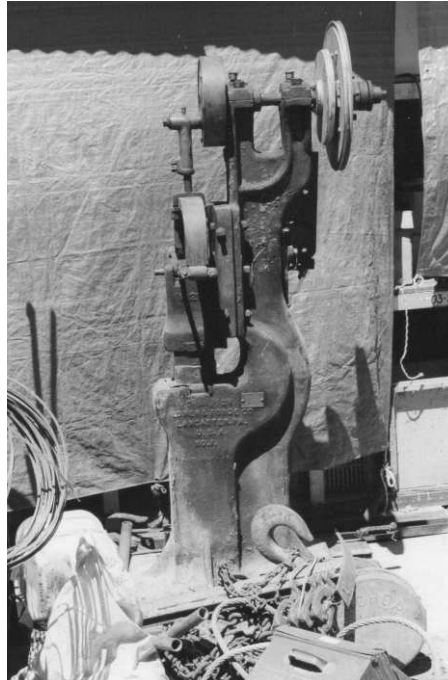
Considering only spring hammers in this article, a general guide is 25lb (10kg) of tup mass per square inch (25mm²) of material section. Whilst a 25lb (10kg) spring hammer will happily work on larger sections, it may not forge the material all the way through, which is necessary to prevent internal faults in the material.

To start, ask yourself what size stock you regularly work, or better, plan to work in future. As a spring hammer can forge far larger sections than you can by hand, being a bit generous with your estimations will be to your advantage over time.

So, if you want to forge inch (24mm) square bar, consider a 25lb (10kg) tup spring hammer. For 3 inch (75mm) bar, a spring hammer in the range of 225lb (100kg) should be capable of working this stock all the way to its centre. It is better to err towards a larger spring hammer, as different alloys of steel can make a marked difference to the size of section properly worked.

Once you've decided on the size of spring hammer that will serve your planned stock sizes and material grade it is shopping time.

Adverts for these machines appear on-line, in printed magazines and are often traded by word of mouth. It's really a case of letting everyone you know that you are after a spring hammer and letting the grapevine work. A wish-list, set up as searches on marketing websites, will help by providing



Spring hammer at inspection time. Looks rough, has no major damage but is missing some original parts.

e-mail alerts of any advertised machines.

Let's fast forward to where you have a lead on a spring hammer and have decided to look at it. I'll treat the machine in pieces so it is easier to make sense of.

GENERAL APPEARANCE

Dirt, built up old grease and oil, rusted paintwork and a generally dishevelled appearance does not mean a spring hammer is in poor repair. So keep in mind scratching some of the crud off can reveal as many good things as it hides.

FRAME

Generally mass-produced, spring hammers are old machines and often have cast iron frames. Some have welded steel frames but they are in the minority and are usually one-offs or were made in small numbers, often domestically.

Things to look at with either type of frame are predominantly cracks and missing bits, especially around moving parts such as guides and bearing seats and impact parts such as dies and tup and anvil dovetails.

Where big cracks are in evidence in the frame which have not been repaired, I would only pursue this machine if I had the tools and experience to successfully carry out repairs to this sort of fault. Where big cracks have been repaired previously but some time ago, the machine is probably sound enough to consider buying. In this case the repair has been tested by time.

Spring hammers with welded steel frames are far easier to fix than those with cast iron frames for those of us with less than a full fabrication shop at our disposal.

Where pieces are missing new parts can be made and fitted by welding, pinning, screwing, bolting or a combination of these repair methods.

In the case of worn areas, such as dovetails, it can be more of a task to carry out a successful repair and does require knowledge of more advanced welding techniques and often machining facilities. This is due to repeated impact during use placing high stresses on the repairs. In short, if the repairs are not up to snuff, they will probably fail and that can cause damage to the hammer, or, more importantly, harm to people. Be aware of this if you are fixing a hammer in a workplace because it is a can of worms when injuries occur.

For example, depending on the type of hammer frame, it is sometimes best to replace the

Continued on page 23...



Northern Hammer-in

During a recent tour through New South Wales, I visited the shop of Mr. Jim Docherty in Sydney with a few other interested people, being Denise Axelsen, Glenn Simpson, Matt Mewburn and the inimitable Towball.

Jim is a retired blacksmith of some good many years experience.

He began his apprenticeship in 1971 at Valley Forge and then worked at Smithfield Forge and Overall Forge (before they moved to Albury) and then back to Smithfield Forge.

He made us very welcome and then gave us the cook's tour.

A number of hammers are to be found in his 'collection', ranging from Massey to Pilkington, Anyang and Samuel Platt, as well as a 100-ton hydraulic press and some fly and G-presses.

So, after the formalities were out of the way, Jim said, "Who wants to make something?"

"Great!" we all thought.



Jim fired up the 75kg Anyang and away we went.

I looked after the gas forge and everyone had a go on one of Jim's hammers.

There was a range of experience amongst us.



Matt has completed the industrial blacksmith trade training at Ultimo TAFE under the guidance of Lindsay Cole and Bill Seale.



Glenn is a keen student of forging and a budding knifemaker.



Denise is an artisan blacksmith of some experience who used to own a Blacker hammer when she was living in the U.K. In 2004 she was the first woman to win the Worshipful Company of Blacksmiths' 'Champion Blacksmith'.



Towball is a new starter to power hammer forging, with a strong interest in knifemaking.

The Wandering Forger

This did not faze Jim. He was straight into it, giving instructions and showing how it was to be done safely.



Swaging, necking, cutting, drawing down, planishing, closed-die forging and upsetting were the tasks experienced on the day.

We finished up at about 4:00pm and had a late lunch, with Canberra the next stop that evening.

Many thanks to Jim for his hospitality. TWF.

This is the first of some occasional articles from serial forge pest, The Wandering Forger.

Sculptures and Benches at The Tree

Amanda Gibson

In September 2014 a team of four blacksmiths (Steve Nicoll, Roland Dannenhauer, Nick Hackett and Jim Deering) began creating the three steel bench seats and five sculptural pieces, which would finally sit at the Blacksmith Tree site in Strathewen. This was a continuation of the work begun over five years earlier in response to the devastating fires of Black Saturday.

The forging process presented immense challenges for the team who worked tirelessly for fourteen months to produce the pieces – some up to three metres in length and complex in form. Throughout 2015, Steve and Roland continued forging two days a week with stunning results.

The initial proposal was a fence around the Tree but after negotiation with the engineers, large boulders were substituted, creating new opportunities; the benches and grass blade sculptures were conceived.



"What an amazing crew you all are. Been watching the project all the way through & I'm pretty sure that angels & sprites exist in the form of smiths and volunteers with hearts bigger than themselves. Thank you all for your spirit, compassion, generosity and creative talent." Cath.

The pieces were designed by Amanda Gibson and inspired by grass blades picked in Strathewen and the work of American sculptor-blacksmith, Albert Paley.

With forging completed, a small team comprising of Peter Drogenik, Richard Provan, Shane Kenny and Roland Dannenhauer went to work to create the curved timber seating – laminating,



The largest bench was sponsored by an on-going supporter of the Tree Project – Grocon – whose deep connection to the Black Saturday community began when they managed the clean-up of the fire affected areas.

cutting, planing and adzing until the wood married perfectly with the steel. In keeping with the local focus of this project, Grey Gum for the seats was supplied by Richard Provan from a tree felled by a storm in the Kinglake area.



"Fantastic effort by all of you. Superb work and a great lesson in perseverance. Humbling..." Lewis.

The components were brought together and assembled in the Tree factory in Whittlesea – the site of much of the final work on the Tree itself.

In November 2015, the finished pieces were unveiled to an eager public at the Yering Station

Sculpture Exhibition. The idea of sculpture serving as seating went down well; the design intent was for beauty and function.

At the site today, you'll notice the plants have done some serious growing. A final planting will be done in autumn of this year so the new plants establish ahead of winter. For those who have had difficulties finding the Tree, some good news; signage is being designed in consultation with the Strathewen community and is expected to be completed by spring of 2016.



Members of the Tree Project team L to R; Amanda, Peter, Richard, Andrew, documentary film maker and Roland utilizing one of the grass blade inspired bench seats in the Tree's surrounds.

And speaking of community – the reception to the latest phase of this project has been heartening. For a group of people who have experienced so much loss it is truly humbling to receive these messages of encouragement and thanks. A few of these responses are below. We'll leave them with the final word:

"Am absolutely blown away by your beautiful seats and sculptures at the Blacksmith's tree. Thank you for making the whole area so much more stunning." Dini.

"Truly a beautiful gift for our community, thank you." Wendy.



Scoresby Steam Rally

Stephen Nicoll and Shane Kenny

The National Steam Centre was in full swing over the Labour Day long weekend, with all the various steam and oil engines operating throughout the day.

What a fascinating collection of working machinery, with the sheds containing the various engine types humming with action, steam engines quietly running and oil engines motoring away, each with their unique smells and sounds.



Stephen Nicoll with Scoresby's now-functional furnace.

Various outside displays were set up to allow close up viewing and a chat with the owner if needed.

Old earth moving machinery was operating in one area while alongside a Clydesdale was pulling a grader blade to highlight the progress we have made, although it is lovely to pat a big Clydesdale as he relaxes between chores; not something your Cat D9 would understand.

The lunch time parade of all types of steam and traction engines motoring around with the huge dredge the central figure in the arena was a crowd-pleaser. Although the kids riding around on the miniature train may disagree, judging by the smiles on their faces.

The blacksmith shed, with the Association's banner proudly displayed on a wall, was operating, with members Steve Nicoll and Phil Pyros manning the forge and steam (now air) hammer.

After much blood, sweat and toil the Blacksmith's Shop this year is in a much more organized state.

We have been working hard to get things up and running. Machinery that last year was static, this year

is functional. The furnace is now a going concern and at one stage it reached 1375 degrees Celsius; just a little too hot for what was needed. The cropper and punch are working, as is the small Macson spring hammer and grinding head. All this equipment is running off the line shaft that was installed during the year.

On Saturday of the long weekend, we had an early start and fired up the furnace around 9:00am. It reached its optimum temperature with material inside by about 10:30am. After having rounded up the hammer driver, we set to work.

We started with a piece of material 75mm round by 200mm long which, when we pulled out of the furnace, was glowing bright yellow.



Under the hammer we drew out a shaft approximately 600mm long, leaving a 75mm knob on one end.

We then put this back in the furnace to reheat and when the right temperature was achieved we put it back under the hammer and cleaned up the shaft and roughed it out to approximately 25mm round.

It then went back into the furnace.

Phil was then enlisted to hold a pair of 25mm top and bottom spring swages under the hammer while I ran the metal through them.

We repeated this process twice

and achieved a nice 25mm round bar.

I then put the knob in the forge, not the furnace, so I could hold on to the bar.



Stephen working under the A. Harman steam hammer.

We worked the knob under the hammer with concise controlled blows from Adam the hammer driver, who has become very proficient at this task.

After completing making a ball of the end, it was shown to all the onlookers who were suitably impressed by the power of the hammer.

On Sunday, Andrew O'Connor, a member of the NSW Blacksmiths Association, came into the workshop.

Together, we refurbished a pair of top and bottom swages for forming a balustrade finial, which was formed by placing a 30mm round bar into the dies and turning at 90 degrees until a uniform form was achieved.

All in all everyone had a good time over the weekend doing forge-work not easily achieved at The Barn with the hammers available to us.

All members are welcome to attend these weekends at Scoresby, where a different aspect of forging is available to all.

Stephen.



World War I Cenotaph Ypres Belgium

From 1914 to 1915 the Flemish town of Ypres saw three major battles that killed over 850,000 soldiers, including Australians.

Amanda Gibson



Artist's impression of the WWI cenotaph, forged poppy field and railings, reminiscent of the trenches used during the conflict, at Ypres, Belgium.

From September 1 to 6, 2016 the Belgium Guild of Blacksmiths (ASG) and the British Artist Blacksmith Association (BABA) will bring together hundreds of blacksmiths from around the world in Ypres, Belgium, to remember all those affected by the war and to create, in one week, a cenotaph based on the internationally recognized icon, the Flanders Field Poppy. This will make a unique contribution to the many memorial sites and structures on the Western Front, serving to commemorate all involved in and affected by the conflict.

The cenotaph, designed by Terrence Clark, comprises a 7 metre tall x 2 metre wide 11-tonne pillar of steel, incorporating a Flanders Field Poppy, in negative and positive form, symbolizing both those who fell and those who returned, their families and communities. Around this will be a field of forged steel poppies, all surrounded by a low railing designed in plan to echo the characteristic meandering form of the trenches. The steel pillar, donated to the project by Sigma, a German engineering company thanks to contacts with LVD, will be set up on a temporary base in the centre of Ypres, as the

focus for the International Forging Event.

The Cenotaph will commemorate everyone involved in the conflict, both military and civilian on all sides – all those who died, all those wounded, all those displaced – and of equal importance, their families and their communities. In the War of 1914 -1918 blacksmiths and farriers were indispensable in sustaining the war effort on all sides; over 3,000 blacksmiths from all sides were involved in essential tasks from creating and maintaining vital equipment to shoeing millions of horses. Marking the 100th anniversary of the First World War provides an opportunity to remember our history and those whose lives were disrupted and often devastated by those events.

THE EVENT

Involving blacksmiths from all over the world, the event will include live forging of various elements of the Cenotaph, children's forging area, horseshoeing demonstrations, exhibition and lectures.

Twelve forging stations and 10 power hammers will be set up in the Grote Markt square, in front of

the *In Flanders Fields* Museum in the centre of Ypres during the two days before the start of the event in a protected area that will allow safe access for public viewing. Three of these stations will be reserved for use by members of the public, by children, and for horseshoeing.

Two will be reserved for the forging of hundreds of poppies and ten will be used for the making of the railing panels which will be sited around the cenotaph.

As with the very successful Pillar of Friendship project in Ironbridge, England, and other international forging events, there will be a significant creative aspect to the Event in Ypres. This will involve the design and making of railing panels to be installed around the base of the cenotaph at Langemark Polkapelle. Twenty-five railing panels are to be made, 13 large and 12 smaller. The component panel frames will be left as four separate pieces to facilitate drilling or punching of fixing holes as required.

Thirteen invited Master Blacksmiths will design and make panels to fit the 13 larger frames. Each Master will lead a team of six blacksmiths, drawn from delegates to the Event, providing them with an opportunity to benefit from the experience of working with an acknowledged Master Blacksmith.

MAKING POPPIES FOR THE YPRES CENOTAPH

ASG and BABA are asking blacksmiths worldwide to contribute forged poppies and, at the event, work on the panelling surrounding the steel pillar.

It is important that all the completed poppies are identical, since they will be made to commemorate the dead, symbolizing the equality of all in death. This highly ordered field of similar poppies will enhance their visual impact. It is hoped that blacksmiths from around the world will want to contribute a poppy from their own workshops, to reinforce those that will be made at the event in Ypres.

The event organizers have asked for the global blacksmithing community to forge over 2,000 poppies based on the design below. As part of the international blacksmithing community, this is your opportunity to be involved.

If you're forging poppies or holding a poppy forging event, the organizers would love to hear about you and see some photos of your group at work on the poppies.

Please send photos and stories to andrew@ypres2016.com and editor@abavic.org.au

Further instructions and video on making poppies are available on www.ypres2016.com/design/making-the-poppies/

The final collection of poppies will be installed in a 'mass planting' around the main cenotaph.

THE AUSTRALIAN CONTRIBUTION

In preparation for the Ypres event, artist blacksmith Will Maguire has organized a community forging day on May 7 at his Elderslie workshop, near Braxton, New South Wales, for people to make hand-forged steel poppies that will become an integral part of the proposed memorial.

Will is to represent Australia at the Belgium event that marks the 100th anniversary of World War I. He has been invited as one of 25 master blacksmiths from around the world, to design and make one of 25 featured fence panels to surround a steel cenotaph that will be erected near Ypres, Belgium.

Everyone is welcome to come along and try their hand at making a poppy, or sponsor one to be made by an experienced blacksmith on the day. They will all be sent to Belgium for the memorial field. The forging day also aims to raise money to help with the significant cost of participating in such an event, so a donation of \$30 will be asked for making or sponsoring a poppy.

To participate or find out more, please contact Will via

poppyforging@outlook.com

Transport of the poppies to Belgium is sponsored by Thermote & Vanhalst (TVH) a worldwide company which started in 1958 as an agricultural machine and forklift repair business. They currently sell everything from hand carts to heavy forklifts and tractors, carry machinery parts and handle logistics. Their Australian headquarters in Brisbane will be receiving poppies from blacksmiths around the country and transporting them to Waregem, Belgium.

Queensland blacksmith Troy Honeman has kindly offered to collect individual and small shipments of poppies and deliver them to TVH. If you have a small shipment of poppies that can be sent via Australia Post, please send them to:

Troy Honeman, PO Box 4591, Forest Lake, 4078.

If you're sending poppies in a larger shipment via courier, please send them directly to:

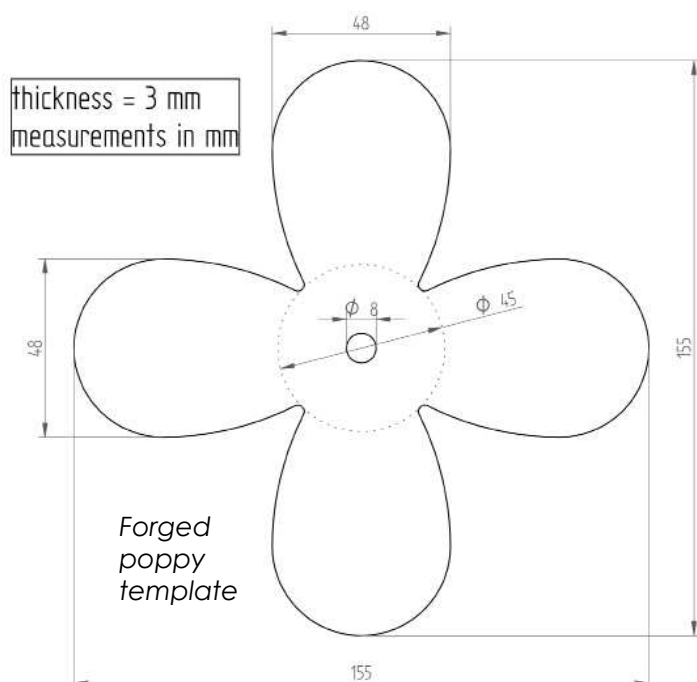
C/- Ana Castro, TVH Australasia Pty Ltd, 735 Boundary Road, Richlands, 4077.

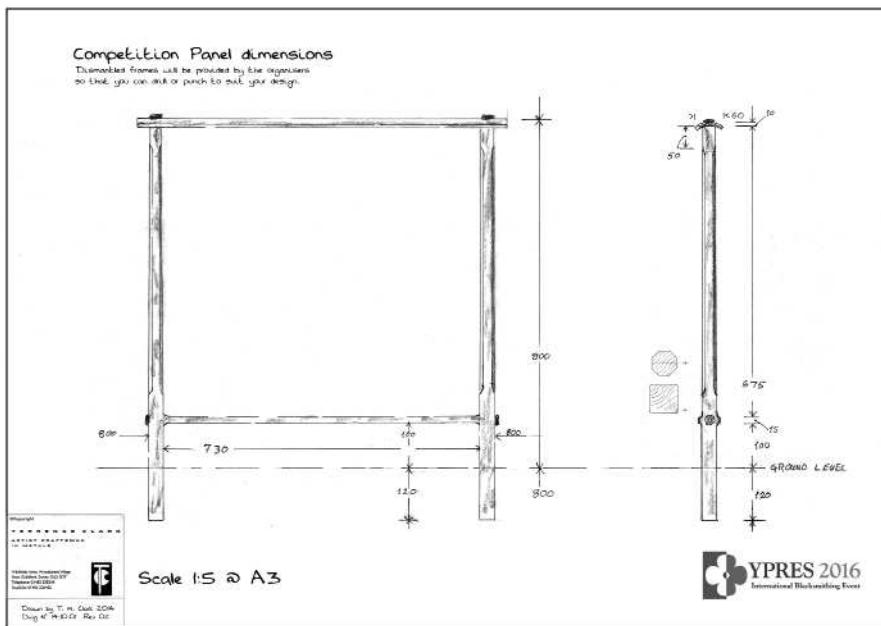
PLEASE NOTE: TVH would like to receive as few shipments as possible, so if you're forging poppies in a group or know of other 'smiths forging poppies, please organise to combine your poppies into one shipment. Unfortunately, we don't have funds to get the poppies to Brisbane, but the transport to Belgium is free of charge.

The FINAL deadline for poppies to arrive in Brisbane is **Friday 3 June, 2016**. All poppies will be sent to Belgium immediately after 3 June, so **do NOT miss this deadline**.

CENOTAPH PANEL DESIGN COMPETITION

If you are inspired by the prospect of your work becoming part of this cenotaph, please send in a proposal.





The frames for twenty-five decorative railing panels will be fabricated off-site (by teams of six blacksmiths led by a master) and delivered for assembly during the event.

Blacksmiths and artists from around the world are invited to take part in a design competition (closing 30 April 2016,) to design panels to fit the 12 smaller frames. The 12 winners will be invited to produce their railing panels, each again with a team of 6 smiths. Technical and physical assistance will always be on hand if required. The design competition panels will be selected by the Poppy Cenotaph Selection Group.

The 13 master blacksmiths and 12 design competition winners will each receive a free place at the event.

PANEL DESIGN BRIEF

Your panel design should respond to the events that took place in the First World War 100 years ago. It is expected that detailed research will be undertaken to understand the conflict, and inform your design thinking. It should be borne in mind that the emotional purpose of the imagery in these panels, should be to keep alive memories of those who fell and those who survived. Each panel will provide a focus for contemplation.

It should also be remembered that many died, but many survived to tell stories of tragedy, and also of humanity and even humour. In this context, people may have family stories of the First World War, the experience of their relations, which might form the basis for their panel design.

At the International Event in Ypres, each master blacksmith and each design competition winner will be given a forged steel railing panel frame, into which they will install their own panel. It is vital that their designs fit the dimensions of the frame, as shown on the competition panel drawing above, so that the completed panel will become a single unit. The spirit of this event demands both the best of design and the best of blacksmithing.

It should be appreciated that the way the panel is joined to the frame is as important as the design of the panel itself. Good details are essential. For this reason, arc-welding must not be used, and designs proposing arc-welded joints will not be considered. The panel may be joined to the flat top and bottom rails using tenons or rivets through drilled holes, and joined to the octagonal uprights using wrapped joints or collars, or other appropriate methods.

Please note that the completed railing panels will be mounted

around the cenotaph at ground level and will be accessible to all visitors; avoid finger traps, sharp edges, fragile sections and excessive projections which might trip people.

Be aware of the time available for the completion of the work in the Grote Markt square in Ypres and design your panel accordingly. For the benefit of the whole project we intend that all of the 25 railing panels will be complete (except for final paint finishing) by the end of the week's event. Two days will be available for each panel. With a team of 6 this allows a maximum of 120 hours per panel. Since each panel is unique, and the teams will need time to learn how to work together, the complexity of the construction must suit these constraints.

Designs may be submitted in whichever form you prefer, drawings, computer images, maquettes etc. but they must clearly indicate the appearance, detail, construction and dimensions of materials to be used.

Your design should be submitted with a short descriptive text, explaining the thinking behind the design. Extracts from this may later be published, to allow a deeper appreciation of the work.

Designs must be submitted for selection by **30 April 2016** via email to alandawson.adaptahaus@gmail.com OR by priority post to Alan Dawson, Ferro Larix, Branthwaite, Workington, Cumbria, U.K. CA14 4TB.

ATTENDING IN YPRES

If you'd like to attend this incredible event, full details are available on www.ypres2016.com/the-event/

There is also current information available on the 'Ypres 2016 International Blacksmithing event' Facebook page, www.facebook.com/poppycenotaph

Doris Day 5 March 2016

Debbie Harman Qadri

At 10:00a.m. the women begin to arrive. Greetings, introductions and conversations begin as do the lighting of fires. There is usually a new person who needs to be shown how to clean out the hole and set up the fire and arrange the coke around the edges. People have different ways of doing things and this is referred to in the training, and then we laugh as we discover someone has the neatest fire we have ever seen.



I am the lunchroom slacker of the group, tending to make clay on the lunch table amidst the food, I offer hot cups of tea in handmade cups and assist to demonstrate simple tasks and help when needed. Today I chopped the wood for everyone's fires and helped to clean one out.

The first pot of tea has been made and sits on the lunchroom table, offered to anyone who comes in.

Alice needs to give a demonstration about making a staple to someone who has chosen to go through the self-paced learning process. I let everybody know that she will give the demonstration soon and when she is ready we are all rustled up to gather and watch.

I take photos of the women watching Alice and noticed that we all had our own ways of standing, slouching, resting and watching. (I have tried to show this in the drawings). Doris is a little like catching public transport or going to the hospital, where you meet people from all walks of life. And this is reflected in what people choose to do when blacksmithing - some learn it like a craft or trade, others wander off towards making something they always had in mind and others will follow their noses into even more unlikely directions.



Posture study in charcoal and watercolour of Alice demonstrating at the anvil for the Doris group.

When fires are lit and everyone is happy, I settle into the lunchroom with my tea and food and then gradually move onto making things with clay and metal scraps from the bin. The bin attracts a few of us. We can see what has been made on previous weekends at the general blacksmith days - there have recently been lots of honeycombed and twisted handles! I have dug out some small ends of curls and points to incorporate into the clay works. I am pleased and sit with my clay tools, brushes, slips, a skewer and boards.

People move in and out of the

lunchroom. It is a hot day for March (when will the summer end?). They wipe their brows, drink the tea and taste the figs that Beka has brought. Mid-forged pieces are brought in and discussed. How things can be made is part of the conversation, oiled by the sharing of food and laughter.

I have decided to interview some of the women about why they come to The Doris Day and what they make.

Zoe has been studying jewellery-making and likes the idea of putting steel bits into jewellery. She has been researching ways of preventing the steel from rusting, such as heat treatment and oil.

"I would like to make something bigger. Mary Hackett told me about Doris as an opportunity to make larger works. I am doing the advanced diploma of silver smithing and jewellery design. I am experimenting with steel, Perspex and wood as ways of making larger jewellery pieces because silver is too expensive to make larger works with. I have also been etching mild steel."

Loren comes in to have a discussion about how to make the latch. She often comes in to discuss the next step before going to make it. We have a discussion



about the different ways you could proceed. There are always many ways to choose from. We work out that she doesn't need to do the latch exactly as it is in the picture. She doesn't need one part of it. It makes it even simpler to do. Hurrah! We are pleased to have worked it out. Loren returns to the forge and we continue with the stories and victuals.

"Felicity, why do you come to Doris?"

"I love it. I think it's so exciting! The fact that it's creative and once I learn how to do things properly I'll be able to make extraordinary things! I wish it was more often. Because being a beginner it's easy to forget between times. And I'm hoping that I'll be able to combine the skill of blacksmithing with glass fusion. I'm interested in making garden art. Last month I made a hook, another month I made something that looked like a horse's bit. It's great fun."

When asked what makes Doris special, Felicity says that it's an interesting group of women, who are friendly and helpful.

Loren comes to sit and agrees to answer my questions.

"Why do you come to Doris?"

"Saturdays are easier for me. I enjoy the women because you feel less like a stupid person when you have ideas in mind and I need someone to help me figure them out. I am also learning welding at home. I find it useful because I don't feel I'm cheating, I can only do half days because of my wrist. I have been making a gate. I make practical things. I want to make practical but beautiful things that serve a purpose. If I can I wouldn't mind combining it with other metals such as copper and brass; and using glass with metal."

This wish to combine other

materials with the steel is becoming a common theme in the interviews and soon we begin introducing people to each other who have similar interests in materials.

"Loren, meet Felicity, she's also interested in using glass with metal!"

I often give Beka a lift to Doris and she says she comes because it's fun. Beka has been coming since the early days of Doris when every second month was held in the Hackett's backyard, so she has made many things. At the moment she is making chain, but in the



Debbie's illustrations are done with pen, charcoal, Conté crayon, guache and watercolour.

past she has made chairs, a shoe rack, lots of hooks and curls for the garden. Beka's aim is to make her own tools.

When I ask Beka what's so special about Doris, she says, "I like hanging out with a group of women, seeing what everyone is making and helping people make things."

Dara is fairly new to Doris and we were surprised to hear that she travels from Philip Island to come to The Barn.

"Why do you come?"

"I enjoy being with other women who are into the same thing".

Today Dara had attempted to make the staple after Alice's demonstration and was disappointed that it came out uneven. Dara has been undertaking the self paced

training, making points, round points, square points, and the staple.

"What do you hope to make in the future?"

"I'm just having fun at the moment; doing something for me. My partner and I always talked about joining the Association, so after he passed away I decided I needed to come to blacksmithing for us (and for something to do for myself). I'm so pleased to have found this group. It's like coming home to your long lost kindred".

Alice is forgemaster today. She hasn't been able to get much of her own work made, but instead has spent most of the day fixing problems and showing us how to do things. It is near the end of a long day for her, busy with about twelve women, The Barn full with all of the forges whirring and anvils singing. She comes in puffed and the lunchroom slows her pace with its chatter and camaraderie.

Alice says she didn't come to Doris when she first joined because she was working Saturdays and wasn't sure how much she'd learn.

"But as soon as I came, I found the environment relaxed and supportive. You get to know people because there's a lot less coming and going and from a teaching point of view I enjoy it because I get to teach people skills and they are coming back each month, so there's continuity about sharing the skills and working with people. I've learnt a lot but it's been over a long period of time, and it's taught me that if I really want to do this, then it's all or nothing. There's no mucking around."

I asked Alice what she was making, a difficult question because she is too busy teaching on Doris days to make anything herself.

"Making? I don't get to make much. But through teaching I am

learning. But I am making scrolls to form part of a double door."

Her hopes for the future are to be working as a fully employed blacksmith and her idea of "no mucking around", means that she has altered some of her long term goals to accommodate spending more time and energy on learning to blacksmith.

Why does Georgie come to blacksmith Doris?

"Why? I enjoy blacksmithing, and hitting things hard. Making at the moment – I am trying to make some leaves. I've been asked to make a small gate for someone, and said yeah I'll give it a go, so I thought I'd start with the foliage. Aims, I'd like to better at it."

I should have questioned Georgie earlier in the day. She'd had a difficult one and at times the edge of her foliage had dripped off into the fire. Her fire had been tricky and she was pretty tired.

It's near the end of the day and one lonely hammer rings out. The last blower is going. The final dregs of conversation, the sweetest ones are had in the lunch room. We are more candid at the end of the day and with less people around and the dialogue is deep and consoling.

Then the last blower is turned off with that slow sigh and the quiet brushing of brooms epilogue the day.

We began the day with hugs and hellos and now it is book-ended with good-byes...

'til next time.

Debbie.

From May 2016 Doris meetings will be on Saturdays and regular workdays on Sundays of the same weekends.



Labour Day Weekend

Shane Kenny

I had the good fortune on the Labour Day Weekend to squeeze in visits to both the Scoresby National Steam Centre and the Lost Trades Fair at Kyneton.

On Sunday, after talking to Andrew, a visiting blacksmith from NSW at The Barn, I was reminded that the Lost Trades Fair was on in Kyneton and an hour and a bit later I was at the Fair, with its feast of talented and varied tradespeople.

Each was demonstrating their respective trade, explaining their actions and openly answering the many questions asked of them.

Of course on entering the display area I couldn't help but notice the rhythmic ring of a blacksmith in action.



Doug Tarrant at the Lost Trade Fair.

Squeezing through the crowd surrounding this stall I immediately recognized the features of our own Doug Tarrant, assisted by his son Lachlan.

"Give us a smile Doug," I quipped, my camera at the ready, and without missing a blow he grinned and obliged.

The crowd stood mesmerized by the glow of hot steel being skilfully shaped into its new form... or was it Doug's lively

banter?

With limited time, I told Doug I would catch up later on.

A growing crowd and the roar of a forge got my attention, three men were about to demonstrate the art of hot riveting. A large beam was to have an angle riveted to it, a 3/4 inch rivet was quickly taken from the forge and positioned through the angle and I-beam, a huge rivet gun was placed on the rivet head and an equally large dolly bucked against the rivet tail and the rivet then hammered down. I've done lots

of riveting but the scale of this was most impressive.

Another blacksmith was nearby, his trailer was a great set up complete with swing-out forge and everything very orderly, we got talking about blacksmithing in general and I soon discovered that he was Doug Moseley, another very talented Association member.

The adjacent glass blower was showing his skills, the heated glass lump appearing as glowing

toffee , obeying his every twist or curl that once cooled would break abruptly when struck.

Two pinstripers attended with some lovely pinstriping examples adorning a '32 Ford coupe and a demonstration of pinstriping on a wagon wheel.... How steady his hand was as he talked to children and people crowding around, casually pointing out a mistake he just made then re-stripping it correctly.

The oil engines always had a crowd of admirers around them as they quietly chuffed away with their flywheels effortlessly spinning and paint gleaming, although one was being a bit



Doug Moseley at the Lost Trade Fair.

ornery with much spitting and explosions from its exhaust as the operators frantically tried to calm it down.

In one of the enclosed buildings were found horologists (you can look that one up) alongside a decorative painter, who could change a boring piece of panel into any style of wood grain you could imagine, a gunsmith and a wood plane maker (these should be put in a display case as objects of art).

With saddlers, upholsterers, pattern makers, beekeepers, tinsmiths, silversmiths, a toymaker, french polisher, ornate plasterer, wood carver, wood turner, fletcher, printer letter press, water diviner, stonemason, cooper, bell

maker, instrument makers, to name a few of the ninety-odd trades represented, it was an even better event than last year.

I met up with Doug Tarrant again and he said that he had a great time although he was a bit tired.

"That's to be expected with all the people and their questions," I said.

"That's not why. The blasted racecourse lights came on at 3:00am, waking us all with an instant sunrise!" he replied.

Best regards,
Shane Kenny.

An article on the goings-on at the National Steam Centre in Scoresby is on page 15.

Footnote Jim Deering

Well, that's nearly it for edition 101 of The Drift. Now it's your turn to offer some constructive feedback and even help with creating edition 102 of The Drift.

Here are a few questions for you to help start the communication.

- **What did you like about this edition?**
- **Was it easy to read?**
- **How can YOU contribute?**
- **What sort of articles do you want to read?**
- **What did you not like about this edition?**
- **Would you like to receive The Drift by email instead of snail mail?**
- **Have you an article to offer?**

As a matter of interest, I've spent close to sixty hours on this edition.

This has included;

- software tuition time
- drawing on thirty years of information
- visiting workshops
- conversing with myriad interesting characters
- e-mailing to and fro
- chasing up new printers
- taking up offers made to help with The Drift back in December last year
- eliciting contributions from others - who, fortunately, have been good enough to make the effort to come up with the requested goods

plus the innumerable little tasks which all go towards gathering up the threads that have been woven into this, the end result.

I hope you've liked it!



**FOR SALE AT
THE BARN**

**TOYOTA AXLE
MATERIAL**

\$5.00 each.

**33mm
diameter**

600mm long

**Flange
removed**

**Tough,
hardenable
and great for
tools.**

.... continued from page 12.

entire dovetail area with a new piece machined to fit into the hammer frame, rather than try to repair a small area.

TUP, ANVIL AND PALLETS

These parts do the hardest work and suffer the second most from doing so.

The tup can have worn pivot holes, fretted dovetails and worn out guide faces, making the hammer noisy and inefficient. Worn guides also make accurate hammering difficult, which may be important in your line of work.

The anvil, literally being the other side of the equation, may also have fretted dovetails and, depending on the frame design, may be loose within its fixing to the frame. Quite a bit of attention may be needed to rectify this sort of issue and it is wise to get an idea of machining costs in your area, if you don't have the facilities yourself, before going hammer shopping in the first place.

In hammers where the anvil is an integral part of the frame it is still possible to fix the issues mentioned but the machine tools needed to handle the entire frame are by necessity, quite large, meaning there may be less machine shops with this sort of equipment available near you at an affordable rate.

Any power hammer's pallets need to be treated as vitally important parts when it comes to safety. If the pallets are nice and true, with dovetails in good order, this is good. If they have been flogged to a poor condition, factor in replacement costs to the hammer purchase price. This must include an appropriate pallet material, machining and heat treatment.

TUP DRIVE PARTS

Crank plates, main drive shafts and bearings, crank pins and bushes, toggle arms and pivots, main spring or springs and carriers are all highly stressed items, even



Stripping the crud and checking what needs repairs and reworking.

in little spring hammers and must be carefully inspected. These are the parts that do the most work in a spring hammer and because their bearing surfaces are quite small, they often experience very high loads even in low rated spring hammers. They are also regularly under-lubricated, leading to excessive wear from steel-to-steel contact as rarely are these pivots bushed.

Excessive play in main bearings and bushes may mean replacement is needed for them and the mating shafts.

Toggle linkages and pivot pins are usually under preload from the main spring – unless there is so much wear in these parts that the necessary preload, which is applied to these parts to create whip in the movement of the tup - is very low or does not exist at all. If the toggle arms and other linkage parts are really loose it is likely that they are worn beyond repair and will need to be replaced.

Given springs have a finite life it may also be necessary to replace the main spring or springs.

Leaf type main springs may have

cracked or broken leaves which can be hard to spot without dismantling the spring. A worn out spring contributes to insufficient preload as much as worn out toggle arms and pins.

Keep in mind we are discussing quite old machines and many may have done hundreds of thousands of cycles in their chequered working lives.

If the toggle arms feel tight it does NOT necessarily mean the parts are in good order. In fact, these spring-loaded parts can be a trap for the inexperienced on a number of fronts.

I've dismantled these parts in various spring hammers only to find the holes in the toggle arms elongated to 130% of their diameter and the mating pivot pins worn to such an extent they looked like engine crank shafts, not straight as they should. Everything felt solid on first inspection; the reality was the main spring had three of its five leaves broken or cracked, with the other two holding the toggle parts at the extreme ends of their movement.

To believe, because this assembly feels tight, that it is in sound condition and to go no further in inspecting it is an error. Don't fall for this, even if it makes you unpopular with the vendor. If a request to dismantle parts for inspection is refused, which is actually quite reasonable when you think about it, take it as rote that the parts you think might not be quite right are not right and factor this in accordingly.

Another trap is when these parts are not inspected and fixed or replaced as needed once the hammer is yours. The parts might last years and the hammer work to your satisfaction all the while. They might break twenty minutes after you start using the spring hammer and hit you. I'd pull any assembly I was suspicious of apart and do the repairs it needs once the spring hammer was in my workshop.



Jumping ahead a little; when you dismantle these parts keep in mind they are spring-loaded. The pre-load might be next to nothing in a worn assembly, or it might be in excess of 150kg (330lb). Treat it accordingly, perhaps by making say a screw press type of device to allow controlled unloading of the main spring's tension. You can use the screw press device to re-assemble the components later.

There is more to pre-loading spring hammer toggle arms with the main spring and I plan to address this in a future article.

INPUT DRIVE PARTS

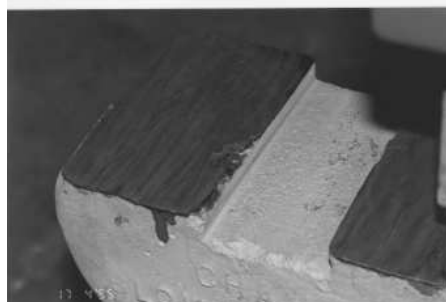
About three quarters of the old spring hammers I've rebuilt had non-original input drive parts, cobbled up from various industrial drives including industrial washing machine bits. Ingenious, yes, but did it work well? No. The result? More cost, which had to be factored in.

Because a lot of old spring hammers were set up to be driven by line-shafting, many have been modified to have small electric motors mounted on them to drive the machine. In many cases this drive assembly will include idler shafts (referred to as jack shafts in USA-sourced data) mounted on bearings with belts and pulleys.

Checking bearings for play, belts and pulleys for wear, the motor for mechanical soundness and electrical safety – which is one for the electrician ONLY to do – is wise. Individually these parts are not all that expensive but if they are a basket case the replacement can become costly.

ELECTRICALS

The motor, switches and leads must be tested for electrical safety and in most cases emergency stops have to be fitted to machines to make them compliant with the relevant electrical machine safety codes. After you've bought a spring hammer the most expedient manner to handle this aspect is to



Repair sequence of eroded lower pallet dovetail using welding technique followed by re-profiling of the dovetails with gauges.

employ a licensed electrician, with experience on electrically driven machines, to carry out these modifications. If this has already been done it is a reason to view the spring hammer in question favourably.

If you only have single phase power and the spring hammer has a three phase motor, allow for fitting a replacement motor and other electrical parts as needed. Many spring hammers come from industrial settings and foregoing one just because it has a three phase motor may mean you are missing out on an otherwise good machine, so do think about it.

GUARDING

If there isn't any, plan to make some.

If there is and you buy the spring hammer, make sure it is compliant with the relevant standards. There are on-line resources for guarding of machinery and in a workplace it just has to be used to make the environment safe.

LEAD

As most of these old spring hammers were painted when paint was made with lead, buying a lead test kit from the local paint or hardware shop is advisable, especially if you are considering stripping the spring hammer in order to apply fresh paint.

Lead is treacherous and can be absorbed through the skin and by inhalation of particles. It causes all sorts of nasty, long-term symptoms and very little is needed to cause problems. Testing for lead and using appropriate personal protection equipment, and perhaps specialist services such as sand blasting companies to carry out removal of old paint is worth considering.

Most of the whitemetal bearings found in these machines have a high lead content also and the same advice applies; test, use PPE and good hygiene if working on these parts.

TEST DRIVE

So far the inspection has been a static one, in that the spring hammer has not been operated. You simply must try the spring hammer on hot metal if at all possible. This will reveal the dynamic interaction of the parts and if they are operating in unison or otherwise.

Failing hot metal, beating up a piece of wood, or better, using an old phone book as a cushion between the dies is a reasonable analogue to hot metal for testing purposes at least.

Whilst there can be a fair amount of mechanical activity going on right in front of you as you operate the spring hammer, some things to look, and particularly



listen, for are rattles and slapping noises, hesitation from the control mechanism and anything that may indicate resistance.

Now I'll elaborate on these dynamic indicators.

EXCESSIVE NOISE

Rattling, particularly from the tup, indicates excessive play in the tup slides. In some spring hammers, adjustment screws allow for movement of the tup guides to reduce play between their running faces and the running faces of the tup.

In others, tup slide clearance adjustment can only be altered by adding or removing packers between the frame and the outboard tup guide, which can be tedious to do.

In some spring hammers such as the comparatively scarce Dreadnought – which is similar to the Massey bowed spring hammer – the tup guides are long, narrow by comparison and industrial in their design. These are adjustable and behave better for longer than guides which have short engagement lengths. It is all to do with wear rates, surface areas, lubrication and the relationship between the width of the tup slides and their length. Want an explanation on that? Just ask...

A slapping blow – where the tup strikes the workpiece and dwells before moving off instead of striking and quickly lifting – a lethargic tup action or one in which the tup travels high enough in the slides to strike the underside of the crank plate for example, often indicates excessive wear in the toggle arms, insufficient pre-load of the toggle arms – sometimes from a worn-out main spring – or a combination of these factors.

In some spring hammers the toggle arms and main spring tension is adjustable and at the other end of the scale some spring hammers have little or even no capacity to adjust loads or free



Four toggle links and pivot pin in very poor order, only detected after dismantling. Key was drilled out to remove it. Polishing the brassware adds a final touch.



Set up for the pouring of whitmetal for new drive shaft bearings. These shells were subsequently hand-scraped to fit a new drive shaft.



Professionally-made new main spring. Eyes are fitted with greaseable bronze bushings. The original spring had one leaf with a broken end and three others cracked through at the centre bolt. Only during dismantling did this spring reveal it was beyond repair – by literally falling apart.

play in these parts. It is good to have adjustment, so looking for this ability is advisable. It can be incorporated during a rebuild but discussing this is beyond the scope of this article.

Squeals and squeaks ought to be located and their cause

determined during inspection.

CONTROLS

Reluctant treadle response can be an indication of treadle assembly wear, such as pivots or loose fasteners in the mechanism. It can also indicate excessive wear in the clutch parts, which can be a little involved to fix. This is more of an issue to deal with in spring hammers with cone clutches, as this sort of clutch usually has linings or wood blocks which permit the clutch to slip, vital in spring hammers to allow the hammer operator to control the force of struck blows.

Sometimes the wood blocks only need oiling and sometimes they need replacement. Sometimes the metal faces of the clutch need machining. Often the bush one part of the clutch turns and slides on is worn. This usually shows itself when testing the clutch for function without the spring hammer running. If the clutch bush is worn the part of the clutch running on the bush will droop like a wilted flower. As it is pushed into full engagement with the other part, it will align with the centre line of the main shaft, only to droop again as it is released. Repairing this item can involve pouring a whitmetal bearing and machining it so keep this in mind.

With spring hammers that use slack flat belts to provide a clutching action, issues can be as simple as dressing the belt or tightening it.

ASBESTOS

Be aware that the friction parts in some spring hammers may contain asbestos, as may some types of, particularly old, synthetic drive belts. Get it tested if in doubt.

RESISTANCE

Stalling of a motor, squealing belts or other hesitation in the drive can indicate underpowered or electrically worn out motors, incorrect reduction ratios in the drive assembly, bone dry bearings – an easy fix called lubrication – or bent parts that have been strained

beyond their limits, sometimes from the spring hammer falling over. Surprisingly, around a third of the spring hammers I've dealt with showed clear signs of this event in their past.

RUNNING SPEEDS

If the spring hammer you are looking at has been fitted with an electric motor in lieu of line shafting try to determine how many blows per minute it was designed to operate at. There are a number of on-line sources for this information. I have seen hammers with incorrect drive reduction ratios resulting the spring hammer running either far too slow or far too fast.

Very slow-running spring hammers are lethargic to use and the blows delivered simply lack energy. The tup usually flops up and down, instead of exhibiting the snappy, springy behaviour it ought to display. This will be exacerbated if the toggles and main spring are in poor order.

With a spring hammer set to a grossly high number of blows per minute the tup often double strikes and in extreme cases can get so out of sync with the rotational speed of the crank plate that it does not travel through its full stroke with each turn of the crank plate, as it should, at all. This fault exhibits itself in a series of very rapid blows, some double-struck, followed by no or short blows delivered with little regularity. Spring hammers set up this way can be dangerous, are certainly over-stressed but are simple to fix by correcting the reduction ratio to give the correct rate of blows per minute.

NOT RUNNING AT INSPECTION

In the case of the spring hammer being out of service when you are looking to buy it, the best you can do is thoroughly inspect it. Try to turn it by hand at the very least to determine if all parts are able to move. A small pry bar to lever between parts to check for play is a handy tool to take with you.



Re-assembled spring hammer with overhead line shaft drive. Fresh paint completes the rebuild and brings this machine back to as-new condition. Many hammers won't need - or receive - this level of repair, but it is a great exercise in getting to know your spring hammer, inside and out.

GO IN COMPANY

In order to get a better overview of the spring hammer in action, taking an experienced friend along is a good idea. You can operate the spring hammer as the friend looks on and then swap so you can see the spring hammer in action from further away. Asking the vendor to operate the spring hammer in front of you is also reasonable. The extra set of eyes may pick up things you miss, even with a spring hammer that isn't going.

BUYING

Let's assume the spring hammer passes your inspection and is in your price range; what is it worth? This little question can bring things to a crunching halt sometimes and barely creates a ripple at others.

'What you are prepared to pay to make the job easier', is the answer I was given by a member of this Association long ago.

I was recently asked for an opinion on the value of a spring hammer and I could really only seek the asking price and inform the buyer that I thought it reasonable.

Put in the hypothetical situation, "If you were buying it, what would you pay for it?" the best I could offer was a range; the low end if buying, the high if selling. The machine was sold on the day, the buyer was happy, as, hopefully, was the vendor.

To put a dollar figure on any spring hammer unseen is to create a rod for my own back so I shall refrain from doing so.

It is best for you to determine your own value for a spring hammer you are thinking of buying.

Looking at spring hammers which have been sold on-line over a period of time will give a buyer an idea of the going rate for these machines and it seems a reasonable starting point.

However, paying a very high price for a spring hammer needs to be kept in perspective by comparing the price, capacity and abilities of this type of power hammer with self-contained pneumatic hammers, with various makes of these readily available new from European and Chinese manufacturers. In used condition self-contained pneumatic hammers take the form of high-specification machines such as Massey, Bêché, Nazel and Chambersburg, etc.

As for air hammers: now that is another story...

Ferrous Forgings

Jim Deering

"When Ferrous Forgings started there were forty six forge shops capable of doing what we do. Now there are four," said Jon Heaviside, director of the industrial forge on Ballarat Road in Albion.



5,000 tonne hydraulic press upsetting a stainless steel blank in the initial step in forging a flange for the petro-chemical industry.



Three tonne double-arch steam hammer, which has been the backbone of Ferrous Forging's capability since 1950.



Massey 6-tonne strap drop hammer, used for making "big" money in forging, whilst sitting on a concrete foundation 16m deep.

Past ABA (Vic.) Inc. president Bruce Beamish and I recently visited Ferrous Forgings Pty Ltd. in Albion at the invitation of director Jon Heaviside.

We were encouraged to explore the facility without restriction and take what images we felt were interesting, some of which I've added to this photo study of one of the last of the industrial forges in Melbourne.

Having commenced operations in 1950 under Jon's father's control with a 3-tonne double-arch steam hammer, boiler, Massey Marathon board drop hammer, a furnace and supporting equipment in one bay, the company has produced items as diverse as sheet metal rubbish bins and heavy shafts for major industry.

Today, the majority of the company's production is taken by the petro-chemical industry as one-piece flanges, some up to Ø1,800mm in diameter.

Over the years Jon has provided

guided tours of the forge, with a party trick showing the uninitiated how to make "big" money in forging; by taking a twenty cent piece from an unsuspecting visitor and placing it under a Massey 6-tonne strap drop hammer. In one blow the coin is turned into "big", if rather thin, money.

The company prospered and grew, expanding over its large site to its' present size. The floor area is extraordinary, with 5,200m² added only a few years ago. To put that into perspective, The Barn is around 170m².

In this area is a most extensive selection of steel billets. Sizes range from about Ø150mm up to Ø1,300mm with lengths to about 6m. The company's literature states the steel stock held covers every grade of steel used in Australia.

Jon showed us around the forge, explaining the origins of various machines and stories relating to how each came to be at Ferrous Forgings.

Many items were sourced from places such as the Ordinance Factory Maribyrnong and Massey Ferguson's tractor factory.

A pair of Fielding 5,000 tonne hydraulic presses, weighing 256 tonnes, were moved whilst assembled. These machines stand around 8m tall and there is as much of the presses under the ground as there is above.

The 6-tonne Massey strap drop hammer is mounted on a concrete foundation 16m deep which had fifty two 7m³ truckloads of cement placed into it.

Heat is generated during the curing of concrete and the larger the amount, the more heat generated. Jon explained that a Ø50mm exhaust pipe was fitted into the formwork before the cement was placed. A garden hose connected to the cooling pipe was turned on and cold water permitted to flow through the curing foundation block. The water ran out, boiling, for three days.





Massey three drop friction drive hammer single control. Driven from a single drive, the tups are lifted by straps. Pintle hooks are an example of items drop-forged under this type of hammer.



A comprehensive range of steel grades in a wide variety of sizes is one of Ferrous Forgings' strengths.



COVER IMAGE 3,500 tonne hydraulic press rounding up a 600kg flange blank, controlled via an umbilical remote.



Slug punched from 100mm thick flange with 3,500 tonne press.

The forge floor is littered with hundreds of dies, bolsters and other tooling, attesting to the variety and amount of items produced by this family business over the last 66 years.

Five hundred pound (230kg) plus power hammers are dwarfed by hydraulic presses metres tall with histories which include production of everything from bath tubs to Armco guard railing bullnoses, motor bike parts to heavy munitions.

The company's machine shop is capable of semi-finishing large flanges and is used to provide turnaround times that are extraordinarily rapid.

Furnaces with internal dimensions measured in meters are commonplace.

There are few small hand tools in the facility, as most of the forgings

are beyond manual handling.

Watching the operators work in unison was a great display of teamwork.

Furnaces with pneumatic remote-controlled doors opened, whilst electrically powered manipulators weighing up to 23 tonnes were readied with the grace that comes from enormous power moving such a large mass to retrieve the forging.

Once the forging, at 1,100°C and weighing around 600kg, was picked up with what can only be described as delicate control by the manipulator, seeing it upset under a Fielding hydraulic press with a forging force of 5,000 tonnes was mesmerising.

Observing the driver begin to long-stroke the steam hammer in order to bleed condensate from the lines, before flattening then rounding up flanges of around 100kg, held with



Blacksmith and hammer driver working under the 3-tonne double-arch steam hammer.

shingling tongs by a blacksmith kneeling in front of this machine, was another display of forging on a scale well beyond what many of us are accustomed to.

It was a most interesting tour. Thanks for your hospitality Jon.